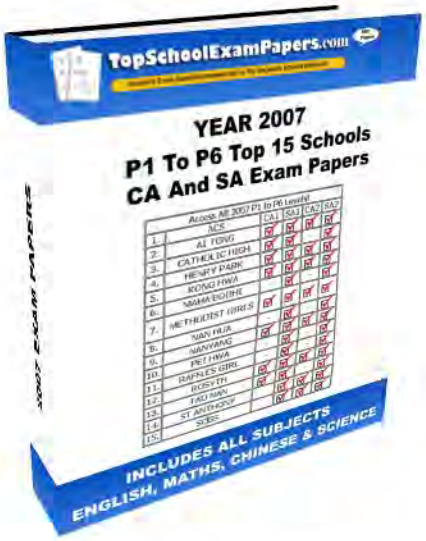

2007

PRIMARY 5 SCIENCE

1.	ACS (JUNIOR)	-	SA1	-	SA2
2.	AI TONG	-	SA1	-	SA2
3.	CHIJ ST NICHOLAS	-	SA1	-	SA2
4.	METHODIST GIRLS	-	SA1	-	SA2
5.	NAN HUA	CA1	SA1	CA2	SA2
6.	NANYANG	CA1	SA1	CA2	SA2
7.	RAFFLES GIRL	-	SA1	-	SA2
8.	ROSYTH	CA1	SA1	CA2	SA2
9.	SCGS	-	SA1	-	SA2
10.	TOA NAN	-	SA1	-	SA2

Total : Pages

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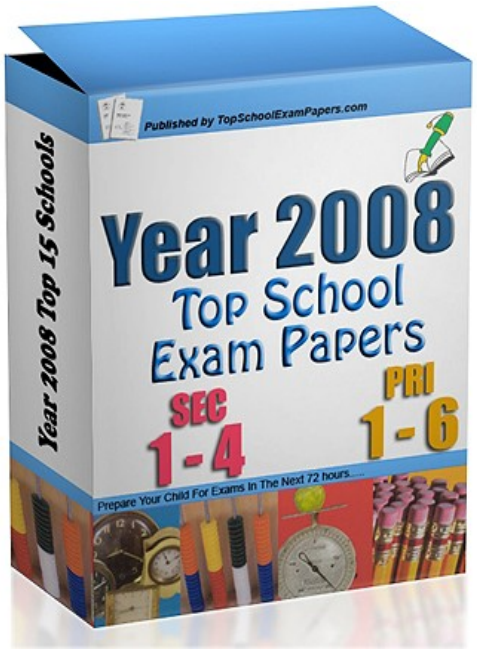

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NANYANG PRIMARY SCHOOL

PRIMARY FIVE SCIENCE

FIRST CONTINUAL ASSESSMENT

2007

BOOKLET A

Date : 27 February 2007

Duration : 1 h 45 min

Name : _____ ( )

Class: Primary 5 ( )

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature: .....

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 12 printed pages excluding this cover page.

NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

FIRST CONTINUAL ASSESSMENT 2007

Name : _____ Date : _____

Class : Primary 5 Duration : 1 h 45 min

Parent's signature: _____ Score : 100

Section A (30 x 2 marks = 60 marks)
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. When the Earth revolved round the Sun once, the Earth would have rotated _____ time(s) about its axis.

(1) 1 (2) 28

(3) 30 (4) 365¼

2. The table below shows the distance between the Sun and some of the planets in the Solar System.

Planet	Mercury	Venus	Earth	Saturn	Neptune
Distance from the Sun (million km)	56	105	150	1429	5806

Based on the above information only, why are plants and animals unable to survive on Mercury?

(1) Mercury has shorter day and longer night.
(2) Mercury receives too much heat from the Sun.
(3) Mercury does not experience four seasons like Earth.
(4) Mercury takes a longer time than the Earth to make one revolution around the Sun.

3. The following are statements of our solar system.

A There are 8 planets.
B The Sun is the ultimate energy source.
C Venus is the nearest planet to the sun.
D The gravitational forces between the planets enable them to orbit around the sun.

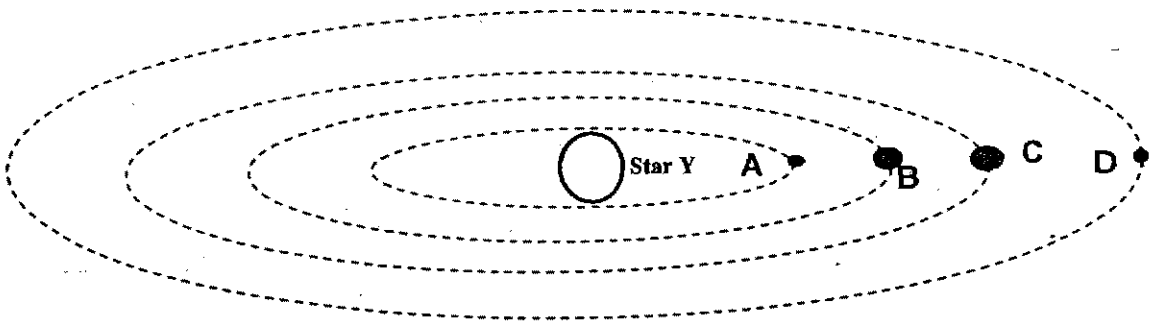
Which of the following statements are correct?

(1) A and B only
(2) B and C only
(3) C and D only
(4) A, C and D only

4. Which one of the following activities is made possible because of man-made satellites?

(1) Downloading information from the internet.
(2) Watching local football matches live on television.
(3) Making a local phone call using the house phone.
(4) Switching between television channels using the remote control.

5. The diagram below shows another system similar to our Solar System. If the planets A, B, C and D orbit around Star Y at the same speed, which one of them will take the longest time to complete one orbit?

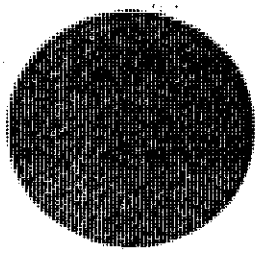


(1) A
(2) B
(3) C
(4) D

6. We are able to experience day and night because the _____.

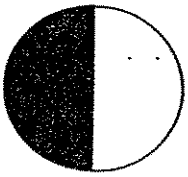
(1) Earth rotates on its own axis
(2) Earth revolves round the Sun
(3) Moon revolves round the Earth
(4) Moon is able to reflect the Sun's light

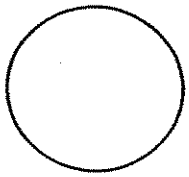
7. The diagram below shows the moon that Joy saw on the 15th January. She observed the moon every night until 21st January.

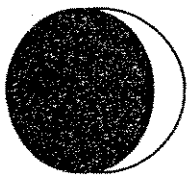


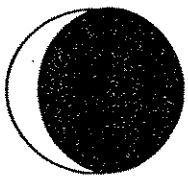
New Moon

Which one of the following diagram shows the moon that she is likely to observe on the 21st of January?

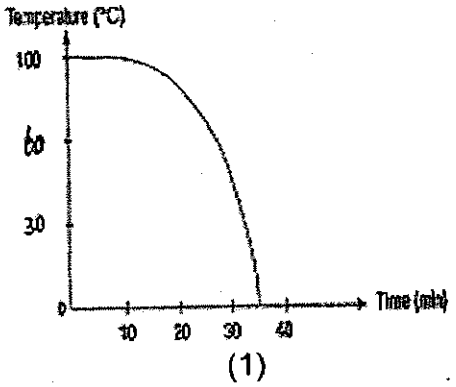
(1)


(2)


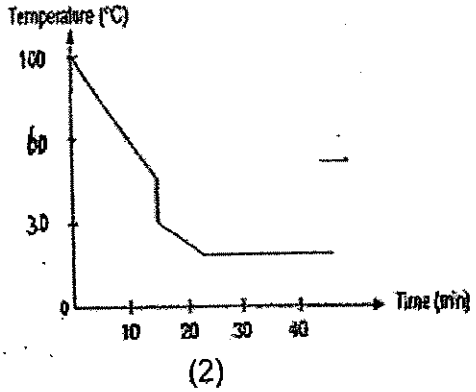
(3)


(4)


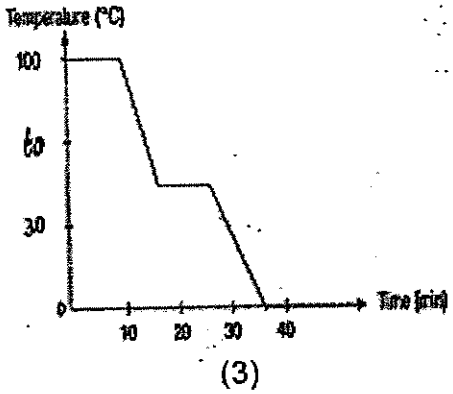
8. Tommy conducted an experiment. He heated a beaker of water till it boiled before placing it into the freezer to freeze. Which one of the following graphs correctly shows how the temperature varied with time from the instant the water boiled till it froze?



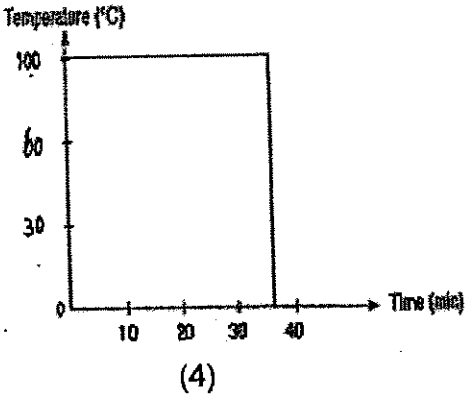
(1)



(2)

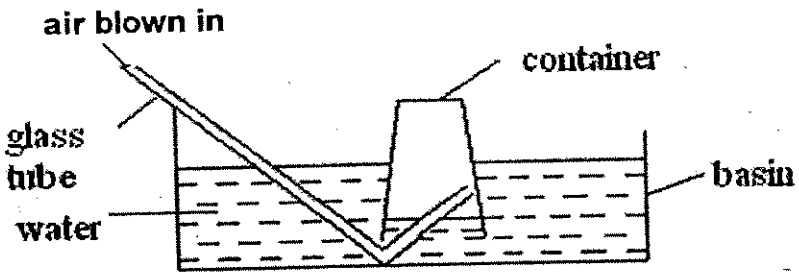


(3)



(4)

9. Bala conducted the following experiment.



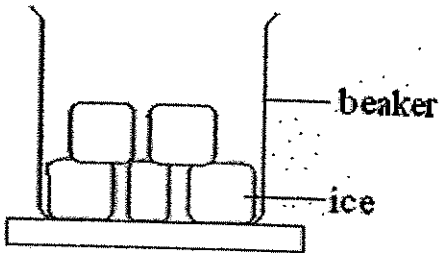
What will he observe if air is blown into the container through the glass tube as shown?

(1) The water will fill the glass tube.
(2) The water level in the container will fall.
(3) The water level in the glass tube will rise.
(4) The water level in the container will remain the same.

10. Which one of the following statements about the water cycle is false?

(1) The water cycle is not possible without the Sun.
(2) There is a change in state when clouds fall as rain.
(3) The water cycle ensures the survival of all living things on Earth.
(4) The water cycle is a process of continuous movement of water to and from the surface of the Earth.

11. The figure below shows a beaker of ice left in the open.



Which one of the following statements is true when the ice melts?

(1) The ice loses heat and becomes water.
(2) The ice gains heat and changes to water and steam.
(3) The ice loses heat to the surroundings and changes its state.
(4) The ice gains heat from the surrounding and changes its state.

12. A dish of water was left in the open for a few days as shown below. Which of the following factors would affect the rate of evaporation?

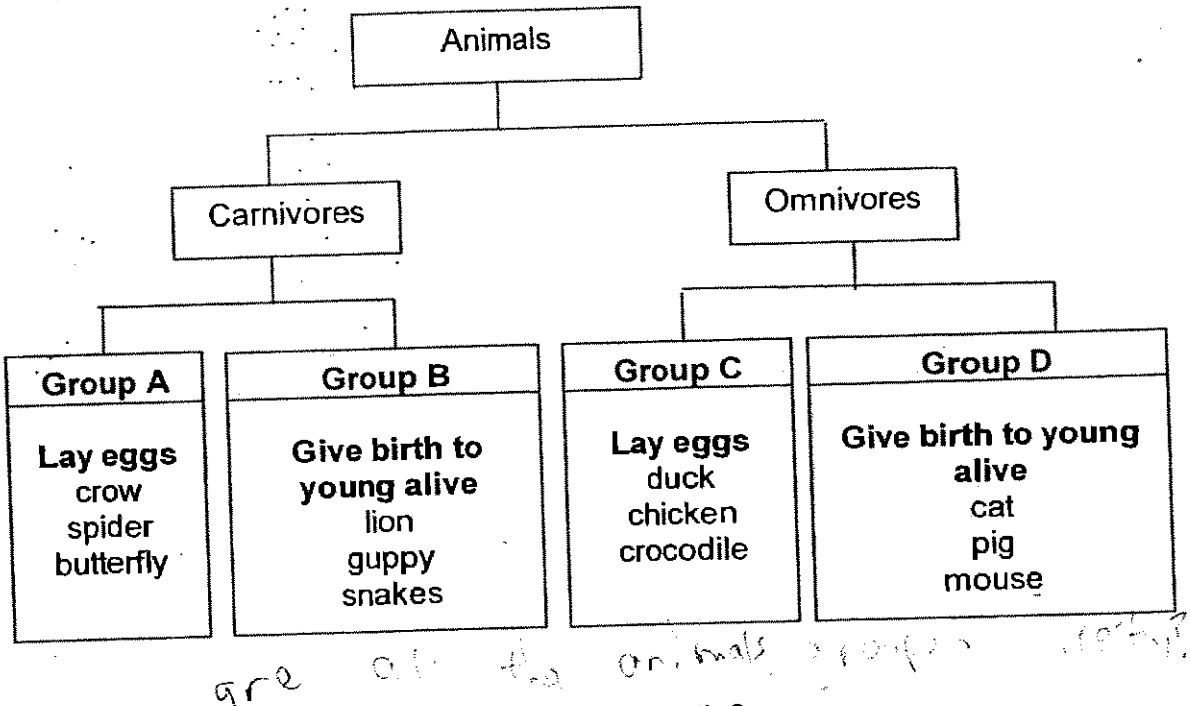
A) Presence of wind
B) Humidity of the surrounding
C) Exposed surface area of water
D) Temperature of the surrounding
E) Temperature of the water inside the dish

(1) A and B only
(2) A and C only
(3) A, B, D and E only
(4) A, B, C, D and E only

13. Several people were trapped in a lift for 30 minutes. There was no fresh air entering the lift. Which of the following shows how the amount of gases in the lift changed after 30 minutes?

	Oxygen	Carbon Dioxide	Water Vapour
(1)	increase	increase	decrease
(2)	decrease	increase	increase
(3)	Increase	decrease	no change
(4)	decrease	decrease	no change

14. Study the classification table below.



Which group has an animal that is grouped correctly?

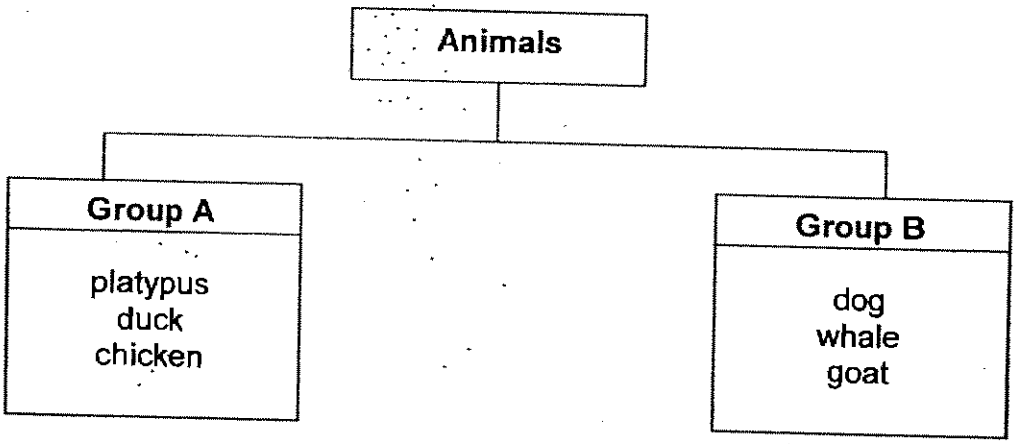
(1) A (2) B

(3) C (4) D

15. Study the table below. Choose the set of materials that are all classified correctly.

	Materials from the ground	Materials from animals	Materials from plants
(1)	Leather	Iron	Silk
(2)	Coal	Paper	Leather
(3)	Nylon	Wool	Rubber
(4)	Clay	Silk	Cotton

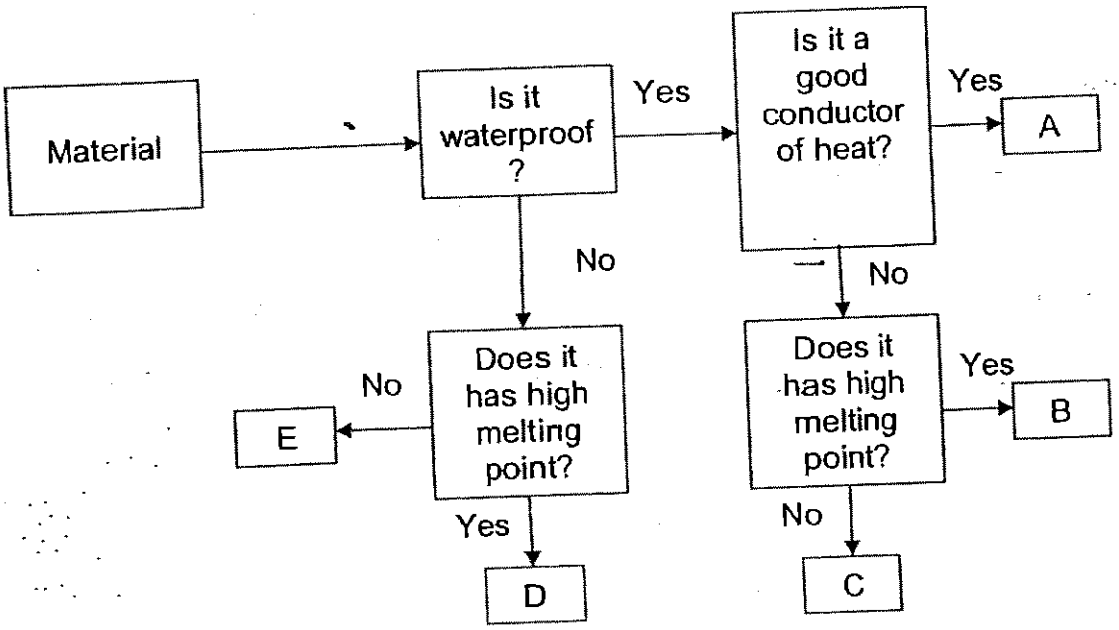
16. The table below shows some animals which are classified according to how they reproduce.



Which one of the following pairs correctly matches the grouping in the table above?

	Group A	Group B
(1)	Rabbit	Chicken
(2)	Cockroach	Turtle
(3)	Housefly	Hamster
(4)	Cat	Parrot

17. 5 materials A, B, C, D and E are classified using the flow chart below.



Which material(s) is/are most suitable for making boots for firemen?

(1) B only (2) D only

(3) A and B (4) A and E

18. Plant cells contain _____ that allow them to make food.

(1) cell wall (2) chloroplasts

(3) nucleus (4) cell membrane

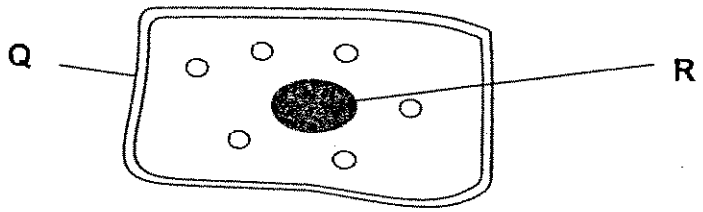
19. What is/are the function(s) of red blood cells?

A: repair damaged tissues
B: carry oxygen to all parts of the body
C: carry carbon dioxide and waste materials away

(1) A only (2) A and B only

(3) A and C only (4) B and C only

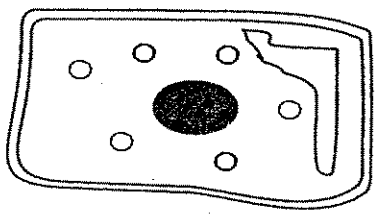
Study the following diagram of a plant cell.



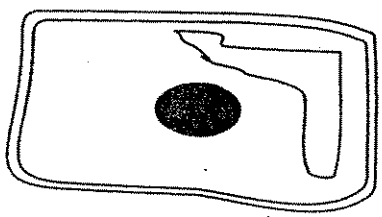
20. What is the function of Q and R?

	Q	R
(1)	It gives the cell a fixed shape.	It controls the activities in the cell.
(2)	It gives the cell a green colour.	It allows substances to move in and out of the cell.
(3)	It allows substances to move in and out of the cell.	It controls the activities in the cell.
(4)	It gives the cell a fixed shape.	It allows substances to move in and out of the cell.

21. The diagram below shows 2 plant cells.



Cell A



Cell B

What is the difference between Cell A and Cell B?

S: Cell A is a living cell while Cell B is a dead cell.
T: Cell A has chloroplasts but Cell B does not.
U: Cell A can make food but Cell B cannot.
V: Cell A has a nucleus but Cell B does not.

(1) S and U only (2) T and U only

(3) S, T and U only (4) T, U and V only

22. Siti switched on the microscope in the Science laboratory. After observing the microscope for some time, she observed that electricity is used to produce _____ for the microscope to work.

(1) heat (2) light

(3) sound (4) magnetic force

23. Which of the following statements about cell division are true?

A: New cells are made to replace old cells during cell division.

B: Just after cell division, the daughter cells are smaller than the parent cell.

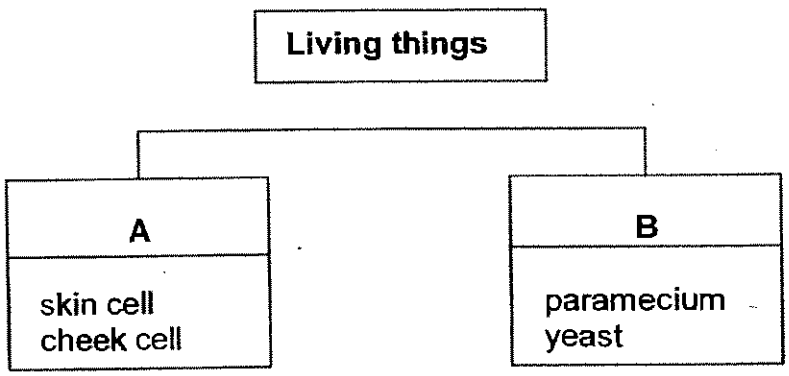
C: Cell division increases the number of cells so that an organism can increase in size.

D: Cell division ensures that the parent cells produce new organisms.

(1) A and C only (2) A and D only

(3) B and C only (4) B and D only

24. Study the classification table below.

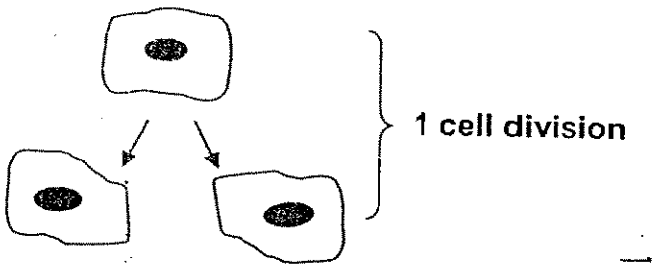


Which one of the following can be placed in Group B?

(1) bacteria (2) button mushroom

(3) egg cell (4) potato cell

25. The diagram below shows a cell undergoing cell division?

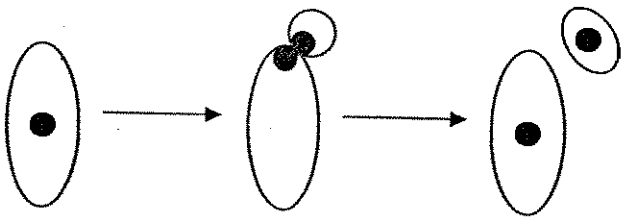


How many cell division must a cell undergo to result in 32 cells?

(1) 5 (2) 6

(3) 3 (4) 4

26. Michelle used a microscope to observe some yeast cells. The diagram below shows what she saw.



What is the process that she had observed?

(1) Budding (2) Fertilisation

(3) Cell division (4) Binary Fission

27. Which of the following are single cell organisms?

A: Yeast
B: Amoeba
C: Bacteria
D: Paramecium

(1) A and B only (2) B and D only

(3) A, B and C only (4) A, B, C and D only

28. Which one of the following is not a trait that is passed on from parents to children?

(1) Finger prints (2) Tongue rolling

(3) Dark skin colour (4) Attached ear lobe

29. Aliza walked into a pet shop and saw a pair of cats with brown eyes and a litter of kittens on sale. After looking at them for a while, she said," Kitten A and Kitten D are most likely to be from the same parents." How could she tell?

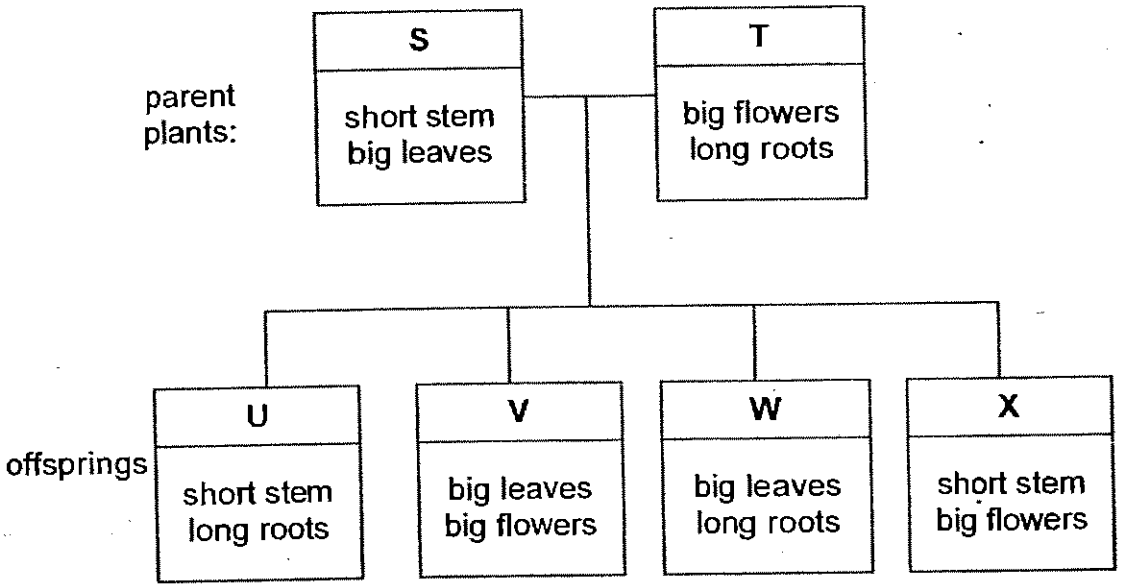
(1) Both of the kittens are small.

(2) Both of the kittens have a tail.

(3) Both of the kittens are female.

(4) Both of the kittens have brown eyes.

30. The diagram below shows traits of parent plants, S and T and their off-springs, U, V, W and X.



When U, V, W and X became adult plants, 2 of them were used to breed a new young plant Y, which has long roots, short stem and big flowers.
Which of the 2 plants, U, V, W and X are parents of plant Y?

(1) V and W only (2) U and W only

(3) U and V only (4) V and X only

南洋小學

NANYANG PRIMARY SCHOOL

PRIMARY FIVE SCIENCE

FIRST CONTINUAL ASSESSMENT

2007

BOOKLET B

Date : 27 February 2007

Duration : 1 h 45 min

Name : _____(

Class: Primary 5 (

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature: .....

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FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 14 printed pages excluding this cover page.

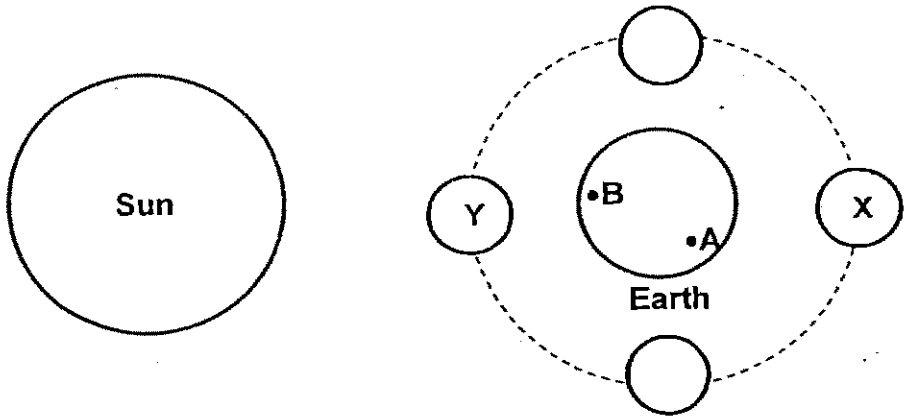
Name : _____ Date : _____

Class : Primary 5 (

Section B (40 marks)

Write your answers to questions 31 to 46 in the spaces provided.
Marks will be deducted for misspelt key words.

31. The diagram below the Sun, Earth and 4 possible positions of the Moon.



(a) Draw the phase of the moon at position X observed from A from in the box below. (1m)

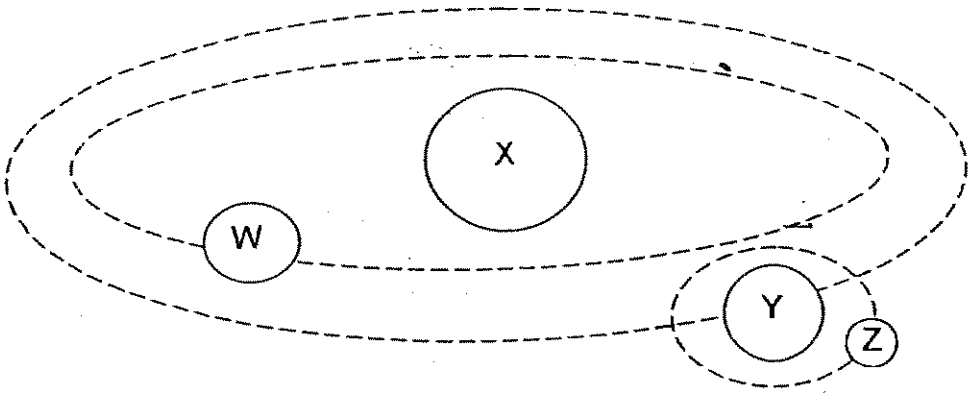
(b) What will the people on earth at position B observe when the moon is at position Y? (1m)

_____

(c) Give a reason for your answer in (b). (1m)

_____

32. Study the diagram below which shows only 3 planets of the Solar System. The dotted lines are the paths taken by the objects.



Study each of the given statements below. State whether they are True, False or Not Possible to tell by putting a tick (✓) in the appropriate boxes.
(2m)

	Statements	True	False	Not possible to tell
(a)	Z is the moon of Y.			
(b)	W, X and Y are natural satellites of Z.			
(c)	Y takes approximately 365¼ days to make one orbit around X.			
(d)	X exerts gravitational force on W and Y to enable them to orbit around it.			

33.

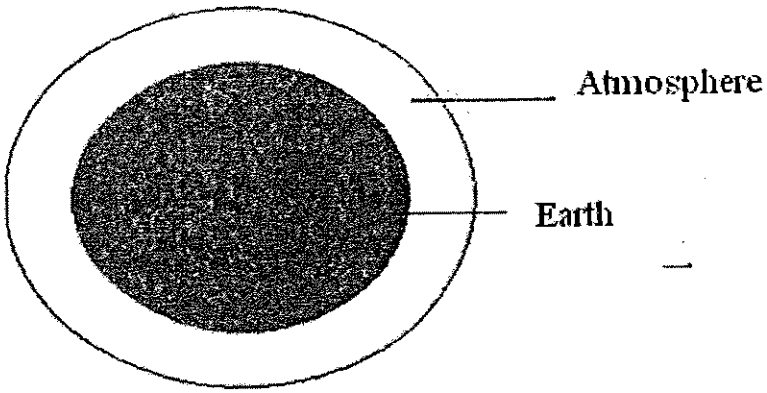
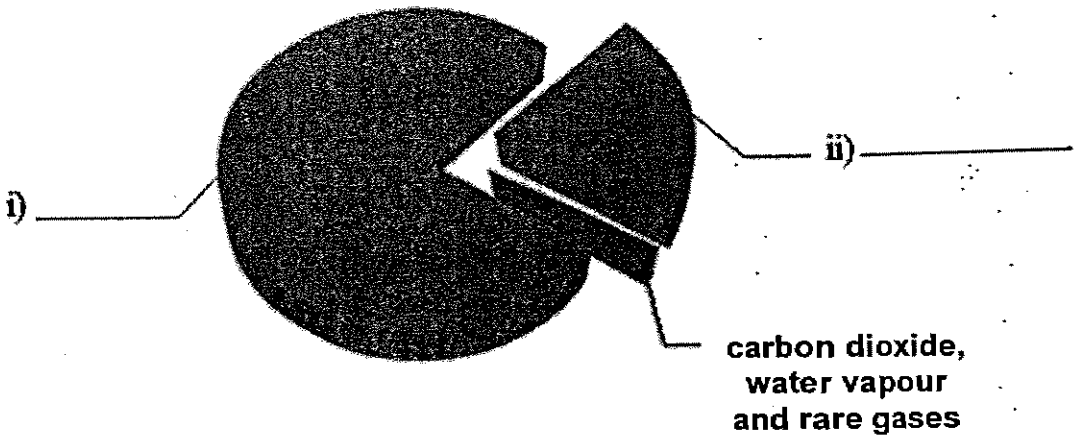


Figure 1

(a) State the force that holds the atmosphere to the earth. (1m)

_____

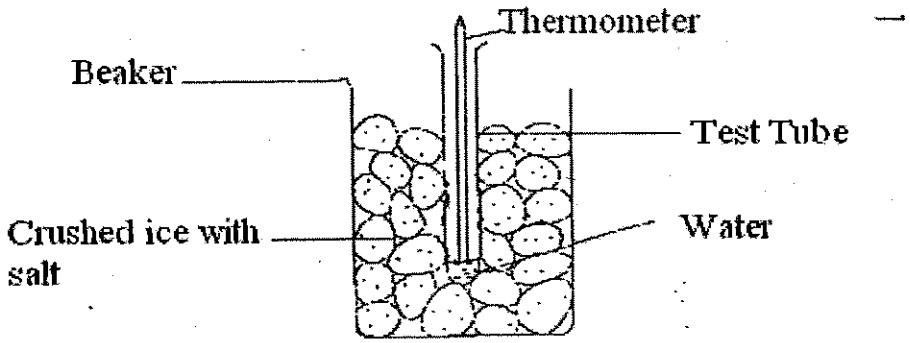


(b) In the pie chart above, write the word 'oxygen' in **either** blank (i) or (ii) which represents the amount of oxygen in the air. (1m)

(c) Name a process which produces oxygen. (1m)

_____

34. Jason set up an experiment as shown below. He wanted to find out if adding salt to ice would lower the temperature of the water inside the test tube. Jason added 200g of crushed ice into a 500ml beaker and filled the test tube with 5ml of water at 30°C. However when Cheryl saw Jason's setup, she told him that he should set up a control for his experiment.



(a) What would Jason observed about the water inside the test tube after some time? (1m)

_____

_____

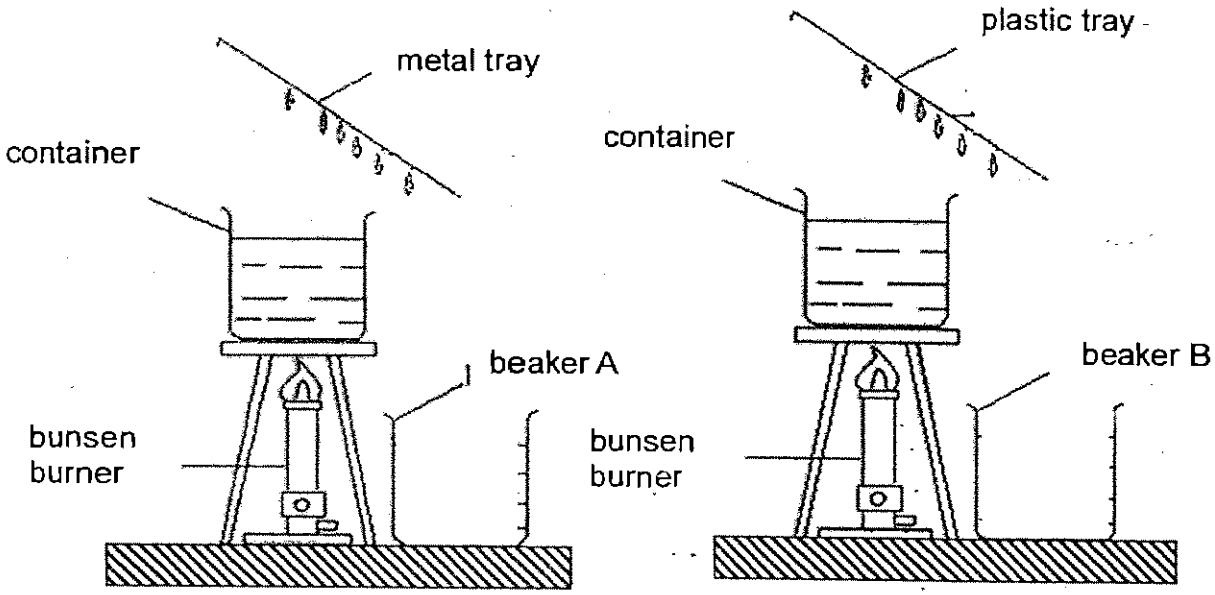
(b) If Jason were to set up a control for his experiment, state 2 variables that have to be kept constant. (2m)

_____

_____

_____

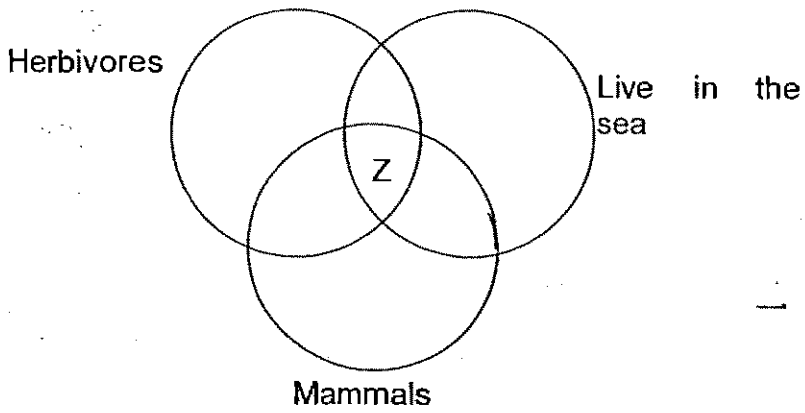
35. The diagram below shows 2 set-ups at the beginning of an experiment **before** any water was collected in 2 similar beakers, A and B. The amount of water in the 2 containers were kept the same. The flames were equally hot.



Set-up 1 **Set-up 2**

After sometime, it was observed that the water level in beaker B rose much faster than beaker A. Explain why this had happened. (2m)

36. Study the Venn diagram below.



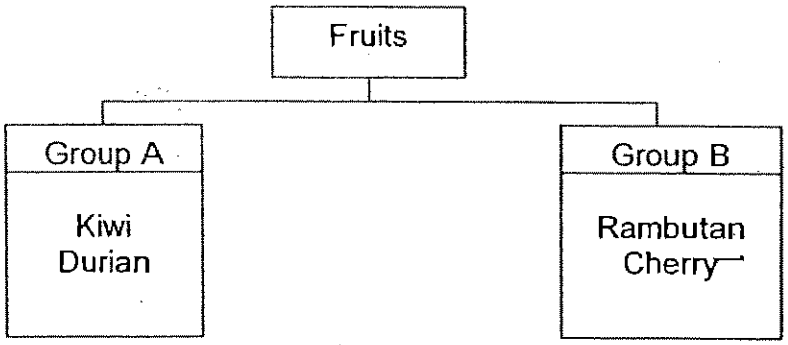
(a) Based on the diagram, list the characteristics of animal Z? (1m)

_____

_____

(b) Use the letter 'X' to indicate where dolphins should be placed in the Venn diagram. (1m)

37. Samy classified some fruits into 2 groups, A and B as shown in the table below.



(a) Suggest a suitable heading for Group A and B. (1m)

Group A: _____

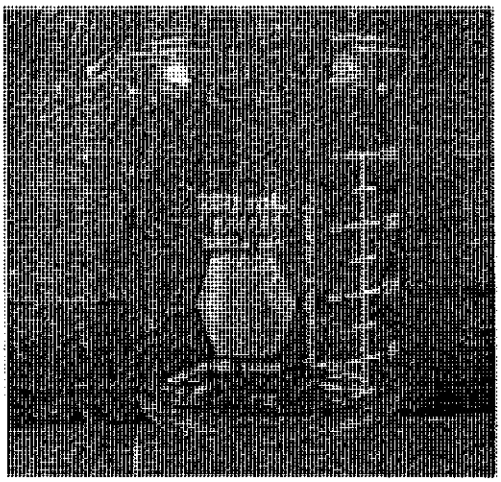
Group B: _____

(b) Give an example each for Group A and B. (1m)

Group A: _____

Group B: _____

38. The diagram below shows a beaker.



(a) The table below shows how the properties of the material used to make the beaker are related to what the beaker is used for. Complete the table with appropriate uses of the beaker and properties of the material that make it suitable for the use stated.

How beaker is used	Properties of material that make is suitable for the use stated
1. To contain substance like acid which damage many materials.	Not reactive to most substances.
2. _____ _____ _____ (1m)	High melting point
3. _____ _____ _____ (1m)	_____ _____ _____ (1m)

39. Gopal wants to separate a mixture of salt and sand. He is given a piece of filter paper, filter funnel, bunsen burner, and a beaker of water. Explain how Gopal uses the apparatus given to him to separate the salt and sand mixture. (3m)

Step 1: _____

_____

Step 2: _____

_____

Step 3: _____

_____

40. Maria observed 2 different types of cactus cells A and B under a microscope. She recorded her observations in the table below.

Parts of a cell	A	B
Nucleus	√	√
Cell wall	√	√
Cytoplasm	√	√
Chloroplasts	√	×
Cell Membrane	√	√

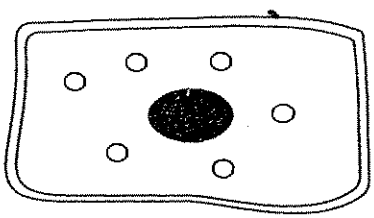
(a) Based on the table above, which cell is most likely to be a cactus root cell? (1m)

_____

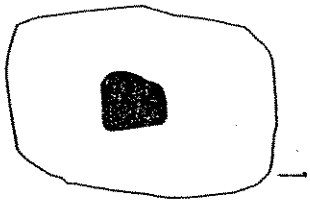
(b) Give a reason for your answer in (a). (1m)

_____

41. The diagram below shows a plant cell and an animal cell.
The cells are labelled X and Y.



Cell X



Cell Y

(a) Identify the animal cell and plant cell. (1m)

Animal cell: _____

Plant cell: _____

(b) When an animal cell loses water, it changes its shape but the plant cell does not change its shape when it loses water.
Explain why this difference is observed. (1m)

_____

42 (a) State a similarity between cell division and binary fission. (1m)

_____

_____

(b) State a difference between cell division and binary fission. (1m)

_____

_____

43. Aaron conducted an experiment on 2 plant cells, A and B, from the same plant. He removed the cell wall of Cell A. He then put both cells in a dish containing 2 different coloured substances X and Y as shown in diagram 1.

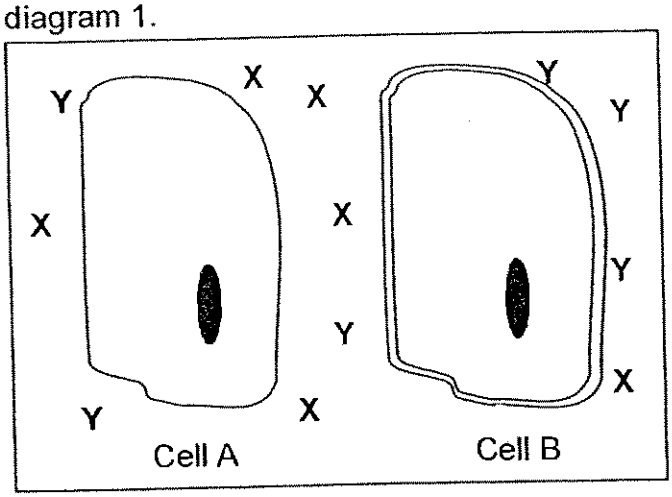


Diagram 1

Diagram 2 shows what he observed under a microscope after 15 minutes

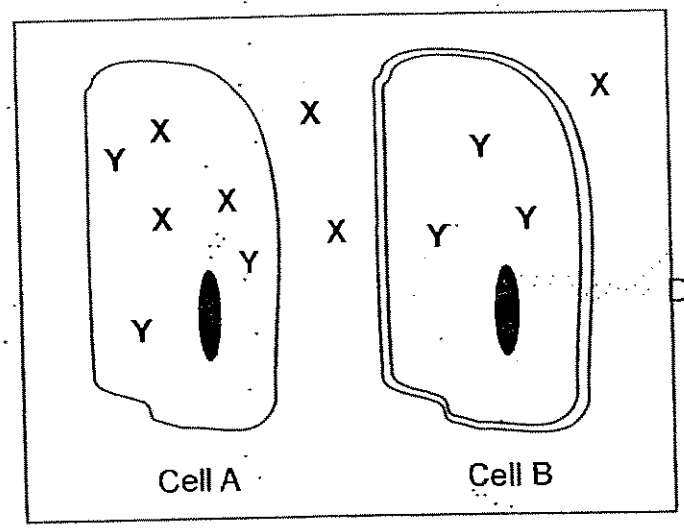
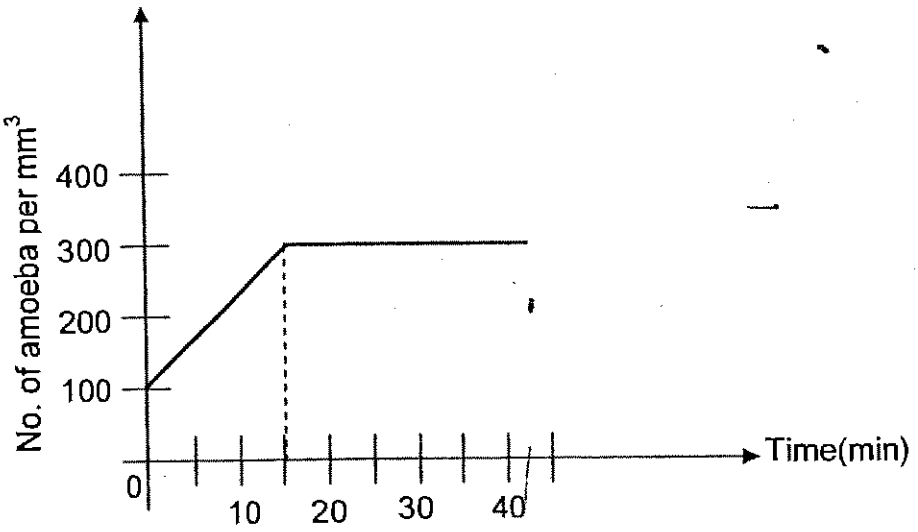


Diagram 2

(a) Describe what Aaron observed in Cell A and Cell B after 15 minutes. (1m)

(b) Explain why the observation was different for Cell A and Cell B. (1m)

44. Jamie collected some pond water and observed the population of amoeba in it over a period of time.



(a) Name the process which caused the change in the number of amoeba from 0 to 15 minutes. (1m)

_____

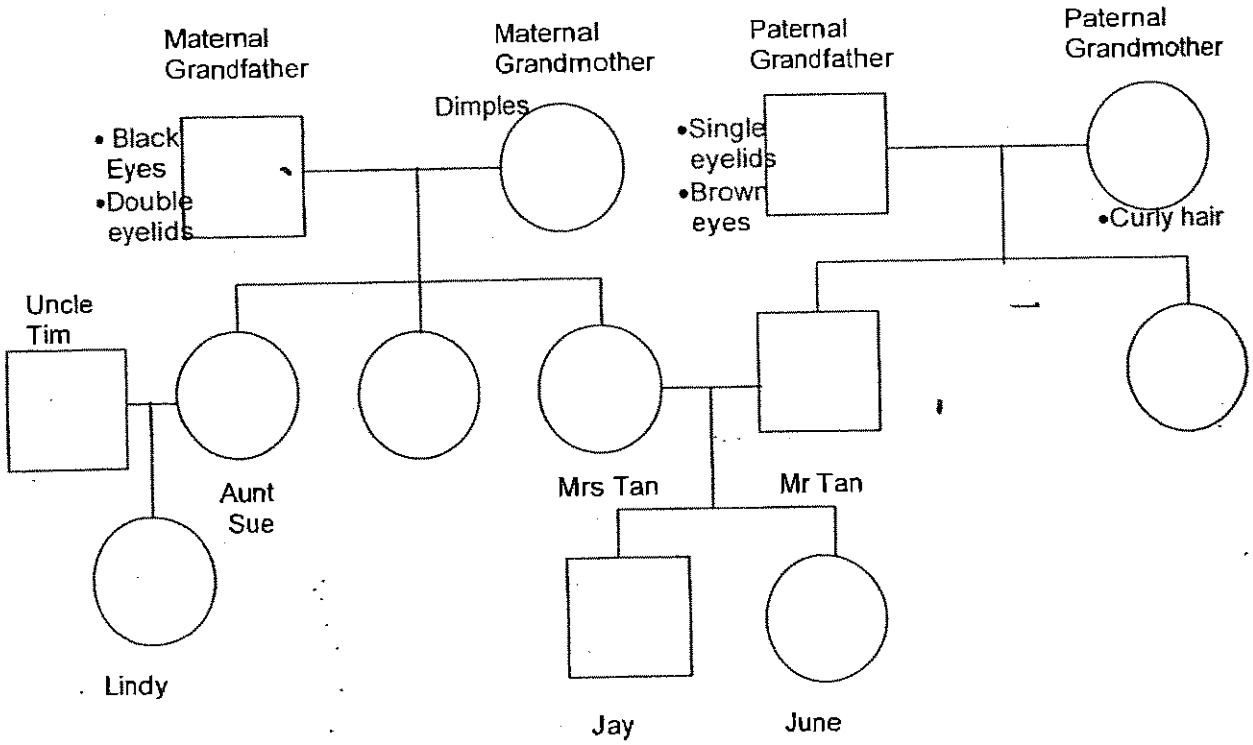
_____

(b) State one reason why the number of amoeba remained unchanged from 15th to 30th minute. (1m)

_____

_____

45. Study June's family tree below.



(a) Based **only** on the family tree, if June has dimples, brown eyes and curly hair, what trait(s) has/have she inherited from Mrs Tan? (1m)

_____

(b) What trait(s) is/are common to June and her paternal grandfather? (1m)

_____

(c) Are there more males or females in June's family tree? How many more? (1m)

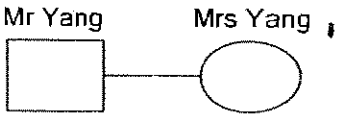
_____

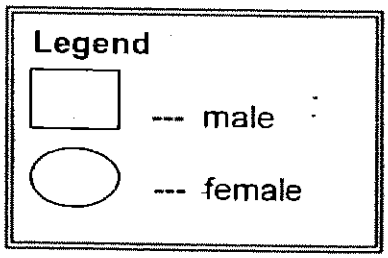
(d) How many sets of parents can you find in the above family tree? (1m)

_____

46. Mr and Mrs Yang have 2 children, Anthony and Amy.
Mr and Mrs Quek have 2 children, Ah Huat and Ah Ling.
Ah Huat and Amy are married. They have 2 children, Peter, and Joshua.

Construct a family tree based on the above information. Part of the family tree has been drawn for you. Make use of the legend and name all the members in the family tree. (3m)





----------END OF PAPER----------

Setters: Mrs Shirley Lam
Mr Low Kiah Wee

ANSWER SHEET

NANYANG PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
CONTINUAL ASSESSMENT (1)

1. 4
2. 2
3. 1
4. 2
5. 4
6. 1
7. 1
8. 1
9. 2
10. 2
11. 4
12. 4
13. 2
14. 4
15. 4
16. 3
17. 1
18. 2
19. 4
20. 1
21. 2
22. 2
23. 1
24. 1
25. 1
26. 1
27. 4
28. 1
29. 4
30. 3

31) a)

b) b) New Moon
c) Lighted part of the moon is facing the Earth.

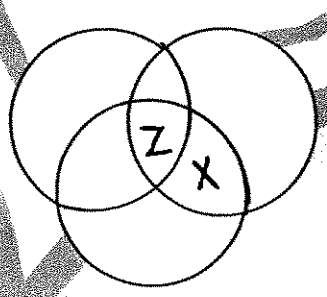
32) a) True b) False c) Not d) True

33) a) Gravitational force
b) i) Oxygen ii) Photosynthesis

34) a) The water in the test tube will freeze.
b) The amount of crushed ice and the type of beaker.

35) Initially, steam condenses as it loses heat to the metal plate to form water droplets. After sometimes the metal plate become hot and steam cool no longer condenses in it to from water droplets.

36) a) Animal Z is a herbivore, lives in the sea and it is a mammal.
b)



37)a)A: Many seeds B: One seed
b)A: Papaya B: avocado

38)a)2)Able to hold substances of high temperature.
3)To see the colour of the liquid and the reaction between the chemicals clearly. | Trans parent

39)1)Pour the mixture into the beaker of water and stir until all the salt has dissolved.
2)Filter the mixture using the filter funnel and filter paper. Sand will be left on the filter paper.
3)Heat the salt solution with the Bunsen burner until all the water has evaporated.

40)a)B
b)Does not have chloroplasts and does not need to make food.

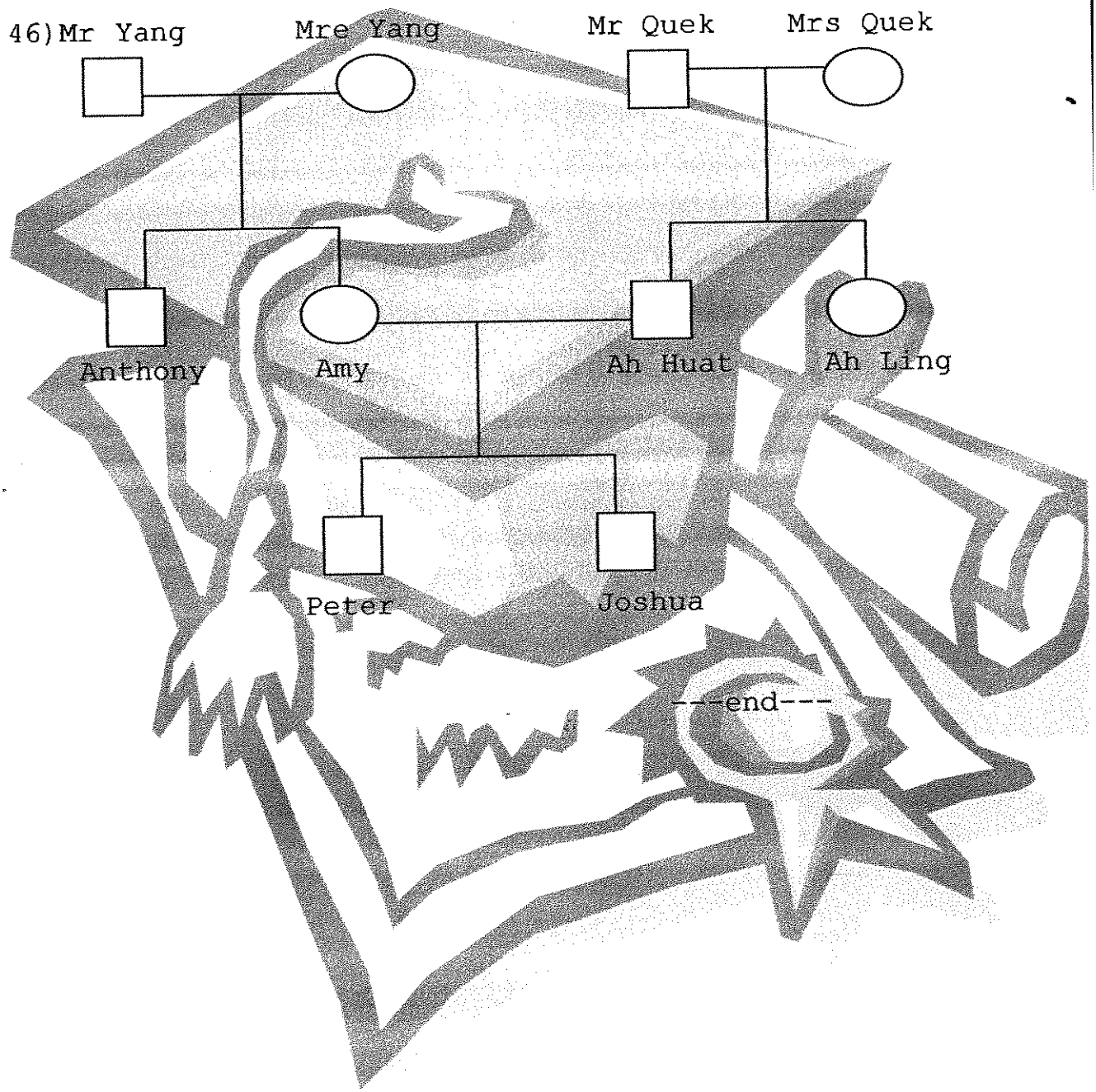
41)a)Animal cell = Y plant cell = X
b)The cell wall has a regular shape to keep the plant firmer.

42)a)They both divide.
b)In cell division it is still a cell whereas in binary fission, it has become a new organism.

43)a)Cell A allows substance X and Y to go through but cell B allows only substance Y to go through.
b)The cell membrane in A allows both X and Y to pass through cell B only allows substance Y to pass through.

44)a)Binary fission.
b)They have eaten up all their food source.

45)a)Dimples b)Brown eyes
c)There are more females. There are 3 more females than males.
d)4 sets.


46)Mr Yang
Mre Yang
Mr Quek
Mrs Quek
Anthony
Amy
Ah Huat
Ah Ling
Peter
Joshua
---end---

NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 1, 2007
PRIMARY 5
SCIENCE

Sect A	/ 60
Sect B	/ 40
Total	/ 100

Name: _____( )

Class: Primary 5 _____

_____
Parent's Signature

Date: 1 March 2007

Duration: 1hr 45 min

Section A (60 marks)
For each question 1 to 30, four options are given. Make your choice (1,2,3,4) and **shade the correct oval** on the Optical Answer Sheet (OAS) provided.

1. The Sun is important to us because it provides _____.

A: us with heat and light

B: living things with oxygen

C: plants with light to make food

D: carbon dioxide for plants to make food

(1) A and B only
(2) A and C only
(3) B and C only
(4) B and D only

2. Which one of the following statements about the Earth is true?

(1) It is a star.
(2) It gives out its own light.
(3) It revolves around the Sun.
(4) It rotates from East to West about its axis.

33

3. The change from day to night is caused by the

(1) Earth facing the Sun.
(2) Earth rotating about its own axis.
(3) Moon revolving around the Earth.
(4) Sun and Moon revolving around the Earth.

4. The _____ revolves around the Earth.

(1) Moon (2) stars
(3) Sun (4) planets

5. Plant cells have _____ but animal cells do not.

(1) chloroplasts (2) cytoplasm
(3) nucleus (4) cell membrane

6. The _____ controls all the activities of the cell.

(1) brain
(2) nucleus
(3) cytoplasm
(4) cell membrane

7. Which one of the following is **not** true?

(1) The cell wall protects the cell.
(2) The cell wall is absent in animal cells.
(3) The cell wall makes food for the plant.
(4) The cell wall gives the cell a regular shape.

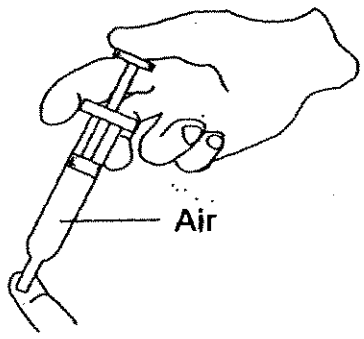
8. To be able to make starch, a cell needs to have _____.

(1) cell wall
(2) chloroplast
(3) cytoplasm
(4) cell membrane

9. Which one of the following best shows water conservation in action?

(1) Leaving a leaky tap to drip.
(2) Watering plants with a hose.
(3) Brushing teeth using a mug of water.
(4) Leaving the shower on while soaping and shampooing.

10. Andrew pulled up the plunger of the syringe and drew in 10ml of air. He then covered the nozzle of the syringe with his finger and tried to push the plunger down, as shown in the diagram.



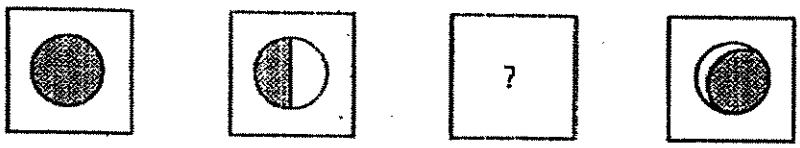
He found that he could push the plunger in, to a certain extent only. From this simple experiment, Andrew can conclude that air _____.

(1) can be compressed
(2) has a definite shape
(3) has a definite volume
(4) does not have mass

11. There is more _____ than _____ in air.

(1) nitrogen; oxygen
(2) oxygen; nitrogen
(3) carbon dioxide; oxygen
(4) carbon dioxide; nitrogen

12. The diagram below shows the changes in the appearance of the Moon on some days in a month.



Which of the following shows what the Moon looks like on Day 14?

(1) 

(2) 

(3) 

(4) 

13. Which of the following statements about the rotation of the Earth are correct?

A: One half of the Earth always faces the Sun.

B: The Earth completes one rotation in 24 hours.

C: The Earth rotates on its axis from West to East.

D: The rotation of the Earth causes the Moon changing phases

Which of the statements are true?

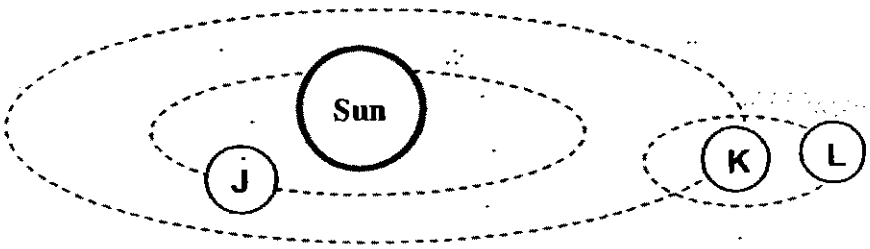
(1) A, B and C only

(2) B, C and D only

(3) A, B and D only

(4) A, B and D only

14. The diagram below shows some objects and their orbits in the Solar System.



Which of the following statements can you infer based on the diagram only?

A: L is man-made.

B: K is a satellite of L.

C: J and K revolve around the Sun.

D: J will have a lower surface temperature than K.

E: J will take a shorter time than K to complete one revolution around the Sun.

(1) A and C only

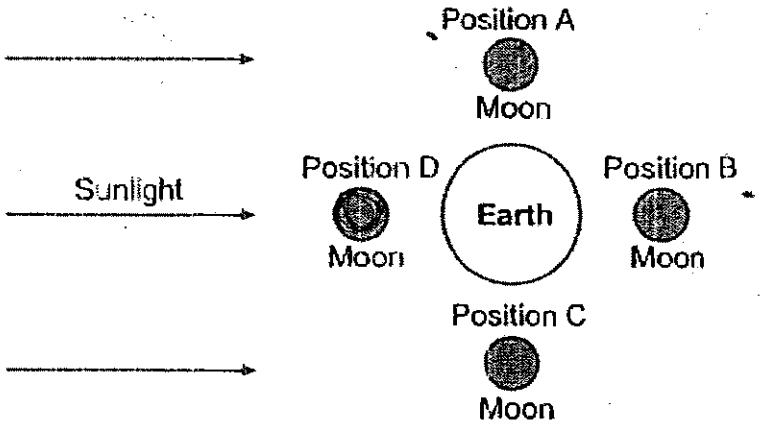
(2) C and E only

(3) B, D and E only

(4) B, C and E only

37

15. Study the diagram below carefully.



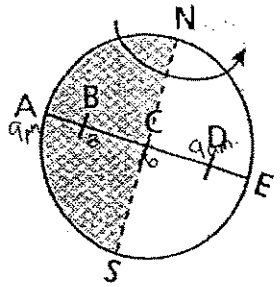
In which of the positions can you observe a new moon at night?

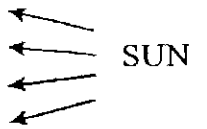
(1) Position A
(2) Position B
(3) Position C
(4) Position D

16. How many rotations about its axis would the Earth have made from Joseph's 12th birthday to his 14th birthday?

(1) 2
(2) 24
(3) 365
(4) 730

(17) Look at the diagram below.





If the time at D is 9am, what would the time most likely be at B?

(1) 3 am (2) 9 am

(3) 12 noon (4) 9 pm

18. Peter studied the Solar System and recorded the characteristics of some objects in the table below.

Characteristics	Object W	Object X	Object Y	Object Z
Gives out light	No	No	Yes	No
Revolves around the Sun	Yes	No	No	Yes
Revolves around other planets	No	Yes	No	No
Has a great diversity of life	No	No	No	Yes
Man-made	No	Yes	No	No

Which of the following are objects W, X, Y and Z likely to be?

	Object W	Object X	Object Y	Object Z
(1)	Earth	Moon	Sun	Neptune
(2)	Jupiter	Weather satellite	Earth	Sun
(3)	Mars	Moon	Sun	Earth
(4)	Venus	Communication satellite	Sun	Earth

19. The movement of the Earth about its own axis and around the Sun brings about changes to our environment. Which one of the following correctly shows the effect of each type of movement?

	The Earth rotating about its own axis	The earth revolving around the Sun
(1)	The Sun rising in the East.	Flowers blooming in Spring.
(2)	The formation of tides.	The setting of the Sun.
(3)	Married couples celebrating their wedding anniversary.	The changes in the phases of the Moon.
(4)	The birds migrating to a warmer place.	Celebrating one's birthday.

20. Look at the table below

X	Y
Paramecium	Bird
Amoeba	Cat

Which of the following classification best represents X and Y?

	X	Y
(1)	Budding	Binary fission
(2)	Plant cells	Animal cells
(3)	Single-celled organisms	Multicellular organisms
(4)	Non-living things	Living things

40

21. Janet observed two cells and recorded the results in the table below. Study the table below carefully.

Cell parts	Cell A	Cell B
Cell wall	Absent	Present
Cell membrane	Present	Present
Cytoplasm	Present	Present
Nucleus	Present	Present
Chloroplasts	Absent	Present

Based on the above table, what conclusion can Janet arrive at?

(1) Cell A is an animal cell and cell B is a plant cell.

(2) Cell A is a red blood cell and cell B is a white blood cell.

(3) Cell A belongs to the root of a plant and cell B belongs to a leaf.

(4) Cell A belongs to a single-celled organisms and cell B belongs to a multicellular organism.

22. Jasper prepared two slides A and B. As he observed them through the microscope, he observed both had a fixed shape and had a cell wall. However he noticed that slide A had chloroplasts, while slide B did not.
Where was the specimen for slide A and slide B taken from?

	Slide A	Slide B
(1)	Hibiscus leaf	Amoeba
(2)	Balsam root	Cheek cell
(3)	Carrot root	Hibiscus root
(4)	Elodea leaf	Onion bulb

23. Jane was trying to focus her sample and the stage was moving upwards. She then realised that the objective lens was touching the slide. However, as she was still unable to get a sharp image she decided to keep turning the focus knob in the same direction. What will happen?

(1) She will damage the slide only.
(2) She will damage the eyepiece.
(3) She will get the sharp image she wanted.
(4) She will damage the slide and the objective lens.

24. Which of the following statements are true of a cell membrane?

A: It controls all the activities of the cell.
B: It can be found only in an animal cell.
C: It is a thin partially permeable layer.
D: It allows some substances to enter and leave the cell.

(1) A and D only
(2) B and C only
(3) C and D only
(4) B, C and D only

25. An animal X had a mass of 2kg when it was 1 week old. It had a mass of 5kg when it was 4 weeks old. Which of the following would have contributed to the increase in mass?

A: Cell growth
B: Cell death
C: Cell division

(1) A only
(2) C only
(3) A and C only
(4) B and C only

26. Jason said the following statements after studying the topic of cells.

A: Both living and non-living things are made up of cells.

B: There are living things that are made up of only one cell.

C: Different cells have different shapes, sizes and functions.

D: Larger animals have larger cells than smaller animals of the same kind.

Which of the above statements are true?

(1) A and B only

(2) A and C only

(3) B and C only

(4) A, B, C and D

27. Three pupils, Janet, Justin and John, observed a sample slide using a microscope. Each pupil observed and recorded their observation, as shown in the table below.

Pupils	Cell parts observed
Janet	Cell membrane, nucleus
Justin	Cytoplasm, chloroplasts, nucleus
John	Cell wall, chloroplasts, nucleus

Whose records show that the cells they looked at were plant cells?

(1) John only

(2) Janet and John only

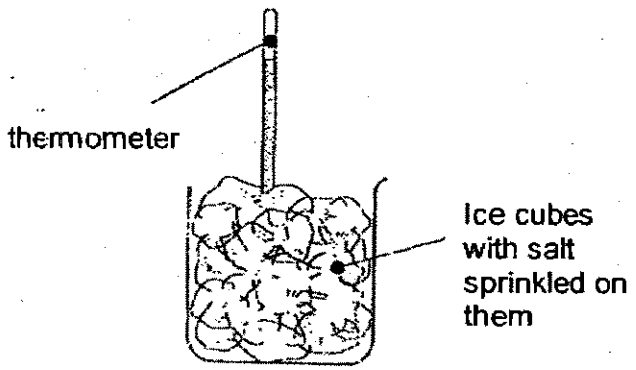
(3) Justin and John only

(4) Janet and Justin only

28. The table below shows some properties of three different types of material. Which one of them is correct?

	Properties	Coins	Milk	Oxygen
(1)	Has mass	Yes	No	Yes
(2)	Occupies space	Yes	Yes	No
(3)	Has a definite shape	Yes	No	No
(4)	Can be compressed	Yes	Yes	Yes

29. Jeffery wanted to find out the effect of salt on the melting point of ice. He set up the experiment as shown below and added different amounts of salt to the ice cubes and recorded the melting point in the table below.



Amount of salt added (in g)	0	10	20	30
Melting point of ice (in °C)	0	-2	-3	-4

Based on the results obtained, which one of the following statements is correct?

(1) Adding salt does not affect the melting point of ice.

(2) The melting point of ice when 25g of salt was added should be –5 °C.

(3) As the amount of salt added decreases, the melting point of ice decreases.

(4) As the amount of salt added increases, the melting point of ice decreases.

30. A room crowded with people, has all its doors and windows closed. Which one of the following shows how some of the gases will change in the room?

	Water Vapour	Oxygen	Carbon Dioxide	Nitrogen
(1)	Decrease	Decrease	Increase	Decrease
(2)	Increase	Increase	Decrease	No change
(3)	Increase	Decrease	Increase	No change
(4)	Decrease	Increase	Decrease	Increase

NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 1, 2007
PRIMARY 5
SCIENCE

Sect B	/ 40

Name: _____( )

Class: Primary 5 _____

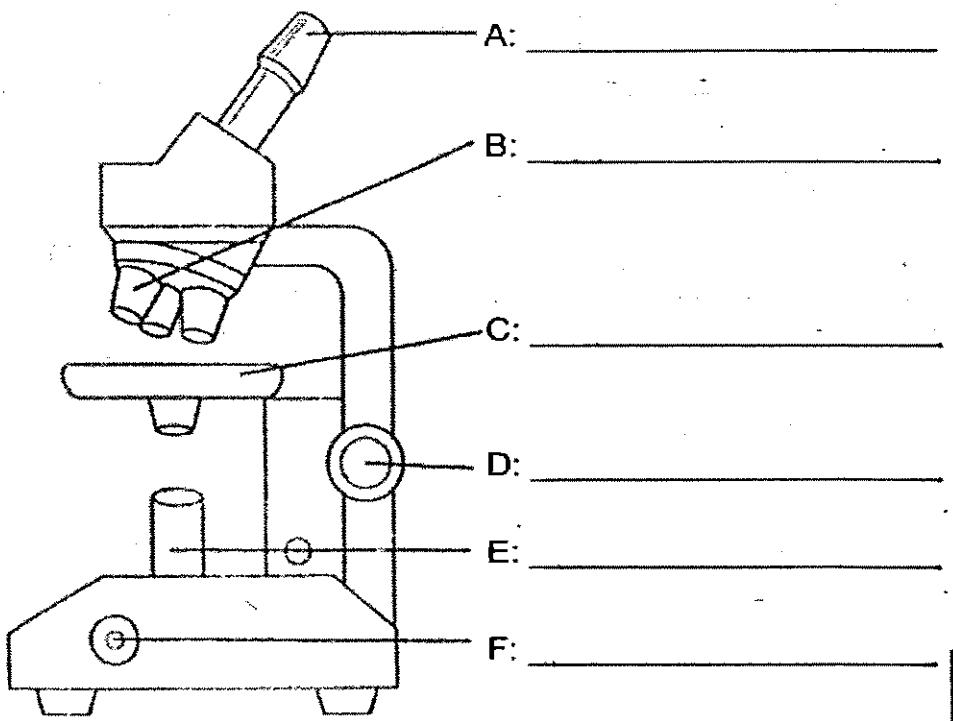
_____
Parent's Signature

SECTION B (40 marks)

Write your answers to questions 31 to 46 in the spaces provided. The number of marks for each question are shown in brackets ( ) at the end of each question or part question.

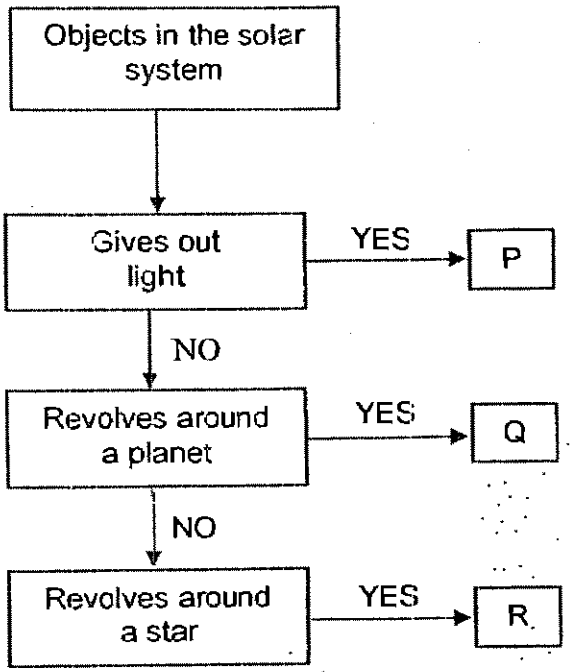
31. Label the main parts of the microscope in the diagram below using the helping words given in the box. (3m)

power switch	focus knob	lamp
objective lens	eyepiece	stage



46
3

32. Study the flow chart about the Solar System below.



a) Name the P and Q in the solar system. (1m)

P is _____

Q is _____

b) From the information given above, answer the following questions related to R. (2m)

i) Name R.

_____

ii) How long does R take to complete one revolution around the star?

_____

3

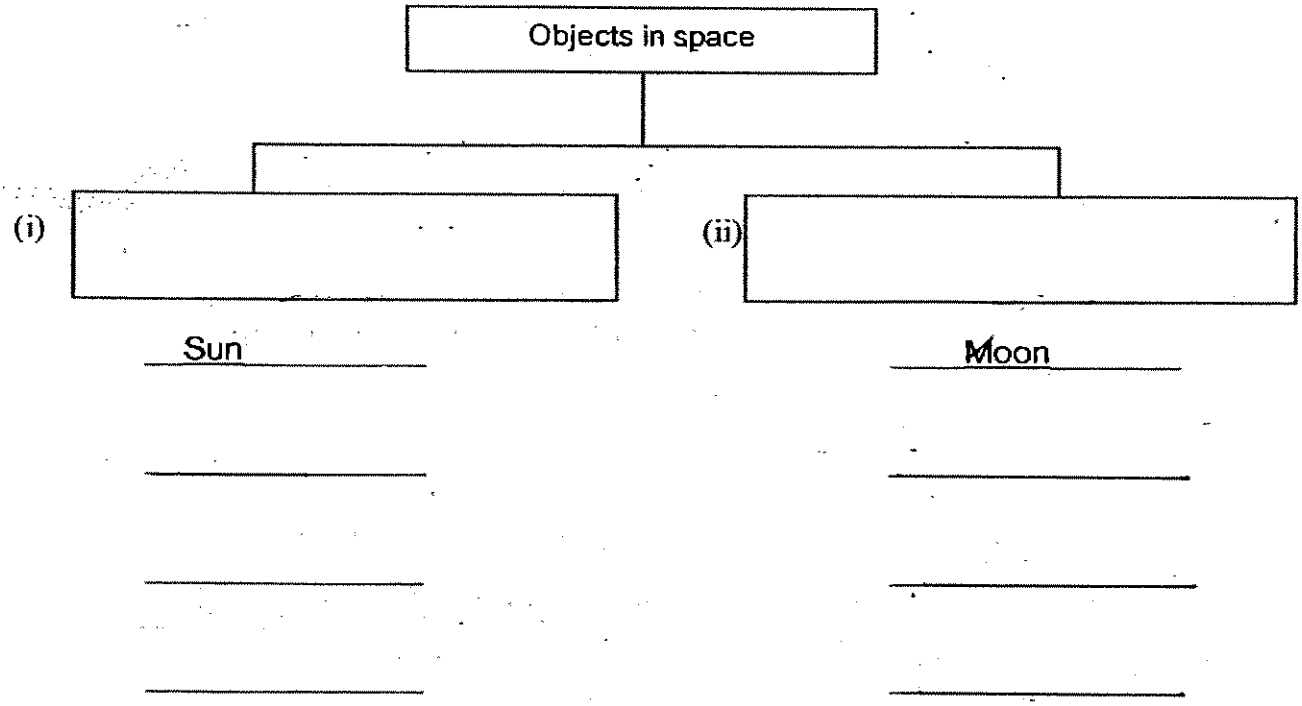
33. The following is a list of objects that are found in space.

Moon	Sun	Planets
Star	Man-made satellites	Earth

Two of the objects above have been classified for you in the classification table below. Complete the classification table by:

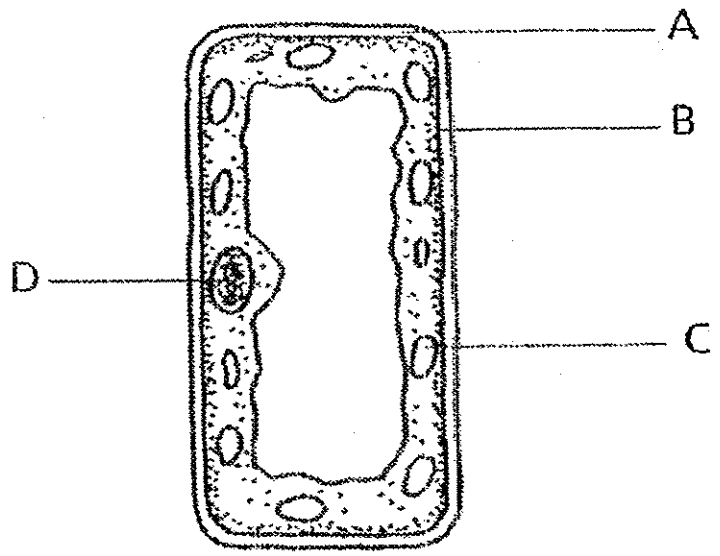
a) Giving suitable headings, (i) and (ii), to the classification table below. (1m)

b) Classifying the rest of the objects given in the box above, in the lines provided below. (2m)



3

34. The diagram below shows the parts of a plant cell.



Study the diagram and give the **name** of the part and its **function** in the table below. (4m)

Parts of plant cell	Function
A :	
B :	
C :	
D :	

4

49

35a) State the use of a microscope? (1m)

_____

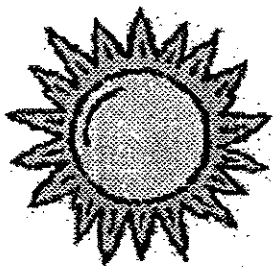
_____

b) Where would you place a specimen slide when using a microscope? (1m)

_____

_____

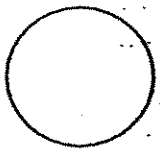
36. Study the diagram and the table below.



Sun

Mercury

Earth



Jupiter

	Planets		
	Mercury	Earth	Jupiter
Distance from the Sun (million km)	58	150	778
Temperature (Average temperature in the day)	480 °C	25 °C	-148 °C
Presence of water	No	Yes	No

Using the information given in the table above, give **two** reasons why the Earth is able to support life as compared to the other two planets. (2 m)

(i) _____

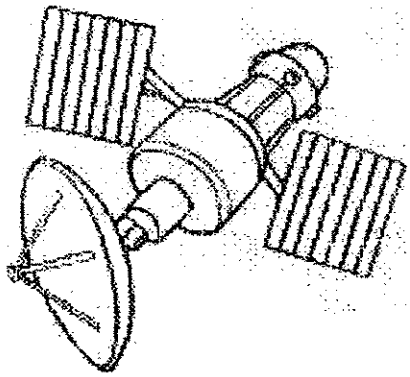
_____

(ii) _____

_____

4/50

37. The picture below shows an object found in space.



(a) What is this object known as? (1 m)

_____

(b) List **two** uses of this object. (1 m)

_____

_____

_____

_____

51

2

38. John was recording his observations of an object in space from his room every day. The observations were neatly tabulated in his Science Journal.
One day, when he left his room, his cat toppled the ink bottle he was using for art. In the figure below see what was left after the ink spill.

Observation o[redacted]
- It rises in the East a[redacted]
- It can be very bright.
- It seems to be one of the largest objects up in the sky.
- It cannot be seen on a cloudy day.
- It is seen clear at night.
- Its shape seems to change.

(a) What was he observing? (1m)

_____

(b) He says "it can be very bright". Does it mean the object is a light source? Explain your answer. (2m)

_____

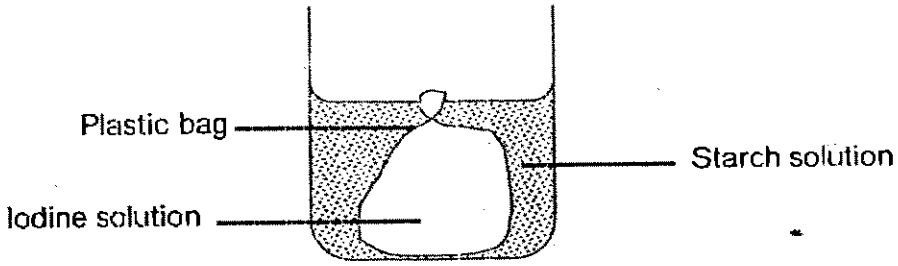
_____

_____

_____

3

39. Janet set up an experiment as shown below. Study the diagram carefully.



a) What will happen after sometime? (1m)

_____

_____

b) Which part of the cell does the plastic bag function as? (1m)

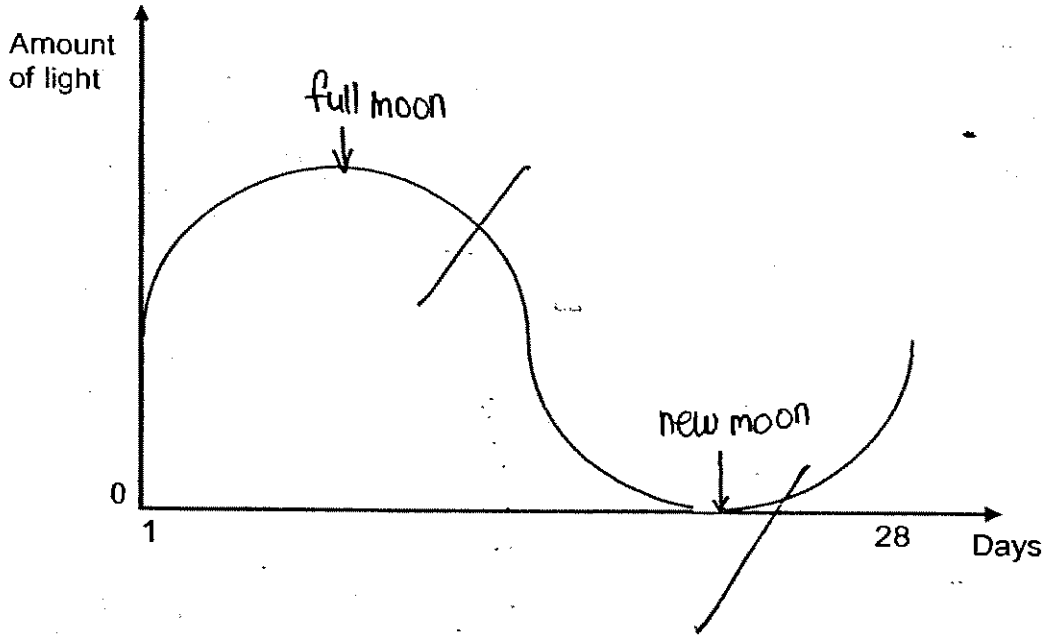
_____

_____

2

53

40. The graph below shows the total amount of light shining on the Moon measured using a special equipment. The measurements were made everyday for one complete month.



On the graph above, draw an arrow and label it as

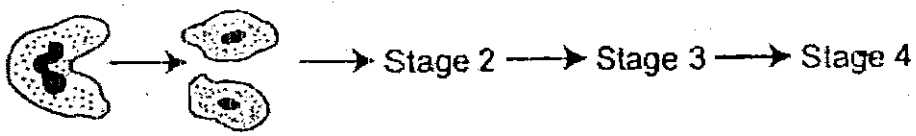
(a) '**full moon**' to show when there was a full moon. (1 m)

(b) '**new moon**' to show when there was a new moon. (1 m)

2

54

41. The diagram below shows a cell in a multicellular organism undergoing a certain process.



Stage 1
2 daughter cells

a) Name the process that is taking place. (1m)

_____

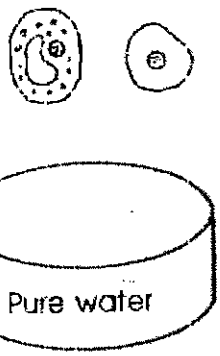
b) What is the purpose of the process stated in (a)? (1m)

_____

c) How many cells will there be at Stage 4? (1m)

_____

42. Josephine carries out an investigation with a plant cell and an animal cell. She places a plant cell and an animal cell in pure water.



She observes that the plant cell remains tight and firm whereas the animal cell becomes swollen and eventually bursts. Explain the observations. (2m)

_____

_____

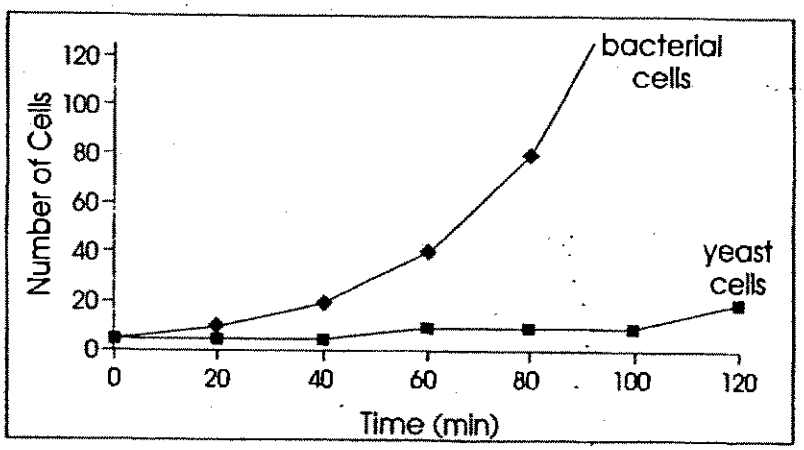
_____

55

5

43. Susan grew a culture of yeast cells and another culture of bacteria. She counted the number of yeast cells and bacterial cells under a microscope and plotted the table and graph below.

Time (min)	0	20	40	60	80	100	120
No. of yeast cells	5	5	5	10	10	10	20
No. of bacterial cells	5	10	20	40	80	160	240



a) What is the time taken to double: (1m)

i) the number of yeast cells?

_____

ii) the number of bacterial cells?

_____

b) What do the results tell you about the division of bacterial cells when compared to the yeast cells? (1m)

_____

_____

2

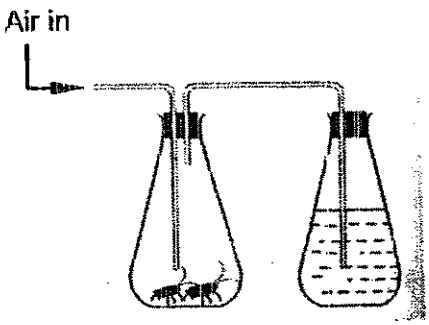
44. Jonathan had three substances A, B and C. He wanted to find out if they were a solid, liquid or gas. He tested the substances and recorded his results in the table below.

Test	A liquid	B gas	C solid
Does it have mass?	Yes	Yes	Yes
Does it occupy space?	Yes	Yes	Yes
Can it flow?	Yes	Yes	No
Can it be compressed?	No	Yes	No

a) What is the state of matter for substance B? Explain your answer. (1m)

b) What is the state of matter for substance C? Explain your answer. (1m)

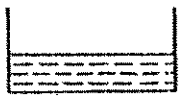
45. Study the experimental set up below.



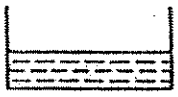
a) What will happen to the lime water in flask Y after some time? (1m)

b) Explain your answer in (a). (1m)

46. Two identical basins A and B were each filled with the same amount of water and left in two different places as shown in the diagram below.



A
Air-conditioned room
16° C



B
Room
30° C

After 6 hours, the amount of water left in the two containers was measured.

a) Which basin would have more water? (1m)

_____

b) Explain your answer in (a). (2m)

_____

_____

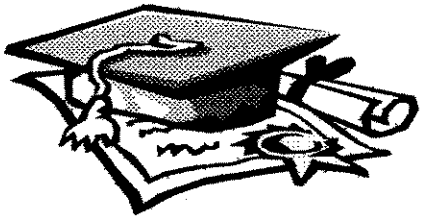
_____

_____

3

Have you checked your paper? ☺

End of paper



ANSWER SHEET

NAN HUA PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
CONTINUAL ASSESSMENT (1)

1. 2
2. 3
3. 2
4. 1
5. 1
6. 2
7. 3
8. 2
9. 3
10. 1
11. 1
12. 1
13. 1
14. 2
15. 4
16. 4
17. 1
18. 4
19. 1
20. 3
21. 1
22. 4
23. 4
24. 3
25. 3
26. 3
27. 3
28. 3
29. 4
30. 3

31) A) eyepiece
B) objective lens
C) stage
D) focus knob
E) lamp
F) power switch

32) a) P is the sun
Q is the moon
b) i) It is a planet (Earth)
ii) It takes 365 ¼ day to complete one revolution around the star.

33) a) i) Give out its own light.
ii) Does not give out its own light.
b) sun: star
Moon: Man-made satellites
Planets
Earth

34) A) Cell wall:
It supports the plant cell.
It gives the plant cell a regular shape.
B) Cell membrane:
The cell membrane controls the substances that move in and out of the cell.
It surrounds and holds the cytoplasm inside it.
C) Chloroplast:
The chloroplast contains chlorophyll that traps sunlight for the plant to photosynthesis.

34)D)Nucleus:
The nucleus is the control centre which controls all the activities in the cell.
The nucleus is responsible for cell division.

35)a)A microscope magnifies object up to several hundreds.
b)I would place it on the stage.

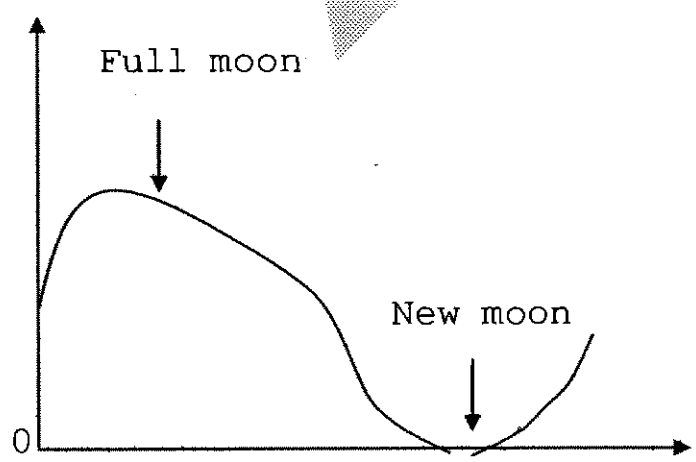
36)i)Compared to Earth,Mecury is nearer to the sun so it is too hot for living things to stay alive while Jupiter is further from the sun and receives too little heat for living thing to stay alive.
ii)Earth has water which is essential for the survival of living things while Jupiter and Mercury do not have water.

37)a)This object is known as man-made satellite.
b)It is used for observation of Earth.
It is used for space exploration.

38)a)He was observing the Moon.
b)No.The Moon does not give out its own light, it reflects light from the sun, a star gives out light but the moon is not a stay, it is a natural satellite, which does not give out light.

39)a)The starch solution turn dark blue.
b)The plastic bag function as the cell membrane that is partially permeable because it allows only certain substances to pass through but not others.

40)



41)a)The process is cell division.
b)It is for growth and replacement of old and damaged cells in plants and animal.
c)2x2x2x2=16 there will be 16 cells.

42)The plant cell has a cell wall, which is tough and will support the plant cell against the forces of the excess water but the animal cell does not have a cell wall so it bursts.

43)a)i)It takes 60 minutes.
ii)It takes 20 minutes.
b)The bacteria cells takes only 20 minutes to double the number while the yeast cells takes 60 minutes to double the number. This shows that bacteria cell divide more quickly than yeast cells.

44)a)it is a gas. it can flow and can be compressed. It also has mass occupies space.
b)The state of matter is solid.It cannot flow and cannot be compressed.It also has mass and occupies space.

45)a)chalky.
b)During respiration,the insects in the flask takes in oxygen and give out carbon dioxide.The limewater turns chalky when it comes in contact with carbon dioxide.

46)a)The basin in the air-conditioned room.
b)The higher the temperature of the surrounding the faster the rate of evaporation. The temperature is higher in the room (30℃)than in the air-conditioned room (16℃), so water evaporates faster in the room.Thus, the basin in the air-conditioned room will have more water.

---end---

Rosyth School
First Continual Assessment for 2007
SCIENCE
Primary 5

Total Marks: 50

Name: _____

Class: Pr_____ Register No. _____ Duration: 1 h 15 min

Date: 28 Feb 2007 Parent's Signature: _____

Instructions to Pupils:

1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 sections, Section A and Section B.
4. For questions 1 to 15, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 16 to 23, give your answers in the spaces provided in Section B.

	Maximum	Marks Obtained
Section A	30 marks	
Section B	20 marks	
Total	50 marks	

* This booklet consists of 13 pages . (pg. 1 to 13)

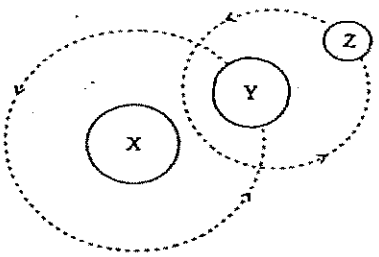
SECTION A (30 MARKS)

For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. Which object in space is nearest to Earth?

(1) Sun (2) Mars
(3) Venus (4) Moon

2. In the diagram shown below, X, Y and Z represent three objects that are found in space. Y is revolving round X and Z is revolving round Y.



What can X, Y and Z be?

	X	Y	Z
(1)	Earth	Moon	Sun
(2)	Moon	Sun	Earth
(3)	Sun	Earth	Moon
(4)	Sun	Moon	Earth

3. In what way(s) is/are a weather satellite, a telecommunication satellite and the Moon alike?

A: All of them are round.
B: All of them are useful to Man.
C: All of them move round the Earth.

(1) A only (2) C only
(3) B and C only (4) A, B and C

(Go on to the next page)

Study the table of information given below and answer questions 4 and 5.

Object	Diameter (km)	Distance from the Sun (million km)	Time taken to move round the Sun once
Mercury	4 827	58	88 days
Venus	12 229	108	225 days
Jupiter	142 718	778	12 years
Neptune	4 9075	4500	165 years

4. What conclusion can be made about the objects given in the table?

A: The bigger the object, the longer will be the time taken for it to move round the Sun.
B: The further the object is from the Sun, the longer will be the time taken for it to move round the Sun.
C: Among the four objects, the Sun will appear the largest from Mercury.

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

5. From this table of information, we can predict that Earth is further away from the Sun than which other planet(s)?

A: Mercury
B: Venus
C: Jupiter
D: Neptune

(1) A only (2) A and B only
(3) B and C only (4) A, B, C and D

6. Which of the following statements about cells are true?

A: All cells are the building blocks of life.
B: Cells cannot be seen by the naked eye.
C: All cells are made up of a cell membrane, cytoplasm, nucleus and cell wall.
D: Living things can be made up of only one cell or many cells.

(1) A and B only (2) C and D only
(3) A, B and D only (4) A, B, C and D

(Go on to the next page)

7. Study the table below carefully.

P	Q
Eel	Bacteria
Spider	Yeast

Which one of the following correctly represents the headings P and Q?

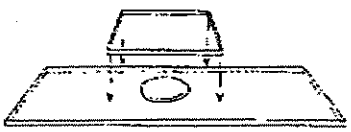
	P	Q
(1)	Living things	Non-living things
(2)	Animal cells	Plant cells
(3)	Multi-cellular organisms	Uni-cellular organisms
(4)	Binary Fission	Budding

8. Which one of the following actions must you do first before mounting a slide onto a microscope?

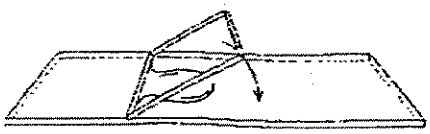
(1) Place the slide on the stage.
(2) Look through the eyepiece.
(3) Turn the correct objective lens over the slide.
(4) Turn the focus knob to lower the stage.

9. The pictures below show a cover slip being lowered onto a microscope slide. Which method will prevent air bubbles and excess water along the cover slip edges?

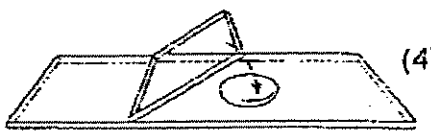
(1)



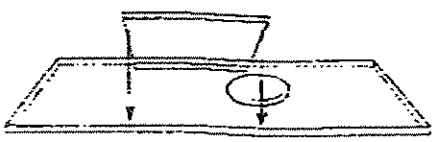
(2)



(3)



(4)

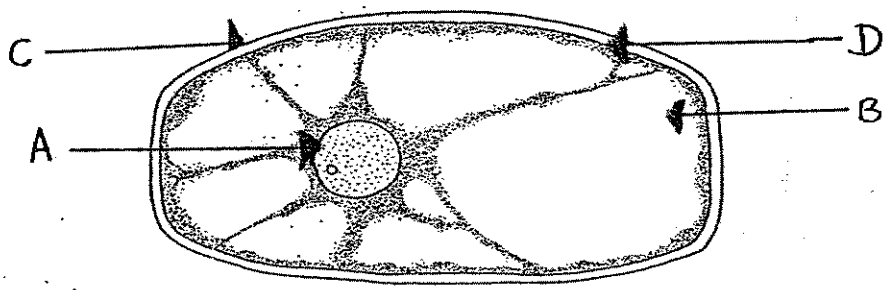


(Go on to the next page)

10. Which of the following statements about the nucleus is not true?

(1) The information it contains is duplicated for transmission when the cell divides.
(2) The information contains in the nucleus varies from tissue to tissue.
(3) The cell cannot function properly once the nucleus is removed.
(4) Some cells may have more than one nucleus.

11. Look at the plant cell below carefully.



A plant cell

Which part of the cell supports and protects the cell while giving it the required shape?

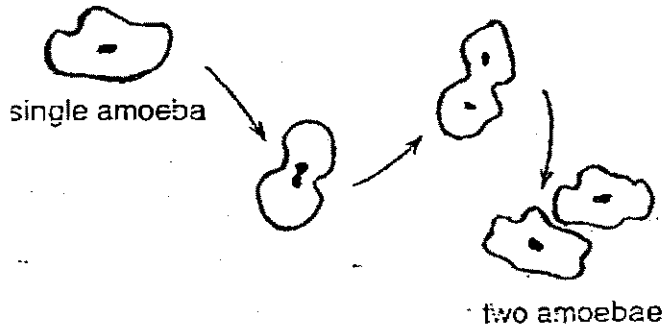
(1) A (2) B
(3) C (4) D

12. In which part of a cell are the instructions for the traits of an organism found?

(1) Nucleus (2) Cell wall
(3) Cytoplasm (4) Cell membrane

(Go on to the next page)

13. The diagram below illustrates a method of reproduction known as binary fission .

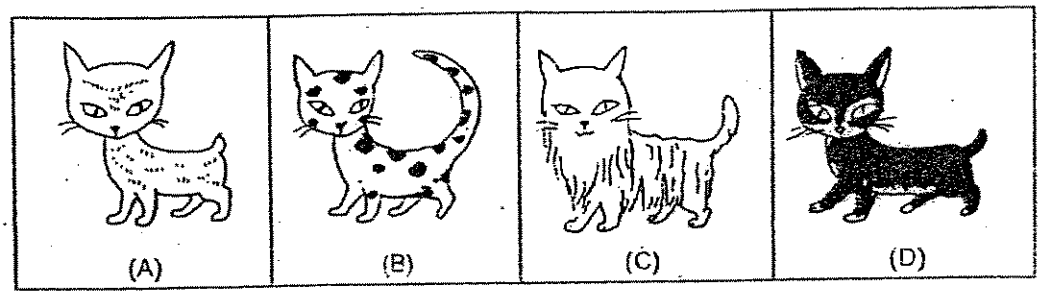


Which of the following statements about binary fission in the amoeba are true?

A: Only one parent is involved in the reproduction.
B: The parent amoeba divides itself into two amoebae.
C: The amoeba produces eggs.
D: Only the nucleus divides itself.

(1) A and B only
(2) B and C only
(3) A, B and C only
(4) A, B, C and D

14. A research scientist has four cats in his laboratory. He wants to use genetic selection to produce a cat that is spotted with a long tail and long fur.

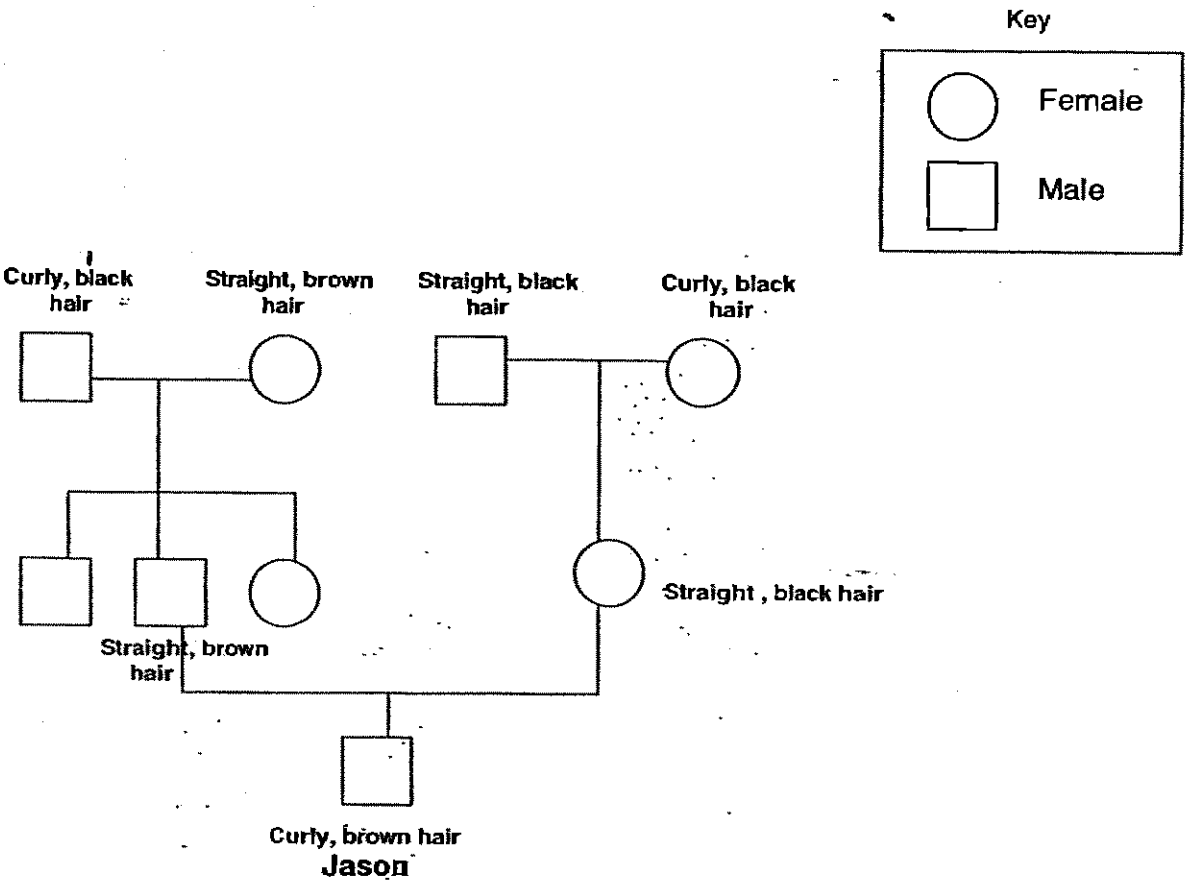


Which two cats should he take the genes from?

(1) A and B
(2) A and D
(3) B and C
(4) C and D

(Go on to the next page)

15. The diagram below represents Jason's family tree.



From whom could Jason have inherited his curly hair?

A: His father
B: His mother
C: His paternal grandfather
D: His maternal grandmother

(1) A and B only
(2) C and D only
(3) A, B and C only
(4) A, B, C and D

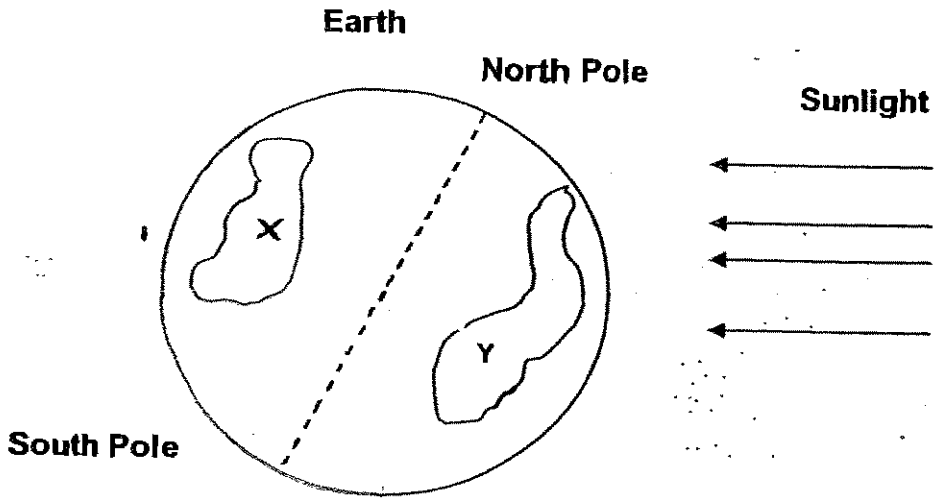
End of Section A

(Go on to the next page)

SECTION B (20 MARKS)

For questions 16 to 23, write your answers in this booklet.

16. The diagram below shows the Earth receiving light from the Sun.



(a) In the diagram above, which country, X or Y, is experiencing night? (1m)

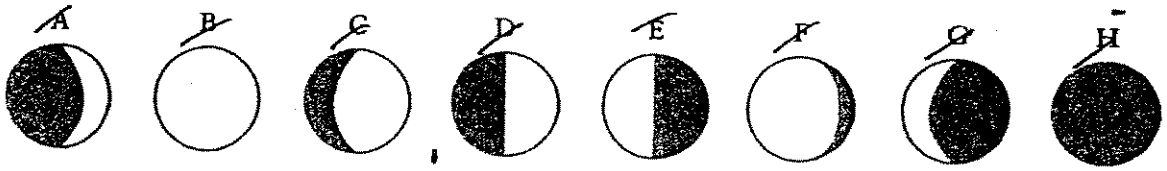
_____

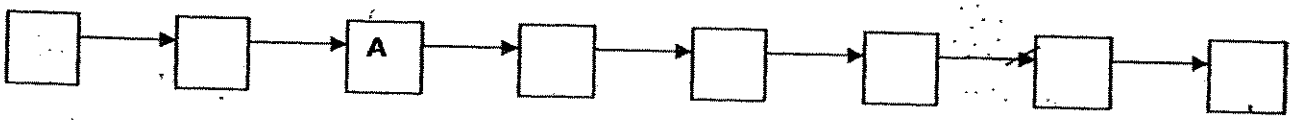
(b) Shade on the diagram above, the part of the Earth that is experiencing night. (1m)

(Go on to the next page)

17. The shape of the Moon depends on how much of its brightened side is visible to us.

(a) Arrange the phases of the Moon in order by writing the letters **(A-H)** in the boxes. **A is the Crescent after the New Moon**. It has been labelled for you. (1m)





(b) What causes the changing phases of the Moon? (1 m)

18. Based on the information in the given table below, answer the following questions.

Planet	Distance from the Sun (million km)	Length of Day (hours)	Time taken to orbit the Sun
Mercury	58	1368	88 Earth days
Venus	108	5832	225 Earth days
Earth	150	24	365 Earth days
Mars	228	9.8	687 Earth days
Jupiter	778	10	12 years
Saturn	1427	18	30 years
Uranus	2870	19	84 years
Neptune	4497	6	165 years

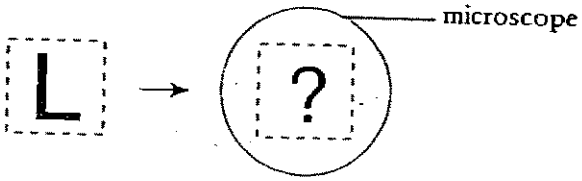
(a) State the relationship between the distance the planet is from the Sun and the time taken for the planet to orbit the Sun. (1 m)

(b) How many revolutions would Jupiter make when Uranus makes one revolution? (1m)

(c) Based on the data given, what deduction can be made about the speeds of rotation of Jupiter and Venus ? (1 m)

(Go on to the next page)

19. Joanne placed a cut-out of a letter L under a microscope in the manner shown below.



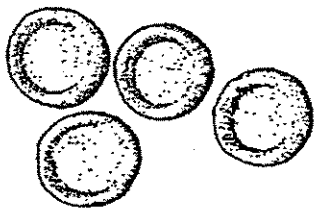
a) Draw the image that Joanne would see through the eyepiece of the microscope. (1 m)

b) How would you describe the appearance of the image seen? (1m)

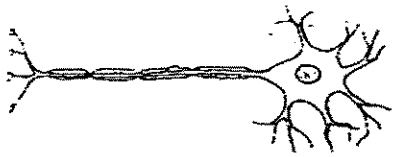
_____

(Go on to the next page)

20. The diagram below shows two animal cells.



Red Blood Cells



Nerve Cell

Based on the diagram above, state two ways in which they are different. (**Do not** mention shape and size) (2 m)

i) _____

_____

ii) _____

_____

21. Write **'True'** or **'False'** for each statement below. (3m)

No	Statements	T/F
(a)	Larger animals will always have larger cells than smaller animals of the same kind.	
(b)	All cells have a nucleus.	
(c)	All living things and non-living things are made up of cells.	
(d)	Yeasts, paramecium and amoeba are single –celled microorganisms.	
(e)	All cells carry out the same function.	
(f)	The organs in the human body are formed by groups of cells working together.	

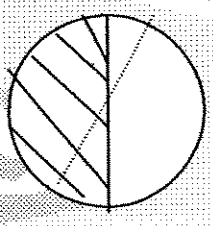
ANSWER SHEET

ROSYTH PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
CONTINUAL ASSESSMENT (1)

1.4
2.3
3.3
4.3
5.2
6.3
7.3
8.4
9.2
10. 4
11. 1
12. 3
13. 1
14. 3
15. 2

16)a)In the diagram above, county X is experiencing night.

b)



17)a)G→H→A→D→C→B→F→E

b)The revolution of the moon around the Earth is revolving around the sun, thus the moon reflects light to many different angle on the Earth.

18)a)The further away a planet is away From the sun, the longer the time Taken to orbit around the sun.

b)revolutions.

c)Jupiter rotates faster than uranus.

19)a)

b)The image seen is upside down.

20)i)The nerve cell has many branches while the red blood cells have none.

ii)The nerve cell has nucleus while the red blood cells do not.

21)a)F b)F c)F d)T e)F f)T

RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT (1)

2007

Name : _____ Index No: _____ Class: P5____

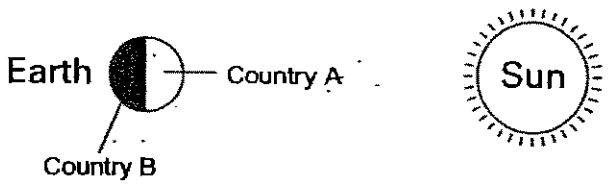
10 May 2007 **SCIENCE** Att: 1 h 45 min

Section A		60
Section B		40
Out of **100** marks		
Highest score	**Class**	**Level**
Average score		
Parent's Signature		

SECTION A (30 X 2 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet (OAS).

1. The picture below shows the positions of the Sun and Earth.



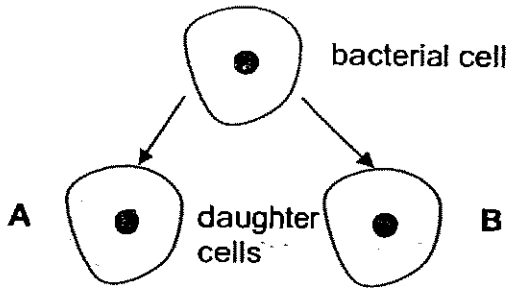
Country A is experiencing daylight and Country B is experiencing darkness. This is because the _____.

(1) Moon moves round the Earth
(2) Sun revolves round the Earth
(3) Earth revolves around the Sun
(4) Earth rotates on its own axis all the time

2. Which one of the following explains why the Moon appears to change its shape?

(1) The Earth rotates on its own axis.
(2) The Moon rotates on its own axis.
(3) The Earth revolves around the Sun.
(4) The Moon revolves around the Earth.

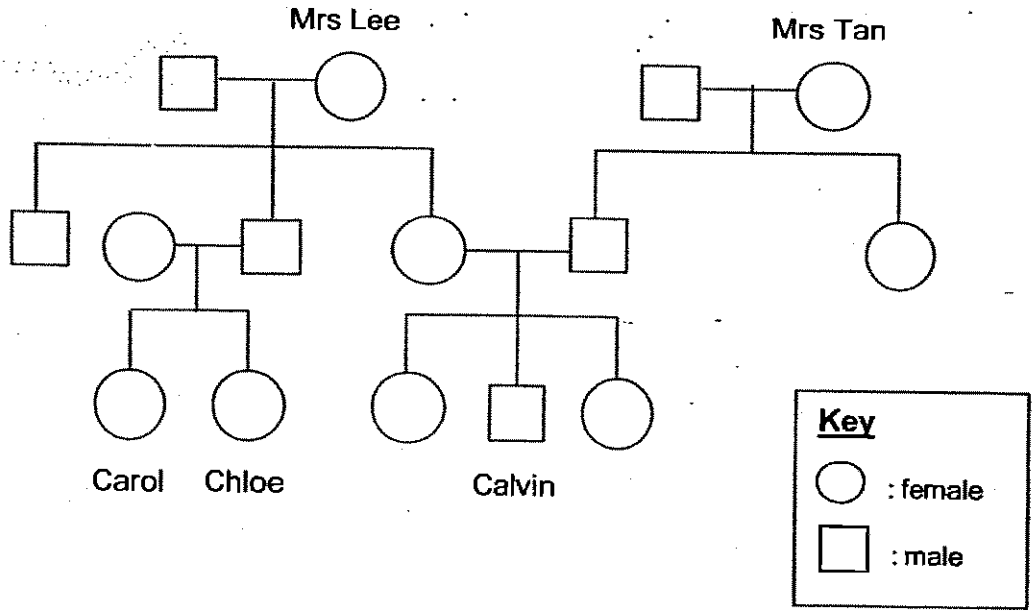
3. The following diagram shows a bacterial cell undergoing cell division to produce 2 daughter cells, A and B.



How many daughter cells will be produced from a parent cell at the 5th division?

(1) 16
(2) 32
(3) 64
(4) 128

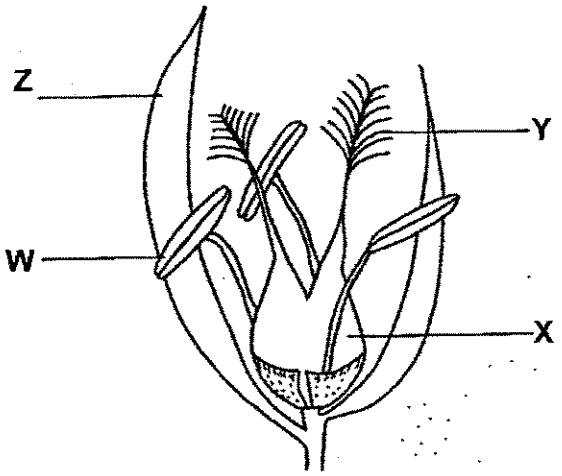
4. The family tree of Carol, Chloe and Calvin is shown below.



Which one of the following can be concluded from the above?

(1) Carol and Chloe are twins.
(2) Calvin's mother has 4 nieces.
(3) Both Carol and Chloe have 2 uncles.
(4) Chloe's mother and Calvin's mother are sisters.

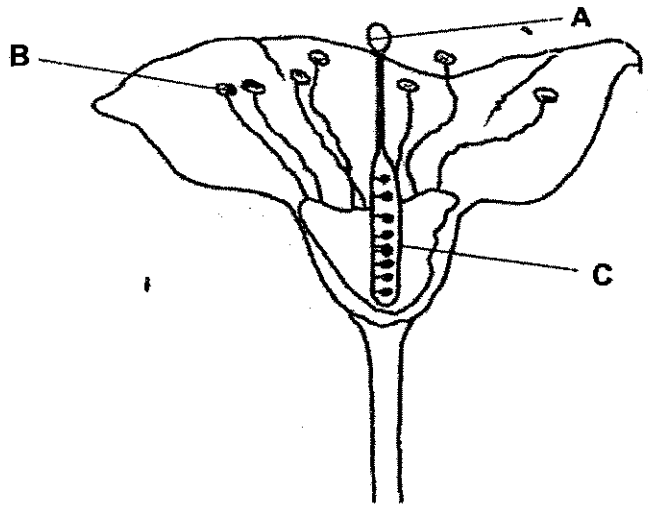
5. The diagram below shows parts of a flower.



In which parts of the flower are the ovules and pollen grains produced?

	ovules	pollen grains
(1)	W	Z
(2)	X	W
(3)	Z	X
(4)	Y	W

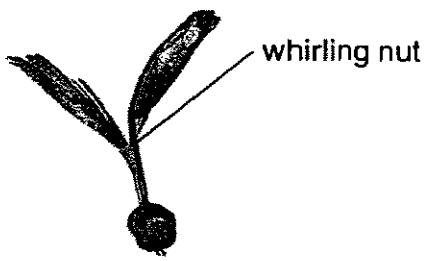
6. The diagram below shows parts of a flower.



What are the functions of the parts, A, B and C?

	A	B	C
(1)	receives pollen grains	produces pollen grains	grows into a fruit
(2)	produces pollen grains	receives pollen grains	protects the flower bud
(3)	receives pollen grains	grows into a fruit	protects the flower bud
(4)	grows into a fruit	protects the flower bud	produces pollen grains

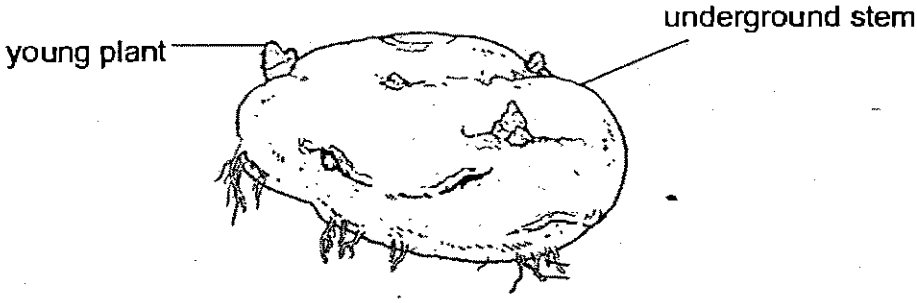
7. The diagram below shows a whirling nut.



The whirling nut is easily carried far away from the parent plant.
Which one of the following statements about the whirling nut is **TRUE**?

(1) It is fleshy and can be eaten by animals.
(2) It splits open when ripe and falls to the ground.
(3) It has hooks and can be stuck to the fur of an animal.
(4) It has a wing-like structure that can be carried away by the wind.

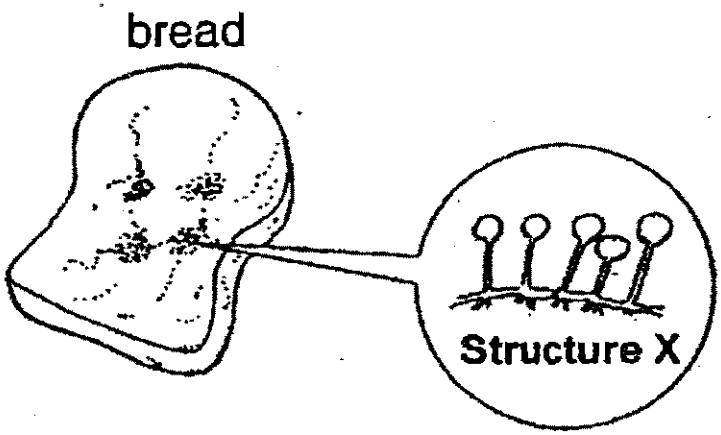
8. A young plant is seen to grow from the underground stem as shown below.



The young plant gets its food from _____.

(1) its roots
(2) its seed leaves
(3) the buds of the underground stem
(4) the food stored in the underground stem

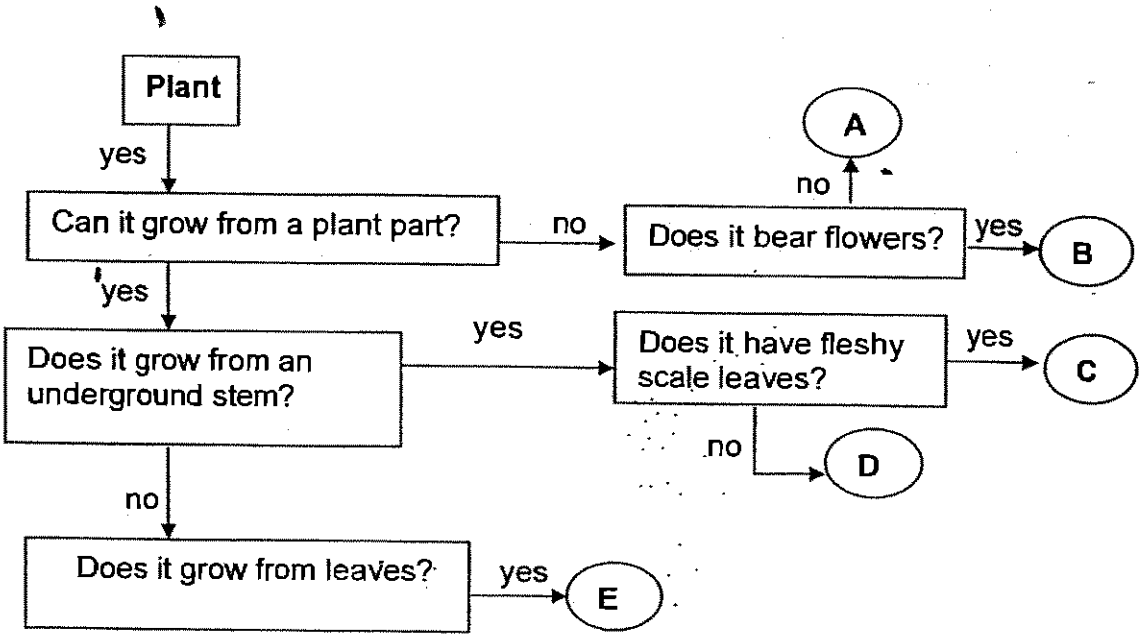
9. Structure X is found growing on a piece of damp bread which has been left in the cupboard for a few weeks.



Structure X is reproduced by _____.

(1) seeds
(2) spores
(3) suckers
(4) pollen grains

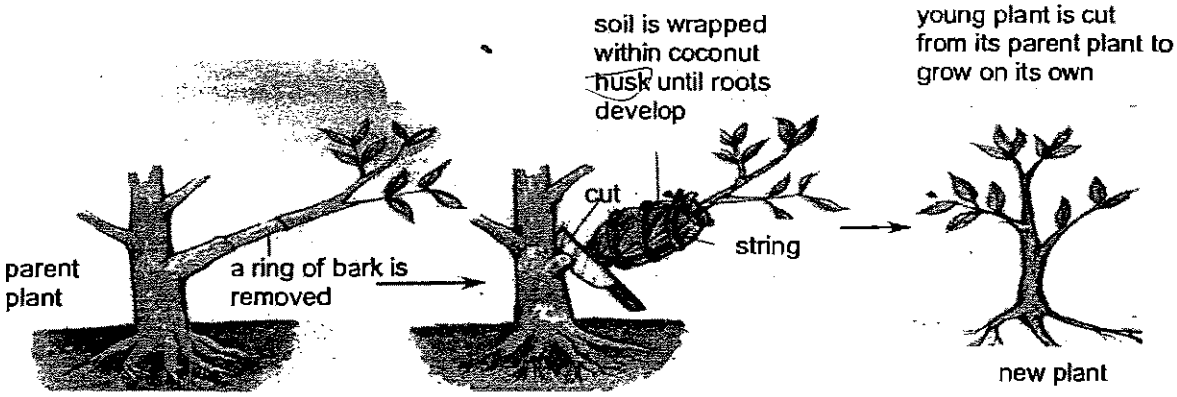
10. The chart below shows the characteristics of some plants and the different ways in which they reproduce.



Based on the chart above, which one of the following correctly represents the plants?

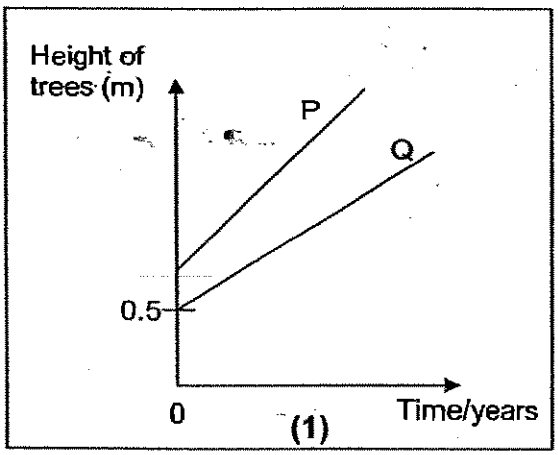
	A	B	C	D	E
(1)	money plant	coconut	orchid	ginger	African violet
(2)	fern	papaya	onion	water chestnut	begonia
(3)	hydrilla	orchid	bryophyllum	potato	African violet
(4)	pineapple	lalang	fern	onion	sansevieria

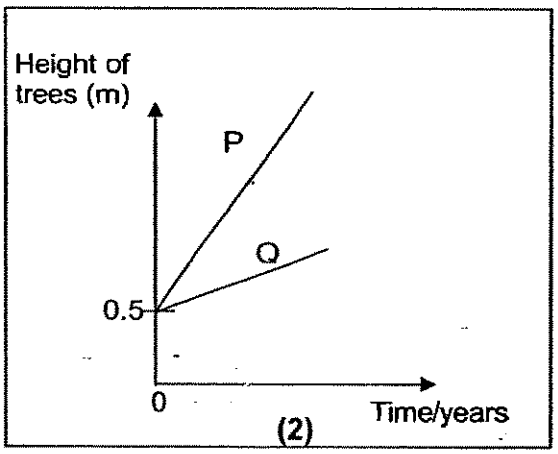
11. The pictures below show how some fruit trees are reproduced from an artificial method such as branch cutting.

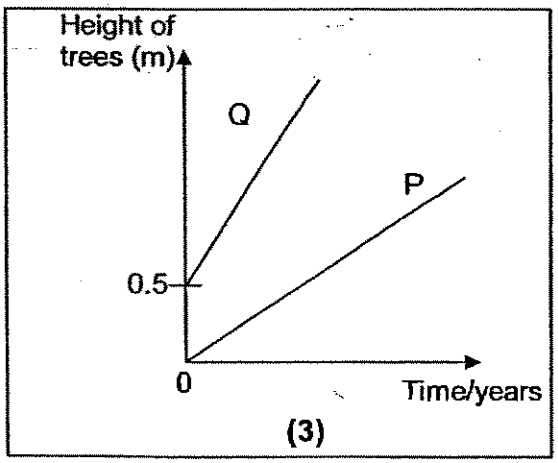


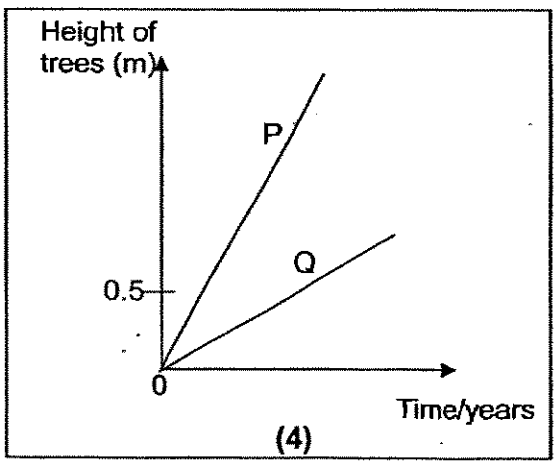
Mr Tan has been growing two durian trees, P and Q, for several years. He grew Tree P from a seed. Tree Q was grown from a branch cutting with an initial height of 0.5 m. He plotted a graph to show the growth of these 2 trees from the time they were planted till they flowered.

Which one of the following graphs most likely shows the growth of these two trees?

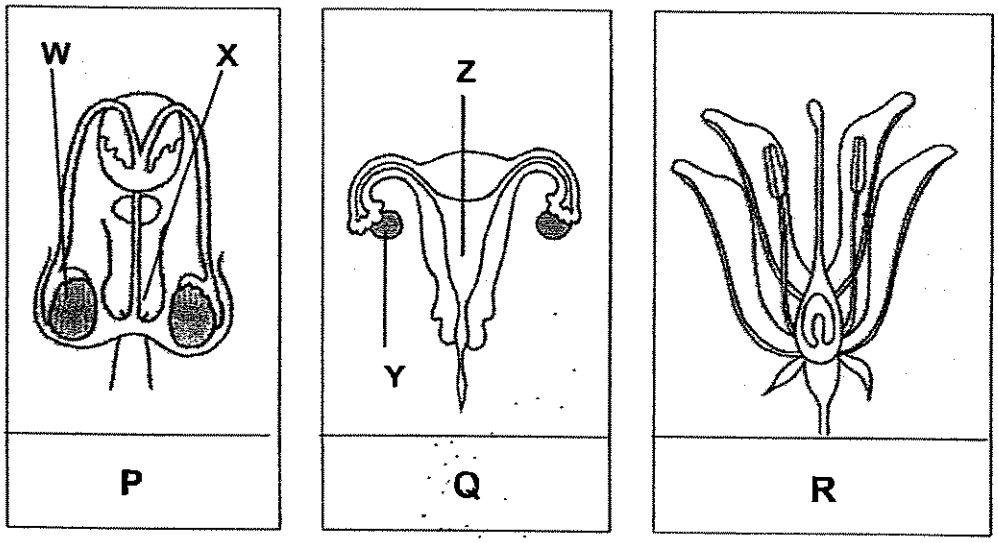








The diagrams, P, Q and R, are reproductive organs of some organisms.



Based on the diagrams above, answer **Questions 12, 13 and 14.**

12. Where are the sex cells of P and Q produced?

	P	Q
(1)	W	Y
(2)	W	Z
(3)	X	Y
(4)	X	Z

13. What processes take place when the sex cells from P and Q fuse?

A pollination
B fertilisation
C germination
D cell division

(1) A and B only
(2) B and C only
(3) B and D only
(4) C and D only

14. Which of the following statements about the reproductive organs of P, Q and R is/ are **INCORRECT**?

A Fertilisation can take place within R itself.

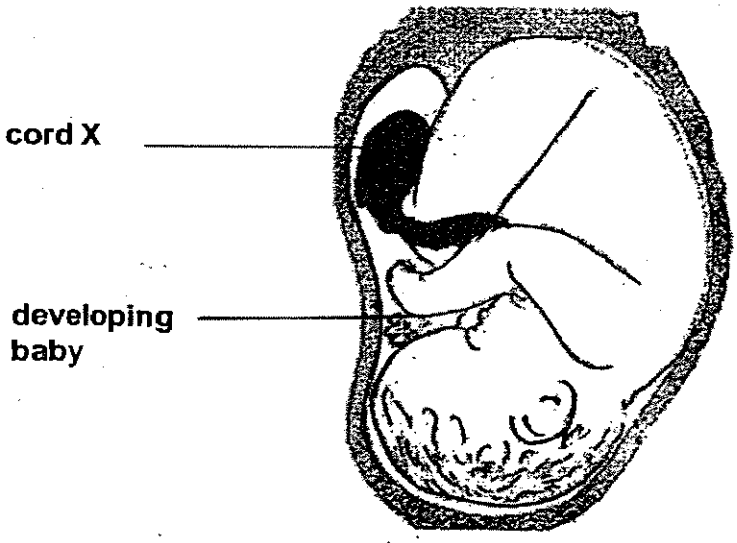
B R contains both the male and female sex cells.

C The reproductive organs of P and Q produce different types of sex cells.

D The reproductive organs of P, Q and R produce both male and female sex cells.

(1) B only
(2) D only
(3) C and D only
(4) A, B and C only

15. The diagram below shows a developing baby in a mother's womb.



Which of the following statements about cord X are **CORRECT**?

A Fertilisation takes place in cord X.

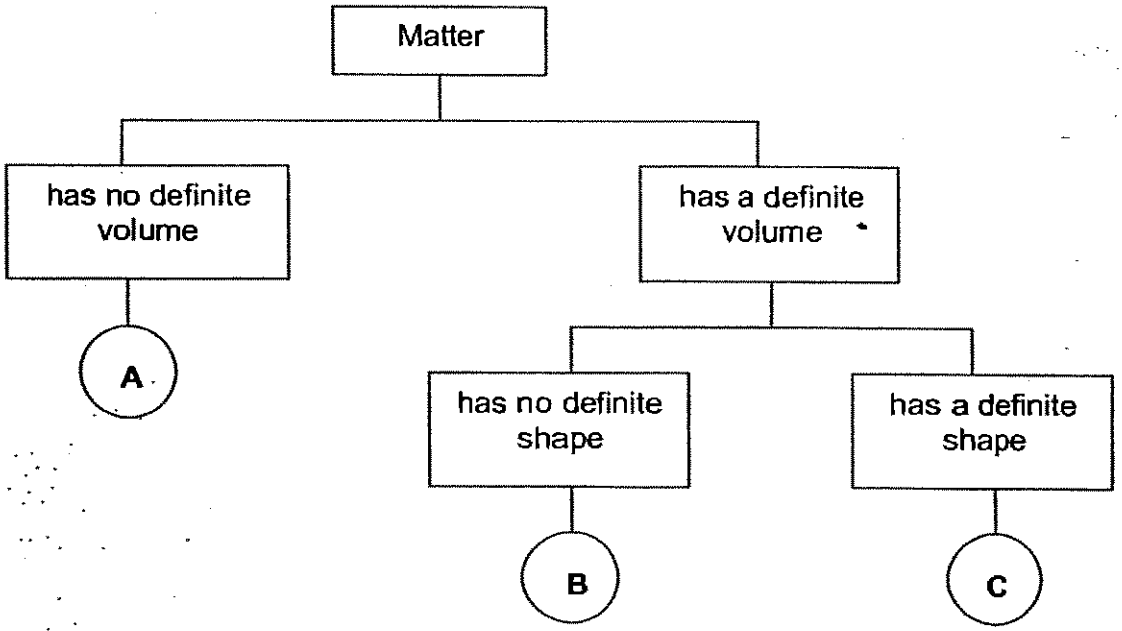
B It connects the developing baby to the mother.

C It carries food and oxygen from the mother to the developing baby.

D Wastes from the developing baby are passed out through cord X.

(1) A and B only
(2) B and C only
(3) C and D only
(4) B, C and D only

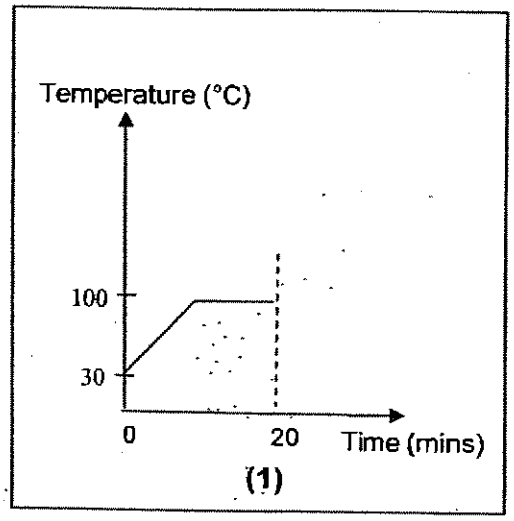
16. The classification table below shows how matter can be grouped.



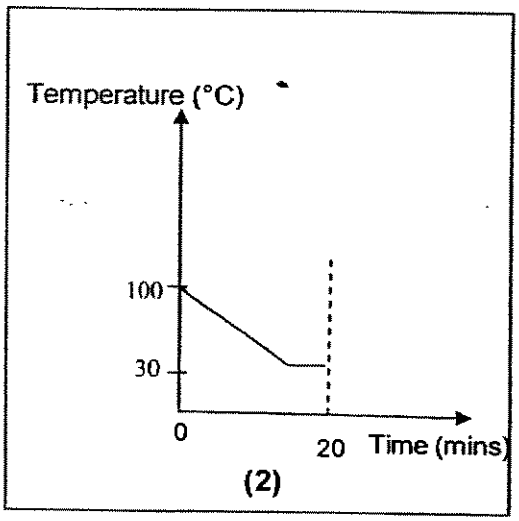
Which one of the following correctly shows what A, B and C are at room temperature?

	A	B	C
(1)	oil	stone	oxygen
(2)	water vapour	milk	brown sugar
(3)	carbon dioxide	red bean	salt
(4)	pen	cough syrup	nitrogen

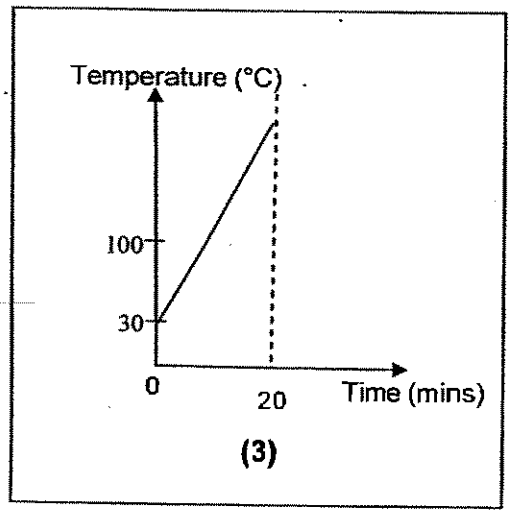
17. A beaker half-filled with water at room temperature was heated for 20 minutes. Which one of the following graphs shows the temperature of the water as it was being heated?



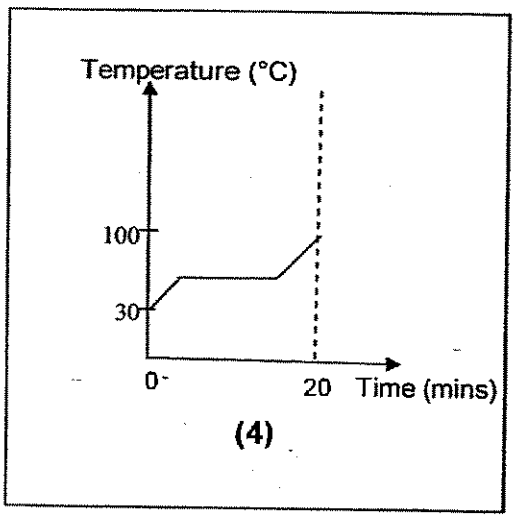
(1)



(2)

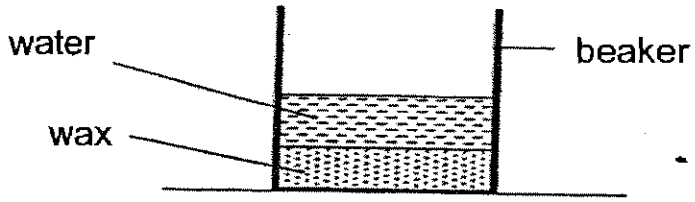


(3)



(4)

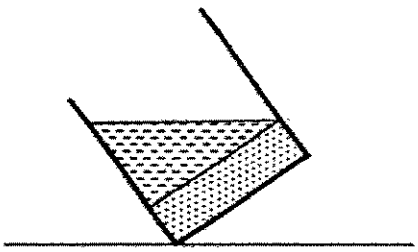
18. Tom poured some melted wax into a beaker. The next day, he added some cold water into the same beaker. Tom drew the diagram below based on his observation.



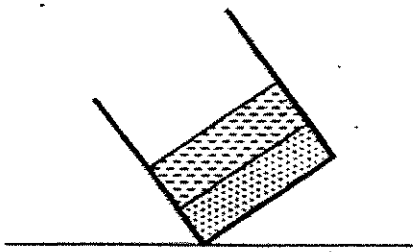
Tom tilted the beaker slightly.

Which one of the following diagrams correctly shows how the contents in the beaker should look like when the beaker was tilted?

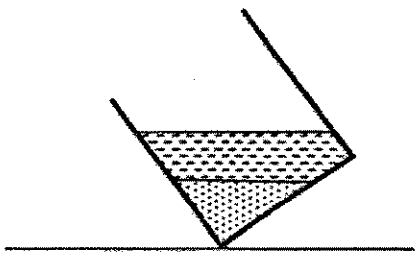
(1)



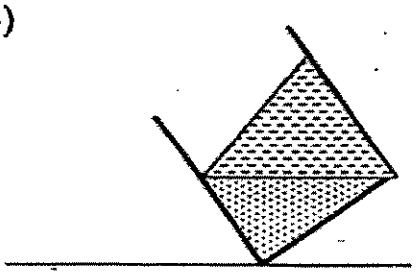
(2)



(3)

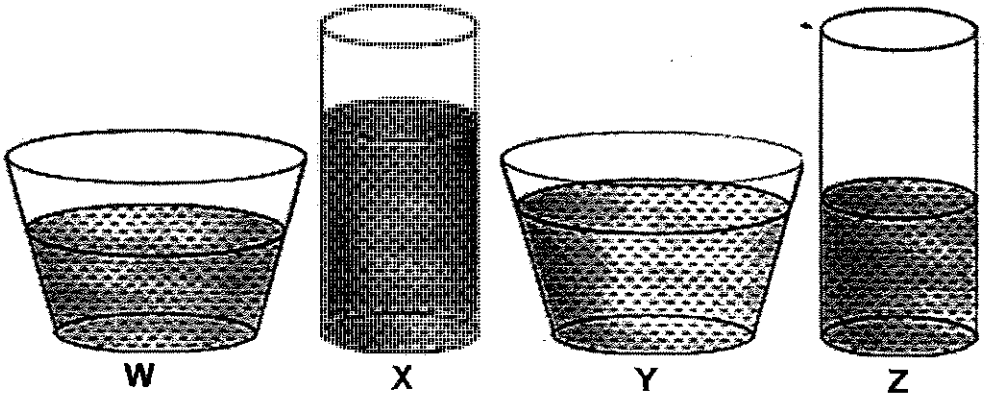


(4)



Name: _____ ____ Index No: _____ Class: P5____

19. Peter wanted to find out if the exposed surface area of water in a container affects the rate of evaporation. Containers, W, X, Y and Z, are made of the same material but filled with different amounts of water as shown below.

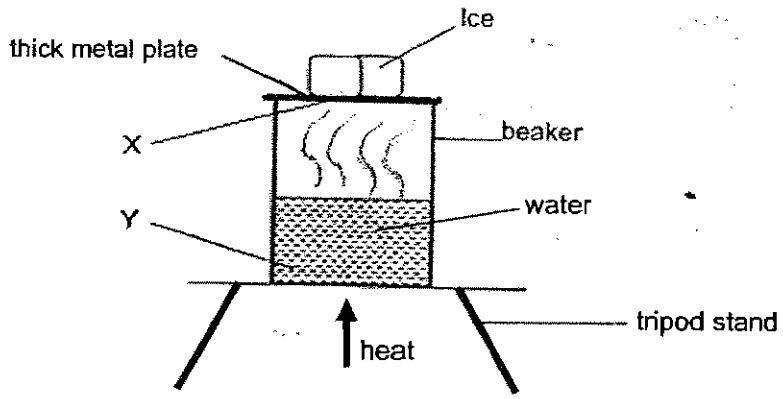


Containers	Amount of water in the container (*ml*)
W	50
X	80
Y	80
Z	50

Which 2 containers should Peter use?

(1) W and X
(2) W and Y
(3) X and Y
(4) Y and Z

20. The set-up below shows some processes taking place.

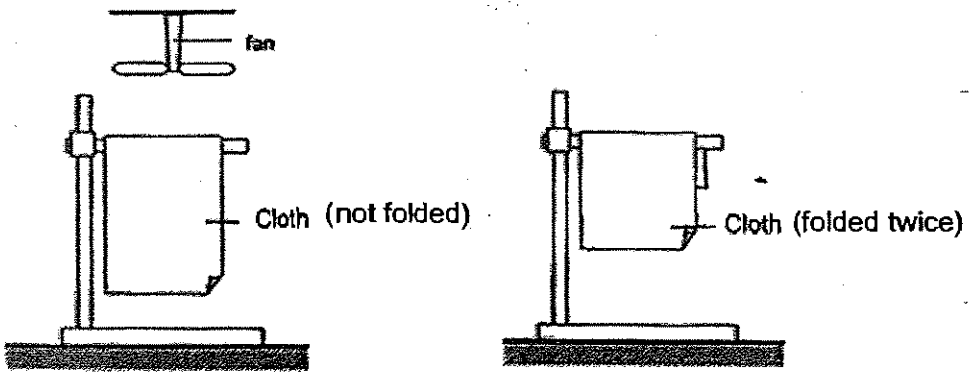


X and Y represent two parts of the water cycle.

Which one of the following correctly shows whether heat is gained or lost at X and Y?

	at X	at Y
(1)	Heat is gained.	Heat is gained.
(2)	Heat is lost.	Heat is lost.
(3)	Heat is gained.	Heat is lost.
(4)	Heat is lost.	Heat is gained.

21. David used the 2 set-ups below to find out how the presence of wind affects the rate at which water evaporates.



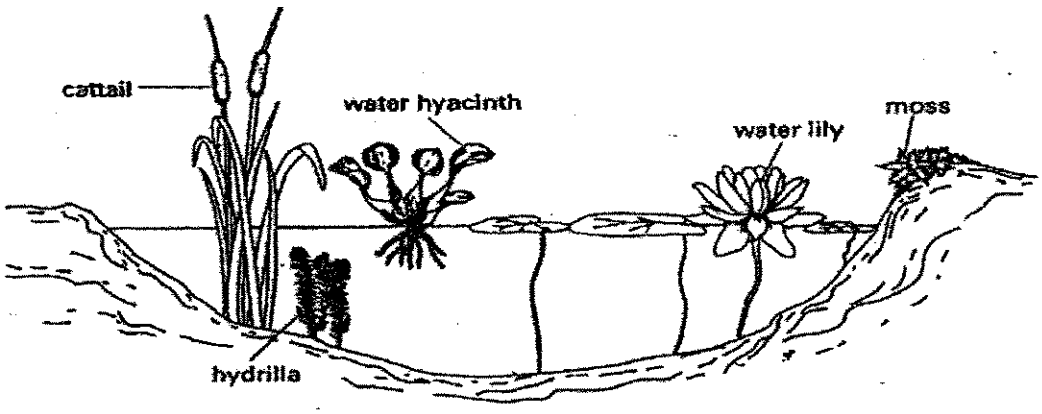
under the fan without the fan

David soaked the two identical pieces of cloth completely with an equal amount of water and conducted the experiment in a classroom during the day.

Why is his experiment **NOT** a fair test?

(1) The thickness of the cloth is the same.
(2) The amount of water present is the same.
(3) He should place one set-up in the garden.
(4) The exposed surface area of the cloth is different.

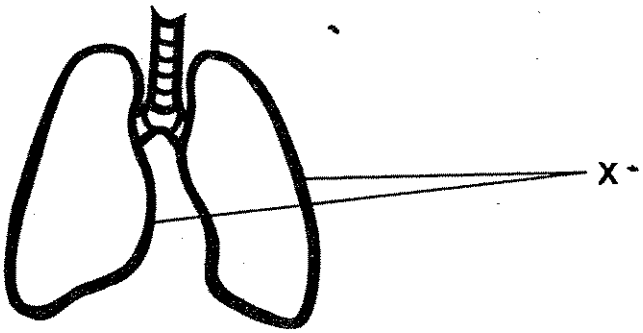
22. Some plants are found growing in or near a pond as shown below.



On rainy days, parts of the soil where no plants are growing will slowly be washed into the water of the pond, causing the water to turn murky. Which one of the following would be the most badly affected when this happens?

(1) moss
(2) cattail
(3) hydrilla
(4) water lily

23. The diagram below shows parts of the respiratory system of a man.



Which one of the following protects X?

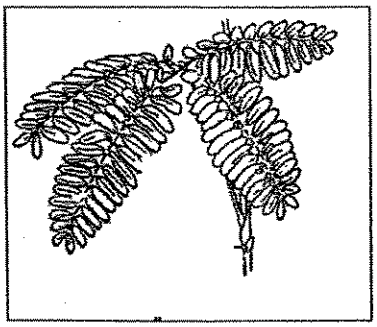
(1) skull
(2) ribcage
(3) backbone
(4) shin bone

24. Gisela and her 10 friends were trapped in a lift.

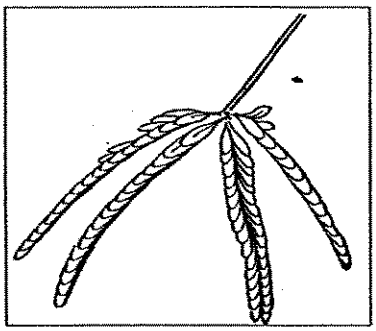
Why did some of her friends complain about giddiness after a while?

(1) More oxygen and carbon dioxide were present in the lift.
(2) Less oxygen and carbon dioxide were present in the lift.
(3) Less oxygen and more carbon dioxide were present in the lift.
(4) Less carbon dioxide and more oxygen were present in the lift.

25. Lynda found a mimosa plant in the school field. The leaves of the mimosa plant closed up immediately when she touched it.



before Lynda touched it



after Lynda touched it

Which of the following statements explain(s) her observations?

A The mimosa plant can grow and reproduce.

B The mimosa plant needs air, water and food.

C The mimosa plant can respond to changes around it.

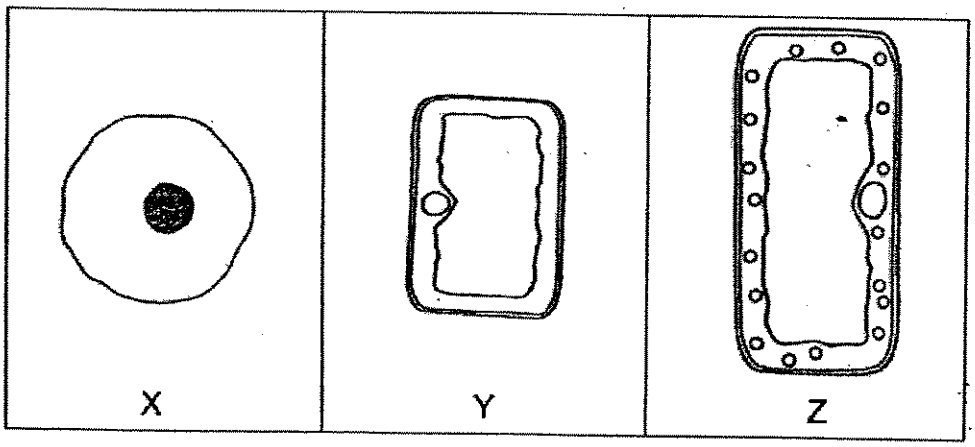
(1) B only

(2) C only

(3) A and B only

(4) B and C only

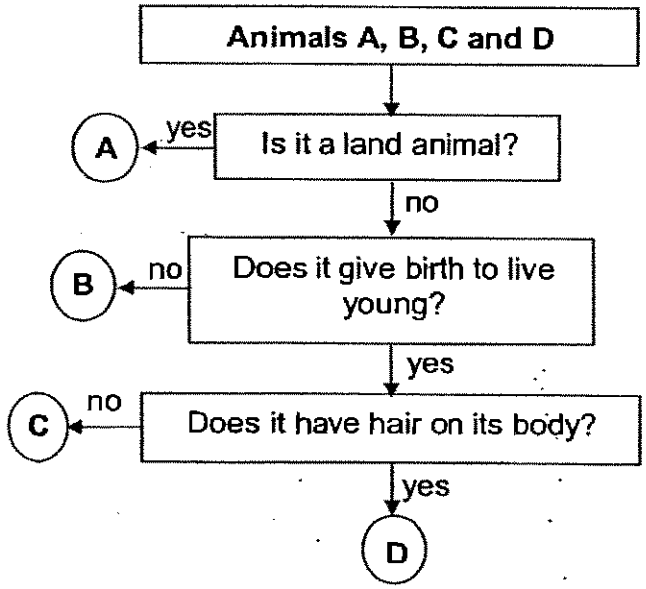
26. The cells, X, Y and Z, shown below are each taken from a part of some organisms.



Which one of the following correctly matches where the cells, X, Y and Z, are taken from?

	X	Y	Z
(1)	flower of a plant	inside the cheek of a man	leaf of a plant
(2)	inside the cheek of a man	flower of a plant	leaf of a plant
(3)	leaf of a plant	inside the cheek of a man	flower of a plant
(4)	swollen leaf of an onion	leaf of a plant	inside the cheek of a man

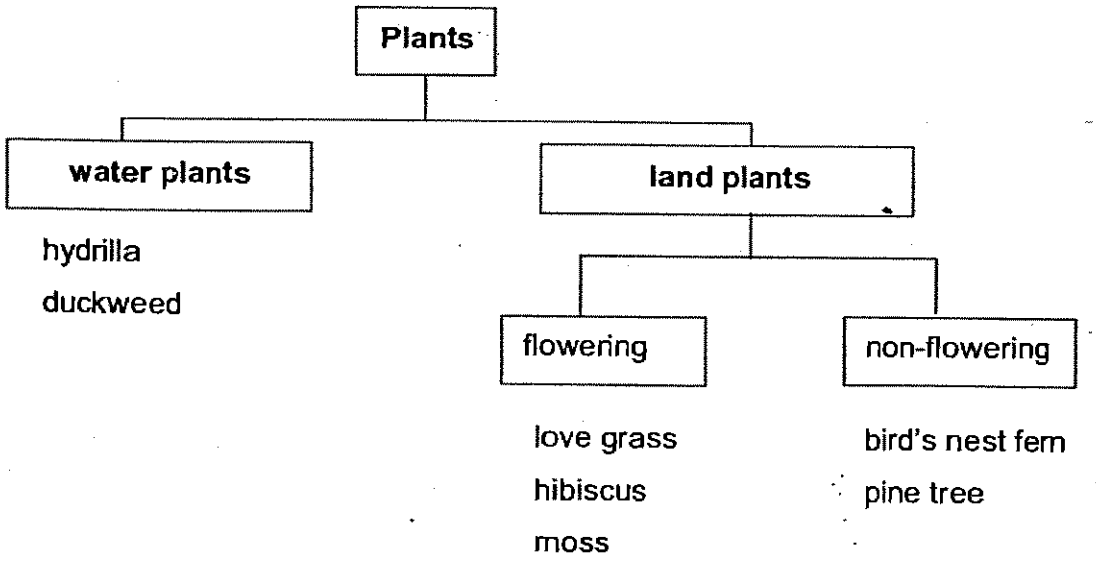
27. The chart below shows how some animals, A, B, C and D, are classified.



Which one of the following correctly matches A, B, C and D?

	A	B	C	D
(1)	starfish	dolphin	butterfly	whale
(2)	chicken	spiny anteater	emu	shark
(3)	mudskipper	platypus	bat	dolphin
(4)	horse	turtle	mollyfish	seal

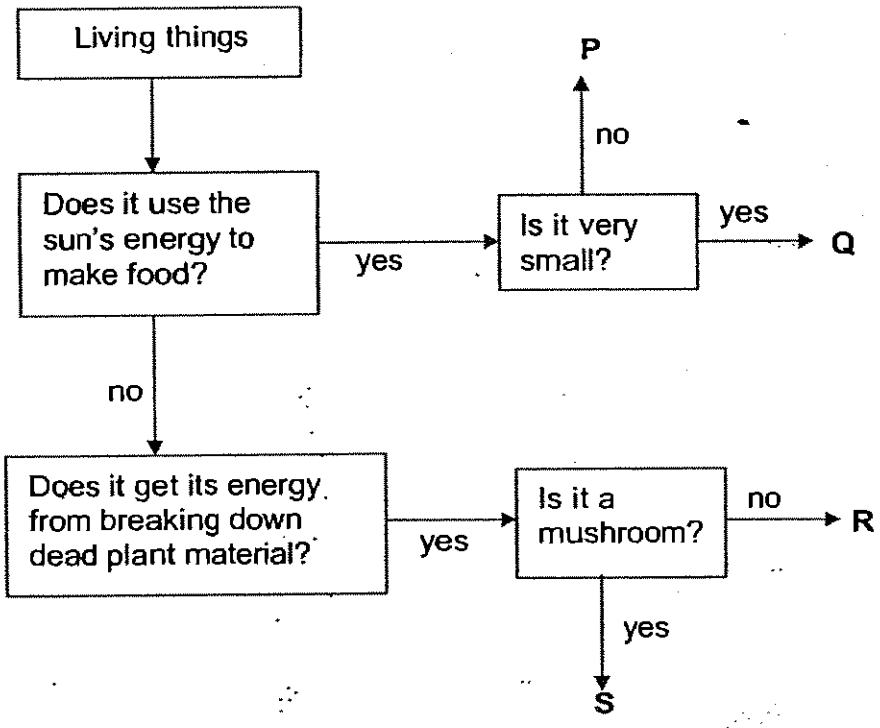
28. The classification chart below shows how some plants are classified.



Which one of the following is **WRONGLY** classified?

(1) moss
(2) duckweed and moss
(3) love grass and pine tree
(4) duckweed, moss and pine tree

29. The chart below shows some differences between some living things in a particular environment.



Based on the information above, which of the following is/are true?

A Q has chlorophyll.

B P and R are plants.

C S reproduces by seeds.

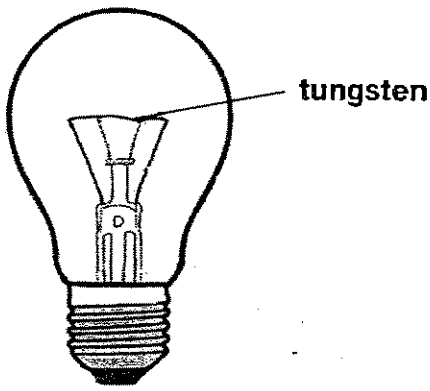
(1) A only

(2) C only

(3) A and B only

(4) B and C only

30. The diagram below shows a light bulb.



a light bulb

Which of the following properties of tungsten are taken into consideration when it is used to make light bulbs?

A It is breakable.
B It conducts electricity.
C It allows light to pass through.
D It gives off a lot of light when heated.

(1) A and B only
(2) B and C only
(3) B and D only
(4) C and D only

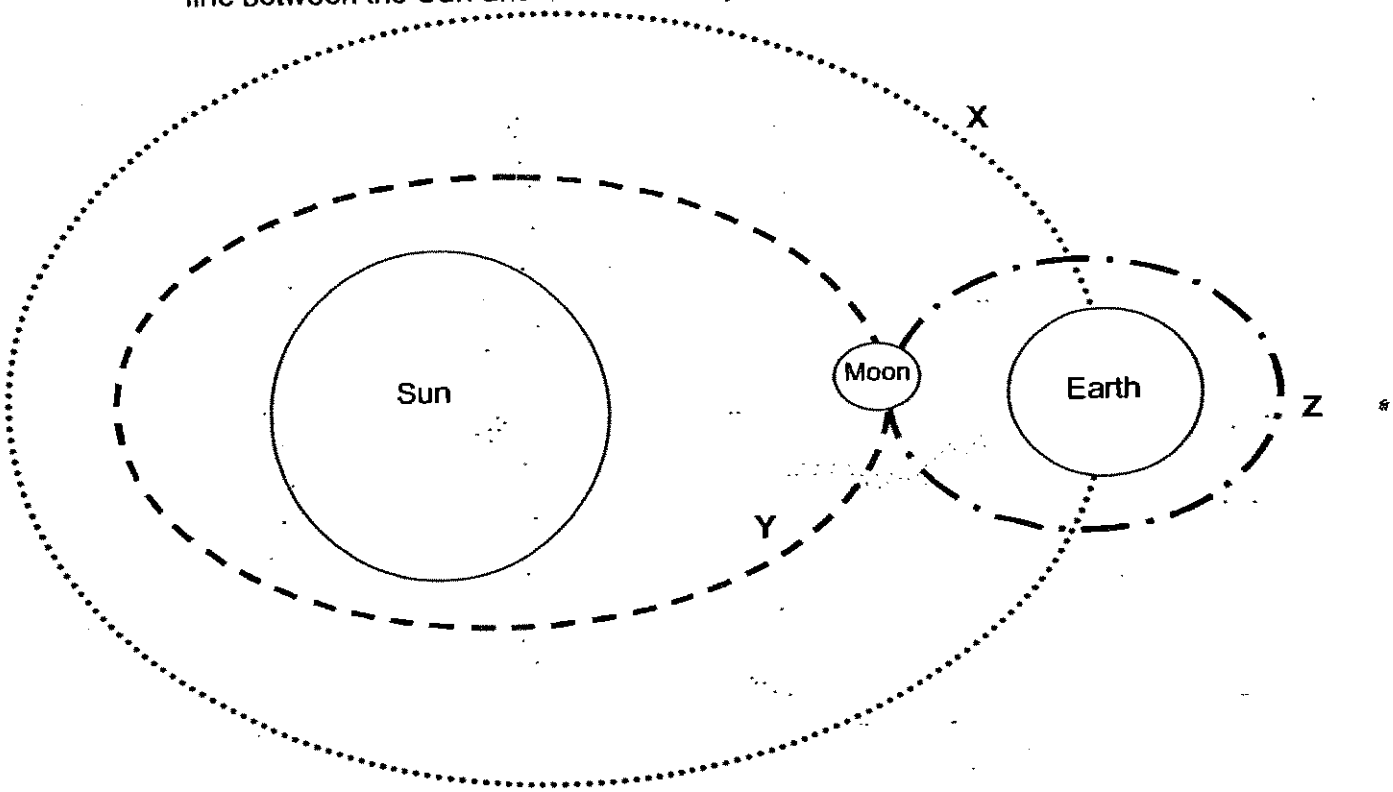
Name : _____ Index No: ____ Class: P5____ Marks: 40

SECTION B (40 marks)

For questions 31 to 46, write your answers in this booklet.

The number of marks available is shown in the brackets [ ] at the end of each question or part question.

31. The diagram below (**NOT** drawn to scale) shows that the Moon lies in a straight line between the Sun and the Earth.



Based on the information above, answer the following questions:

(a) The shadow of the _____ is formed on the _____. [2]

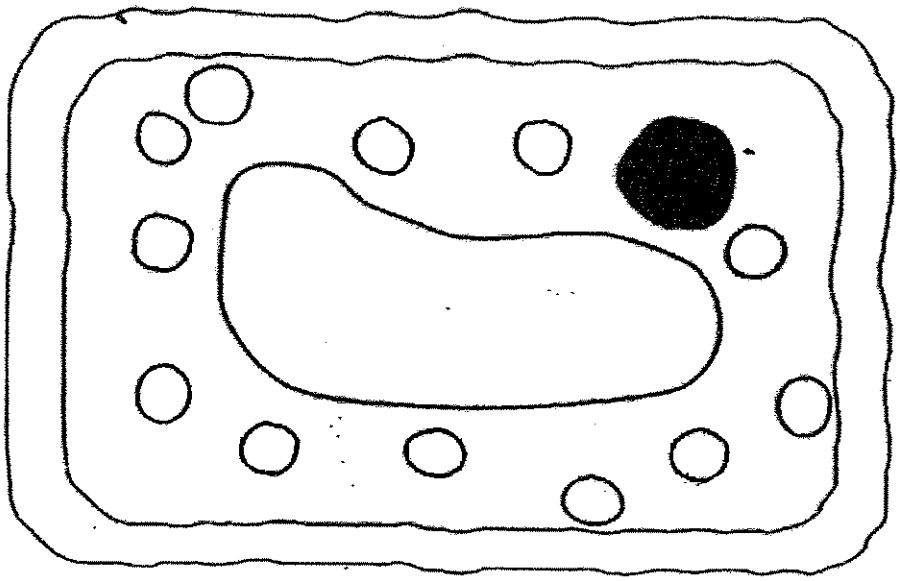
(b) Which path, X, Y or Z, shows the path of the Moon which enables people on Earth to see the different moon phases?

Path [ ] [1]

(c) How long does the Earth take to rotate completely on its own axis? [1]

_____

32. The picture below shows a plant cell (**NOT** drawn to scale).



Based on the picture above, answer the following questions:

(a) (i) Use a letter 'X' to identify the part of the cell which helps the plant to carry out photosynthesis. [½]

(ii) **NAME** the part that you labelled as 'X'. [½]

X : _____

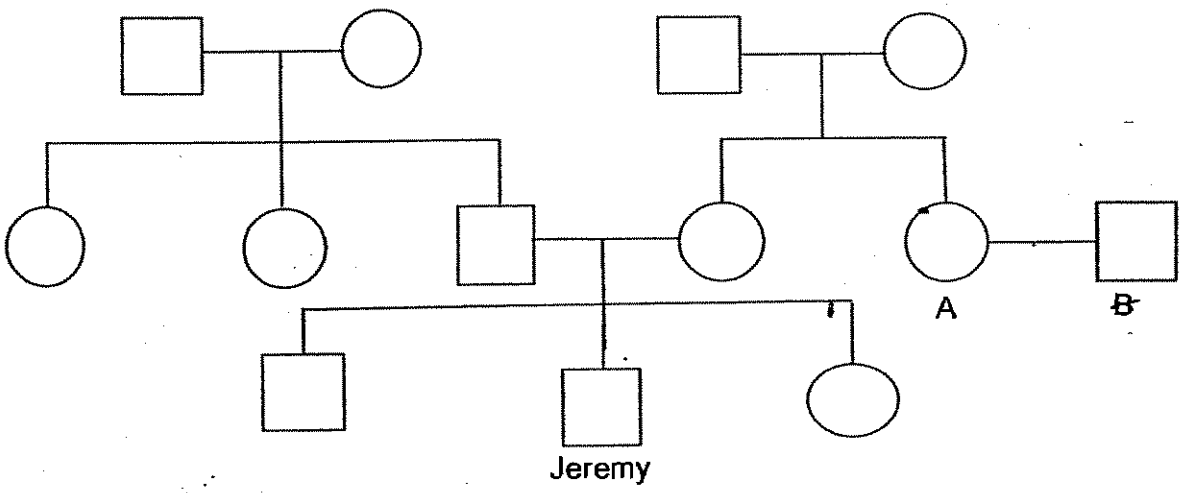
(b) John says that the above plant cell came from a ginger.
Do you agree with John? Why? [2]

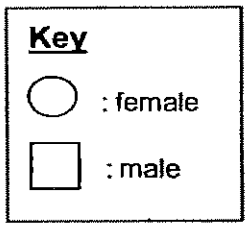
_____

_____

_____

33. Jeremy drew his family tree as shown below.





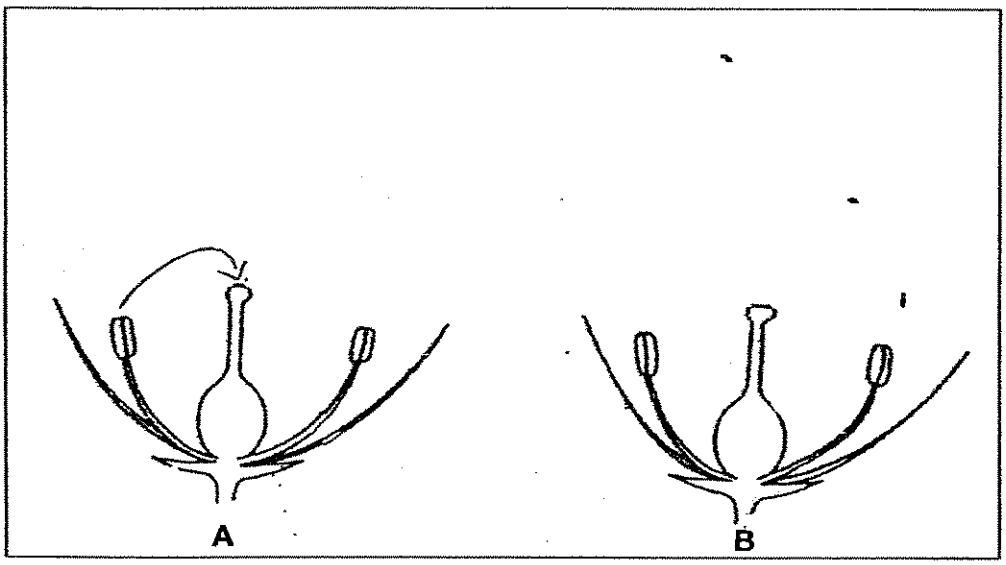
Based on the information above, answer the following questions:

(a) How many aunts does Jeremy have? [1]

_____

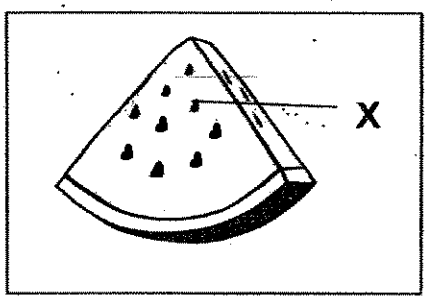
(b) Jeremy's relative A got married to B and gave birth to a baby boy. On the diagram, add an appropriate symbol to show the son of relative A in the family tree. [1]

34. The diagrams below show the cross-sections of flowers A and B from plants of the same species.



(a) In the diagrams above, **DRAW** 2 arrows to illustrate **TWO** different ways in which pollen grains can be transferred during pollination. [2]

Peter cut a watermelon and saw part X in the flesh of the fruit.
His teacher told him that X had developed from a part of a flower.



(b) Which part of the flower was part X developed from? [1]

_____

(c) Give a reason why part X is important to the watermelon plant. [1]

_____

_____

35. The picture below shows a banana plant.

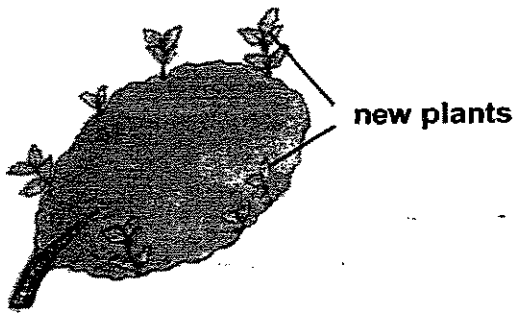
(a) What is the function of Y? [1]

_____

(b) Name **ANOTHER** plant that has part Y just like the banana plant. [1]

_____

The bryophyllum leaf shown below has new plants growing along its edge.



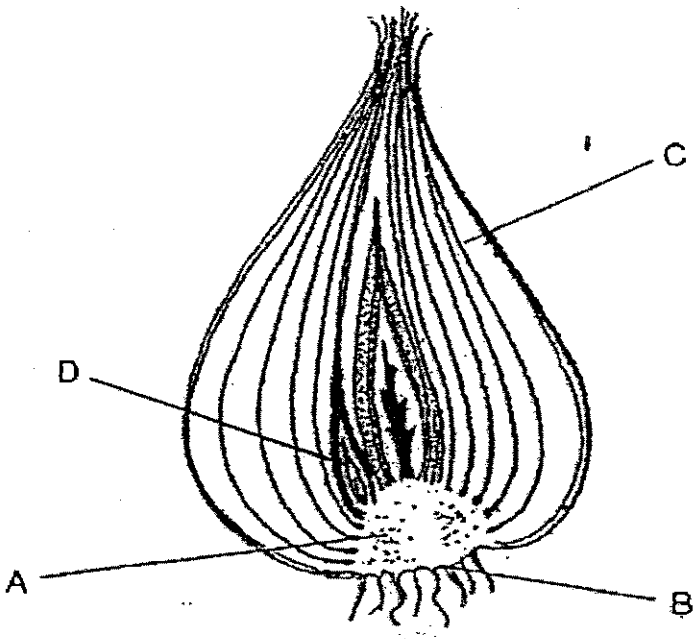
(c) What is **ONE** similarity between the bryophyllum and banana plants in their method of reproduction? [1]

_____

_____

_____

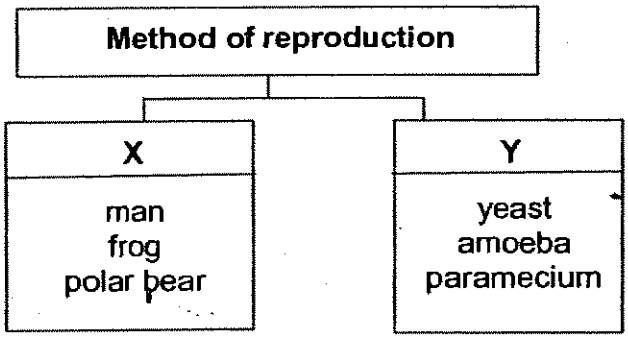
(35) The diagram below shows an underground stem which can develop into a new plant.



(d) Which part, A, B, C or D, of the underground stem shown above can grow into a new plant? [1]

_____

36. The classification chart below shows how some organisms reproduce.



Based on the chart above, answer the following questions:

(a) What is the main difference between the two methods of reproduction, X and Y? [1]

_____

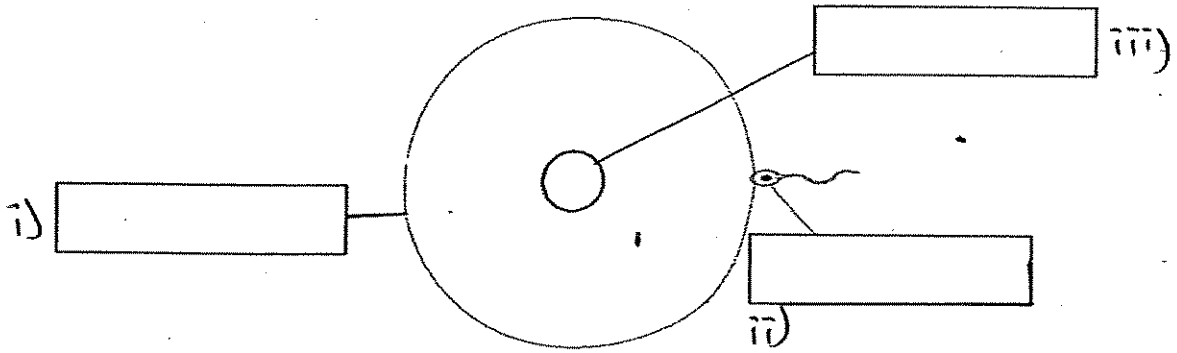
_____

_____

(b) Name the reproduction method, X. [1]

_____

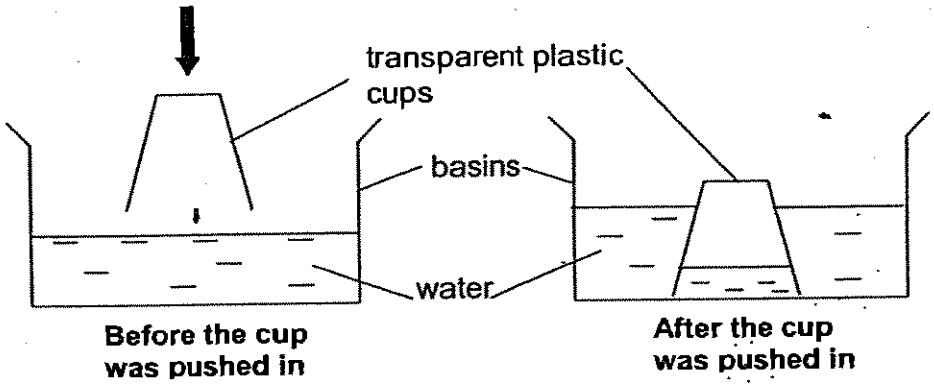
37. The diagram below shows how fertilisation of an organism takes place.



(a) **LABEL** 'egg' and 'sperm' in 2 of the boxes in the diagram above. [1]

(b) What happens to the fertilised egg before it can develop into a foetus? [1]

38. Janice was given a basin of water and a transparent plastic cup. She inverted the cup and pushed it down slowly into the basin of water as shown below.



(a) Janice observed that the water level in the transparent plastic cup is **LOWER** than the water level in the basin. Explain why this is so. [1]

(b) Suggest a way how Janice can fill the inverted plastic cup completely with water **WITHOUT** lifting it up. [1]

39. David had 4 identical glass containers. Each container was filled with the same amount of different liquids, P, Q, R and S. He placed them in the freezer at the same time.
He recorded the time taken for the liquids, P, Q, R and S, to be frozen completely in a table as shown below.

Liquids in containers	Time taken to freeze completely (min)
P	80
Q	30
R	60
S	50

Based on the information given above, answer the following questions:

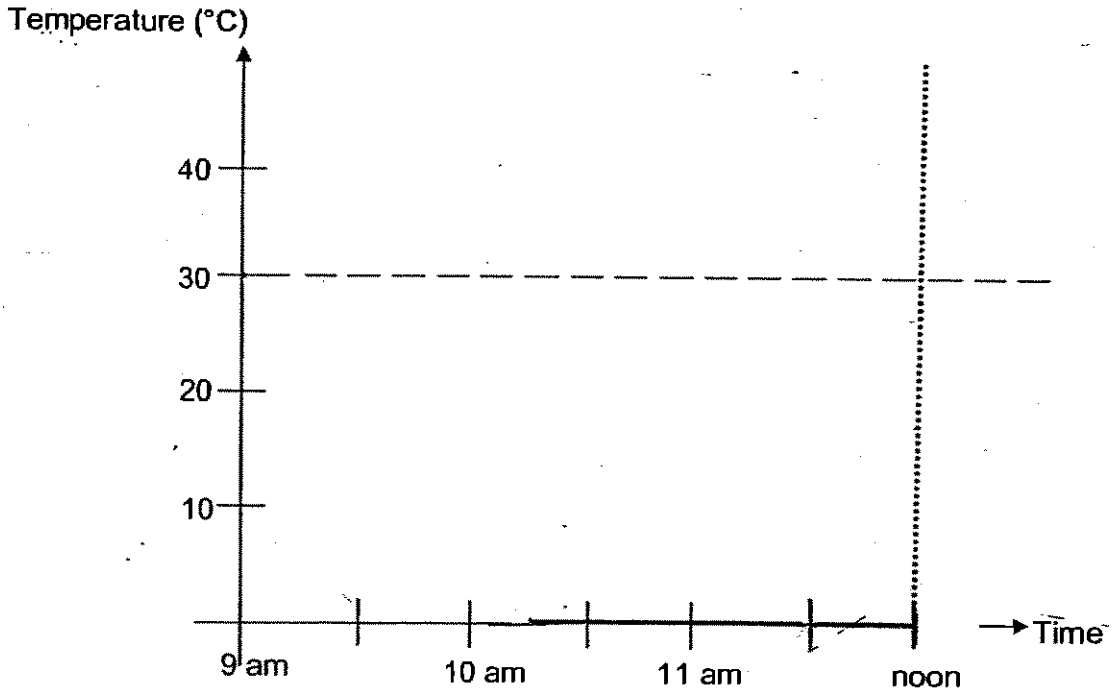
(a) What is the aim of David's experiment? [1]

_____

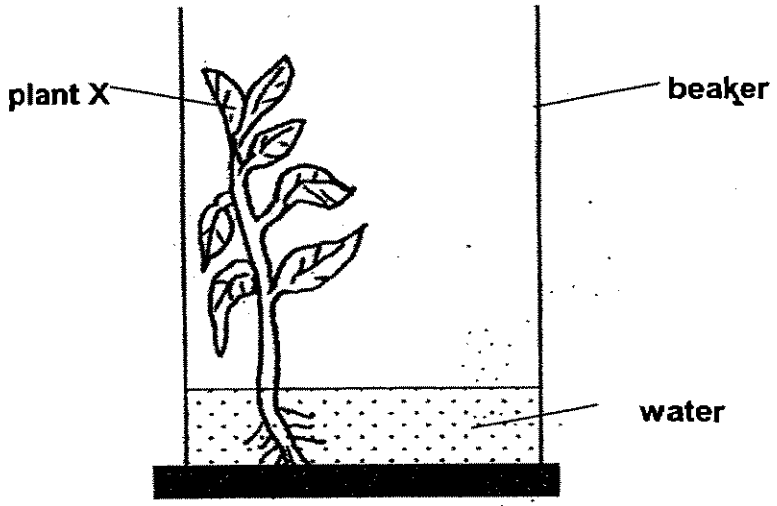
(b) Name **ANOTHER** variable that must be **FIXED** to ensure that a fair test was conducted. [1]

_____

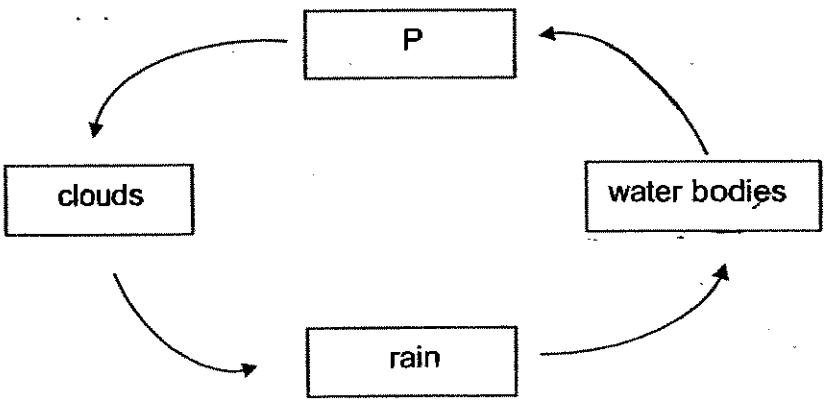
(c) A beaker of water at 30°C was placed in a freezer at 9 am for 3 hours. It froze completely at 10.30 a.m.
DRAW in the space below a graph to show the change in the temperature of the water in the beaker for the whole duration of 3 hours. [1]



40. Melissa put plant X in a beaker of water at room temperature and placed the set-up on a table in the living room. The next day, she found that the water level in the beaker had dropped.



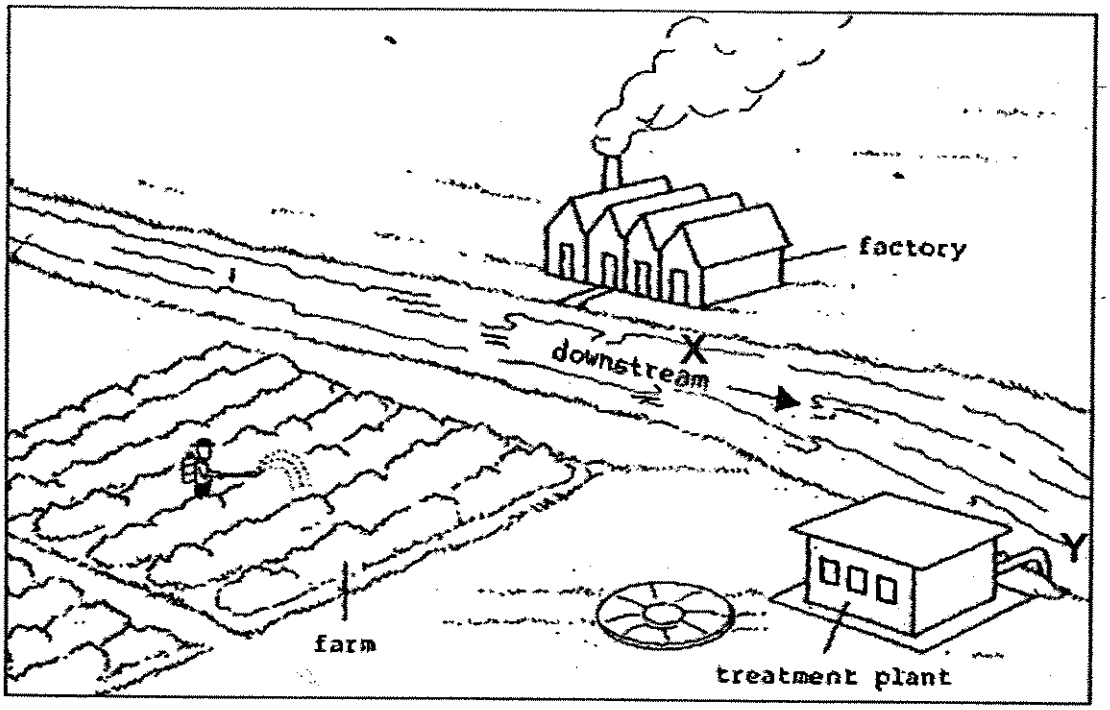
(a) In the water cycle below, mark with an 'X' on the arrow(s) to show where a similar process could have taken place. [1]



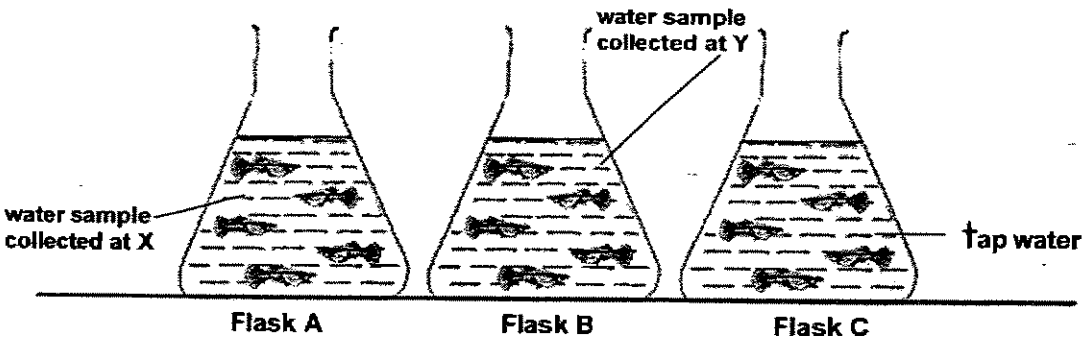
(b) What does P in the above water cycle represent? [1]

P : _____

41. Lim Heng collected samples of water (at Points X and Y) from the stream as shown below.



Using 3 identical flasks, A, B and C, Lim Heng set up an experiment with the same type of fish as shown below. Each flask had the same number of fish of similar size:



Lim Heng put 500 mℓ of tap water in Flask C to act as a control.

Using the information above, answer the following questions:

(a) How much of the water sample collected should Lim Heng put in Flask A? [1]

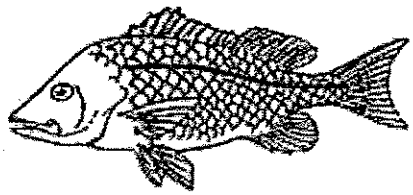
_____

The next day, Lim Heng recorded the observations he had made on the fish in each flask shown in the table below.

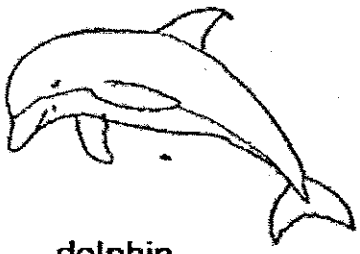
Flasks	Observations
Flask A with water sample collected at X	▪ All the fish died.
Flask B with water sample collected at Y	▪ 2 fish died.
Flask C with tap water	▪ None of the fish died.

(b) What do the results above tell Lim Heng about the water samples collected at X and Y? [1]

42. The diagrams below show a red snapper and a dolphin (**NOT** drawn to scale).



red snapper



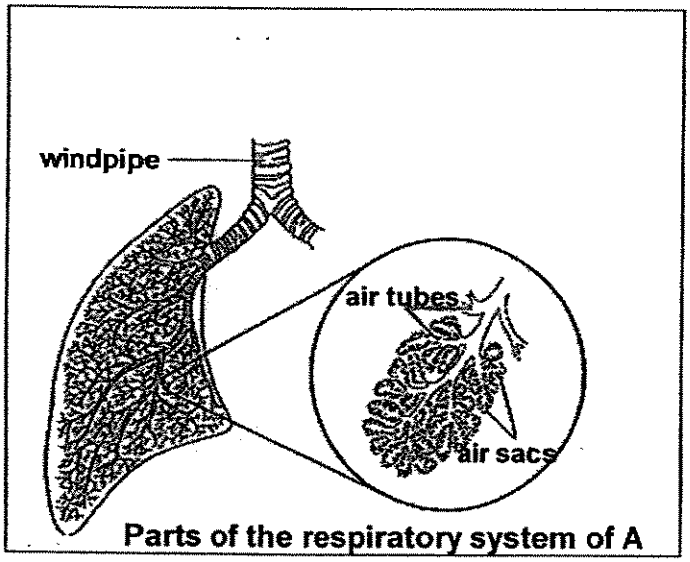
dolphin

(a) Sierra says, "Since red snappers and dolphins are found living in the sea, they breathe through their gills."
Explain why her statement is **NOT** correct. [1]

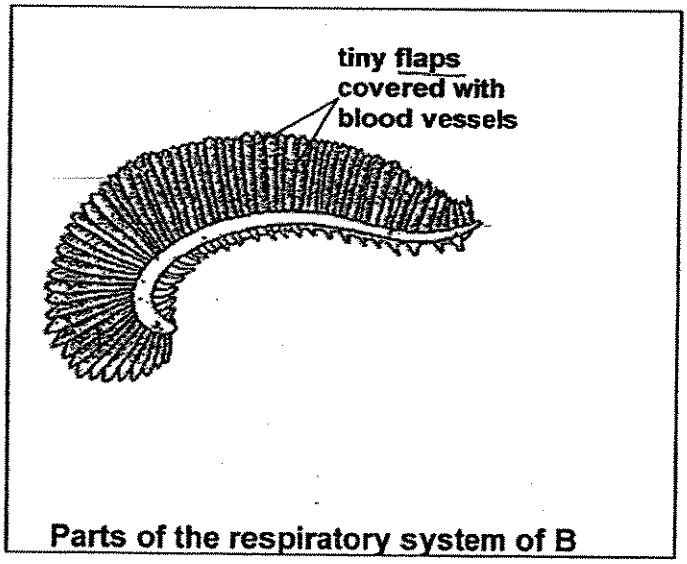
_____

_____

The diagrams below show parts of the respiratory system of 2 organisms, A and B.



Parts of the respiratory system of A



Parts of the respiratory system of B

(b) What is similar in **BOTH** diagrams to allow a faster rate of gaseous exchange between carbon dioxide and oxygen to take place? [1]

_____

_____

43 Marlini did a study on some living and non-living things, P, Q, R and S.

She drew a checklist and placed a tick (√) based on the characteristics she had observed of P, Q, R and S.

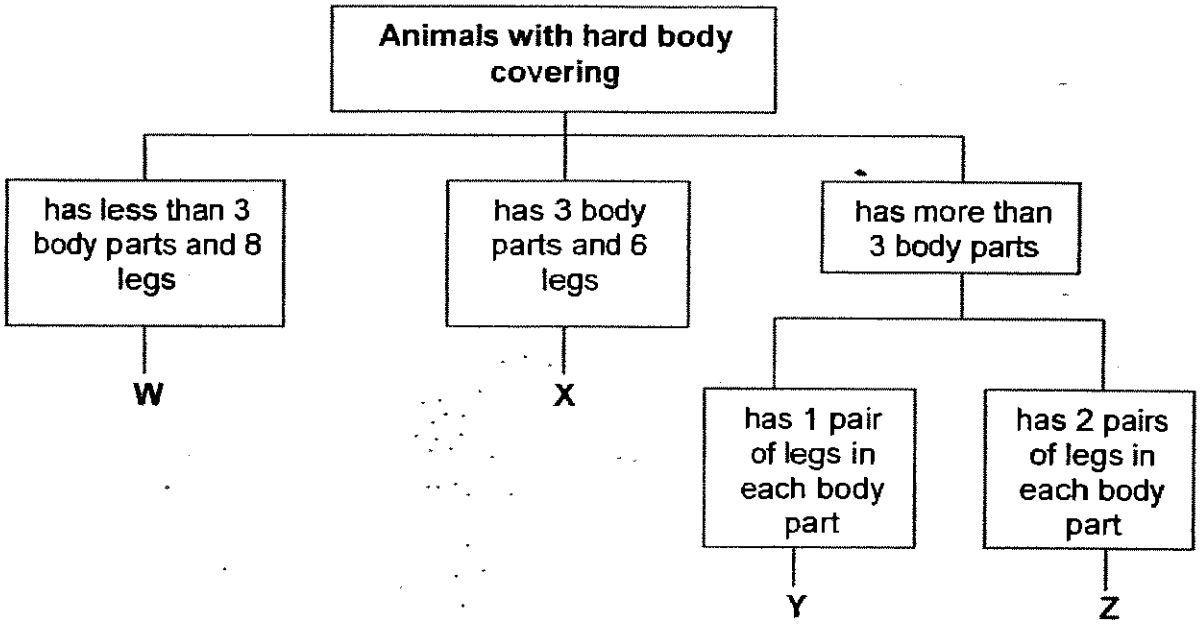
At the end of the study, the completed checklist is as follows:

Observations	P	Q	R	S
cannot grow		√	√	
made up of dead cells			√	
can make its own food				√
can grow and reproduce	√			√
needs air, water and food to grow	√			√
wastes are produced from its body	√			√
can respond to changes in the environment	√			√

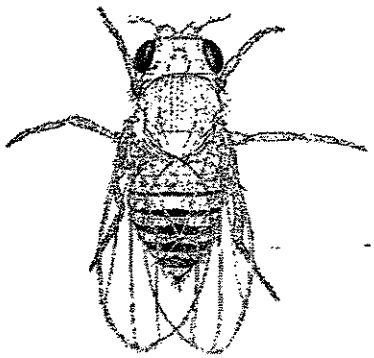
Using the checklist above, classify the following things in the correct group, P, Q, R or S. Use each letter only **ONCE**. [2]

	Things	Group
(a)	robot	
(b)	elephant	
(c)	rose plant	
(d)	dried flower	

44. The classification chart below shows how some animals, W, X, Y and Z, are classified.



Mrs Tan found an animal in her house (as shown below) and noticed that it had a hard body covering.



(a) Which group, W, X, Y or Z, does this animal belong to? [1]

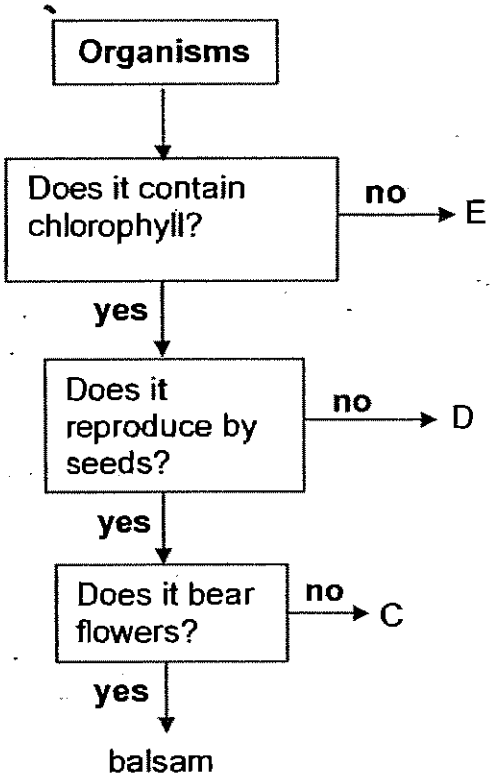
_____

(b) Is this animal an insect? Give a reason for your answer. [1]

_____

_____

45. Some organisms are distinguished according to the chart below.



Based on the information above, answer the following questions:

(a) Conifers are mainly evergreen trees which do not bear flowers. They reproduce by seeds produced in cones. Spruce tree is one such example.

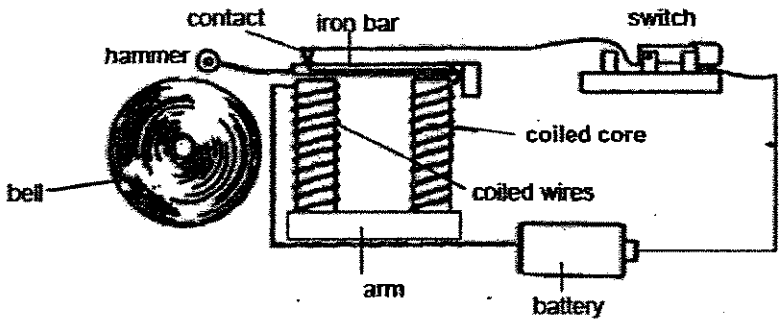
Which letter, C, D or E, represents the spruce tree? [1]

_____

(b) 'D' is green and is similar to mosses in the method of reproduction. Give a specific example of D. [1]

_____

46. The diagram below shows an electric bell that rings when the switch is closed.



(a) Name one specific material to make the coiled cores. [1]

_____

(b) Give a reason why the material in (a) is used to make the coiled cores. [1]

_____

_____

- END OF PAPER –

Setters : Mrs Lily Ng
Mrs Christina Lim
Ms Pek Xueyan
Mrs S M Seet

ANSWER SHEET

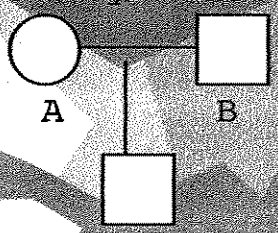
RAFFLES GIRLS' PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

1. 4
2. 4
3. 2
4. 3
5. 2
6. 1
7. 4
8. 4
9. 2
10. 2
11. 3
12. 1
13. 3
14. 2
15. 4
16. 2
17. 1
18. 1
19. 3
20. 4
21. 4
22. 3
23. 2
24. 3
25. 2
26. 2
27. 4
28. 1
29. 1
30. 3

31) a) Moon, Earth
b) Z.
c) It takes 24 hours.

32) a) i) ⊗
ii) chloroplast
b) No, I do not agree with John because ginger is an underground stem and underground stem do not make food. Hence, ginger does not contain chlorophyll which is in the chloroplasts.

33) a) Jeremy has 3 aunts.
b)



34) a)

b) Part X was developed from the ovules of the flower.
c) It grows into a new watermelon plant and ensures the continuity of its kind.

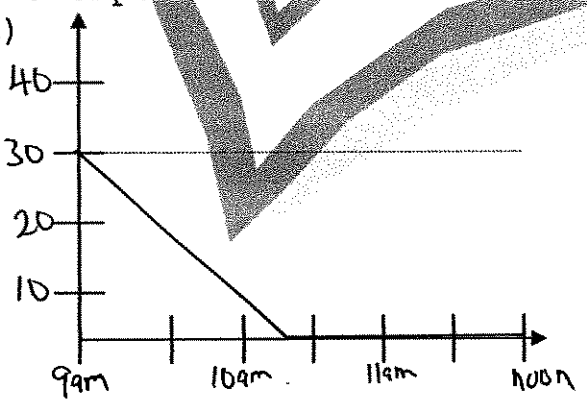
35)a)The function of Y is to reproduce.
b)The plant is pineapple plant.
c)Both of them reproduce by plant parts.
d)Part D shown above can grow into a new plant.

36)a)For X to reproduce, it needs parents of two different sexes while for Y to reproduce, it only needs one parent.
b)The reproduction method for X is sexual reproduction.

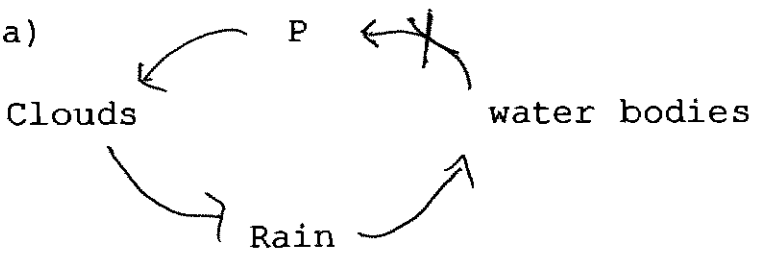
37)a)i)egg ii)sperm
b)It undergoes cell division.

38)a)There is air in the plastic cup. Air takes up space. However, air can be compressed. Hence, a little bit of the water in the basin can go into the cup.
b)She can poke a hole on the bottom of the transparent cup.

39)a)He wanted to know what time each kind of liquid took to freeze completely.
b)The temperature of the liquids at the beginning of the experiment.
c)



40)a)



b)P: water vapour.

41)a)Lim Heng should put in 500 ml of the water sample into flask A.

b)The water sample collected at X is dirty while the water sample collected at Y was quite clean.

42)a)Red snapper, a fish , breathes through it gills while a dolphin, a mammal, breaths through its lungs.

b)Increased surface area.

43)a)Q b)P c)S d)R

44)a)This animal belongs to group X.

b)Yes, this animal is an insect. It has three body parts and six legs and those are the insect's characteristics. Hence, it is an insect.

45)a)The letter C represents the spruce tree.

b)The example is stag's horn fern.

46)a)Iron.

b)It can be made into a temporary magnet when an electric current flows through it.

---end---

南洋小學

NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

SEMESTRAL ASSESSMENT 1

2007

BOOKLET A

Date : 7 May 2007

Duration : 1 h 45 min

Name : _____ (

Class: Primary _____ ( )

Marks Scored:

Booklet A:		**60**
Booklet B :		**40**
Total :		**100**

Parent's signature: .....

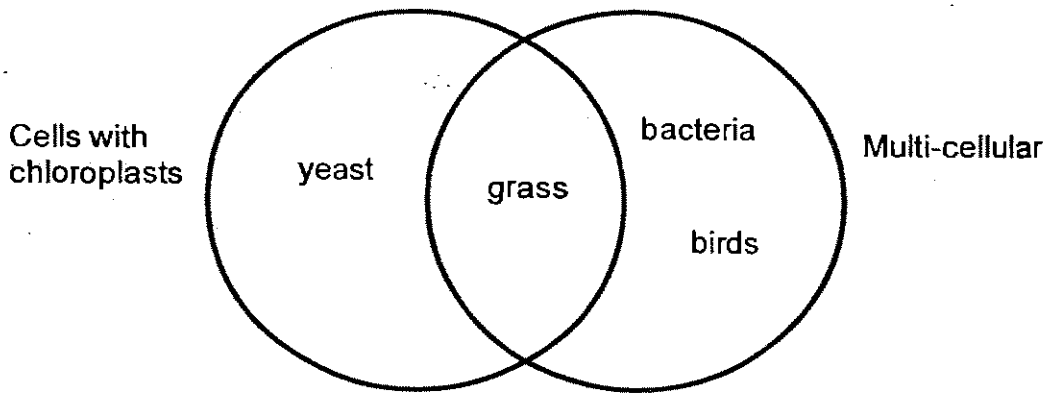
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 14 printed pages including this cover page.

123

Section A (30 x 2 marks = 60 marks)
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. Study the Venn diagram below.



Which of the living things in the Venn diagram are **not** classified correctly?

(1) Grass and birds
(2) Grass and yeast
(3) Yeast and bacteria
(4) Birds and bacteria

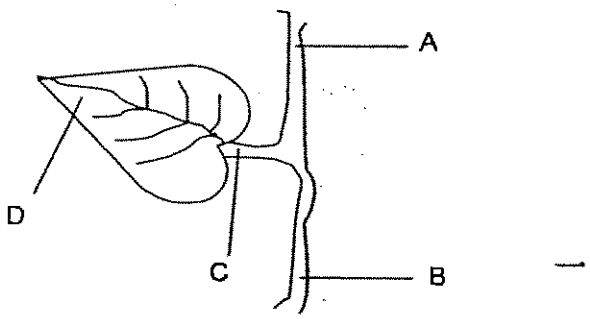
2. The following statements describe the stages of a cell division.

A The cell grows to a certain size.
B The cell divides into two identical halves.
C The nucleus separates into two new nuclei.
D The nucleus of the parent cell makes a copy of itself.

Which one of the following shows the correct order of the stages of cell division?

(1) A → D → C → B
(2) B → A → C → D
(3) C → D → B → A
(4) D → B → C → A

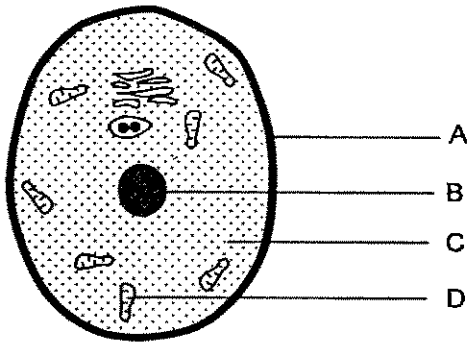
3. Study the diagram below carefully.



Based on the above diagram, which labelled part(s) indicate(s) the presence of the chlorophyll in a bougainvillea plant?

(1) D only
(2) A and B only
(3) C and D only
(4) A, B, C and D

4. Study the diagram below.



Which part(s) of the cell contain(s) the hereditary materials?

(1) B only
(2) D only
(3) A, B and C only
(4) A, B, C and D

5. Which one of the following is a characteristic that parents are able to pass on to their child?

(1) Dimples
(2) Birthmark
(3) Thumbprints
(4) Long fingernails

6. The table below shows the characteristics of two cats and their kitten.

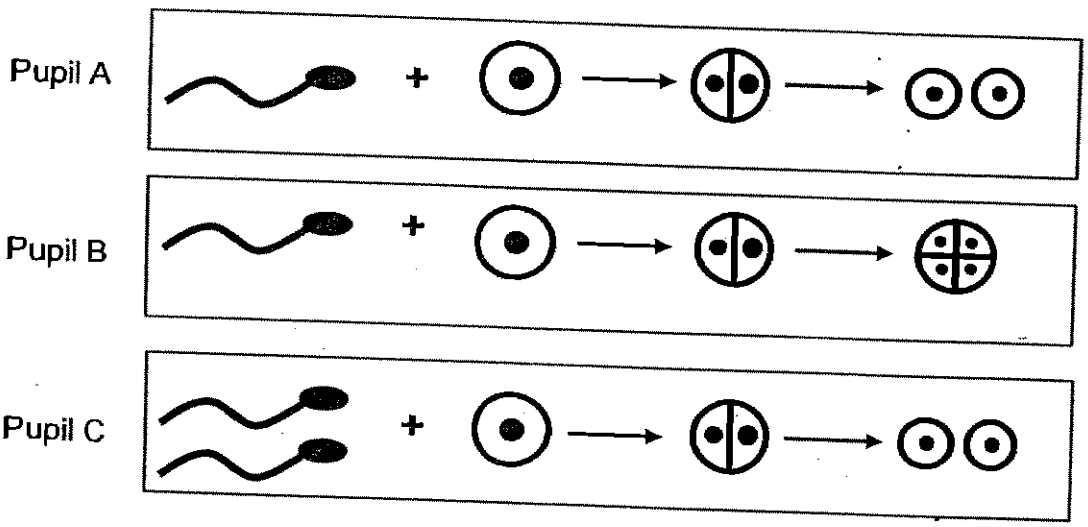
Characteristics	Male Cat	Female Cat	Kitten
Tail	Long	Short	Short
Colour of eyes	Green	Brown	Green
Presence of spots	Yes	No	Yes

Based on the above table, which of the following statement(s) is / are true?

A The kitten inherited its father's colour of the eyes.
B Both the female cat and the kitten had 2 similar traits.
C The kitten inherited its spots from its mother.
D The kitten inherited at least 1 trait from both its parents.

(1) A only
(2) A and D only
(3) B and C only
(4) A, B, C and D

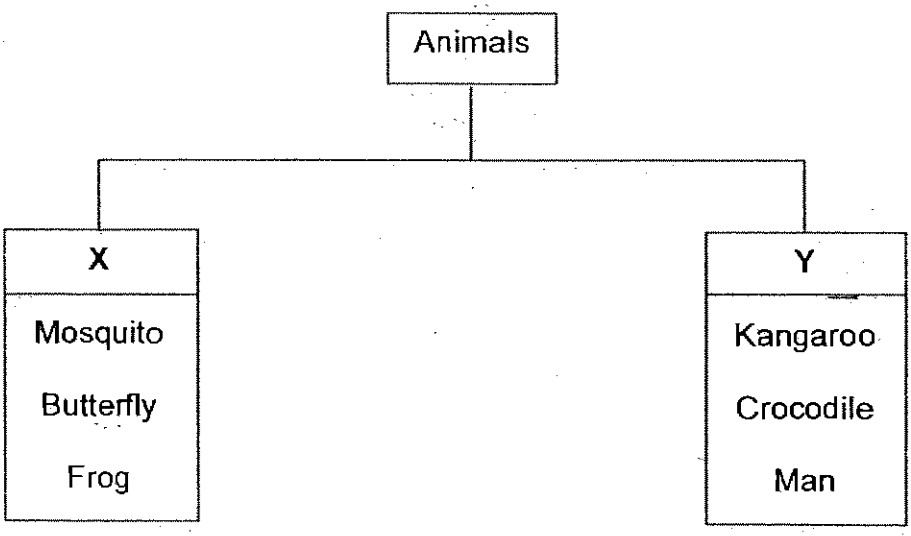
7. The diagram below shows 3 conclusions made by pupils A, B and C.



Which of the above pupils had shown the possible process(es) of fertilization?

(1) B only
(2) A and B only
(3) B and C only
(4) A, B and C

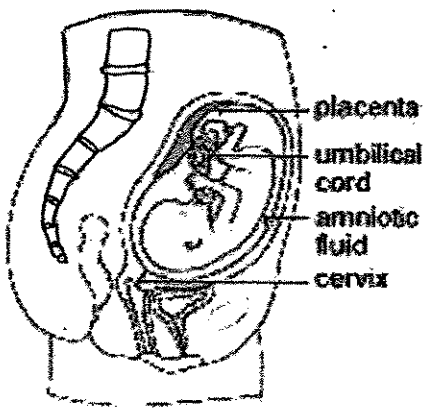
8. Study the following classification table.



The animals above are grouped according to _____.

(1) their habitats
(2) the number of stages in their life cycles
(3) whether their young resembles their parents
(4) whether they lay eggs or give birth to young alive.

9. Study the following diagram.

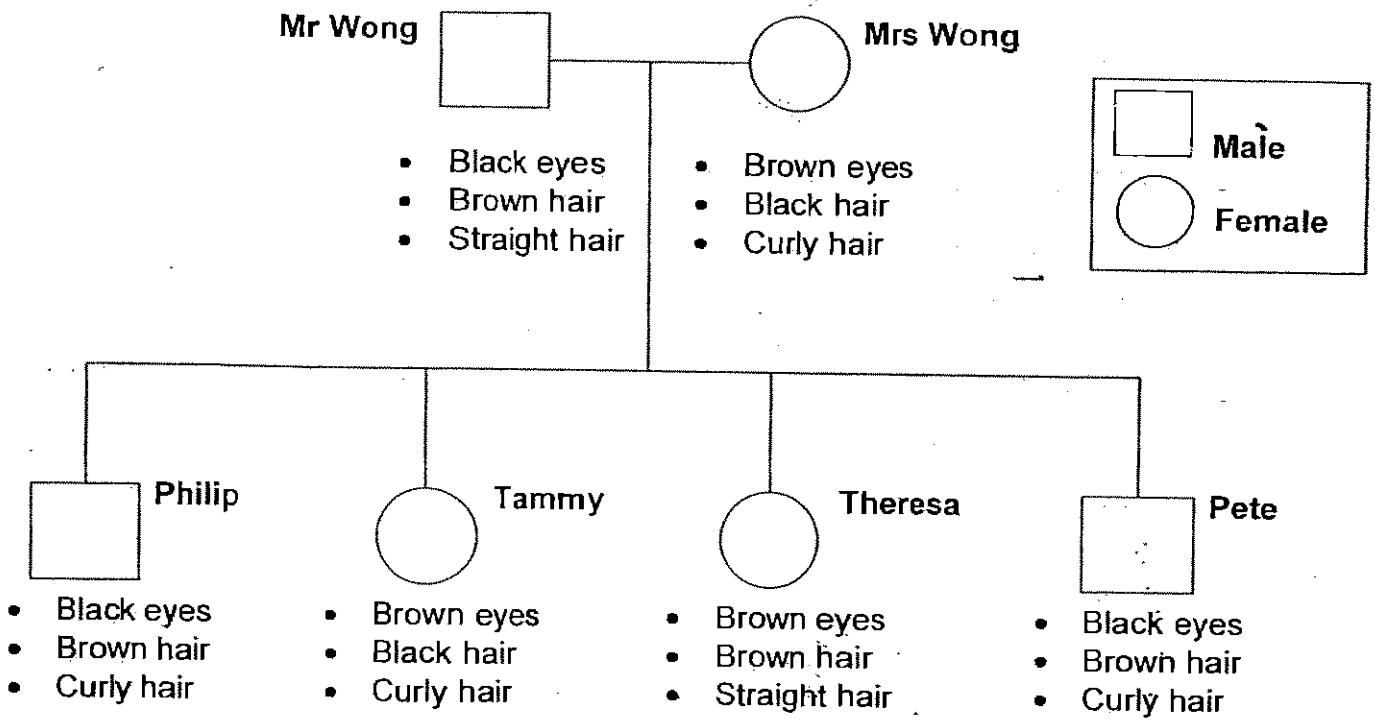


Which of the following substances are carried **from** the foetus' blood to the mother's blood through the umbilical cord?

A oxygen
B water
C digested food
D carbon dioxide
E waste materials

(1) A and C only
(2) D and E only
(3) A, B and C only
(4) A, B, C, D and E

10. Study the family tree of Philip's family.



Which one of the following statements about Philip's family is true?

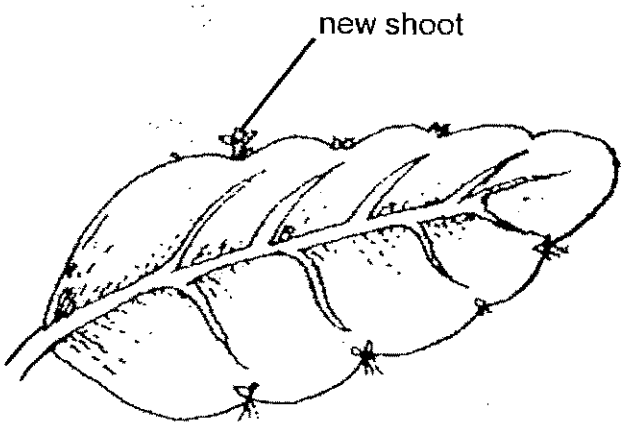
(1) Philip inherits the colour of eyes and hair from his mother.
(2) Tammy has characteristics that are most like her mother.
(3) Theresa inherits the characteristics of the hair from her mother.
(4) Pete inherits more traits from his mother than his father.

11. Flowering plants may be pollinated by insects or wind. Which of the following features are important to a flower pollinated by wind?

A Nectar is present.
B Petals are brightly coloured.
C Stigmas are long and sticky.
D Long filaments with anthers hanging out of flowers.

(1) A and B only
(2) C and D only
(3) A, B and C only
(4) B, C and D only

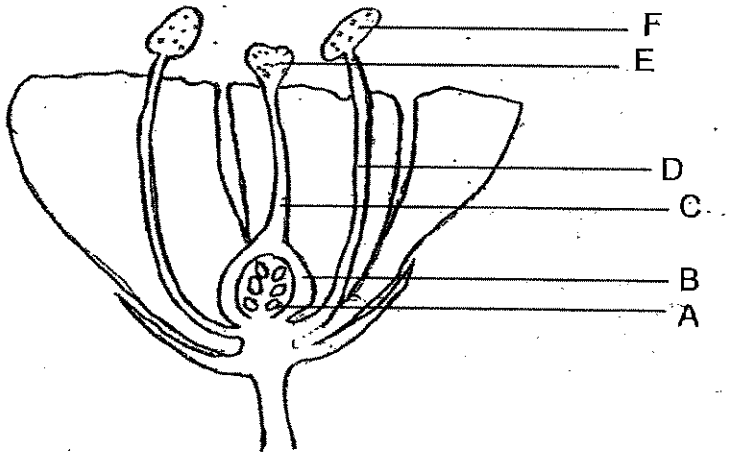
12. Study the diagram below.



The growth of the new shoot from the leaf is an example of _____.

(1) dispersal
(2) germination
(3) reproduction
(4) photosynthesis

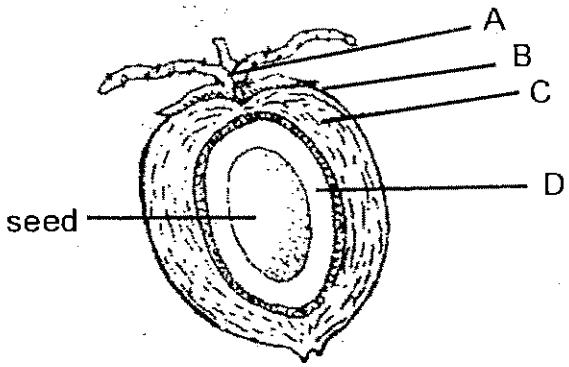
13. The diagram below shows different parts of a flower.



Which one of the following shows correctly the path taken by the male reproductive cell to the female reproductive cell when self-pollination has taken place?

(1) E → F → D → B
(2) F → E → C → A
(3) D → F → E → C → A
(4) D → F → E → C → B

14. The diagram below shows a coconut fruit.



Which of the part(s), A, B, C or D, enable the coconut seed to germinate at the sandy shore after floating in the river?

(1) C only
(2) B and C only
(3) B, C and D only
(4) A, B, C and D

15. Which one of the following is **not** an advantage of a pineapple plant growing from suckers?

(1) The parent plant provides food for the young plant to grow.
(2) The young plant bears better quality fruits than the parent plant.
(3) The parent plant does not need external agents to disperse its seeds.
(4) The young plant takes a shorter time to bear fruits as compared to those grown by seeds.

16. The table below shows how four plants, A, B, C and D, can be grouped.

	Reproduce from spores	Reproduce from seeds
Bears flowers	A	B
Does not bear flowers	C	D

Which plant, A, B, C or D, could be a moss?

(1) A
(2) B
(3) C
(4) D

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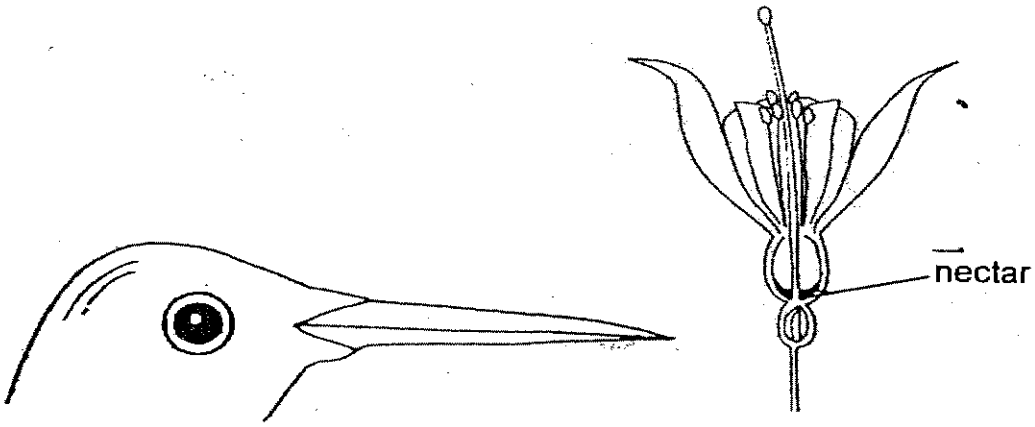
17. The diagrams below show a hummingbird which is useful to Plant T.

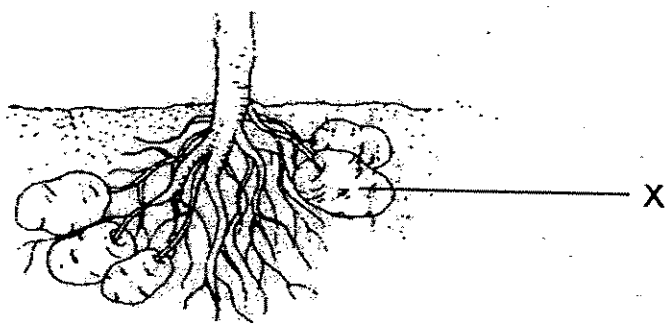


Flower of Plant T

How is the hummingbird useful to Plant T?

(1) It transfers nectar to another plant.
(2) It disperses seeds to another plant.
(3) It transfers stigma to another plant.
(4) It transfers pollen grains to another plant.

18. The diagram below shows a potato plant.

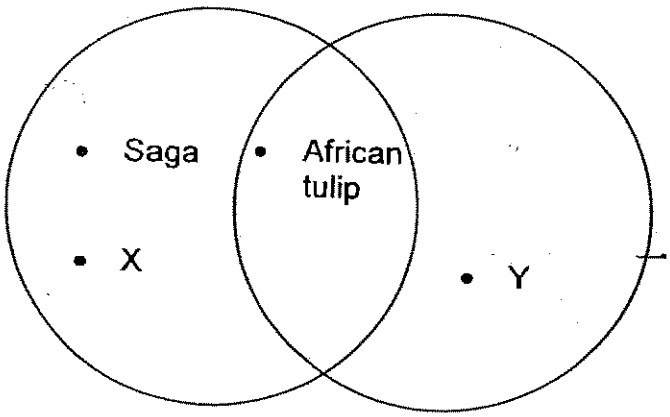


Which of the following statements describe X correctly?

A X takes in water for the plant.
B X provides the plant with mineral salts.
C X stores food for the young developing plant.
D X has buds which will develop into young plants.

(1) A and C only
(2) C and D only
(3) A, C and D only
(4) A, B, C and D

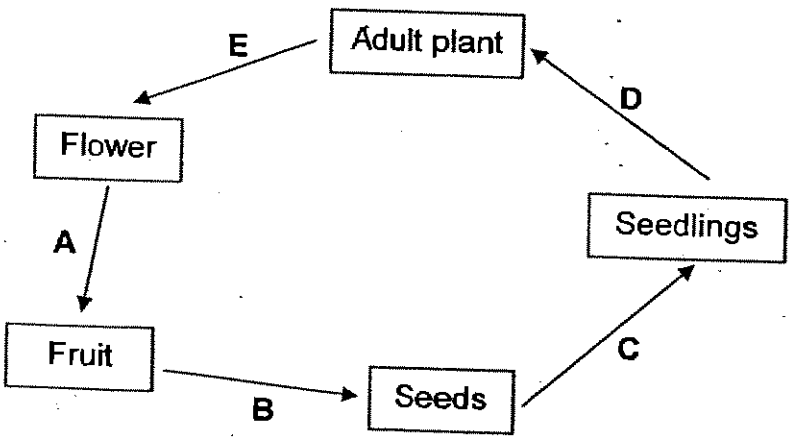
19. Study the Venn diagram below which shows the different methods of seed dispersal.



Which of the following pairs of fruits is correctly represented by X and Y in the table below?

	X	Y
(1)	Rubber	Nipah
(2)	Angsana	Balsam
(3)	Flame of the forest	Lalang
(4)	Mimosa	Shorea

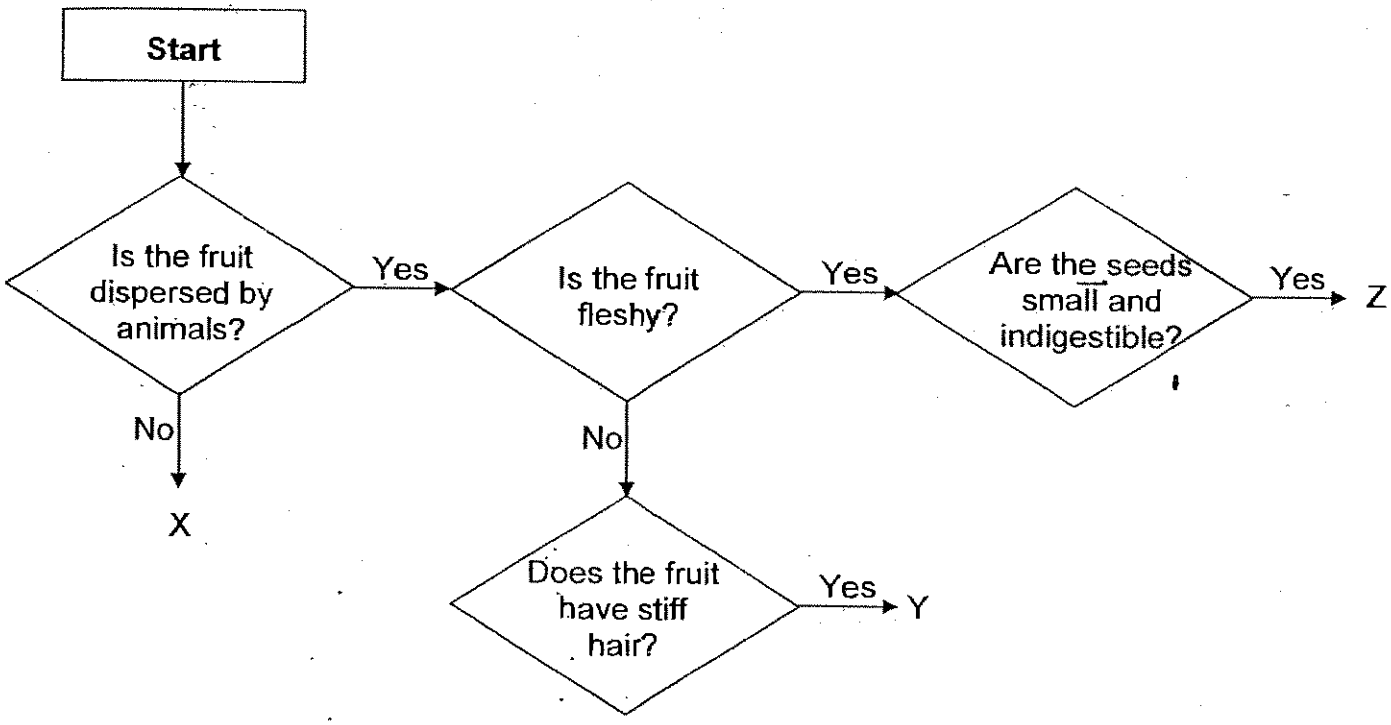
20. The diagram below shows the life cycle of a flowering plant.



At which stages, A, B, C, D and E, are germination, fertilization and seed dispersal taking place?

	Germination	Fertilization	Seed dispersal
(1)	B	A	C
(2)	C	E	B
(3)	C	A	B
(4)	D	E	A

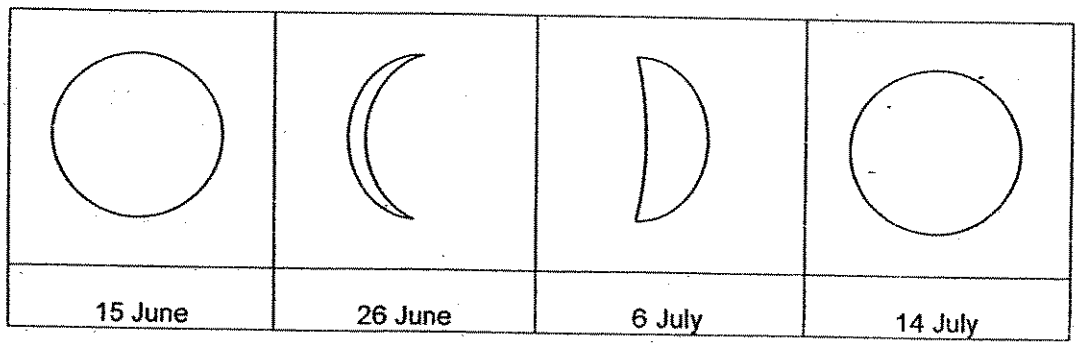
21. Study the flow chart below carefully.



Which one of the following sets of fruits represents X, Y and Z respectively?

	X	Y	Z
(1)	Angsana	Coconut	Rubber
(2)	Pong pong	Love grass	Jackfruit
(3)	Chilli	Kiwi fruit	Watermelon
(4)	Balsam	Mimosa	Guava

22. Study the diagram below carefully.



There is New Moon probably on _____.

(1) 22 June
(2) 30 June
(3) 10 July
(4) 21 July

23. The table below provides some information about Planet A, Planet B and Planet C.

	Planet A	Planet B	Planet C
Distance from the Sun (million km)	150	2 500	4 485
Number of moons	1	40	30
Composition of air	78% nitrogen 21% oxygen 1% other gases	58% helium 40% hydrogen 2% oxygen	78% hydrogen 22% helium
Presence of water	Yes	Yes	No

Based on the table above, which of the following statements are correct?

A Planet C is closer to Planet A than Planet B.
B Planet C is more unlikely to support life than Planet A.
C Planet B has less number of natural satellites than Planet C.
D Planet A will take shorter time to make one revolution round the Sun than Planet B.

(1) A and B only
(2) B and D only
(3) B, C and D only
(4) A, B, C and D

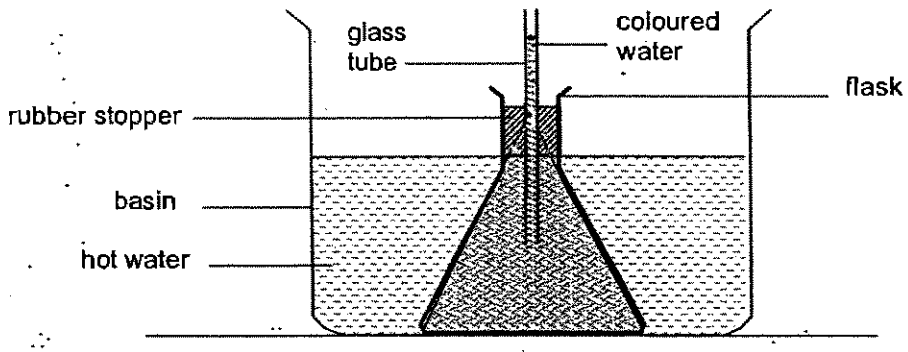
24. Which one of the following statements is true about the layer of atmosphere around the Earth?

(1) It keeps the Earth warm as it produces heat in the night.
(2) It transmits signals from telephones, radios and televisions.
(3) It ensures that there will be right amount of rainfall for all parts of the Earth.
(4) It provides living things with oxygen to breathe and green plants with carbon dioxide to make food.

25. Sam poured an equal amount of boiling water into a styrofoam cup and a plastic cup. Which one of the following statements best explains why the water in the styrofoam cup is warmer than the water in the plastic cup after half an hour?

(1) Styrofoam is a better conductor of heat than plastic.
(2) Plastic is a better conductor of heat than styrofoam.
(3) Both plastic and styrofoam are good conductors of heat.
(4) Both plastic and styrofoam are poor conductors of heat.

26. Sundramoothy set up an experiment as shown in the diagram below.



He observed that the level of coloured water in the glass tube went down slightly first and then rose. Which one of the following statements best explains why the level of coloured water went down slightly at first?

(1) Gravitational pull caused the coloured water to go down slightly at first.
(2) The coloured water in the glass tube expanded as a result of the hot water in the basin and so it went down slightly at first.
(3) The heat from the hot water in the basin made the rubber stopper expand a little and so the coloured water in the glass tube went down slightly at first.
(4) The hot water in the basin caused the flask to expand, thereby creating a space in the flask for the coloured water in the glass tube to go down slightly at first.

27. Which one of the following statements about heat and/or temperature is correct?

(1) All sources of heat are also sources of light.
(2) Both temperature and heat are forms of energy.
(3) Heat can be defined as the measure of hotness and coldness of an object.
(4) Heat flows from one object of a higher temperature to another object of a lower temperature.

28. Which one of the following characteristics of a durian tree is **not** an inherited characteristic?

(1) Colour of the flowers
(2) Surface of the bark of the tree
(3) Pattern of the veins on the leaves
(4) Number of leaves attacked by pests

29. Which one of the following is the function of chlorophyll?

(1) To trap energy from sunlight.
(2) To convert excess sugar into starch.
(3) To trap carbon dioxide needed for photosynthesis.
(4) To allow exchange of gases during photosynthesis.

30. Which of the following statements about the life cycle of a butterfly are correct?

A There are four stages in the life cycle of a butterfly.
B At the larva stage, the caterpillar's body shortens and hardens.
C The change from larva to pupa to adult butterfly is called moulting.
D As the caterpillar grows, it sheds the old skin so as to grow new skin.

(1) A and D only
(2) B and C only
(3) A, C and D only
(4) A, B, C and D

南洋小學

NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

SEMESTRAL ASSESSMENT 1

2007

BOOKLET B

Date : 7 May 2007

Duration : 1 h 45 min

Name : _____ **( )**

Class: Primary _____ **( )**

Marks Scored:

Booklet A:		**60**
Booklet B :		**40**
Total :		**100**

Parent's signature: ....

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet B consists of 10 printed pages including this cover page.

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Section B (40 marks)

Write your answers to questions 31 to 46 in the spaces provided.
Marks will be deducted for misspelt key words.

31. Complete the table below on the human reproductive system by filling in the blanks with appropriate words. (2 marks)

	Man	Woman
Reproductive organs		
Reproductive cells		

32. For the following statements below, put a tick (✓) in the correct box to indicate whether they are true or false. (2 marks)

		True	False
(a)	All animals look after their young.		
(b)	In mammals, the egg cells are fertilised internally.		
(c)	All animals go through either 3-stages or 4-stages life cycle.		
(d)	In the life cycle, the change from egg to adult is known as moulting.		

33. The table shows some food that we eat. State the parts of the plant that we are eating. (2 marks)

	Food	**Plant part that we eat**
(a)	Pea	
(b)	Onion	
(c)	Banana	
(d)	Broccoli	

34. Zhicong noticed some fern leaves growing near the base of his balsam plant. He wondered how the fern plant had got there when he did not plant it. Zhicong's mother told him to remove the fern plant if he wanted to have a healthy balsam plant.

(a) How did the fern plant grow in Zhicong's pot of balsam plant?(1 mark)

_____

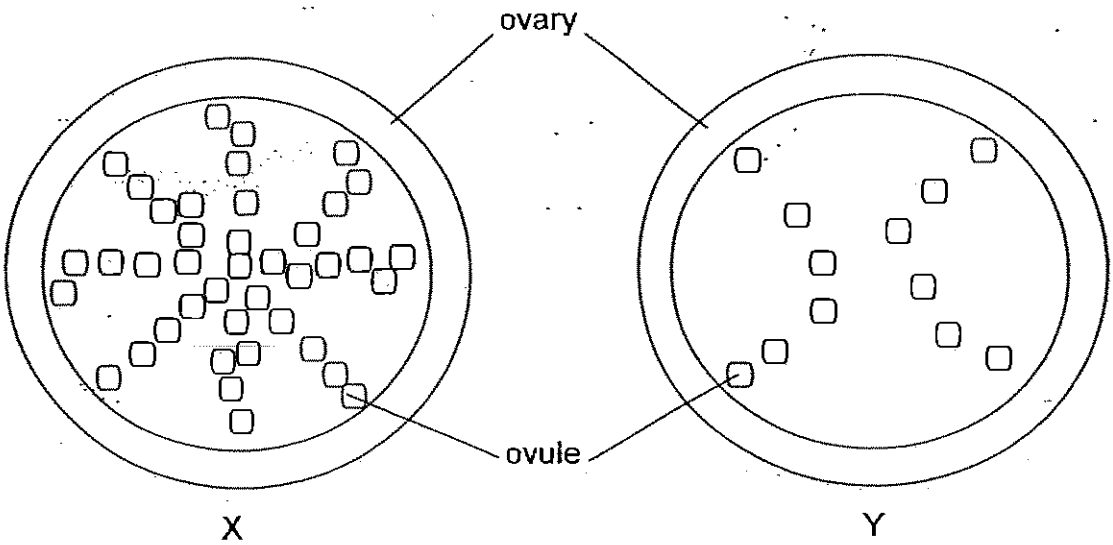
_____

(b) Why did Zhicong's mother advise him to remove the fern? (1 mark)

_____

_____

35. The diagram below shows the cross sections of the ovaries of two flowers, X and Y.



(a) Study the diagram of both ovaries, X and Y, and compare the fruits that will develop from both ovaries. (1 mark)

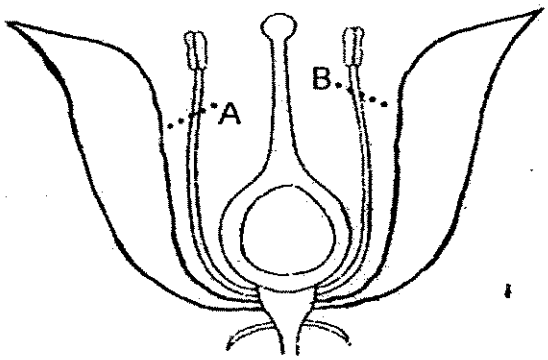
_____

_____

(b) Give an example of a fruit that will develop from ovary X. (1 mark)

_____

36. Julie cut away the 2 parts, A and B, of the flower below and observed it for a week. At the end of the week, she was surprised to see a fruit developing from the flower.



(a) What was Julie trying to find out when she cut the 2 parts, A and B, of the flower? (1 mark)

_____

_____

(b) Give 2 possibilities how the fruit could have developed from the flower after Julie had cut the flower at A and B. (2 marks)

(i) _____

_____

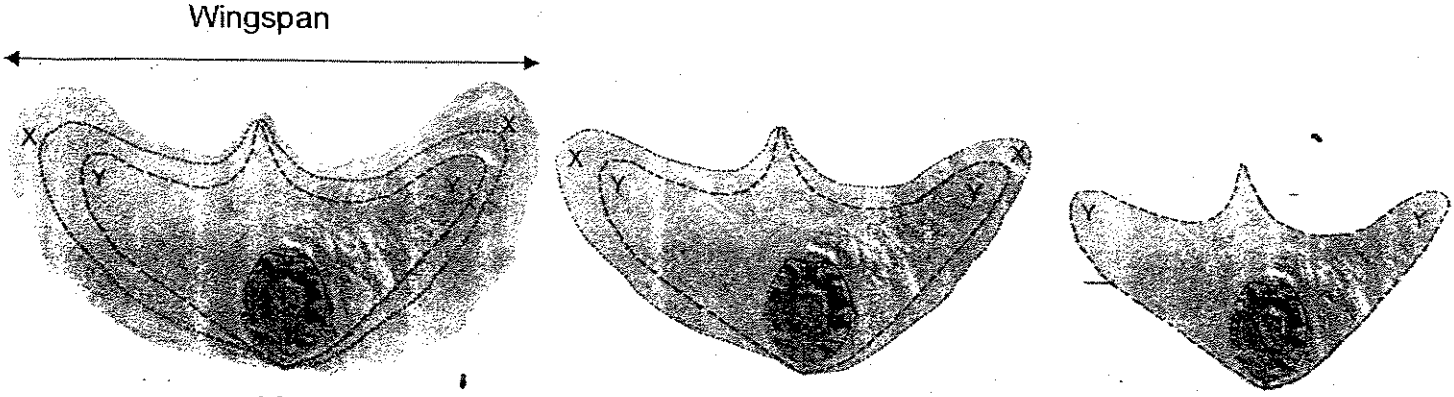
(ii) _____

_____

37. Peiying placed 5 red bean seeds on a damp cotton wool and left them at a warm place for them to germinate. However, after a week, only 3 seedlings developed. She made some conclusions at the end of her experiment. Which of the following conclusions that she made is true, not true or not possible to tell? Put a tick (√) in the correct box for each statement. (3 marks)

	Conclusions made by Peiying	True	Not true	Not possible to tell
(a)	When seeds germinate, the shoots are the first to grow.			
(b)	The remaining 2 seeds will germinate given another week.			
(c)	The seed leaves decrease in size as the seedlings grow.			

38. Ben found the seed below and carried out an experiment on it.



After he had measured the wingspan, he dropped the seed from the table top and recorded the distance travelled by the seed. Next, he cut the same seed at X, measured the wingspans before carrying out the same procedure. He carried out the same procedure again by cutting the same seed at Y. The table below shows the distance travelled by the seed at different wingspans.

Wingspan of seed (cm)	10	7	4
Distance travelled (cm)	62	48	19

(a) From the results of the above experiment, what is the relationship between the wingspan and the distance travelled by the seed?

(1 mark)

_____

_____

(b) Predict the distance travelled by the seed if the wingspan was 5 cm.

(1 mark)

_____

(c) State a variable that Ben had to keep the same in order for the experiment to be a fair one. (1 mark)

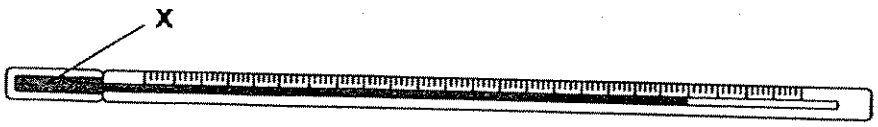
_____

(d) Name a plant with the same method of dispersal.

(1 mark)

_____

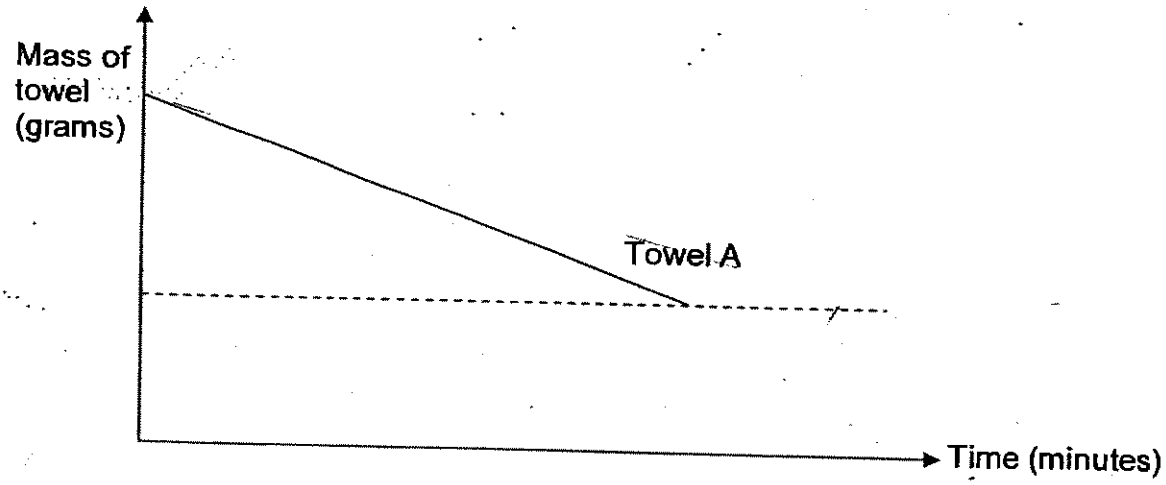
39. The diagram below shows a laboratory thermometer.



(a) Name a substance that X could be. (1 mark)

(b) Name a property that X should have for it to be used in a thermometer. (1 mark)

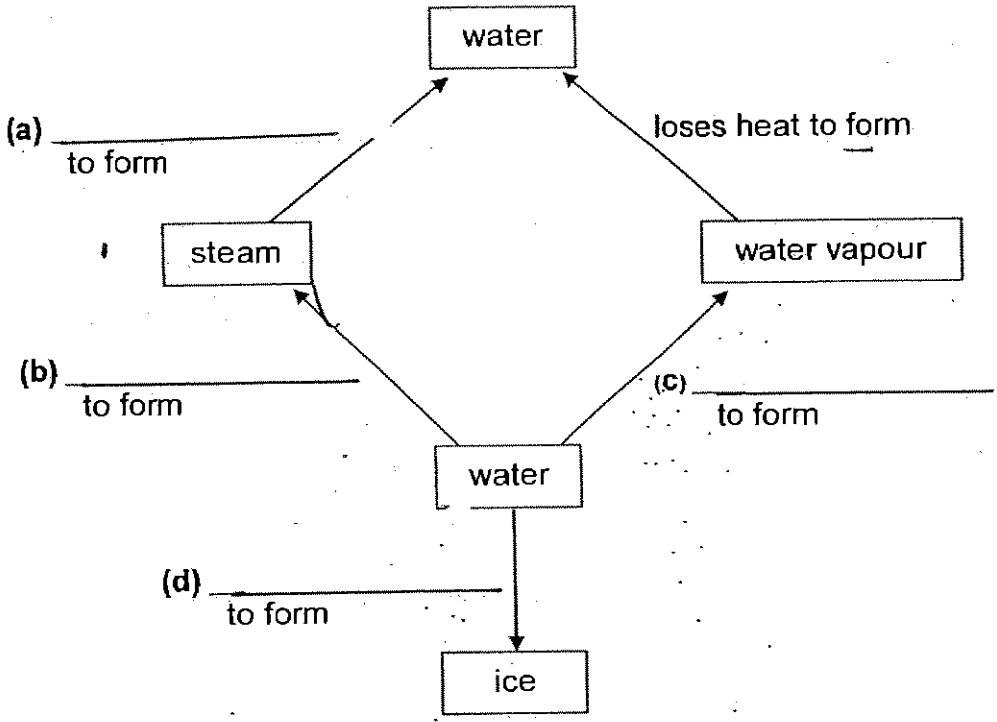
40. Eleanor soaked two identical towels, A and B, in a basin of water. She hung towel A in the shade and towel B under the sun. She then took the mass of towel A and B at regular time intervals. Thereafter, she plotted the graph for towel A as shown below.



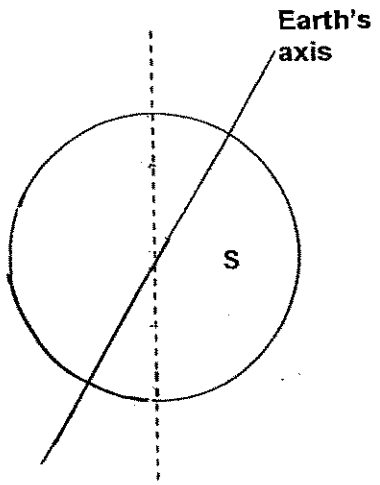
(a) Based on the graph, what is the relationship between the mass of towel A and the time? (1 mark)

(b) Draw and label the line graph for towel B in the graph above. (1 mark)

41. Study the diagram below carefully. Fill in the blanks (a), (b), (c) and (d) with either 'gains heat' or 'loses heat' for the change of states in the water to occur. (2 marks)



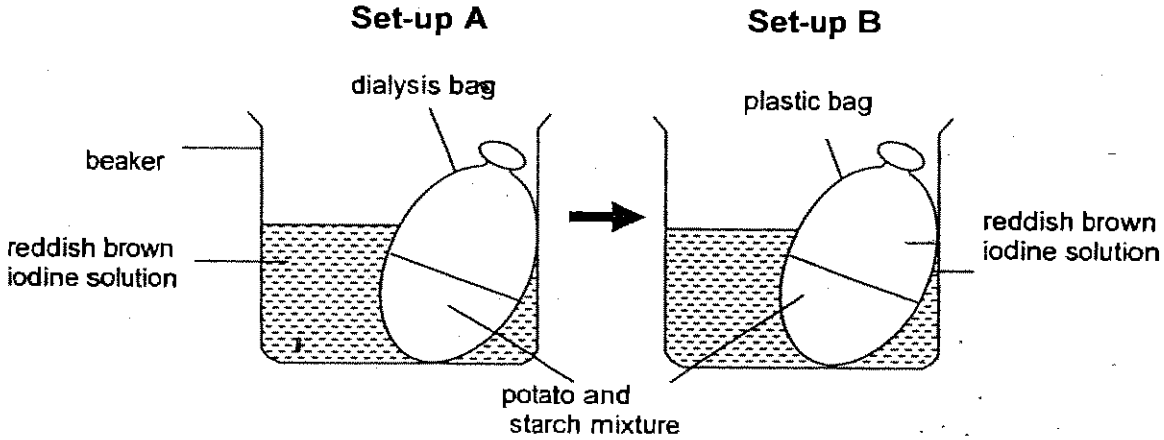
42. The diagram below shows S on Earth. S is experiencing daytime.



(a) Draw arrows to indicate where sunlight is coming from. (1 mark)

(b) Shade the part of Earth that is experiencing night-time. (1 mark)

43. The diagram below shows 2 set-ups that Natalie used to study the property of the material used to make a dialysis bag.



Natalie recorded her observation at the beginning of the experiment. She recorded her observation again 3 hours later. The recorded observations for Set-up A and Set-up B are shown in the tables below.

Set –up A

	Iodine Solution	*Potato and starch mixture*
Start of experiment	Reddish brown	White
3 hours later	Reddish brown	Dark blue

Set –up B

	Iodine Solution	*Potato and starch mixture*
Start of experiment	Reddish brown	White
3 hours later	Reddish brown	White

(a) Explain why the potato and starch mixture turned dark blue after 3 hours in set-up A. (2 marks)

_____

_____

_____

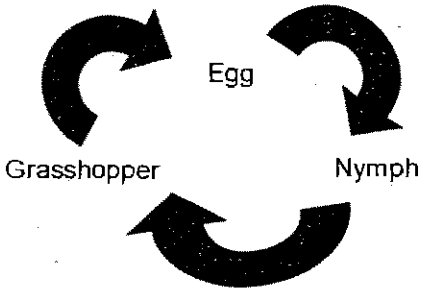
(b) What is the purpose of Set-up B? (1 mark)

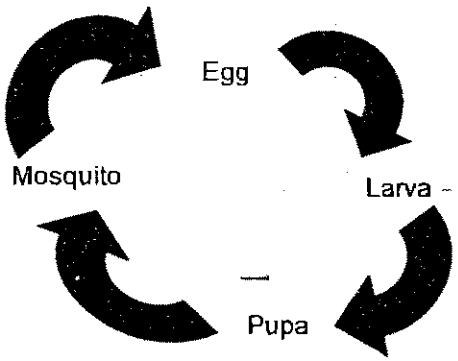
_____

(c) What is the common property shared between the material used to make the dialysis bag and the cell membrane? (1 mark)

_____

44. The diagrams below show the life cycles of a grasshopper and a mosquito.





(a) Based on the above diagram, state one difference between the two life cycles. (1 mark)

_____

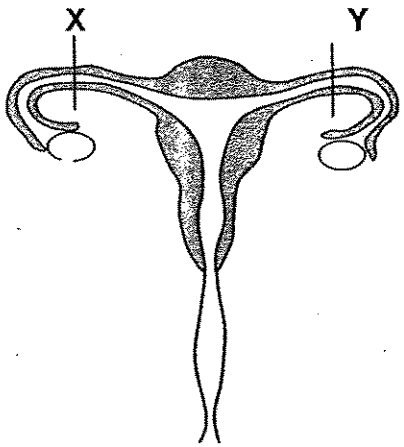
_____

(b) Explain why the population of mosquitoes can be controlled when a layer of oil is spread on the surface of the water (1 mark)

_____

_____

45. The diagram below shows the female reproductive system.



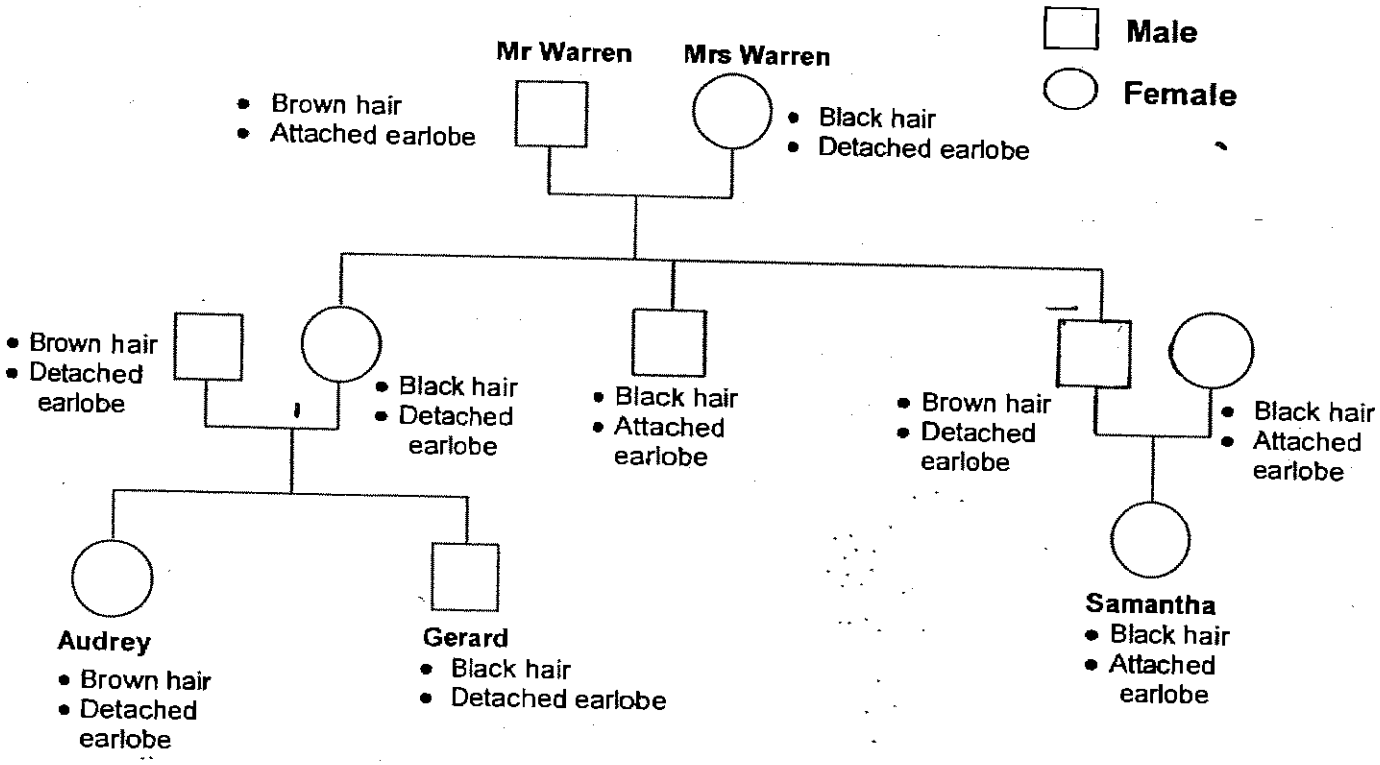
(a) Label the ovary in the diagram above. (1 mark)

(b) Explain what will happen when the fallopian tubes are cut and tied at X and Y. (1 mark)

_____

_____

46. Study the family tree below.



(a) Put an 'X' in the above family tree to identify Audrey's uncle who is married. (1 mark)

(b) Based on the above family tree, what characteristics does Audrey's cousin have? (1 mark)

_____

(c) How is Audrey related to Mrs Warren? (1 mark)

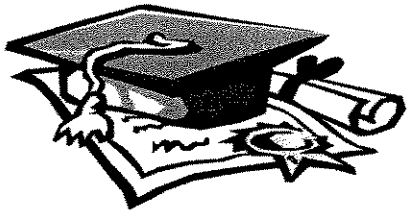
_____

(d) How many children do Mr and Mrs Warren have? (1 mark)

_____

----------END OF PAPER----------

Setters: Mr Brandon Ng
Mrs Linda Tan



ANSWER SHEET

NANYANG PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

1. 3
2. 1
3. 1
4. 1
5. 1
6. 2
7. 2
8. 3
9. 2
10. 2
11. 2
12. 3
13. 2
14. 3
15. 2
16. 3
17. 4
18. 2
19. 3
20. 3
21. 4
22. 2
23. 2
24. 3
25. 4
26. 4
27. 4
28. 4
29. 1
30. 4

31) Man: Testes , sperm
Woman: Ovaries , egg

32) a) F b) T c) F d) F

33) a) seed b) bulb c) fruit d) flower

34) a) The wind has carried the spores of the fern plant to Zhicong's plant.
b) So that they will not have to compete for nutrients space, water and sunlight.

35) a) Fruit X has more seeds than Y.
b) Papaya.

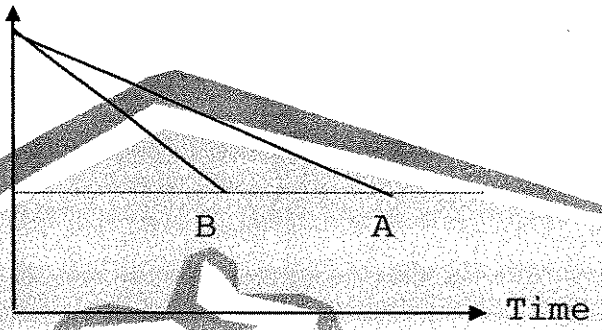
36) a) She was trying to find out if a fruit can develop from the flower if it has no anthers.
b) i) The pollen grains from another flower of the same kind was dispersed by wind and landed on the flower.
ii) Insects carry pollen grains from another flower of the same kind to this flower.

37) a) Not true b) Not possible c) True

38) a) The smaller the wingspan of the seed, the shorter the distance traveled by the seed.
b) 21 cm c) The height d) shorea

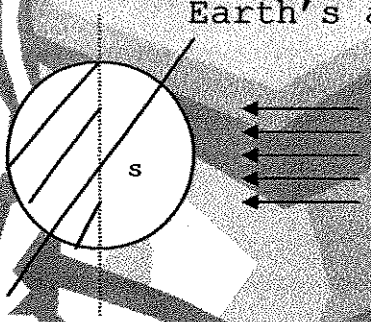
39) a) Mercury.
b) Good conductor of heat.

40) a) As the time increases, the mass of towel A decreases.
b)



41) a) loses heat b) gains heat c) gains heat
d) loses heat

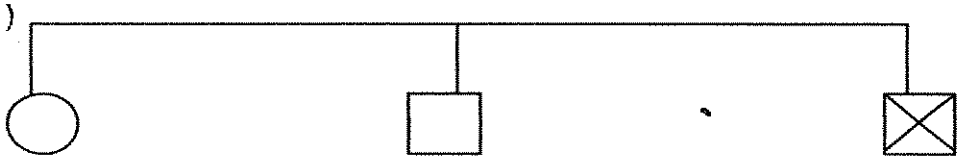
42) a,b



43) a) The dialysis bag allowed the iodine to enter and interacted with the potato and starch mixture, thereby causing the mixture to turn dark blue.
b) It acts as a control.
c) They allow some substances to pass through.

44) a) The grasshopper has a three-staged life cycle but the mosquito has a four-staged life cycle.
b) The larvae and pupae of mosquitoes breathe through breathing tubes. The layer of oil prevents them from getting oxygen so they die.

45) a) X=Ovary
b) Fertilization cannot take place as the sperm cannot meet the egg.

46)a) 

b)Her cousin Samantha has black hair and attached earlobe.

c)Mrs Warren is Audrey's grandmother.

d)3。

---end---

Methodist Girls' School (Primary)
Semestral Assessment 1 2007
Primary 5

Science

Thursday, 10 May

Booklet A

Name : _____ ( )

Class : P5_____

Total Time for Booklets A and B :

1h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW THE INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

SECTION A

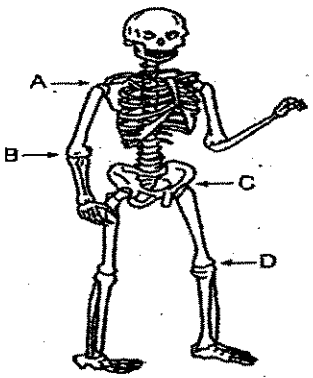
For questions 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The flow diagram shows the route taken by food through the human body.

Which one of the following shows what X and Y represent?

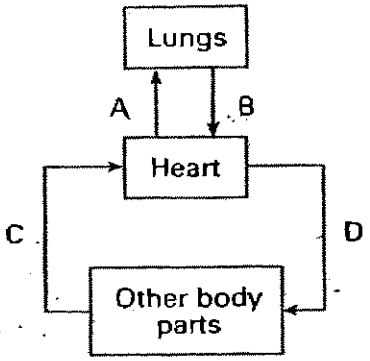
	X	Y
(1)	Gullet	Lungs
(2)	Gullet	Stomach
(3)	Windpipe	Lungs
(4)	Windpipe	Stomach

2. The diagram on the right shows the human skeleton. Which of the joints indicated, allow movement in more than one direction?



(1) A and C only
(2) B and D only
(3) A, B and C only
(4) B, C and D only

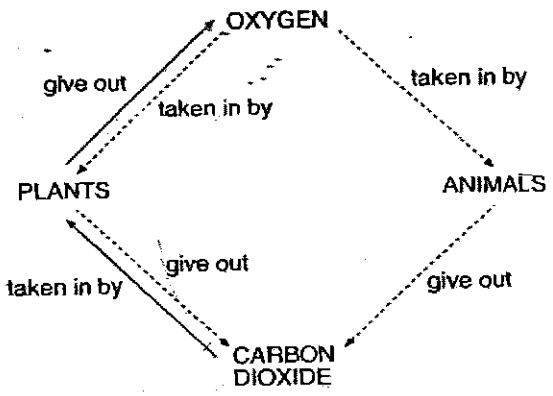
3. A, B, C and D represent the blood flowing in four different blood vessels of the human body. The arrows represent the direction of blood flow.



Which of the following statements is correct?

(1) A is richer in oxygen than C.
(2) B is richer in oxygen than C.
(3) B is richer in carbon dioxide than D.
(4) D is richer in carbon dioxide than A.

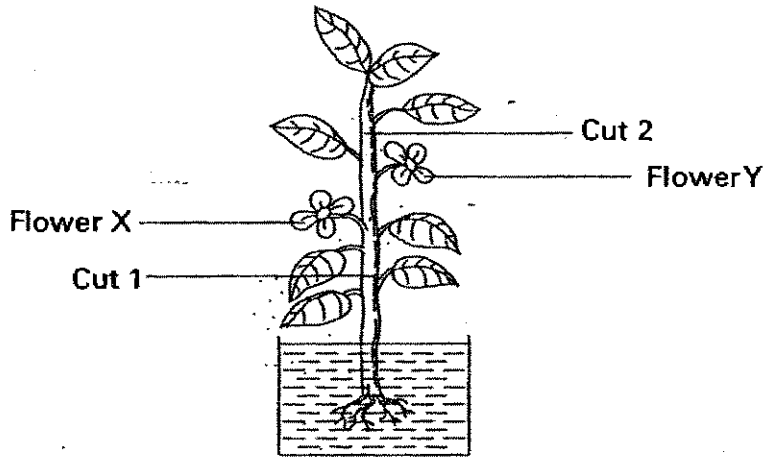
4. Study the diagram below carefully.



The arrows in continuous line (→) show a process that takes place_____.

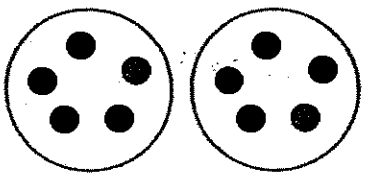
(1) all the time
(2) only at night
(3) during respiration
(4) during photosynthesis

5. Susan placed a plant with two white flowers, X and Y, into a beaker containing blue-coloured water. She made two cuts as shown in the diagram below. After a short while, Flower X turned blue while the petals on Flower Y remained white.

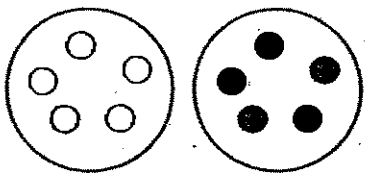


Which of the following diagrams show what Susan would observe when she looks at the cross-sections of the stem made at cuts 1 and 2 respectively?

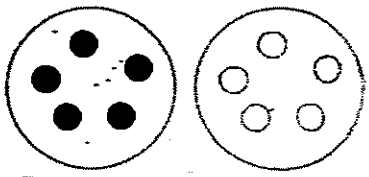
(1)



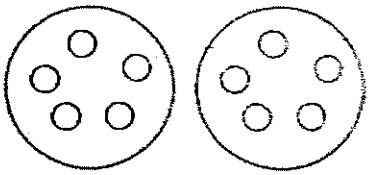
(2)



(3)



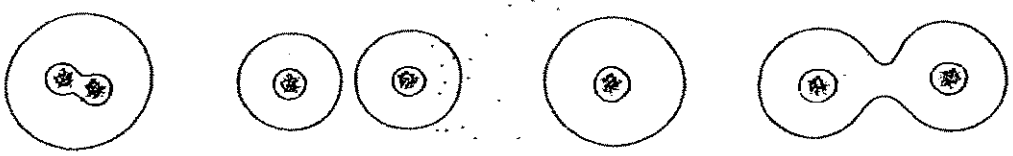
(4)



6. Which of the following is not found in a cell taken from an underground root?

(1) Nucleus
(2) Cytoplasm
(3) Chloroplast
(4) Cell membrane

7. The diagrams below show a cell undergoing cell division.



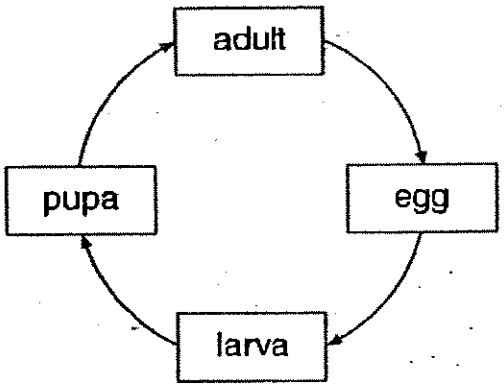
What is the correct order of the division?

(1) A, C, B, D
(2) C, A, D, B
(3) B, C, D, A
(4) B, D, A, C

8. Which is **not** a characteristic of genetic material found in the nucleus of cells?

(1) Located in the brain only.
(2) Stable, but also able to change.
(3) Duplicated for each cell division.
(4) Contains information to make an organism.

9. The diagram below shows the life cycle of animal X. The animal **cannot** be a _____.

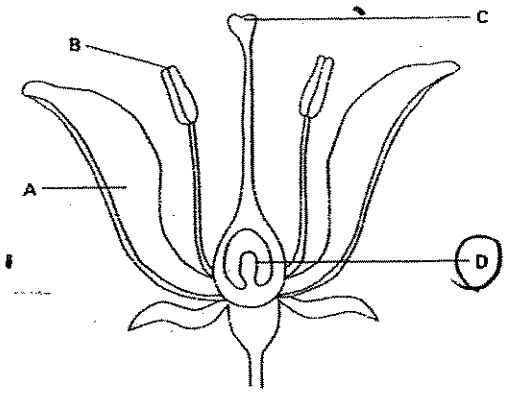


(1) butterfly
(2) mosquito
(3) mealworm
(4) grasshopper

10. To prevent the breeding of mosquitoes, places that tend to collect water, such as drains, are regularly sprayed with insecticide. Based on the life cycle of the mosquito, how can spraying insecticide in places that collect water help to stop mosquitoes from breeding?

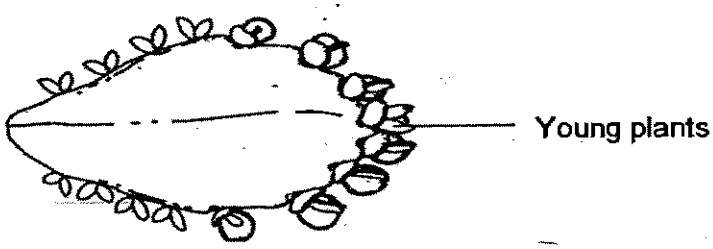
(1) The insecticide kills the female mosquitoes.
(2) The insecticide does not allow the adult mosquitoes to breathe.
(3) The insecticide stops the mosquito from completing its life cycle.
(4) The insecticide increases the number of stages in the mosquito's life cycle.

11. A pollen grain has landed on a flower. In the diagram below, in which of the labelled parts will the male and female cells fuse?



(1) A
(2) B
(3) C
(4) D

12. Geetha plucked a leaf from a bryophyllum plant as shown below.



Based on the diagram of the leaf above, which of the following statements is **not** true?

(1) The leaf can produce more than one plant at a time.
(2) The leaf must be fertilised before it can produce young plants.
(3) All the young plants on the leaf have the same characteristics.
(4) The young plants have the same characteristics as the plant of the leaf.

13. What is/are the differences between external and internal fertilisation?

	Internal Fertilisation	External Fertilisation
A	Egg laying does not occur.	Egg laying occurs.
B	Eggs are fertilised and developed outside the mother's body.	Eggs are fertilised and developed inside the mother's body.
C	The sperm meets the ovum inside the mother's body.	The sperm meets the ovum outside the mother's body.
D	All embryos are developed inside the mother's body.	All embryos are developed outside the mother's body.

(1) C only
(2) A and B only
(3) A and C only
(4) C and D only

14. The table below shows the characteristics of 4 seeds or fruits, A, B, C and D.

Seed/Fruit	Size	Weight	Other Characteristics
A	Big	Heavy	Edible, has husk
B	Small	Light	Edible, it is a pod
C	Small	Light	Inedible, has stiff hair
D	Small	Light	Inedible, has fluffy hair

Which of the following shows the method by which A, B , C and D are probably dispersed?

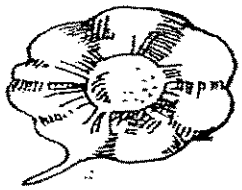
	A	B	C	D
(1)	Animals	Water	Wind	Splitting
(2)	Water	Splitting	Animals	Wind
(3)	Animals	Wind	Splitting	Water
(4)	Water	Wind	Splitting	Animals

15. Tara took two angsana fruits, A and B, of the same size. She trimmed off the wing of fruit A, as shown in the diagram below.

A

Without wing

B



With wing

She dropped the fruits from the same height at the same place and recorded the time taken for each fruit to reach the ground. She repeated the experiment 3 times and calculated the average time for each fruit to reach the ground. Which set of readings is most likely to be correct?

	Average time of A	Average time of B
(1)	4.0 seconds	2.8 seconds
(2)	2.8 seconds	4.0 seconds
(3)	4.0 seconds	4.0 seconds
(4)	5.0 seconds	3.1 seconds

16. Which of the following is classified correctly?

	Metal	Non-metal
(1)	silver	brass
(2)	lead	gold
(3)	wood	copper
(4)	mercury	plastic

17. Betty compared the hardness of four rocks, A, B, C and D, by scratching them with different discs. She then recorded her observations in the table below.

Rock	Presence of scratch marks made by:		
	plastic disc	iron disc	wooden disc
A			
B		✓	✓
C	✓	✓	✓
D			✓

Which of the following correctly shows the four rocks arranged in increasing order of their hardness?

soft ⟶ hard

(1) A B D C
(2) B C D A
(3) C B D A
(4) D B A C

18. The table below shows the freezing and boiling points of three unknown substances X, Y and Z.

Substance	Freezing point (°C)	Boiling point (°C)
X	27	85
Y	30	115
Z	63	184

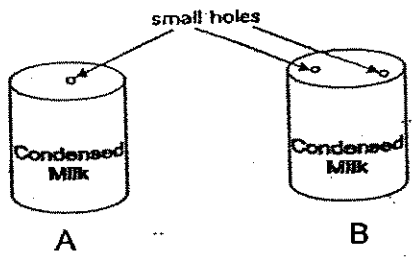
Which of the substances X, Y and Z exist/s in the liquid state at 100°C?

(1) X only
(2) Y only
(3) X and Y only
(4) Y and Z only

19. Melissa dissolved 20 g of salt in a beaker containing 200 g of water.
After 3 days, she found that only 120 g of the solution was left in the beaker.
The remaining solution would contain about _____.

(1) 20 g of salt only
(2) 120 g of water only
(3) 100 g of water and 20 g of salt
(4) 120 g of water and 20 g of salt

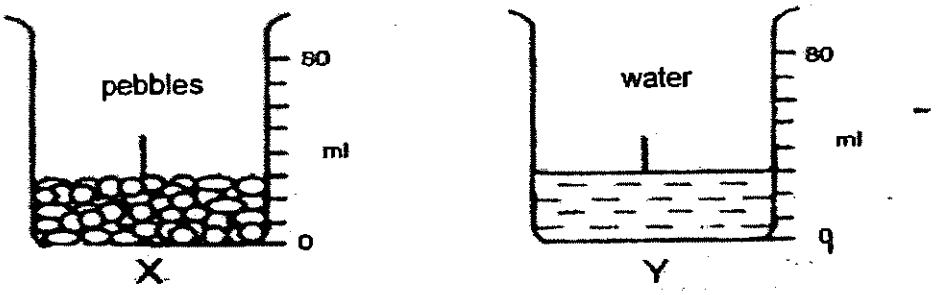
20. Small holes were pierced in the two cans of condensed milk, A and B, as shown below.



Milk would flow out more easily from can _____.

(1) A because air pushes the milk out
(2) A because milk can flow out of the hole
(3) B because air is able to enter through both holes and milk can flow out through both holes
(4) B because air is able to enter through one hole and milk can flow out from the other hole

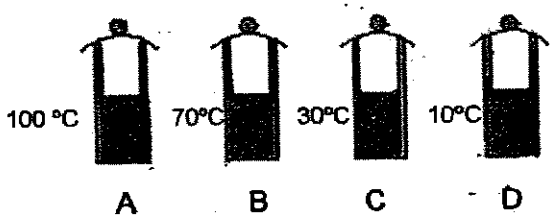
21. Sam filled beaker X with some pebbles and beaker Y with 30 *ml* of water as shown in the diagram below.



Next, he poured the water from beaker Y into beaker X without spilling. The volume occupied by the water and the pebbles in beaker X is likely to be _____.

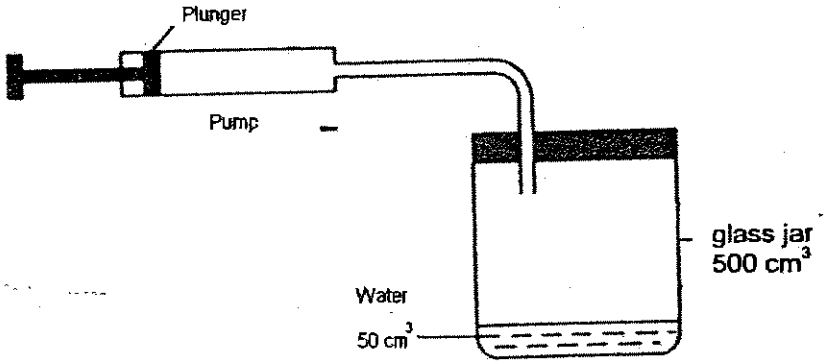
(1) 30 *ml*
(2) 55 *ml*
(3) 60 *ml*
(4) 75 *ml*

22. Ali filled 4 beakers, A, B, C and D with equal amount of water and placed them side by side on the table. Water droplets will probably formed on the outer surface of beaker _____.



(1) A only
(2) D only
(3) B and C only
(4) A, C and D only

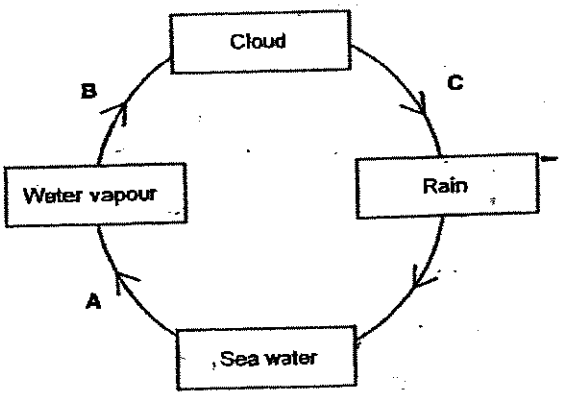
23. The diagram below shows a pump connected to a glass jar. The capacity of the jar is 500 cm^3. The jar contains 50 cm^3 of water.



When the plunger is pushed in completely, 30 cm^3 of air is forced into the jar. What is the volume of air in the jar?

(1) 30 cm^3
(2) 450 cm^3
(3) 480 cm^3
(4) 550 cm^3

24. The diagram below represents the water cycle.



Which one of the following is <u>correct</u>?

	Evaporation occurred at	Condensation occurred at
(1)	A	B
(2)	B	C
(3)	C	B
(4)	C	A

25. Bala sees a full moon on 18 February. He would most likely see a _____ on 4 March.

(1) half moon
(2) new moon
(3) gibbous moon
(4) crescent moon

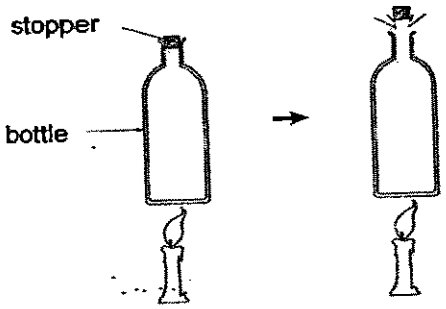
26. Study the chart shown below carefully.

	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
Distance from the Sun (millions of km)	60	108	150	228	778	1430	2870	4500
Diameter of planet (km)	4900	12 100	13 000	68 00	134 000	75 000	51 000	49 000
Surface Temperature (°C)	430	500	-30 to 50	-140 to 20	-150	-180	-220	-230

Suppose two new planets X and Y have been discovered. Planet X is located between Venus and Earth and is about the same size as Venus. Planet Y is located between Uranus and Neptune and is about the same size as Uranus. Which one of the following conclusions based on the above information is **true**?

(1) Planet X will be colder than Planet Y.
(2) Planet X will be hotter than Planet Y.
(3) Planet Y will be heavier than Planet X.
(4) Planet Y will be smaller than Planet X.

27. Study the diagram shown below carefully.



The _____ and caused the stopper to pop out.

(1) bottle expands upon heating
(2) bottle contracts upon heating
(3) air in the bottle expand upon heating
(4) air in the bottle contracts upon heating

28. Samy heated 250 *ml* of pure water in a beaker. He recorded the volume of the water in the beaker and its temperature at 5 minute intervals. The table below shows the results of her experiment.

Time (min)	Volume of water (*ml*)	Temperature (°C)
0	250	26
5	230	40
10	210	70
15	190	100
20	?	?

What could be the volume and temperature of the water at the 20th minute?

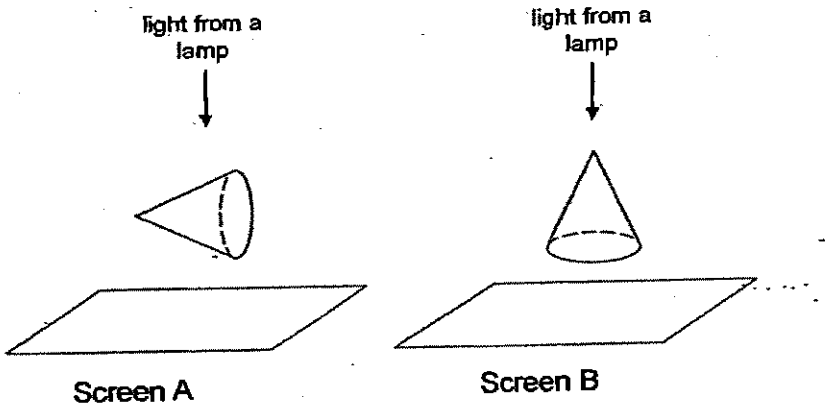
	Volume (*ml*)	Temperature (°C)
(1)	190	100
(2)	190	130
(3)	170	100
(4)	170	130

29. A shadow is formed because_____.

A: Light can be reflected.
B: Light only travels in a straight line.
C: Light passes through some objects.
D: Light is blocked by an opaque object.

(1) A and B only
(2) B and D only
(3) C and D only
(4) A, B and D only

30. Two identical cones were placed in different positions directly under the same light sources in a dark room as shown below.



Which of the following correctly shows the shadows that would be observed on each screen?

	Screen A	Screen B
(1)		
(2)		
(3)		
(4)		

Methodist Girls' School (Primary)
Semestral Assessment 1 2007
Primary 5

Science

Thursday, 10 May

Booklet B

Name : _____( )

Class : P5_____

Total Time for Booklets A and B :

1h 45 min

Booklet A (60marks)	
Booklet B (40marks)	
Total (100 marks)	

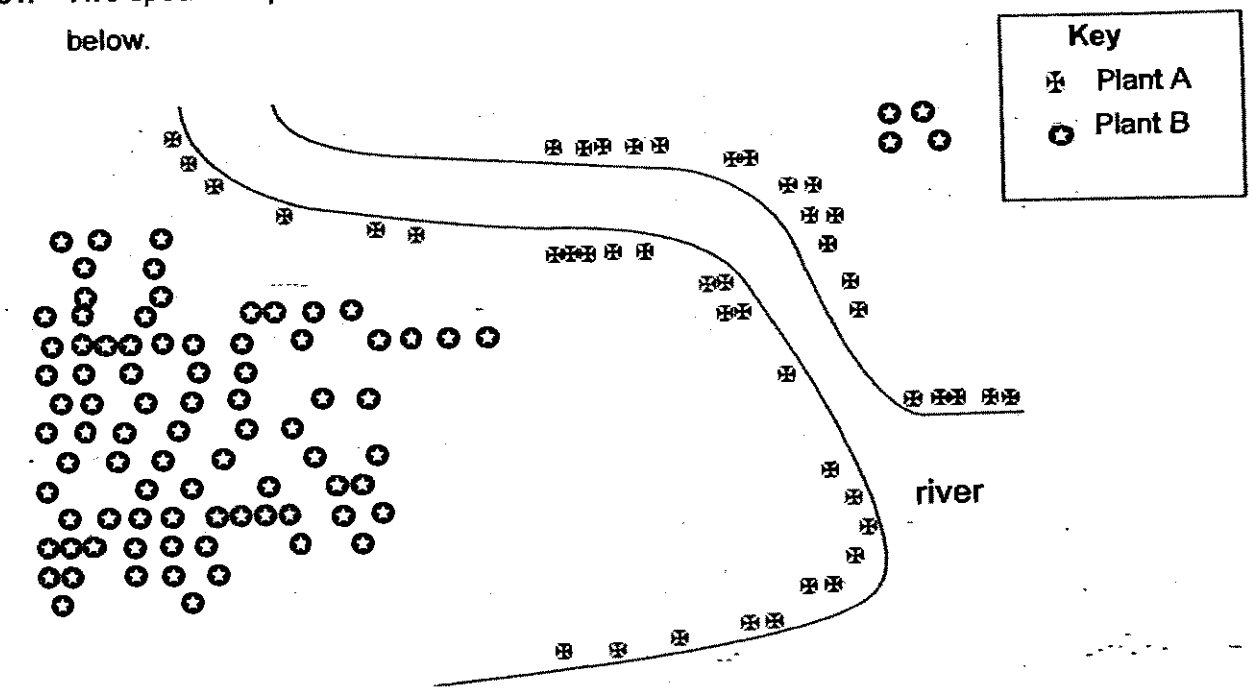
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW THE INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

For questions 31 to 46, write your answers in the blanks provided.

31. Two species of plants, A and B, can be found in an area represented in the map below.



(a) State the method of dispersal of Plants A and B (1m)

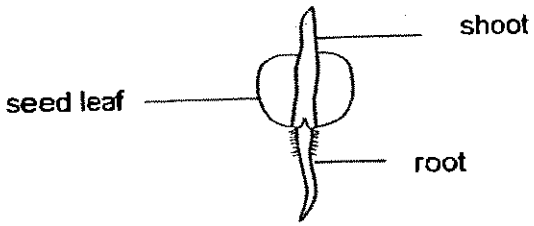
Plant A _____

Plant B _____

(b) Name one characteristic of plant A which enables it to be dispersed by the method mentioned above. (1m)

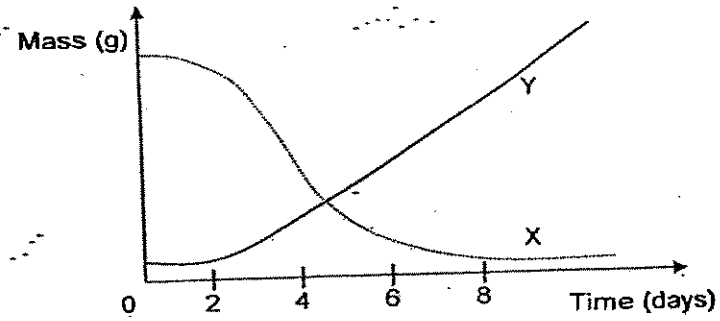
_____

32. Linda performs an experiment on germination.



(a) In germination the part that grows first is the _____ followed by the _____. (1m)

(b) Linda plotted a graph showing the changes in mass of the seed leaf and the shoot of the seedling during an experiment. The experiment is conducted at room temperature.



(i) Which curve X or Y, shows how the mass of the seed leaf changes during the experiment? Give a reason for your answer. (1m)

_____

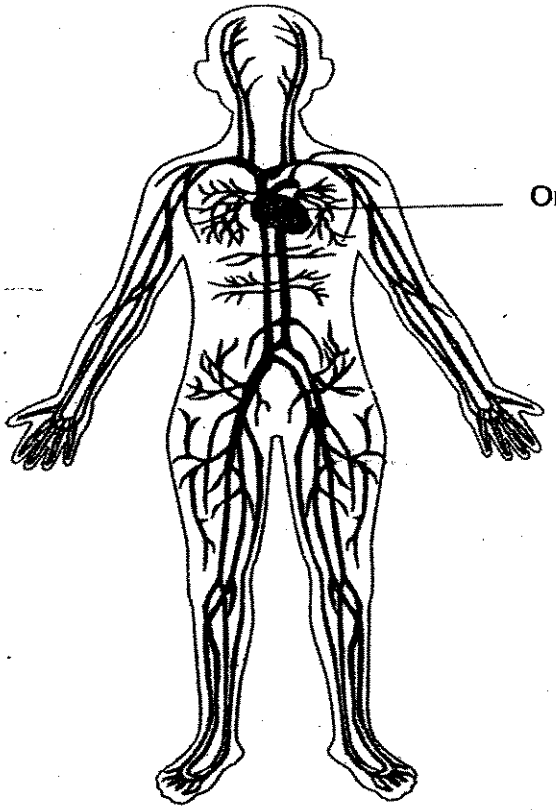
(ii) What would happen to the seed if there were no sunlight throughout the first eight days? (1m)

_____

(iii) How did the seedling get its food from day 8 onwards? (1m)

_____

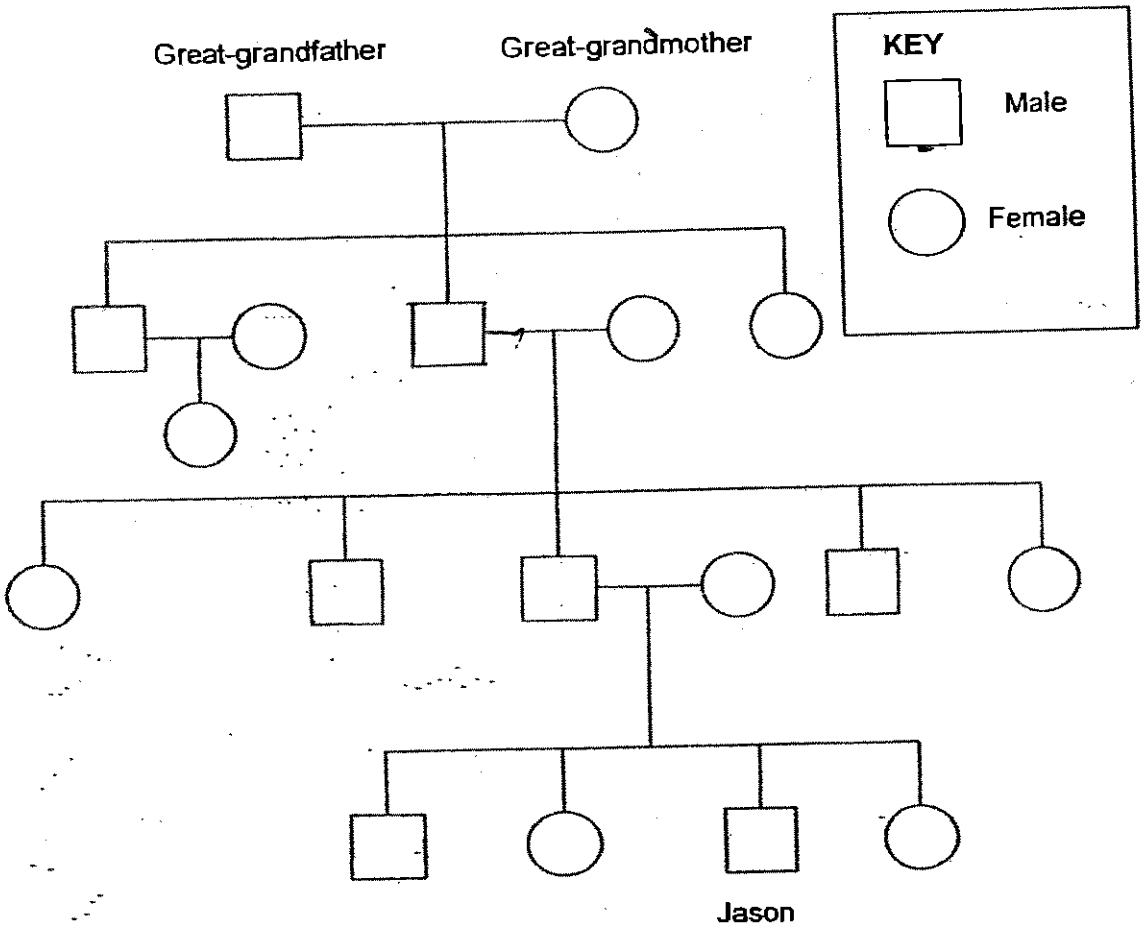
33. The diagram below shows a system of the human body.



Fill in the blanks with the correct answer.

The function of organ A is to pump _____ around the body and when a person runs, it beats _____ so that the cells can produce more _____. The part of the skeletal system that protects organ A is the _____. (2m)

34. The following diagram shows the family tree of Jason.



(a) How many children do Jason's great-grandparents have? (1m)

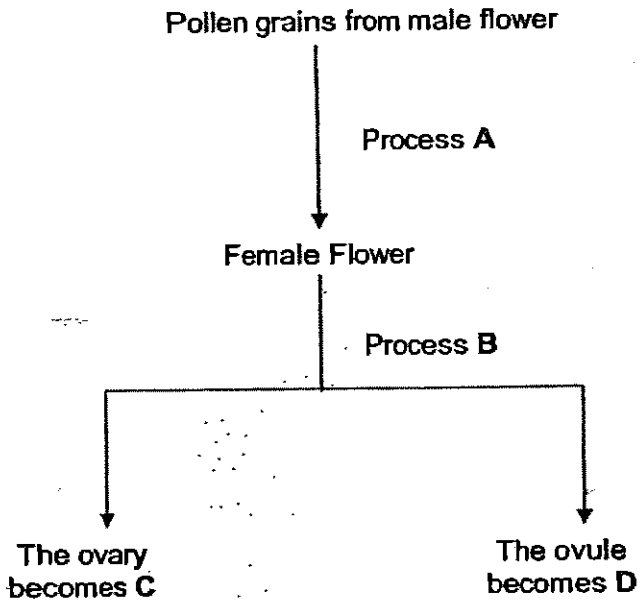
_____

(b) How many aunts does Jason have? (1m)

_____

(c) **Shade** the symbol which represents Jason's grandfather. (1m)

35. Study the diagram below.



Identify **A, B, C and D.** (2 m)

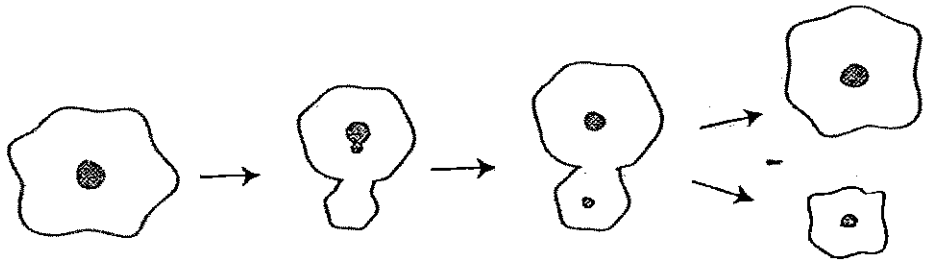
A : _____

B: _____

C: _____

D: _____

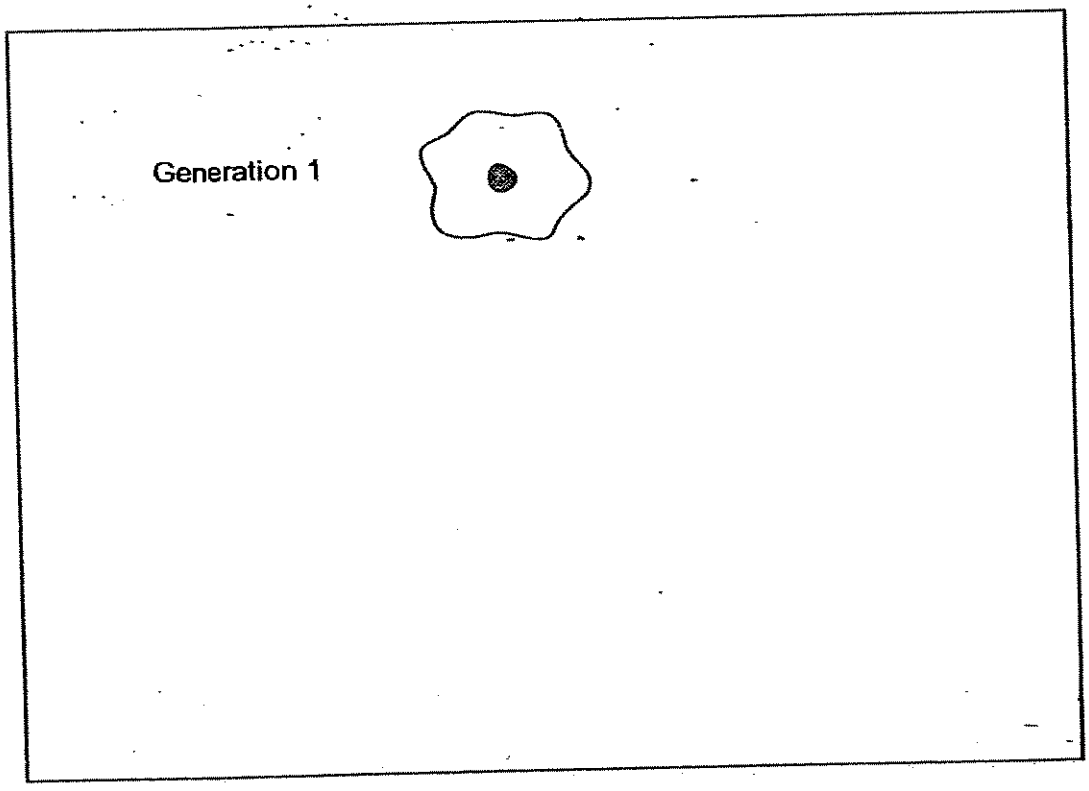
36. The following diagram shows a yeast cell reproducing itself.



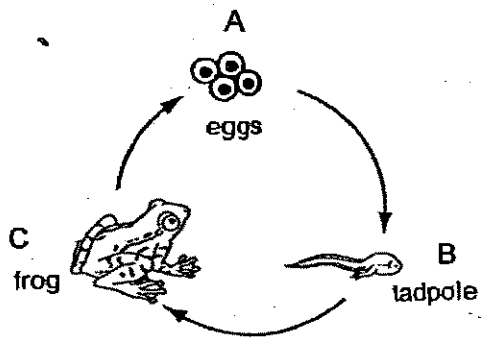
(a) What is the name of this method of reproduction? (1m)

_____

(b) In the box below, **sketch** a simple diagram to show the number of cells that would be formed at the 3rd generation of cell division from a single parent cell. (1m)



37. The diagram shows the life cycle of a frog.



(a) At which stage can the frog reproduce? (1m)

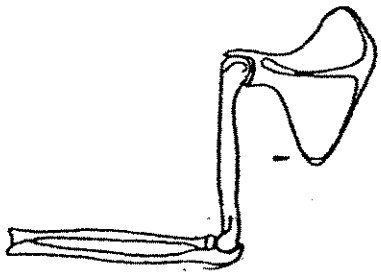
_____

(b) Why does a frog need to produce so many eggs for reproduction? (1m)

_____

_____

38. The diagram below shows part of the skeletal system of the human arm.



(a) What other feature, not shown on the diagram, helps in the movement of the arm? (1m)

_____

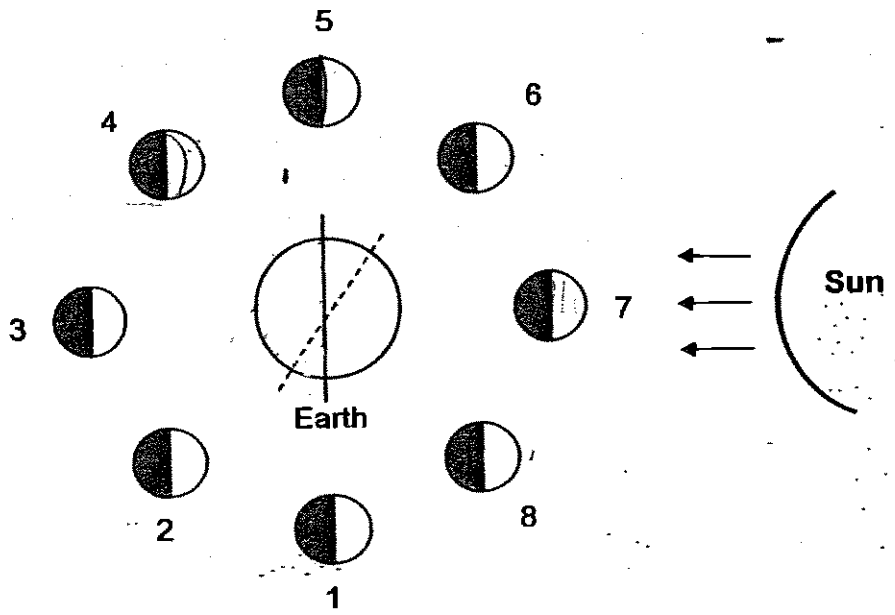
(b) On the diagram, **circle** the part which allows you to bend or straighten your arm at the elbow. (1m)

(c) Name another part of the body where you can find a similar joint. (1m)

_____

39. Study the diagram shown below carefully.

(a) **Shade** on the diagram shown below the part of the Earth that would experience night. (1m)



(b) At which position(s) can you see the crescent moon? (1m)

_____

(c) What causes the apparent movement of the Sun across the sky? (1m)

_____

_____

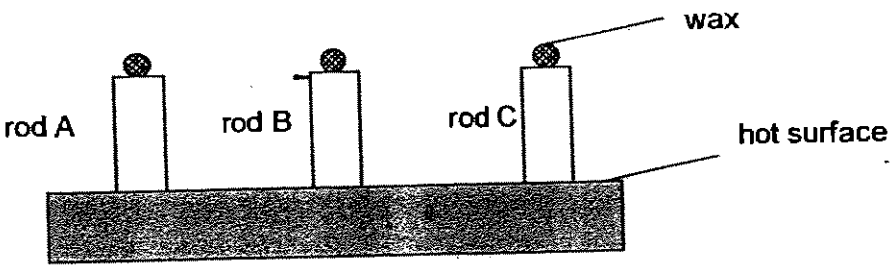
40(a) In what way is the Moon different from the Earth as a satellite? (1m)

_____

(b) State a similarity between the Moon and a communication satellite. (1m)

_____

41. In an experiment, some wax was placed on the top end of three rods, A, B and C. The rods were then placed on top of a hot surface as shown below.



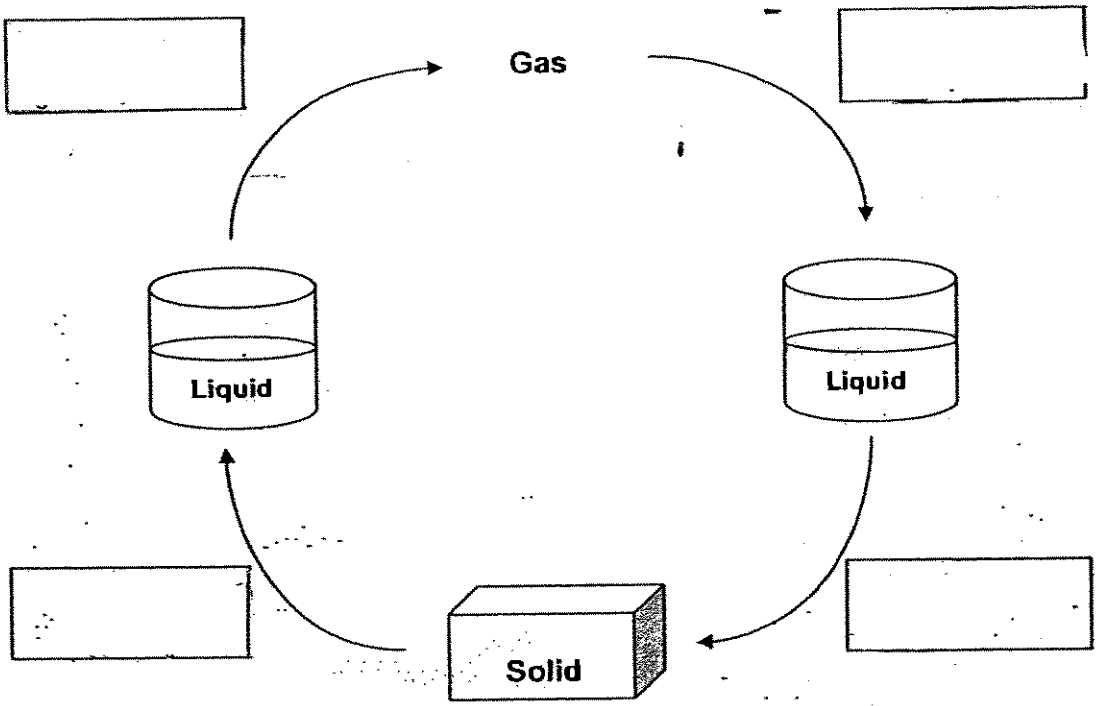
It was observed that the wax on rod B melted first, followed by that on rod A and then rod C.

(a) What can be concluded about the conduction of heat in rods A, B and C? (1m)

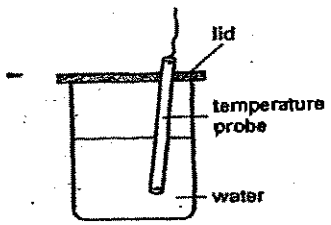
(b) If the three rods above were made of wood, copper and porcelain, identify the materials that Rods A, B and C were made of. (3m)

Wood	
Copper	
Porcelain	

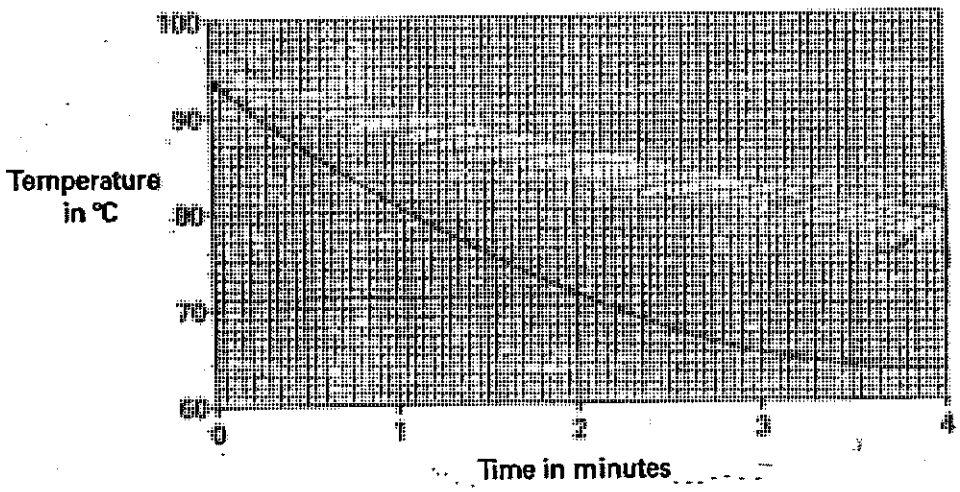
42. The diagram below shows the three states of a substance.
Write in the boxes the words **"given out"** or **"taken in"** to indicate whether heat is taken in or given off by the substance during each change of state. (2m)



43. Mrs Lim conducted an experiment for her class. She put a temperature probe into a glass beaker containing very hot water to measure the temperature of the water as it cooled.



The computer took the temperature of the water every 15 seconds and drew a graph shown below.



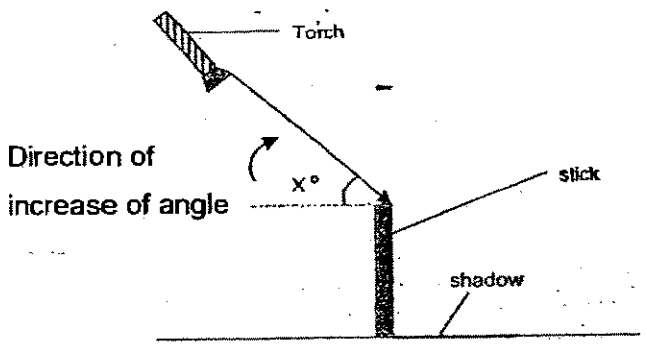
(a) What was the temperature of the water at the 2nd minute? (1m)

_____

Mrs Lim wrapped a towel around the beaker and conducted the experiment again.

(b) On the graph above, **sketch** the graph you would expect the computer to show. (1m)

44. Tom placed his torchlight at an angle X° to shine at a stick as shown in the diagram below. Then he measured the length of the shadow.



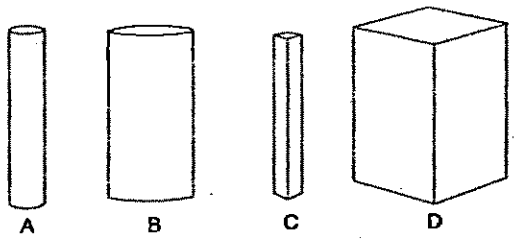
He repeated the experiment, increasing the angle of the light source each time in the direction shown. Then he recorded his observation as follows:

Angle of light source (degrees)	Length of shadow (cm)
50	25
60	20
70	15
80	10
90	0
100	10
110	?
120	20

(a) Based on the results, what should the length of the shadow be when the angle of the light source is at 110° ? (1m)

(b) From the results, what can he conclude about the relationship between the angle of the light source and the length of the shadow formed? (2m)

45. Rani had 4 magnets, A, B, C and D, as shown below.



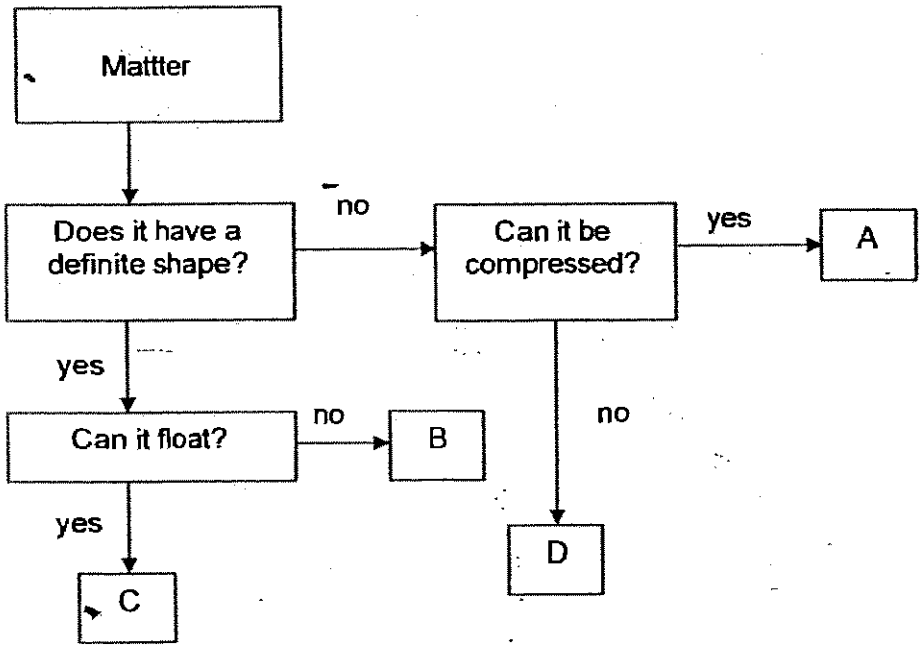
To compare the strength of the magnets, she placed each of the magnets near a pile of pins. The table below shows the number of pins attracted by the magnets from various distances.

Magnet	Distance between magnet and pins (cm)	Number of pins attracted
A	6	14
B	4	14
C	7	12
D	4	16

Based on the results above, put a tick (√) in the correct box to indicate whether each of the statements is **True**, **False** or **Not Possible to Tell**. (2m)

	Statement	True	False	Not Possible to Tell
(a)	Magnet B is as strong as Magnet A.			
(b)	Magnet D is stronger than Magnet B.			
(c)	Magnet C is the weakest of all the magnets.			
(d)	Magnet B is stronger than Magnet C.			

46. Study the flow chart shown below carefully.



(a) Where would you place 'plastic plate' in the classification chart shown above? (1m)

_____

(b) What is the state of D? (1m)

_____

----------END OF PAPER----------

ANSWER SHEET

MGS PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

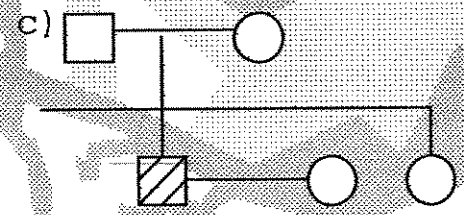
1. 2
2. 1
3. 2
4. 4
5. 3
6. 3
7. 2
8. 1
9. 4
10. 3
11. 4
12. 2
13. 1
14. 2
15. 2
16. 4
17. 3
18. 4
19. 3
20. 4
21. 2
22. 2
23. 2
24. 1
25. 2
26. 2
27. 3
28. 3
29. 1
30. 3

31)a)A:By water
B:By explosive force.
b)Fibourous husk.

32)a)root, shoot
b)i)X. Food in the seed leaf is used for the growth of the shoot and root.
ii)The seed would still grow.
iii)From its green leaves and through photosynthesis.

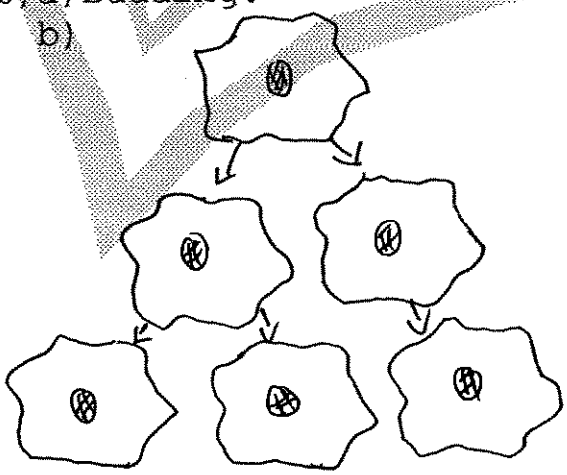
33)blood, faster, energy, rib cage

34)a)Three.
b)Two aunts.
c)



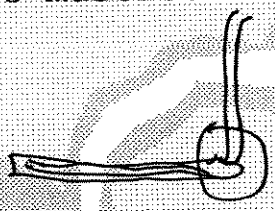
35)A)Pollination
B)Fertilisation
C)Fruit
D)Seed

36)a)Budding.
b)



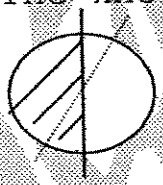
37)a)Stage C
b)Not all tad poles will make it to adulthood, as some would by eaten by predators.

38)a)The muscles.
b)



c)The kneecaps.

39)a)



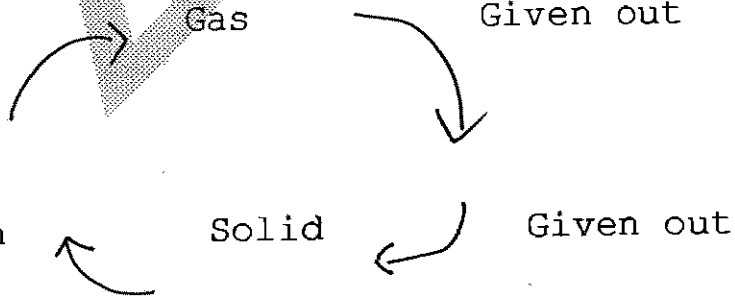
Earth

b)Positions 6 and 8
c)The cause of it is the Earth spinning on its own axis.

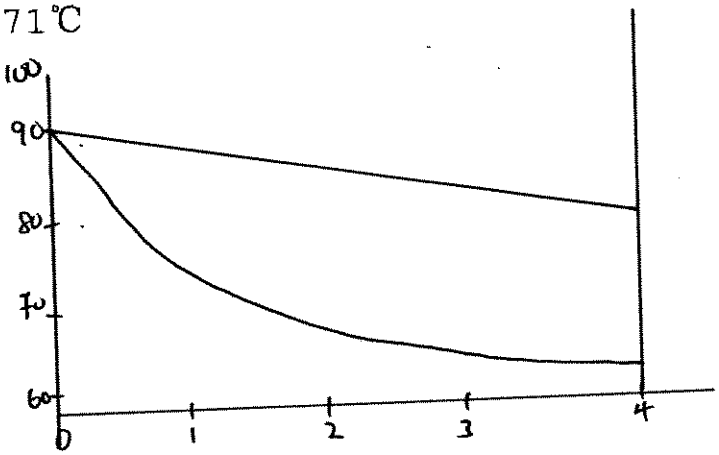
40)a)The Earth revolves around the sun, while the Moon revolves around the Earth.
b)Both revolve around the Earth.

41)a)Rod B is the best conductor of heat, followed by Rod A then Rod C.
b)C,B,A

42)



43)a)71℃
b)



44)a)15 cm.
b)The length of the decreases as the angle of light source increases until it reaches 90℃, there after the length of shadow increases as the angle of light source increases.

45)a)False
b)True
c)Not
d)Not

46)a)C
b)Liquid state.

---end---

Rosyth School
First Semestral Assessment for 2007
SCIENCE
Primary 5

Total Marks: 100

Name: _____

Class: Pr _____ Register No. _____ Duration: 1 h 45 min

Date: 14th May 2007 Parent's Signature: _____

Instructions to Pupils:

1. Do not open the booklets until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets, Booklet A and Booklet B.
4. For questions 1 to 30 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 31 to 46, give your answers in the spaces given in the Booklet B.

	Maximum	Marks Obtained
Booklet A	**60 marks**	
Booklet B	**40 marks**	
Total	**100 marks**	

* This booklet consists of 17 pages .

Part I (60 MARKS)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. Why is Earth able to support life?

A: Earth has just the right amount of sunlight for living things
B: Earth has water in the correct state so that living things can thrive.
C: Earth has an atmosphere to provide plants with carbon dioxide to make food.
D: Earth has an atmosphere to keep the temperature just right for living things.

(1) A and B only
(2) B and C only
(3) C and D only
(4) A, B, C and D

2. Study the diagrams carefully.

Diagram A

Diagram B

Diagram A shows Mary's drawing of the moon that she observed one night. After how long would she observe the phase of the moon as shown in Diagram B?

(1) 7 days
(2) 14 days
(3) 21 days
(4) 28 days

3. The table below shows the temperature of some planets in the Solar System.

Planet	Distance from the Sun (km)	Temperature (° C)
Mercury	58 million	430
Venus	108 million	400
Mars	228 million	20
Jupiter	778 million	- 140

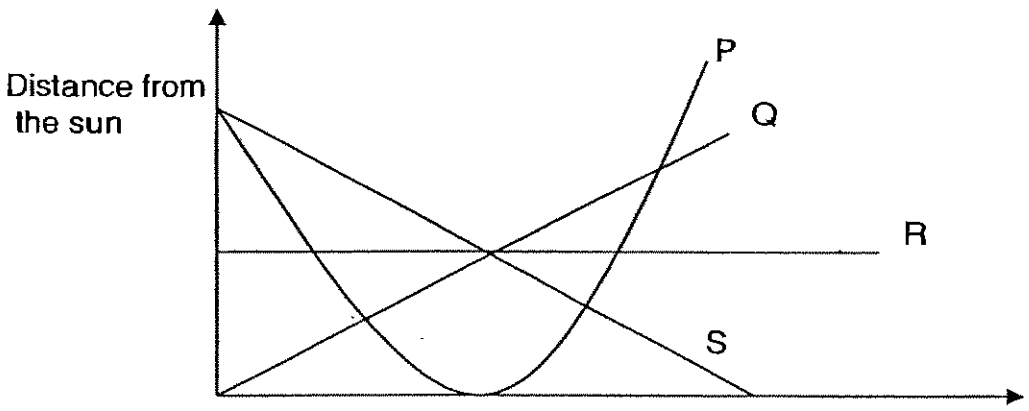
What conclusion can you make from the table?

(1) The size of the planet determines its temperature.
(2) The nearer the planet to the Sun, the lower its temperature.
(3) The further the planet from the Sun, the higher its temperature.
(4) The distance of the planet from the Sun determines its temperature.

4. Look at the table below.

Planet	Earth	Jupiter	Pluto
Distance from the Sun (million km)	150	778	5914
Time taken to make a revolution around the Sun	365 days	12 years	248 years

Which one of the following graphs represents the relationship between the distance the planet is from the Sun and the time taken for it to revolve around the Sun once?



(1) P
(2) Q
(3) R
(4) S

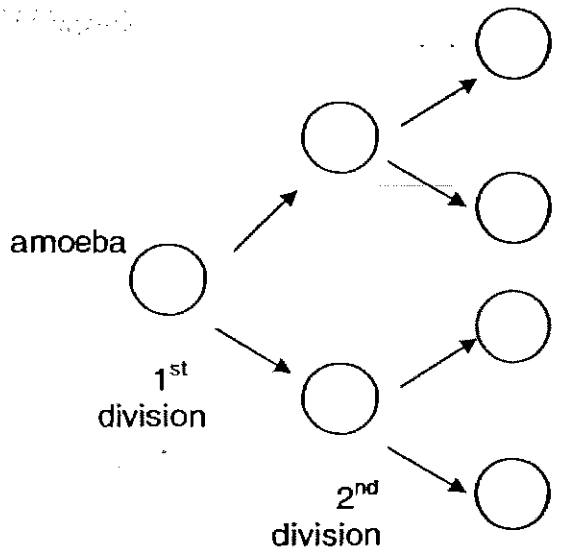
5. Alex observed the cells taken from 2 different organisms under a microscope. He tabulated his observations as shown below.

Parts of cell	Cell A	Cell B
Cell wall	Present	Absent
Cell membrane	Present	Present
Nucleus	Present	Present
Cytoplasm	Present	Present
Chloroplast	Absent	Absent

From which organism are the cells taken?

	Cell A	Cell B
(1)	Animal	Animal
(2)	Animal	Plant
(3)	Plant	Animal
(4)	Plant	Plant

6. The diagram below shows how an amoeba divides itself.



How many amoebae will be formed after five cell divisions?

(1) 10
(2)16
(3) 32
(4) 64

7. If chloroplast could be successfully grafted into an animal cell, what do you think would happen?

A: It would grow more quickly.
B: It would have a regular shape.
C: It would become green in colour.
D: It would be able to photosynthesize.

(1) A and B only
(2) B and D only
(3) C and D only
(4) A, B, C and D

8. Which part of the plant cell is wrongly matched to its function?

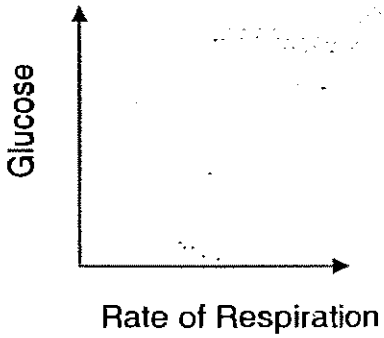
	Part of a plant cell	Function
(1)	Nucleus	Controls all cellular activities
(2)	Cytoplasm	Allows cellular activities to take place
(3)	Chloroplast	Contains chlorophyll which traps light energy to make food
(4)	Cell membrane	Supports the cell and gives it a regular shape

9. Michael conducted an experiment to study the rate of respiration of yeast in a glucose solution. He recorded the results in the following table.

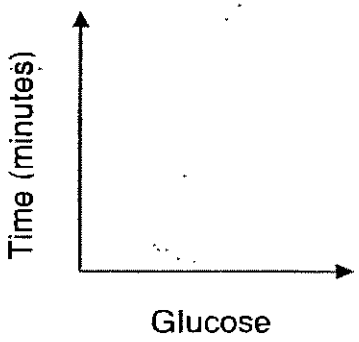
Time (minutes)	Number of Bubbles Produced
1	0
2	5
3	8
4	10
5	14

Which one of the following graphs should he use to plot the data above?

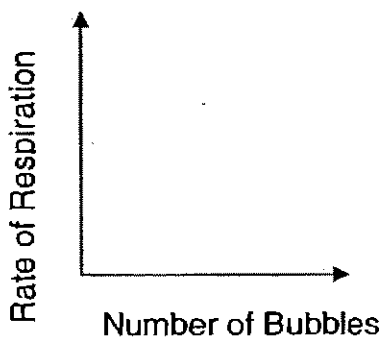
(1)



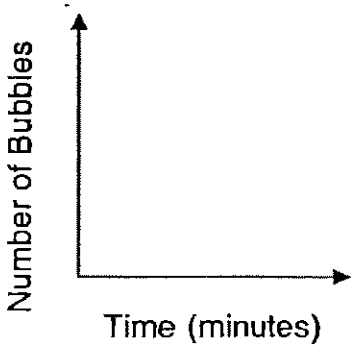
(2)



(3)



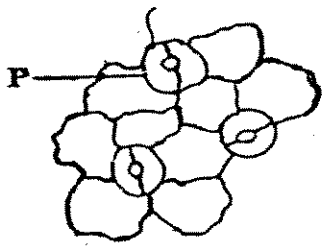
(4)



10. Bala placed an Elodea leaf on a slide and made an observation using the microscope.

The diagram below shows the observation.

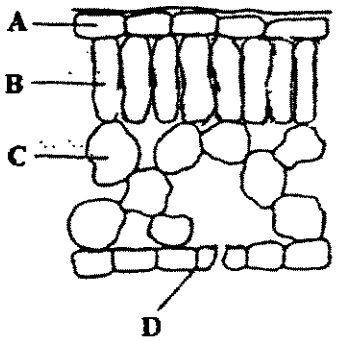
Diagram 1



Next, Bala made a cross-section of the same Elodea leaf and made another observation.

The diagram below shows the observation.

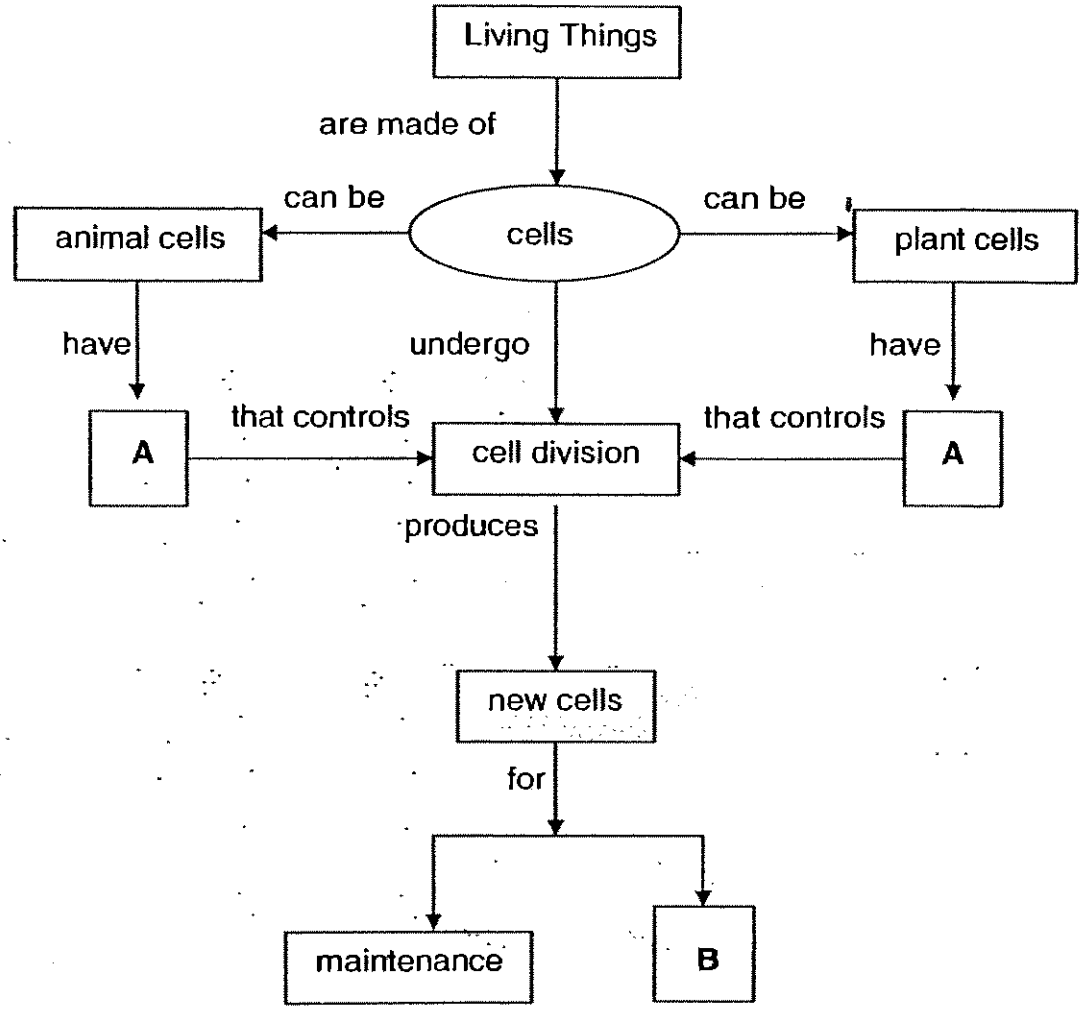
Diagram 2



Which cell type in diagram 2 (A, B, C or D) is the same as cell P in diagram 1?

(1) A
(2) B
(3) C
(4) D

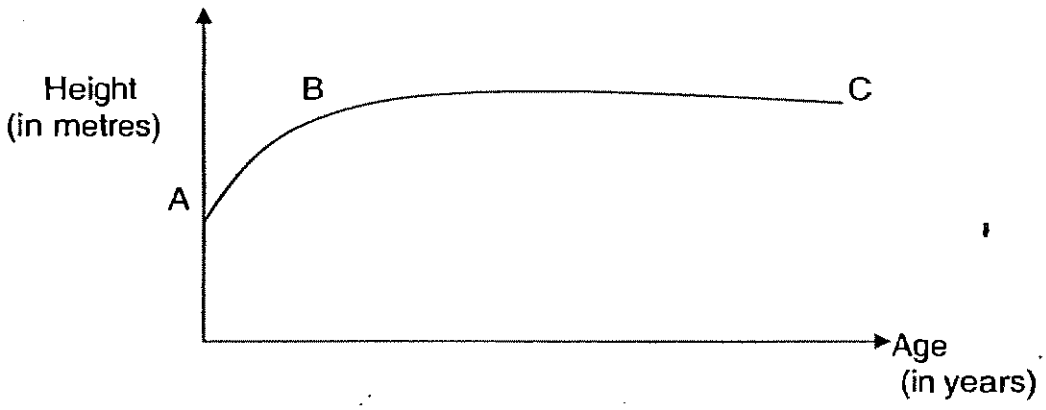
11. The diagram below shows a concept map.



Which of the following best represents A and B?

	A	B
(1)	Cell wall	Reproduction
(2)	Nucleus	Growth
(3)	Chloroplast	Fertilization
(4)	Cytoplasm	Fusion of nuclei

12. The graph below shows the height of a pupil over a period of time.



After studying the graph, each of them came out with their own deductions.

Ali: From B to C, there is no change in height because there is no cell division.

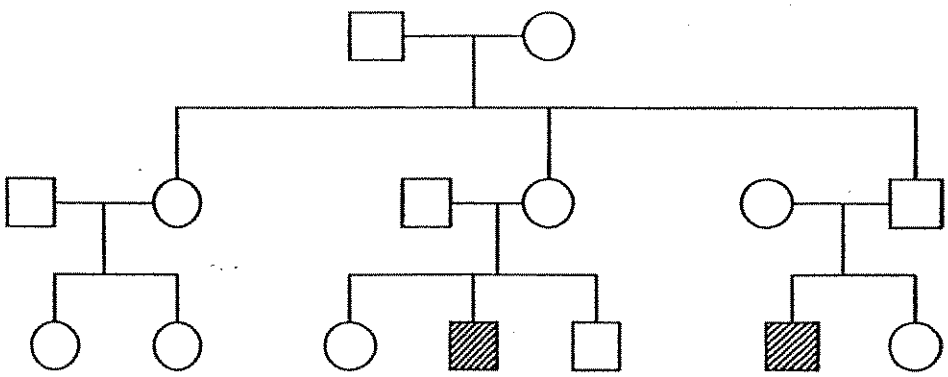
Philip: From A to B, there is an increase in height as the number of cells in the body increases.

Sarah: There is an increase in height from A to B as the size of the cells in the body grows bigger.

Who made the correct deduction(s)?

(1) Ali only
(2) Philip only
(3) Ali and Philip only
(4) Philip and Sarah only

13. Study the family tree shown below.



How are Paul and David related?

(1) Cousins
(2) Siblings
(3) Father and son
(4) Grandfather and grandson

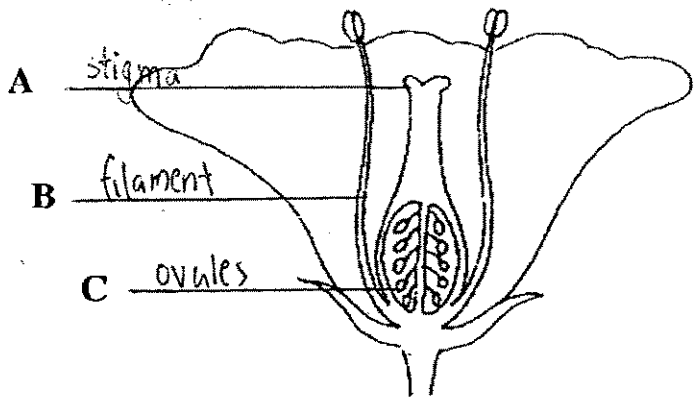
14. The table below shows the physical characteristics of John and his parents.

	Physical Characteristics			
	Hair Length	**Eyelids**	**Hair**	**Earlobes**
John	Short	Single	Curly	Detached
Father	Short	Double	Curly	Attached
Mother	Long	Single	Straight	Attached

How many characteristics did John inherit from his parents?

(1) He inherited one from each parent.
(2) He inherited two from each parent.
(3) He inherited one from his father and two from his mother.
(4) He inherited two from his father and one from his mother.

15. Study the diagram below.



Identify the parts labelled A, B and C.

	A	B	C
(1)	Stamen	Ovary	Pollen Grain
(2)	Stigma	Style	Ovule
(3)	Stigma	Filament	Ovule
(4)	Anther	Style	Pollen Grain

16. Which one of the following shows the correct order of processes in a plant during reproduction?

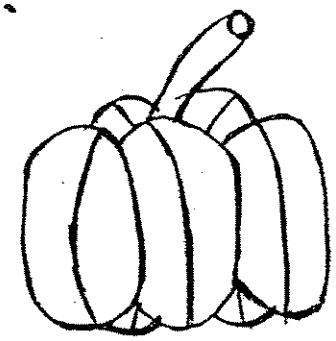
(1) Germination → Fertilisation → Seed dispersal → Pollination
(2) Pollination → Fertilisation → Seed dispersal → Germination
(3) Fertilisation → Seed dispersal → Pollination → Germination
(4) Seed dispersal → Pollination → Germination → Fertilisation

17. Arvin observed that the flowers in his plant are visited by butterflies regularly.
Which of the following characteristics of the flowers could attract the butterflies?

A: Sweet-smelling flowers
B: Presence of nectar
C: Presence of pollen grains
D: Brightly coloured petals

(1) A and B only
(2) C and D only
(3) A, B and C only
(4) A, B and D only

Study the diagram below and answer questions **18** and **19**.



18. Kelly found the above fruit and made some observations. The observations are as follows:

It explodes open to scatter its seeds when it is ripe. It is dry.

What is the most likely method in which the seeds of the fruit will be dispersed?

(1) Wind
(2) Animals
(3) Water
(4) Splitting

19. In addition to the characteristics observed by Kelly, what other characteristics can the seeds have in order to be dispersed further?

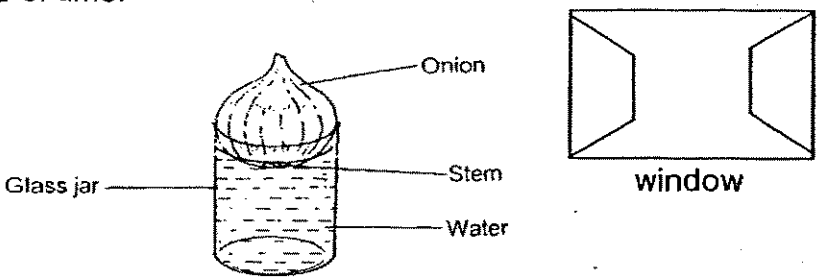
A: Stiff hair
B: Hooks
C: Wing-like structure
D: Fine hairs

(1) A only
(2) C only
(3) A and B only
(4) C and D only

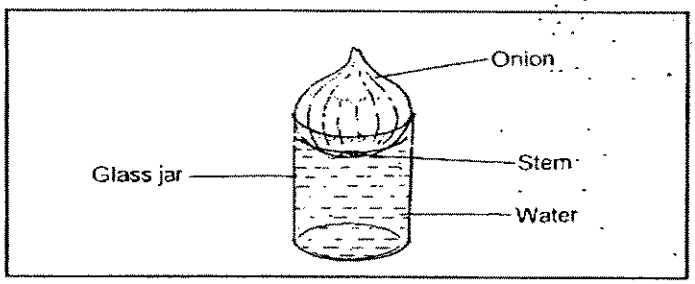
20. Rachel picked a seed from her garden and kept it in a jar. The seed then germinated and grew into a seedling. After some time, she noticed some shrivelled parts of the seedling dropping off. What could these parts be?

(1) Seed coat
(2) Seed leaves
(3) Shoots
(4) Roots

21. Sarah prepared two set-ups X and Y as shown below. She placed set-up X near the window and set-up Y in a cupboard. She observed the two set-ups over a period of time.



Set-up X



Set-up Y

What is the aim of her experiment?

(1) She wants to find out if warmth is needed for the onion to reproduce.
(2) She wants to find out if light is needed for the onion to reproduce.
(3) She wants to find out if water is needed for the onion to reproduce.
(4) She wants to find out if soil is needed for the onion to reproduce.

22. Mrs. Tang wants to grow a banana plant in her garden. Which one of the following actions should she do to grow the banana plant in a shorter time?

(1) Plant the seeds in the banana fruit.
(2) Cut a sucker from an adult plant and plant it.
(3) Cut a portion of the leaves from an adult plant and plant it .
(4) Cut a portion of the roots from the old plant and plant it.

23. Which of the following is/are common to the spores of a bird's nest fern and the seeds of a lady's finger?

A: Both are dispersed by water.
B: Both are formed from the ovules of flowers.
C: Both enable the reproduction of plants.

(1) A only
(2) C only
(3) A and C only
(4) B and C only

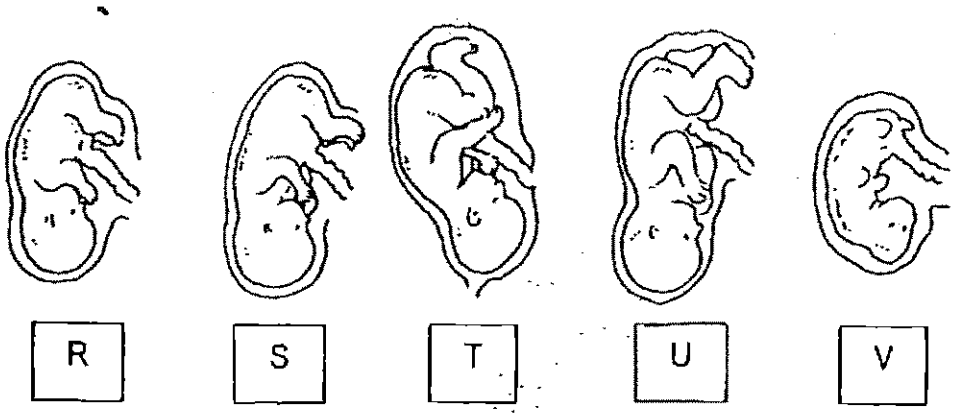
24. Below are some statements made by three children about reproduction.

Amy:	Reproduction is a way to prevent the extinction of a species.
Brian:	All living things need an egg and a sperm to reproduce.
Cindy:	To ensure a higher chance of survival, all living things have more than one offspring at a time.

Who has/have made the correct statement(s)?

(1) Amy only
(2) Amy and Brian only
(3) Cindy only
(4) All of them

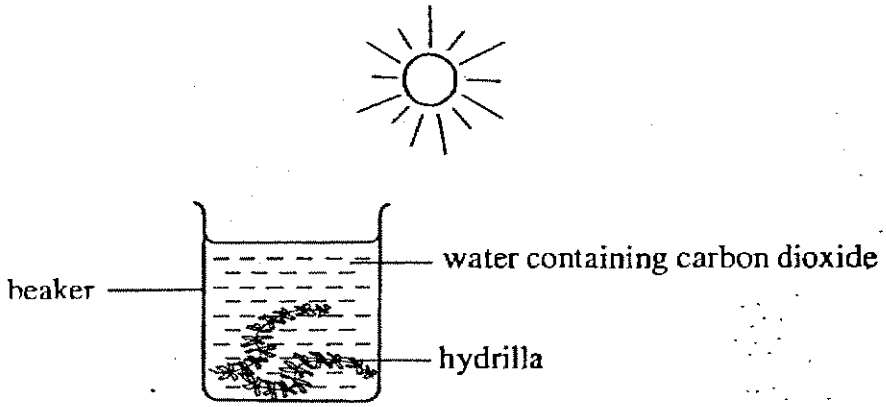
25. Study the diagrams below. They show the development of the human foetus over time.



Which one of the following shows the correct order of the developing foetus?

(1) S, U, V, R, T
(2) R, V, U, S, T
(3) V, R, S, T, U
(4) V, R, S, U, T

A beaker containing some hydrilla plants was placed under the Sun as shown in the diagram below. Study the diagram and answer questions **26** and **27.**



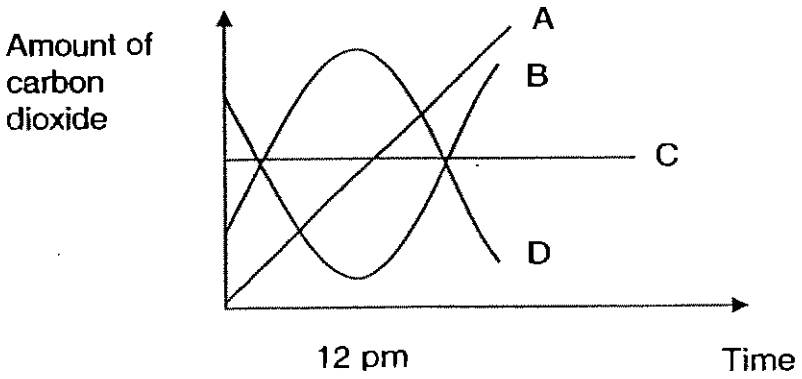
26. Four pupils observed some bubbles forming on the hydrilla plants. They made some inferences as follows:

A: The hydrilla plants have photosynthesized.
B: The bubbles contain oxygen that are produced when the plants photosynthesize.
C: The bubbles are carbon dioxide that are produced when the plants respire.

Which inferences are correct?

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

27. Which one of the following lines in the graph correctly shows the changes in the amount of carbon dioxide in the beaker?

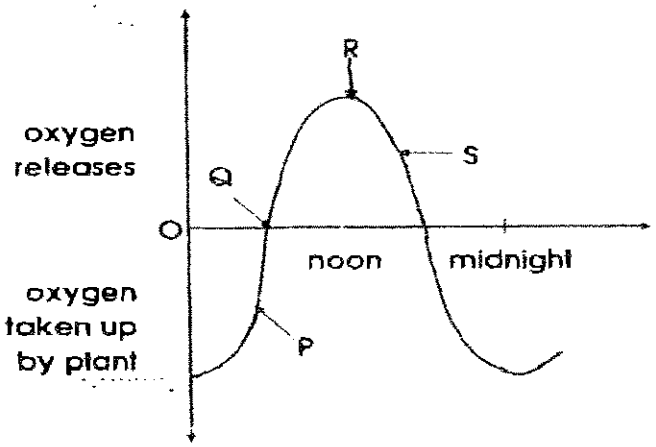


(1) A only
(2) B only
(3) C only
(4) D only

28. Alan is training for the school athletic competition. His teacher advised him to take big gulps of breath when he runs. What could be the reason?

(1) This increases his rate of respiration so that more energy is produced.
(2) This increases his rate of respiration so that more muscle cells are formed.
(3) This increases his rate of respiration so that carbon dioxide is converted into oxygen.
(4) This increases his rate of respiration so that more glucose is produced for his body.

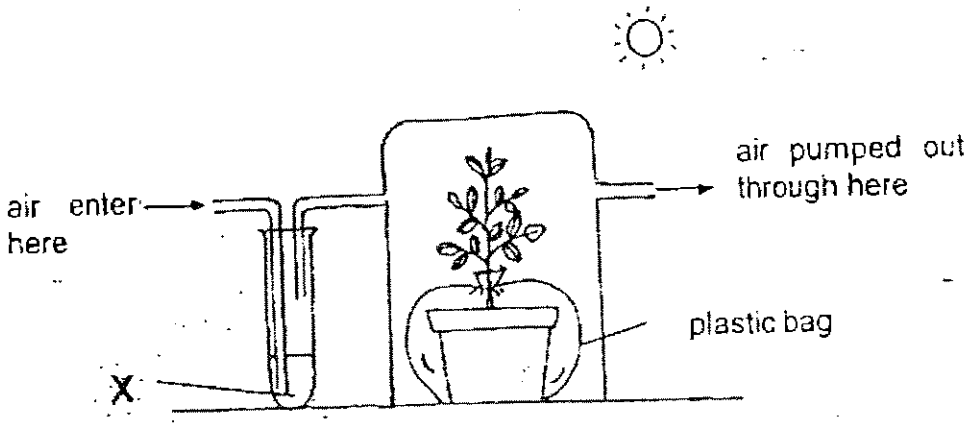
29. The graph below shows the amount of oxygen taken up and released by a green plant during a period of 24 hours. Study the graph carefully.



At which point is the rate of respiration equal to the rate of photosynthesis?

(1) P
(2) Q
(3) R
(4) S

30. Study the diagram below carefully



The plant was watered and left in strong sunlight for a few hours. Some leaves were then plucked and a starch test was done. None of the leaves contained starch. What could solution X contain?

(1) It contained iodine.
(2) It contained a liquid that absorbs oxygen.
(3) It contained a liquid that absorbs carbon dioxide.
(4) It contained a substance that absorbs water vapour.

End of Part 1

Rosyth School 2007
First Semestral Assessment for ~~2006~~
SCIENCE
Primary 5

Name: _____ Total Marks: /40

Class: Pr_____ Register No. _____ Duration: 1 h 45 min

Date: 14th May 2007 Parent's Signature: _____

Booklet B

Instructions to Pupils:

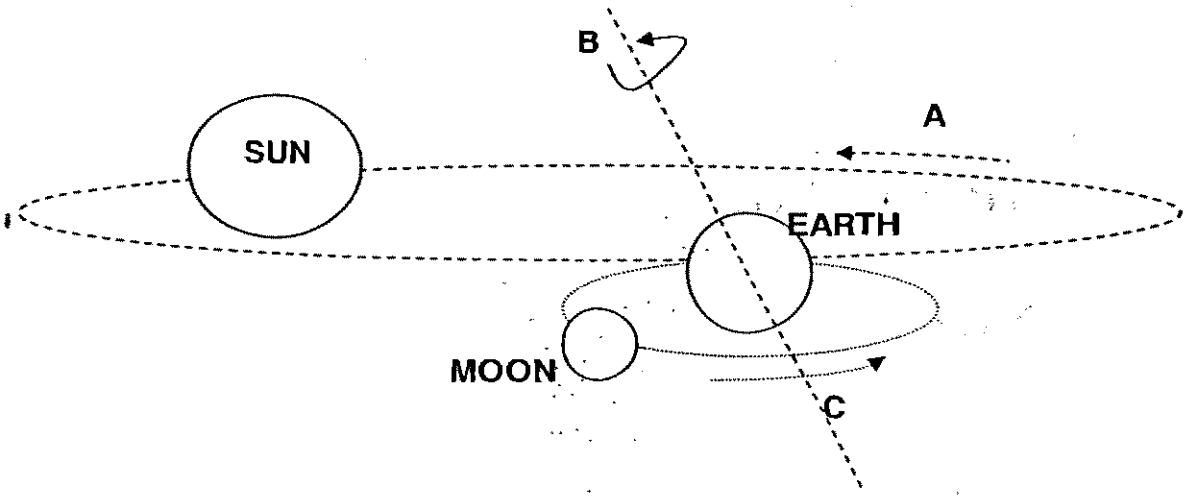
1. For questions 31 to 46, give your answers in the spaces given in this Booklet B.

* This booklet consists of 15 pages.

PART II (40 MARKS)

For questions 31 to 46, write your answers in this booklet.

31. Study the diagram below carefully.



(a) State the type of movement represented by the arrows **A** and **B** and the time taken to complete each of the cycle respectively. (2 marks)

	Arrow	Type of movement	Time taken to complete one cycle
(i)	**A**		
(ii)	**B**		

(b) State one similarity between the Earth's movement and the Moon's movement as represented by arrows **A** and **C**. (1 mark)

_____

_____

32. The table below shows some information about planets E, F, G and H.

Planet	Average Temperature (ºC)	Time to complete one revolution round the Sun
E	400	88 days
F	- 170	29 years
G	- 150	12 years
H	20	687 days

(a) Based on the information given, deduce the distance of the planets from the Sun. Arrange the planets (E, F, G and H) in the boxes provided below in increasing distance from the Sun. (1 mark)

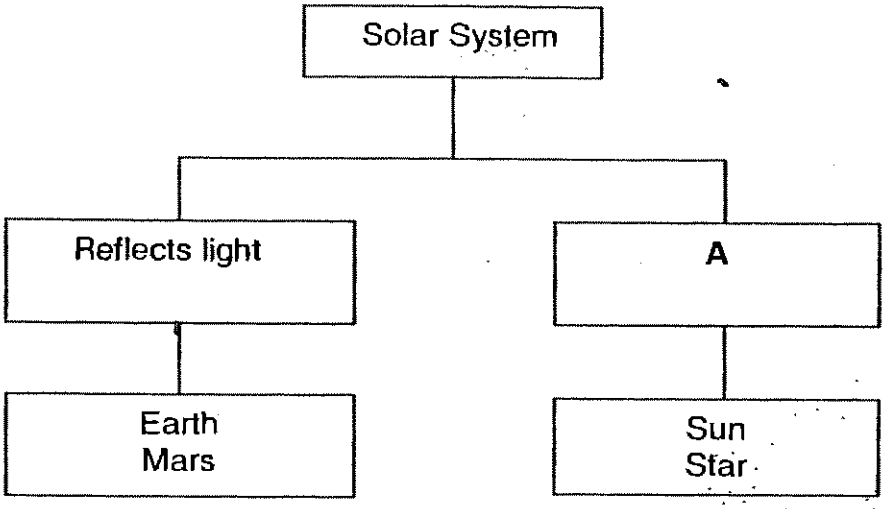
Nearest to the Sun ⟶ **Furthest from the Sun**

(b) State the relationship between the distance the planet is from the Sun and its average temperature. (1 mark)

_____

_____

33. Study the classification table below.



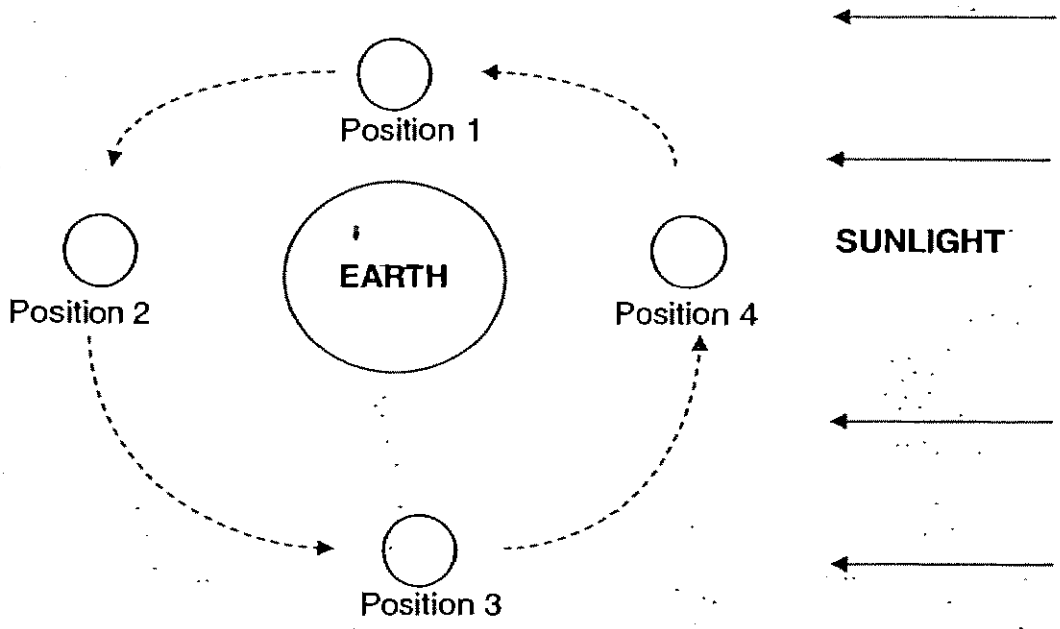
(a) Give an appropriate heading, identified by the letter A. (1 mark)

A: _____

(b) Under which heading would you place the Moon? (1 mark)

_____

34. The diagram below shows four different positions of the Moon as it moves round the Earth.



(a) At which position (1, 2, 3 or 4) would you be able to observe a Full Moon? (1 mark)

_____

(b) Explain your answer in part (a). (1 mark)

_____

_____

35. Aziz wanted to find out if the presence of a cell wall controls substances from moving in and out of a plant cell. He conducted an investigation using substance P which is purple in colour. Two 400 ml beakers were also used.

Firstly, he set up beaker 1 using some plant cells as shown in the table below.

Beaker 1	Substance P	Tap water
	10 ml	300 ml

Secondly, he removed the cell walls of some plant cells to set up beaker 2.

(a) Complete the table below to show how he should set up beaker 2. (1 mark)

Beaker 2	Substance P	Tap water

He observed that the plant cells in both beakers turned purple.

(b) What conclusion could he make based on the observation? (1 mark)

_____

_____

36. John examined three cells under a microscope and recorded his observations in the table below.

Parts of a cell	Cell J	Cell K	Cell L
Nucleus	Present	Present	Present
Cell wall	Present	Absent	Present
Cytoplasm	Present	Present	Present
Chloroplast	Present	Absent	Absent
Cell membrane	Present	Present	Present

(a) Which cell is likely to be taken from our cheeks? (1 mark)

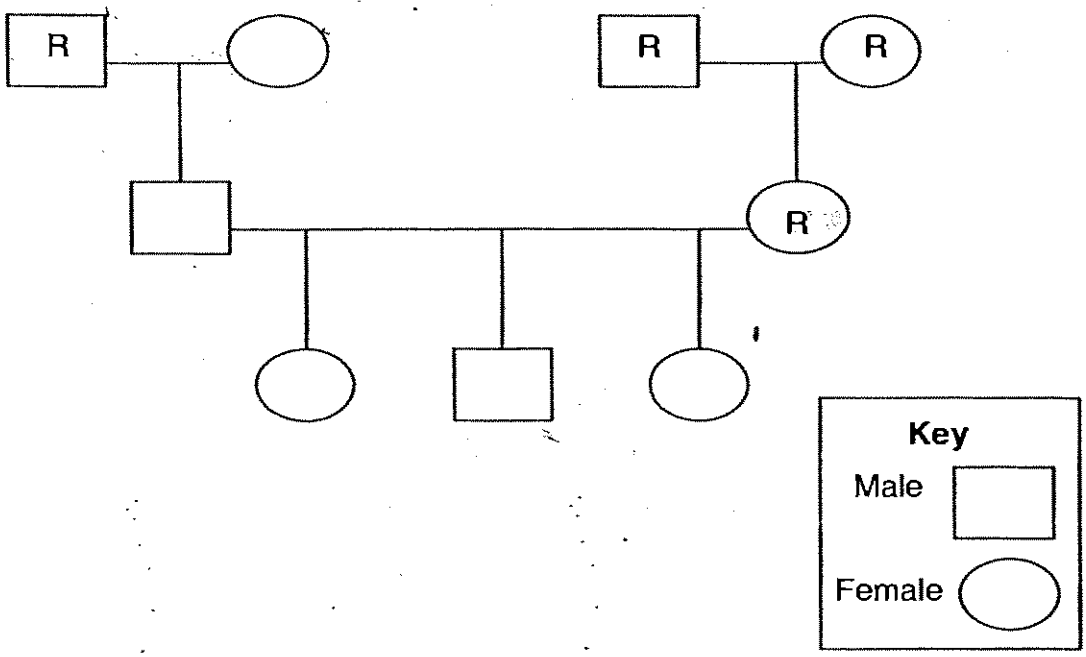
_____

(b) Give a reason for your answer in (a). (1 mark)

_____

_____

37. Joshua and May got married and gave birth to three children. The diagram below shows the family tree of Joshua and May. The letter 'R' in the family tree indicates the members who are able to roll their tongues.



(a) How many generations are represented in the family tree? (1 mark)

_____

(b) Based on the above family tree, complete the table given below by using a tick (√) to indicate the member who is able to roll the tongue and a cross (X) to indicate the member who is not able to roll the tongue. (1 mark)

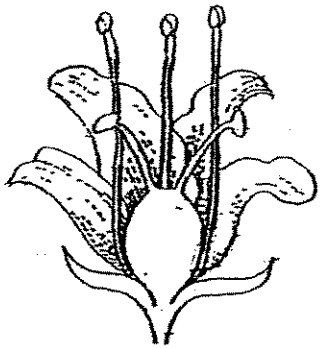
Members	Ability to roll tongue
Joshua's mother	
May's father	

(c) Joshua and May's son married a girl who cannot roll her tongue.
Do you think it is possible for them to have a child who is able to roll the tongue? (1 mark)

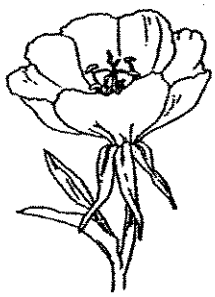
_____

_____

38. Issac has 2 unknown flowers, X and Y.



Flower X



Flower Y

(a) Identify how each flower is pollinated. (1 mark)

Flower X: _____

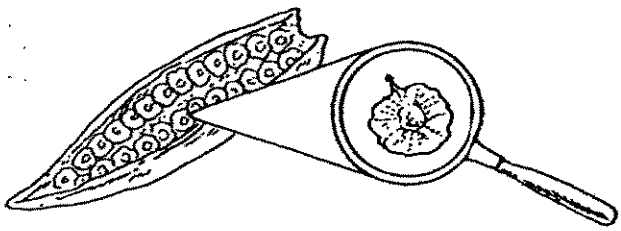
Flower Y: _____

(b) Describe the characteristics of each flower that determine how they are being pollinated. (1 mark)

_____

_____

39. Suzie was asked to give a description of the fruit and seeds below, based on its methods of dispersal.



Her description is as follows:

It is dry and shoots its seeds away. It disperses its seeds by splitting action.

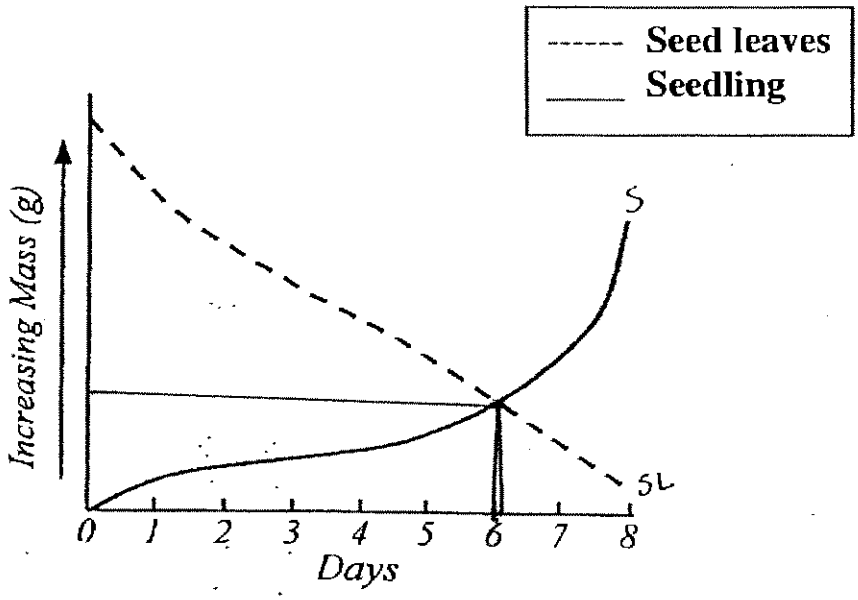
(a) What is the other method of dispersal that is missing from her description? (1 mark)

_____

(b) Support your answer in part (a). (1 mark)

_____

40. The graph below shows the mass of a seedling and its seed leaves over 8 days.



The graph shows that the mass of the seed leaves decreases as the mass of the seedling increases.
Explain why the mass of the seed leaves decreases while the mass of the seedling increases. (2 marks)

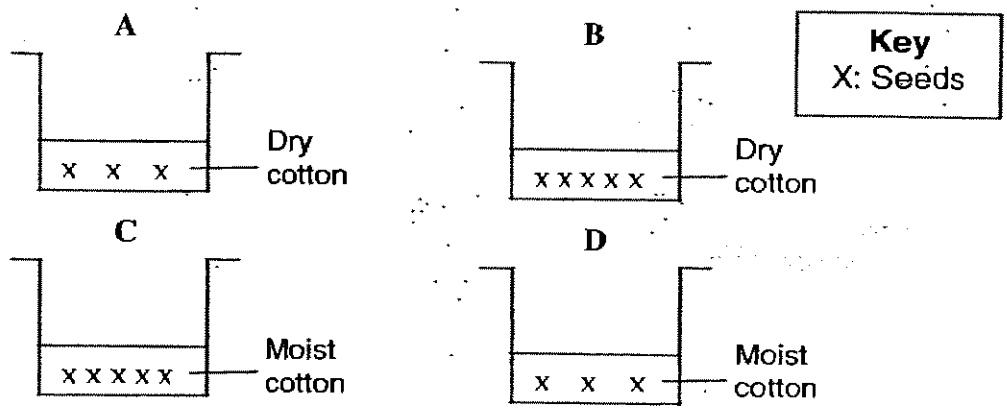
41(a) Rafie wanted to germinate some seeds in 4 containers. The table below shows the conditions each container is exposed to.

Container	Air	Temperature	Water
W	✓	35 °C	✓
X	×	35 °C	✓
Y	✓	5 °C	✓
Z	✓	35 °C	×

Rafie wanted to find out if the presence of air is needed in germination. To ensure a fair experiment, which 2 containers should he use? (1 mark)

_____

(b) Rafie sets up another investigation as shown in the diagram below.



(i) Which of the two containers would the seeds germinate? (1 mark)

_____

(ii) If the same experiment was conducted in a dark cupboard, would the results be the same? State the reason. (1 mark)

_____

_____

(iii) From your answer in part (b)(i), which container would the seedlings grow more healthily? (1 mark)

_____

42. The diagrams below show female and male reproductive systems.

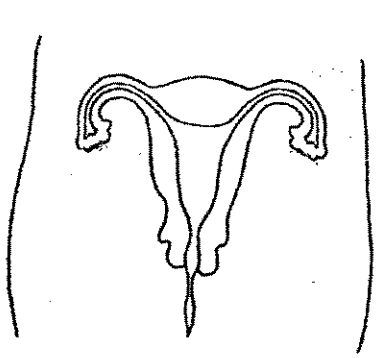


Diagram A

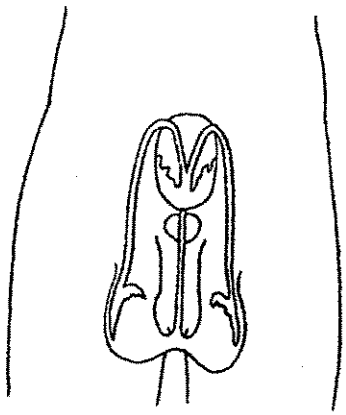


Diagram B

(a) Which part of the human reproductive system is missing in each of the diagrams, A and B above? (2 marks)

Diagram A: _____

Diagram B: _____

(b) Draw the missing parts of the female reproductive system in the diagram above. (1 mark)

43. The table below shows the average gestation period of 4 animals.

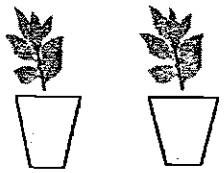
Animals	Average gestation period
Rat	21 days
Dog	9 weeks
Human	9 months
Elephant	22 months

(a) Based on the information above, what is the relationship between the animal size and the gestation period? (1 mark)

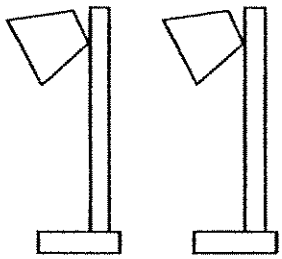
(b) How do male animals increase their chances of fertilising a female egg? (1 mark)

(Go on to the next page)

44. Carolyn wanted to find out if a plant could photosynthesise when its leaves are covered with oil. She used the following materials to conduct the investigation.



2 potted plants



2 lamps

1 bottle of oil

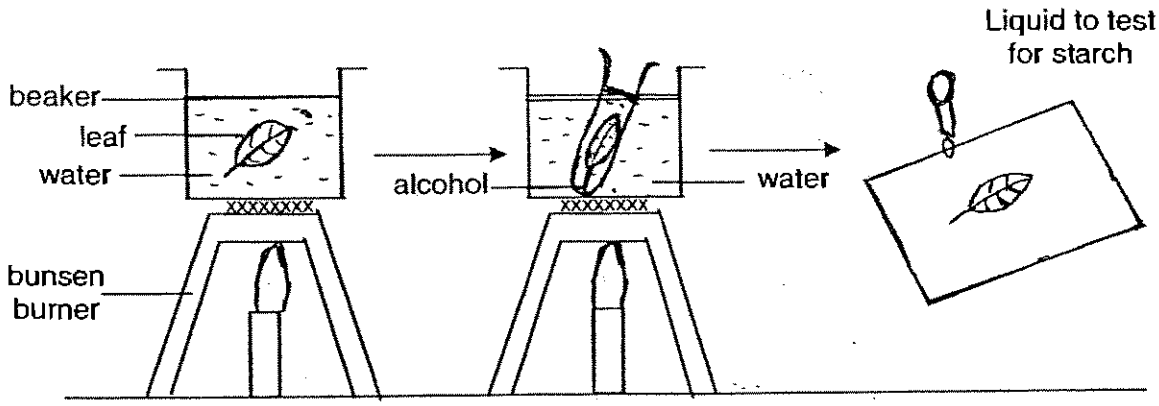
(a) The potted plants were given equal amount of water and had been kept away from the Sun for 3 days before she conducted her experiment. In the boxes below, draw how Carolyn could have set up her experiment. **Label the diagrams.** (2 marks)

(b) The experimental set up was left on a shelf for a week. Equal amount of water was given to the plants everyday. At the end of the week, what could she do to find out if the plants had photosynthesised? (1 mark)

_____

_____

45. The diagram below shows how a green leaf is tested for starch.

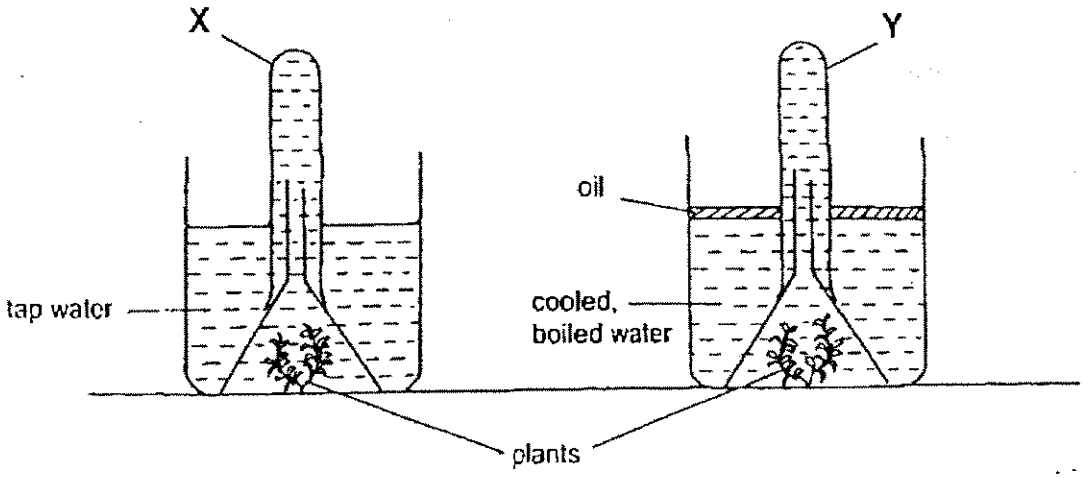


(a) Why must the leaf be placed in boiling water? (1 mark)

(b) What is the objective of placing the leaf in alcohol? (1 mark)

(c) What would you observe when you do a starch test? (1 mark)

46. The two beakers were placed near a window for a few days as shown below.



(a) Which test tube will contain oxygen after a few days? (1 mark)

_____

(b) Explain how does boiling the water affect the plant's ability to make food? (1 mark)

_____

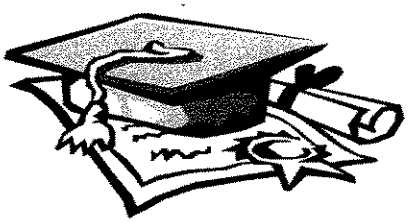
_____

(c) What is the purpose of the layer of oil in set-up Y? (1 mark)

_____

_____

END OF PAPER



ANSWER SHEET

ROSYTH PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

1. 4
2. 2
3. 4
4. 2
5. 3
6. 3
7. 3
8. 4
9. 4
10. 4
11. 2
12. 2
13. 1
14. 1
15. 3
16. 2
17. 4
18. 4
19. 4
20. 2
21. 2
22. 2
23. 2
24. 1
25. 4
26. 1
27. 2
28. 1
29. 2
30. 3

31) a) i) revolution, 365 ¼ days
ii) rotation, 24 hours
b) They moved in the same direction.
They revolve round an object in space.

32) a) E, H, G, F
b) The further a planet is from the sun, the lower it's average temperature is.

33) a) Gives out light.
b) I will place the Moon under the Reflects light heading.

34) a) At position 2, I would be able to Full Moon.
b) At position 2, the side of the Moon where it is totally brightened is facing the earth, thus I would be able to observe a Full Moon.

35) a) 10ml , 300ml
b) The presence of the cell wall does not effect what substance enters a plant cell./does not control substances that move in and out of a plant cell.

36) a) Cell K.
b) Cell K does not have cell wall and Chloroplast.

37)a)3 generations are represented in the family tree.
b)X, √
c)Yes.

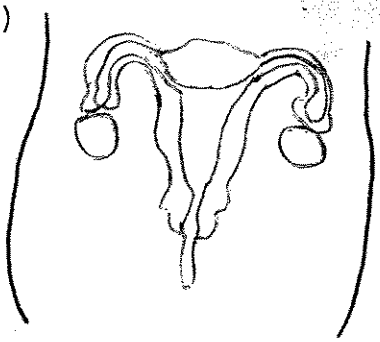
38)a)X: The wind Y: Insects
b)Flower X has long anther and stigma that are hanging out. Thus when the wind blows, pollen grains from the anther will fall on to the stigma. Flower Y has short anther and stigma, the wind is not able to blow the pollen grains away, so when the insects collect nectar they collect pollen grains too.

39)a)By wind.
b)It has wing-like structures to keep it a float for a longer time to reach a further distance it can grow.

40)As the seedling grows, it takes more food from the seed leaves, thus it gets heavier.
The seed leaves grow lighter since the seedling is talking more of their stored food.

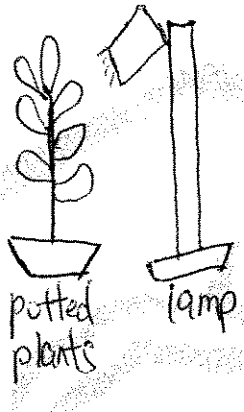
41)a)He should use container Wand X.
b)i)Containers C and D.
ii)Yes, the seeds only need air, water and warmth to germinate, so light is not needed.
iii)Container D. There are lesser seeds in that container and will not cause overcrowding.

42)a)A: Ovaries B: testes
b)



43)a)The longer the gestation period, the larger the size of the animal is.
b)They release more sperms into the female reproductive system to fuse with the egg and fertilize it.

44)a)



b)She could pluck a leave from each plant and dip it in alcohol then she must put a few drops of iodine on it. It the iodine turns blue, it shows the presence of starch, it means that the plant had photosynthesized if the iodine remains brown it means that plant did not photosynthesis.

45)a)It is to kill the leave.
b)To remove chlorophyll.
c)The iodine turns dark blue.

46)a)Test tube X.
b)It removes air which contains carbon from water that is needed for the plant to made food.
c)It prevents the surrounding air from getting back into the water.

---End---

AI TONG SCHOOL

2007 SEMESTRAL ASSESSMENT (1)

PRIMARY FIVE SCIENCE

DURATION : 1HR 45 MIN

DATE : 15 MAY 2007

INSTRUCTIONS

Do not open the booklet until you are told to do so. Follow all instructions. Answer all questions.

Name : _____ **( )**

Class : Primary 5 _____

Parent's Signature : _____

Date : _____

Total	/ 100

Section A

Read the questions carefully and shade its number (1, 2, 3 or 4) using the Optical Answer Sheet (OAS)

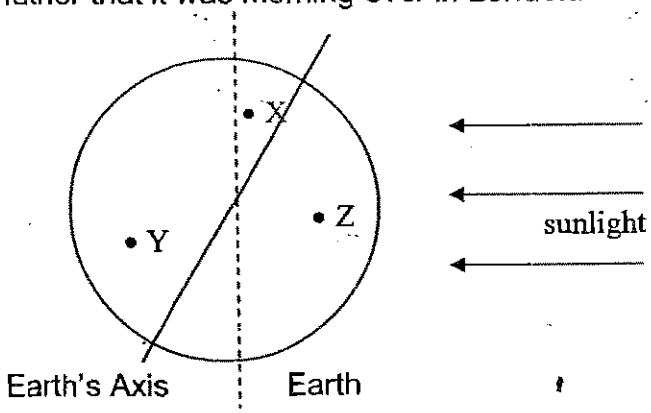
1. If an object moves round the Earth, it would be called a _____.

   (1) star
   (2) moon
   (3) satellite
   (4) planet

2. The Sun appears to be moving across the sky when it rises in the east and when it sets in the west because the _____.

   (1) Sun revolves round the Earth
   (2) Sun rotates on its own axis
   (3) Earth rotates on its own axis
   (4) Earth revolves round the Sun

3. At 8p.m., Andy called his father who was in London. He was surprised to hear from his father that it was morning over in London.



At which position, X, Y and Z would Andy and his father most probably be respectively at that time?

	Andy	His Father
(1)	X	Y
(2)	Y	X
(3)	X	Z
(4)	Y	Z

4. A communication satellite _____.

(1) connects telephone wires together
(2) helps to store information for telephone companies
(3) receives and sends messages from one place to another
(4) travels across countries to receive and send telephone messages

5. A single-cell animal called an amoeba divides to form two cells after one cell division. After a second cell division, the two cells form four cells. This process can go on and on. How many amoebae were there at first if there were 32 amoebae after 3 cell divisions?

(1) 3
(2) 4
(3) 6
(4) 8

6. The table below shows how some living things are classified.

Group A	Group B
Yeast	Lizard
Amoeba	Parrot
Paramecium	Earthworm

How are the living things grouped?
Whether they _____.

(1) are fungi or animals
(2) are living or non-living things
(3) are single-cell organisms or multi-cell organisms
(4) carry out cell division or not

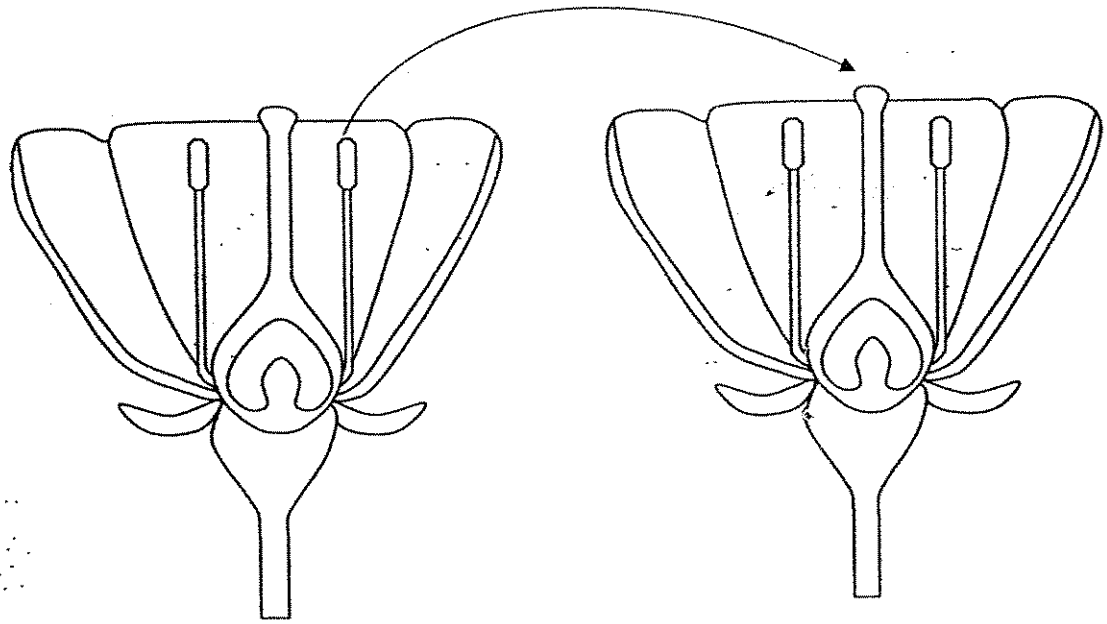
7. Our cells contain genes which carry information about us. These genes are found in the _____ of the cells.

(1) nucleus
(2) cytoplasm
(3) chloroplast
(4) cell membrane

8. Simon has an identical twin brother, Seth. Which one of the following about Simon and Seth is true?

(1) Their parents are twins.
(2) Their features are identical to their parents.
(3) They are reproduced from budding.
(4) The nuclei of their cells contain identical materials.

9. The diagram below illustrates a process carried out by 2 flowers of the same species.



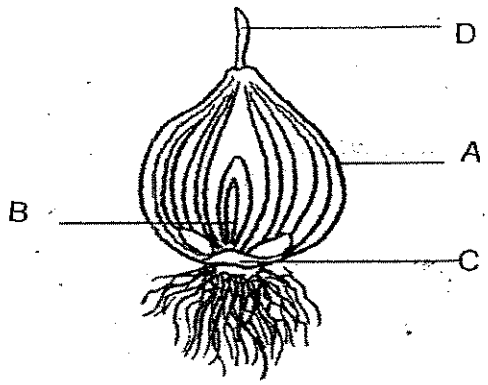
The process ensures _____.

(1) germination after the process
(2) that the fruits formed will be sweeter
(3) that the flowers are attractive to pollinators
(4) the continuity of the same kind of flowers

10. During a field trip, Rachel came across an interesting plant. The plant was short and produced small, red fruits that were soft and juicy. Based on Rachel's observation, these fruits are likely to be dispersed by _____.

(1) water
(2) wind
(3) animals
(4) splitting

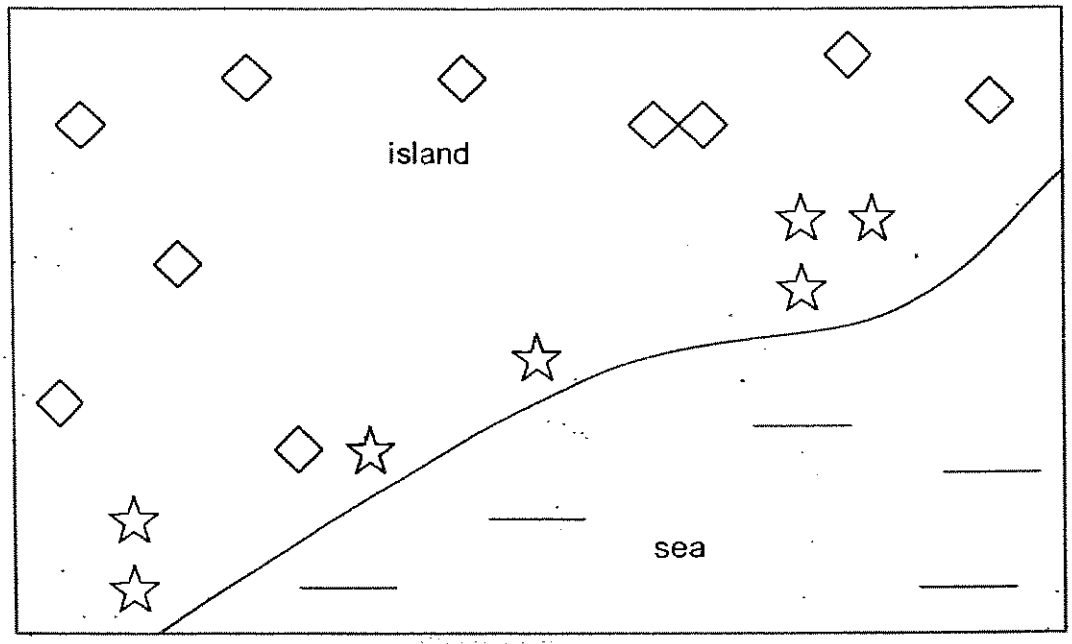
11. The diagram below shows a cross-section of an onion.



Which part, A, B, C or D, is the stem?

(1) A
(2) B
(3) C
(4) D

12. The diagram shows part of an island where two types of plants (◇, ☆) are growing.



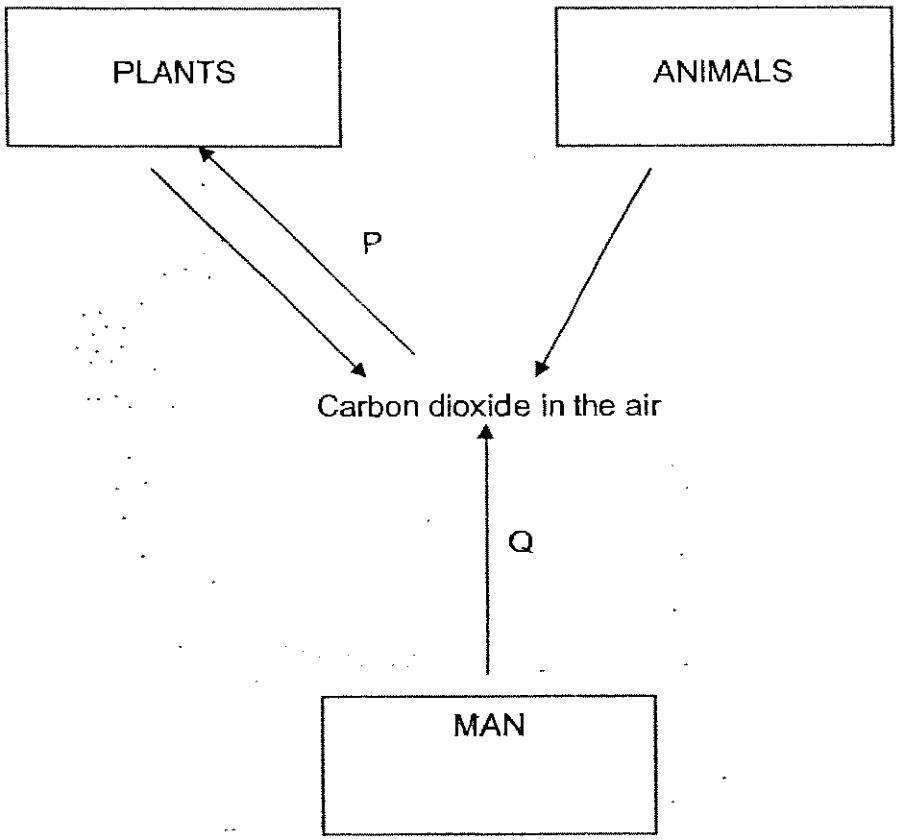
How are the fruits or seeds of each type of plant most likely dispersed?

	◇	☆
(1)	Water	Animals
(2)	Splitting action	Wind
(3)	Wind	Water
(4)	Animals	Splitting action

13. A potato **cannot** reproduce new plants if all the _____ are cut off.

(1) roots
(2) stems
(3) scaly leaves
(4) buds

14. This diagram shows how carbon dioxide is added to and removed from the air during the processes such as P and Q.

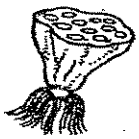


What are processes P and Q?

	P	Q
(1)	Reproduction	Photosynthesis
(2)	Decomposition	Breathing
(3)	Respiration	Decomposition
(4)	Photosythesis	Respiration

15. The diagram below shows 3 kinds of fruits.

Shorea



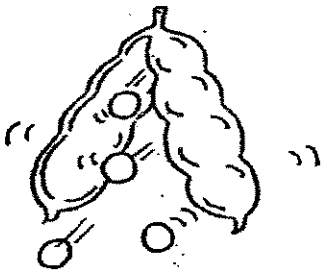
Lotus

Mangrove

Which of these fruits are most likely to be dispersed by water?

(1) Shorea and Lotus
(2) Shorea and Mangrove
(3) Lotus and Mangrove
(4) Shorea, Lotus and Mangrove

16.

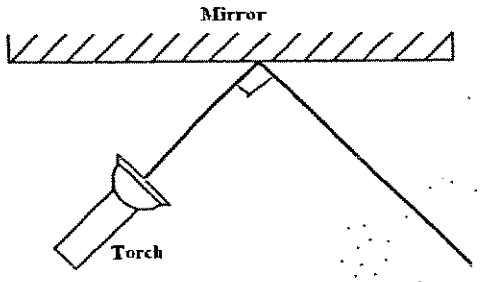


In the diagram above, what method of dispersal is taking place?

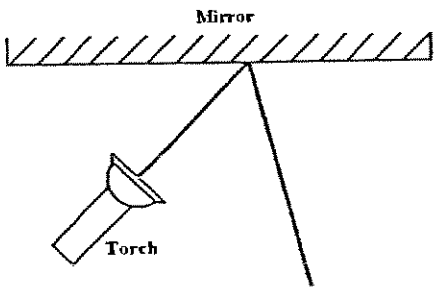
(1) Water
(2) Wind
(3) Animal
(4) Explosive action

17. A ray of light falls on a mirror. Which of the following diagrams shows the correct path taken by the reflected ray?

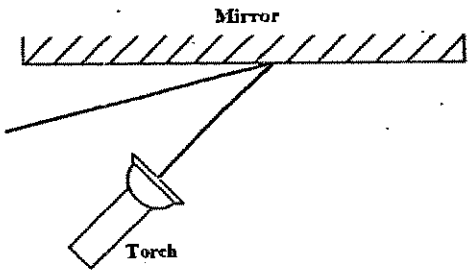
A.



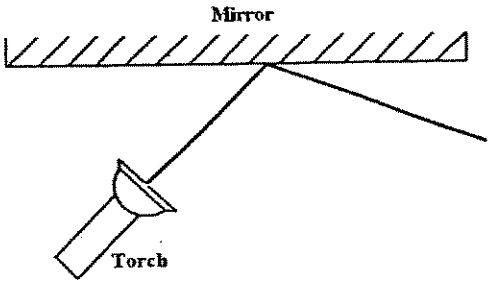
B.



C.



D.



(1) A
(2) B
(3) C
(4) D

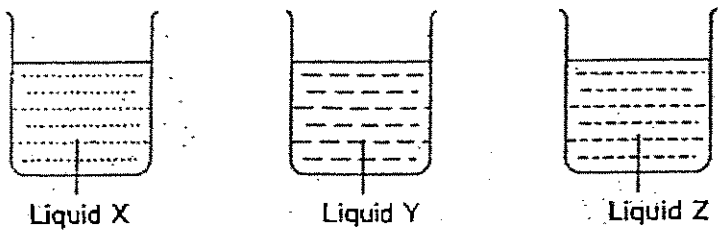
18. How many weeks does a human baby take to develop in the mother's womb?

(1) 28
(2) 38
(3) 48
(4) 58

19. When a male and female sex cell fuse **inside** the body of a female animal, the process is called _____.

(1) external fertilisation
(2) internal fertilisation
(3) asexual reproduction
(4) cross-pollination

20. Margaret carries out an experiment by filling three beakers with an equal volume of liquids X, Y and Z as shown in the diagram. She places the beakers side by side in the open, where it is sunny and windy.



After a few hours, she records the volume of liquid remaining in each of the three beakers.

The aim of the experiment is to find out _____.

(1) if the rate of evaporation depends on the temperature
(2) if liquid evaporate faster at a higher temperature
(3) if different liquids evaporate at different rates
(4) whether the liquids evaporate when there is wind

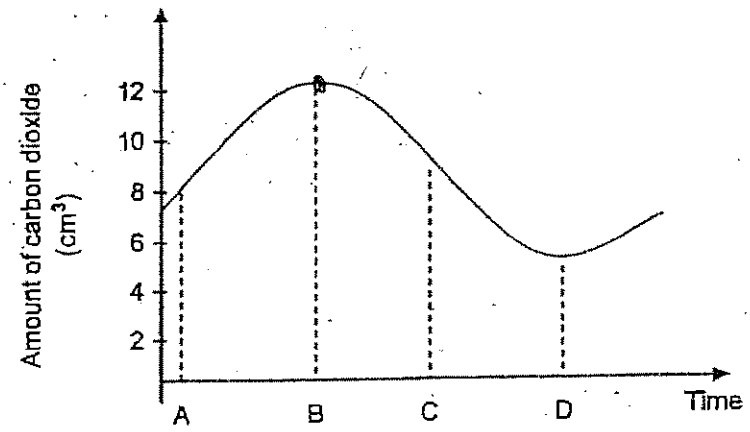
21. Although they are sisters, Joyce can roll her tongue but Mabel cannot. What is the explanation for this?

(1) Mabel did not practice rolling her tongue.
(2) Mabel has a shorter tongue than Joyce.
(3) One of their parents can roll the tongue.
(4) The ability to roll the tongue cannot be inherited.

22. Which event is caused by the Earth moving round the Sun?

(1) Leaves of raintree closing
(2) Sunrise and sunset
(3) Change of seasons
(4) Sunflowers turning to the Sun

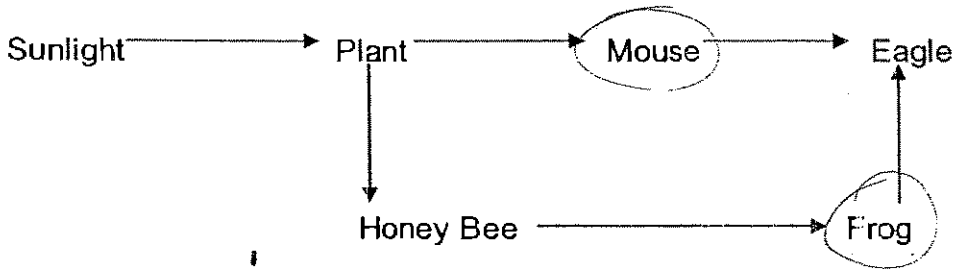
23. The graph below shows the amount of carbon dioxide in the air around a tree. A, B, C and D represent the time over a period of 24 hours.



Which of the following shows the correct time for A, B, C and D?

	A	B	C	D
(1)	6 a.m.	12 noon	6 p.m.	12 midnight
(2)	6 p.m.	12 midnight	6 a.m.	12 noon
(3)	12 noon	6 p.m.	12 midnight	6 a.m.
(4)	12 midnight	6 a.m.	12 noon	6 p.m.

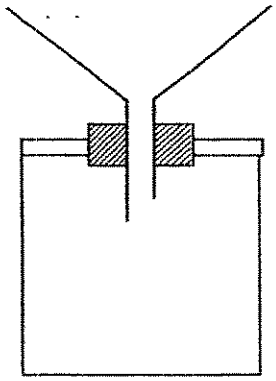
24. The food web below has some missing plants or animals.



Which animal in the diagram depends only on a plant-eater as a direct source of energy?

(1) Mouse
(2) Eagle
(3) Frog
(4) Honey Bee

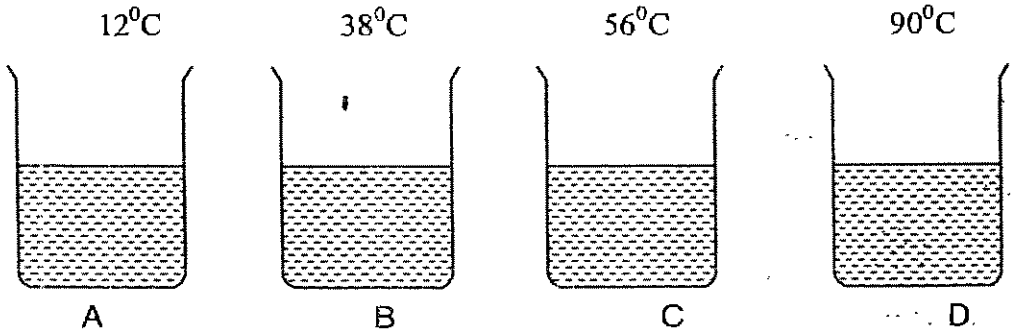
25. A funnel is tightly fitted with a stopper at the mouth of the bottle as shown in the diagram below.



Which one of the following explains why water does not flow into the bottle when it is poured into the funnel?

(1) The stopper prevents the water from flowing in.
(2) There is no opening for the water to flow in.
(3) The stem of the funnel is too narrow for water to flow in.
(4) The air in the bottle cannot escape.

26. Four beakers of water of different temperatures A, B, C and D were placed in an air-conditioned room.



Which one of the beakers would you see water droplets forming on its outer surface after 10 minutes?

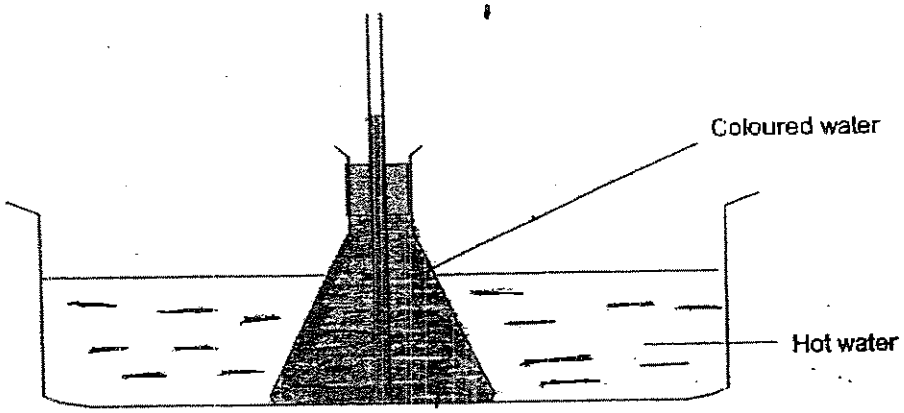
(1) A
(2) B
(3) C
(4) D

27. Which of the following processes ensures the continuity of the water cycle?

A Boiling
B Evaporation
C Condensation

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

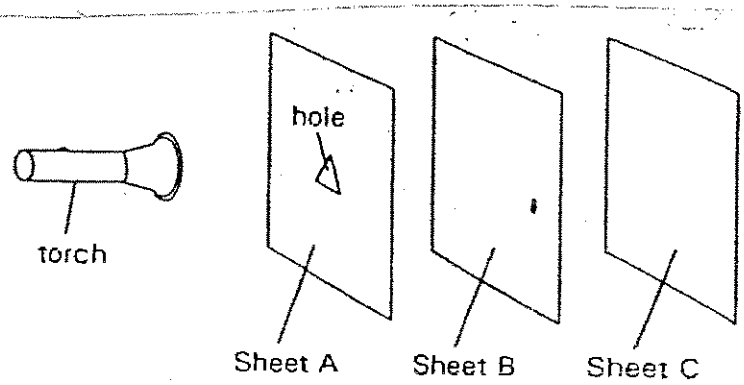
28. A conical flask is filled to its brim with coloured water and is tightly fitted with a stopper as shown in the diagram below. It is then placed in a basin of hot water. After 1 minute, the water level in the tube rises.



The water level in the tube rises because _____.

(1) the conical flask contracts when heated
(2) heat from the basin causes the water in the flask to expand
(3) heat from the basin causes the water in the flask to contract
(4) the water in the basin expands and enters the flask

29. The experiment shown below is carried out in a dark room.

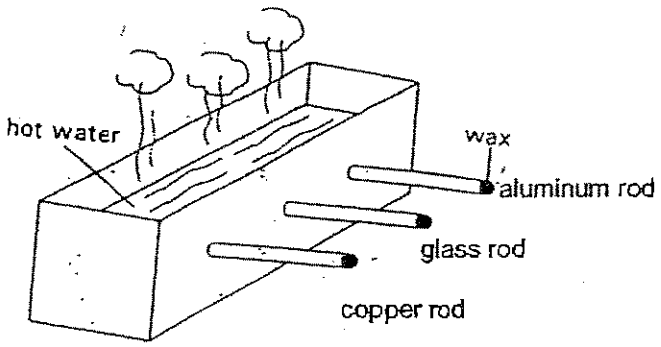


Sheets A, B and C are arranged in a straight line. When the torch is switched on, a bright triangular patch of light is seen on Sheet C only.

Which one of the following is the correct material for sheets A, B and C respectively?

	A	B	C
(1)	paper	glass	wood
(2)	glass	styrofoam	paper
(3)	styrofoam	wood	glass
(4)	glass	styrofoam	wood

30. The diagram below shows an experiment using three similar rods of different materials. Each rod has the same amount of wax coated at one end. The metal container is filled with hot water.



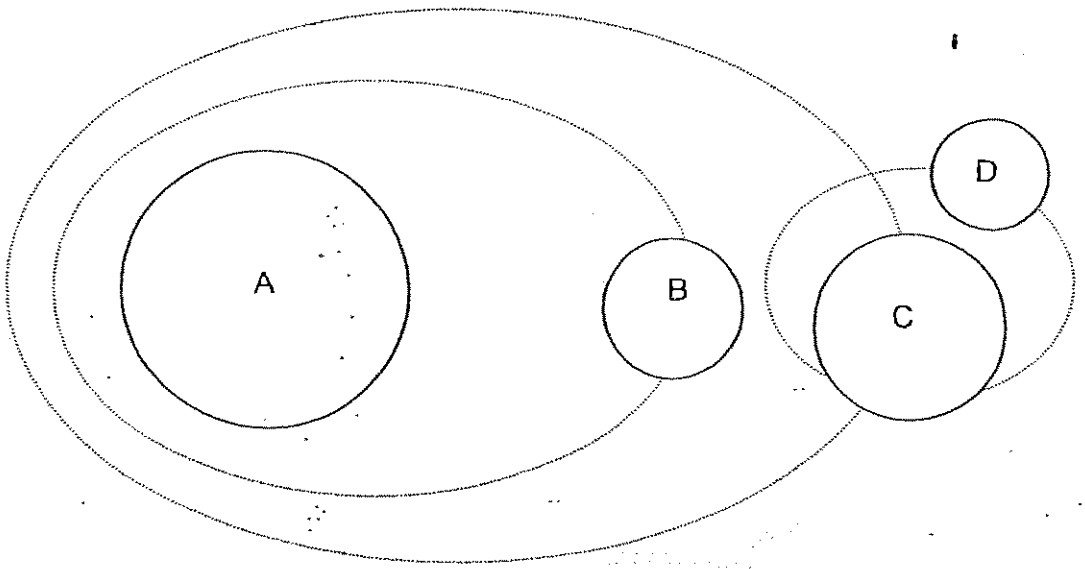
The time taken for each piece of wax to melt is taken.
Which one of the following is the correct hypothesis for the experiment?

(1) Different rods have different temperatures.
(2) Hot water can conduct heat very well.
(3) Wax can melt at high temperatures.
(4) Some materials conduct heat better than others.

Name: _____ ( )
Class P5 ( )

Section B: 40 marks
Read the questions carefully and write down your answers in the spaces provided.

31. The diagram below shows the positions of some objects in the Solar System.



The descriptions about each object are given below.

- Object A gives out light and heat.
- Object B revolves round Object A.
- Object C revolves round Object A.
- Object D revolves round Object C.

(a) What could Object A and Object D be?

Object A : _____ [½]

Object D : _____ [½]

(b) What is the effect of Object D revolving round Object C? [1]

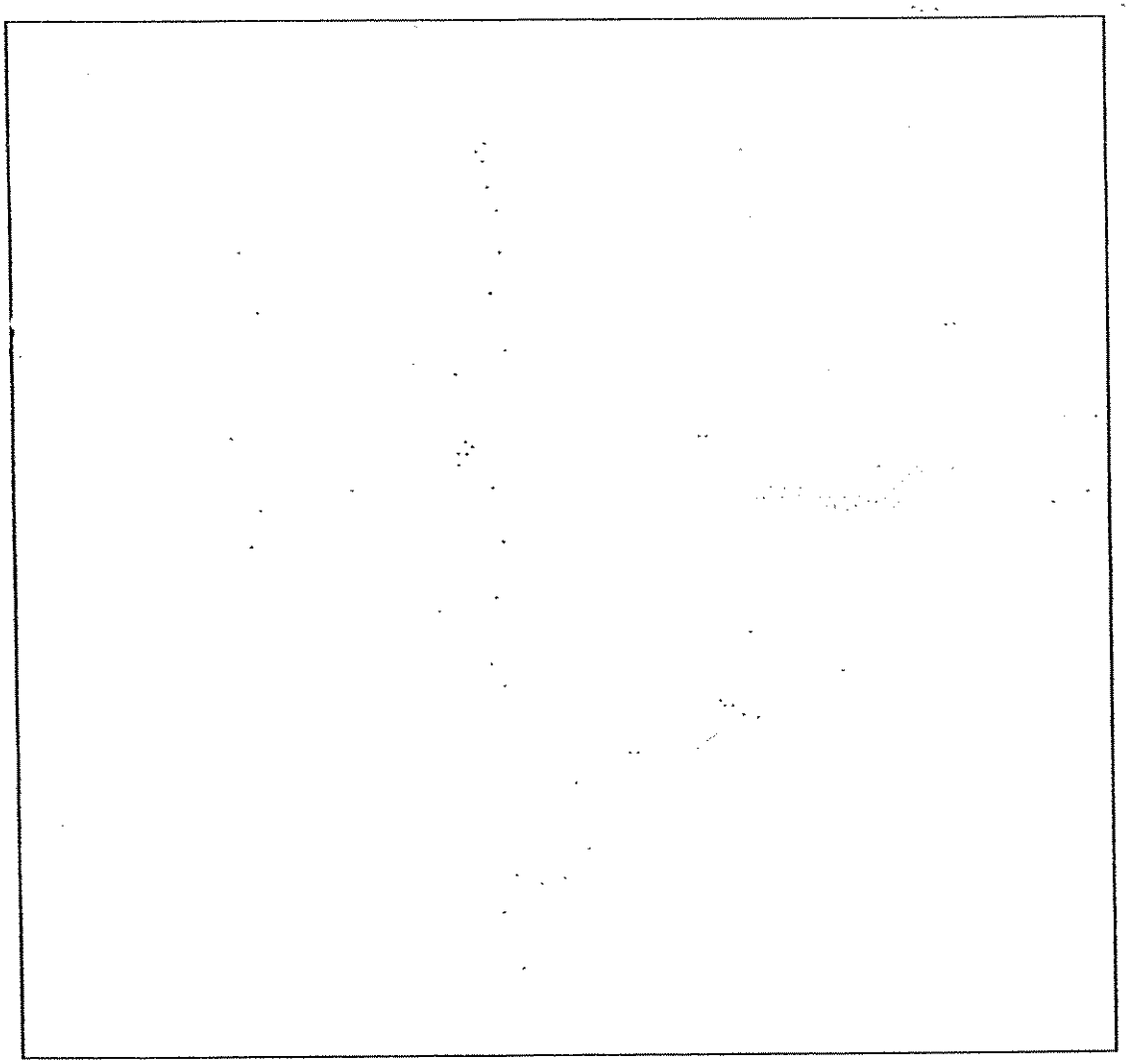
_____

_____

32.

(a) The moon can be seen from the Earth. Draw the correct positions of the Earth, Sun and Moon in the space below when a full moon can be seen. Label the Earth, Sun and Moon. Your drawing should show correctly :

- the relative sizes of the 3 objects
- the relative distances between the 3 objects [2]



2

33. Susan was given 3 types of cells, Cell A, Cell B and Cell C, to observe under the microscope. She recorded her observation in the table below.

	Cell A	Cell B	Cell C
Nucleus	√	√	√
Cell Wall	x	x	√
Chloroplast	x	√	x
Cell Membrane	√	√	√

(a) Susan made a mistake in her observation. Identify the mistake. [1]

_____

_____

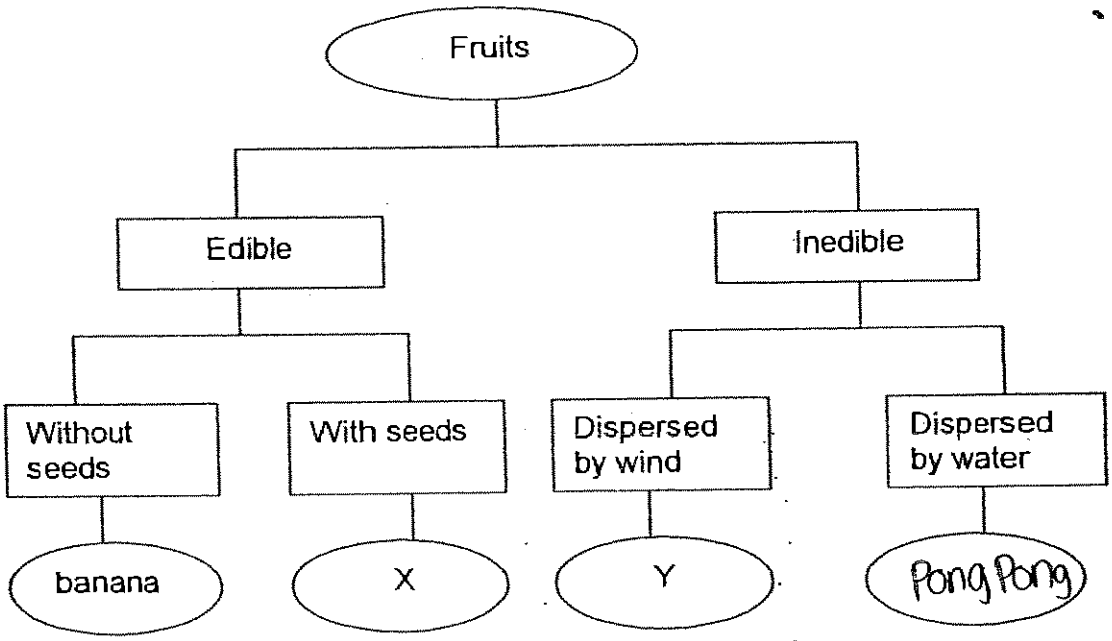
(b) State an example of an organism that has :

Cell A : _____ [½]

Cell C : _____ [½]

2

34. A classification chart of fruits is shown below.



(a) Based on the chart, list two characteristics of a banana. [1]

_____

_____

(b) State one example of X and Y.

X : _____ [½]

Y : _____ [½]

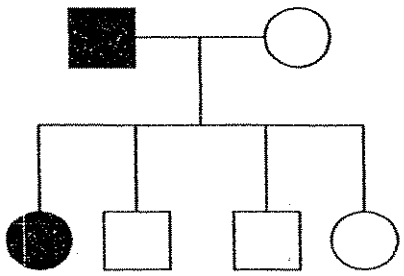
(c) Write down one other characteristic of Fruit Y that is not shown in the chart above. [1]

_____

_____

35. The diagram below shows Sue's family tree.

Sue's Family Tree



Sue

Key :

○ golden-haired female ● black-haired female

□ golden-haired male ■ black-haired male

Write "T" for the statements that are true and "F" for the statements that are false. [2]

1	Sue has golden hair.	
2	Sue has 2 brothers and 2 sisters.	
3	Three people in the family have golden hair.	
4	Sue's sister inherited her hair colour from her father.	

2 2 4 7

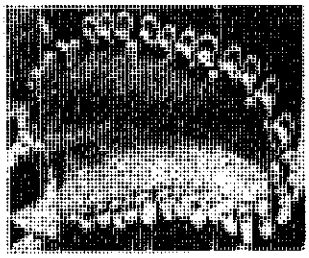
36. A classification table is shown below.

Group X	Group Y	Group Z
Potato	Banana	Begonia
African Violet	Pineapple	Sanseveria

(a) Which plant has been grouped wrongly? Which should be the correct grouping for the plant? [1]

(b) How are the plants grouped in this classification table? [1]

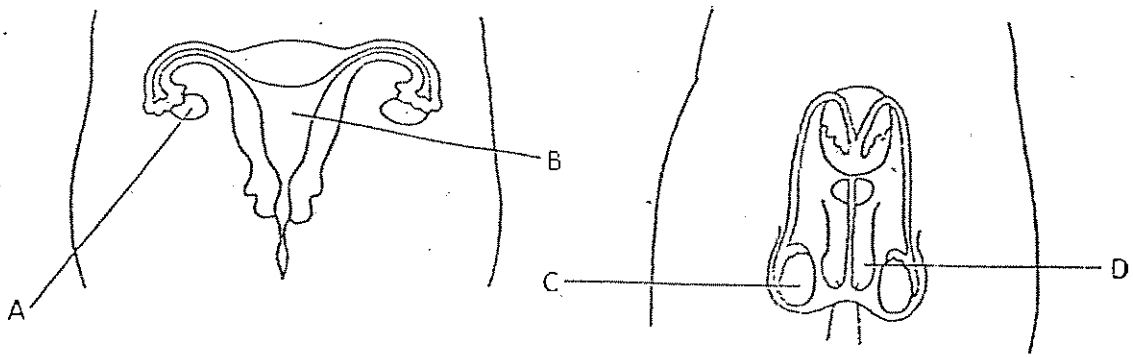
37. Jessie had a plant in her garden. After some time, she noticed some baby plants growing from a leaf as shown below.



(a) Identify the plant that has the leaf shown above. [1]

(b) State one characteristic of the leaves from this plant. [1]

38. The diagrams below show the human reproductive systems.



(a) Which parts, A, B, C or D produce cells that will join together to develop into a baby? [1]

_____

_____

(b) The developing baby in the womb is connected to the mother by an umbilical cord. State two functions of the umbilical cord. [2]

(i) _____

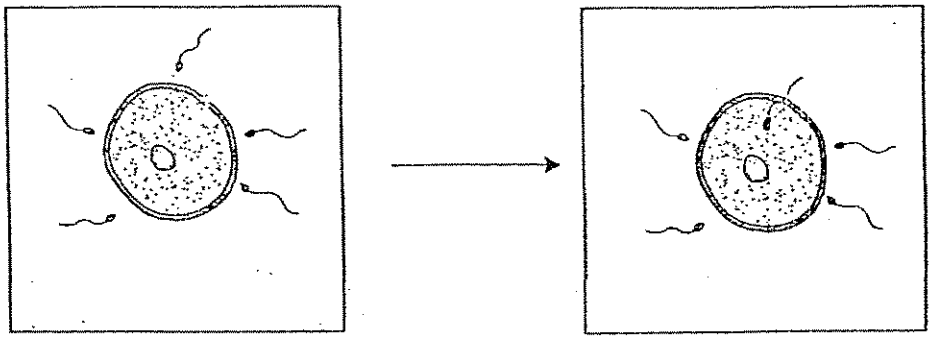
_____

(ii) _____

_____

3

39. The picture shows a life process occurring in the body of a female.



Stage 1 Stage 2

(a) What is the process that occurs in Stage 2? [1]

_____

_____

(b) What will happen to the remaining sperms after Stage 2? [1]

_____

_____

2

40. Complete the table below on two processes, photosynthesis and respiration. [2]

		Photosynthesis	Respiration
a)	State the function of the process.	i)	ii)
b)	State one factor needed for the process to take place.	i)	ii)

41. The sentences below show how food is changed to energy in our body.

Sentence A : In the cells, glucose is broken down.

Sentence B : Food is eaten and digested in the digestive system.

Sentence C : The digested food enters the body cells.

Sentence D : The digested food is carried to all the cells in the body by the blood.

(a) Arrange the sentences above to show how food is changed to energy in our body. Write the letter representing the sentence in the boxes below. [1]

(b) State two end products of the process. [2]

_____

_____

42. The food chain below shows how 3 organisms interact with one another.

Grass ⟶ Rabbit ⟶ Leopard

(a) Which organism is the food producer? [1]

_____

_____

(b) Where does the grass get its energy from? [1]

_____

_____

(c) How does a leopard depend on the grass in the food chain? [1]

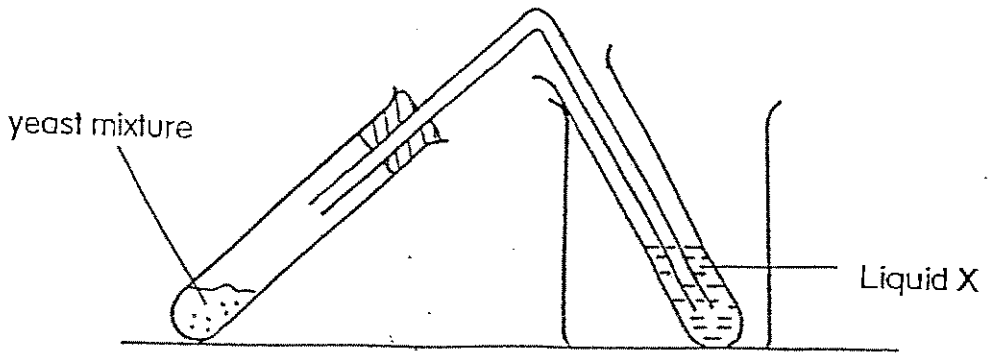
_____

_____

3

252

43. Mrs Tan showed Lenny the set-up of an experiment shown below. She wanted Lenny to conduct the experiment to produce a certain gas that will turn Liquid X chalky.

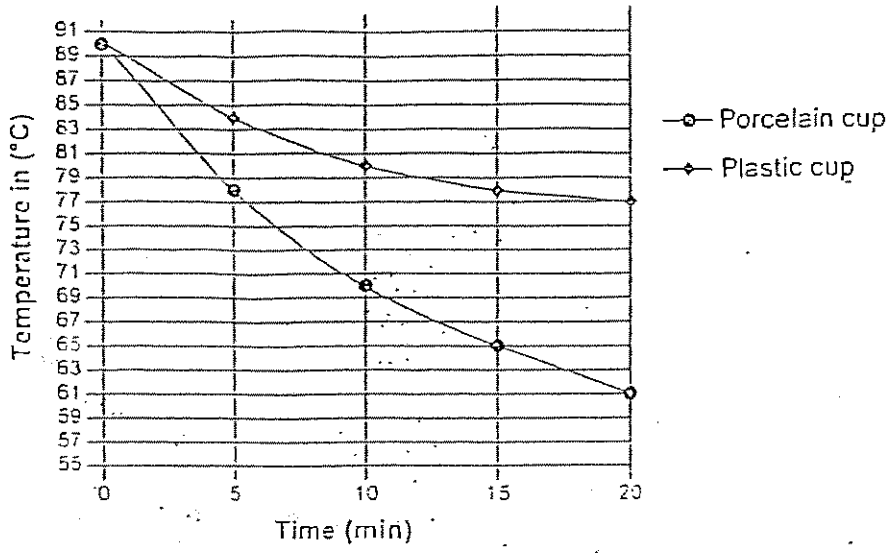


(a) Write down the steps to show how Lenny can conduct the experiment. [2]

(b) What was Liquid X?

(c) What gas was produced in this experiment? [1]

44. Tom and Jerry carried out an experiment to find out which type of cup is better for keeping coffee hot. They poured an equal amount of hot coffee into a plastic cup and a porcelain cup of the same size. The temperature of the coffee in both cups was taken at 5 minute intervals. The results are shown in the graph below.



(a) What can be the boys' hypothesis for this experiment? [1]

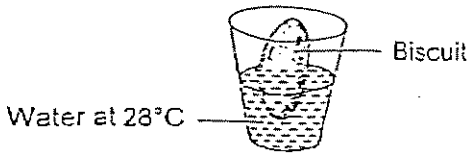
(b) Study the graph carefully and write down the temperature in the boxes provided. [1]

	Temperature (° C)	
Time (minutes)	Plastic cup with coffee	Porcelain cup with coffee
0	90	
5		78
10	80	70
15	78	65
20	77	61

(c) What can Tom and Jerry conclude about the experiment? [1]

3

45. Jane and Roy wanted to conduct an investigation to see if the temperature of water affect how fast biscuits soften. They put a biscuit into a cup of water at 28°C as shown below.



After 5 minutes, they removed the biscuit, observed it and recorded their observations. Then they repeated the experiment with water at 40°C, 60°C and 80°C. The table below shows how the variables in their experiment were controlled.

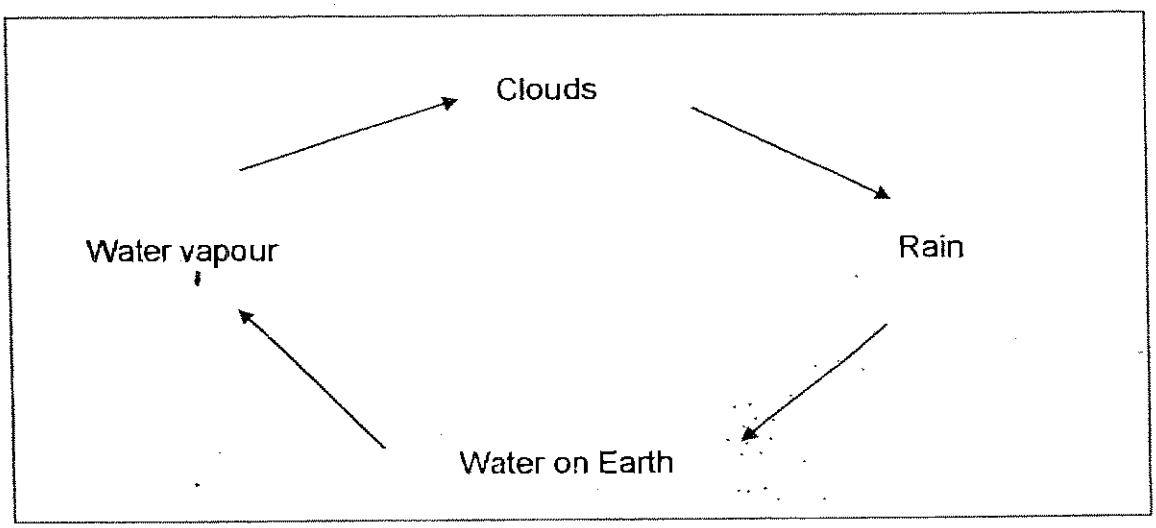
	Changed	Kept constant
Duration biscuit was placed in the cup of water	√	
Amount of water		√
Temperature of water	√	

(a) Is this a fair experiment? Explain your answer. [1]

(b) State one other variable not shown in the table that should be kept constant. [1]

2

46. The diagram below shows a process that occurs in the nature.



(a) Give the diagram a title. [1]

(b) What energy enables this cycle to take place? [1]

(c) What is the source of the energy in (b)? [1]

3

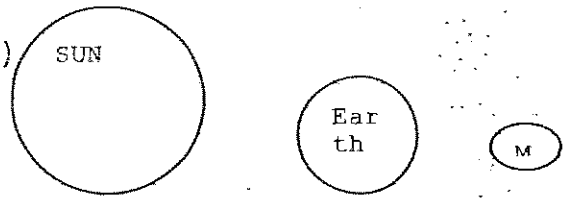
ANSWER SHEET

AI TONG PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

1. 3
2. 3
3. 2
4. 3
5. 2
6. 3
7. 1
8. 4
9. 4
10. 3
11. 3
12. 3
13. 4
14. 4
15. 3
16. 4
17. 1
18. 2
19. 2
20. 3
21. 3
22. 3
23. 2
24. 3
25. 4
26. 1
27. 3
28. 2
29. 1
30. 4

31) a) A: Sun D: Moon
b) It will cause high tide and low tide.

32) a)



33) a) Cell B should have cell wall.
b) A: Cat C: Onion

34) a) A banana has no seed and is edible.
b) X: Apple Y: Angsana
c) Fruit Y has wing-like structure.

35) 1) T 2) F 3) F 4) T

36) a) African Violet has been grouped wrongly. The correct grouping for the plant is Group Z.
b) They are grouped according to how they reproduce.

37) a) The plant is bryophyllum.
b) The leaves from this plant are thick.

38) a) A and C produce cells that will join together to develop into a baby.
b) i) To carry out the waste produce by the developing baby.

38)b)ii)To give the developing baby nutrients that were eaten by the mother.

39)a)The process is fertilisation.
b)The remaining sperms will eventually die.

40)a)i)To convert light energy from the sun.
ii)To make energy available for the organism.
b)i)Sunlight.
ii)Oxygen.

41)a)B,D,C,A
b)The two end products of the process are sugar and starch.

42)a)Grass
b)From the sun.
c)Leopards depend on grass, as the food source indirectly as when the rabbit rat the grass the energy is transferred to the rabbit and when the leopard eats the rabbit, the energy is transferred to the leopards.

43)a)Step 1)Mix some yeast with some warm water and put the mixture in a test-tube.
Step 2)Stopper it with a rubber bung attached to a delivery tube place the end of the delivery tube into a test-tube containing Liquid X.
Step 3)Bubbles were produced in the yeast mixture.
b)Lime water.
c)Carbon dioxide.

44)a)The porcelain cup was able keep the coffee hot.
b)90, 84
c)The plastic cup was able to keep the coffee hot.

45)a)No, this is not a fair experiment. Jane and Roy were only conducting an investigation to see if the temperature of water affect how fast biscuits is soften but no the time they should changed the time.

45)b)The type of biscuit.

46)a)Water cycle.
b)Heat energy.
c)Sun.

ANGLO-CHINESE SCHOOL
(PRIMARY)

MID-YEAR EXAMINATION 2007

SCIENCE

BOOKLET A

Name: _____ ( )

Class: Primary 5 ___

Date: 10th May 2007

Duration of paper: 1 h 45 min

THIS BOOKLET CONTAINS 17 PAGES.
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

PART I

For each of the following questions from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(30 x 2 marks)

---

1 Which of the following classifications of the animals below is correct?

A: Platypus
B: Guppy
C: Whale
D: Dolphin

	Mammal	**Fish**	**Lay Eggs**
(1)	A only	B, C and D only	B only
(2)	A and D only	B and C only	C and D only
(3)	A, C and D only	B only	A and B only
(4)	A, C and D only	B only	A only

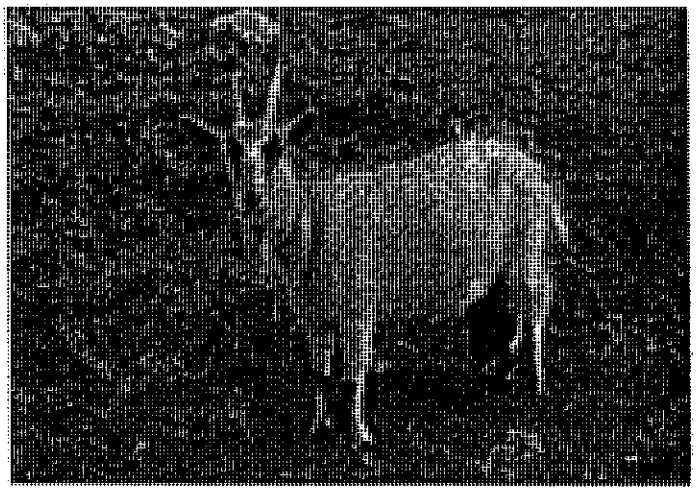
2 The table below shows the properties of three types of materials, A, B and C.

Properties	Material		
	A	B	C
Hard	✓	×	×
Flexible	×	✓	✓
Strong	✓	✓	×

Based on the information above, which one of the following would A, B and C most likely be?

	A	**B**	**C**
(1)	Metal ruler	Cotton thread	Fishing line
(2)	Fishing line	Cotton thread	Metal ruler
(3)	Fishing line	Metal ruler	Cotton thread
(4)	Metal ruler	Fishing line	Cotton thread

3 Sara looked at the picture shown below and made four statements A, B C and D about the goat.

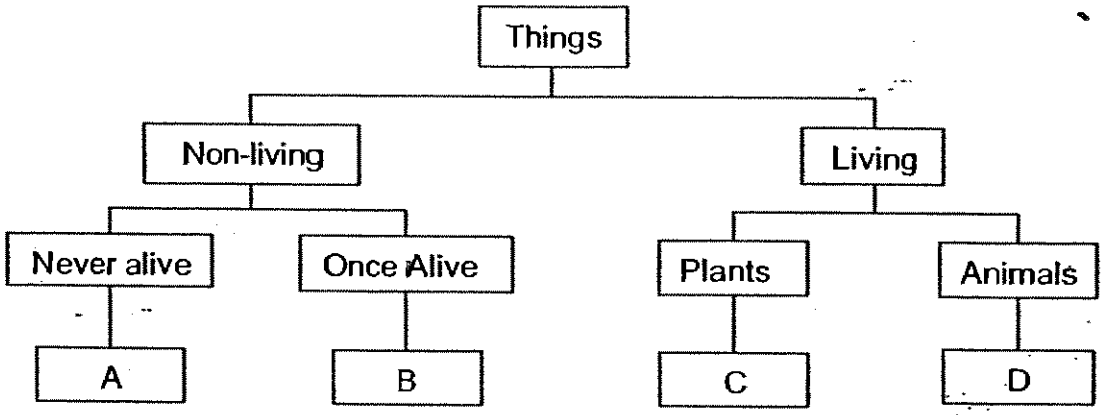


A:	The goat is eating grass.
B:	The goat has escaped from its owner.
C:	The goat is standing on the grass.
D:	Someone has brought the goat there.

Based on her observation only, which of the statement(s) is/are true or not possible to tell?

	True	Not possible to tell
(1)	C only	A, B and D only
(2)	A and D only	B and C only
(3)	B, C and D only	A only
(4)	A, B C and D	-

4 The classification table below groups some things according to their characteristics/properties.



Which of the following correctly identifies A, B, C and D?

	A	B	C	D
(1)	Iron nail	Book	Balsam	Venus flytrap
(2)	Plastic ruler	Book	Venus flytrap	Snail
(3)	Plastic ruler	Wooden chair	Mushroom	Snail
(4)	Iron nail	Wooden chair	Moss	Venus flytrap

5 Which of the following are likely reasons for a drink stall owner to sell drinks in plastic cups?

A: Plastic cup is waterproof.
B: Plastic cup scratches easily.
C: Plastic cup does not break easily.
D: Plastic cup is flexible.

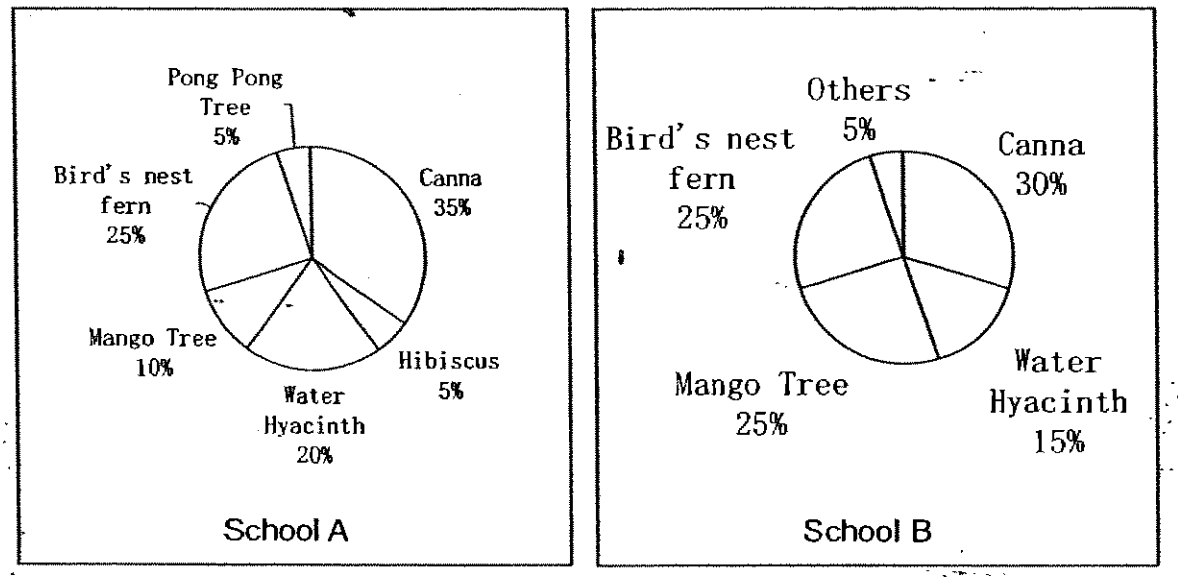
(1) A and C only

(2) A and D only

(3) B and C only

(4) B and D only

6 The pie chart below shows the number of different types of plants in percentages in two schools, A and B.



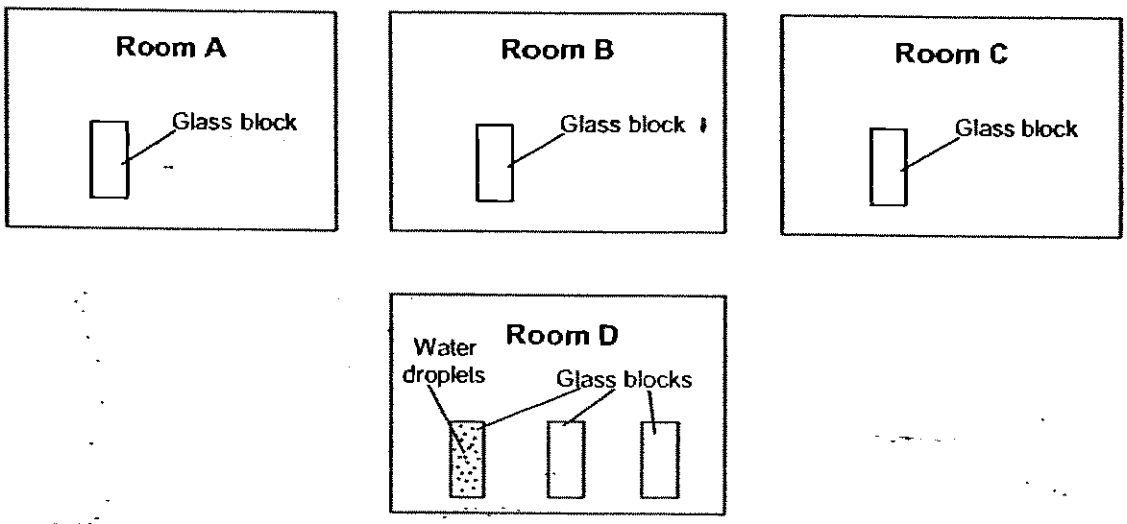
John studied the charts and made the following statements:

A. There are more Canna plants in School A then in School B.
B. The percentage of Mango Trees in School A is less than that in School B.
C. School A has more variety of plants than School B.
D. There are more Bird's Nest Fern than Water Hyacinth in School B.

Which of his following statements are true?

(1) D only
(2) B and D only
(3) A, B and C only
(4) A, B, C and D

7 Timothy left three blocks of glass in three Rooms A, B and C of different temperatures for an hour. Thereafter, they are removed and left in Room D. After 5 minutes, he noticed water droplets on the block from Room A but not from Room B or C.



Which statement best describes the temperature of the room(s)?

(1) Room A is the coldest room.

(2) Room B and C are at the same temperature as Room D.

(3) Room D is the warmest room.

(4) Room B and C are the warmest room.

8 Which of the following statements is true about the Sun?

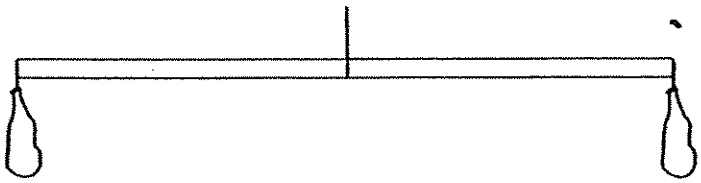
(1) It is a very hot solid object.

(2) It has planets revolving around it.

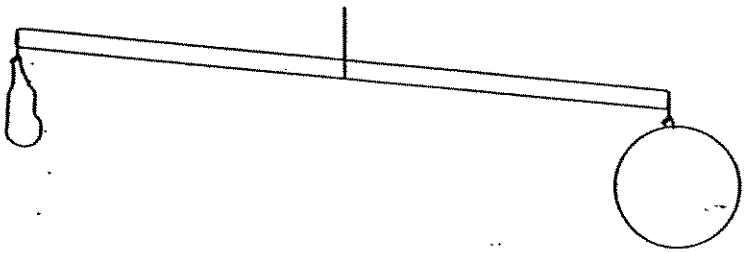
(3) It is one of the stars in our solar system.

(4) It is smaller than planet Earth.

9 John attaches two **identical** deflated balloons at each end of a rod. He ties a string at the centre of the rod and it balances as shown in the diagram below.



He then inflates one of the balloons and the rod now tilts to the right as shown in the diagram below.



What can he conclude from his experiment?

(1) Air has mass.

(2) Air can be compressed.

(3) Air has no definite shape.

(4) The mass of the balloon depends on its shape.

10 One of the reasons that the Earth is able to support a diversity of life is because it _____.

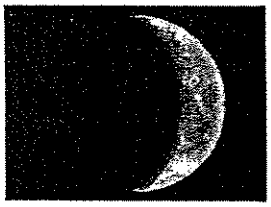
(1) is the planet nearest to the Sun

(2) reflects sunlight to the Moon

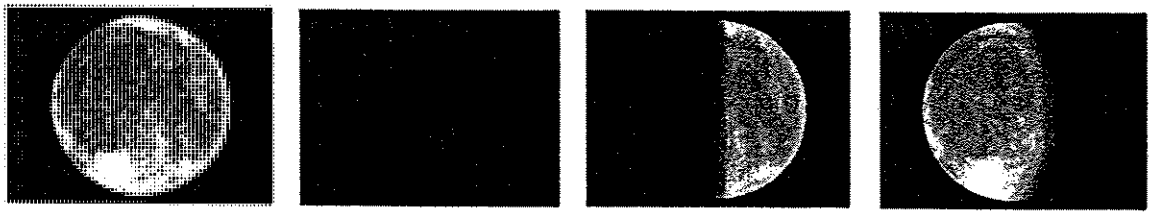
(3) takes 24 hours to make one rotation about its axis

(4) has an atmosphere that is appropriate for living things to survive

11 John looked up into the sky one night and noticed the shape of the moon. The photograph below shows the moon that he observed.

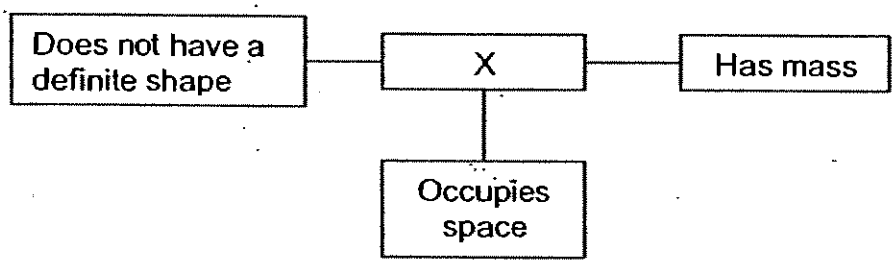


After 2 weeks, which of the following phases of the moon (1, 2, 3 or 4) will he see?



(1) (2) (3) (4)

12 The diagram below shows the three properties of substance X.



Substance X could be _____.

(1) milk or ice.

(2) sound or oxygen.

(3) water or nitrogen.

(4) rubber band or nitrogen.

13 The table below shows some facts about the planets W, X, Y and Z in the solar system.

Planet	Length of Day (Earth hours)	Length of Year (Earth days)
W	11	10756
X	5832	225
Y	25	687
Z	10	4330

Which statement about these four planets is true?

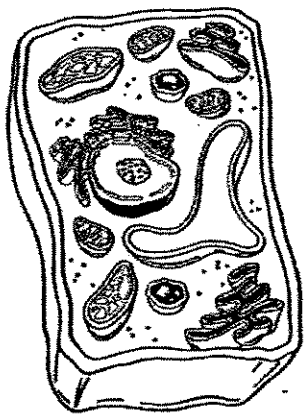
(1) Planet Z rotates the slowest about its axis.

(2) Planet X is the furthest planet from the Sun.

(3) Planet X is nearer to Planet Y than to Planet W.

(4) Planet W takes the shortest time to make one revolution around the Sun.

14 Boon Wee looked through a microscope to study the structure of a cell. He made a drawing of the cell as shown below.



Which of the following statements about the cell is true?

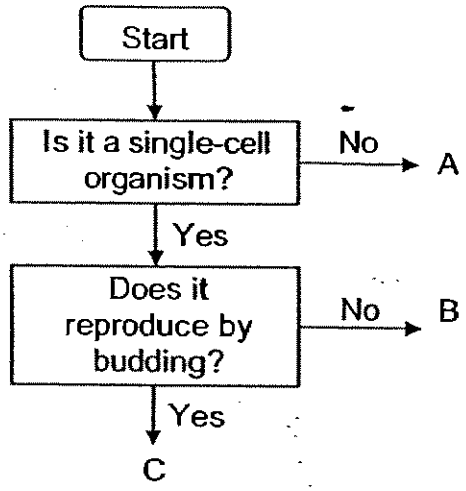
(1) It is an animal cell as it has a nucleus.

(2) It is an animal cell as it has irregular shape.

(3) It is a plant cell as it has cell wall.

(4) It is a plant cell as it has a thick cell membrane.

15 In the flowchart below, A, B and C represent 3 different organisms.



Which of the following options is true of organism A, B and C?

	A	B	C
(1)	Amoeba	Cheek Cell	Yeast
(2)	Cheek Cell	Amoeba	Yeast
(3)	Yeast	Amoeba	Cheek Cell
(4)	Cheek Cell	Yeast	Amoeba

16 Which of the following about the male reproductive cell in the human body are correct?

A It has a nucleus.
B It is produced in the penis.
C It is the largest cell in the human body.
D It fuses with an egg during fertilisation.

(1) A and D only
(2) A and C only
(3) A, B and D only
(4) B, C and D only

17 Which of the following statements about reproduction in animals are correct?

A Sperms are produced by male animals.
B Usually one egg is fertilised by many sperms.
C After fertilisation, the eggs will develop into young animals.
D Fertilisation only takes place inside the body of female animals.

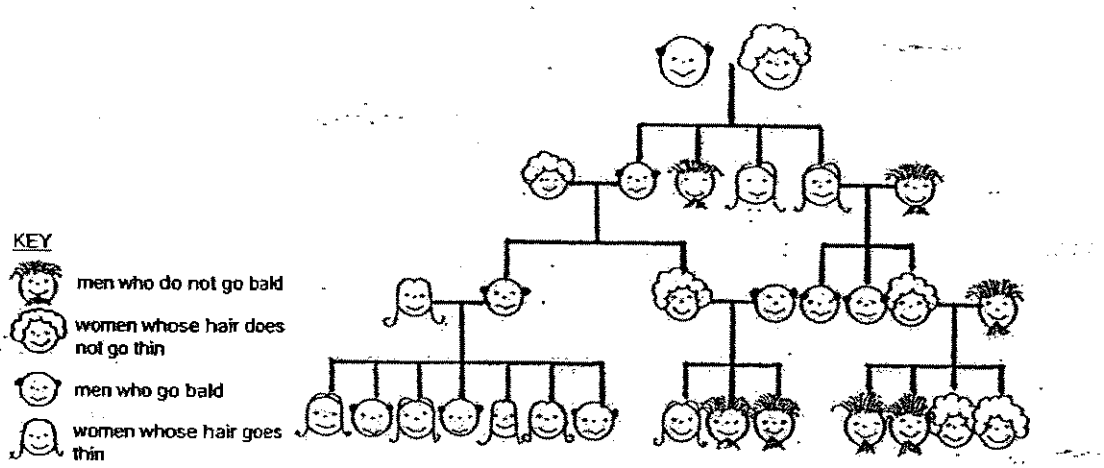
(1) A and B only

(2) A and C only

(3) B and D only

(4) A, C and D only

18 The diagram below shows a family tree.



Based on the above family tree, which one of the following can be inferred?

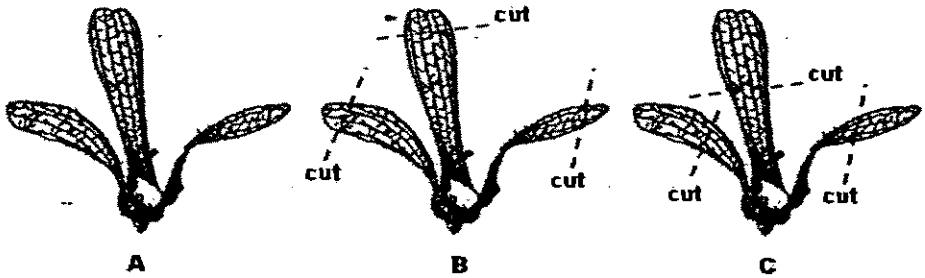
(1) If the father of a family is bald, his son(s) will be bald.

(2) Women whose hair goes thin will produce sons who will go bald.

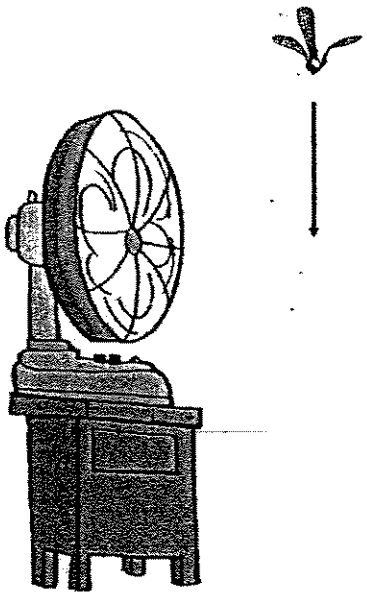
(3) Women whose hair goes thin are able to produce more children.

(4) Fathers with bald heads will produce daughters with hair that will go thin.

19 Rahim wanted to carry out an experiment to find out how the length of the wing-like structure of a fruit affects the distance it travelled. He used three similar shorea fruits. Shorea fruit A was left intact. Shorea fruit B and C had their wing-like structures cut away as shown in the diagram.



Each of the three fruits was then released in front of a fan as shown in the diagram below.



Which of the following observations did Rahim have to record for his experiment?

(1) Mass of each shorea fruit.

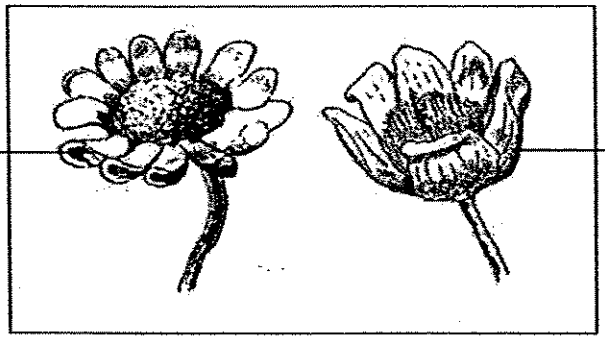
(2) Height at which the shorea fruit was dropped.

(3) Time taken for the shorea fruit to stay in the air.

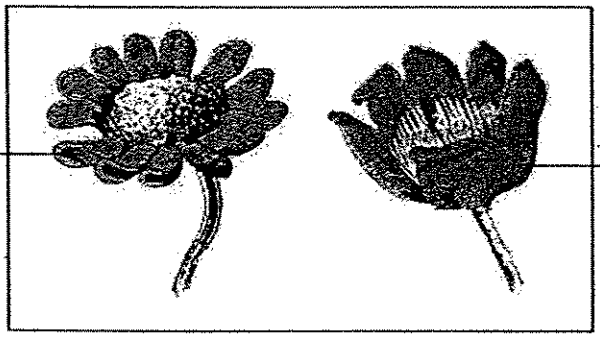
(4) Distance between the starting point and the landing point of the fruit.

20 Keith wanted to test if bees are attracted to the colour of flowers. Which of the following pairs of flowers should he use for his test?

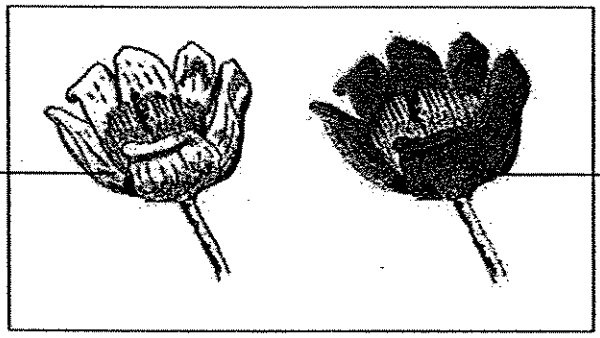
(1)



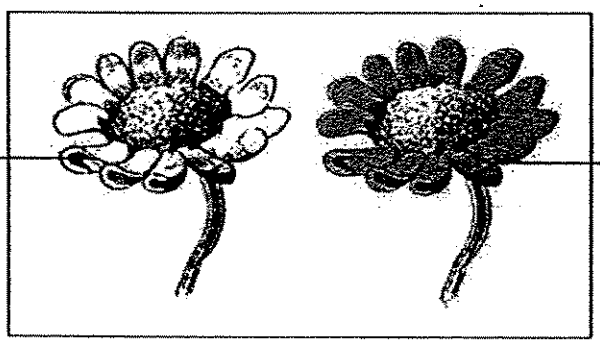
(2)



(3)

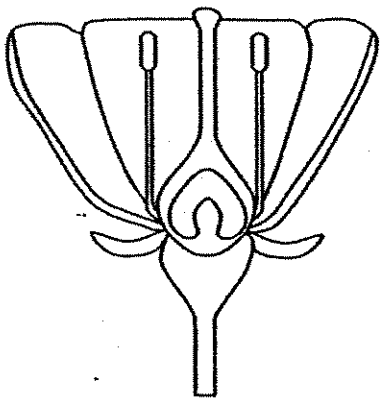


(4)

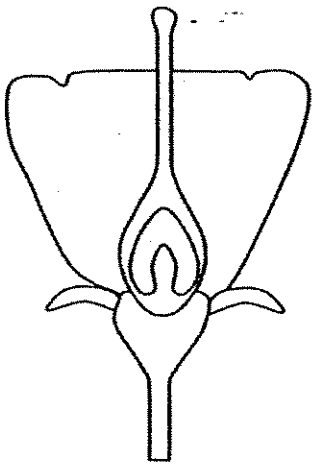


21 The diagram below shows two different flowers.

Flower A



Flower B



Which one of the following statements about flowers A and B is **false**?

(1) Only flower A has anthers.

(2) Both flowers have an ovary each.

(3) Both flowers cannot grow into fruits.

(4) Pollination can take place in both flowers.

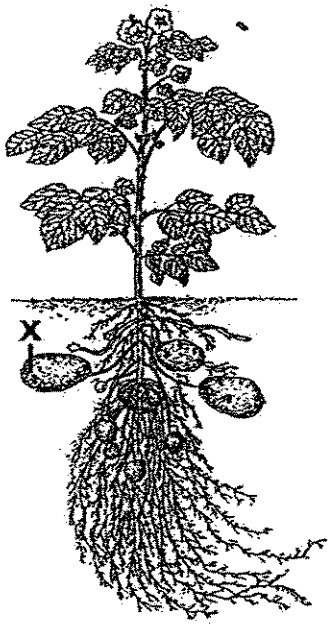
22 Edward classified some of the fruits and seeds in the table below.

P	Q
Shorea	Papaya
Lalang	Rambutan

Which of the following fruits or seeds would Edward place under P and Q?

	P	Q
(1)	Cherry	Coconut
(2)	Nipah	Lovegrass
(3)	African Tulip	Balsam
(4)	Angsana	Mimosa

23 The diagram below shows a potato plant.



What is/are the function(s) of the part marked X?

A To store food for the plant
B To take in water for the plant
C To hold the plant firmly to the ground

(1) A only

(2) A and C only

(3) B and C only

(4) A, B and C

24 In what way is sexual reproduction similar in plants and animals?

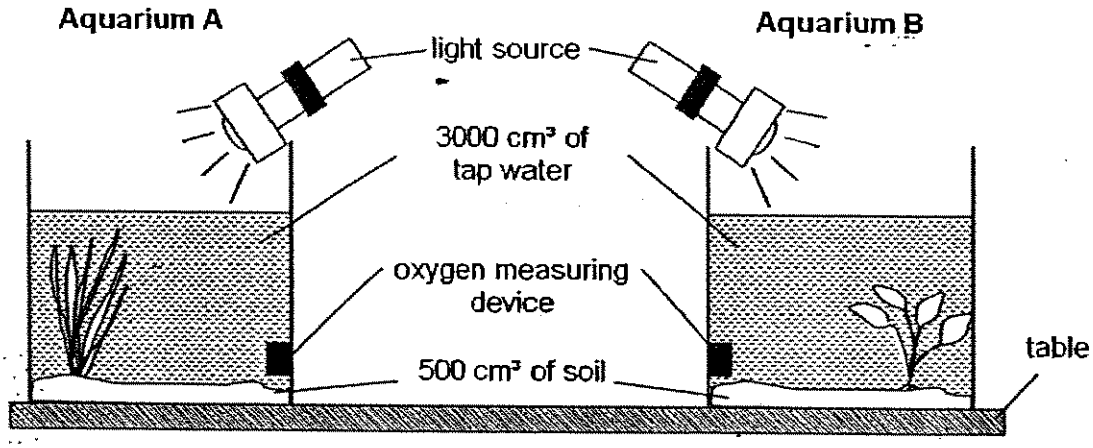
(1) Fertilisation takes place in the ovary.

(2) Both plants and animals require male and female sex cells.

(3) The eggs are released from the ovules in both plants and animals.

(4) The nucleus in pollen grain fuses with the egg in both plants and animals.

25 Richard had two aquariums, A and B, each containing a different type of plant as shown in the diagrams below. Both aquariums were left under a light source for ten hours. The amount of dissolved oxygen in each aquarium was measured at the start of the experiment and at the end.



What was the aim of the experiment?

(1) To find out how does the light affects the rate of photosynthesis.

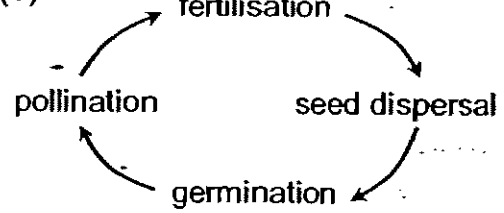
(2) To find out whether carbon dioxide is given out during photosynthesis.

(3) To find out whether one plant has a faster rate of photosynthesis than the other.

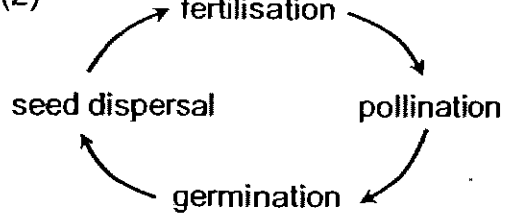
(4) To find out how the different amount of dissolved oxygen affects the rate of photosynthesis.

26 Which of the following shows the correct sequence of reproduction of a flowering plant?

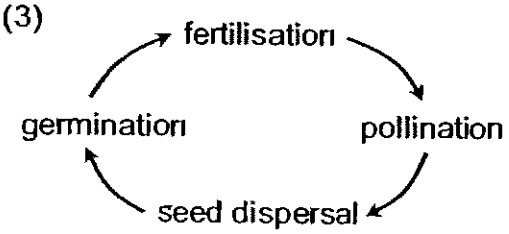
(1)



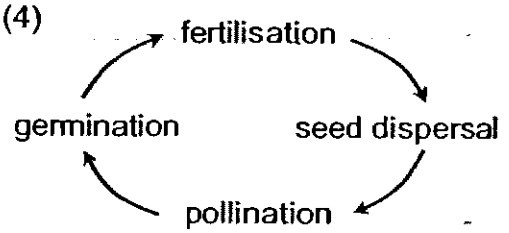
(2)



(3)

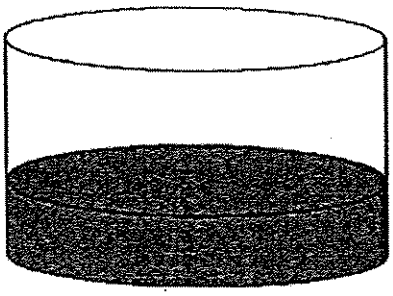


(4)

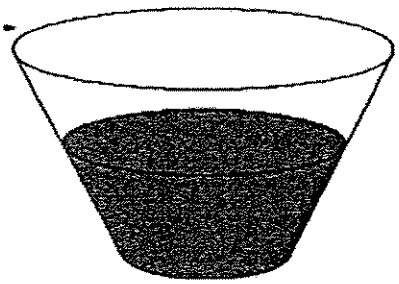


27 Ravi poured 350cm^3 of water into each of the four glass containers. The containers were left in the open with their top exposed. Which of the containers below would have the least amount of water left after a few hours?

(1)

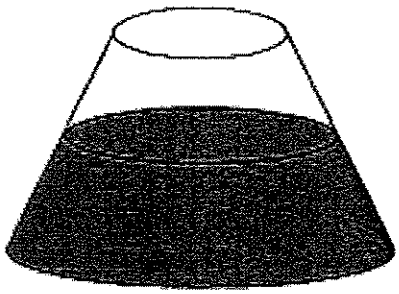


(2)



(3)

(4)



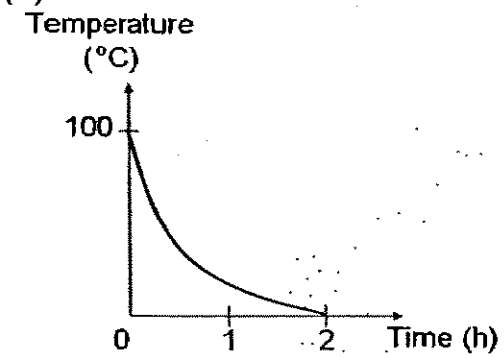
28 Which of the following statement(s) about exhaled air is/are correct?

A It has more carbon dioxide than oxygen.
B It has less water vapour than inhaled air.
C It is usually warmer than the surrounding air.

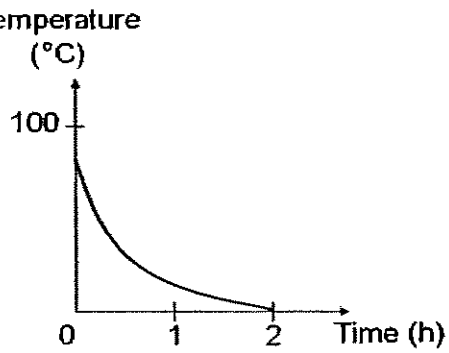
(1) C only
(2) A and B only
(3) A and C only
(4) A, B and C only

29 John was studying the rate of cooling of warm water. He left a beaker of warm water in a room for two hours. Which of the following graphs shows the correct temperature change?

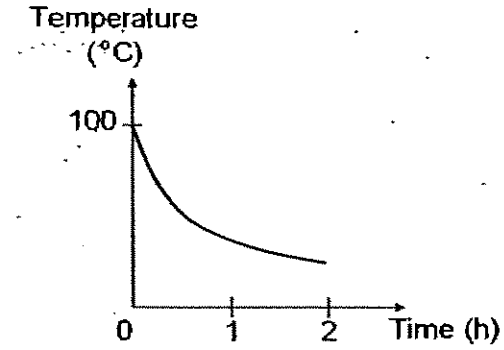
(1)



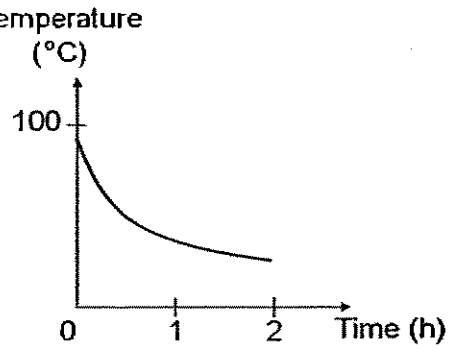
(2)



(3)



(4)



30 Jonathan cut a fruit and observed that it contained many seeds. Which one of the following inferences is best supported by Jonathan's observation?

(1) Only one pollen grain fertilised the flower.

(2) The flower that produced this fruit grew in bunches.

(3) There were many ovules present in the flower's ovary.

(4) The anthers of flower produced many pollen grains.

ANGLO-CHINESE SCHOOL

(PRIMARY)

MID-YEAR EXAMINATION 2007

SCIENCE

BOOKLET B

Name: _____ ( )

Class: Primary 5 ____

Date: 10th May 2007

Duration of paper: 1 h 45 min

_____

Parent's Signature

Booklet	Maximum marks	Marks obtained
A	60	
B	40	
Total	100	

THIS BOOKLET CONTAINS 11 PAGES.
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

PART II

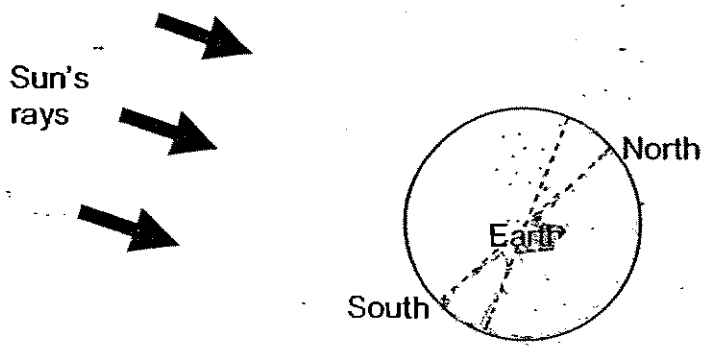
For questions 31 to 46, write your answers in this booklet.

The number of marks available is shown in brackets [ ] at the end of each question or part question.

(40 marks)

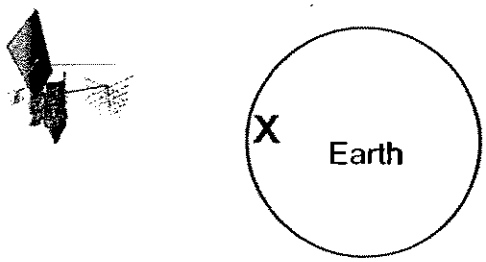
---

31 The diagram below shows the direction of the Sun's rays shining on the Earth.



(a) On the above diagram, shade the region of the Earth that experiences night time. [1]

(b) The diagram below shows a satellite launched into space to study a region X on Earth.

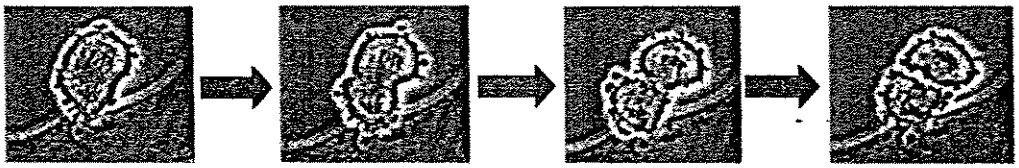


In order for the satellite to study region X all the time, explain how the satellite should move in terms of its revolution around the Earth with respect to the Earth's rotation? [1]

_____

_____

32 The photographs below show a cell undergoing a process.



First generation

(a) What process is the cell undergoing? [1]

_____

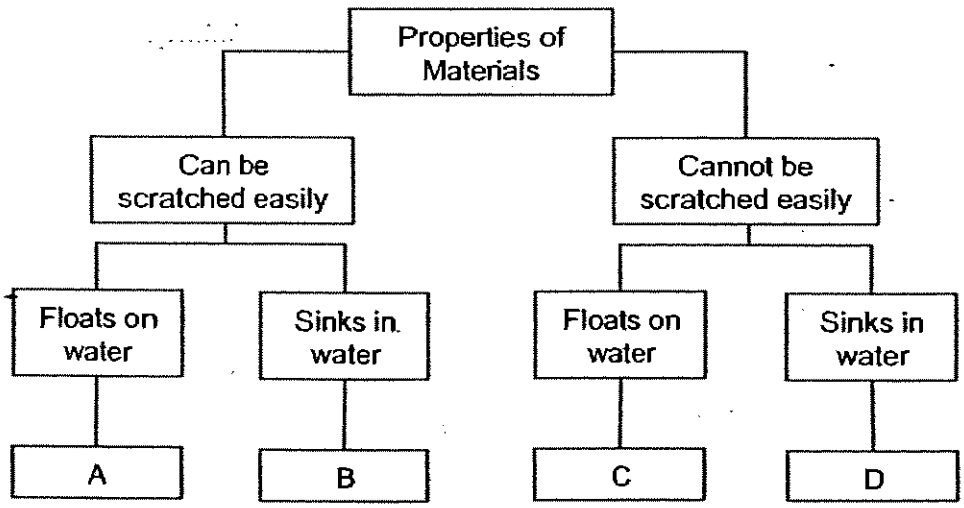
(b) State one reason why it is necessary for cells to go through this process. [1]

_____

(c) How many cells will there be in the second generation? [1]

_____

33 Study the classification chart carefully.

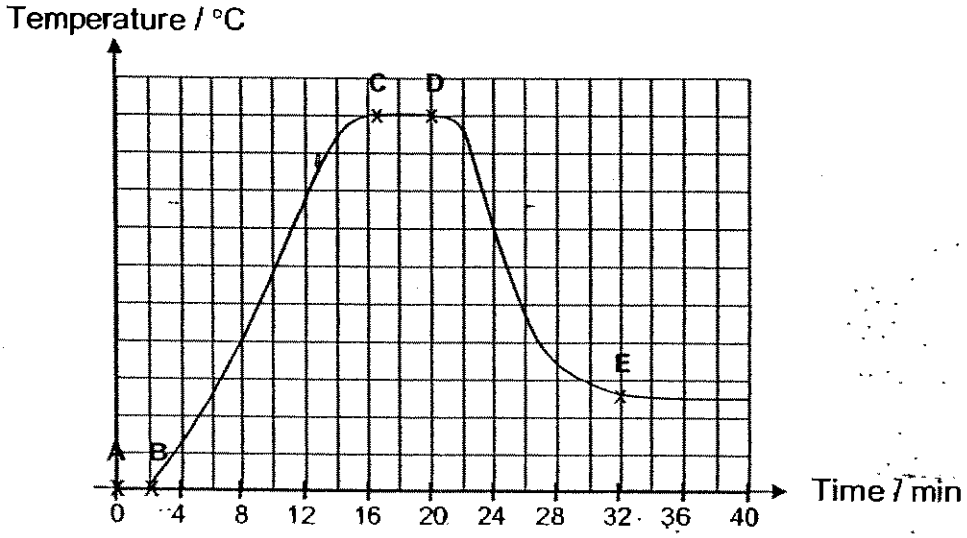


(a) What are the characteristics of object A? [1]

_____

(b) In the diagram, the letter _____ represents an iron nail. [1]

34 Jason took a glass of ice cubes from the freezer and heated the ice cubes until boiling occurred. He turned off the fire and left the contents in the glass to cool to room temperature. He measured the temperature of the contents in the glass at 2-minute intervals for 40 minutes and plotted the graph as shown below.

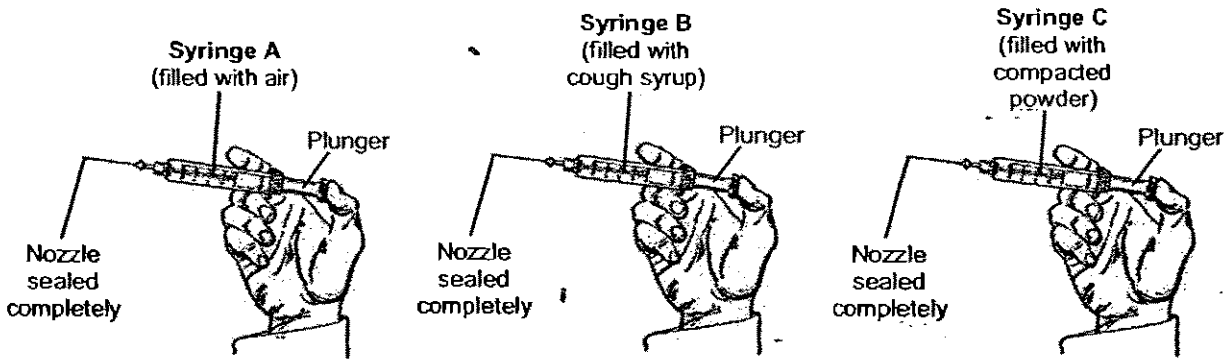


(a) From the graph, determine the room temperature. [1]

(b) Heat is continuously being transferred between the contents in the glass and its surroundings during the 40 minutes. Determine the overall heat exchange at each of these sections of the graph: AB, BC, CD and DE. Tick (✓) the appropriate boxes in the table below. [2]

	Heat lost	Heat gained	Heat is neither lost or gained
AB			
BC			
CD			
DE			

35 David fully filled up three identical syringes A, B and C with three different substances.



The nozzles of the syringes were sealed completely. He then tried to push the syringe's plunger inwards as far as he could.

(a) Why should the nozzles of the syringes be sealed completely? [1]

_____

(b) Which plunger (A, B or C) can be pushed in easily? [1]

_____

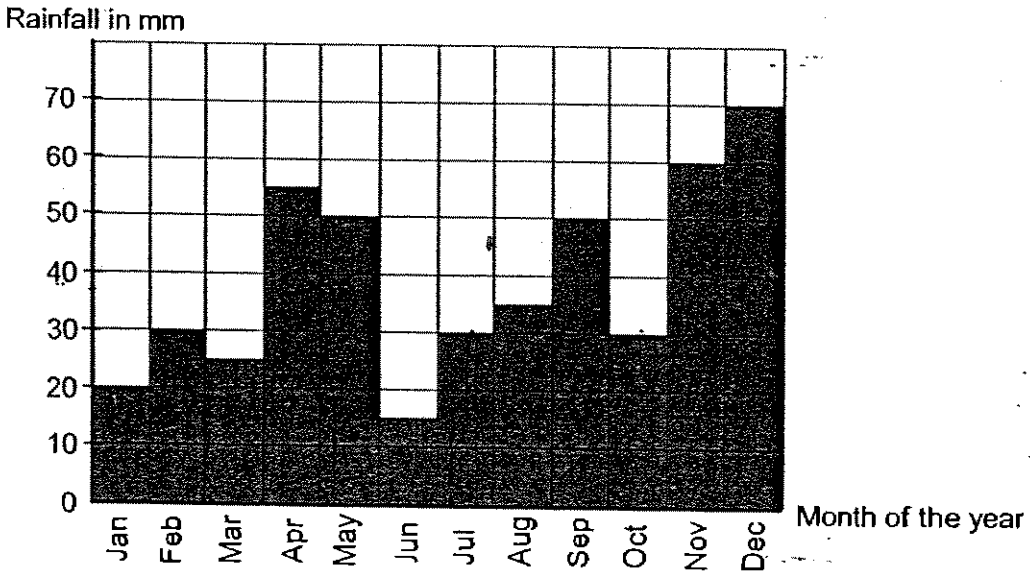
(c) Explain your answer to part (b). [1]

_____

36 Fill in each blank with a suitable word.

The Solar System is made up of the _____, the Moon, the Earth and other _____. The Moon is a natural _____ of the Earth. One of the reasons why living things can survive on Earth is due to its _____ from the Sun. [2]

37 The following graph shows the amount of rainfall over a period of 12 months in a certain place.



Put a tick (✓) in the appropriate column against each of the statements below. [2]

	True	False	Not possible to tell
(a) June is the driest month of the year.			
(b) The wettest day of the year falls in December.			
(c) The amount of rainfall is the same for three of the months.			
(d) The first half of the year is wetter than the second half.			

38 Samuel conducted an experiment and the procedures are shown below.

Step 1: Obtain three different kinds of bread of the same size:
- i. Chocolate flavoured bread
- ii. Milk bread
- iii. Wheat bread

Step 2: Place all three pieces of bread in three different corners of the same room.

Step 3:
- Shine a very bright table lamp on the chocolate flavoured bread.
- Shine a very dim table lamp on the milk bread.
- Do not shine any light on the wheat bread.

Step 4: Switch off the ceiling light in the room (leaving only both table lamps switched on).

Step 5: Examine the bread after ten days.

At the end of the experiment, he found that the wheat bread had the most amount of mould growing on it. He concluded that the amount of light affected the rate of growth of mould on bread.

(a) Explain why this experiment was not a fair one. [1]

_____

(b) What is the aim of the experiment? [1]

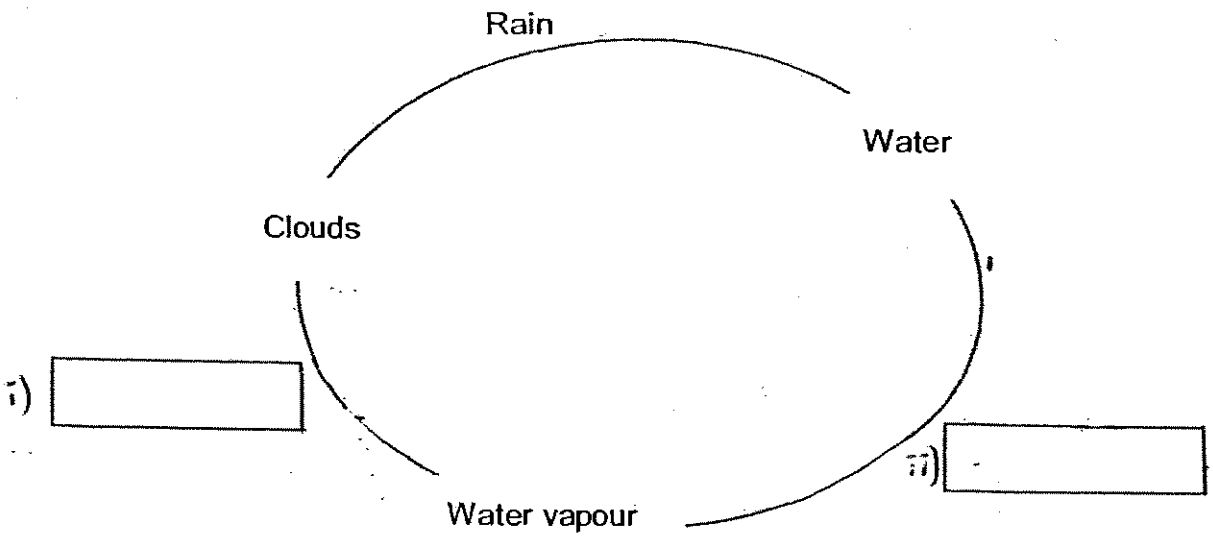
_____

_____

(c) Name one factor that was kept constant during the experiment. [1]

_____

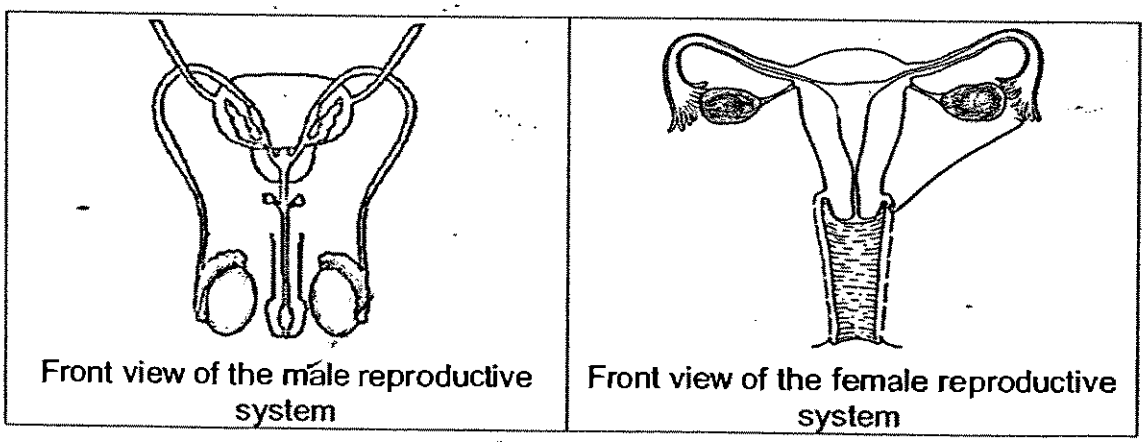
39 The diagram below shows part of the water cycle.



(a) Draw in the missing arrow heads (→) to show the correct order of the water cycle. [1]

(b) Name the missing processes in the water cycle in the boxes provided. [2]

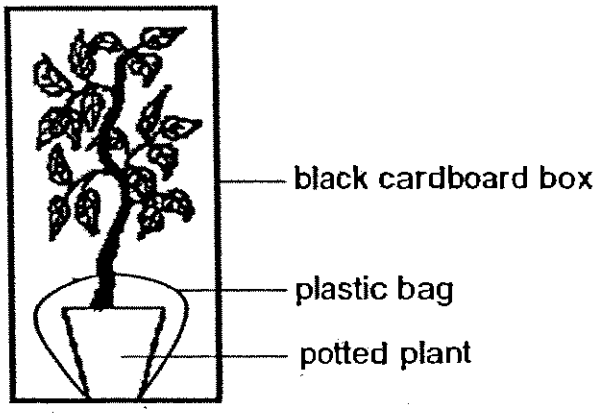
40 The diagrams below show the male and female human reproductive systems.



(a) On each of the diagram, shade the parts that produce the reproductive cells. [2]

(b) On the correct diagram, mark a cross 'X' at the place where a young develops. [1]

41 Mei Wen wanted to find out whether plants take in oxygen and give out carbon dioxide during respiration. She covered a potted plant with a black cardboard box as shown below and left the setup aside for ten hours.



The table below shows the percentage of the different gases in the box which she had taken at two different times of the experiment.

Type of gas	Percentage of gases measured	
	At start of experiment	At end of experiment
Oxygen	21%	18%
Nitrogen	78%	78%
Carbon dioxide	0.5%	3.5%

(a) What can Mei Wen conclude from her experiment? [1]

_____

_____

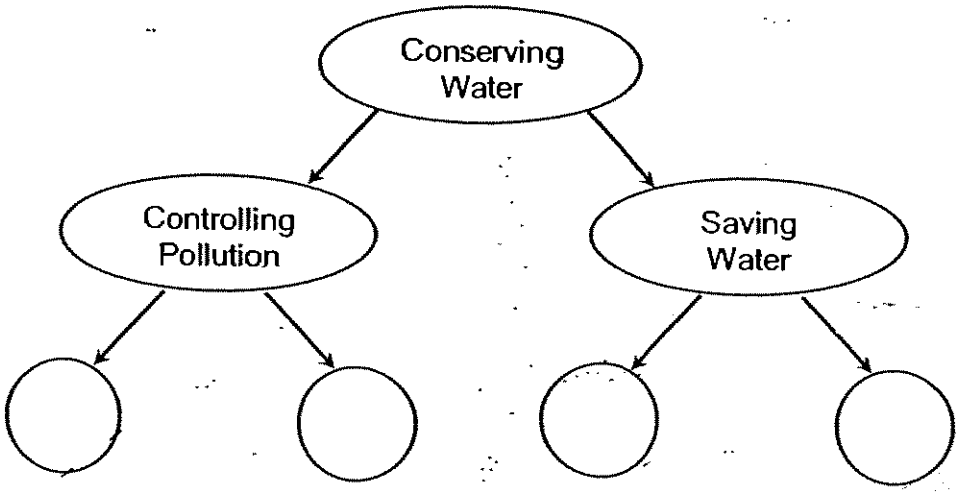
(b) If Mei Wen were to set up a control experiment, put a tick (√) in the appropriate column to indicate if she requires the variables listed below for the experiment. [2]

	Variable	Yes	No
i)	Plant		
ii)	Soil		
iii)	Pot covered with plastic bag		
iv)	Black cardboard box		

42 Below are four methods (A, B, C and D) of water conservation.

A	Do not build factories near reservoirs.
B	Repair any tap water leakage immediately.
C	Treat sewage water before discharging it into rivers and seas.
D	Recycle water for uses such as flushing and cleaning toilets.

The graphic organiser below classifies these methods of water conservation into two groups. Complete the organizer by filling in the bubbles with the letters A, B, C and D. [2]



43 Study the living organisms shown below.

Bread mould	Moss	Stag horn's fern	Mushroom

(a) Classify the living organisms into two groups, A and B, such that there are two organisms in each group. [1]

Group A	Group B

(b) Explain how you have classified the living organisms. [1]

_____

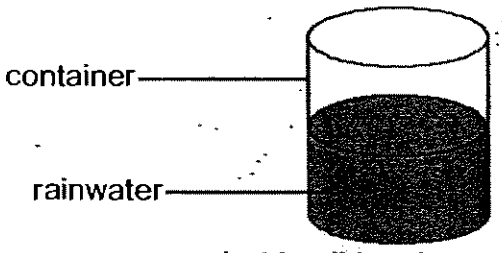
_____

44 There was only one adult banana plant growing in Mr Ng's garden. A few months later, Mr Ng noticed that a young banana plant has grown beside the adult plant even though he did not plant it. No bananas have grown on the adult tree so far.

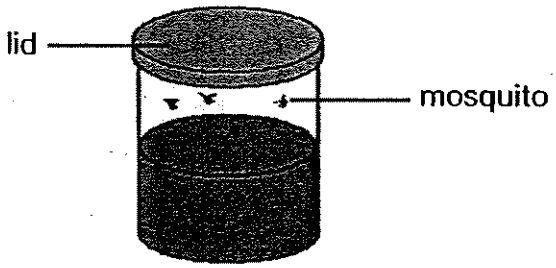
(a) Explain how the young banana plant managed to grow in the garden even though no one planted it. [1]

(b) Mr Ng observed that the adult banana plant died after a few weeks. How will the death of the adult banana plant be advantageous to the young banana plant? [1]

45 The diagram below shows a container that has collected some rain water over a few days.

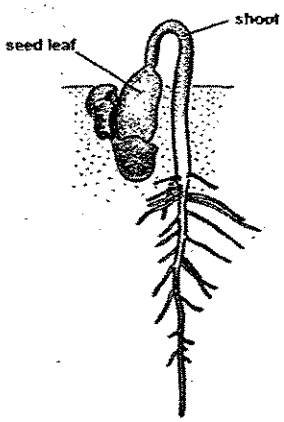


The container was covered with a lid and a week later, mosquitoes can be found inside the beaker as shown below.

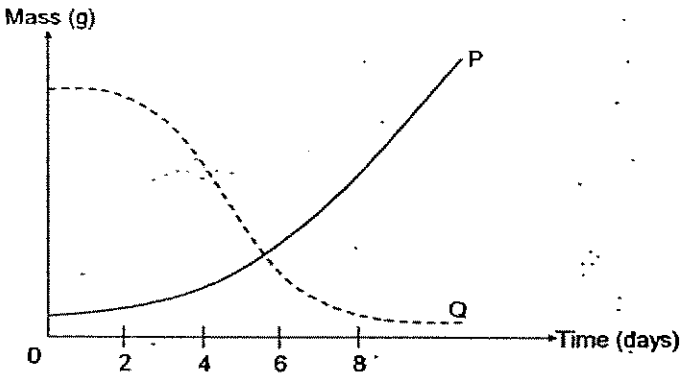


How do you think the mosquitoes got in the beaker if the lid was not removed at all? [2]

46 Joshua carried out an experiment on the germination of a red bean plant as shown below.



He plotted a graph to show changes in the mass of the seed leaf and the shoot over a period of eight days as shown below.



(a) Which curve, P or Q, shows how the mass of the seed leaf changes during the experiment? [1]

_____

(b) What would happen to the shoot if there were no sunlight for the first eight days? [1]

_____

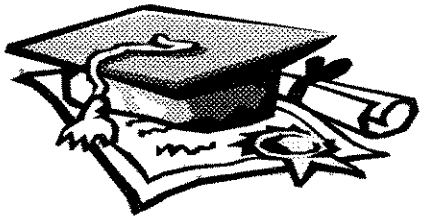
_____

(c) How did the shoot get its food from the eighth day onwards? [1]

_____

_____

End of Paper

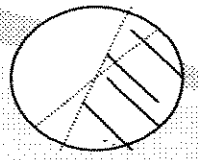


ANSWER SHEET

A C S PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

1. 4
2. 4
3. 1
4. 2
5. 1
6. 2
7. 1
8. 2
9. 1
10. 4
11. 4
12. 3
13. 3
14. 3
15. 2
16. 1
17. 2
18. 2
19. 4
20. 4
21. 3
22. 4
23. 2
24. 2
25. 3
26. 1
27. 1
28. 1
29. 4
30. 3

31) a)



b) The satellite should revolve around the Earth faster than the Earth's rotation.

32) a) Cell division.
b) It is to replace old and damage cells.
c) 4 cells.

33) a) Object A can be Scratched easily and it floats on water.
b) D

34) a) 25
b) AB=Heat gained
BC=Heat gained
CD=Heat gained
DE=Heat lost

35) a) To prevent the substances from coming out.
b) Plunger A.
c) Air can be compressed.

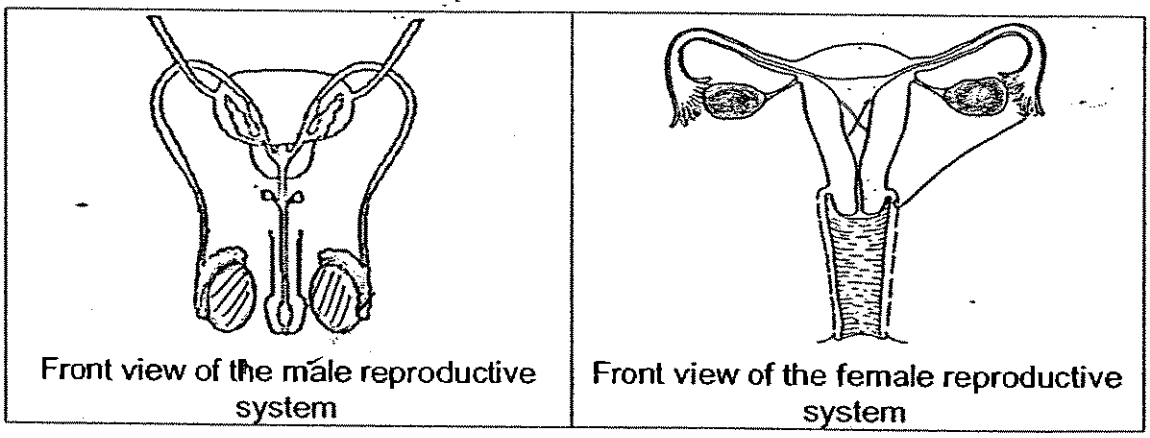
36) sun, planets, satellite, distance.

37)a)True b)Not c)True d)False

38)a)The type of bread used is different.
b)To find out if bread without light or bread with light has most mould.
c)Temperature / Humidity

39)i)Condensation ii)evaporation

40)a) b)



Front view of the male reproductive system

Front view of the female reproductive system

41)a)Plants take in carbon dioxide and give out oxygen.
b)i)No ii)Yes iii)Yes iv)Yes

42)A,C,D,B

43)a)Group A=Moss , stag horn's fern
Group B=Mushroom, Bread mould
b)Organisms in Group A are plants but organisms in Group B are fungi.

44)a)The dispersal from the adult plant.
b)The adult banana plant and the young banana plant are fighting for sunlight and water.
45)When it rains the mosquito bread in the container,so the mosquitoes are in the container,even though the lid was not removed.
46)a)Curve Q b)The shoot would continue to germinate.
c)It will have leaves for the plant the photosynthesize

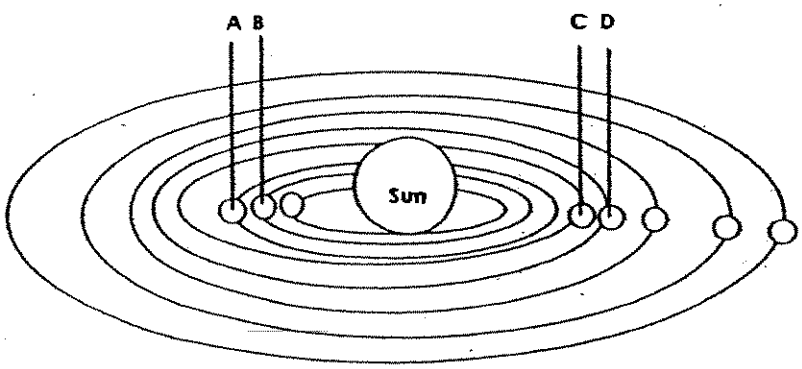
Tao Nan School
Primary 5 Science Mid-Year Examinations – 2007

Name: _____ ( ) Date: 10 May 2007
Class: P5 (I) Duration: 7.45 a.m.–9.15 a.m.
Parent's Signature: _____ Marks: _____ / 100

Section A (30 x 2 marks)

For each question, choose the most suitable answer and shade its correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The diagram below shows a model of the Sun and its eight planets.



Which planet, A, B, C or D represents our planet Earth?

(1) A
(2) B
(3) C
(4) D

2. Which of the following is **true** about the movement of the Sun and the Earth?

(1) The Sun takes 24 hours to revolve around the Earth and 365 days to rotate about its own axis.

(2) The Earth takes 24 hours to revolve around the Sun and 365 days to rotate about its own axis.

(3) The Sun takes 24 hours to rotate about its own axis and 365 days to revolve around the Earth.

(4) The Earth takes 24 hours to rotate about its own axis and 365 days to revolve around the Sun.

3. Before mounting a specimen slide, the first thing we must do to a microscope is to _____.

(1) look into the eyepiece

(2) put the slide on the stage

(3) adjust the correct objective lens over the slide

(4) turn the focus knobs to bring the stage lower

4. Who do we inherit our characteristics from?

(A) parents

(B) grandparents

(C) siblings

(D) cousins

(1) A and B only

(2) A and D only

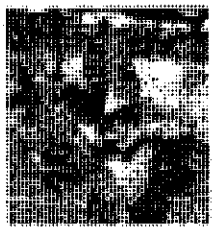
(3) B and C only

(4) C and D only

5. Which of the four processes in the life cycle of a flowering plant is in a **correct** order?

(1) seed dispersal → pollination → germination → fertilization
(2) fertilisation → seed dispersal → pollination → germination
(3) pollination → fertilisation → seed dispersal → germination
(4) germination → fertilisation → seed dispersal → pollination

6. The picture shows a bryophyllum plant.



Which of the following plants reproduces the way the bryophyllum plant reproduce?

(1) Orchid
(2) Begonia
(3) Heliconia
(4) Morning glory

7. Which of the following plants reproduce from suckers?

A – Heliconia
B – Pineapple
C – African violet
D – Banana

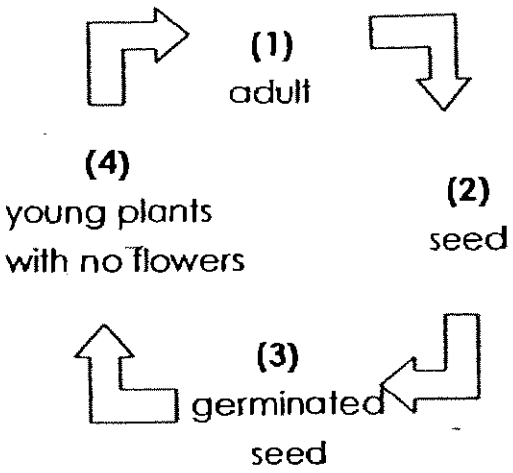
(1) A and C only
(2) B and D only
(3) A, B and D only
(4) B, C and D only

8. Which of the following about human reproduction are **true**?

(A) Sperms are produced and stored inside the testes.
(B) Normally, only one egg is fertilised by many sperms.
(C) The zygote will develop into a foetus after fertilisation.
(D) Fertilisation always takes place inside the ovary of a female.

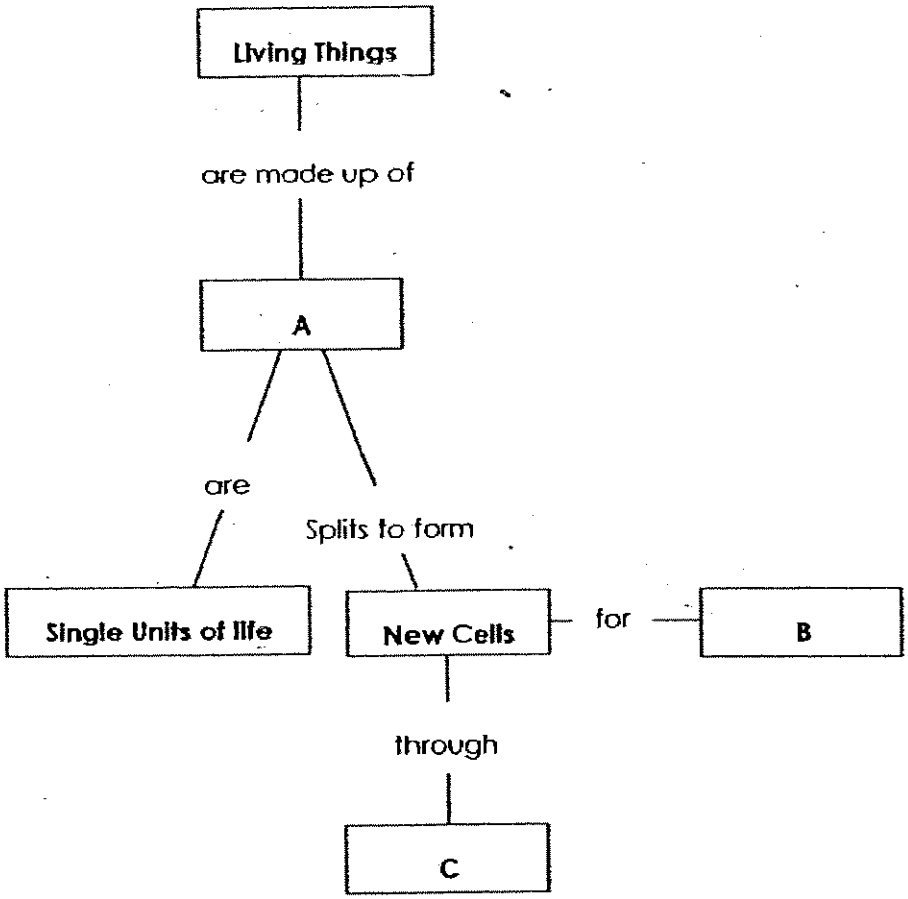
(1) A and C only
(2) B and D only
(3) A, B and D only
(4) A, B, C and D

9. The life cycle of a mango plant is represented below.



At which stage of the life cycle of the mango plant does sexual reproduction take place?

10. Study the concept map below.



What are **A**, **B** and **C**?

	A	B	C
(1)	Nuclei	Growth	Cell division
(2)	Cell	Growth	Cell division
(3)	Cell	Cell division	growth
(4)	Nuclei	reproduction	Fusion of nuclei

11. The table below shows the age and average height of four different healthy Chinese males, A, B, C and D. Whose height is most **unlikely** to increase any further?

(1)
(2)
(3)
(4)

Male	Age	Average Height in cm
A	12	150
B	15	168
C	17	171
D	21	160

12. As a plant grows, its stem becomes thicker and its leaves and roots become bigger and longer. The increase in size is possible because of the _____.

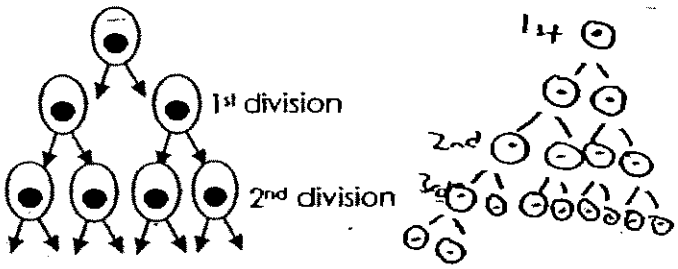
(1) oxygen intake

(2) rate of binary fission

(3) shape of the stomata

(4) number of cell division

13. The diagram below shows a cell division.



How many cells will there be after the 5th division?

(1) 8

(2) 16

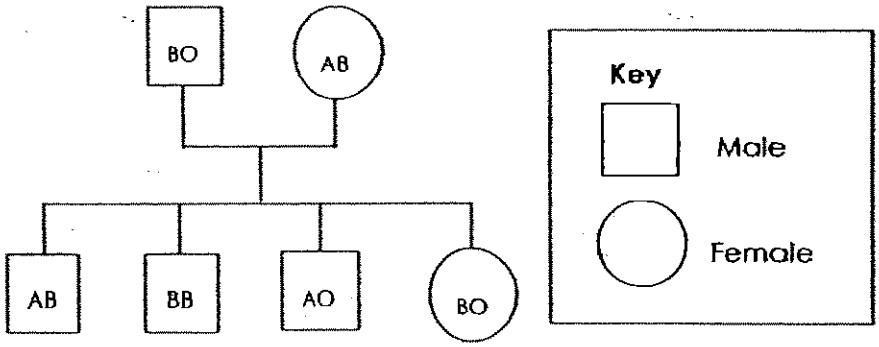
(3) 32

(4) 64

Study the table and the family tree below and answer questions 14 and 15.
The table below shows the four different blood-types: A, B, AB and O.
Each blood group is determined by two genes.

Blood-type A	Blood-type B	Blood-type AB	Blood-type O
AA AO	BB BO	AB	OO

The family tree of the Lim family is shown below.



14. How many children of the Lim family has/have **blood-type A**?

(1) 1
(2) 2
(3) 3
(4) 4

15. Which blood type does the daughter of the Lim family have?

(1) A
(2) B
(3) AB
(4) O

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16. Which of the following methods can be used to find out whether a fruit is dispersed by water?

(A) Weigh the fruit.

(B) Place the fruit into a basin of water.

(C) Examine the fruit for hooks and spines.

(D) Check whether the fruit has a fibrous husk.

(1) A and B only

(2) A and C only

(3) B and D only

(4) C and D only

17. Lalang fruits are dispersed by wind because they _____.

(A) are dry and flat

(B) are small and light

(C) have fluffy seedheads

(D) have wing-like structure

(1) A and D only

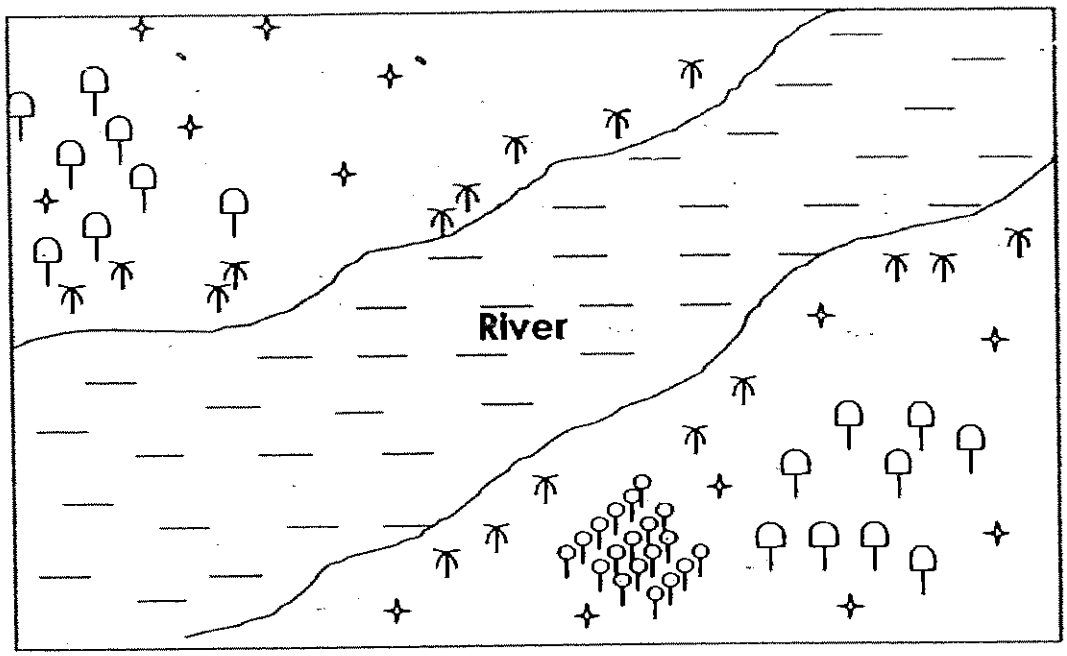
(2) B and C only

(3) B, C and D only

(4) A, C and D only

300

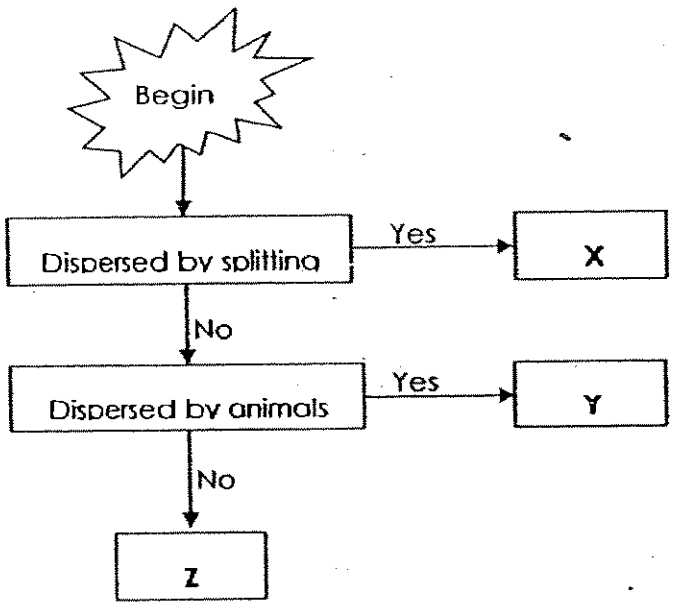
18. The diagram below shows the distribution of four types of plants near a river.



Which of the four types of plant is most likely **not** dispersed by natural means?

(1)
(2)
(3)
(4)

19. The diagram below shows a flow chart.



Which of the following can be classified in **X**, **Y** and **Z**?

	X	Y	Z
(1)	Kapok	Red Mangrove	Pong Pong
(2)	Lotus	Papaya	African Tulip
(3)	Saga	Mimosa	Shorea
(4)	Flame of the Forest	Love Grass	Cherry

20. Which of the following substances pass through the umbilical cord that connects the developing foetus and its mother?

(A) Water

(B) Digested food

(C) Carbon dioxide

(D) Waste materials

(1) A and C only

(2) A, B and D only

(3) B, C and D only

(4) A, B, C and D

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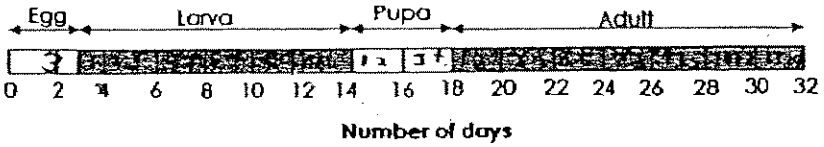
21. The time-line below shows the four stages in the life cycle of a mosquito.



Which of the following shows the **correct** duration for each stage?

	Stages			
	Egg (days)	**Larva (days)**	**Pupa (days)**	**Adult (days)**
(1)	2	14	2	32
(2)	3	14	4	32
(3)	3	11	4	14
(4)	4	11	2	14

22. Which of the following classification is **correct**?

	Asexual reproduction	**Lay eggs**	**Give Birth to its young**
(1)	Yeast	Swordtail	Python
(2)	Potato	Scorpion	Platypus
(3)	Mushroom	Kingfisher	Guppy
(4)	Paramecium	Toad	Spiny anteater

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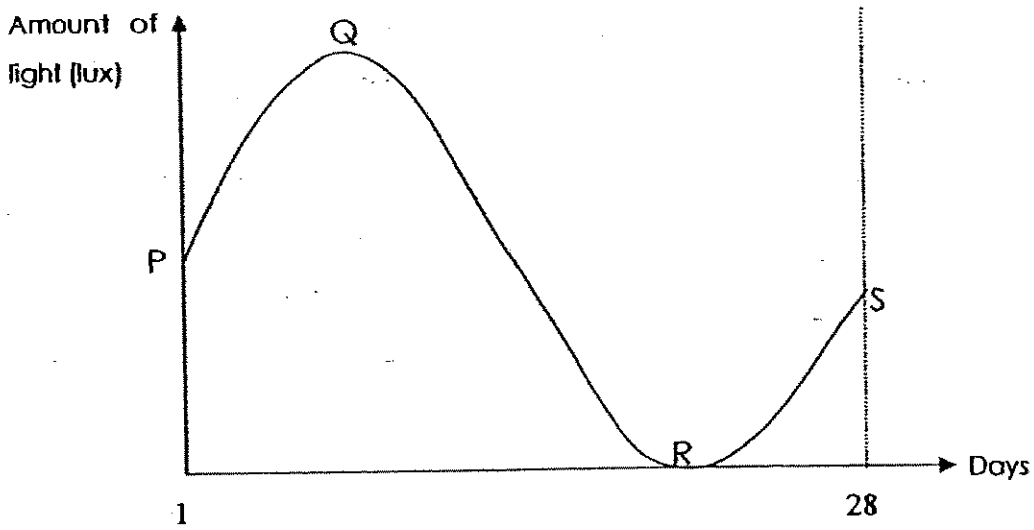
23. The graph below shows the result of measuring the amount of light received from the Moon using the light sensor of a data-logger. The measurements were made every day for four weeks when the Moon is directly overhead.

Which parts of the graph show the "full moon" and "new moon" as viewed from Earth?



(1) P and Q only

(2) P and S only

(3) Q and R only

(4) R and S only

24. Which of the following about cells is false?

(1) Cell sap can be found in a vacuole.

(2) A cell wall is a semi-permeable membrane.

(3) Both the animal and plant cells have vacuoles.

(4) Cell sap makes the plant cell firm and holds it upright.

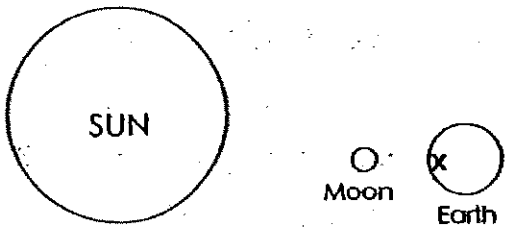
25. A description about an organism is given below.

It lives in water.
It can make its own food.
It can be made up of one type or many types of cell.

Which of the following organisms best fits the description?

(1) Algae
(2) Hydrilla
(3) Amoeba
(4) Paramecium

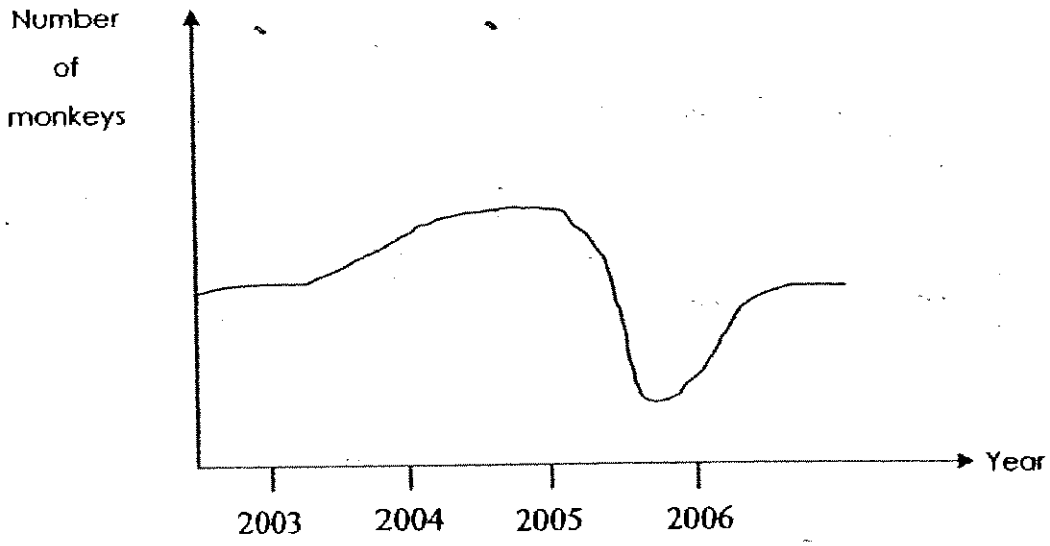
26. In the diagram below, the Sun, the Moon and the Earth form a straight line.



What will Sean see in the night sky if he is standing on the Earth at position X?

(1) A full moon
(2) A half moon
(3) A crescent moon
(4) A new moon

27. The graph below shows the number of monkeys in a forest from 2003 to 2006.



Which of the following interprets the graph **correctly**?

(1) The number of monkeys was largest in 2003.

(2) A forest fire could have taken place in 2004.

(3) A disease could have struck the population in 2005.

(4) The population started to decline in 2006.

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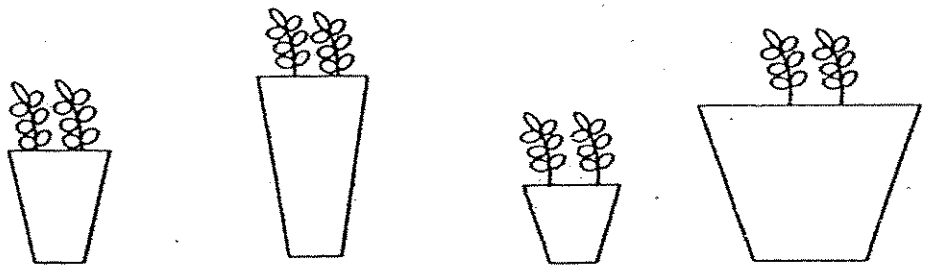
28. Some bean seedlings are planted in four pots of garden soil A, B, C and D as shown in the diagram below. The plants are watered daily to ensure that the soil is kept moist all the time.



In which pot will the bean seedlings most likely grow into the healthiest adult plants?

(1) Pot A

(2) Pot B

(3) Pot C

(4) Pot D

29. The table below shows the characteristics of the fruits A, B and C.

Fruit	Characteristics
A	Red, fleshy and juicy
B	Grey, flat, thin and light
C	Brown, small, light and has hooks

Which of the fruit(s) is/are dispersed by animals?

(1) A only

(2) A and C only

(3) B and C only

(4) A, B and C

30. In an experiment, equal numbers of chilli and tomato seeds are placed in jars P, Q, R and S. The table below shows the record of the experiment.

Jars	Type of Seeds	Type of Soil used	Where the jar was placed
P	Chilli	Clay	In the sunlight
Q	Chilli	Garden soil	In the shade
R	Tomato	Sand	In the sunlight
S	Tomato	Garden soil	In the shade

Which two jars of seeds should you compare if you are to find out whether chilli or tomato seeds grow into seedlings faster?

(1) P and Q only

(2) R and S only

(3) Q and S only

(4) P and R only

Tao Nan School

Primary 5 Science Mid-Year Examinations – 2007

Name: _____ ( ) Marks: _____ / 40

Class: P5 ( ) Parent's Signature:

Section B (40 marks)

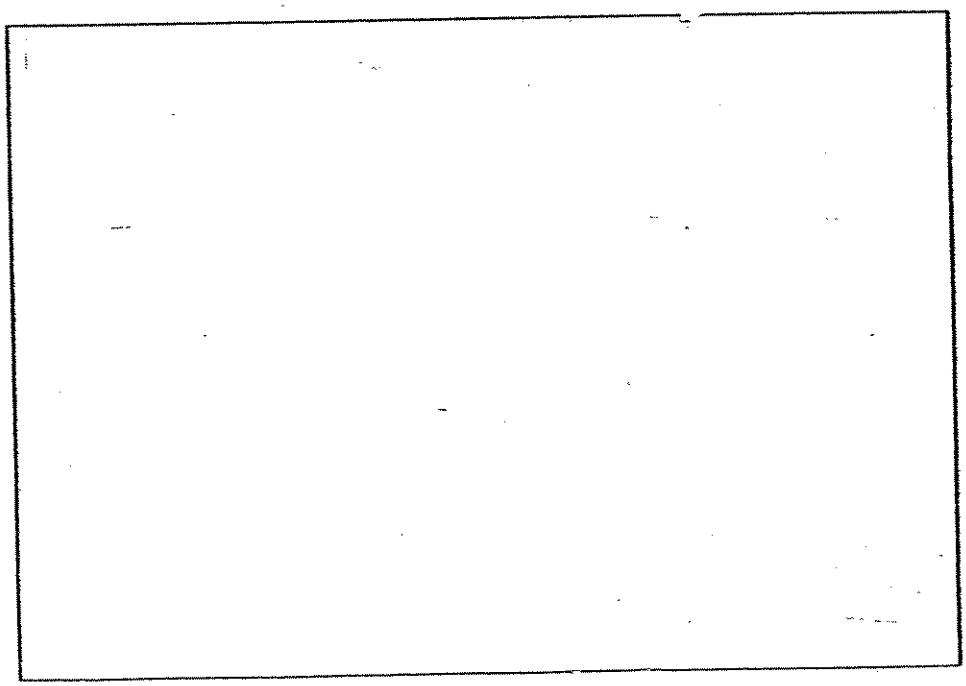
Answer the following questions in the spaces provided.

31. List **two** reasons why the Sun is so important to our Earth. (2m)

(i) _____

(ii) _____

32. Draw a leaf cell and label its cell wall, cell membrane, cytoplasm, nucleus, sap and chloroplast. (3m)



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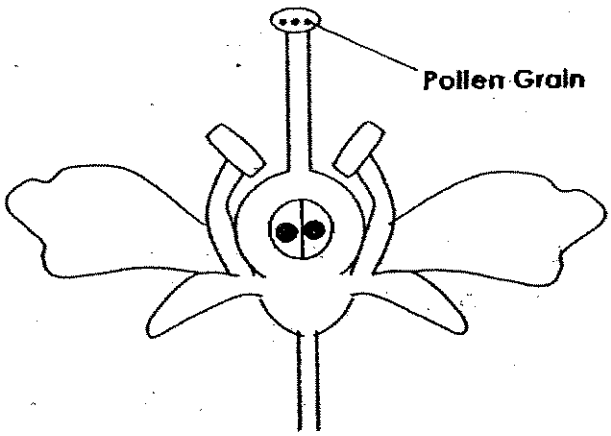
33. Put a 'T' for statements that are true or an 'F' for statements that are false. (2m)

(a) All plant cells have nuclei. (T)
(b) All cells have cytoplasm. (T)
(c) All plant cells have chloroplasts. (T)
(d) All cells go through budding. (F)

34. The diagram below shows an important process in the reproduction of a flowering plant.

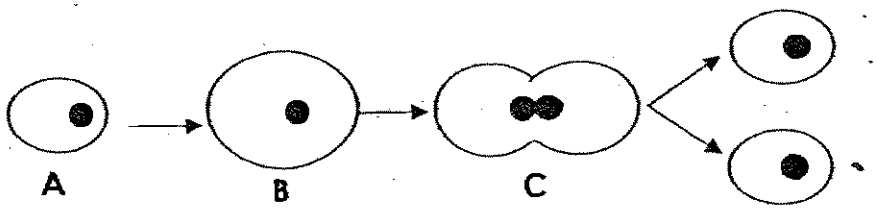


Cross-section of a flower

(a) State the part of a flower in which pollen grains are produced. (1m)

(b) Will fertilisation occur if the parts in (a) are removed from the flower? Explain your answer. (2m)

35. Study the diagram below carefully.



(a) What happens to the cell from stage **A** to **B**? (1m)

_____

(b) What happens to the nucleus from stage **B** to **C**? (1m)

_____

36. Study the table below carefully.

Planets	Distance from the Sun
W	68 million km
X	110 million km
Y	160 million km
Z	6.9 billion km

(a) Which planet has the highest temperature? (1m)

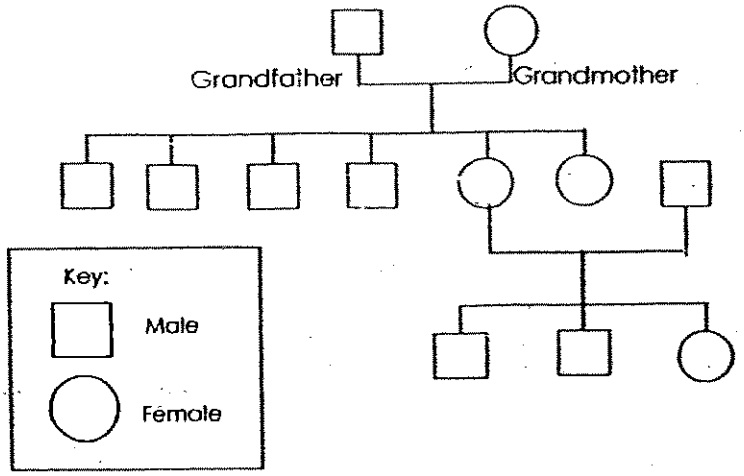
_____

(b) Which planet has the lowest temperature? Why? (2m) 1m

_____

_____

37. Jennifer drew her family tree as shown below.



(a) Is Jennifer drawing her paternal or maternal family tree? (1m)

_____

(b) According to the family tree, how many uncles does Jennifer have? (1m)

_____

(c) How many siblings does Jennifer have? (1m)

_____

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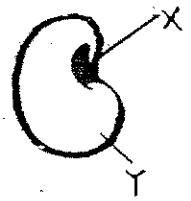
38. Study the diagram of a seed below.



(a) Identify the part that will be responsible for making food after the seed develops into a seedling and label it '**X**'. (1m)
Identify the part that provides the energy and food for the germinating seed and label it '**Y**'. (1m)

(b) Besides air, state two other conditions that the seed need before germination can take place. (1m)

_____

39(a) Which organelle in a plant cell gives plants their green colour? (1m)

_____

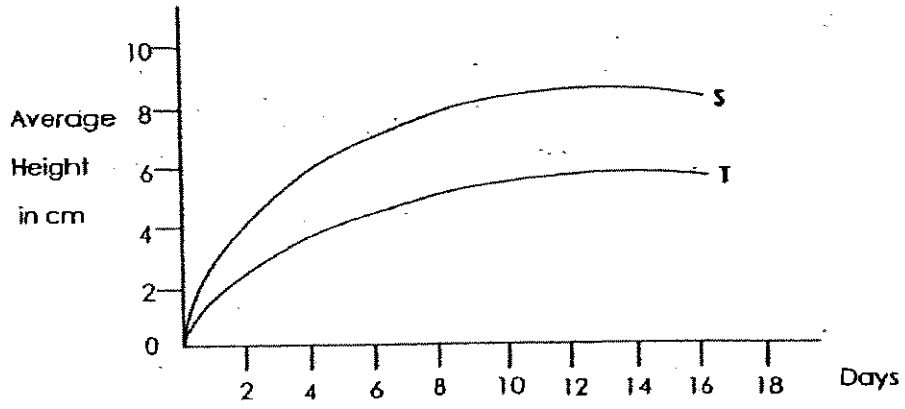
(b) Explain why a plant with red leaves can still carry out photosynthesis. (2m)

_____

_____

313

40. Some plants in two identical pots are grown in a garden under the same conditions. One pot has more plants than the other. The average height of the plants is recorded once every two days. The data is presented in the graph below.



(a) Which line (S or T) on the graph shows the pot with more plants? (1m)

_____

(b) Give a reason for your answer in (a). (1m)

_____

_____

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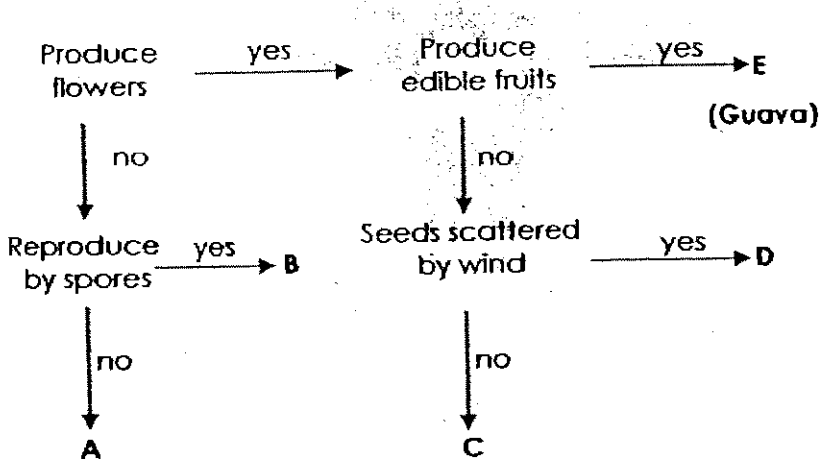
0

41. Study the flow chart below carefully.



Put each of the four organisms, **love grass, cattail, fern** and **yeast** through the process of the flow chart and find out at which point (A, B, C or D) each one will end up.

Write your answers in the empty boxes below. (2m)

Point	A	B	C	D	E
Organisms					Guava

42. List any four ways in which a plant can reproduce. (2m)

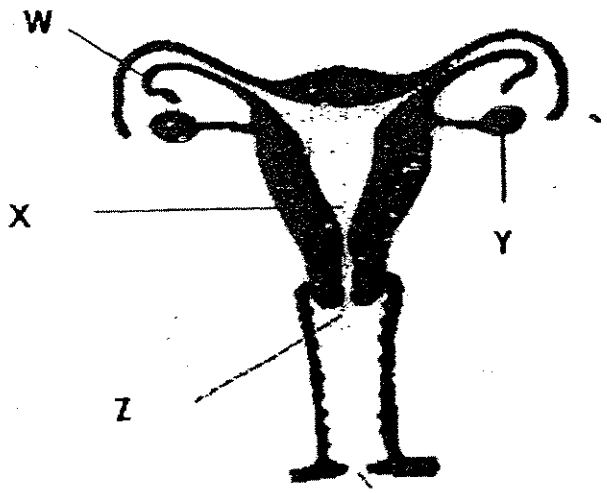
(i) _____

(ii) _____

(iii) _____

(iV) _____

43. The diagram below shows the reproductive system of a woman.



(a) Name the parts **W**, **X**, **Y** and **Z**. (2m)

W: _____

X: _____

Y: _____

Z: _____

(b) Where does fertilisation of an egg cell normally take place? (1m)

_____

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44. Celine conducts an experiment on the germination of broad beans. She puts some moist cotton wool and a broad bean on a Petri dish. She then leaves the Petri dish beside a window where there is light. She repeated the process but kept the second Petri dish inside a cupboard in the same room.

(a) What change in the two Petri dishes would Celine observe after a few days? (1m)

_____

_____

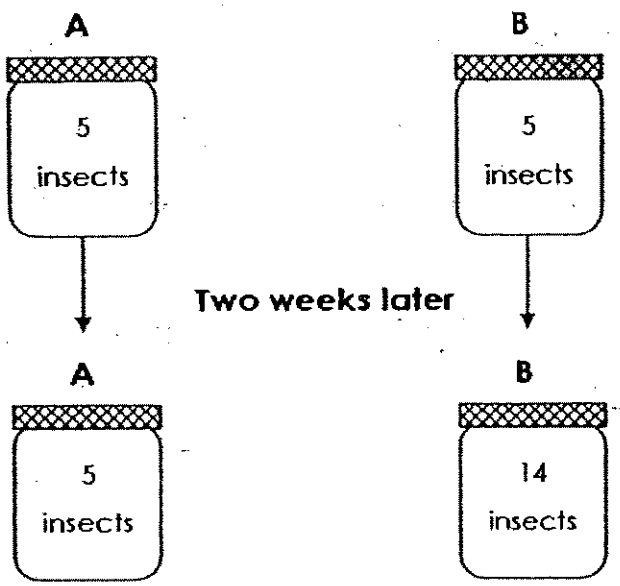
(b) What conclusion can Celine draw from this experiment? (1m)

_____

45. Reproduction takes place in both animals and plants. State the respective animal parts which have a similar function as the plant parts. (3m)

	Plant Part	Animal Part
(a)	Ovules	
(b)	Anther	
(c)	Pollen grains	

46. Study the diagram below. The containers A and B contain insects of the same type. They are given the same amount of food and water. They are covered with plastic nettings which allow air to pass through. Containers A and B are left in the dark for two weeks.



(a) Why are there more insects in container B two weeks later? (1m)

_____

(b) Why is there the same number of insects in container A two weeks later? (1m)

_____

End of paper

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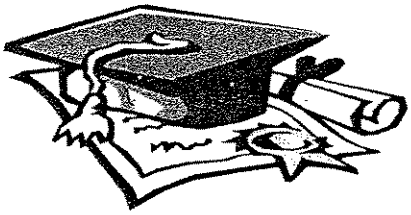


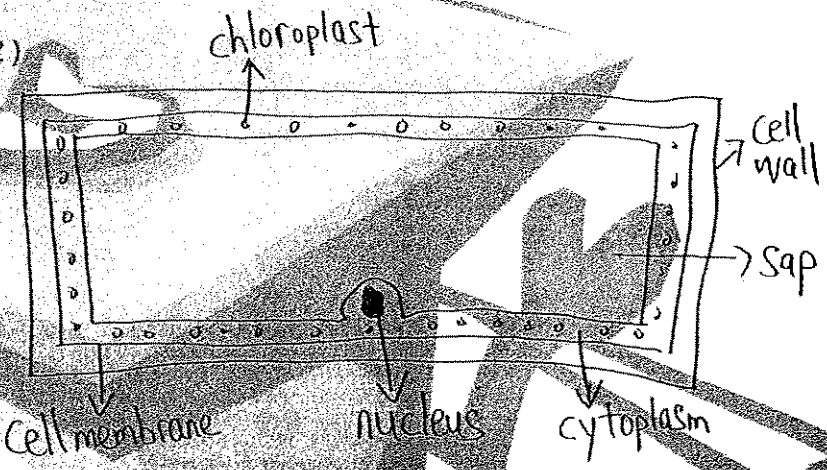
ANSWER SHEET

TAO NAN PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

1. 1
2. 4
3. 4
4. 1
5. 3
6. 2
7. 3
8. 1
9. 1
10. 2
11. 4
12. 4
13. 3
14. 1
15. 2
16. 3
17. 2
18. 3
19. 3
20. 4
21. 3
22. 3
23. 3
24. 2
25. 1
26. 4
27. 3
28. 4
29. 2
30. 3

31) i) It provides us with warmth and sunlight.
ii) It enables plants to photosynthesis

32)



33) a) T b) F c) F d) F

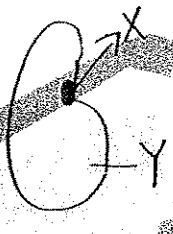
34) a) Anthers
b) Yes. The plant can still reproduce by cross pollination.

35) a) It becomes bigger.
b) It makes a copy of itself.

36) a) W.
b) It is the furthest from the sun.

37) a) Maternal.
b) Four.
c) Two.

38)a)



b)Warmth and water.

39)a)Chloroplast.
b)It still has chlorophyll within the leaves.

40)a)S.
b)

41)A: Yeast B: Fern C: Love grass D: Cattail

42)i)Stem cutting. ii)Suckers.
iii)Underground stem. iv)Leaves.

43)a)W: Fallopian tube.
X: Womb.
Y: Ovary.
Z: Vagina
b)In the fallopian tube.

44)a)Both Petri dishes of seeds would germinate.
b)Sunlight is not needed for germination of seeds.

45)a)Egg cell.
b)Testes.
c)Sperms.

46)a)Some of the insects in container B reproduced.
b)All the insects in container A are of the same sex.

SINGAPORE CHINESE GIRLS' SCHOOL

FIRST SEMESTRAL ASSESSMENT 2007

NAME: _____ ( ) DATE: _____

CLASS: PRIMARY 5(SY)/ C / G / SE / P

SCIENCE

BOOKLET A

30 questions

60 marks

Total time for Booklets A & B: 1 h 45 min

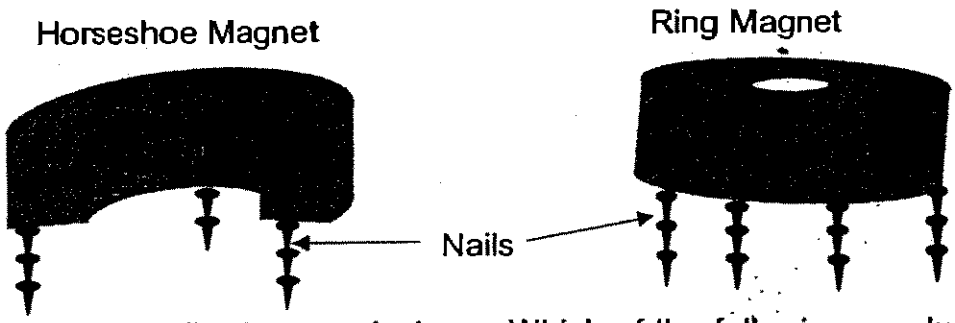
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Part 1 (60 marks)

For each question from 1 to 30, 4 options are given. One of them is the correct answer. Make your choice, (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. Jennifer conducted the following experiment using a horseshoe magnet and a ring magnet. She wanted to find out the number of nails the two magnets can attract.

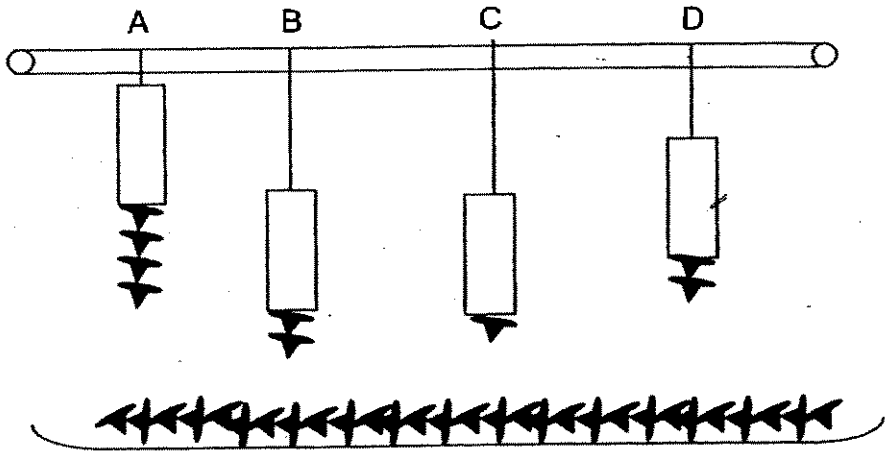


She drew the following conclusions. Which of the following conclusions are **correct**?

A: The ends of the horseshoe magnet are stronger than the centre.
B The horseshoe magnet has a greater magnetic strength than the ring magnet.
C: The magnetic strength is the same at the four different points tested for the ring magnet.

1) A and B only
2) A and C only
3) B and C only
4) B [redacted] only

2. Kelvin set up an experiment as shown below. He hung four magnets, A, B, C and D on a rod and placed a tray of pins below them.



Which one of the following statements on the above experiment is **false**?

1) Magnet C is the weakest magnet.
2) Magnet A is the strongest magnet.
3) Magnet D is weaker than Magnet B.
4) Magnet D is stronger than Magnet C.

3. What are the common properties among the objects shown below?


Plastic Pen


Book


Ceramic Vase


Wooden Cabinet

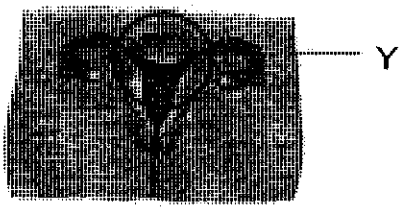
A: They are flexible.
B: They are non-magnetic.
C: They are poor conductors of heat.
D: They are non conductors of electricity.

1) A and B only
2) A and C only
3) A, B and C only
4) B, C and D only

4. Mrs Quek took out a glass of water from the refrigerator and placed it on the table. Five minutes later, she noticed drops of water on the outer surface of the glass. This is because _____.

1) water from the glass leaked out
2) water vapour from the glass condensed on the outer surface of the glass
3) cool water vapour from the surrounding air condensed on the warm surface of the glass
4) warm water vapour from the surrounding air condensed on the cool surface of the glass

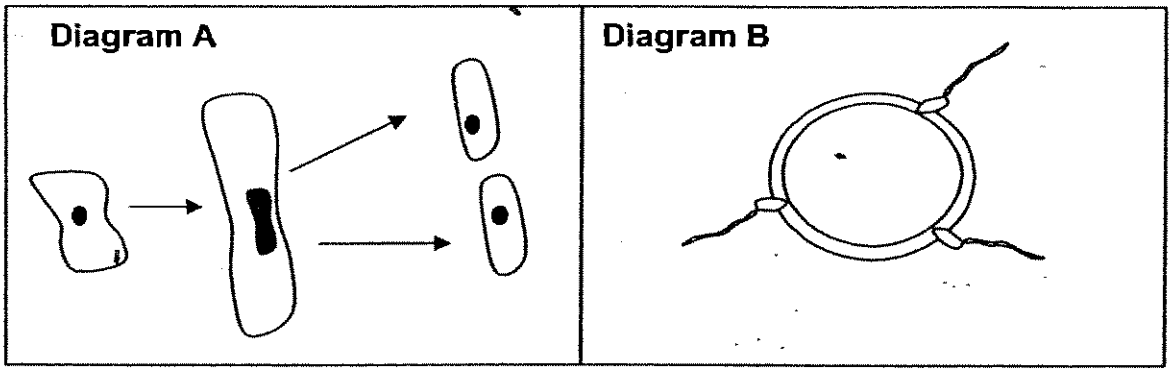
5. The diagram below shows the reproductive system of a woman.



What is the function of the part labelled Y?

1) To produce eggs.
2) To fertilise the eggs.
3) To hold the egg before release.
4) Place where the fertilized egg develop.

6. Study the diagram below.



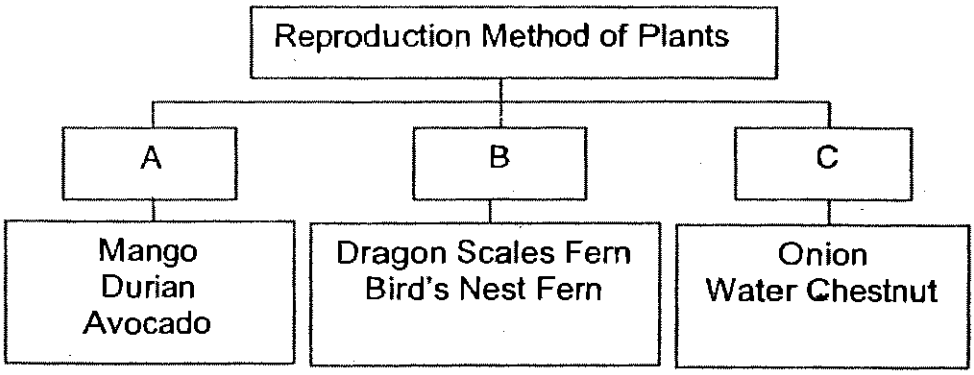
Which of the following organisms reproduce the same way as Diagrams A and B?

	Diagram A	Diagram B
1)	Hydra	Human
2)	Bacteria	Amoeba
3)	Yeast	Bacteria
4)	Paramecium	Dogs

7. Ming Hui classified the following animals based on the development of the egg and ways the different organism gets its nutrients in the table below. Which of the following has the **wrong** information?

	Animal	Development of Egg	Sources of Nutrients
1)	Platypus	Outside the body	Egg Yolk
2)	Human	Inside the body	Mother's Body
3)	Penguin	Outside the body	Egg Yolk
4)	Guppy	Outside the body	Egg Yolk

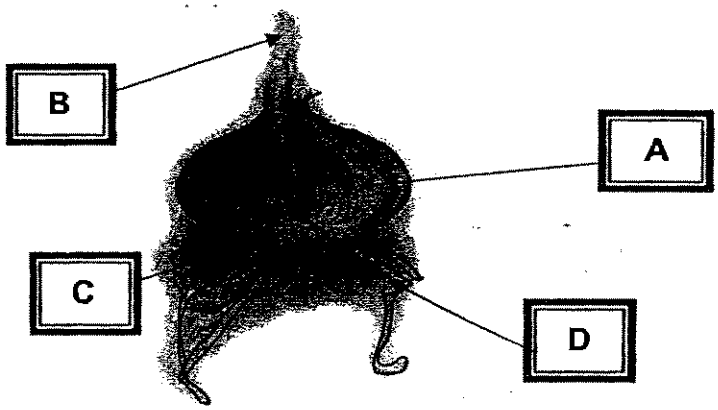
8. Study the chart below.



Which of the following sub-headings best represent A, B and C?

	A	B	C
1)	Spores	Seeds	Underground Stem
2)	Seeds	Spores	Underground Stem
3)	Seeds	Underground Stem	Spores
4)	Underground Stem	Spores	Seeds

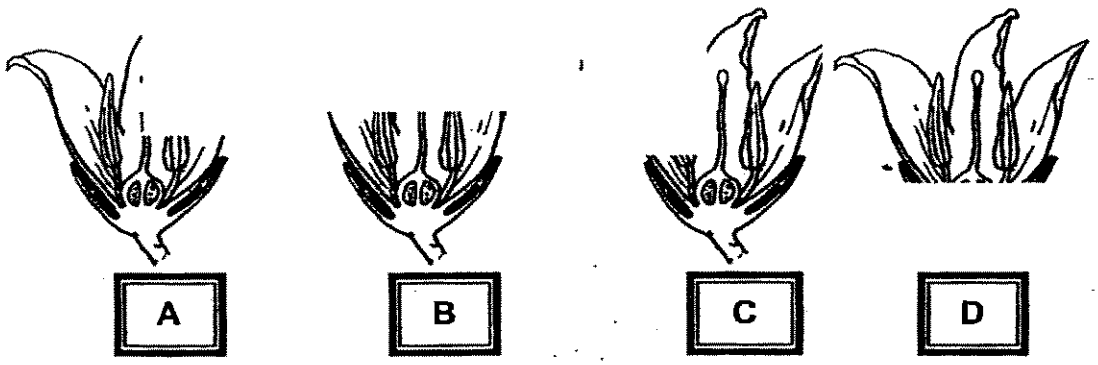
9. Study the diagram below.



Which of the following **correctly** label the parts of the onion?

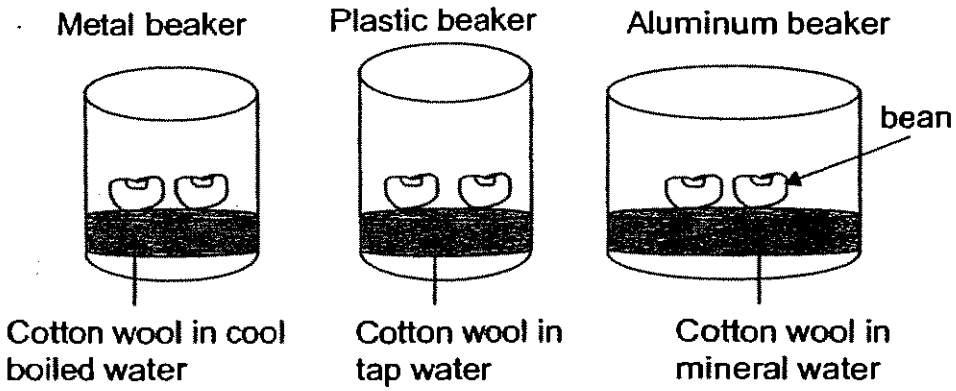
	A	B	C	D
1)	Shoot	Fleshy leaves	Root	Underground Stem
2)	Fleshy leaves	Shoot	Underground Stem	Root
3)	Underground Stem	Root	Shoot	Fleshy leaves
4)	Root	Underground Stem	Fleshy leaves	Shoot

10. Gopal, the gardener, accidentally snipped off part of some flowers while trimming the plants. Assuming that fertilisation had taken place, which of the following flower can still be developed into a fruit?



1) A and B only
2) B and D only
3) A, B and C only
4) A, B and D only

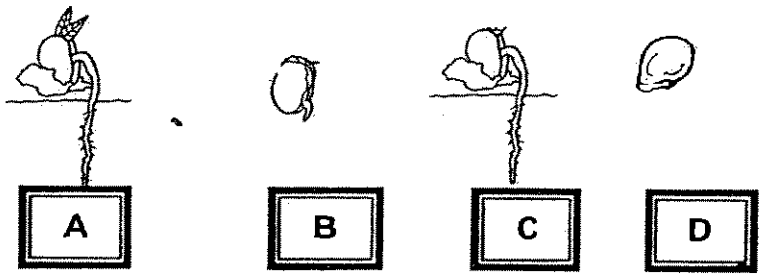
11. Kenny wanted to germinate some beans. He wanted to find out if the beans will germinate when placed in different types of water. He placed two beans into each of the three different beakers as shown below. His teacher told him that his experiment is not a fair one. What are the variables that he had to keep the same?



A: Type of water
B: Type of beans
C: Size of container
D: Type of container

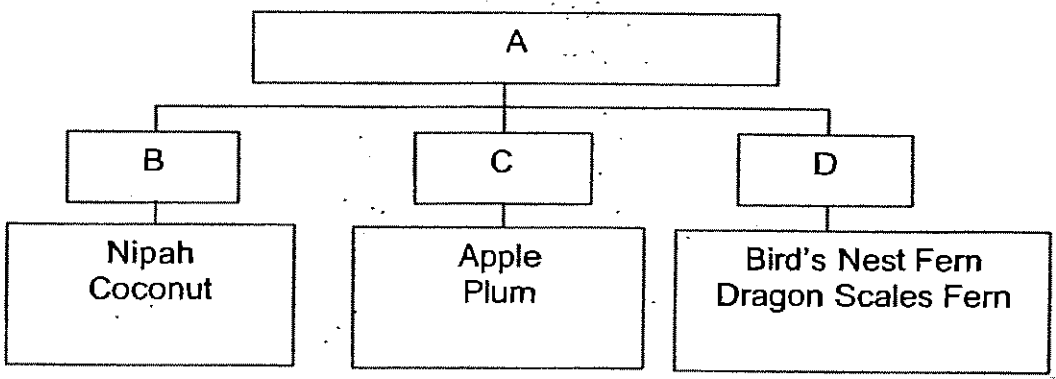
1) A and B only
2) C and D only
3) A, C and D only
4) B, C and D only

12. Genevieve was told to label the process of the growth of a plant from a seed. Which of the following **correctly** states the process of growth?



1) A B C D
2) B C A B
3) C D B A
4) D B C A

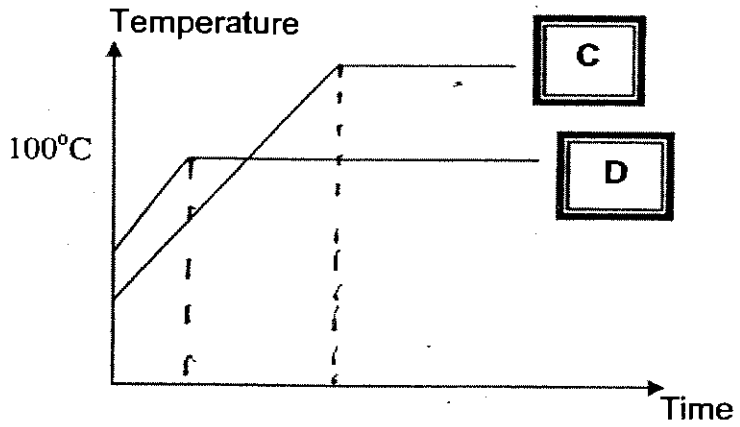
13. Study the chart below.



Which of the following sub-headings best represent A, B, C and D?

	A	B	C	D
1)	Types of Fruits	Water	Land	Land
2)	Methods of Reproduction	One Seed	Many Seeds	Spores
3)	Methods of Dispersal	Water	Animals	Wind
4)	Agents of Pollination	Wind	Insects	Wind and Insects

14. Lendon heated two beakers of liquid, C and D, until they reached their boiling temperature. The results are shown in the graph below.

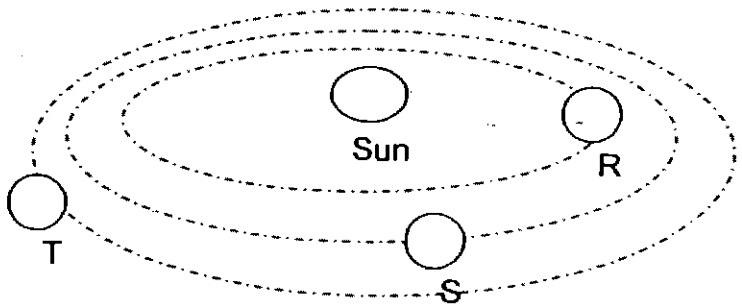


Based on the graph above, which of the following statements are **true**?

A: Liquid C and D is the same type of liquid.
B: Liquid D has a lower boiling point than C.
C: Liquid C takes a longer time to reach boiling point.
D: Liquid D has a lower initial temperature than liquid C.

1) A and C only
2) B and C only
3) A, B and D only
4) B, C and D only

15. Magdelina made a model of part of the solar system as shown below. There are three objects R, S and T revolving around the Sun. The dotted lines show the paths taken by the three objects.



Magdelina has to do a little presentation for the class. She noted the following points. Which of the following statements are **true**?

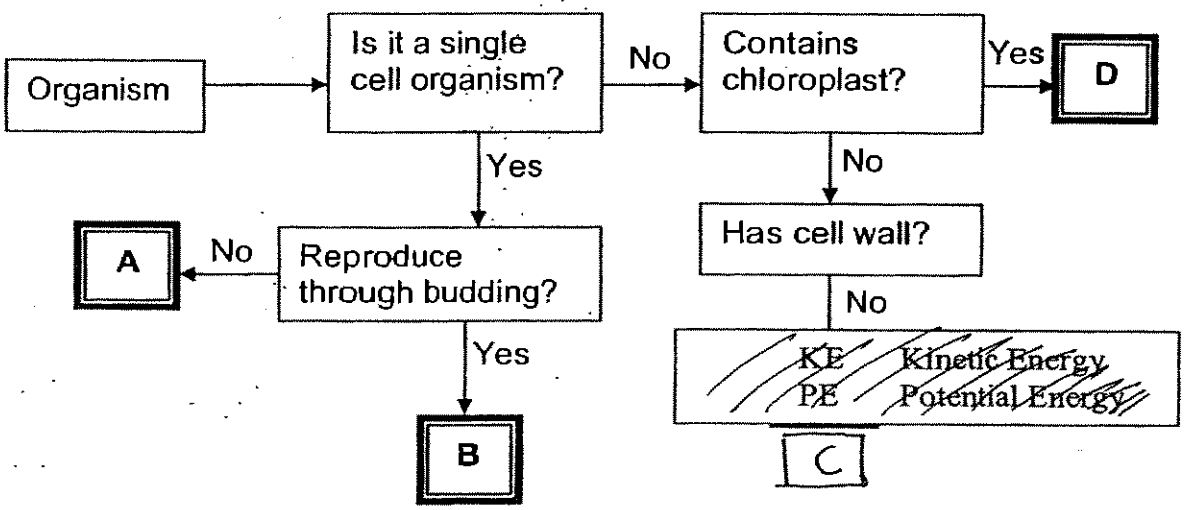
A: The hottest object should be T.
B: The Sun is in the centre of the Solar System.
C: Object R takes a shorter path around the Sun than Object T.
D: Objects R, S and T are the moons that revolve around the Sun.

1) A and B only
2) B and C only
3) A, B and C only
4) A, B and D only

16. Jacky is very intrigued by the Planet Earth. He had learnt from his teacher that Earth is the only planet that supports life. He gave the following reasons why this is so in a quiz. Which one of the following reasons is **incorrect**?

1) The Earth is just about the right distance away from the Sun.
2) There are water and suitable air composition for living things to live.
3) The atmosphere which is a layer of gas prevents harmful rays from the Sun from reaching us.
4) The Earth is surrounded by a layer of atmosphere so sound waves can reach us and we can hear each other.

17. Study the flowchart shown below.



Which organisms do the letters A, B, C and D represent?

	A	B	C	D
1)	Yeast	Amoeba	Cheek cell	Onion
2)	Amoeba	Yeast	Cheek cell	Elodea Leaf
3)	Yeast	Amoeba	Cheek cell	Elodea Leaf
4)	Amoeba	Yeast	Elodea Leaf	Cheek cell

Study the table to answer Question 18 and 19.

A	B	C	D
cytoplasm	cell membrane	cell wall	chloroplasts

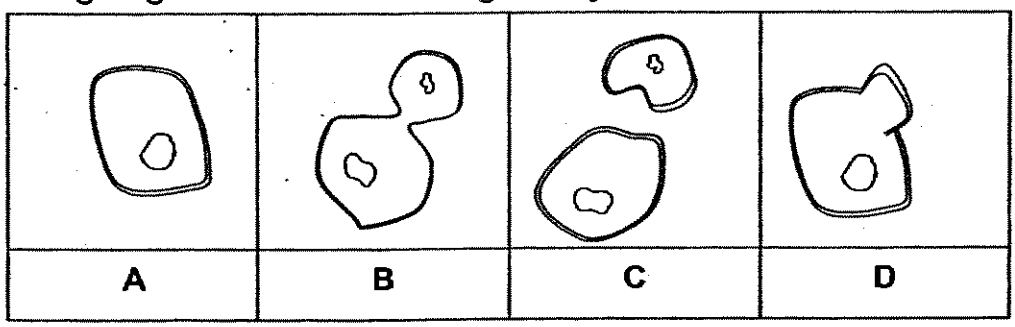
18. Which of the above is/are **not** found in amoeba?

1) A only
2) A and B only
3) B and C only
4) C and D only

19. Which of the following is not found in all parts of a flowering plant?

1) A
2) B
3) C
4) D

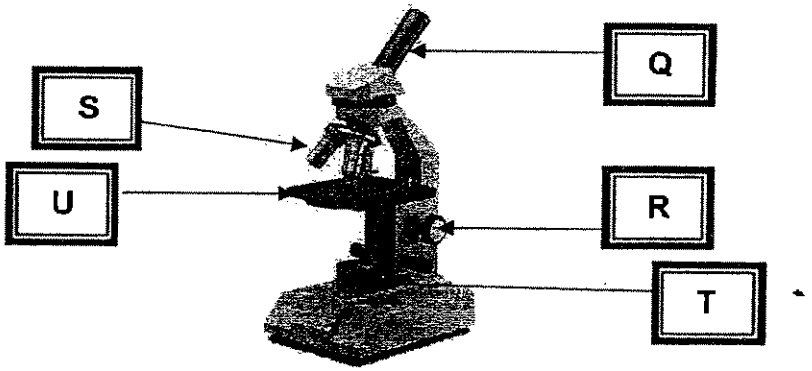
20. Jing Jing observed the budding of a hydra as shown below.



However, she has forgotten the sequence in which budding takes place. Which of the following shows the **correct** sequence on the process of budding?

1) A B C D
2) A D B C
3) A D C B
4) A C B D

Study the microscope below and answer questions 21 and 22



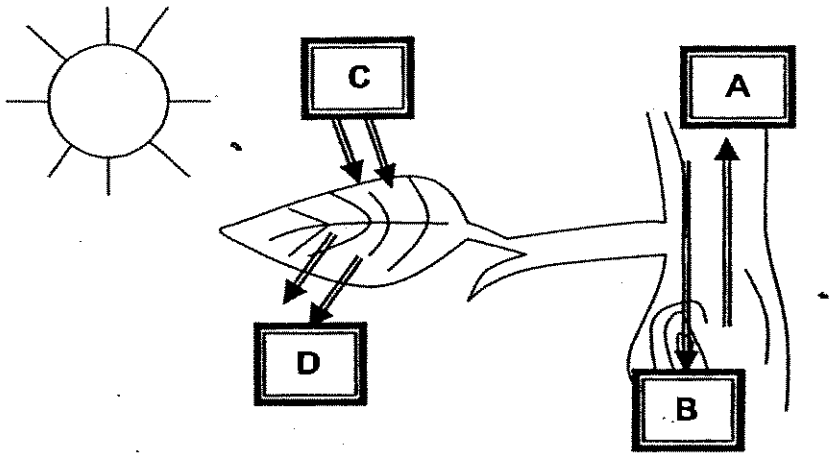
21. What are the names of the parts labeled Q, R, S and T?

	Q	R	S	T
1)	Eye Piece	Fine focusing Knob	Light source	Objective lenses
2)	Objective lenses	Coarse focusing Knob	Eye Piece	Light source
3)	Eye Piece	Coarse focusing Knob	Objective lenses	Light source
4)	Light source	Fine focusing Knob	Eye Piece	Objective lenses

22. Which one of the following **correctly** states the functions of parts S, U and R?

	S	U	R
1)	Magnifies the specimen	Focuses the image	Where specimen is placed
2)	Focuses the image	Where specimen is placed	Magnifies the specimen
3)	Where specimen is placed	Focuses the image	Magnifies the specimen
4)	Magnifies the specimen	Where specimen is placed	Focuses the image

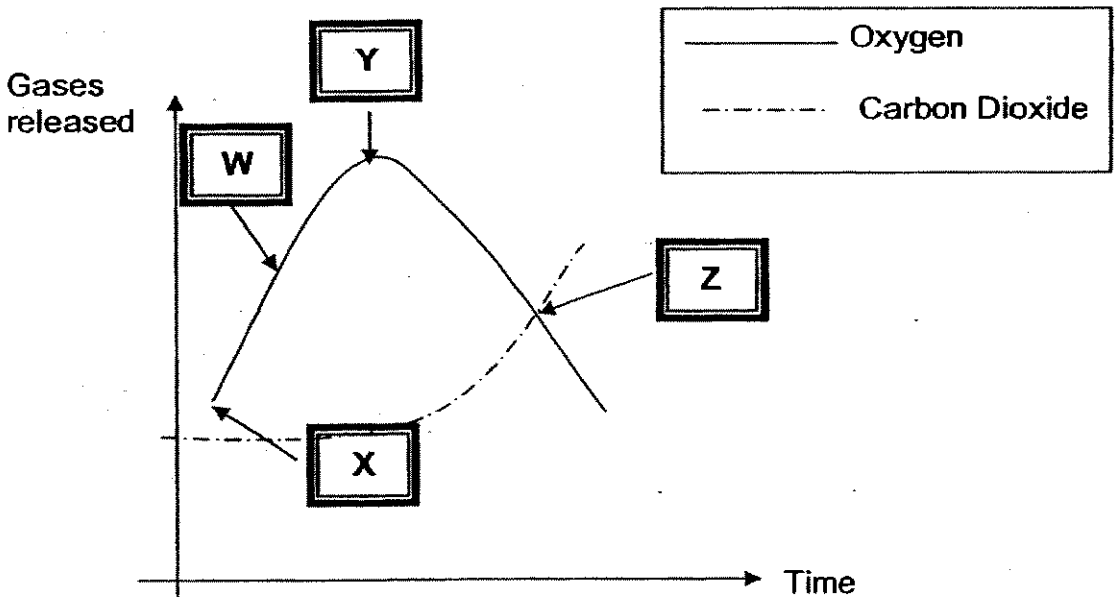
23. The picture below shows a process that plants go through.



What do the substances A, B, C and D represent respectively?

	A	B	C	D
1)	water	glucose	oxygen	carbon dioxide
2)	glucose	water	oxygen	carbon dioxide
3)	water	glucose	carbon dioxide	oxygen
4)	glucose	water	carbon dioxide	oxygen

The graph below shows the amount of oxygen and carbon dioxide released by some green plants at a certain area over a period of one day. Use it to answer questions 24 and 25.



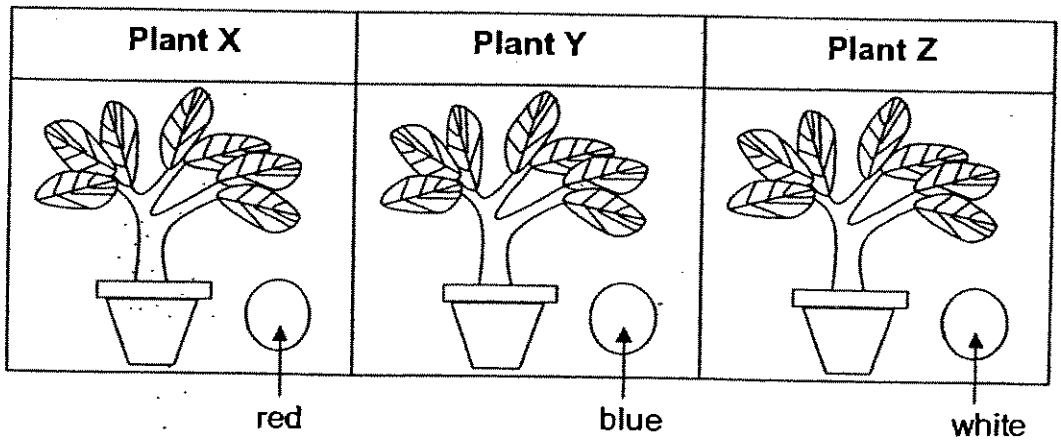
24. What do you think is the time at point Y?

1) Dusk
2) Dawn
3) Midnight
4) Afternoon

25. At which point is the rate of photosynthesis the same as the rate of respiration?

1) W
2) X
3) Y
4) Z

26. Jing Jing carried out the experiment as shown below. She placed three similar plants into an air tight container. She also inserted a chemical to find out the amount of carbon dioxide present.



The chemical will change colour according to the the amount of carbon dioxide present and this was recorded in the table as shown below.

Colour of Chemical	Amount of Carbon Dioxide present
Red	More carbon dioxide than in the air
White	Same amount of carbon dioxide as in the air
Blue	Less carbon dioxide than in the air

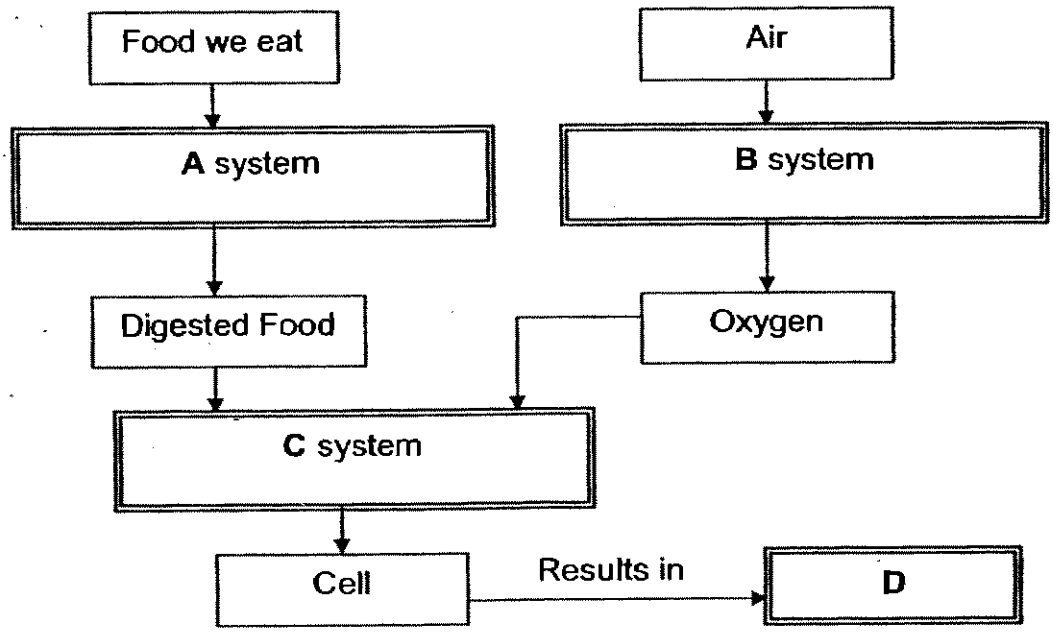
Jing Jing plucked a leaf from each plant and tested them with iodine solution. Which one of the following shows the **most likely** result?

	X	Y	Z
1)	Iodine solution turned blue	Iodine solution turned dark blue	Iodine solution remained unchanged
2)	Iodine solution remained unchanged	Iodine solution turned dark blue	Iodine solution turned blue
3)	Iodine solution turned dark blue	Iodine solution remained unchanged	Iodine solution turned blue
4)	Iodine solution remained unchanged	Iodine solution turned blue	Iodine solution turned dark blue

27. Peter wanted to find out the effects of iodine solution on some items. He tabulated his results in the table below. Which of the following shows the **correct** results?

	Cookie Dough	Fish Meat	Egg	Potato
1)	Brown	Brown	Blue	Blue
2)	Brown	Blue	Brown	Brown
3)	Blue	Brown	Brown	Blue
4)	Blue	Brown	Blue	Blue

28. Study the flow chart below.



Which of the following best represent A, B, C and D?

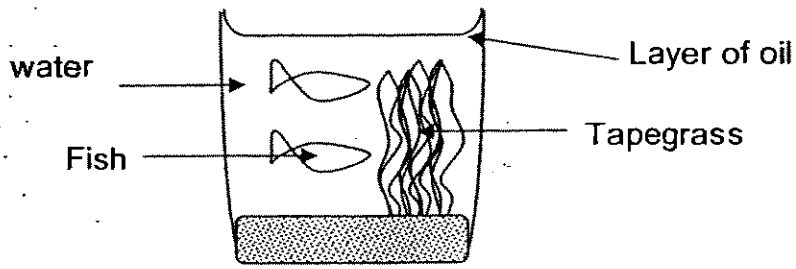
	A	B	C	D
1)	Digestive	Respiratory	Circulatory	Respiration
2)	Respiratory	Digestive	Circulatory	Digestive
3)	Digestive	Circulatory	Respiratory	Respiration
4)	Circulatory	Respiratory	Respiration	Digestive

29. Which of the following statements about respiration and photosynthesis in plants are **true**?

A: Respiration takes place at all times.
B: Respiration in plants only takes place at night.
C: Photosynthesis can only take place in day time.
D: Photosynthesis and Respiration can occur at the same time in one plant.

1) A and B only
2) A and D only
3) A, B and D only
4) B, C and D only

30. Stella set up an experiment as shown below. She poured in some water into the beaker and added some tape grass and fish. Next, she poured in some oil and placed the beaker under the Sun.



Stella was told that the tapegrass and fish in the beaker will still be able to survive even though air outside the beaker cannot enter it. Why is this so?

1) The plant can still carry out photosynthesis and respire at night.
2) The tapegrass and the fish can still carry out photosynthesis during the day.
3) The fish will take in carbon dioxide during the day and give out oxygen at night.
4) There is an air cycle within the beaker so the tapegrass and the fish can still survive.

SINGAPORE CHINESE GIRLS' SCHOOL
FIRST SEMESTRAL ASSESSMENT 2007

NAME: _____ ( ) DATE: _____

CLASS: PRIMARY 5(SY)/ C / G / SE / P

Booklet A	60
Booklet B	40
Total	100

Parent's Signature

_____

SCIENCE

BOOKLET B

16 questions

40 marks

Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

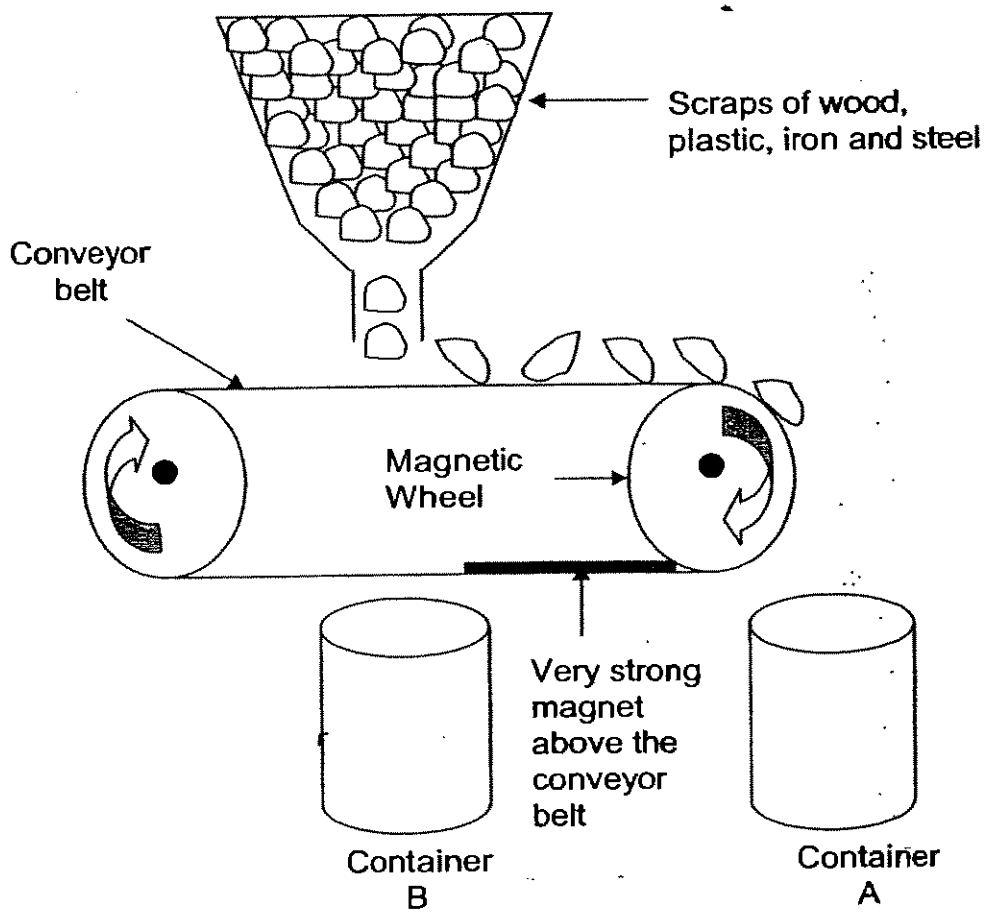
Name: _____( ) Date: _____

Class: Primary 5 (SY) / C / G / SE / P

Part II (40 marks)

Answer all the following questions.

31. In a recycling factory, a machine is used to separate wood and plastic chips from steel and iron scraps. The diagram below is an example of such a machine.



31a. In which container will the iron and steel scraps fall into? (1 mark)

_____

_____

31b. Why is a magnetic wheel and a strong magnet used in this machine to separate wood and plastic from iron and steel scraps? (1 mark)

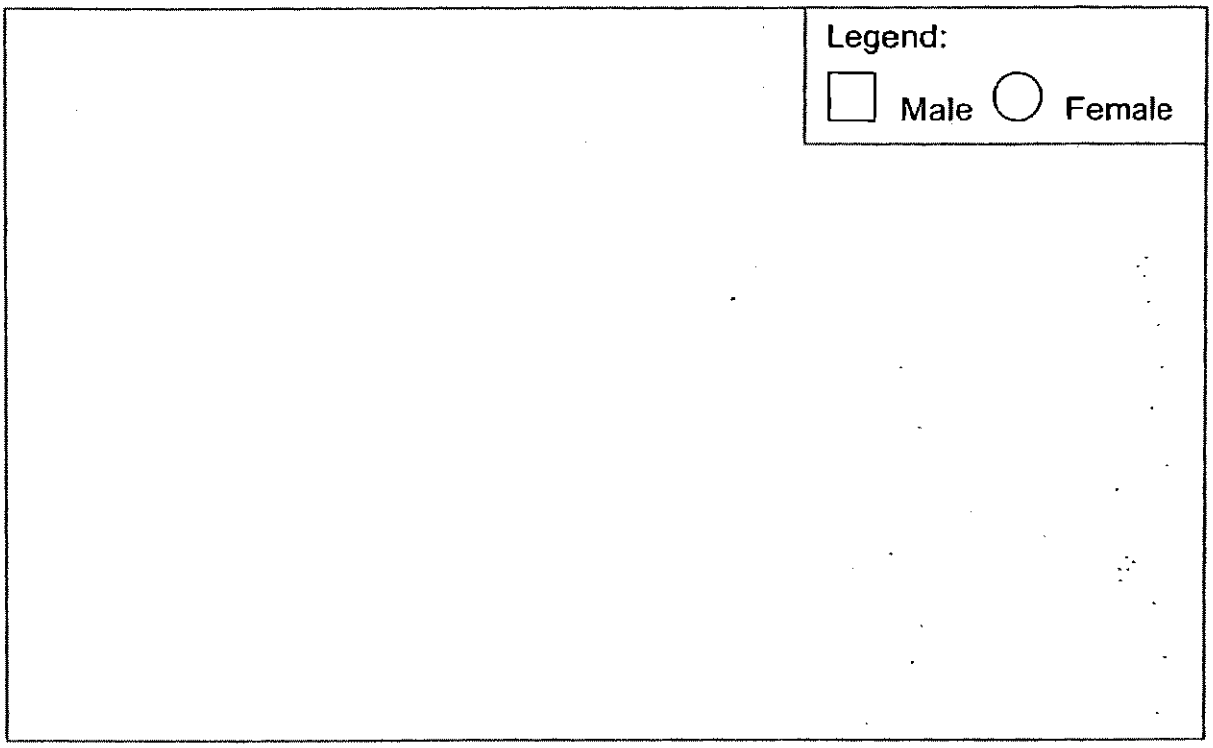
_____

_____

337 2

32. Raymond has two cats. Their names are Stripes and Ginger. Stripes is a male and Ginger is a female. Stripes is grey with black stripes and Ginger is brown. Both mated and produced four kittens. Out of the four of them, three are male and one is a female. One of the males is brown with black stripes and the other two are brown. The female is grey.

32a. Using the information above, draw the family tree of Stripes and Ginger using the symbols indicated in the legend (2 marks)



32b. One of the male kittens is brown with black stripes. How is this possible since none of its parents has this combination? (1mark)

_____

_____

3

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33. The stomata and the gills are organs from plants and fish respectively.

33a. Which system of living processes do these organs belong to? (1 mark)

_____

33b. How do these two organs help the fish and plant to live? (1 mark)

_____

_____

33c. Which organ in the human body perform the same function as the two organs above? (1 mark)

_____

_____

34. Magnus measured the length of 5 string bean pods from the same plant and counted the number of seeds in each pod. He recorded the results in the table below.

String bean pod	Length (cm)	No of Seeds
A	12	5
B	15	7
C	20	14
D	22	15
E	25	16

Based on the information above, what is the relationship between the length of the string bean pod and the number of seeds? (2 marks)

_____

_____

5

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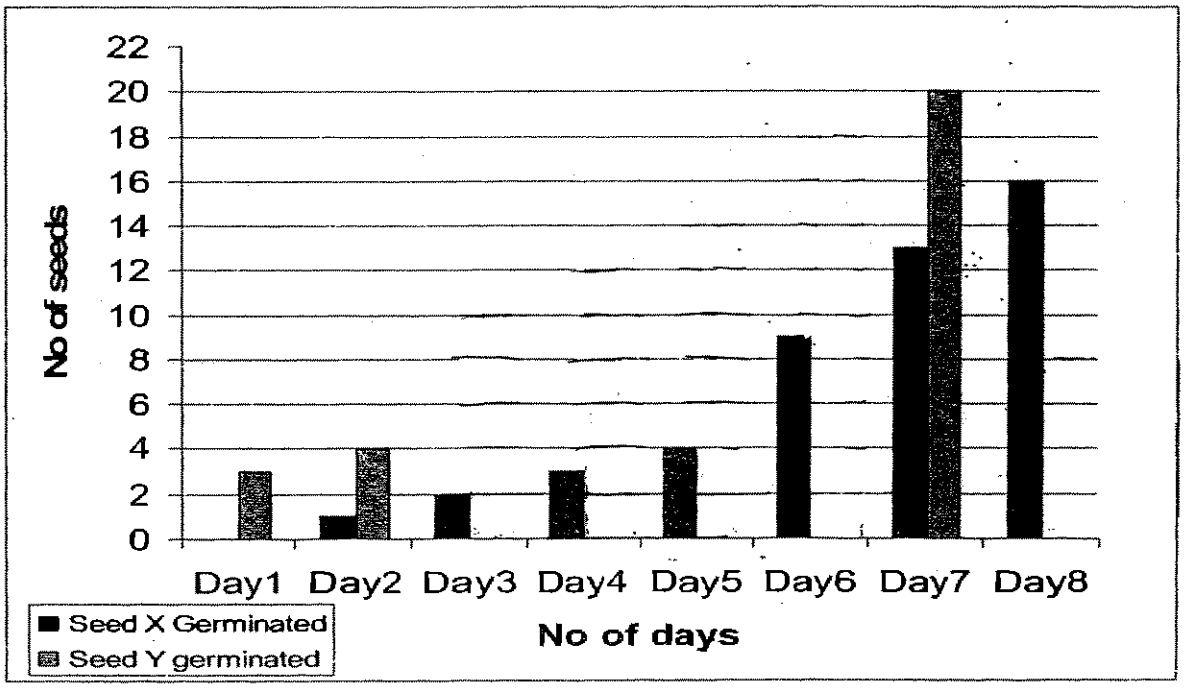
35a. Kelvin wanted to compare the rates of germination between Seed X and Seed Y. He planted 20 of each type of seed and recorded his observation in the table below.

Day	Number of Seed X that germinated	Number of Seed Y that germinated
1	0	3
2	1	4
3	2	10
4	3	13
5	4	15
6	9	18
7	13	20
8	16	0

He wanted to tabulate his results in the graph below. There is some missing information. Help him to draw in the missing bars to complete the graph.
(2 marks)



35b. Kelvin noticed that the pot used for Seed X is smaller than the one used for Seed Y. He also noticed that the plants that germinated from Seed X are not as healthy as the plants germinated from Seed Y. Give one possible reason why this is so.
(1 mark)

_____

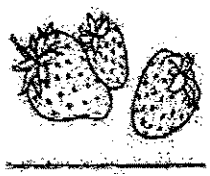
_____

3

36a. The table below shows a key that you can follow to classify a fruit.

1.	Fruits with many seeds Fruits with one or two seeds	Go to 2 Go to 6
2.	Fruits with seeds on the outside Fruits with seeds on the inside	Aggregate fruit Go to 3
3.	Fruits with spine like protections on skin Fruits with relatively smooth skin	Multiple fruit Go to 4
4.	Fruits soft with seeds inside a central paper core Seeds not in core	Pome Go to 5.
5.	Seeds in a pod Seeds not in a pod	Legume Berry
6.	Fruits that have seeds with wings Fruits that have seeds with no wings	Samara Go to 7
7.	Soft fruit with a single seed in the middle Dry fruit	Drupe Go to 8
8.	Thick hard shell around seed Very thin papery fruit so that fruit looks like seed	Nut Achene

Based on the key above, how should the following fruit be classified? (2 marks)

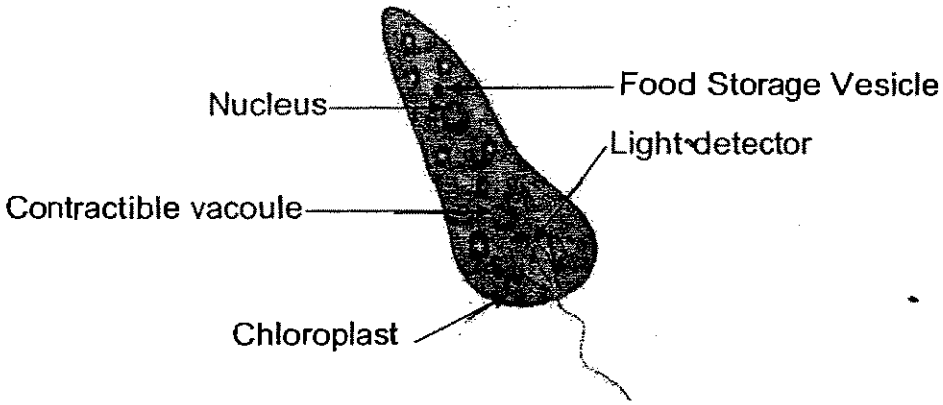
	Strawberry: _____
	Angsana: _____

36b. Fruit C has been classified as a 'Pome'. Does it have one or two seeds or many seeds? (1 mark)

_____

341 3

37. The following shows a Euglena. It is a single-celled organism that is usually found in freshwater ponds.



37a. State one possible way by which this organism obtain its food. (1 mark)

_____

_____

37b. The flagellum can be likened to the tail of a sperm cell. What do you think is the function of the flagellum? (1mark)

_____

_____

38. Gabriel looked at some cell specimens under the microscope. The specimens that he looked at are shown below.

Cell A Cell B Cell C Cell D

38a. Which two cells are plant cells? (1 mark)

_____

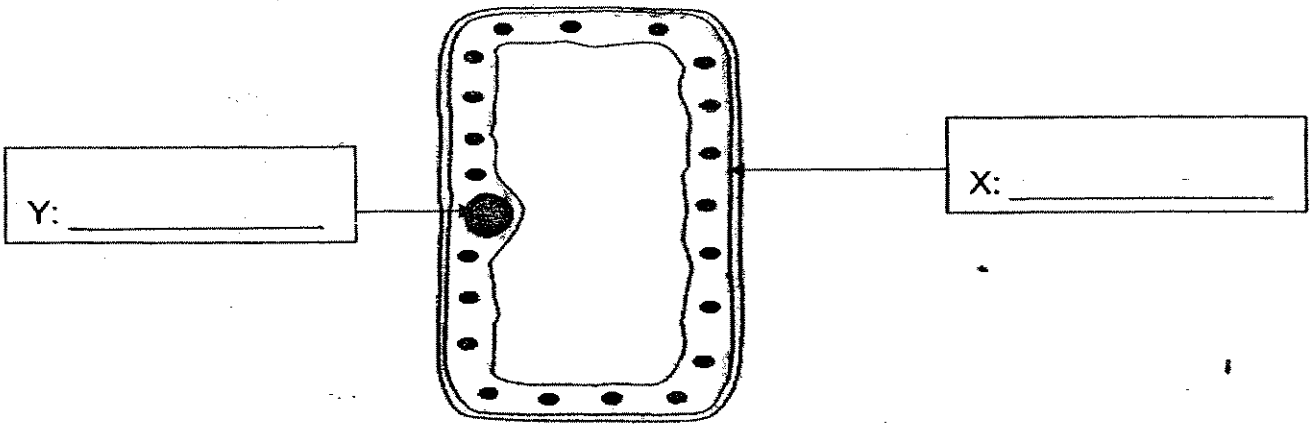
38b. Give a reason to support your answer. (1 mark)

_____

_____

342 4

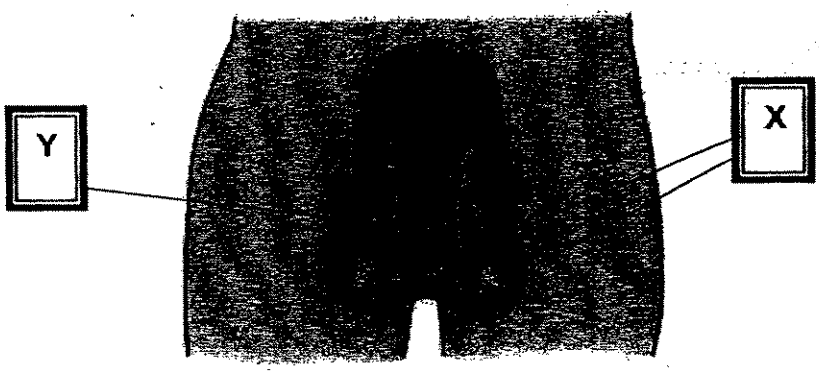
39a. The following is a picture of a plant cell. Name the parts labeled X and Y. (2 marks)



39b. Adeline was taught that paramecium multiply through a process known as binary fission. How many paramecium cells will there be after five divisions? (1 mark)

_____

40. Below is a diagram of a male reproduction system. Complete the blanks with the correct terms.



40a. Name the part labeled X: _____ (1/2 mark)

Name the part labeled Y: _____ (1/2 mark)

40b. What is the function of the part labeled X? (1 mark)

_____

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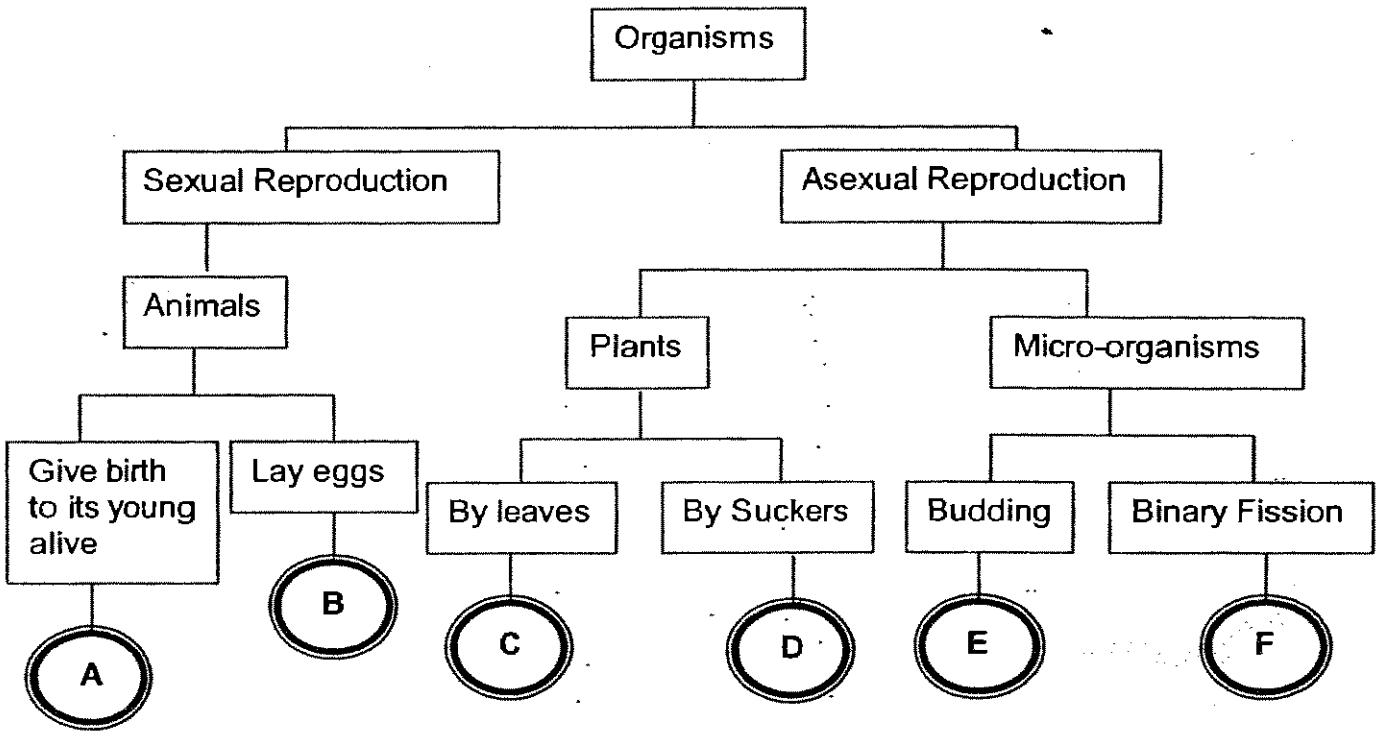
41. Abigail wanted to classify the organisms stated below according to their method of reproduction as shown in the chart. (3 marks)

Hydra	African Violet	Gorilla
Toad	Amoeba	Pineapple plant



Complete the blanks below.

A: _____ D: _____

B: _____ E: _____

C: _____ F: _____

3

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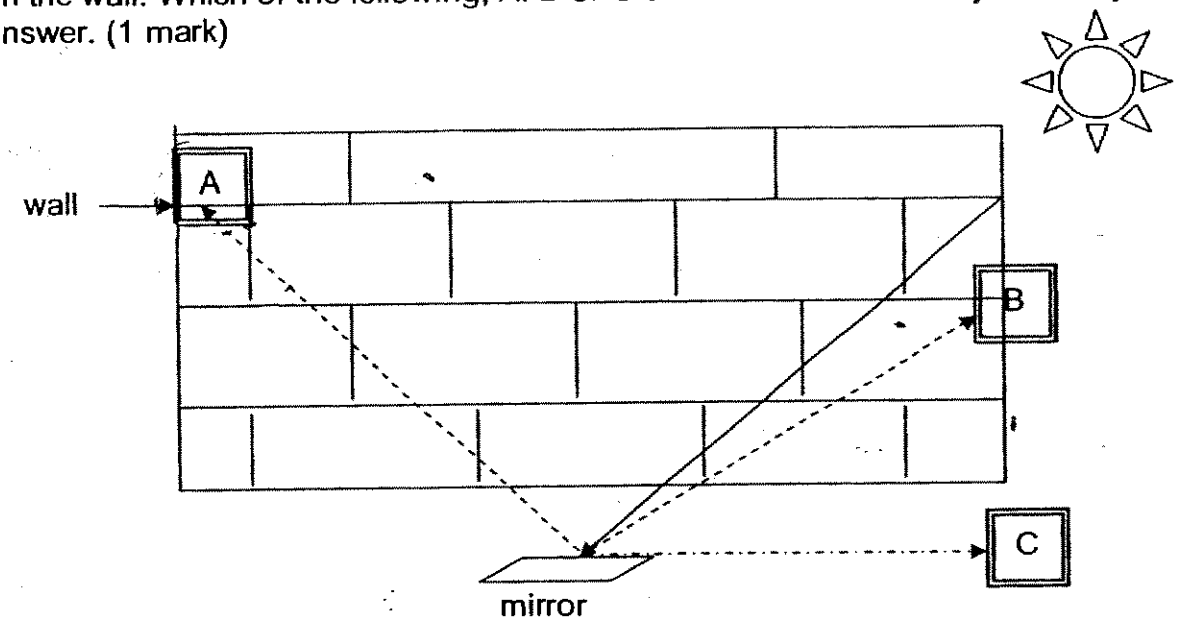
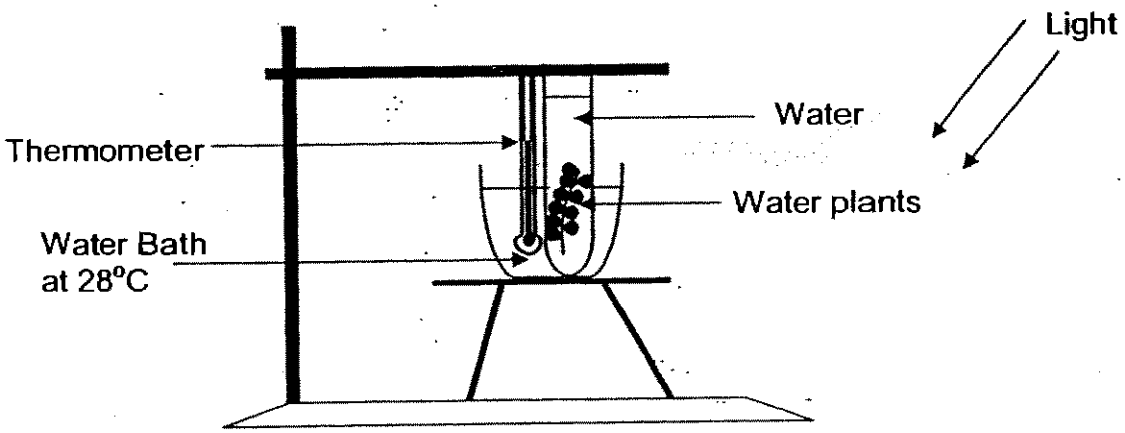
42. Betty was told that a mirror could reflect light and it can illuminate (light up) a spot on the wall. Which of the following, A. B or C shows the reflected ray? Circle your answer. (1 mark)



43. Timothy wanted to find out if the temperature of water will affect the rate of photosynthesis of water plants. He set up the experiment as shown below.



43a. Timothy noticed some bubbles released by the water plant. What does the bubble contain? (1 mark)

_____

_____

43b. What variable must Timothy measure to determine his result? (1 mark)

_____

43c Name 1 variable that Timothy must not change in his second experimental set-up to ensure a fair test. (1 mark)

_____

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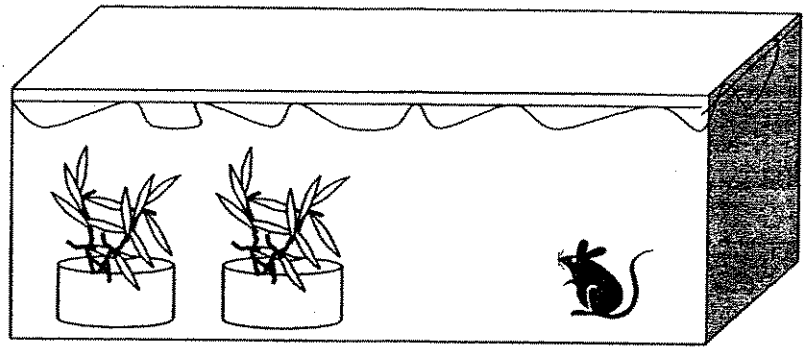
44. Maxine and Gerald set up a terrarium which is a closed environment with living things placed in it. They placed some green plants and a little mouse into the terrarium. They also put in some food for the mouse and sealed up the terrarium as shown below.

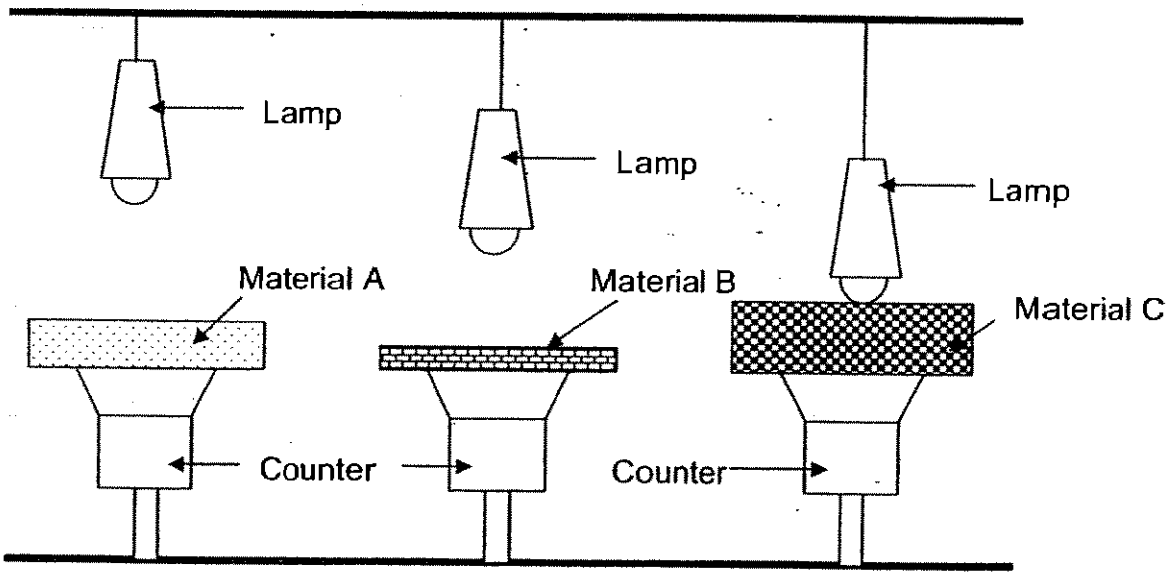


Maxine placed the terrarium near the window where there is light. Gerald thinks that mouse will die of suffocation within a day. Maxine told him that the mouse will not suffocate. Why did she say so? (2 marks)

_____

_____

45. Henry wanted to find out the amount of light that can pass through Material A, B and C. He set up the experiment as shown below. He placed each of the material on top of a counter used for detecting the amount of light. He ensured that the same kind of light detectors and similar lamps with bulbs of the same power were used.



His teacher told him that his experiment was not a fair one. What is/are the variable/s that he needs to keep constant to ensure that his experiment is a fair one? (2 marks)

_____

_____

46. Taylor wanted to set up an experiment to find out which colour, black or white, absorbs heat better. He took eight similar cans of the same size and prepared a few set-ups as shown in the table below.

Set-up	Objects	Places
1	Black aluminium can	Under the tree
2	White plastic can	Under the Sun
3	White glass can	In the classroom
4	Black aluminium can	Under the Sun
5	Black steel can	Under the Sun
6	White aluminium can	In the classroom
7	Black plastic can	Under the Sun
8	White aluminium can	Under the Sun

46a. His partner, Hudson, told him that he did not need so many set-ups. He cleared all the set-ups except two. Which set-ups did Hudson keep? (1 mark)

_____

46b. Other than the pair of set-ups that Hudson kept in question 46a, what is the other pair of set-ups that Hudson can keep to conduct the same experiment? (1 mark)

_____

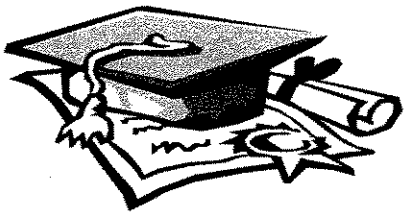
46c. What instrument must they use to measure heat absorption? (1 mark)

_____

46d. Taylor wanted to set up another experiment to find out whether aluminium or plastic absorbs heat better. Which two set-ups can he use? (1 mark)

_____

4



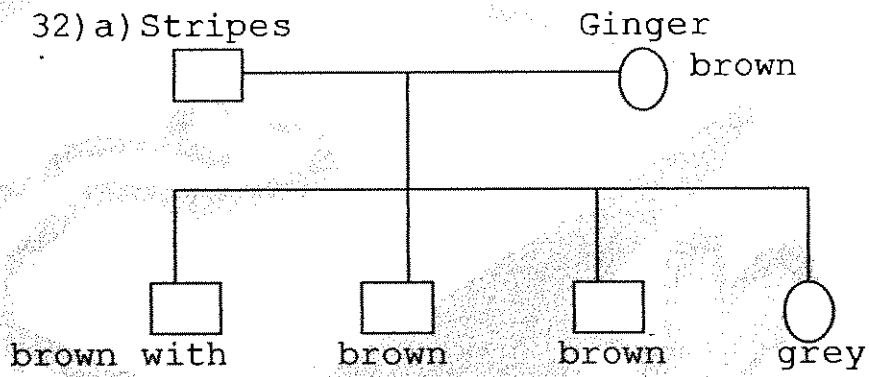
ANSWER SHEET

SCGS PRIMARY SCHOOL - PRIMARY 5 SCINECE 2007
SEMESTRAL ASSESSMENT (1)

1. 3
2. 2
3. 4
4. 4
5. 4
6. 4
7. 4
8. 2
9. 2
10. 3
11. 4
12. 4
13. 3
14. 2
15. 2
16. 4
17. 2
18. 4
19. 4
20. 2
21. 3
22. 4
23. 3
24. 4
25. 4
26. 2
27. 3
28. 1
29. 2
30. 4

31) a) Container B
b) The strong magnet is used for attracting the steel and iron scraps

32) a)

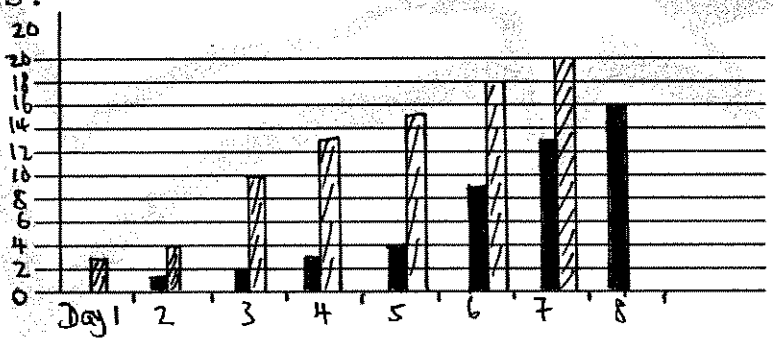


b) The young inherited the brown fur from the mother and the black strips from the father.

33) a) Respiratory system.
b) It helps them to breathe.
c) Lungs.

34) The more the number of seeds, longer it is.

35)



35)b)Plants from seed X did not grow well due to overcrowding.

36)a)Strawberry: Aggregate fruit
Angsana : Samara
b)Many seeds.

37)a)It makes its own food.
b)Help the cell to move.

38)a)Cell A and D
b)They have cell wall

39)a)Y: nucleus X: Cell membrane
b)32

40)a)X: testes Y: Penis
b)To produce sperms

41)A:Gorilla B:Toad C:African Violet
D:Pineapple plant E:Hydra F:Amoeba

42)A

43)a)Oxygen b)Number of bubbles c)Type of plant

44)The plants will photosynthesize and give out oxygen for the mouse to breathe.

45)1)Thickness of material
2)Distance between the lamp and the material.

46)a)Set-ups 4 and 8
b)Set-ups 2 and 7
c)Thermometer
d)Set-ups 4 and 7

---end---

NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 2007
SCIENCE
PRIMARY FIVE

Name : _____( )

Class : Primary 5 _____

Date : 10-5-2007

Duration : 1 hr 45 min

Section A: _____/ 60

Section B: _____/ 40

Total: _____/100

_____
Parent's Signature

Section A : (30 X 2) marks

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which of the following characteristics can be passed from parents to their offspring?

A: Shape of face
B: Length of fingernails
C: Shape of nose
D: Colour of hair

(1) A and C only
(2) A, C and D only
(3) B and D only
(4) A, B, C and D

2. Which of the following statements about heredity are **true**?

(A) The offspring can inherit traits from both parents.
(B) A female parent cannot pass her traits to a male child.
(C) Heredity is the passing on of characteristics from offspring to parents.
(D) Inherited traits sometimes do not show in one generation, but may reappear in the next generation.

(1) A and D only
(2) B and C only
(3) A, C and D only
(4) A, B, C and D

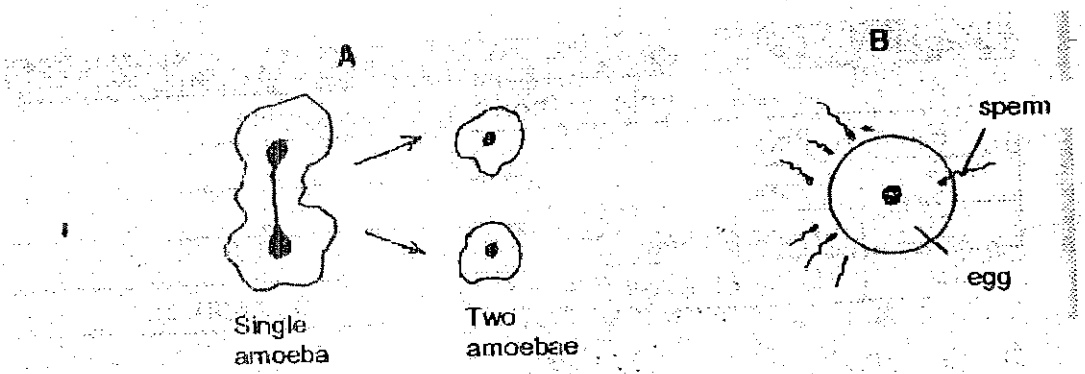
3. Which part of the female reproductive system does the fertilized egg develop in?

(1) The ovary
(2) The womb
(3) The penis
(4) The testis

4. Which of the following animal cells pass genetic information from parent to offspring?

(1) Brain cell and ovum
(2) Sperm and blood cell
(3) Blood cell and brain cell
(4) Ovum and sperm

5. Diagrams A and B below show reproduction in an amoeba and in human beings respectively.



Which of the following statements about the 2 methods of reproduction is/are **true**?

A In diagram A, only one parent is involved, while in diagram B, a male and a female parent are involved.
B In diagram A, the young does not have the same characteristics as the parent.
C In diagram A, fertilization is external while in diagram B, fertilization is internal.

(1) A only
(2) B only
(3) A and C only
(4) A, B and C

6. Which of the following statements about sexual reproduction is/are **true**?

A Most animals reproduce by sexual reproduction.
B In sexual reproduction, the sperm joins with the egg to produce a fertilized egg.
C Sexual reproduction in plants include pollination, fertilization, seed dispersal and germination.
D Yeast cell reproduce by sexual reproduction.

(1) A only
(2) A and B only
(3) A, B and C only
(4) A, B, C and D

7. The human sperms are produced in the _____ of a male person.

(1) oviduct
(2) penis
(3) ovary
(4) testes

8. Which of the following statements about plants are **true**?

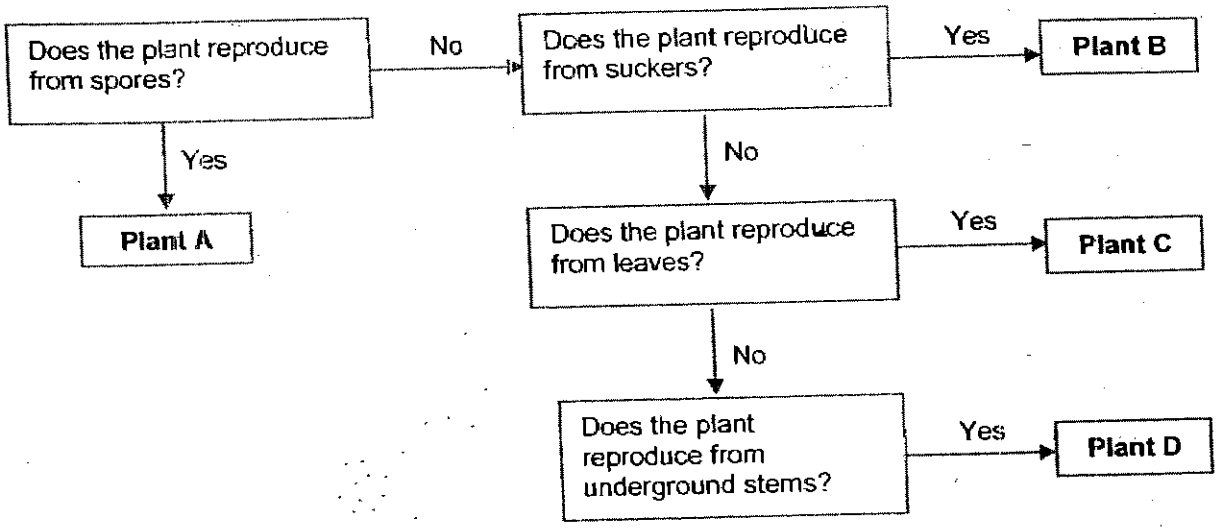
A: Plants reproduce by seeds only.
B: Only non-green plants have spores.
C: The African tulip fruit splits up and the seeds are dispersed by wind.
D: The seeds of the mango and the mimosa plant are dispersed by animals.

(1) A and B only
(2) C and D only
(3) B, C and D only
(4) A, B, C and D

9. Which one of the following is **not** a characteristic of seeds dispersed by wind?

(1) They are small.
(2) They are light.
(3) They have hooks.
(4) They have wing-like structures.

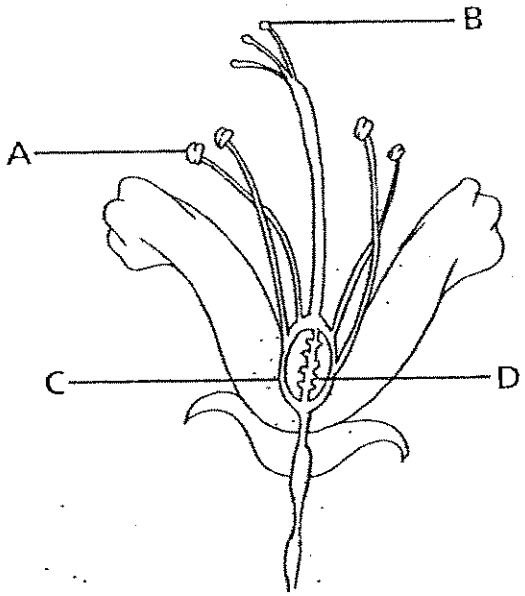
10. Study the flow chart below carefully.



Which of the following are most likely Plants A, B, C and D?

	Plant A	Plant B	Plant C	Plant D
(1)	fern	pineapple	onion	bryophyllum
(2)	moss	banana	begonia	ginger
(3)	pineapple	morning glory	African violet	potato
(4)	fern	hibiscus	morning glory	begonia

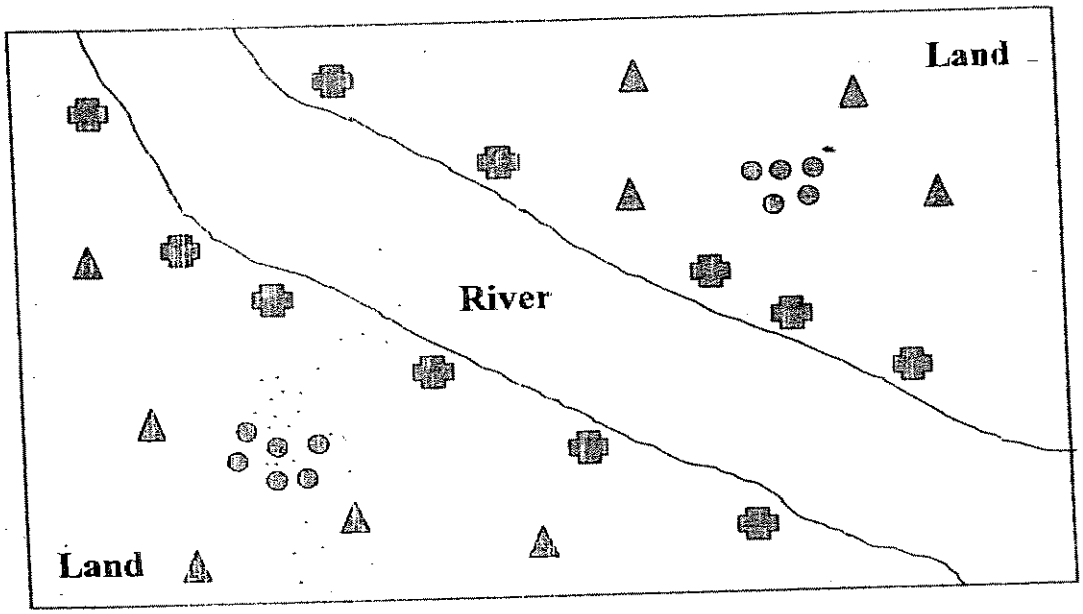
11. Study the picture below carefully.



During pollination, which of the labelled parts should the pollen grains land on in order for fertilization to take place?

(1) A
(2) B
(3) C
(4) D

12. The diagram shows part of an island where three types of plants are growing.



How are the seeds of each type of plant most likely dispersed?

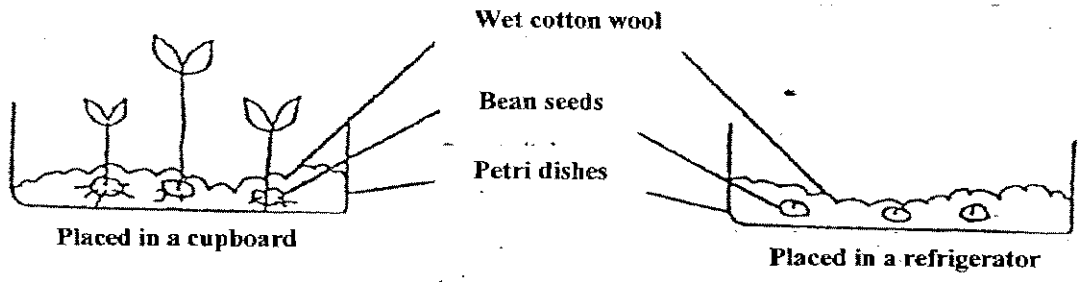
	✚	▲	●
(1)	Splitting action	Wind	Water
(2)	Water	Splitting action	Wind
(3)	Water	Wind	Splitting action
(4)	Wind	Splitting action	Water

13. Which of the following statements about germination is/are **true**?

A: A seed can remain dormant until the conditions are favourable for germination.
B: When a seed starts to germinate, the shoot appears first.
C: Before the seedling is able to make its own food, it gets its food from the seed leaves.

(1) A only
(2) A and B only
(3) A and C only
(4) A, B and C.

14. Jeffrey tried to grow some beans. He placed the beans on some wet cotton wool in 2 petri dishes as shown below. He then placed 1 dish in the refrigerator and the other in a cupboard. After a few days, the following results were obtained.



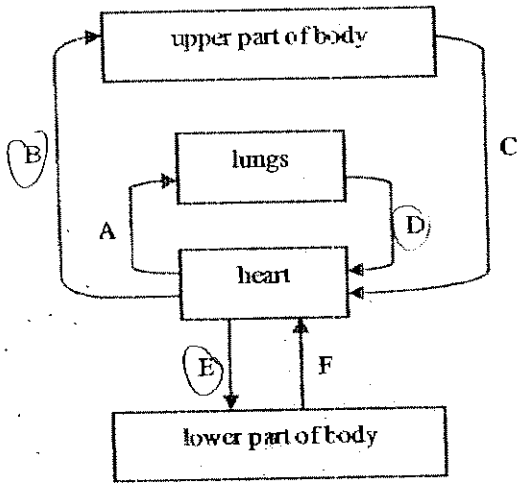
Based on the above results, Jeffrey concluded that _____ is necessary for the seeds to germinate.

(1) water
(2) light
(3) warmth
(4) cotton wool

15. The food-carrying tubes of a plant carry food from the _____.

(1) flowers to the roots.
(2) flowers to the leaves.
(3) roots to the other parts of the plant.
(4) leaves to the other parts of the plant.

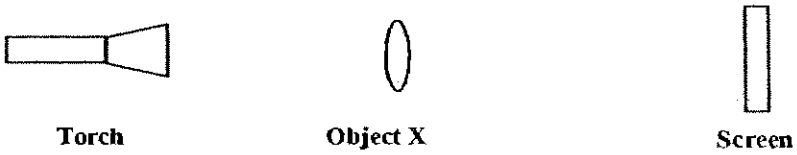
16. The diagram shows the circulatory system in Man.



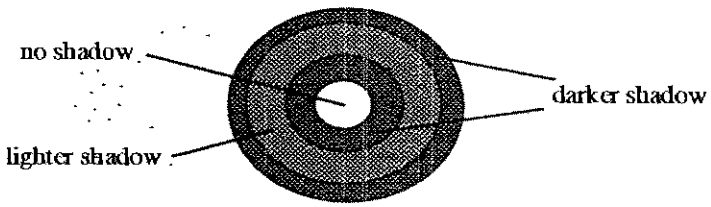
Arteries that carry oxygen-rich blood are indicated by arrows

(1) A, B and E
(2) B, D and E
(3) A, C and F
(4) C, D and F

17.

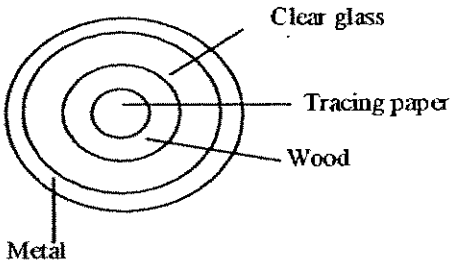


An object made of different materials is placed between a torchlight and a screen. Its shadow is shown on the screen as follows.

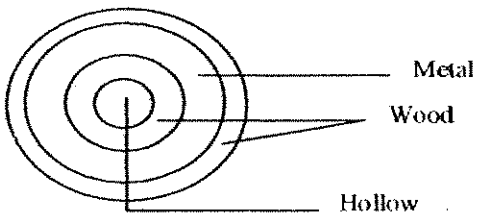


Which one of the following is likely to be the object?

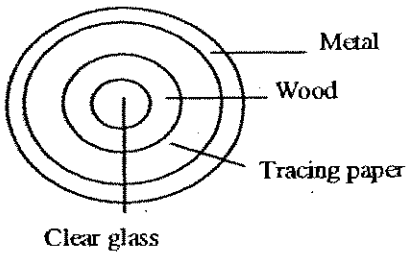
(1)



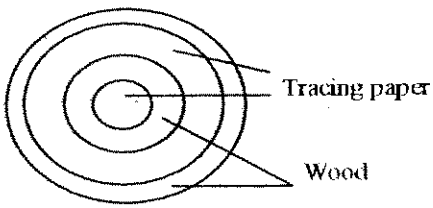
(2)



(3)



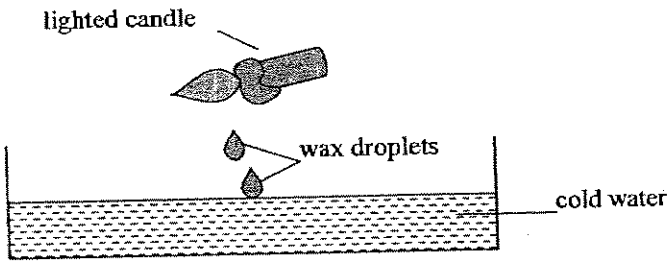
(4)



18. Which one of the following statements about light and heat is correct?

(1) Light can be seen but not heat.
(2) Light can travel a long distance but not heat.
(3) Heat can be absorbed but not light.
(4) Heat is a form of energy but not light.

19.

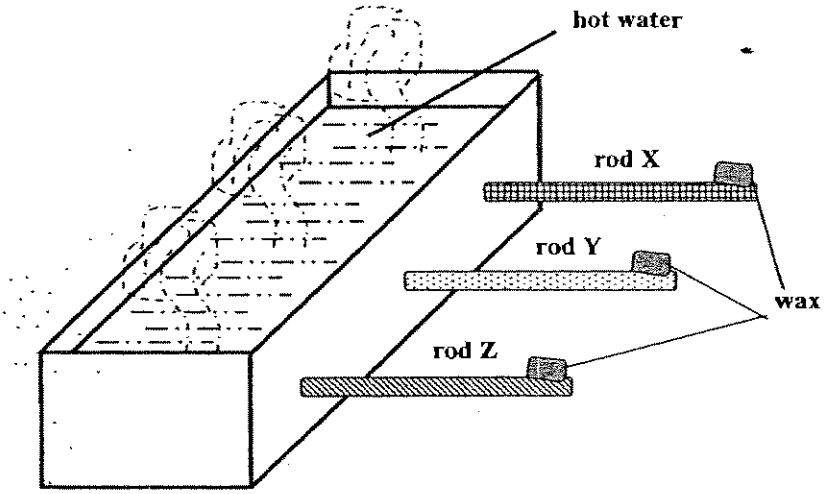


Which statements are true about the droplets of wax when they fall onto the cold water?

A: They gain heat.
B: They lose heat.
C: They change state.
D: They change colour.

(1) A and C only
(2) B and C only
(3) C and D only
(4) A and D only

20. An experiment is set up as shown in the diagram.
Rods X, Y and Z are of the same length but of different materials.
Three pieces of wax from a candle are placed at the tip of each rod.
It is observed that the wax on X melts first followed by that on Y and then Z. Which one of the following statements explains the observation?



(1) Some materials conduct heat more easily than others.
(2) Some materials give off heat more easily than others.
(3) Some pieces of wax melt more easily than other pieces.
(4) Some parts of the water gain heat more easily than other parts.

21. Study the table below.

Planet	Distance from the Sun (million km)	Diameter of the planet (km)	Time taken to make one revolution around the Sun	Time taken to make one rotation
Mercury	58	4880	88 days	59 days
Venus	108	12104	225 days	243 days
Mars	228	6794	687 days	24 hours
Neptune	4497	49532	165 years	16 hours

Based on the above table, which of the following conclusions are true?

A: A planet's diameter depends on its distance from the Sun.
B: The time taken to make one rotation depends on the diameter of the planet.
C: The time taken to make one revolution around the Sun depends on the distance from the Sun.

(1) A only
(2) C only
(3) A and B only
(4) B and C only

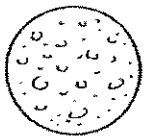
22. Which of the following statements is/are true about the Sun?

(A) The Sun is a star and it gives out its own light and heat.
(B) The Sun revolves around the Earth.
(C) The Sun is the closest star to the Earth.
(D) The Sun is made up of a huge mass of very hot liquids.

(1) A only
(2) A and C only
(3) B, C and D only
(4) A, B, C and D

23. How are the Moon and the Earth similar?

Earth

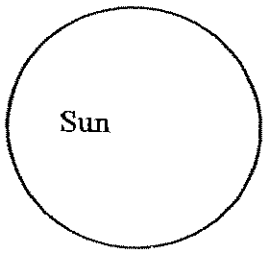


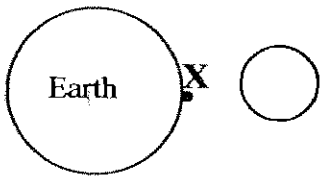
Moon

A: They are both man-made satellites.
B: They both reflect light from the Sun.
C: They both rotate about an axis.

(1) A and B only
(2) A and C only
(3) B and C only
(4) B only

24.





The diagram above shows that the earth is between the sun and the moon and that the three are in a **straight** line. A person is standing at position X on the Earth. Which of the following statements are true?

A: The person at position X is experiencing day-time.
B: The person at position X is experiencing night-time
C: The shadow of the Earth is formed on the Moon.
D: The shadow of the Moon is formed on the Earth.

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

25. Which of the following factors contribute to the ability of the Earth to sustain life?

A: The existence of a natural satellite that moves around the Earth.
B: The ideal distance of the Earth from the Sun.
C: The presence of an atmosphere.

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

26. What is the main function of the cell membrane of a plant cell?

(1) It gives the cell a fixed shape.
(2) It controls activities in the cell.
(3) It gives the cell a green colour.
(4) It controls substances entering the cell.

27. Which part of a cell is partially permeable?

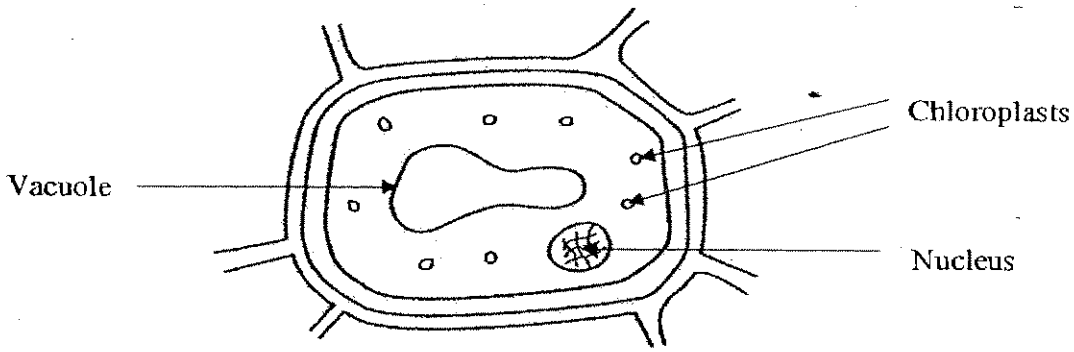
(1) Nucleus
(2) Cytoplasm
(3) Cell wall
(4) Cell membrane

28. Which of the following are found in **all** plant cells?

A: Cell wall
B: Chloroplasts
C: Cell membrane
D: Cytoplasm

(1) A, B and D only
(2) A, C and D only
(3) B, C and D only
(4) A, B, C and D

29. The diagram below shows the structure of a cell.

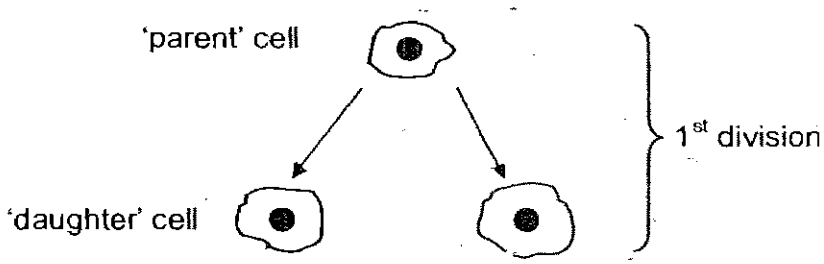


From which of the following could the cell have come from?

A: From the leaf of a coleus plant
B: From a grasshopper
C: From a root of a balsam plant
D: From a stem of a cactus plant

(1) A only
(2) A and D only
(3) A, C and D only
(4) A, B, C and D

30. The diagram below shows the cell division of a unicellular micro-organism.



What is the number of 'daughter' cells produced from the single 'parent' cell after the 4th division?

(1) 4
(2) 8
(3) 16
(4) 32

NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 2007
SCIENCE
PRIMARY FIVE

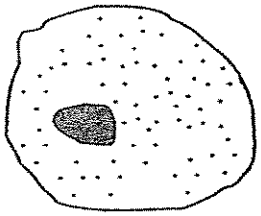
Name : _____( ) Marks : _____/ 40

Class : Primary 5 __ ___

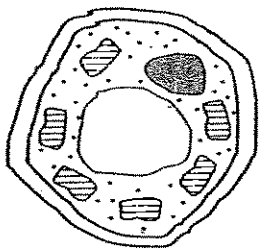
Section B : 40 marks

Write your answers to questions 31 to 46. The number of marks available is shown in brackets ( ) at the end of each question or part question.

31. The diagram below shows a plant cell and an animal cell.
The cells are labeled A and B.



Cell A



Cell B

(a) From the above information, identify the plant cell and the animal cell. (1m)

Plant cell : _____

Animal cell : _____

(b) (i) A certain part of the plant cell is **not** found in the animal cell.
Name this part. (1m)

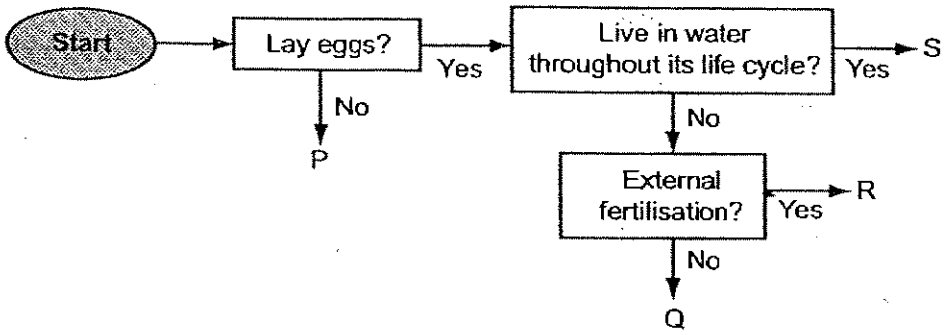
_____

(ii) What is the function of this part? (1m)

_____

_____

32. Study the flow chart below.



(a) In which group, P, Q, R or S, does a frog belong to?

_____ (1 m)

(a) In which group, P, Q, R or S, does a dolphin belong to?

_____ (1 m)

(b) Based on the information from the flow chart, state a similarity between Animals R and S.

_____ (1 m)

33. Diagrams X and Y show two special cells that the human male and human female produce, respectively.

Diagram X

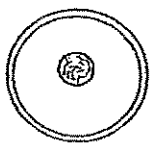


Diagram Y

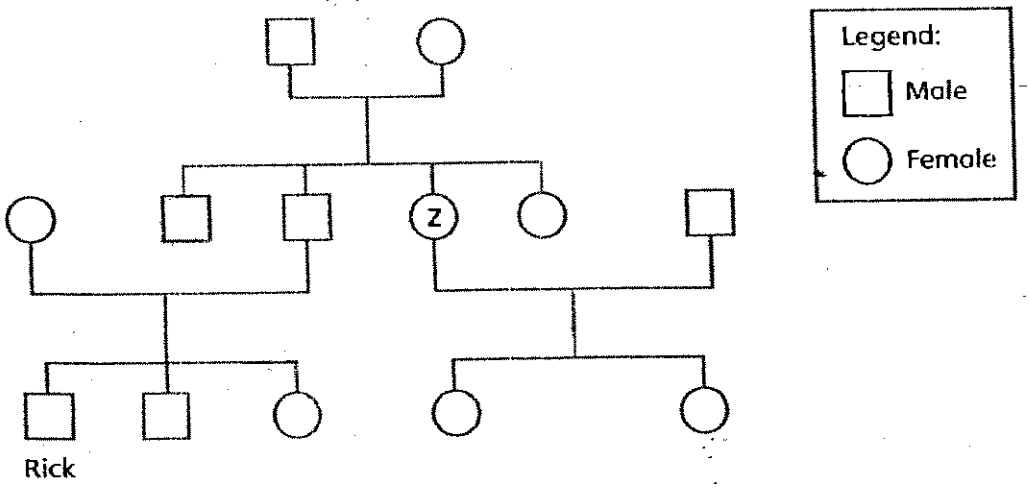
(a) Which organ produces the cell shown in diagram X?

_____ (1 m)

(b) Name the process when a cell from diagram X fuses with the cell from diagram Y.

_____ (1 m)

34. Study the family tree below.

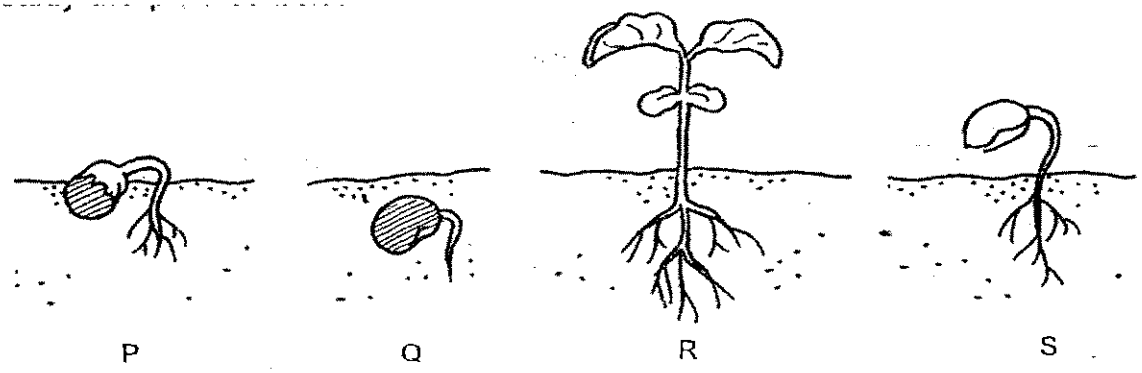


(a) What is Z's relationship to Rick?

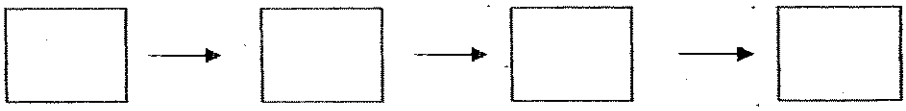
_____ (1 m)

(b) Shade the symbol that represents Rick's paternal uncle. (1 m)

35. Study the diagrams shown below.



(a) Rearrange the stages (P, Q, R and S) in the correct order to show how a seed becomes a young plant. (1 m)



(b) Is sunlight necessary for growth in each of the stages that are shown in the above diagrams?
Indicate your answer by classifying the 4 stages (P, Q, R and S) in the table below. (2 m)

Stages that need sunlight	Stages that do not need sunlight

(c) What is the function of the seed leaves?

_____ (1 m)

36. (a) What process must take place first before fertilization can occur in flowering plants?

_____ (1 m)

(b) Name **two agents** that enable this process to take place.

_____ (1 m)

(c) Describe what happens during the process mentioned in (a).

_____

_____ (1 m)

37. The table shows some plants that have been grouped according to the way their seeds are dispersed.

Group A	**Group B**	**Group C**	**Group D**
shorea	guava	nipah	balsam
angsana	love grass	coconut	rubber

Name the method of dispersal for each group of plants. (4m)

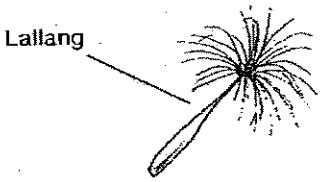
Group A : _____

Group B : _____

Group C : _____

Group D : _____

38. Study the diagram of the Lallang fruit below.



(a) How is the above fruit likely to be dispersed?

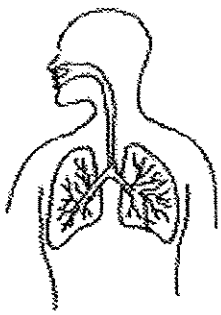
_____ (1m)

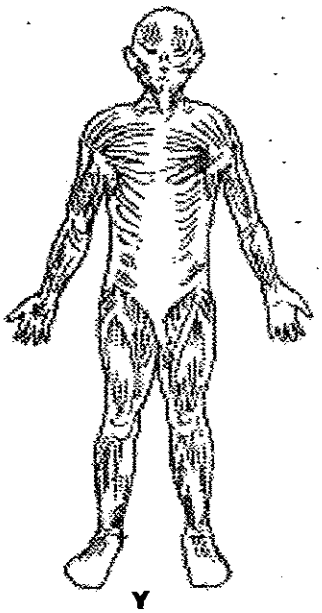
(b) Explain your answer in (a).

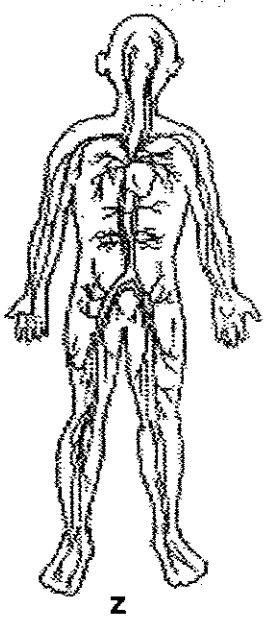
_____

_____ (1m)

39. Study the diagrams below carefully.


X

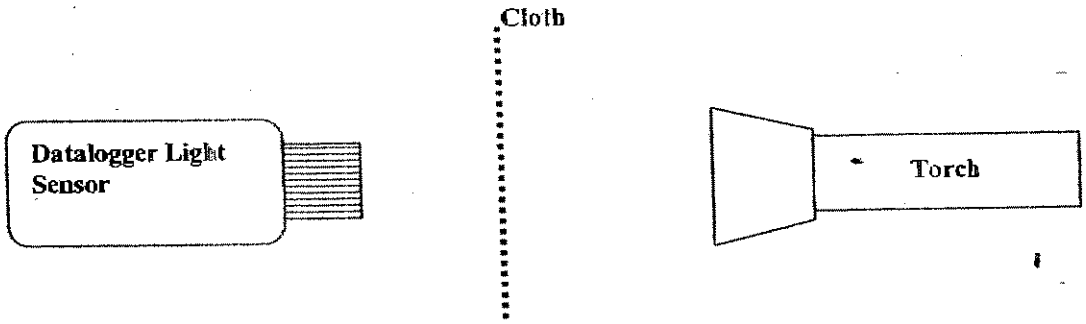

Y


Z

Which one of the following has a similar function as the plant transport system? (2m)

_____

40. James wanted to find out the transparency of different types of cloth. He set up an experiment as shown below. (2m)

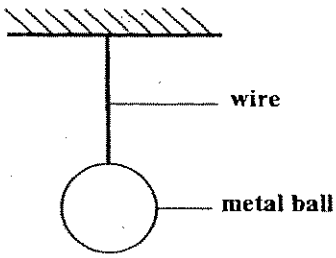


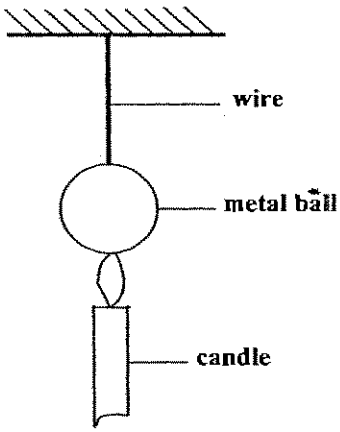
By shining a beam of light on one side of a cloth, he took readings from a datalogger light sensor on the other side. He repeated the experiment using different types of cloth.

To ensure that the test was fair, which variables should he keep the same and which variables should he change? Put a tick (√) in the correct box.

Variables	Keep the same	Change
Distance between the torch and the cloth		
Distance between the cloth and the light sensor		
Type of cloth used		

41. The diagram below shows a metal ball that is suspended. A lighted candle is then placed below the metal ball.





Some changes happen to the metal ball when the lighted candle is placed below it. Describe 2 of these changes. (2m)

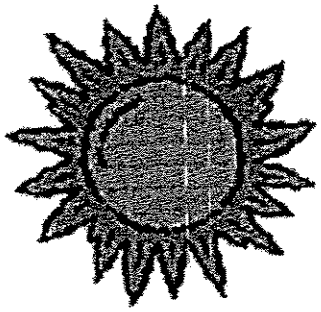
(i) _____

_____

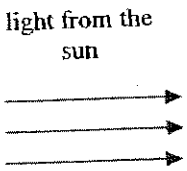
(ii) _____

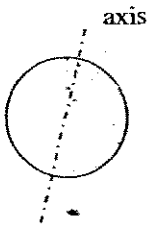
_____

42. The diagram below shows the Sun and the Earth.



Sun



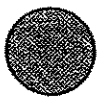


(a) Shade the part of the Earth that is experiencing night time. (1m)

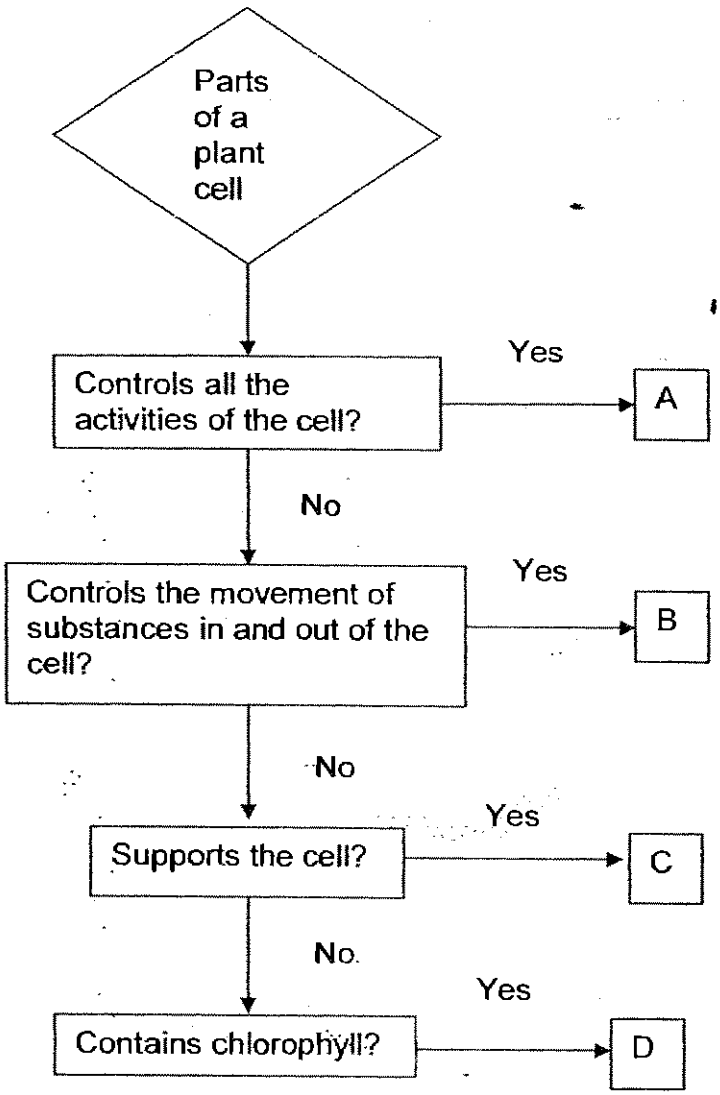
(b) David is able to watch the World Cup telecast 'live' at home although it is taking place in another country. Explain why it is possible for the World Cup to be telecast 'live'. (1m)

43. Roger observed the phases of the Moon on every Saturday night last month. He observed a New Moon on the first Saturday as shown in the table below.

Draw the correct phases of the Moon observed for the 2nd, 3rd and 4th Saturday of the month in the table below. (3 m)

1st Saturday	2nd Saturday	3rd Saturday	4th Saturday
			

44. Study the flow chart below carefully.



The letters A to D represent the different parts of a plant cell. Write down which part of the plant cell each letter represents. (2 m)

A: _____ B: _____

C: _____ D: _____

45. Put a "T" for statements that are **true** or an "F" for statements that are **false**. (2 m)

(a) All cells are surrounded by a cell membrane. ( )

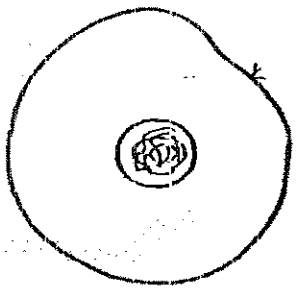
(b) All plant cells have chloroplasts. ( )

(c) All cells have a cell wall. ( )

(d) All cells have cytoplasm. ( )

46. Certain types of cells allow water but not substance X to move in and out of them.

(a) In the diagram of a cell below, name and label the part that stops substance X from entering the cell. (1 m)



(b) When some of these cells were placed in solution X (solution obtained by dissolving substance X in water), the cells shrivelled. Why did the cells shrivel?

_____

_____ (1 m)

END-OF-PAPER

ANSWER SHEET

NAN HUA PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

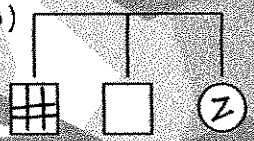
1. 2
2. 1
3. 2
4. 4
5. 1
6. 3
7. 4
8. 2
9. 3
10. 2
11. 2
12. 3
13. 3
14. 3
15. 4
16. 2
17. 3
18. 1
19. 2
20. 1
21. 2
22. 2
23. 3
24. 3
25. 3
26. 4
27. 4
28. 2
29. 2
30. 3

31) a) Plant cell: Cell B
Animals cell: Cell A
b) i) The part is cell wall.
ii) The function of the cell wall is to support the plant cell and give it a regular shape.

32) a) A frog belongs to group R.
b) A dolphin belongs to group P.
c) Both Animals R and S lay eggs.

33) a) The testes of the male produce the cell.
b) The process is Fertilisation.

34) a) Z is Rick's paternal aunt.
b)



35) a) Q→P→S→R
b) R, P, Q and S
c) The seeding gets energy from the food stored in seed leaves to grow before it can make it own food.

36) a) The process is pollination.
b) The two agents are wind and insects.
c) Pollen grain from the anther is transferred to the stigma.

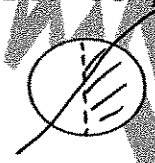
37)A:Dispersal by wind.
B:Dispersal by animals.
C:Dispersal by water.
D:Dispersal by splitting.(splitting open forcefully).

38)a)The fruit is likely to be dispersed by wind.
b)The Lallang fruit is small and has feathery structure that enables it to stay afloat in the air for a longer period of time to travel a longer distance away from the parent plant.

39)Z has a similar function as the plant transport system.

40)keep the same
Keep the same
Change

41)i)The metal ball expands.(due to the heat from the flame.)
ii)The temperature of the metal ball increased.

42)a) 

b)The information of the world cup is transmitted from the satellite dish of the country the world cup is taking place to the communication satellite then to David's television, so he can watch world cup 'live'.

43)2nd  3rd  4th 

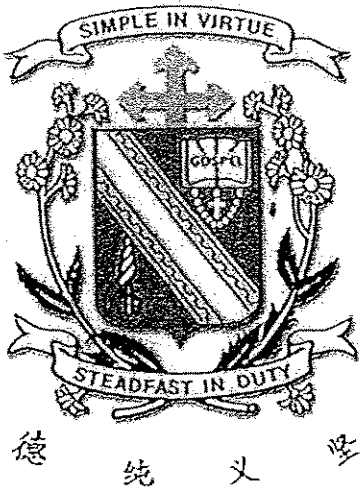
44)A:Nucleus
B:Cell membrane
C:Cell wall
D:Chloroplast

45)a)T b)F c)F d)T
46)a)Cell membrane.
b)Water escaped from the cell to solution X, causing the cell to shrivel.

Name : _____ ( )

Class : Primary _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5
First Semestral Assessment – 2007
SCIENCE

BOOKLET A

9th May 2007

Total Time for Booklets A and B: 1 hour 45 minutes

30 questions
60 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Section A : (30 x 2 marks)

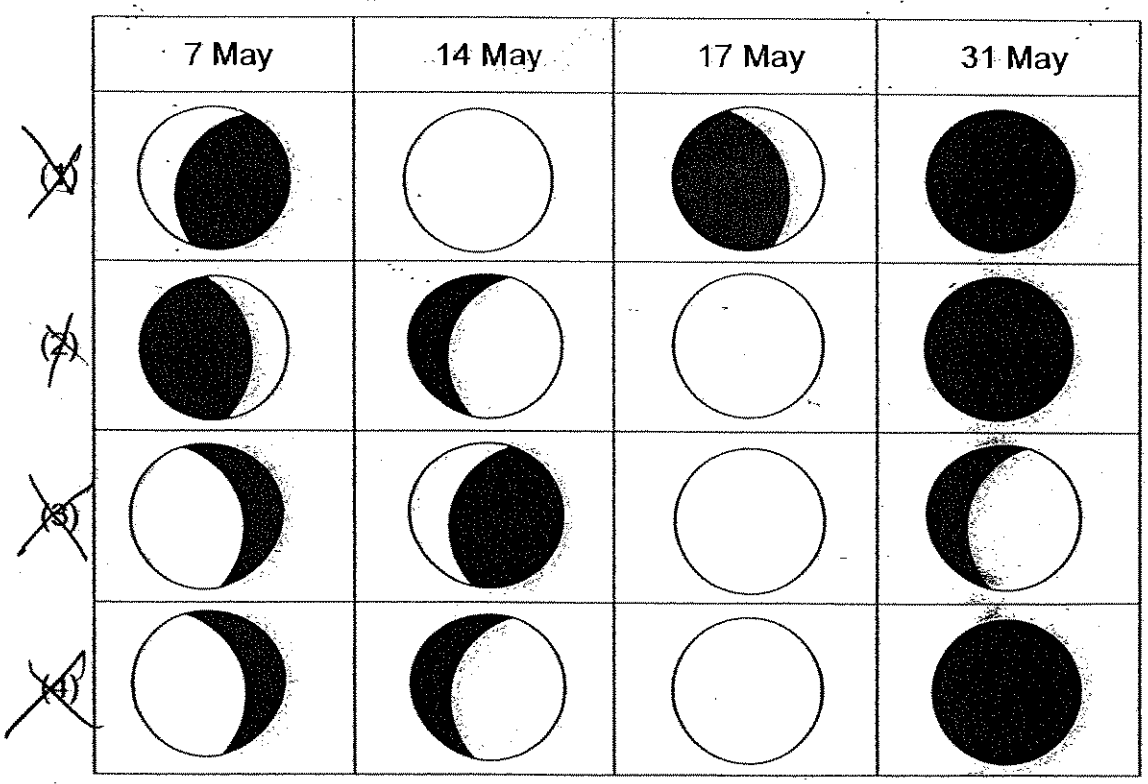
For each question from 1 to 30, four options are given. One of them is the correct answer. Mark your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which of the following statements about cells are correct?

(A) All cells have nuclei.
(B) The cell wall is present in all plant cells.
(C) Cytoplasm is present only in animal cells.
(D) Cell membrane is present in all types of cells.

(1) A and B only
(2) B and D only
(3) C and D only
(4) A, B and D only

2. John observed that the shape of the moon changes over a period of time. Which one of the following would John most likely to observe over a period of a month?



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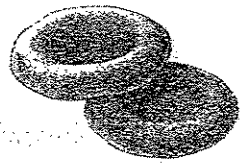
3. Study the table below carefully.

Planet	Time taken to make one revolution around the Sun	Time taken to make one rotation.
W	88 days	59 days
X	225 days	243 days
Y	687 days	25 hours
Z	365 days	24 hours

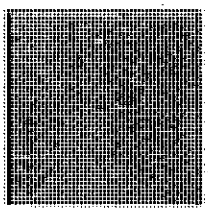
Which one of the planets shown above is the furthest from the Sun?

(1) W
(2) X
(3) Y
(4) Z

4. The diagram below shows two types of human cells.



Red Blood Cells



Cheek Cells

Which of the following sentences correctly describe the differences between these two types of cells?

(A) Only the cheek cells have nuclei.
(B) Only the cheek cells have cell membranes.
(C) Only the red blood cells cannot carry out cell division.
(D) Only the red blood cells have chloroplasts to make food.

(1) A only
(2) B only
(3) A and C only
(4) B and D only

5. Four students observed some cells on a slide using a microscope. Each student recorded the parts of the cells they could identify. The table below shows their notes.

Name of student	**Cell part identified**
Clara	Cell membrane only
Susan	Cell membrane, nucleus
Steve	Cell membrane, cytoplasm, nucleus
Joe	Cell wall, cell membrane, nucleus, cytoplasm

Whose notes shows that the cell is a plant cell?

(1) Clara
(2) Susan
(3) Steve
(4) Joe

6. The Sun is important because it _____.

(A) provides living things with warmth.
(B) provides heat and light energy for the plants to make food.
(C) enables living things to see and respond to changes in their environment.

(1) B only
(2) A and C only
(3) B and C only
(4) A, B and C

7. Which of the following describe(s) the function of chloroplast in a plant cell?

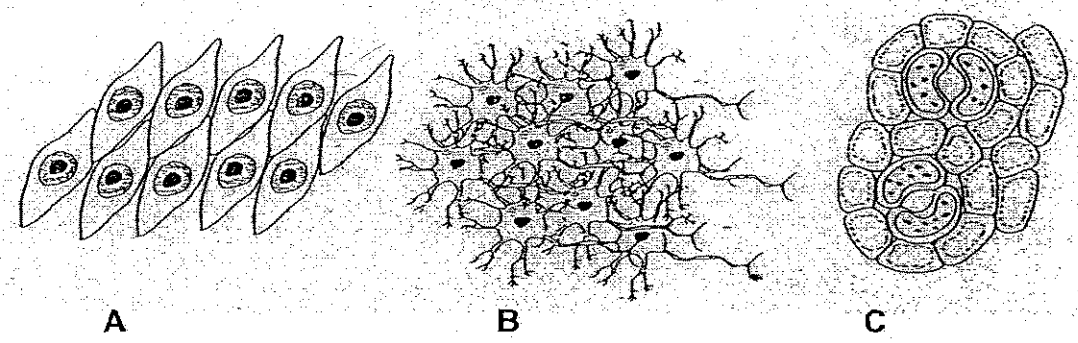
(A) They contain hereditary traits.
(B) They give cells their regular shape.
(C) They enable the plant to photosynthesize.
(D) They help the cells to make new substance.

(1) C only
(2) D only
(3) A and B only
(4) C and D only

8. Which of the following consists of only unicellular organisms?

(1) Cactus, elodea and moss
(2) Amoeba, potato bud, yeast
(3) Bacteria, paramecium and yeast
(4) Anemone, bacteria and toadstool

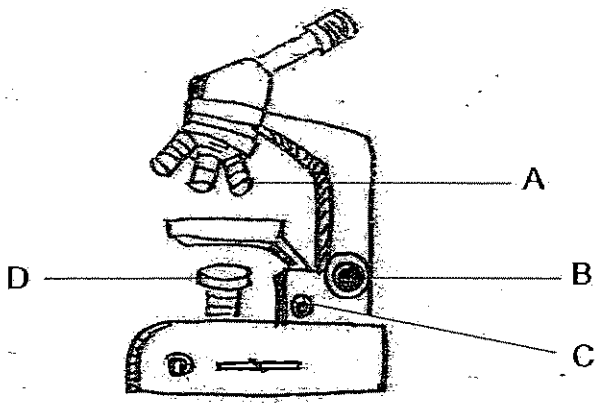
9. The diagram below shows three different groups of cells.



Which of these cells are plant cells?

(1) C only
(2) B and C only
(3) A and C only
(4) A, B and C

10. The diagram below shows a microscope.



Banu placed a specimen on the stage and focused it using knob B. However, no matter how she turned knob B, she was unable to obtain a clear view of the nucleus.
What should she do to obtain a clear, focused view of the nucleus and its contents?

(1) Turn part B and raise part D.
(2) Turn part A to a longer objective lens.
(3) Turn part D such that more light is given out.
(4) Turn part C without changing the objective lens.

11. Susan learned that iodine turns dark blue in the presence of starch. She tested some food with iodine and recorded the results in the table below.

Food	Observation	Does it contain starch?
Rice	Iodine turns dark blue	Yes
Prawn	Iodine remains the same colour	No
Potato	Iodine turns dark blue	Yes
Chicken	Iodine remains the same colour	No
Tapioca	Iodine turns dark blue	Yes
Sweet potato	Iodine turns dark blue	Yes
Fish	Iodine remains the same colour	No

Based on the table above, which one of the following statements is correct?

(1) Starch is found in parts of plant.
(2) Starch is present in the meat of animals.
(3) Sweet potato has more starch then tapioca.
(4) Starch is found only in the underground parts of plants.

12. Which one of the following statements describes heredity?

(1) It represents an individual's family tree.
(2) It is the passing of traits from parents to young.
(3) It is the development of an organism from young to an adult.
(4) It is the process in which an individual is able to roll his/her tongue.

13. Jane has the following characteristics.

(A) long hair
(B) sharp nose
(C) single eyelid

Which are the possible traits Jane has inherited from her parents?

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

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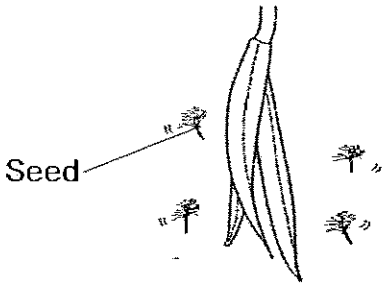
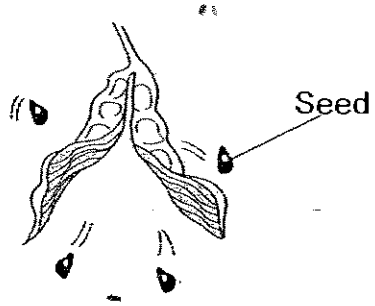
14. The diagram shows the fruits of two plants.



Fruit X



Fruit Y

are seeds

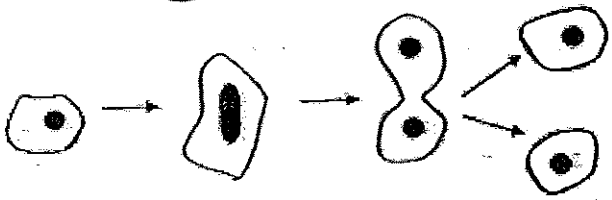
How is ~~each~~ of the fruits, X and Y, dispersed?

	Fruit X	Fruit Y
(1)	Wind	Animals
(2)	Animals	Splitting action
(3)	Animals	Animals
(4)	Wind	Splitting action

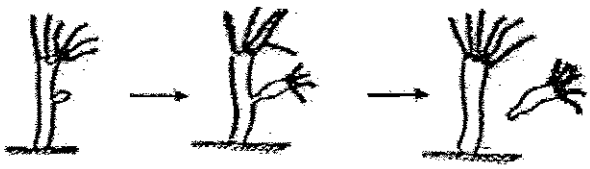
15. The diagram below shows different methods of reproduction.

A

B



C



Which of the above methods of reproduction involves only 1 parent?

(1) A only
(2) B only
(3) A and C only
(4) B and C only

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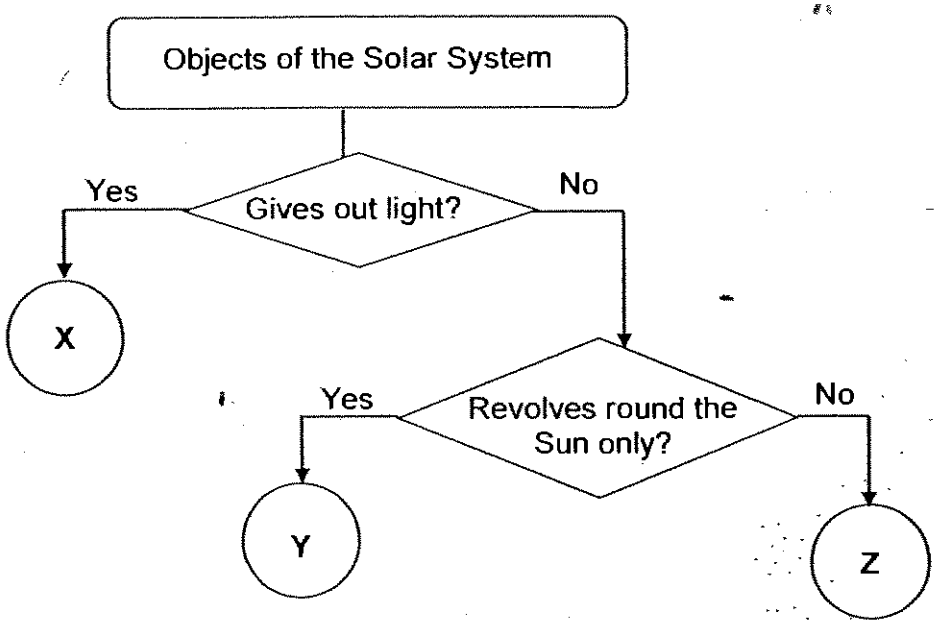
16. The flow chart below shows the objects of the Solar System.



	X	Y	Z
(1)	Sun	Earth	Moon
(2)	Earth	Moon	Star
(3)	Star	Moon	Earth
(4)	Moon	Earth	Star

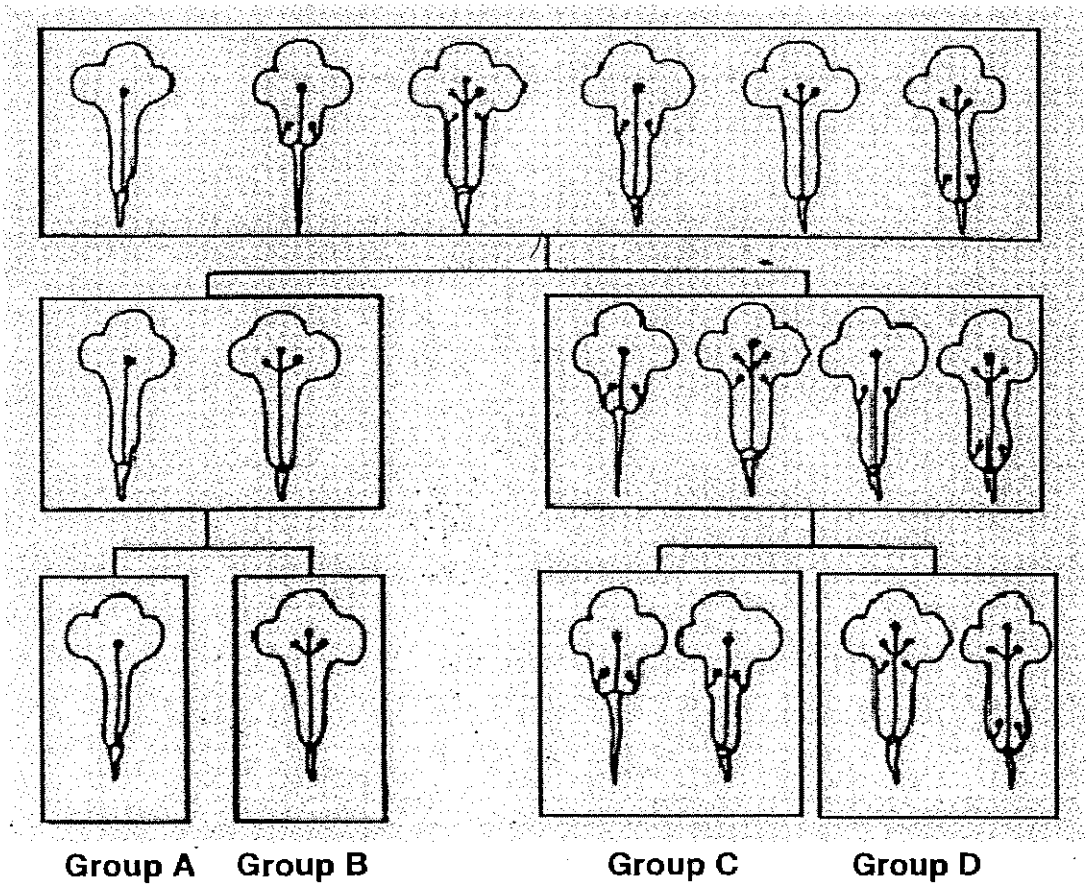
17. The table below shows four sets of animals classified into two classification groups.

Set	Internal Fertilisation	External Fertilisation
A	Dog	Common Frog
B	Hamster	~~Penguin~~ Goldfish
C	Dolphin	~~Chicken~~ Toad
D	Rabbit	Guppy

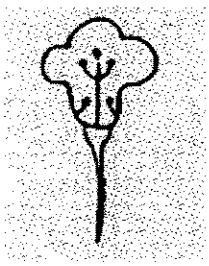
Study the table carefully. Which one of the set is classified wrongly?

(1) Set A
(2) Set B
(3) Set C
(4) Set D

18. The diagram below shows how 6 different flowers may be classified. Study the diagram carefully.



Based on the diagram above, which group should the flower shown below belongs to?



(1) Group A
(2) Group B
(3) Group C
(4) Group D

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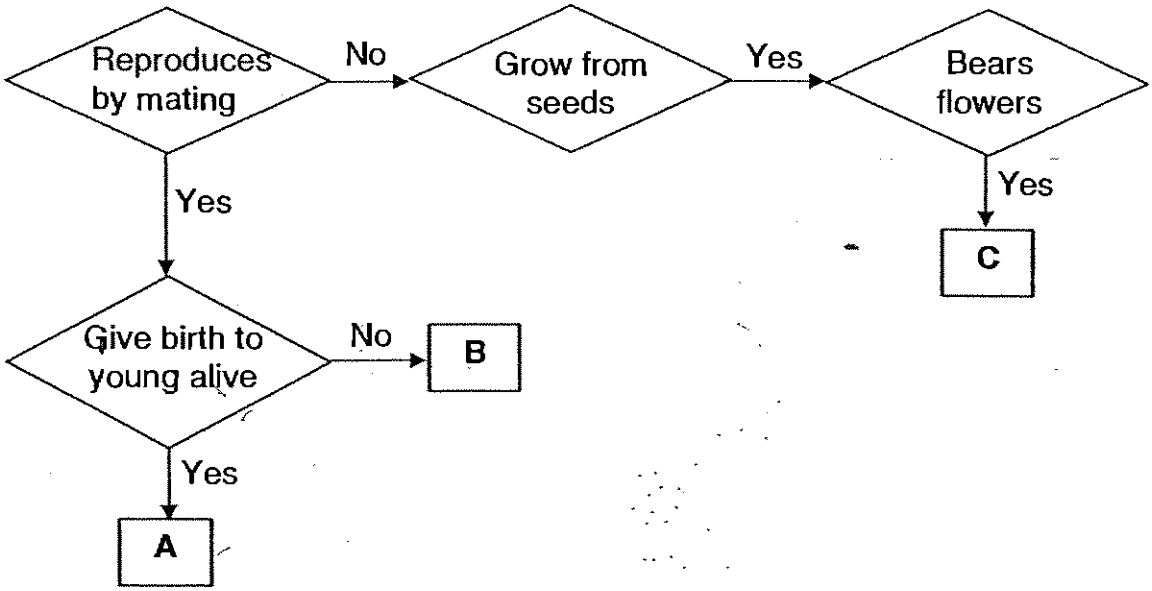
19. Refer to the flowchart below.



What could organism A, B and C be?

	A	B	C
(1)	Platypus	Crow	Fern
(2)	Kingfisher	Mosquito	Mango tree
(3)	~~Shark~~ Seal (C ✓)	Cockroach	Chilli
(4)	Panda	Whale	Moss

20. Neither of Crystal's parents can roll their tongue but Crystal can. Which of the following people could have passed this trait to her?

(A) Crystal's uncle
(B) Crystal's cousin
(C) Crystal's grandparents
(D) Crystal's great grandparents

(1) A and B only
(2) C and D only
(3) B, C and D only
(4) A, B, C and D

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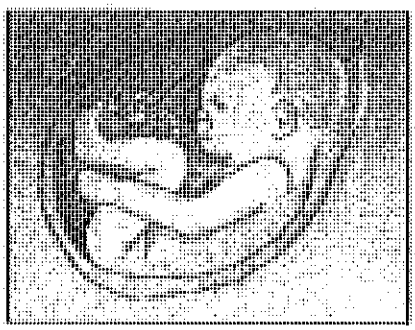
21. The diagram below shows a human foetus at the 38th week.



Which of the following statements about the foetus at this stage is/are correct?

(A) The foetus does not grow.
(B) The foetus does not produce waste.
(C) The foetus is inside its mother's stomach.
(D) The foetus gets its food through its mother.

(1) D only
(2) B and C only
(3) C and D only
(4) A, B, C and D

22. Siva conducted a fair test using similar string bean seedlings over 2 weeks. The results he collected is shown in the table below.

Pot	Type of soil	No. of times string bean seedlings are watered each day	No. of string bean seedlings in each pot	Average height of string bean seedlings in each pot (cm)
A	Sandy	3	5	8.9
B	Loamy	3	10	7.7
C	Sandy	3	10	6.0
D	Loamy	3	5	10.8

Which of the following are possible aims for Siva's experiment?

(A) Overcrowding affects the growth of the seedlings.
(B) The size of pot used affects the growth of the seedlings.
(C) The type of soil used affects the growth of the seedlings.
(D) The amount of water used affects the growth of the seedlings.

(1) A and D only
(2) A and C only
(3) B and C only
(4) C and D only

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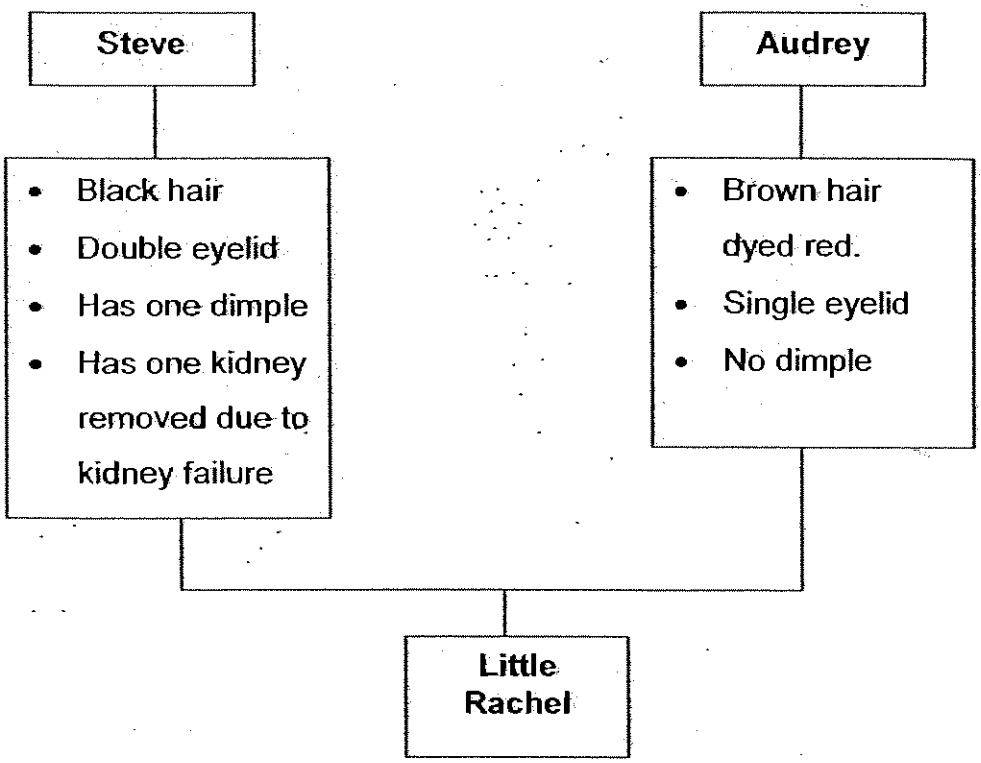
23. Which one of the following statements about germination is true?

(1) The seed leaves make food for the baby plant.
(2) The young shoot emerges from the seed before the roots.
(3) The seed leaves are the initial source of food for the baby plant.
(4) As the seed germinates, more and more food is stored in the seed leaves.

24. Steve and Audrey are married. The chart below shows some of their physical traits.



Audrey gave birth to Rachel last month. Which one of the following shows the traits of Rachel?

(1)	• Black hair from Steve • Single eyelid from Audrey • One kidney
(2)	• Brown hair from Audrey • Double eyelid from Steve • One kidney
(3)	• Red hair from Audrey • One dimple from Steve • Two kidneys
(4)	• Single eyelid from Audrey • One dimple from Steve • Two kidneys

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25. Which of the following statements are correct?

(A) All plants are reproduced from seeds.
(B) Wind helps in germinating the flower.
(C) Flowering plants reproduce from seeds.
(D) Insects help the reproduction of plants by pollinating the flower.

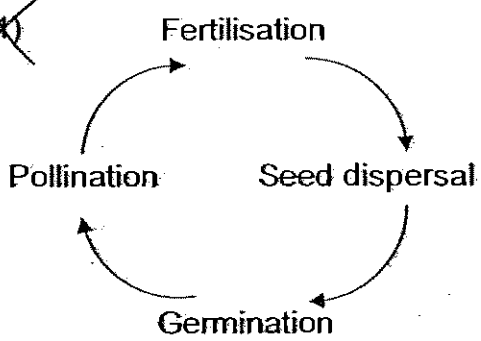
(1) A and B only
(2) C and D only
(3) A, C and D only
(4) B, C and D only

26. Which one of the following statements is true?

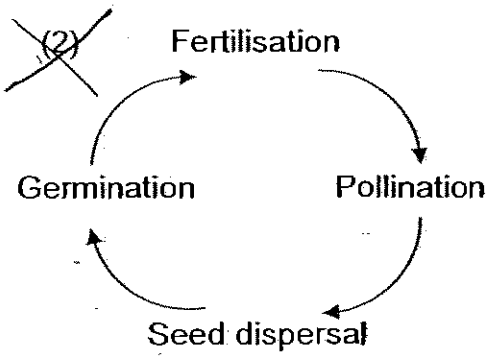
(1) Parents can only pass on physical characteristics to their young.
(2) Not all characteristic of the parents are passed on to all their young.
(3) Sexual reproduction is the only way an organism can reproduce itself.
(4) Siblings have the same characteristics because they inherited them from their parents.

27. Which one of the following shows the correct sequence of reproduction of a flowering plant in one cycle?

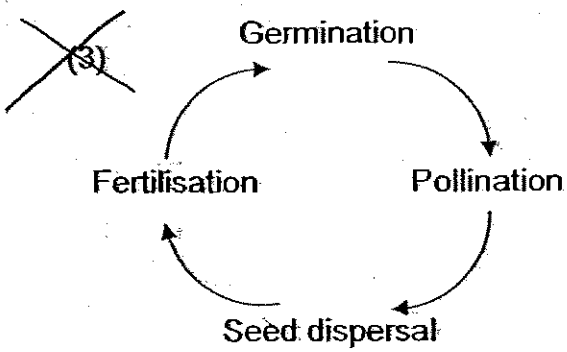
(1)



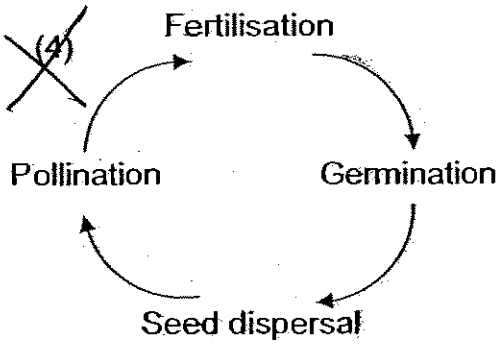
(2)



(3)



(4)



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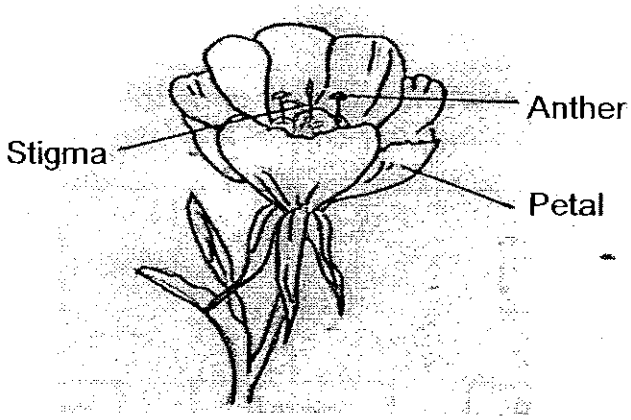
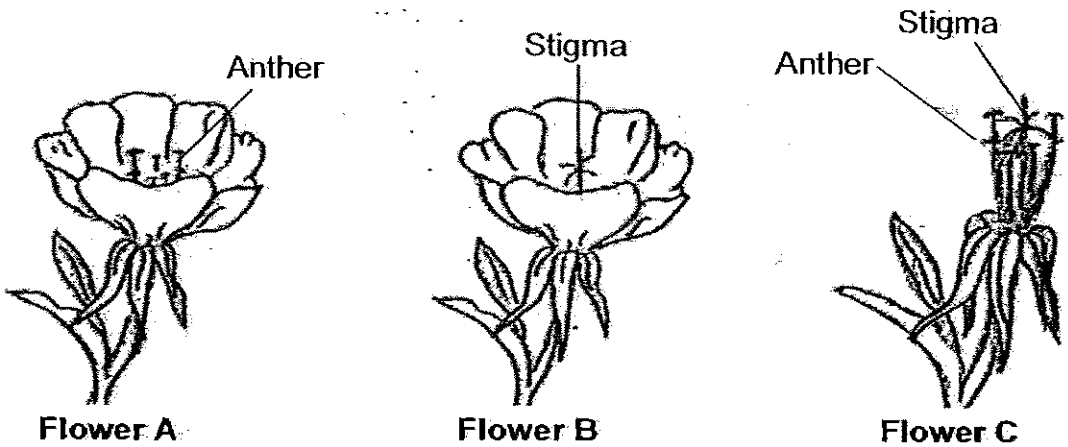
28. Shah conducted an experiment to find out whether a fruit will develop when certain parts of the flower are removed.



Three identical flowers, A, B and C, are used and different parts of the flowers are removed as shown below.



Flower A **Flower B** **Flower C**

Shah then dusts some pollen grains from the same type of flower over these three flowers. He observed the flowers for a period of three weeks. Which of the flowers will most likely develop into a fruit?

(1) A only
(2) B and C only
(3) A, B and C
(4) None of the above

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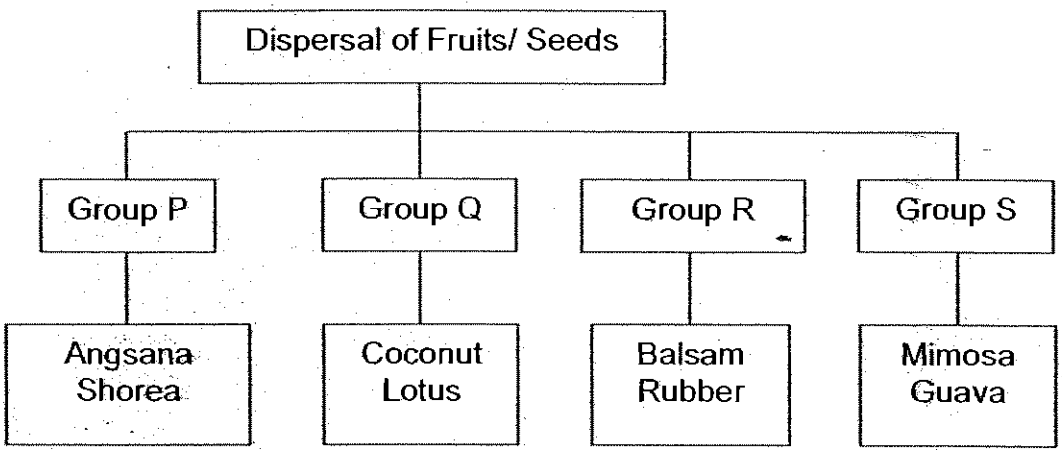
29. Study the classification table below.



Which of the following statements can we infer about the fruit and seeds above?

(A) The fruits in group P have structures to help it stay afloat in air.
(B) All fruits in group Q are found near water.
(C) All fruits in group R have 2 methods of dispersal.
(D) The fruits in group S are sweet and juicy.

(1) A and B only
(2) B and C only
(3) A, B and D only
(4) B, C and D only

30. The following table shows different parts of the humans and plants.

	Humans	Plants
Female reproductive cell	A	Ovules
Male reproductive cell	Sperm	B
After fertilisation	Embryo	C

What are the missing information in the table above?

	A	B	C
(1)	Ovary	Style	Seeds are formed
(2)	Ovum	Stigma	Fruits are formed
(3)	Ovary	Anther	Fruits are formed
(4)	Ovum	Pollen grains	Seeds are formed

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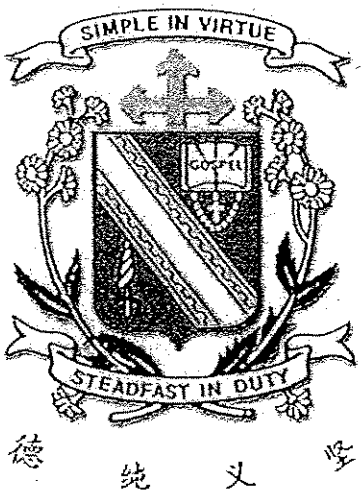
***** End of Section A *****

Name : _____ ( )

Class : Primary _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5
First Semestral Assessment – 2007
SCIENCE

BOOKLET B

9th May 2007

Booklet A	60
Booklet B	40
Total	100

Total Time for Booklets A and B: 1 hour 45 minutes

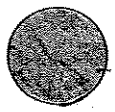
16 questions
40 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

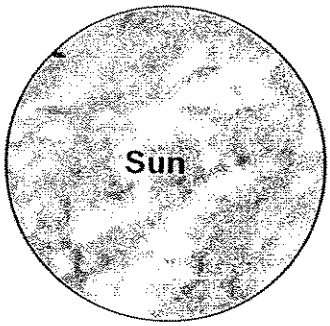
_____
Parent's Signature/Date

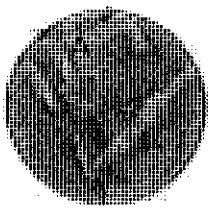
Section B : (40 marks)
Answer the following questions in the spaces provided.

31. Study the diagram below.



Planet X





Earth

Kelly is able to observe planet X through her telescope from her garden at point **A** on Earth.

(a) Draw on the diagram above the light rays that enable Kelly to observe Planet X from Earth.

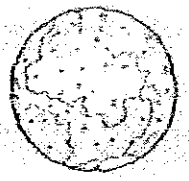
(1m)

(b) List down two factors that allow Earth to support life? (1m)

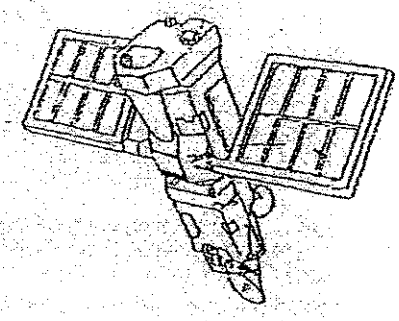
_____

_____

32. The diagram below shows the Moon and a satellite.



Moon



Satellite

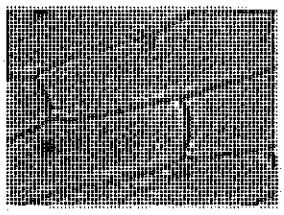
(a) State one difference between the Moon and the satellite.
(Do not mention the shape, size and pattern) (1m)

_____

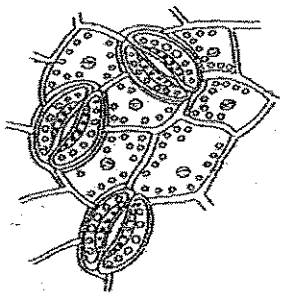
(b) Give one function of the satellite. (1m)

_____

33. The diagram below shows two different types of cells.



Onion Skin Cells



Leaf Cells

Which of them is not a food producer? Support your answer with your reasoning. (1m)

_____

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34. Observe the diagram below.

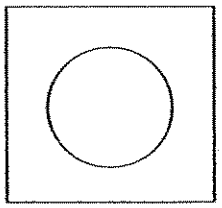


Diagram A

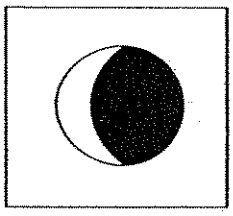


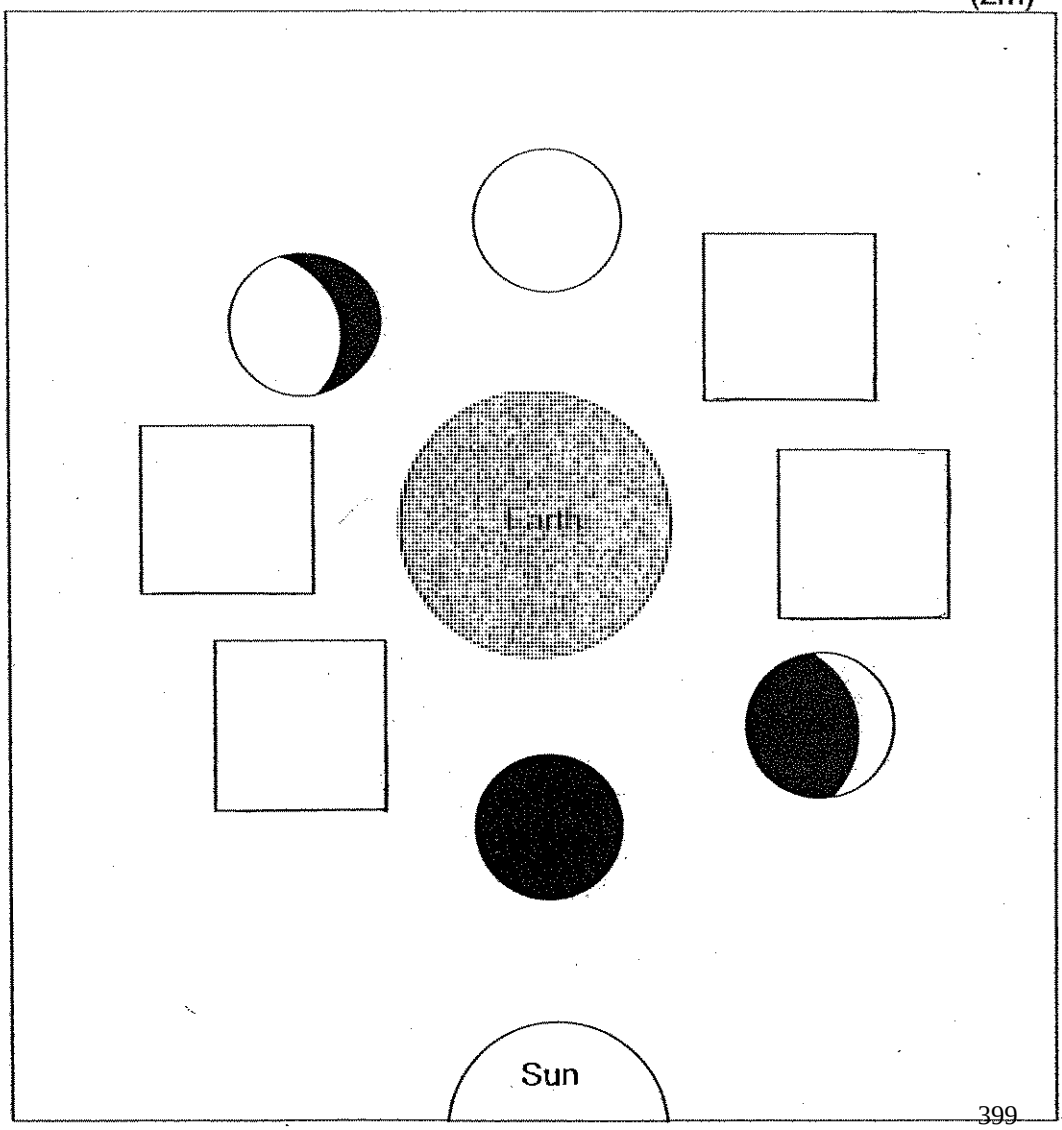
Diagram B

(a) Sometimes the Moon appears as bright as full circle and at other times as a bright crescent. What causes the shape of the Moon to change?

(1m)

(b) The moon goes through different phases throughout the month. In the boxes provided below, draw and label the missing phases of the moon.

(2m)



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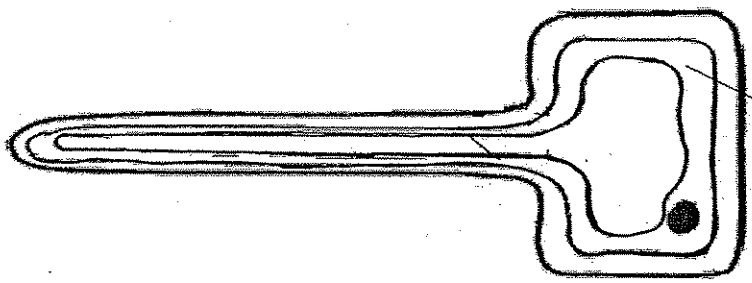
35. (a) In the space provided below, draw and label clearly the parts of a plant cell found in a leaf. (2m)

(b) The diagram below shows a root hair cell.

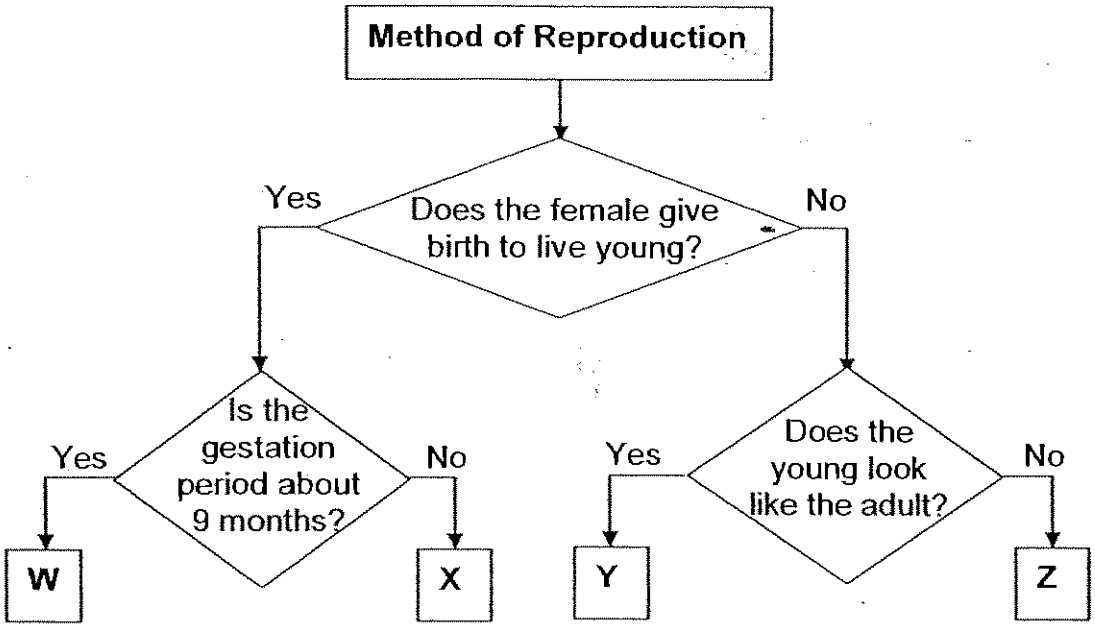


(i) What is present in the cytoplasm of the leaf cell but absent in the cytoplasm of the root hair cell? (1m)

(ii) Give a reason for your answer in b(i). (1m)

400

36. Study the flow chart below carefully.



Identify which letter best represent the following organism. (2m)

(i) Man : _____

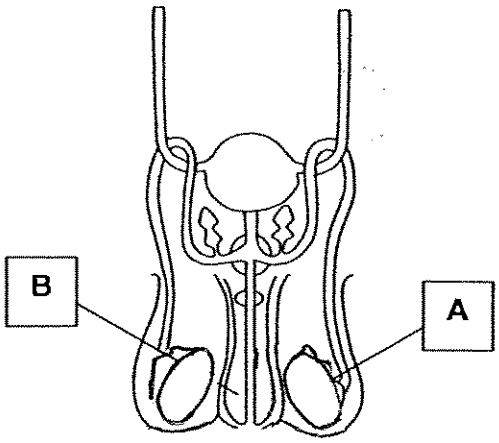
(ii) Toad : _____

(iii) Zebra : _____

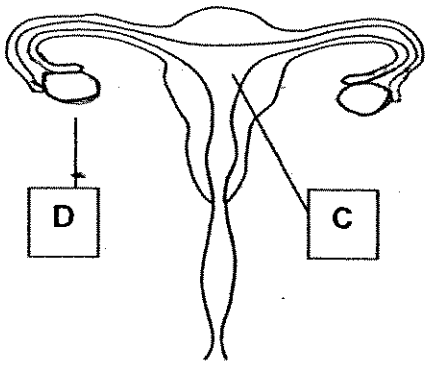
(v) Sparrow: _____

401

37. The diagram below shows the female and male human reproductive system.



Front view of the male reproductive system



Front view of the female reproductive system

(a) Shade the parts that show the organs which produce the reproductive cells? (1m)

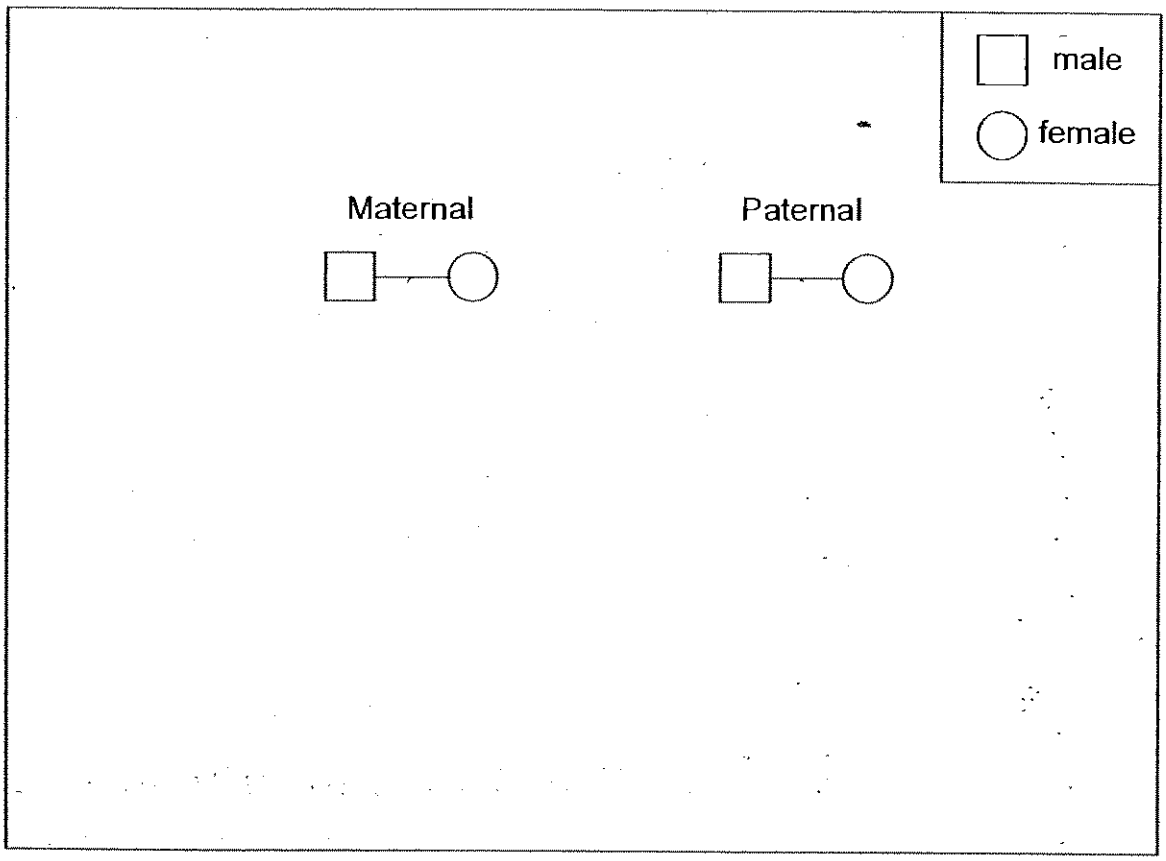
(b) If one of part D is removed from the female reproductive system, will she be able to reproduce? Explain your answer clearly. (2m)

_____

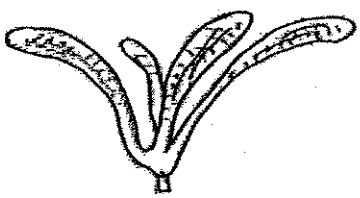
_____

38. Jerome has a baby sister and an elder sister. His mother has two sisters and one brother and his father has two brothers and two sisters.

Draw a family tree from the information given. (2m)



39. Study the diagram below carefully.



(a) What is likely the dispersal method? Give a reason for your answer. (2m)

_____

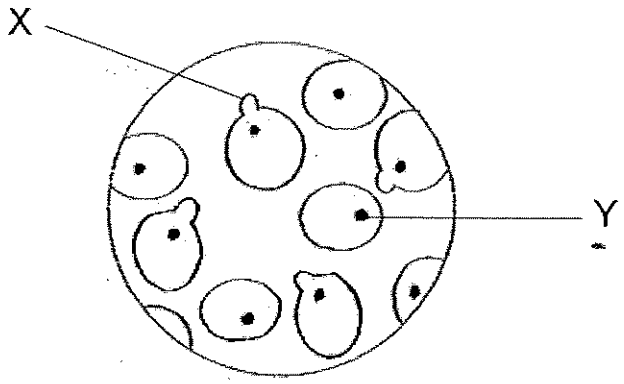
_____

(b) Different fruits have different methods of dispersal. Why must seeds be dispersed away from the parent plant? (1m)

_____

403

40. Eleanor grew some yeast cells in a sugar solution. She observed the cells under a microscope. The diagram below shows what she saw.



(a) Identify the parts labelled in the diagram above. (1m)

(i) X: _____

(ii) Y: _____

(b) Give one reason why cells reproduced? (1m)

_____

(c) Eleanor placed 2 of the cells in the new dish of sugar solution. The cells start to reproduce every minute. Eleanor recorded the results in the table as shown below.

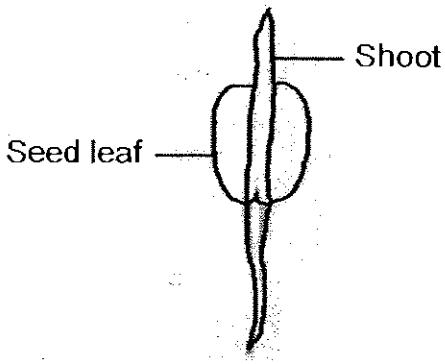
Time taken (min)	Number of cells observed
1	4
3	16

How many cells will Eleanor observe on the 4th minute? (1m)

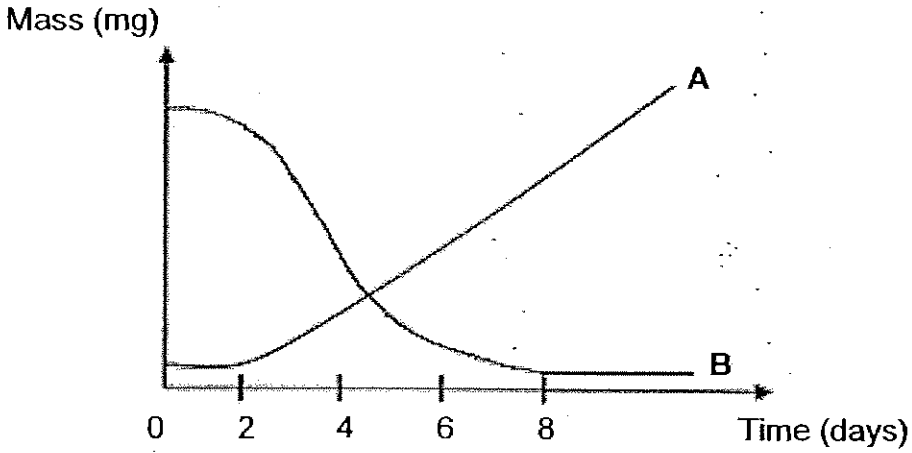
_____

404

41. Darren carried out an experiment on a seed growing to a seedling as shown below.



He recorded down his findings in a graph as shown below. The two curves, A and B, show the change in the mass of the seed leaves and the ~~height of the seedling,~~ the shoot as it grows over a period of time.



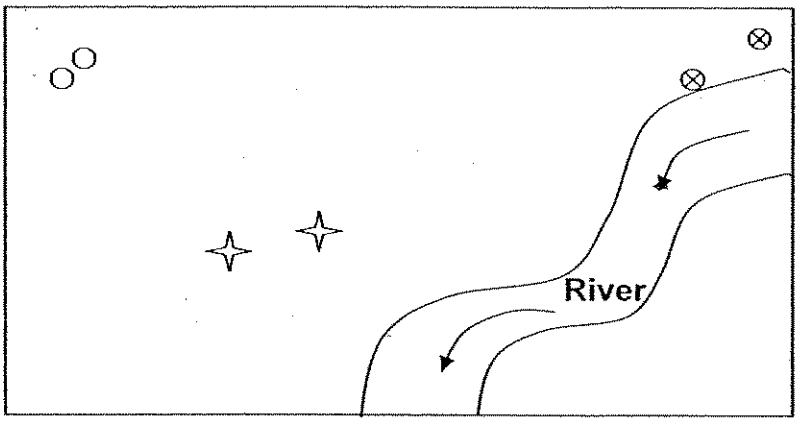
(a) Identify which curve, A or B, shows the mass of the ~~shoot~~ seed leaves? Give a reason to support your answer. (2m)

(b) How did the seedling gets its food after the 8th day? (1m)

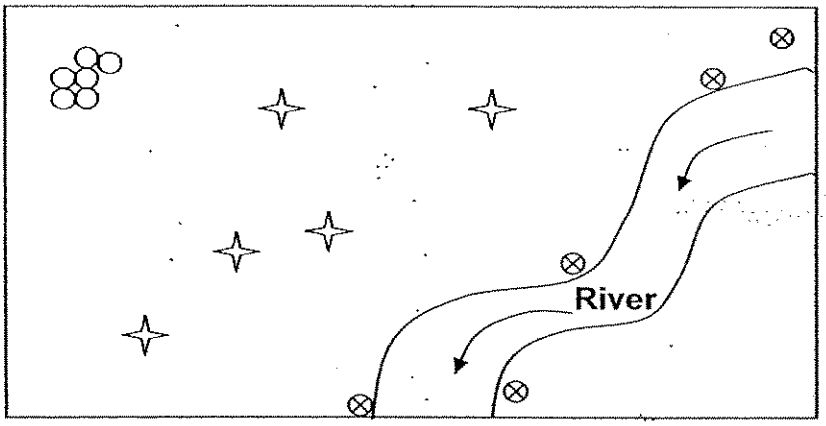
(c) List the conditions Darren needs to provide in order for the seed to germinate? (1m)

405

42. Ken went to a river side and observed the plants grown there. He found out that there are only three types of plants growing there. He made a sketch of the land and drawn symbols to represent the types of plant.



Six months later. Ken went back to the same plot of land and to his surprise he found some new plants growing there. He made a sketch of the land and the location of the plant again.



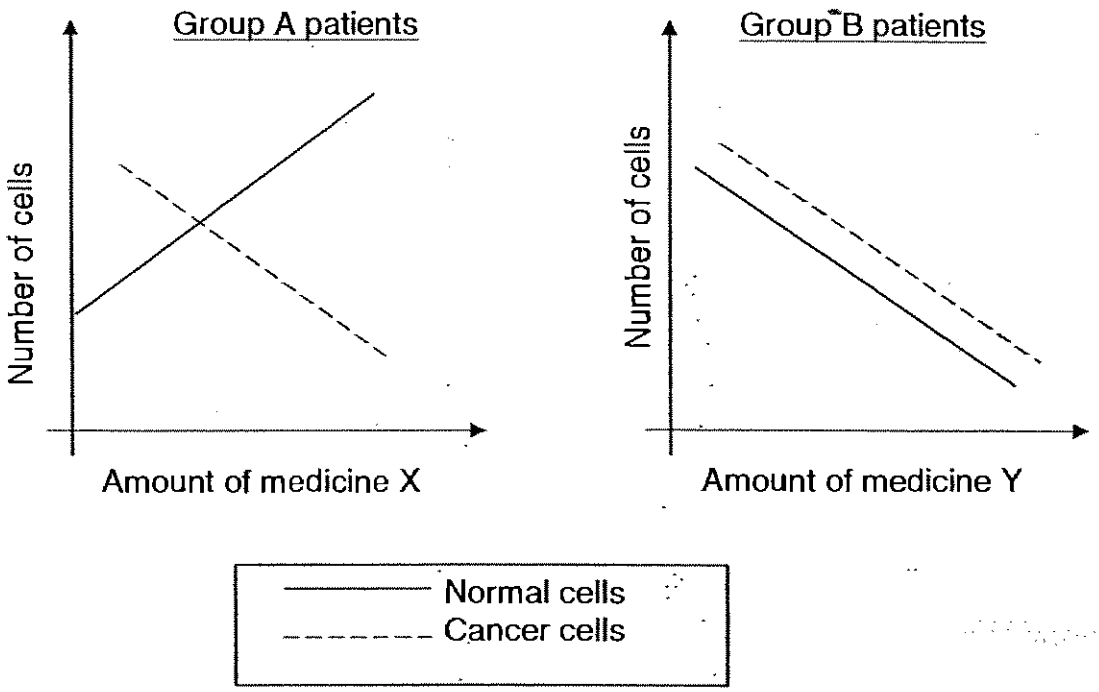
Ken went back to complete his findings by writing some conclusion of this observations.

(a) Which of the symbol correctly matches the method of dispersal for the plant? (1m)

Plant	Symbol
Rubber Tree	
Cotton Plant	
Coconut Tree	

(b) List down the characteristic of the fruit the plant indicated by the symbol ⊗. (1m)

43. Doctor Tan, a doctor specialized in treating cancer, is conducting a research on two different types of medication for destroying cancer cell. These two medications, X and Y, are being used by his patients who were suffering from cancer. He divides his patients into two groups, Group A and Group B. Group A patients took medicine X while group B patients took medicine Y. He recorded his findings in the graph below.



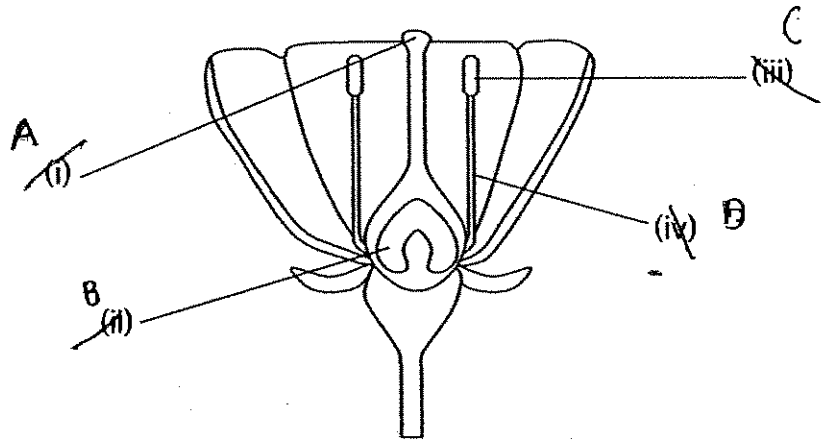
(a) Which medicine, X or Y, is better to treat cancer ~~cell~~ cells? (1m)

(b) Give a reason for your answer in (a). (1m)

(c) From the graphs above, what can you conclude about the relationship between the cancer cells and the normal cell for group B patients? (1m)

407

44. Study the diagram below.



Identify the parts, a, b, c and d. (2m)

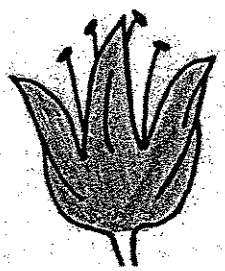
A
(i) : _____

B
(ii) : _____

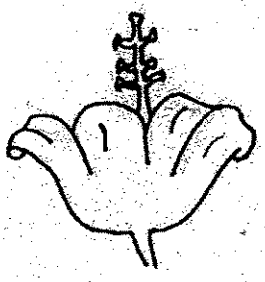
C
(iii) : _____

D
(iv) : _____

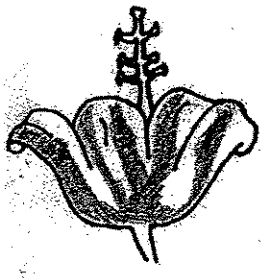
45. Sharon grew a pink and a white flowering plant of the same species. Some time later, she discovered that some of the new white flowers had some pink patches on the petals.



Pink Flower



White Flower



White flower with patches of pink

Explain why the pink patches appeared on the petals of the white flowers. (1m)

_____

408

46. When certain types of cells are placed in ~~pure~~ plain water, water will enter the cells, causing them to swell. When the same cells are placed in sugar solution, water will exit the cells, causing them to shrivel.

Karen had two beakers of liquid, Beaker 1 and Beaker 2. One contained plain water and the other contained sugar solution. To determine the contents of each beaker, Karen placed some cells, labelled A, into the two liquids.

Beakers	Observation under the microscope
Beaker 1	Cells were crumpled up
Beaker 2	Liquid turned red, cells could not be seen

(a) Identify the liquids in Beaker 1 and Beaker 2. (1m)

(i) Beaker 1: _____

(ii) Beaker 2: _____

(b) After identifying the 2 liquids, Karen conducted another experiment. She placed a different set of cells, labelled B, into Beaker 1 and Beaker 2. This time, there was no visible change. The cells in both liquids retained their shape.

Identify Cell B and explain the difference in results between the two experiments (2m)

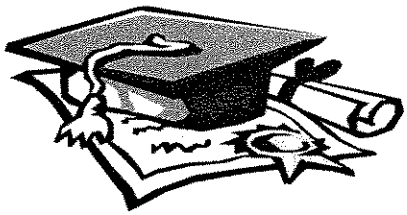
_____

_____

******* END OF PAPER*******

Have you checked your paper?

409



ANSWER SHEET

CHIJ PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

1. 2
2. 2
3. 3
4. 3
5. 4
6. 2
7. 1
8. 3
9. 1
10. 4
11. 1
12. 2
13. 3
14. 4
15. 4
16. 1
17. 4
18. 4
19. 3
20. 2
21. 1
22. 2
23. 3
24. 4
25. 2
26. 2
27. 1
28. 2
29. 1
30. 4

31) a)

b) The Earth's at mospnere and the position of the Earth to the sun.

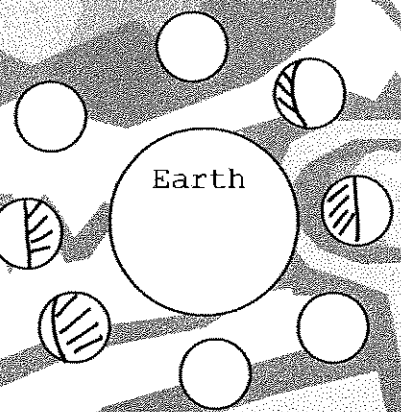
32) a) Moon is a natural satellite but satellite is Man-made.

b) Communication to the earth.

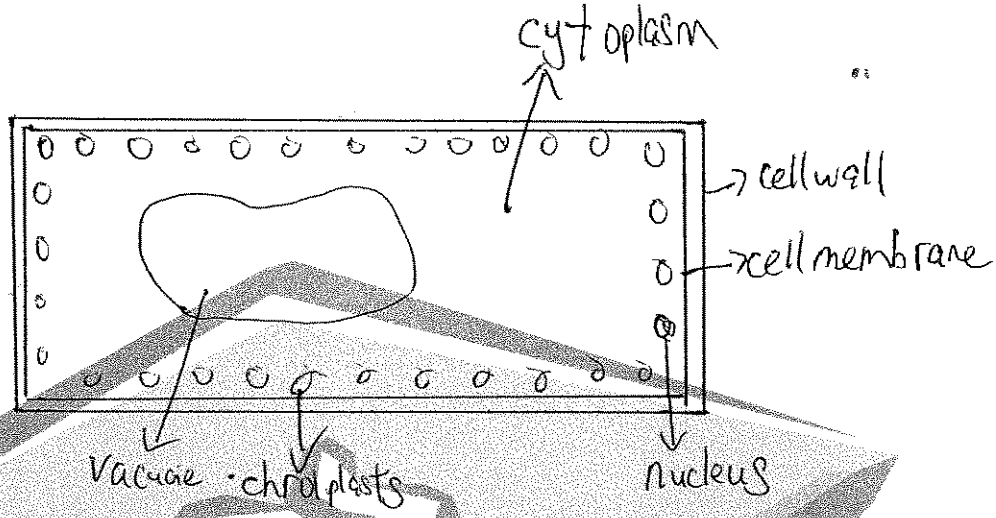
33) Onion skin cell.
They do not contain plants which is needed to produce food.

34) a) The revolution of the moon around the earth.

b)



35)a)

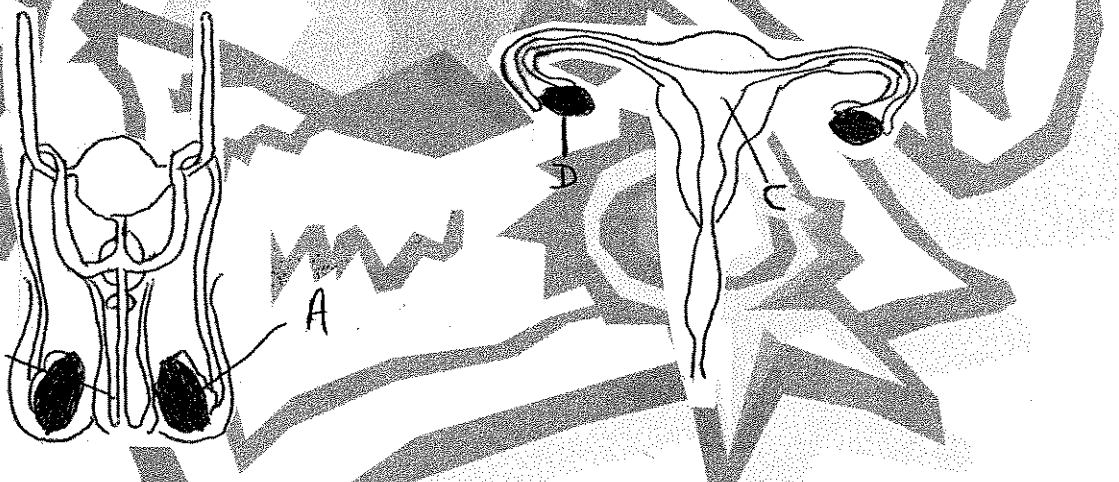


b)i)Chloroplasts is absent in the root hair cell but present in the leaf cell.

ii)Root hair cell does not need to photosynthesize.

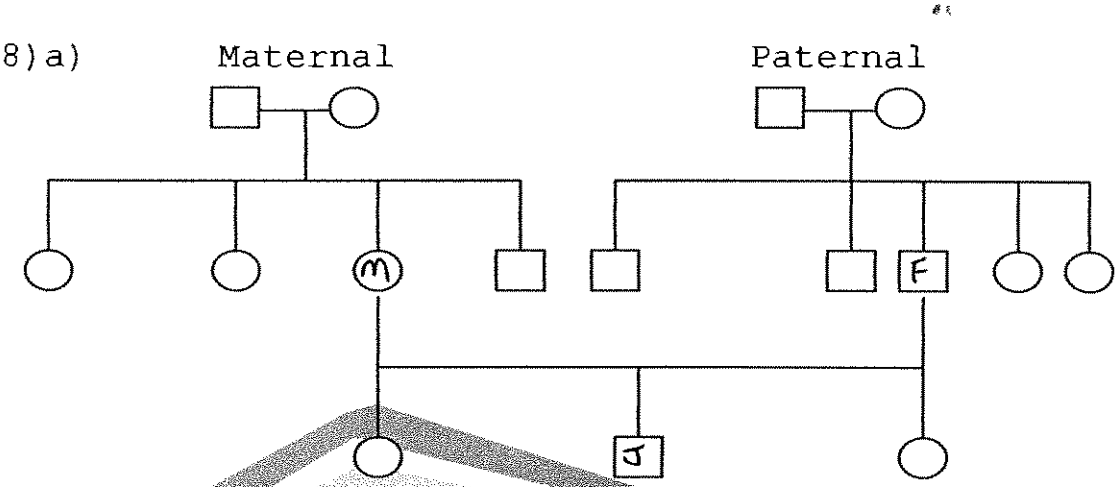
36)i)W ii)Z iii)X v)Y

37)a)



b)Yes. She will be able to as she still another ovary to release eggs.

38)a)



39)a)By wind because of its wing-like structure which enables it to "fly".

b)To prevent over crowing and not compete for water, sunlight , warmth.

40)a)i)Bud ii)nucleus

b)To replace old and damaged cells.

c)32 cells.

41)a)Curves B, The food in the seed leaves has been used up.

b)Its leaves will start to make its own food.

c)water, warmth and air.

42)a)○ ☆ ⊗

b)Fibrous husk which enables it to float.

43)a)X

b)Medicine X kills the cancer cells and allows new cells to grow.

c)As the cancer cells decreases, the normal cells decreases.

44)A)Stigma B)Ovary C)Anther D)filament

45)Some pollen grains from the anther of the pink flowers had fused with the ovules of the white flowers and fertilized it.

46) a) i) Sugar solution
ii) plain water
b) Cell B is a plant cell, unlike A. Cell B had a cell wall which help the plant cell to retain it's shape.

NANYANG PRIMARY SCHOOL

PRIMARY FIVE SCIENCE

CONTINUAL ASSESSMENT 2

2007

BOOKLET A

Date : 20 August 2007

Duration : 1 h ~~30~~ 45 min

Name : _____ ( )

Class: Primary _____ ( )

Marks Scored:

Booklet A:		**50**
Booklet B :		**30**
Total :		**80**

Parent's signature: .....

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 16 printed pages including this cover page.

Section A (25 x 2 marks = 50 marks)
For each question from 1 to 20, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. An object P is brought near a bar magnet and its end marked Z is attracted to the south pole of the magnet as shown below.

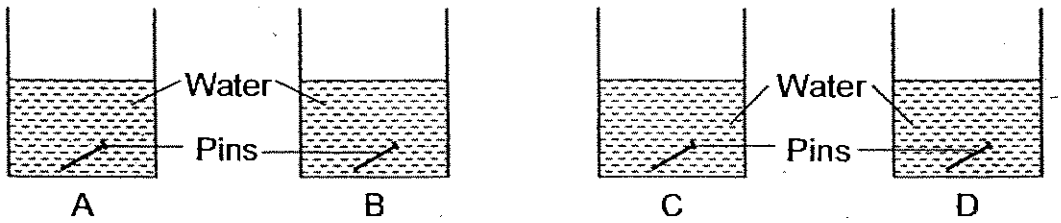
Object P Bar magnet

Based on the information given, object P could be a _____.

A. copper rod
B. nickel rod
C. magnet

(1) A only
(2) B and C only
(3) A and B only
(4) A, B and C

2. Hassan tried to move the pin from the base of the containers A, B, C and D to their brims by pulling a bar magnet along the side of the containers.



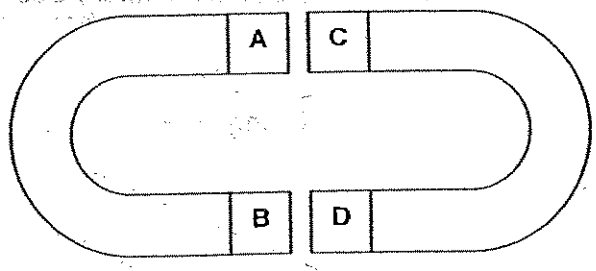
A B C D

Glass container | Plastic container | Steel container | Aluminum container

Hassan found that he could not move the pin in one of the containers. Which container was it?

(1) A
(2) B
(3) C
(4) D

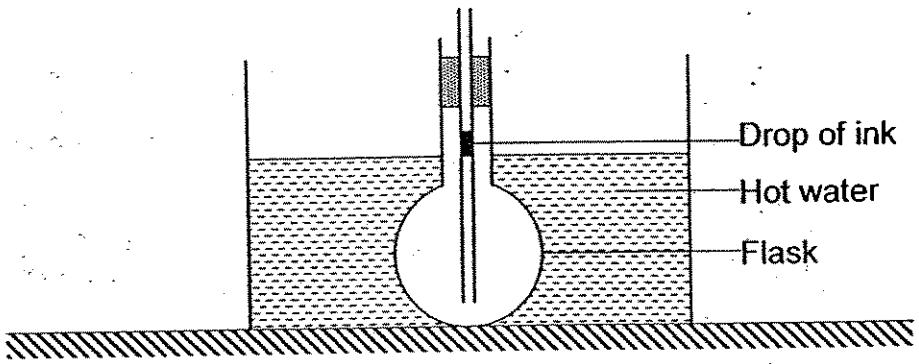
3. The diagram below shows 2 horseshoe magnets with ends labelled A, B, C and D.



When two horseshoe magnets were placed together, they pulled each other. Which of the following correctly shows the poles A, B, C and D?

	A	B	C	D
(1)	north	north	south	south
(2)	south	south	north	north
(3)	north	south	south	north
(4)	north	south	north	south

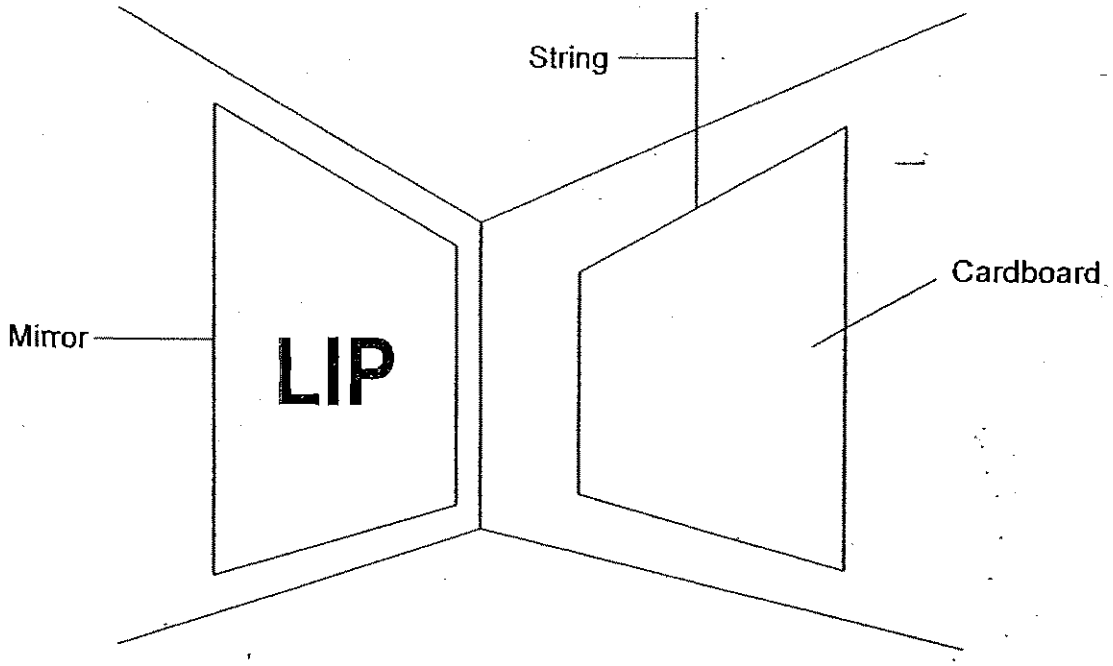
4. When the flask was immersed in hot water as shown in the experiment below, the drop of ink in the tube dropped slightly before it rose.



What could have caused the ink to drop first before rising?

(1) The flask expanded first followed by the air in the flask.
(2) The water expanded first followed by the air in the flask.
(3) The drop of ink expanded first followed by the glass tube.
(4) The glass tube expanded first followed by the air in the flask.

5. Alvin hangs a piece of cardboard, with a word written on it, in front of a mirror. The reflected image of the word is seen in the mirror as shown below.



Which one of the following below shows the word as printed on the cardboard?

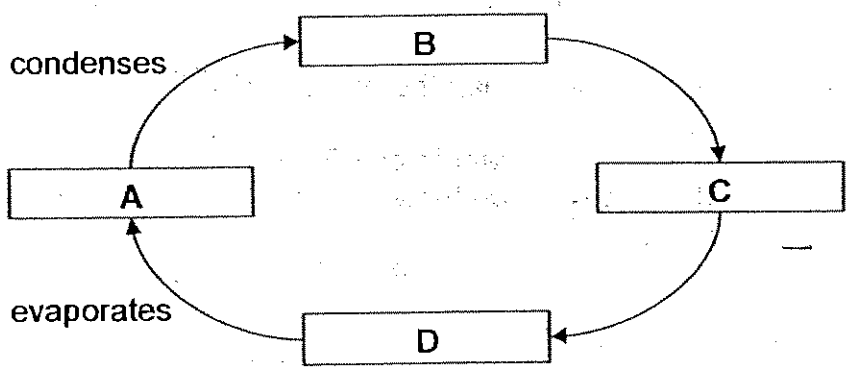
(1) LIP

(2) PIL

(3) ⅃Iꟼ

(4) ꟼI⅃

6. The diagram below shows the water cycle.



What do the letters A, B, C and D in the boxes stand for?

	A	B	C	D
~~(1)~~	Rain	Water	Water vapour	Clouds
~~(2)~~	Water vapour	Clouds	Rain	Water
~~(3)~~	Water	Rain	Water vapour	Clouds
~~(4)~~	Water vapour	Water	Clouds	Rain

7. Kelly added a few tablespoons of salt to a beaker of ice cubes. What do you think would happen?

(1) The temperature of the ice would increase slightly.
(2) The ice would not melt until all the salt has been dissolved.
(3) The salt interacted with the ice causing it to melt more quickly.
(4) The salt would absorb heat from the ice causing it to melt more slowly.

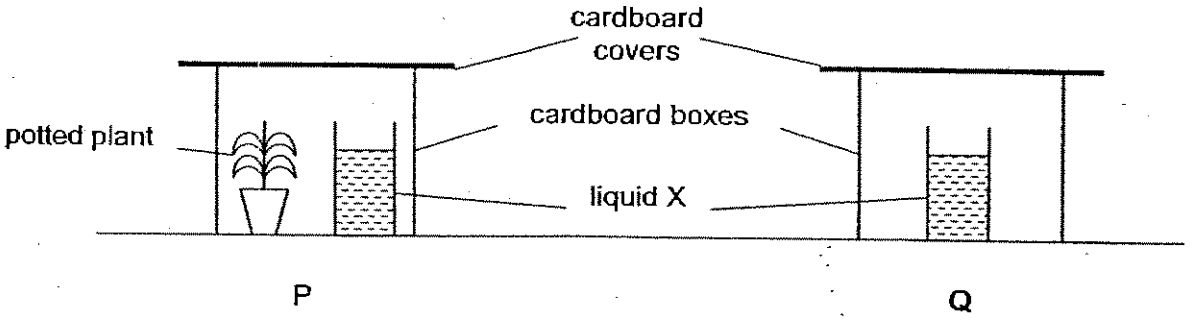
8. Each one of the following options shows the names of three plants, classified according to the parts of the plant that are usually eaten. In which of the following options is the classification correct?

	Seed	Fruit	Stem
(1)	Pea	Tapioca	Onion
(2)	Spinach	Tomato	Potato
(3)	Red bean	Brinjal	Ginger
(4)	Rice	Banana	Sweet potato

9. Wei Ming set up an experiment using two cardboard boxes, P and Q. A beaker containing liquid X is put into each box. Both boxes are then covered with a piece of cardboard.

Liquid X is red. It turns yellow when the amount of carbon dioxide increases.

He then placed a small potted plant in box P. The next day, he noticed that the beaker of liquid X in box P had turned yellow while the beaker of liquid X in box Q remained red.

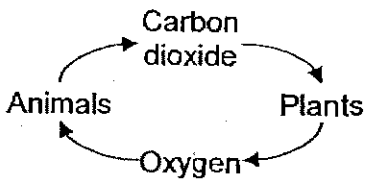


What had happened to cause the beaker of liquid X in container P to turn yellow?

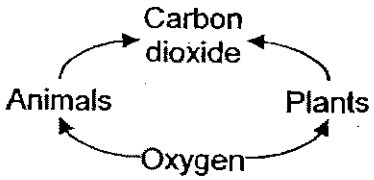
(1) The plant had respired.
(2) Evaporation had taken place.
(3) The plant had photosynthesised.
(4) Carbon dioxide had entered the container.

10. Which one of the following diagrams shows the exchange of gases between living things and their environment all the time?

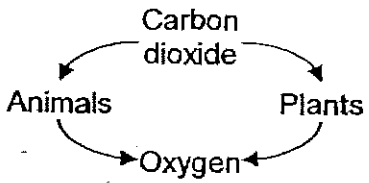
(1)



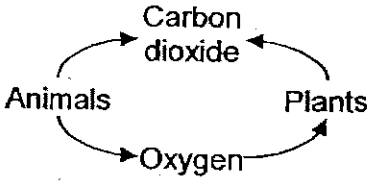
(2)



(3)



(4)



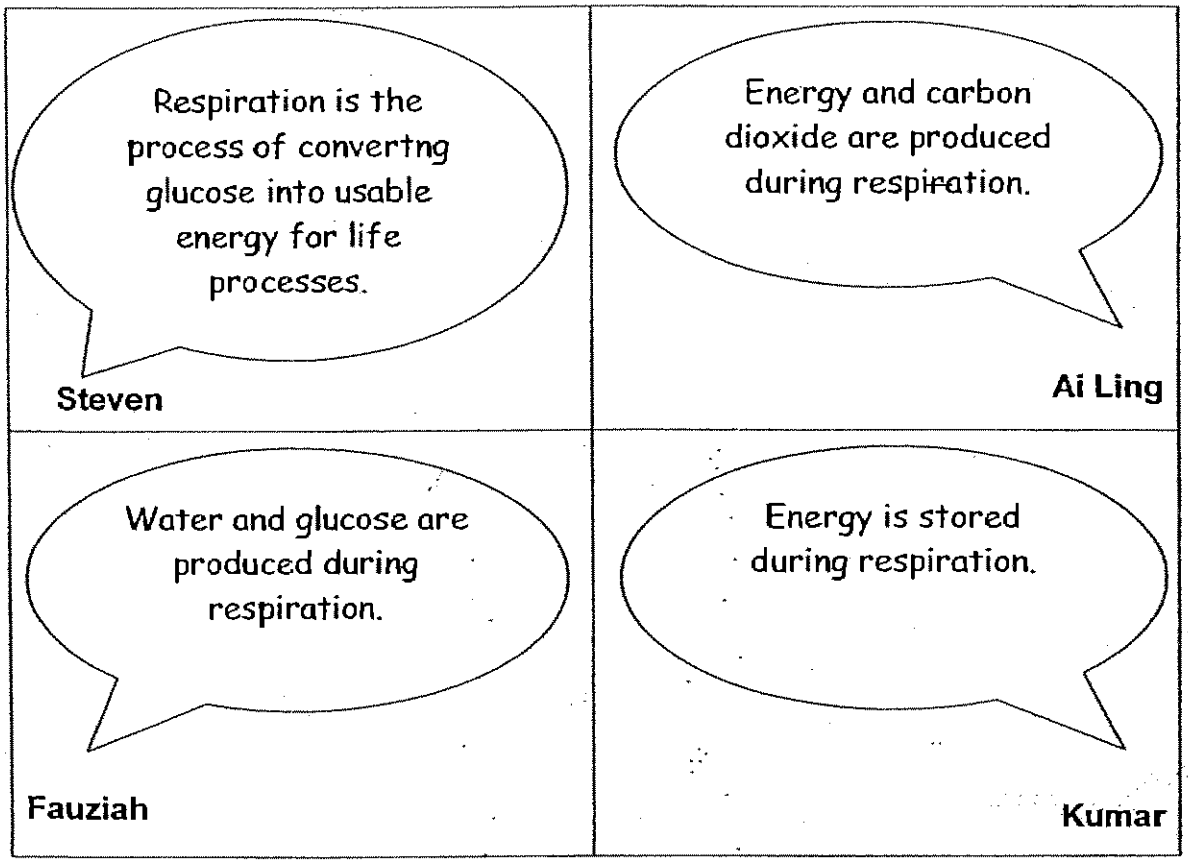
11. Study the two processes in the table below.

	Photosynthesis	Respiration
Raw materials needed	A	C
Products	B	D

Which of the following correctly represents A, B, C and D?

	A	B	C	D
(1)	Carbon dioxide Water	Oxygen Sugar	Food Oxygen	Carbon dioxide Water
(2)	Oxygen Water	Carbon dioxide Sugar	Oxygen Water	Carbon dioxide Food
(3)	Carbon dioxide Water	Food Oxygen	Oxygen Water	Carbon dioxide Sugar
(4)	Carbon dioxide Water	Carbon dioxide Water	Oxygen Sugar	Oxygen Sugar

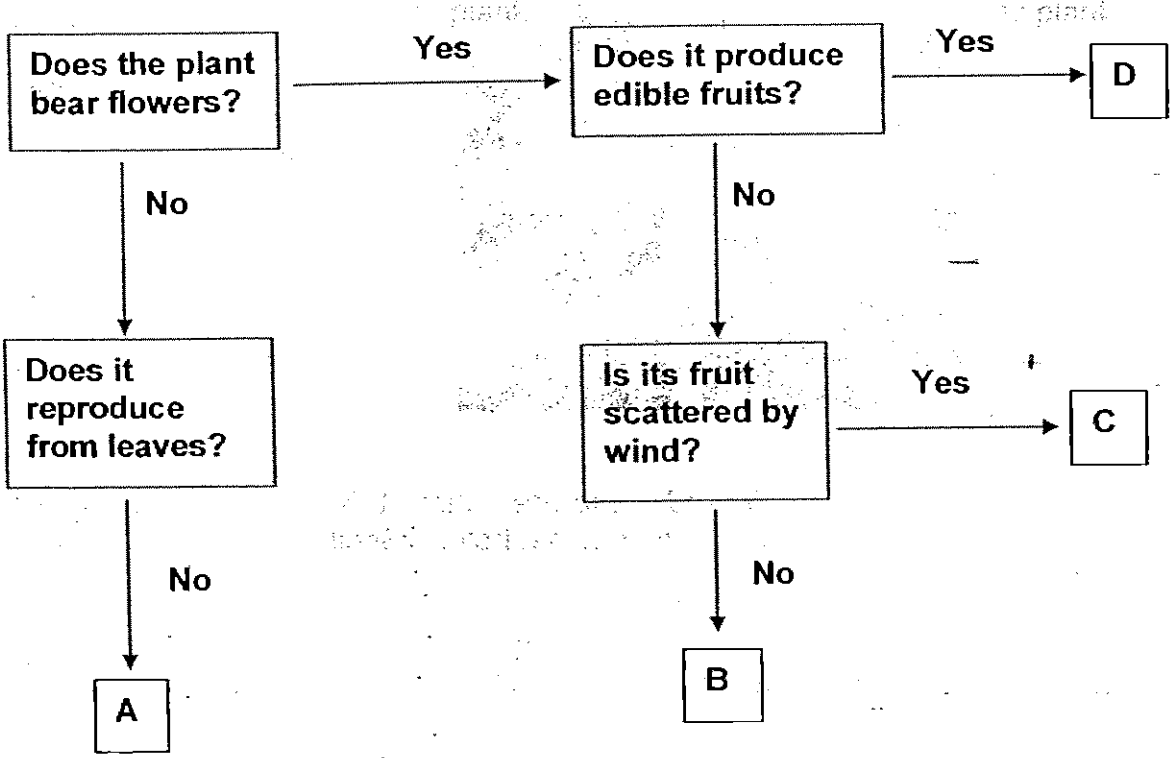
12. Four pupils made some statements on the process of respiration as shown below.



Who had made the correct statements about respiration?

(1) Steven and Kumar
(2) Fauziah and Kumar
(3) Steven and Ai Ling
(4) Fauziah and Ai Ling

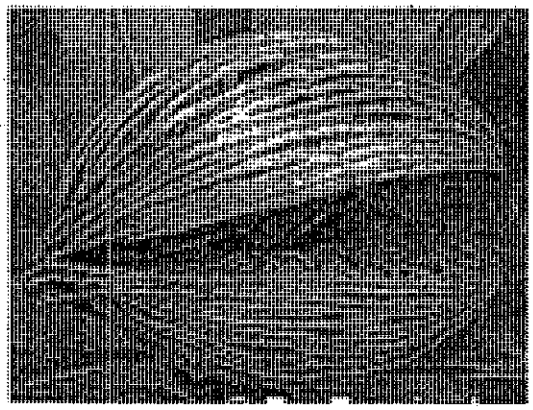
13. Study the flow chart below carefully.



Which one of the following plants has been classified correctly as A, B, C and D?

	A	B	C	D
(1)	Bryophyllum	Fern	Nipah	Pineapple
(2)	Moss	Mimosa	Shorea	Mango
(3)	Begonia	Balsam	Angsana	Banana
(4)	African Violet	Lalang	Ginger	Guava

14 Sheila found a fruit as shown below in her garden.



She examined the fruit and concluded that it is dispersed by water. What is the characteristic of this fruit that helped Sheila to make this conclusion?

(1) big and juicy
(2) fibrous husk
(3) wing-like structure
(4) tiny bristle hairs

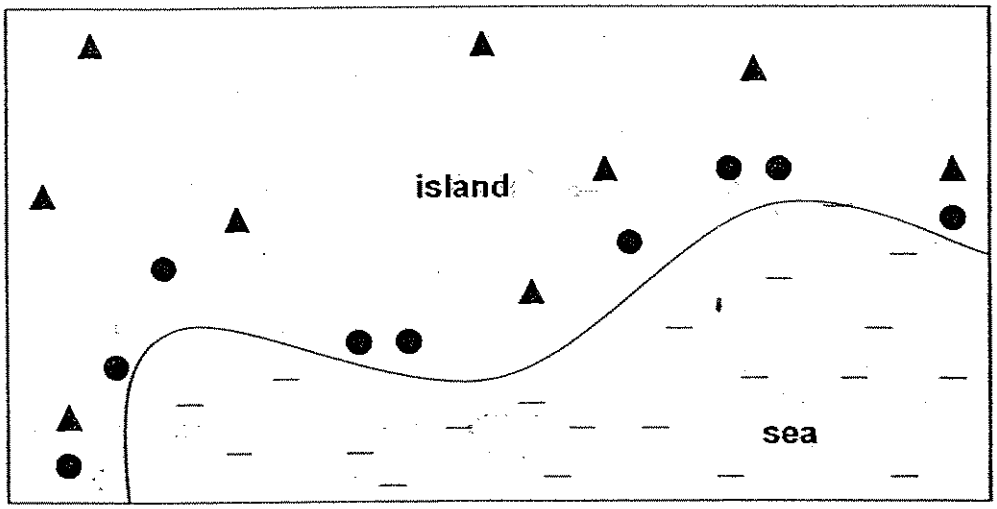
15. Sundra planted 4 pots of different types of plants W, X, Y and Z each in his garden. He counted the number of male and female flowers of each plant and recorded it in the table below.

	Number of male flowers	Number of female flowers
Plant W	0	7
Plant X	2	4
Plant Y	4	0
Plant Z	5	1

Assuming there is no cross pollination taking place, which of the above plant(s) is/are able to bear fruits?

(1) Plants X and Z only
(2) Plants W and Y only
(3) Plants W, X and Z only
(4) Plants W, X, Y and Z

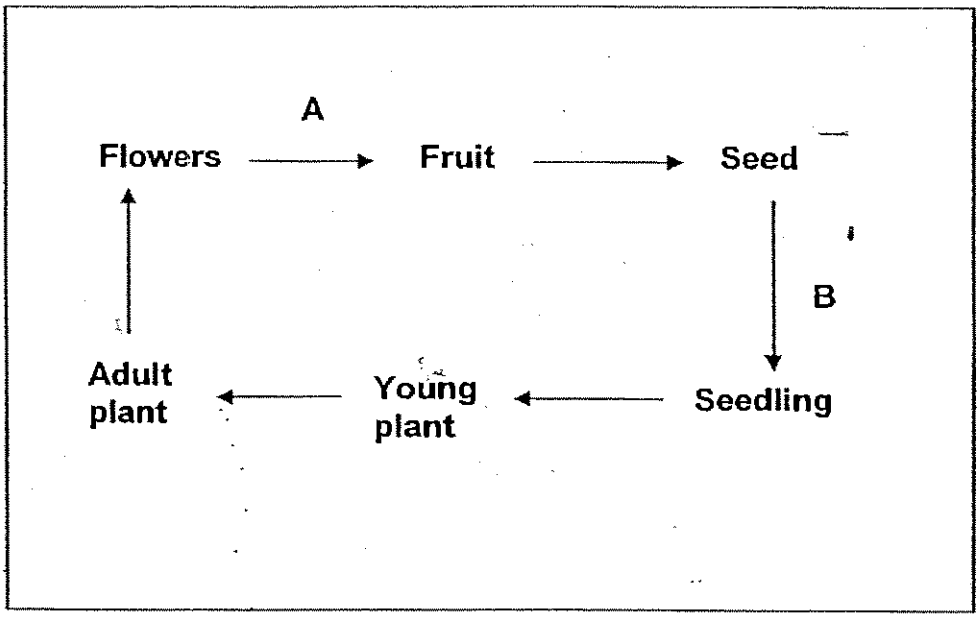
16. The diagram below shows a part of an island where two types of plants (● , ▲) are growing.



How are the fruits or seeds of each type of plant most likely dispersed?

	▲	●
(1)	Water	Wind
(2)	Wind	Water
(3)	Splitting action	Wind
(4)	Animals	Water

17. The following diagram shows the different stages in the life cycle of a flowering plant.

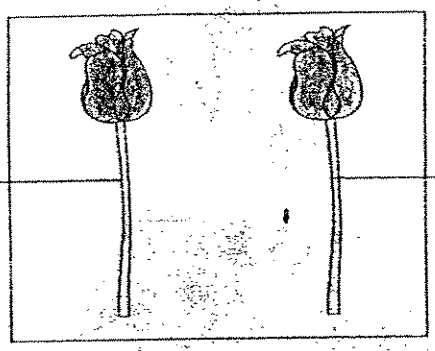


What are the processes taking place at A and B?

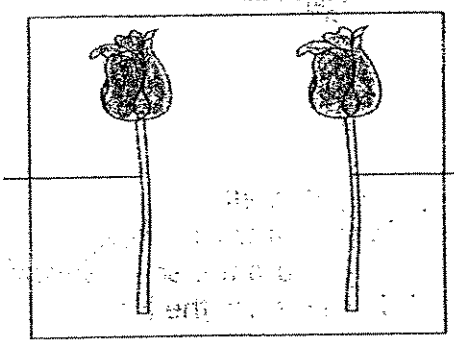
	A	B
(1)	Germination	Pollination and fertilisation
(2)	Pollination and fertilisation	Seed dispersal
(3)	Seed dispersal	Germination
(4)	Pollination and fertilisation	Germination

18. Taulfik wanted to test if bees are attracted to sugar solution. He used 2 different coloured flowers made of silk in his experiment and sprayed some of them with $10cm^3$ of sugar solution. Which set-up should he use for his experiment?

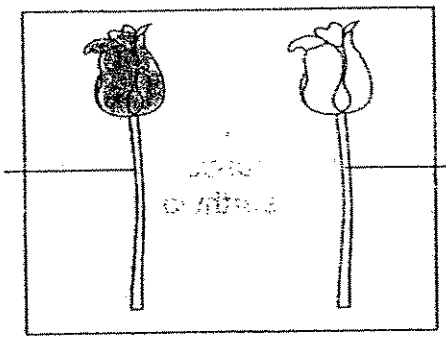
(1)



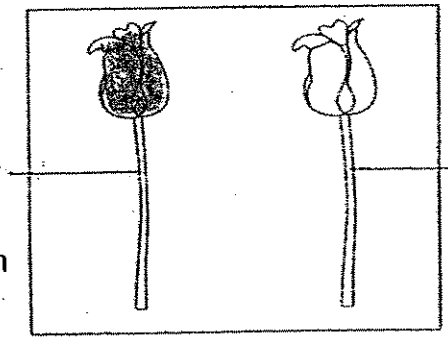
(2)



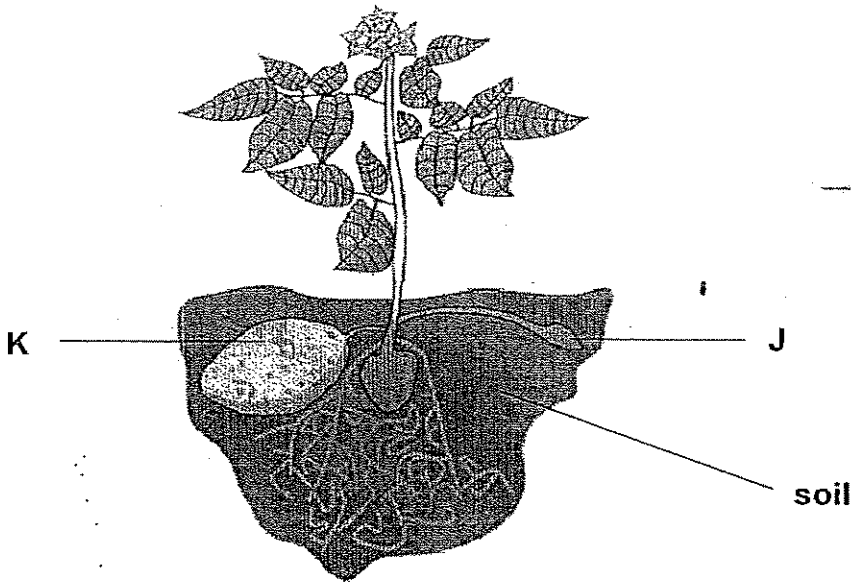
(3)



(4)



19. The diagram below shows a potato plant.



How does K obtain its food?

(1) The food is made by K itself.
(2) The food is transported from J.
(3) The food is absorbed from the soil.
(4) The food is transported from the leaves.

20. Which one of the following groups of living things obtains its energy directly from plants only?

(1) deer, butterfly and duck
(2) goat, caterpillar and squirrel
(3) rabbit, cow and praying mantis
(4) pitcher plant, zebra and earthworm

21. Which of the following systems breaks down food into the simplest form and transports it to all parts of the body?

A Digestive system
B Circulatory system
C Respiratory system

(1) A only
(2) B only
(3) A and B only
(4) A, B and C

22. Which of the following statement(s) about saliva is/are true?

A Saliva helps to digest food.
B Saliva makes it easier for us to swallow food.
C Saliva helps food to be absorbed in the stomach.

(1) A only
(2) A and B only
(3) B and C only
(4) A, B and C

23. What is the function of digestive juices in our digestive system?

(1) Makes food soft
(2) Produces energy from food
(3) Breaks down food into simpler substances
(4) Transport food to various parts of the body

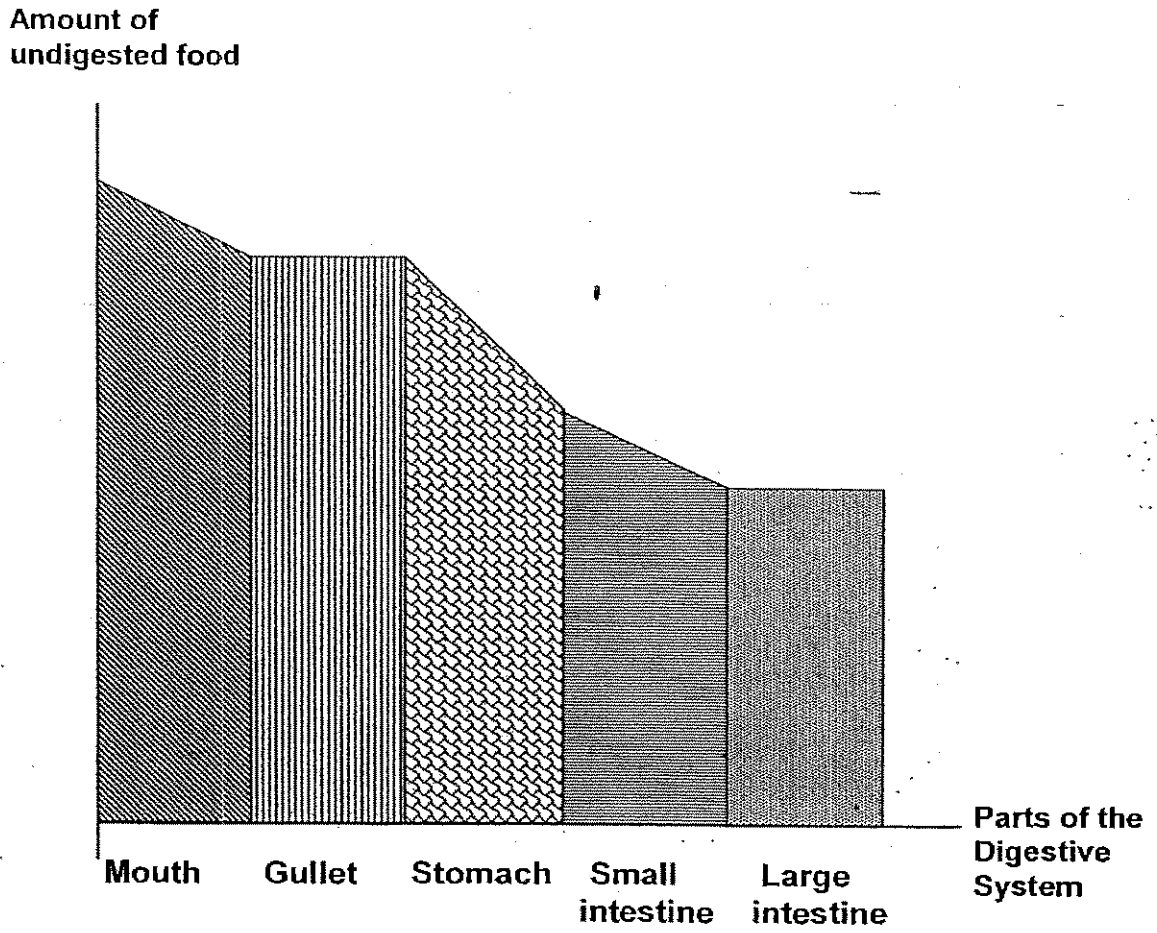
24. Tian Yu wanted to find the diet of 4 animals, A, B, C and D. He placed the animals into 4 cages and a certain amount of leaves, apples and meat in each cage. After 2 hours, he measured the amount of food left in the cages. The table below shows the results of Tian Yu's observation.

Animals	Leaves	Apples	Meat
A	15g	20g	19g
B	20g	10g	15g
C	20g	14g	20g
D	18g	16g	20g

Which variable must he keep constant in all the 4 cages for this experiment?

(1) Type of animals
(2) Size of the cages
(3) Type of food in each cage
(4) Amount of food before the experiment

25. The graph below shows the amount of undigested food in Lily's digestive system.



What can you conclude from the graph above?

(1) Digestion starts in the stomach.
(2) Digestion ends in the large intestine.
(3) Digestion does not take place in the gullet and large intestine.
(4) Digestion takes place in the mouth, gullet, stomach and small intestine.

NANYANG PRIMARY SCHOOL

PRIMARY FIVE SCIENCE

CONTINUAL ASSESSMENT 2

2007

BOOKLET B

Date: 20 August 2007

Duration : 1 h ~~30~~ 45 min

Name : _____ ( )

Class: Primary _____ ( )

Marks Scored:

Booklet A:		50
Booklet B :		30
Total :		80

Parent's signature: .....

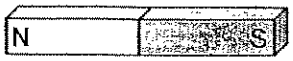
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet B consists of 12 printed pages including this cover page.

Section B (30 marks)

Write your answers to questions 26 to 36 in the spaces provided.
Marks will be deducted for misspelt key words.

26. Azizah was given a bar magnet and a metal rod by her teacher.
She was asked to find out if the metal rod was also a magnet.



Bar magnet

Metal rod

Describe below the steps she should take to find out if the metal rod was also a magnet. (2m)

Step 1: _____

_____

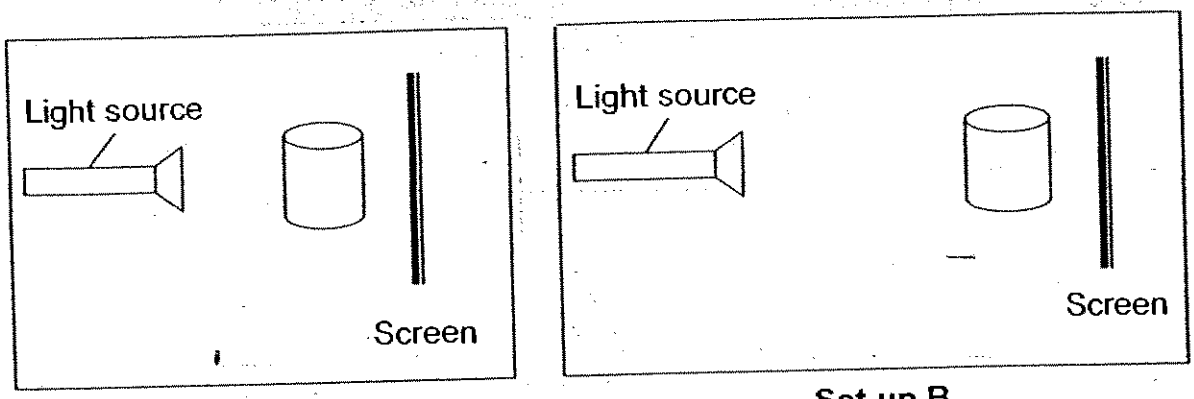
Step 2: _____

_____

Step 3: _____

_____

27. A cylinder is arranged in two different ways in front of a light source as shown below to cast two different shadows on the screen.



Set-up A **Set-up B**

(a) How is the shadow formed in set-up A different from that formed in set-up B? (1m)

_____

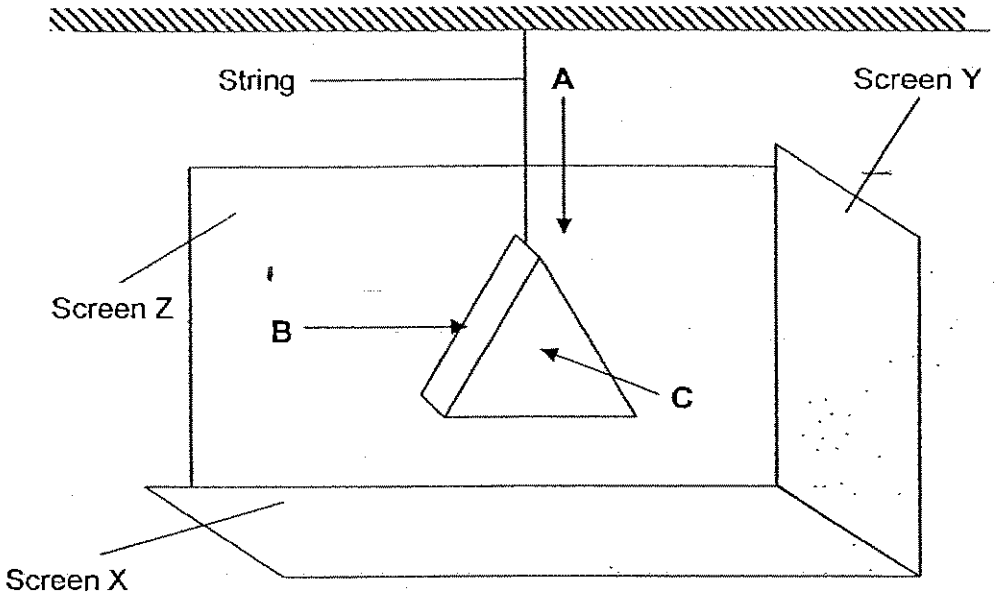
_____

(b) Give a reason for your answer in (a). (1m)

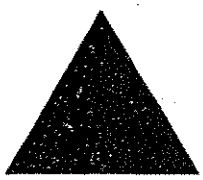
_____

_____

28. Sufri shone a torch at an object from three different directions A, B and C as below.

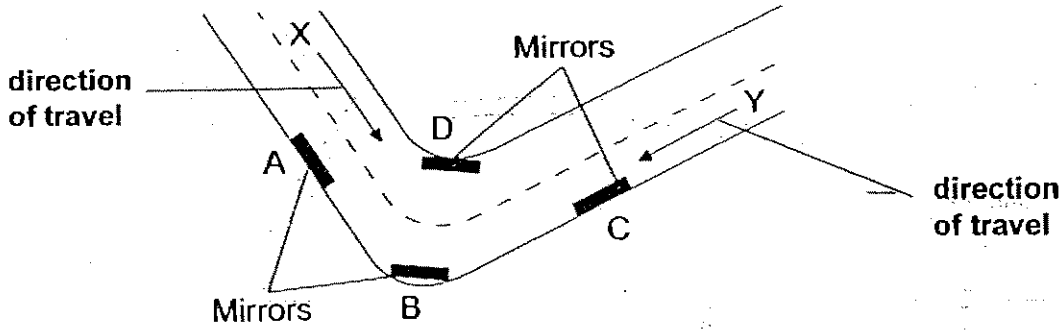


a) Draw the shadows, as seen by Sufri when the torch was shone in the directions A and B, in the table below. The shadow Sufri saw for direction C has been drawn for you. (2m)

Direction	Shadow on Screen X
A	
	Shadow on Screen Y
B	
	Shadow on Screen Z
C	

b) What is the important property of the material that the object is made of for formation of shadow? (1m)

29. The diagram below shows a sharp bend along a 2-way road.



(a) Which mirror, A, B, C or D, will enable motorists at X and Y to see each other before they meet? (1m)

_____

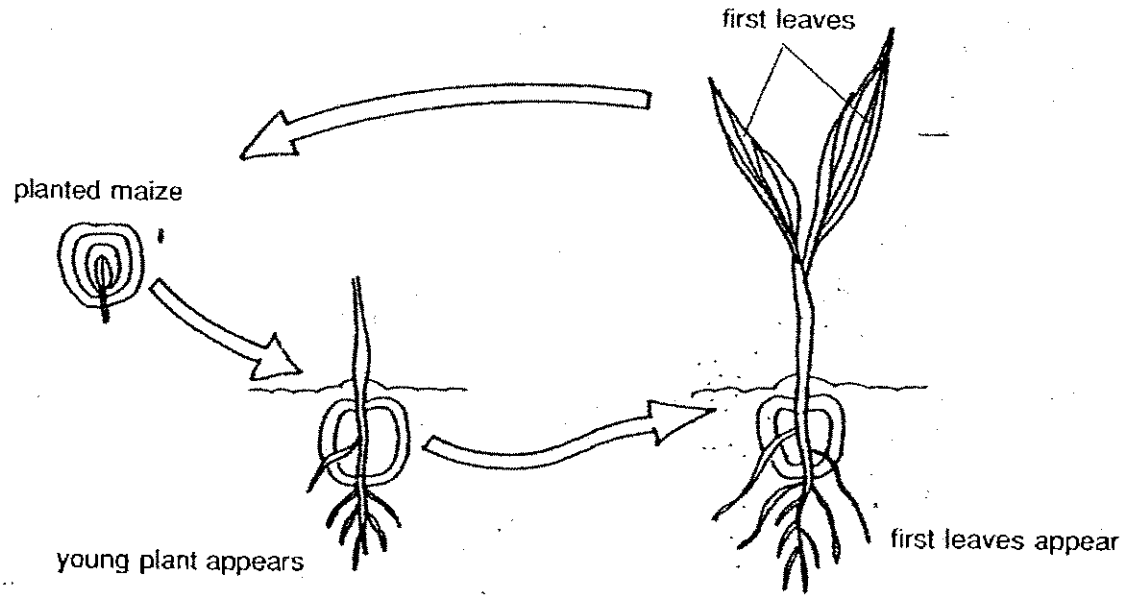
(b) Explain how the mirror enables motorists to see each other before they meet. (1m)

_____

(c) State the property of light which allows this set-up to work. (1m)

_____

30. The diagram below shows the growth of a maize seed.



(a) Fill in the blanks below. (1m)

In germination, the part that grows out from the seed first is the _____ followed by the _____.

(b) Where does the seedling get its food from? (1m)

_____

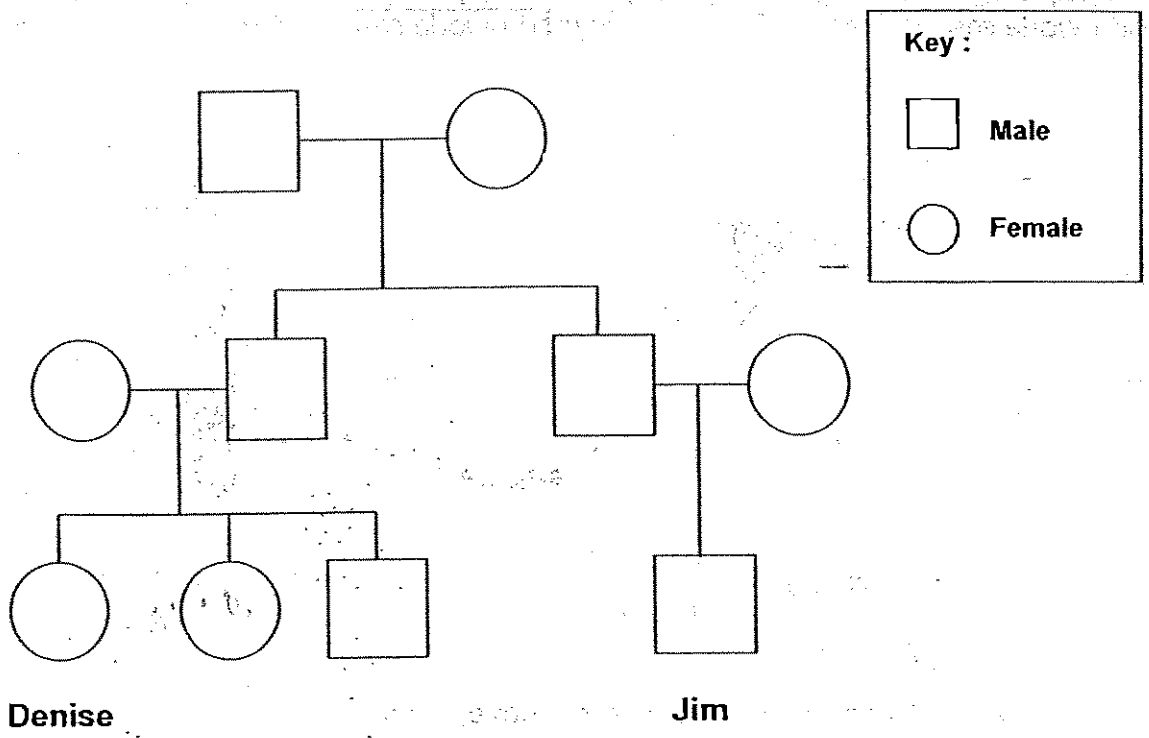
(c) At which stage is the maize plant able to make its own food? (1m)

_____

(d) List the 3 conditions that are necessary for the germination of the maize seed. (1m)

_____

31. Study the family tree below.



(a) How is Jim related to Denise? (1m)

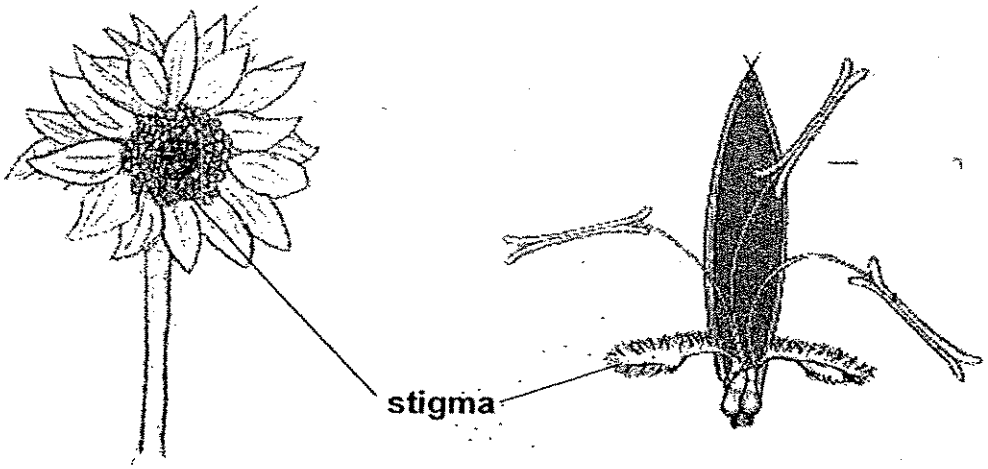
_____

(b) It is observed that if only 1 parent could roll his or her tongue, all their children could roll their tongues.

Based on the above family tree, in the first and second generations, **only** two males could roll their tongues. How many people in the family tree **can** roll their tongues? (1m)

_____

32. Observe the pictures below carefully.



Flower A Flower B

(a) Based on the pictures above, state one similarity between Flower A and Flower B. (1m)

_____

_____

(b) State one difference between the two species of flowers.
(Do not compare size or shape) (1m)

_____

_____

(c) Which species of flower is most likely to be wind-pollinated? (1m)

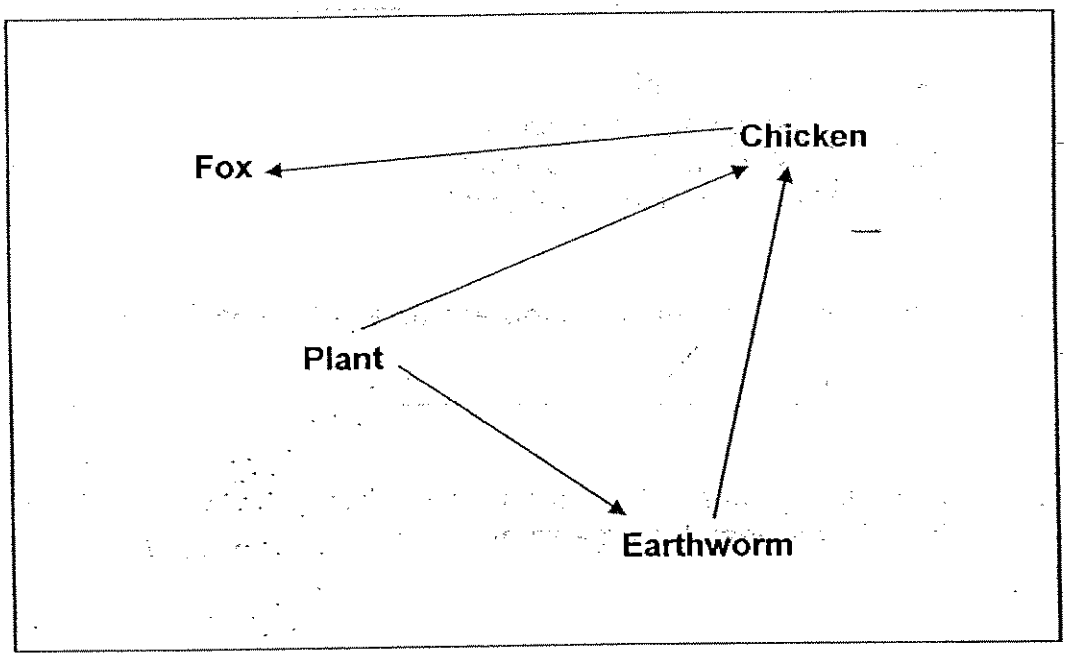
_____

(d) Give a reason for your answer in (c). (1m)

_____

_____

33 The diagram below shows a food web.



Based on the food web above, state 2 complete food chains. (2m)

(i) _____

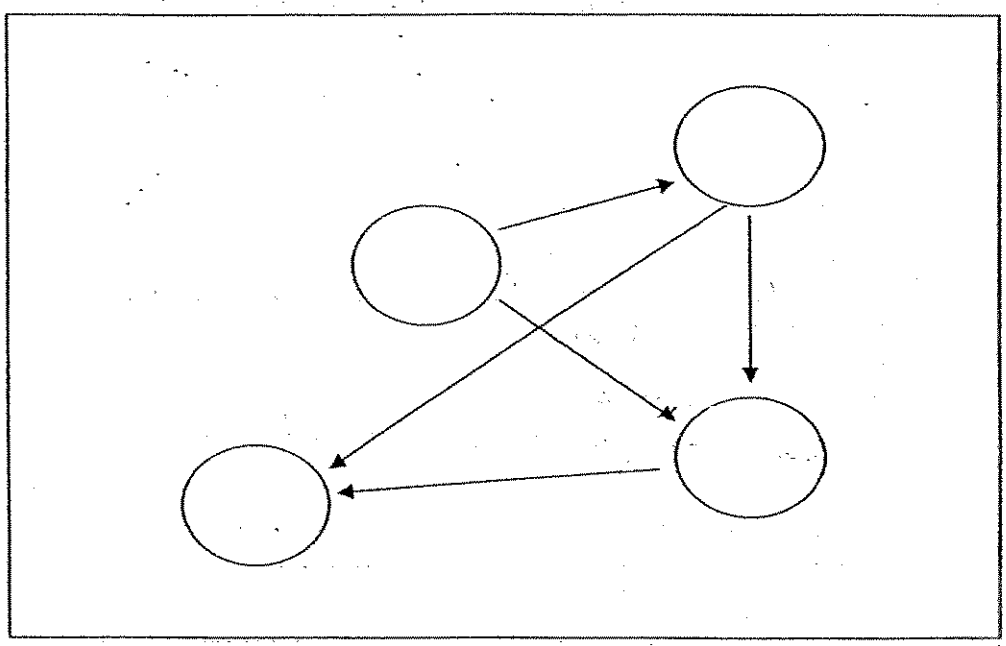
(ii) _____

34. J, K, L, and M represent 4 different groups of organisms. Their food relationships are shown below:

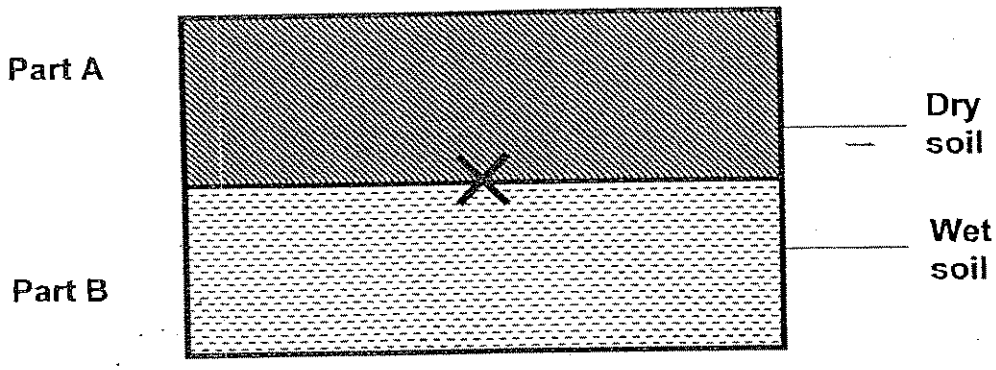
- Group J has chlorophyll.
- Group K feeds only on Group J.
- Group L feeds on Groups J and K.
- Group M feeds on Groups K and L.

(a) Which group of organisms represents an omnivore? (1m)

(b) Label the groups J, K, L and M in the box below to show the energy transfer between the organisms above. (2m)



35. Nurul wanted to find out the suitable living conditions for organism P. She used a tray consisting of two parts, A and B as shown below. She filled part A with dry soil and part B with wet soil.



She placed a number of organisms, P, in the middle of the tray in the area marked "X". After two hours, most of the organisms P were found in part B.

(a) Based on the results, state the living condition suitable for organism P. (1m)

_____

(b) Organism Q can survive well in dry soil. Nurul predicts that organism Q may prefer dark conditions.

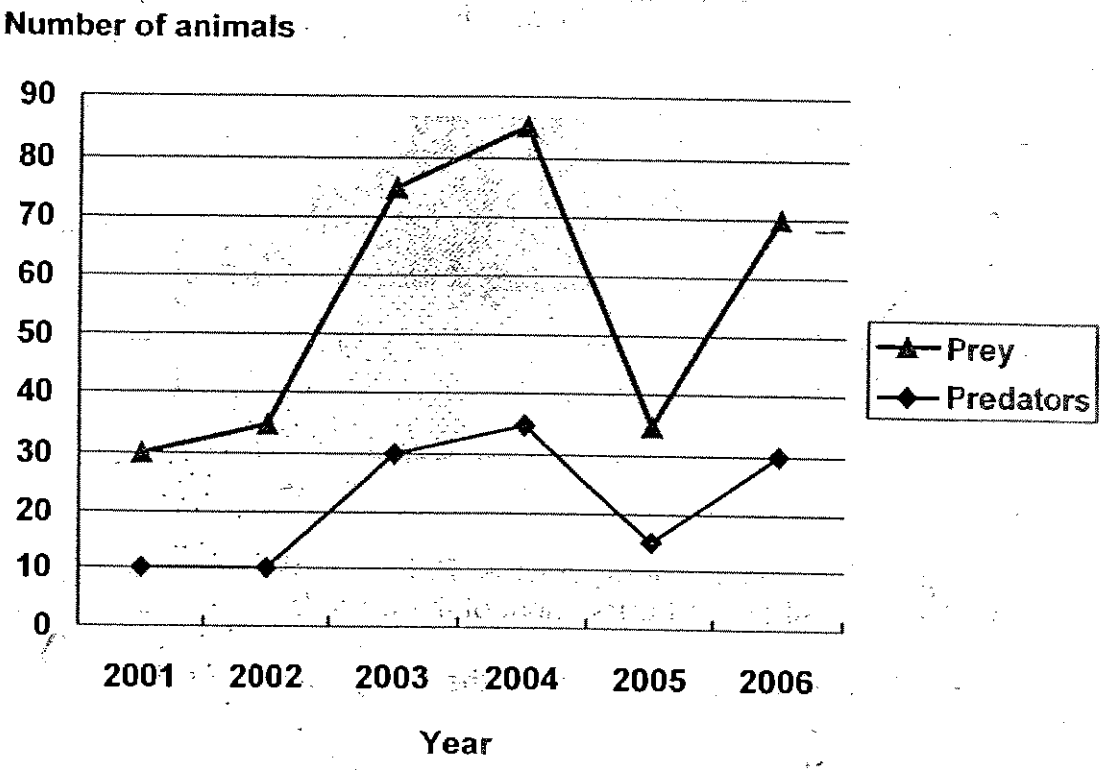
Given a piece of black cloth and an identical tray with dry soil, how can she carry out an experiment to find out if organism Q prefers dark conditions? (1m)

_____

_____

_____

36. Study the following line graph.



(a) What was the number of predators recorded for 2003? (1m)

_____

(b) Between 2002 and 2004, the number of prey increased even though the number of predators also increased. Give a reason why this could have happened. (1m)

_____

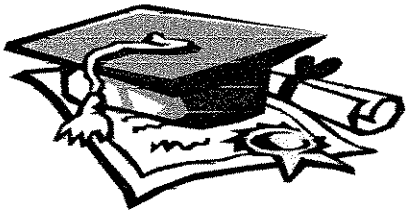
_____

(c) Over these 6 years, there was a period of drought. Which **period** did the drought occur? (1m)

_____

----------END OF PAPER----------

Setters: Mrs Nancy Lum
Mrs Tan Yoke Cheng



ANSWER SHEET

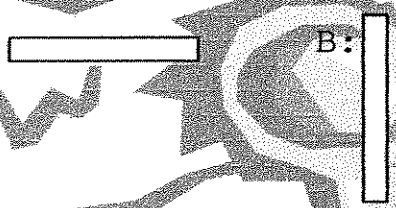
NANYANG PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
CONTINUAL ASSESSMENT (2)

1. 2
2. 3
3. 3
4. 1
5. 4
6. 2
7. 3
8. 3
9. 1
10. 2
11. 1
12. 3
13. 2
14. 2
15. 1
16. 2
17. 4
18. 1
19. 4
20. 2
21. 3
22. 2
23. 3
24. 4
25. 3

26) Step 1) Put the magnet near to the metal rod.
Step 2) Try using the north and south pole of the magnet to attract one end of the metal rod.
Step 3) If one of the ends make the rod and the bar magnet repel, the metal rod is a magnet.

27) a) The shadow of the cylinder that appeared on the screen of set-up A would be bigger than the shadow of the cylinder in set-up B.
b) The shadow of the cylinder in set-up A is bigger because the nearer the light source is to the cylinder, the bigger the shadow of the object it will be.

28) a) A: B:



b) The material must be opaque.

29) a) Mirror B.
b) The reflection of X will appear on mirror B when he is near the curve and when Y is near the curve ,his reflection would also show on the mirror so both of them can see each other before they meet.

29)c)Light travels in a straight line.

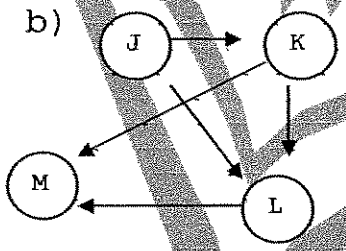
30)a)root, shoot
b)The seedling gets its food from the seed leaves.
c)It is at the stage where its first leaves appears.
d)The three condition are oxygen, warmth and water.

31)a)Jim is Denise's cousin.
b)7 people.

32)a)Flower A and B both have stigmas.
b)Flower A has many petals but flower B has only one petal.
c)The hanging stigma and anthers allow the pollen grains to be easily pollinated by wind.

33)i)Plant→chicken→fox.
ii)Plant→earthworm→chicken→fox.

34)a)Group L.
b)



35)a)The living condition for organism P should be wet or damp.
b)Use the black cloth to cover half of the tray, and place Q in the middle of the tray,if Q prefers dark conditions it would have been found in the in the side of the tray that was covered by the cloth.

36)a)The number of predators recorded for 2003is 30.
b)The prey reproduce faster than the predator.
c)It occurred from 2004 to 2005.

Rosyth School
Second Continual Assessment for 2007
SCIENCE
Primary 5

Total Marks: 50

Name: _____

Class: Pr 5 _____ Register No._____ Duration: 1 h 15 min

Date: 23rd August 2007 Parent's Signature: _____

Instructions to Pupils:

1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 sections, Section A and Section B.
4. For questions 1 to 15, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 16 to 23, give your answers in the spaces provided in Section B.

	Maximum	Marks Obtained
Section A	**30 marks**	
Section B	**20 marks**	
Total	**50 marks**	

* This booklet consists of 16 pages. (pg. 1 to 16)

Section A (30 Marks)

For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. Glen places some organisms under the sun. The following are the organisms.

   A: A plant growing in a pot.
   B: A fish tank with some guppies swimming in it.
   C: A dish of germinating seeds on wet cotton wool.

   Which of the above organism(s) is/are respiring?

   (1) B only
   (2) A and B only
   (3) B and C only
   (4) A, B and C

2. Study the food chain below.

   Plant ⟶ Goat ⟶ Lion

   In the above food chain, which of the following best describes the lion?

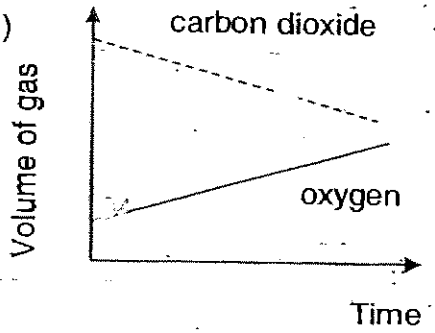
   A: Prey
   B: Predator
   C: Carnivore
   D: Food producer

   (1) A and B only
   (2) B and C only
   (3) C and D only
   (4) A, B and C only

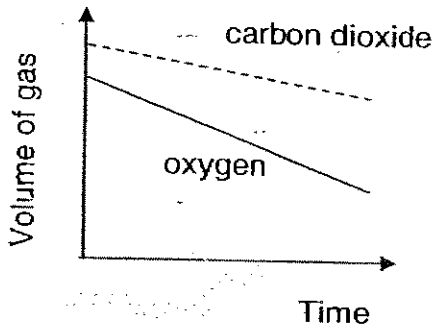
3. A cockroach is placed in a container as shown in the diagram below.

Which of the following graphs correctly shows the changes in the volume of carbon dioxide and oxygen in the container over a period of time?

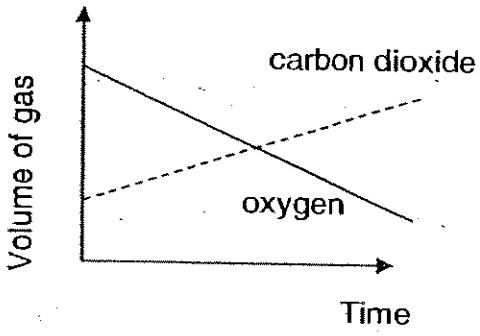
(1)



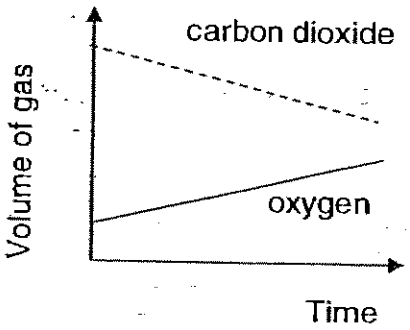
(2)



(3)



(4)



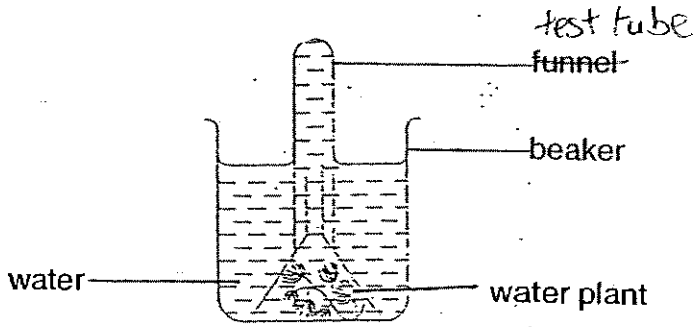
4. The table below shows a comparison between photosynthesis and respiration.

	Photosynthesis	Respiration
A	Produces oxygen.	Produces carbon dioxide.
B	Energy is stored in food substances.	Energy is released from food substances.
C	Takes place in plant cells.	Takes place only in animal cells.
D	Takes place during the day or when there is enough light.	Takes place at all times.

Which of the following comparisons are true?

(1) A and B only
(2) B and C only
(3) A, B, and D only
(4) B, C and D only

5. Steve carried out an experiment using four identical set-ups, like the one shown below. He placed them in four different locations W, X, Y and Z.



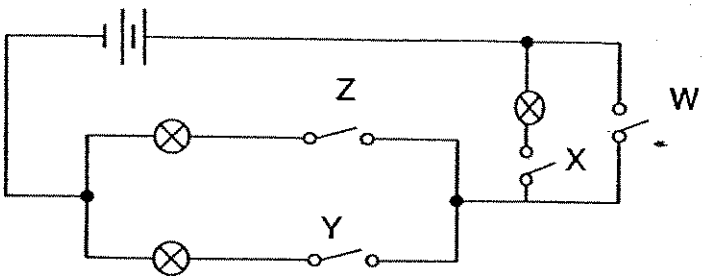
Three days later, he recorded the volume of oxygen collected in each set-up in a table, as shown below.

Place where set-up is located	W	X	Y	Z
Volume of oxygen collected (cm^3)	1	3	2	6

Based on the results, which one of the following shows the correct order from the most to the least favourable location for photosynthesis?

(1) W, Y, X, Z
(2) W, Z, Y, X
(3) X, Y, W, Z
(4) Z, X, Y, W

6. Study the diagram below carefully.

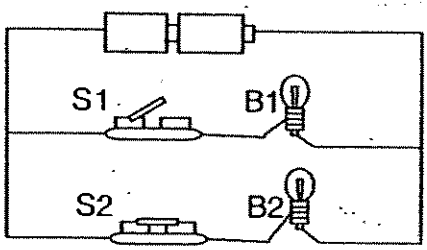


Which switches must be closed for 2 bulbs in the circuit to be lit?

A: W and X
B: X and Y
C: X and Z
D: Y and Z

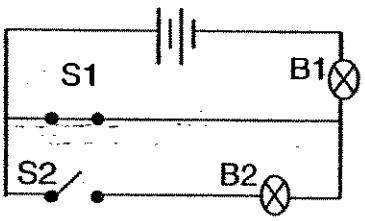
(1) A and B only
(2) B and C only
(3) B, C and D only
(4) A, B, C and D

7. Study the diagram below.

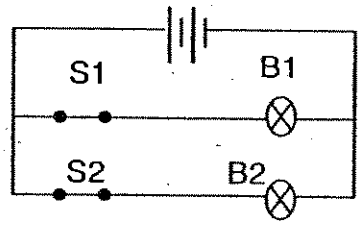


Which of the following circuit diagrams best represents the electric circuit given?

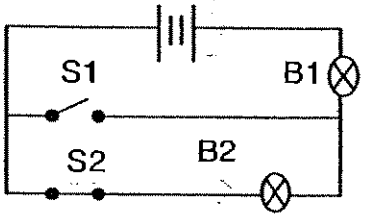
(1)



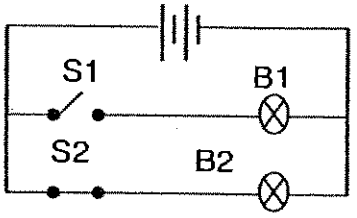
(2)



(3)



(4)

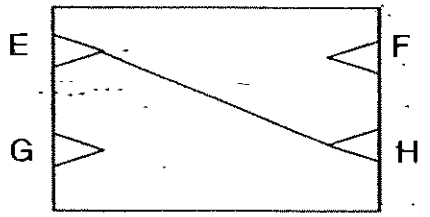


8. Timothy tested a circuit card for the possible connections and recorded his results in the table below.

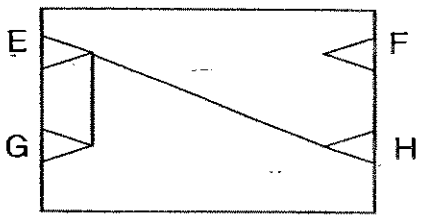
Clips Tested	Did bulb light up?
E and G	Yes
E and H	No
F and G	Yes
F and H	No

Which of the following diagrams shows a possible connection of the clips?

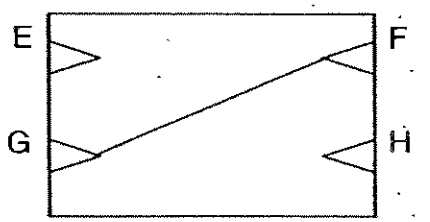
(1)



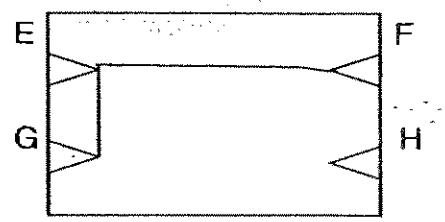
(2)



(3)



(4)



9. Ming Wei wanted to find out which bulb will be the brightest in an electrical circuit.

2.5 V 3.8 V 6 V

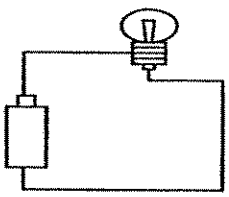
Which of the following variables should be kept the same to ensure a fair test?

A: Type of bulb used.
B: Type of batteries used.
C: Arrangement of batteries.
D: Number of batteries used.

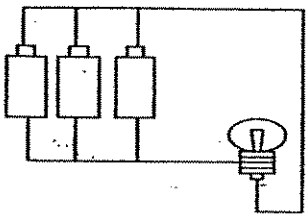
(1) A, B, and C only
(2) A, C and D only
(3) B, C and D only
(4) A, B, C and D

10. Lilian sets up four circuits using identical batteries, bulbs and wires.

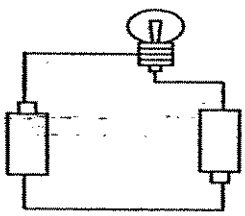
Circuit J



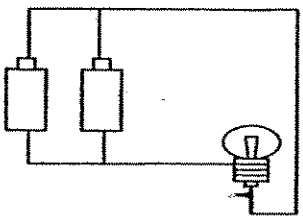
Circuit K



Circuit L



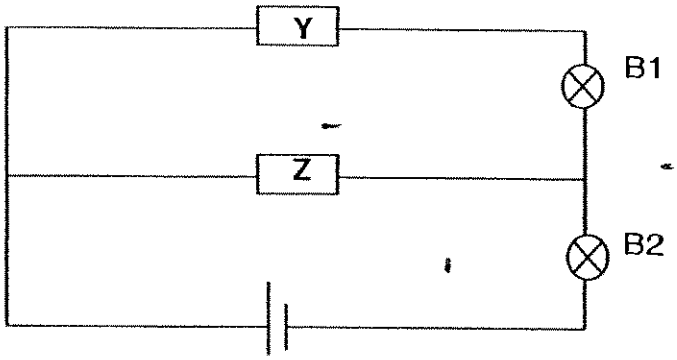
Circuit M



In which of the circuits will the bulbs be of equal brightness?

(1) J and K only
(2) K and L only
(3) J, K and M only
(4) J, K, L and M

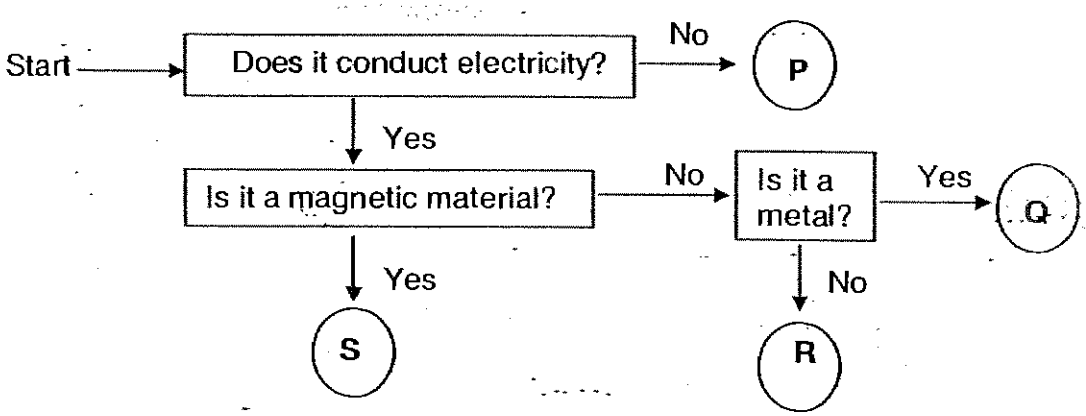
11. Look at the circuit diagram below.



2 objects are placed at Y and Z so that only bulb B2 will light up. Which one of the following items could represent Y and Z?

	Y	Z
(1)	Toothpick	Gold ring
(2)	1-cent coin	Glass bulb
(3)	Gold ring	1-cent coin
(4)	Glass bulb	Toothpick

Study the flow chart below and answer Questions 12 and 13.



12. What object can Q be?

(1) Iron pin
(2) Lemon Juice
(3) Mercury
(4) Wooden ruler

13. Which of the following objects can be classified together with object 'P'?

(1) Salt solution
(2) Copper coin
(3) Silver ring
(4) Plastic comb

14. John received a mild electric shock when he tried to switch on the electric iron.

Which of the following **is/are not** a possible reason(s) for his experience?

A: The fuse inside the plug broke the circuit.
B: He touched the switch with wet hands.
C: The wires in the plug are exposed.

(1) A only
(2) B only
(3) B and C only
(4) A, B and C

15. Which one of the following measure(s) can be used to conserve electricity?

A: Using energy-saving bulbs.
B: Opening the refrigerator door only when necessary.
C: Setting the temperature of the air-conditioner to the lowest.
D: Switching off all electrical appliances once they are not in use.

(1) A only
(2) C only
(3) A, B and D only
(4) A, C and D only

End of Section A

Section B (20 Marks)

For questions 16 to 23, write your answers in this booklet.

16. Bobby tested some food with iodine and recorded the results in a table as shown below.

Food	Changes Observed
Flour	Iodine turned dark blue
Dried Shrimp	Iodine remained brown
Tapioca	Iodine turned dark blue
Potato	Iodine turned dark blue
Beef	Iodine remained brown

(a) What do you think Bobby was trying to find out? (1m)

_____

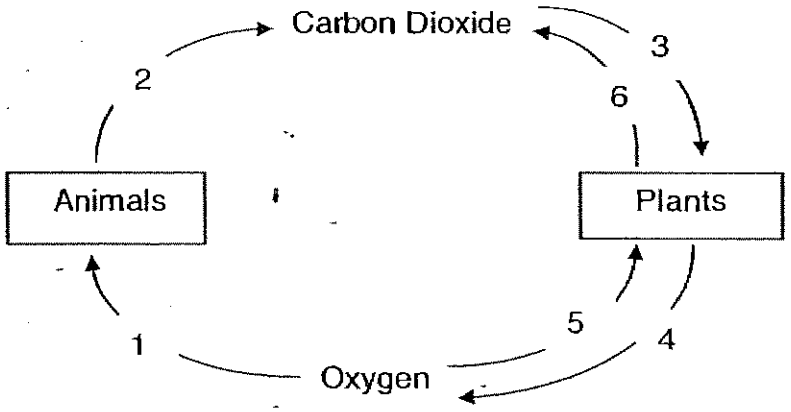
_____

(b) Based on the results, state the difference in the food that comes from plants and the food that comes from animals. (1m)

_____

_____

17. The six arrows in the diagram below show the exchange of gases between living things and their surroundings.



(a) Which two arrows show the process of photosynthesis? (1m)

Arrows _____ and _____.

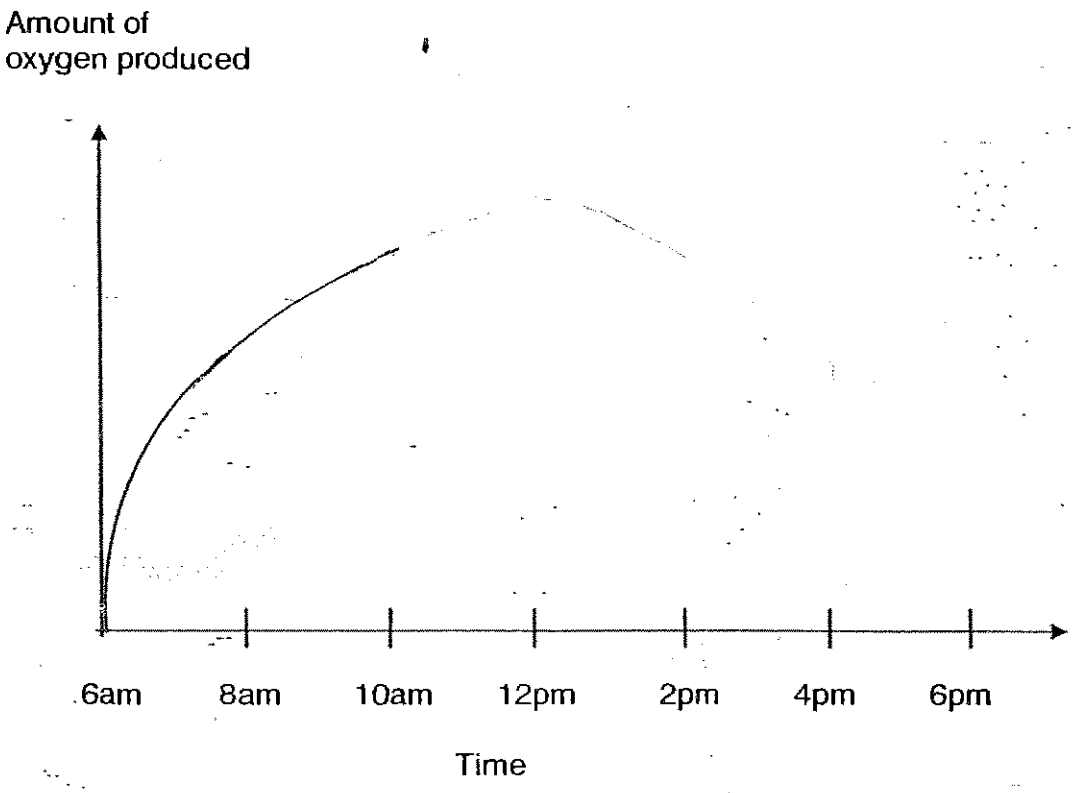
(b) Name another product beside the gas that is represented by the arrows in (a) that is formed during photosynthesis. (1m)

_____

b)

18. The graph below shows the amount of oxygen produced by plants in an enclosed container. The intensity of the light is the highest at 12 noon.

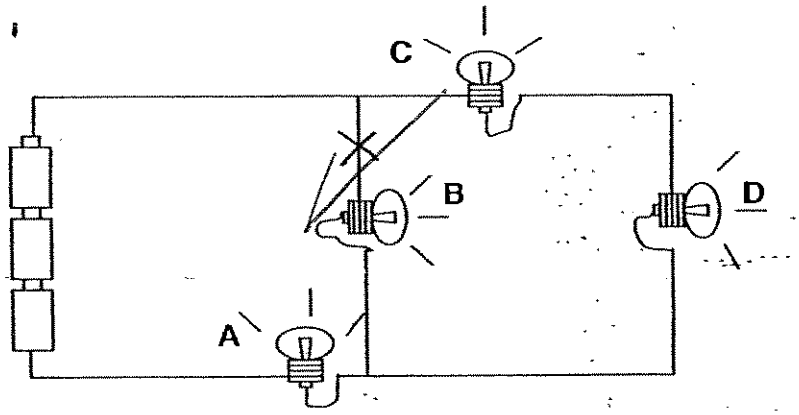
(a) Part of the graph (from 6 am to 10 am) has been drawn for you. Complete the rest of the graph to show the amount of oxygen produced by the plant from 10 am to 6 pm. (2m)



(b) State the relationship between the intensity of the light and the rate of photosynthesis. (1m)

19. The diagram below shows 4 lit bulbs A, B, C and D in a circuit. A switch is to be installed so that only a particular bulb can be switched on and off while the other 3 remained lit.

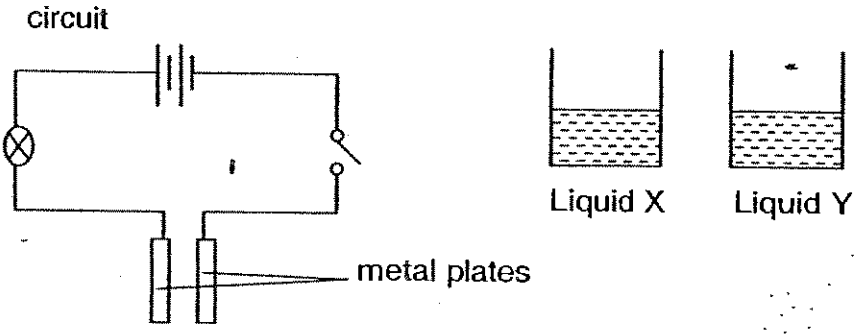
(a) Where should a switch be placed in the circuit such that it controls only 1 bulb?
Mark an 'X' on the circuit to show where the switch should be. (1m)



(b) Which bulb (A, B, C or D) does the switch control? (1m)

_____

20. David wanted to find out whether liquid X or liquid Y is a better conductor of electricity. Using the materials given below, how should he carry out the experiment.

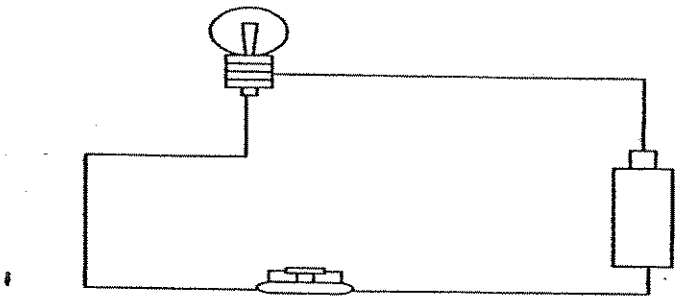


(a) Write the steps in the box below. (2m)

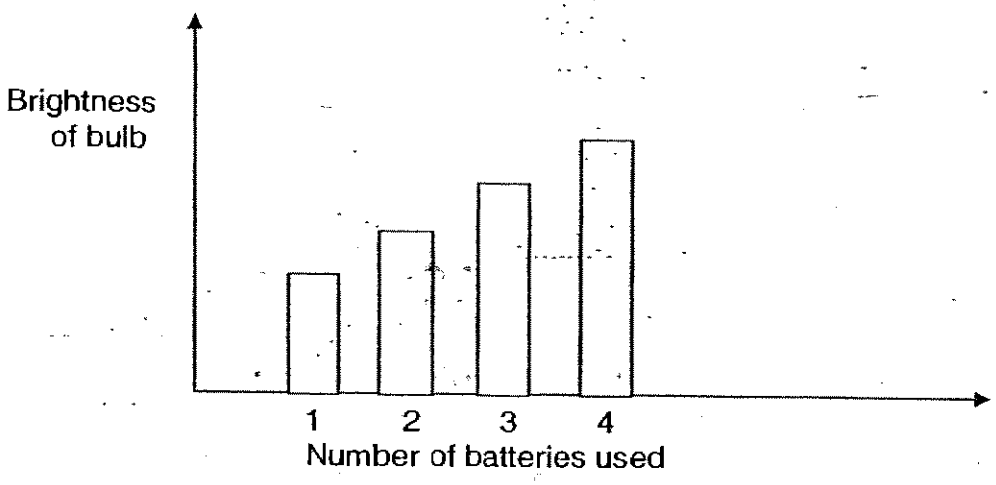
Steps to carry out

(b) From the experiment above, how can David conclude which liquid is a better conductor of electricity. (1m)

21. Raj set up an experiment as shown below.



He repeated the experiment with different number of batteries. The results of this experiment are represented by the graph shown below.

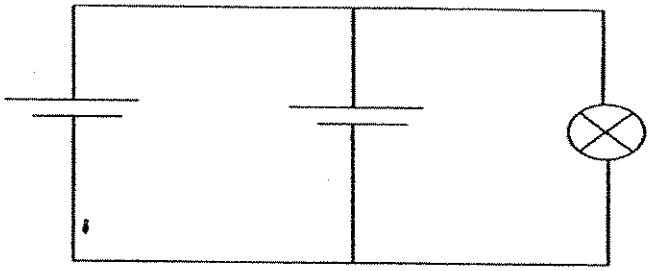


(a) What was Raj trying to find out from the above experiment? (1m)

(b) When a fifth battery was added to the circuit, the bulb did not light up. Explain why? (1m)

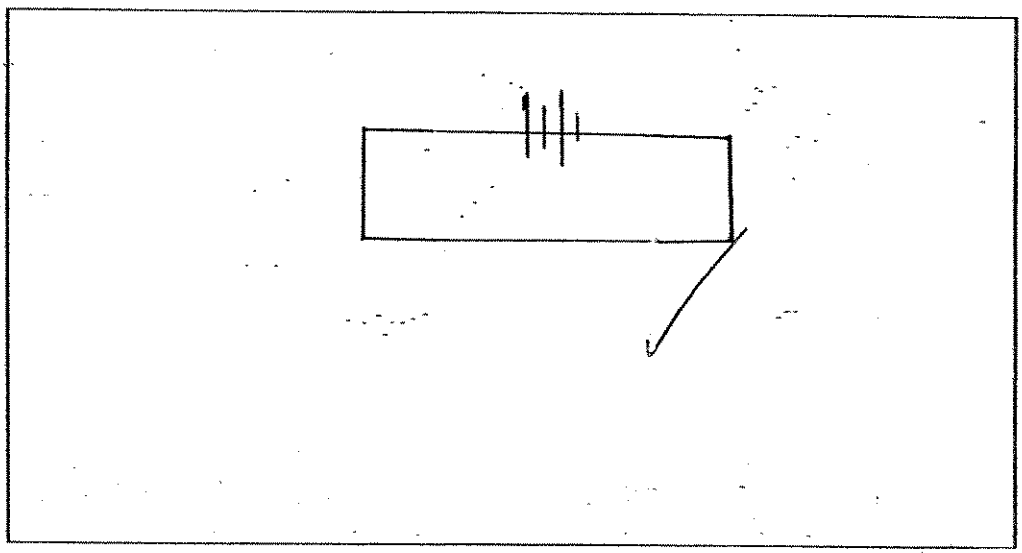
22. Study the circuit diagram below.

Circuit A



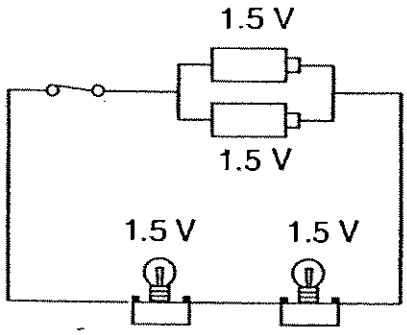
(a) Using the same components as above, draw another circuit diagram in the box below such that the bulb will be brighter. (2m)

Circuit B

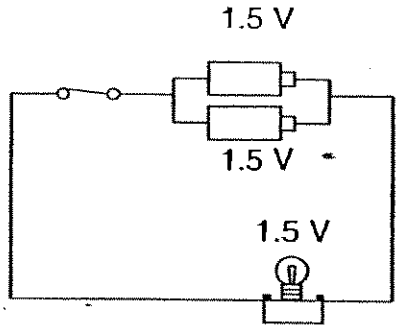


(b) Name one disadvantage of the above arrangement that you have drawn. (1m)

23. Study the two circuits G and H carefully.



Circuit G



Circuit H

(a) Write down the similarity in the arrangement of batteries between Circuits G and H. (1m)

_____

_____

(b) In what way is Circuit G different from Circuit H in terms of brightness of the bulbs? (1m)

_____

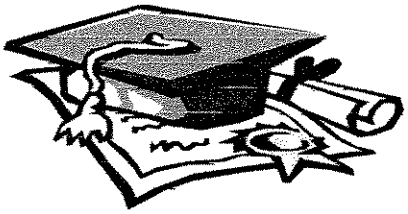
_____

(c) What will happen to the brightness of the bulb(s) if one battery is removed from each circuit? (1m)

_____

_____

End of Paper



ANSWER SHEET

ROSYTH PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
CONTINUAL ASSESSMENT (2)

1. 4
2. 2
3. 3
4. 3
5. 4
6. 2
7. 4
8. 4
9. 3
10. 3
11. 1
12. 3
13. 4
14. 1
15. 3

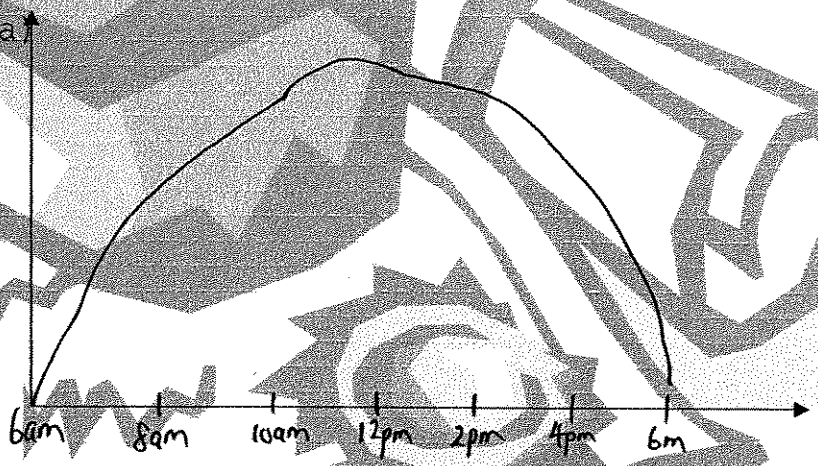
16) a) Bobby was trying to find out which of the foods contain starch.

b) Food that comes from plants contains starch as the plants can make food on their own, where as animals cannot make food on their own and have to depend on others for food thus, animals do not have starch.

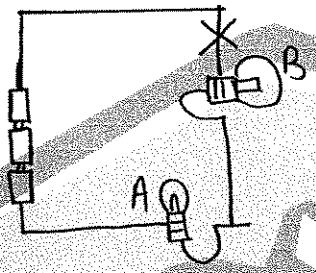
17) a) 3 and 4

b) Sugar/Glucose.

18) a)



b) The greater the intensity of the light, the faster the rate of photosynthesis.

19) a) 

b) The switch controls bulb B.

20) a) First, insert the metal plants into liquid X. Then, close the switch and record the brightness of the bulb. Next, open the switch and remove the metal plants from liquid X and place it in liquid Y. Close the switch and record the brightness of the bulb. Finally, take out the metal plates from liquid Y and compare the recordings.

b) The brighter the bulb shone when the metal plates are placed into a liquid, the better conductor of electricity it is.

21) a) He was trying to find out if the number of batteries would affect the brightness of the bulb.

b) The filament became too hot and melted.

22) a) 

b) The batteries will be Used up faster.

23) a) They are arranged in parallel.

b) The bulb in circuit H will be bright than those in circuit G.

c) They will still remain the same when one battery is removed from each circuit.

NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 2
PRIMARY FIVE
SCIENCE

MARKS	
Sect A:	/ 40
Sect B:	/ 40
Total :	**/ 80**

Name : _____( )

Class : Primary 5 / ____

Date : 23 August 2007

Duration : 1 hr 30 min

Parent's Signature : _____

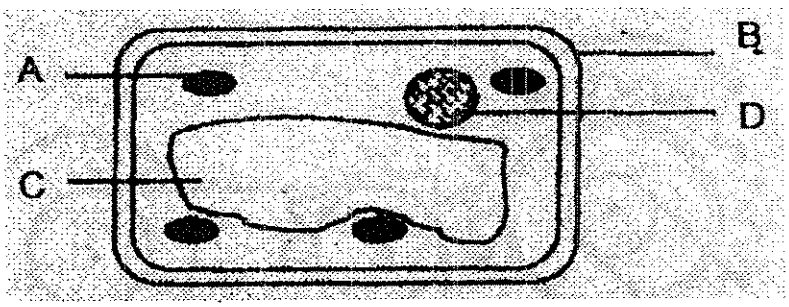
Section A: (20 x 2marks = 40marks)
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which of the following statements are **true** of man-made satellites?

A: They move around the Sun in fixed paths called orbits.
B: They enable us to watch live broadcasts.
C: They are sent to space by rockets.

(1) A and B only
(2) B and C only
(3) A and C only
(4) A, B and C

2. The diagram below shows a plant cell.



Which one of the following parts of the cell is able to capture light energy?

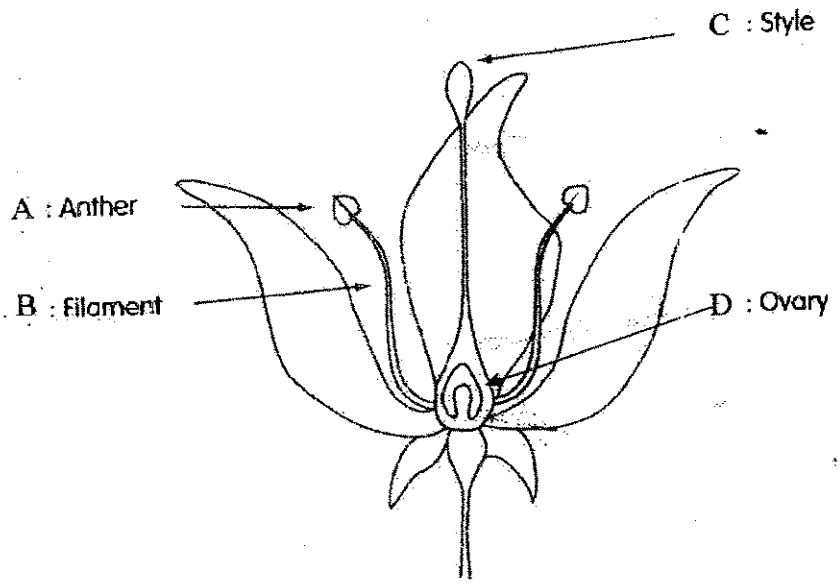
(1) A
(2) B
(3) C
(4) D

3. Which of the following statements are true?

(A) All living things reproduce to ensure the continuity of their own kind.
(B) Animals would become extinct if they do not reproduce to replace the deaths of their own kind.
(C) Endangered species are groups of animals that are fast disappearing from the Earth.

(1) A and B only
(2) B and C only
(3) A and C only
(4) A, B and C

4. Which part of the flower is **wrongly** labelled?

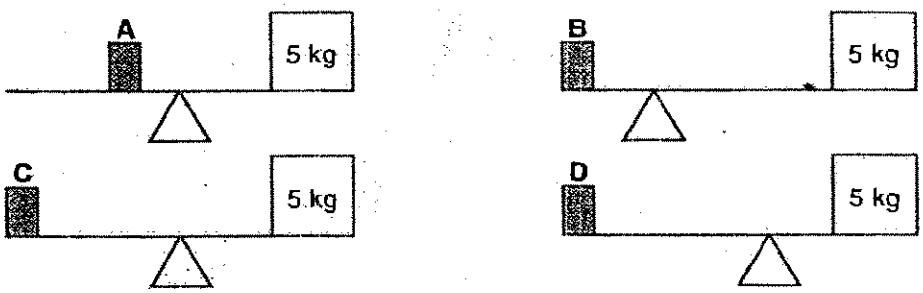


(1) A
(2) B
(3) C
(4) D

5. Which one of the following statements is **false**?

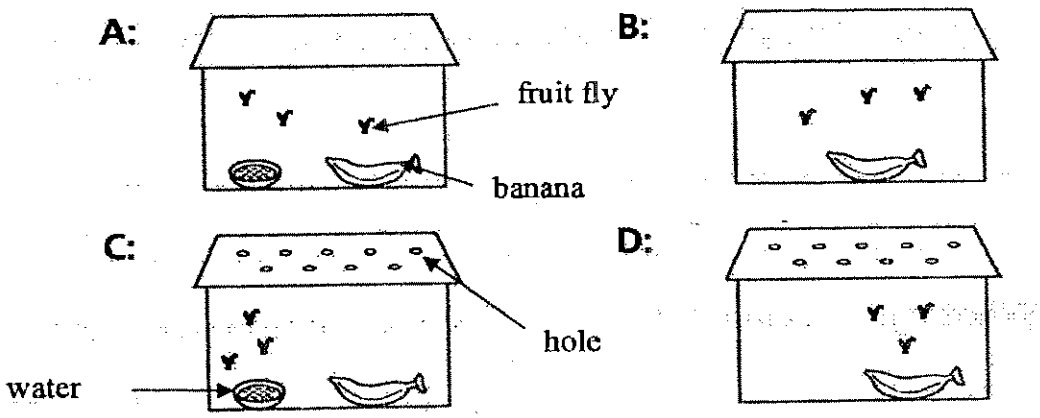
(1) A force is a push or a pull.
(2) A force can change the speed of a moving object.
(3) A force can change the shape of an object.
(4) The repulsion of like poles of a magnet is a pulling force.

6. Study the four levers below. Each lever supports a 5 kg load and a labelled object. Which object is the **heaviest**?



(1) A
(2) B
(3) C
(4) D

7. Tim set up an experiment to see if animals will die without water.



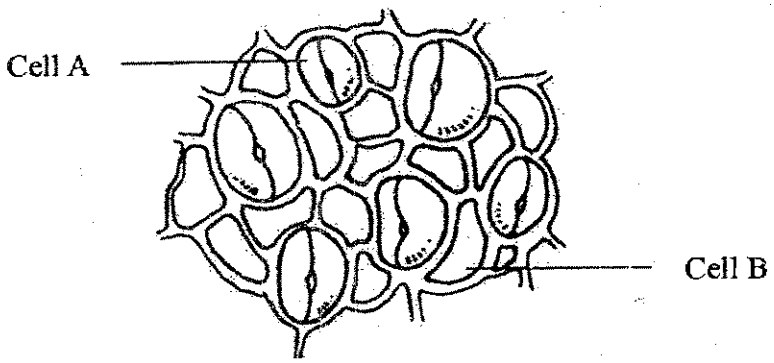
Which 2 set-ups should he use in order to carry out a fair test?

(1) A and C
(2) B and C
(3) A and D
(4) C and D

8. Why do we only feel the heat from the Sun and not from the other stars in the universe?

(1) The other stars do not give out heat.
(2) The Sun is the hottest star in the universe.
(3) The other stars are very far away from the Earth.
(4) The other stars only appear at night while the Sun appears in the day.

9. Study the diagram below. It shows the underside of a green leaf seen under a microscope.



What one of the following statements is **true** about cells A and B?

(1) Cell A aids in the exchange of gases but Cell B does not.
(2) Cell B contains chloroplasts but Cell A does not.
(3) Cell A has a cell membrane but Cell B does not.
(4) Cell A is a dead cell but Cell B is a living cell.

10. Mr and Mrs Ang have the following features.

	Hair	Eyes	Earlobe	Height
Mr Ang	Straight	Black	Detached	Short
Mrs Ang	Curly	Brown	Detached	Short

They have four children and the table below describes their features.

	Hair	Eyes	Earlobe	Height
Annice	Straight	Brown	Detached	Short
Benny	Curly	Brown	Detached	Short
Candice	Curly	Black	Attached	Tall
Danny	Straight	Black	Detached	Short

One of the children is adopted. Who is most likely to be the adopted child?

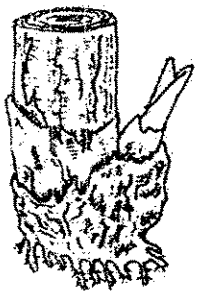
(1) Annice
(2) Benny
(3) Candice
(4) Danny

11. Which of the following are plants that reproduce from spores?

A: Maidenhair fern
B: Moss
C: Mushroom

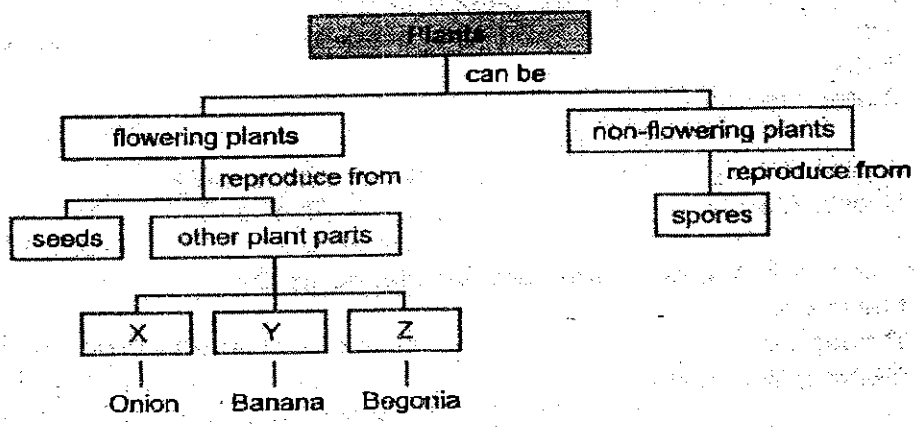
(1) A only
(2) A and B only
(3) B and C only
(4) A, B and C

12. The diagram below shows a new shoot growing from the base of a parent plant's stem. This is an example of reproduction from _____.



(1) underground stems
(2) suckers
(3) leaves
(4) seeds

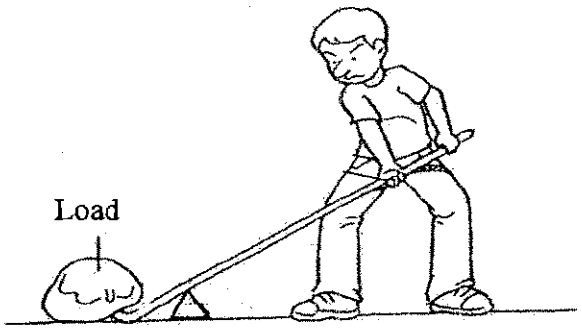
13. Study the classification chart below.



Based on the classification chart above, which one of the following statements is **false**?

(1) Onion and begonia plants are similar because they can reproduce from plant parts other than seeds.
(2) Begonia and banana plants are different because they reproduce from different plant parts.
(3) Banana plants are flowering plants that can reproduce from plant parts other than seeds.
(4) All flowering plants reproduce from seeds only.

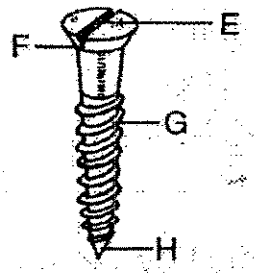
14. The picture below shows a man using a simple machine to lift a load.

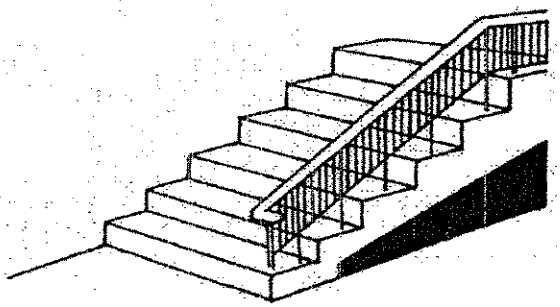


What happens if a similar but shorter simple machine is used to lift the same load?

(1) The simple machine can no longer change the direction of the applied force.
(2) The man has to apply a greater force to lift the load.
(3) The man can lift the load more easily.
(4) The man can lift the load with the same amount of effort.

15. The figures below show a screw and a staircase.

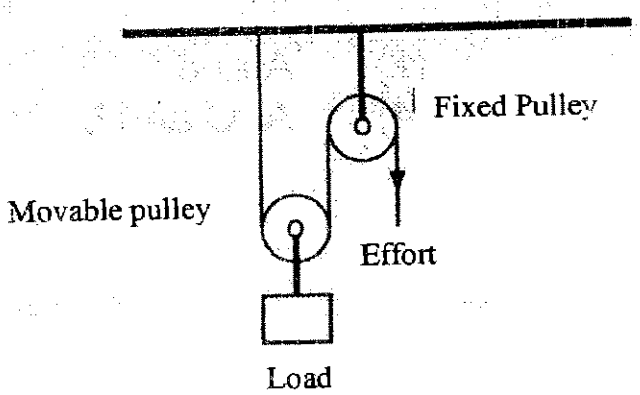




Which part of the screw is a simple machine that works on the same principle as the staircase?

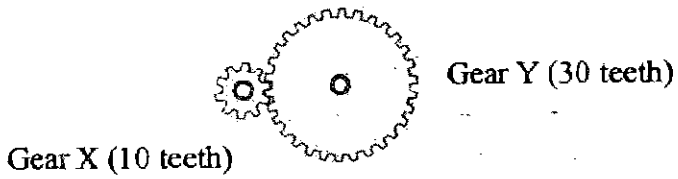
(1) E
(2) F
(3) G
(4) H

16. In the diagram below, when the load moves a distance of 10 cm, the effort would have moved a distance of _____.



(1) 5 cm
(2) 10 cm
(3) 15 cm
(4) 20 cm

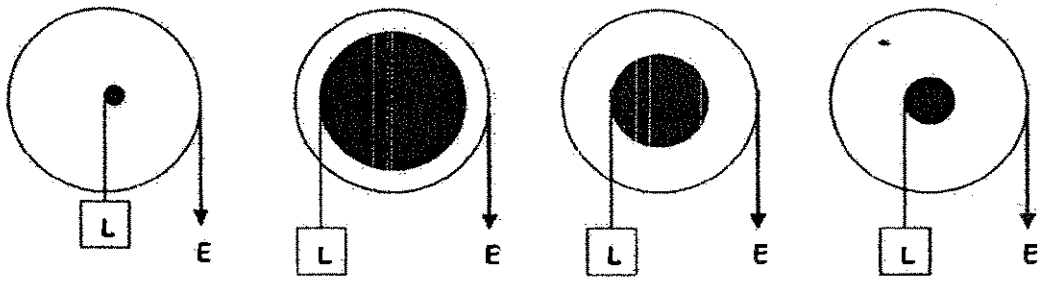
17. Study the picture of a pair of interlocking gears shown below.



How many rotations will Gear X make when Gear Y makes 3 rotations?

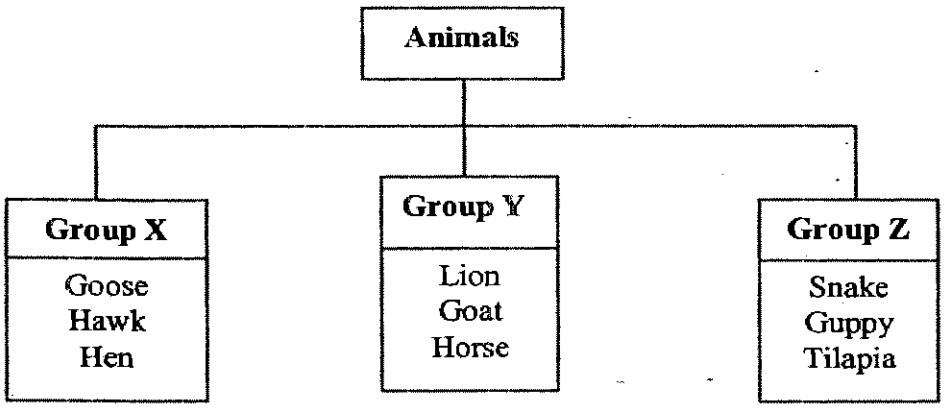
(1) 1
(2) 3
(3) 6
(4) 9

18. Which one of the following wheel and axles requires the **least** effort [E] to lift the same load [L]?



(1) (2) (3) (4)

19. Study the classification table below.



Which of the following animals can be grouped into X, Y and Z?

	Group X	Group Y	Group Z
(1)	Duck	Sheep	Crocodile
(2)	Turtle	Ant	Goose
(3)	Peacock	Lizard	Tortoise
(4)	Rhinoceros	Lobster	Emu

20. Which of the following are properties of a plastic bag?

A: Hard
B: Light
C: Brittle
D: Waterproof
E: Floats on water

(1) A, C and E only
(2) B, C and D only
(3) B, D and E only
(4) C, D and E only

NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 2
PRIMARY FIVE
SCIENCE

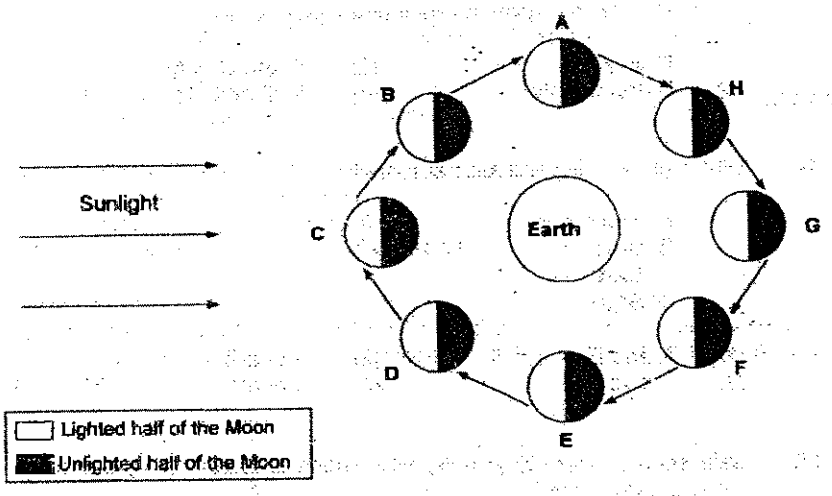
MARKS
40

Name : _____( )

Class : Primary 5 / ____

Section B: (40marks)
Write your answers to question 21 to 36.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

21. The diagram below shows the different positions of the Moon when it moves around the Earth every lunar month.



(a) Based on the above diagram, state an observation regarding the lighting up of the Moon by the Sun. (1 m)

_____

(b) At which positions will you see the Crescent Moon? (1 m)

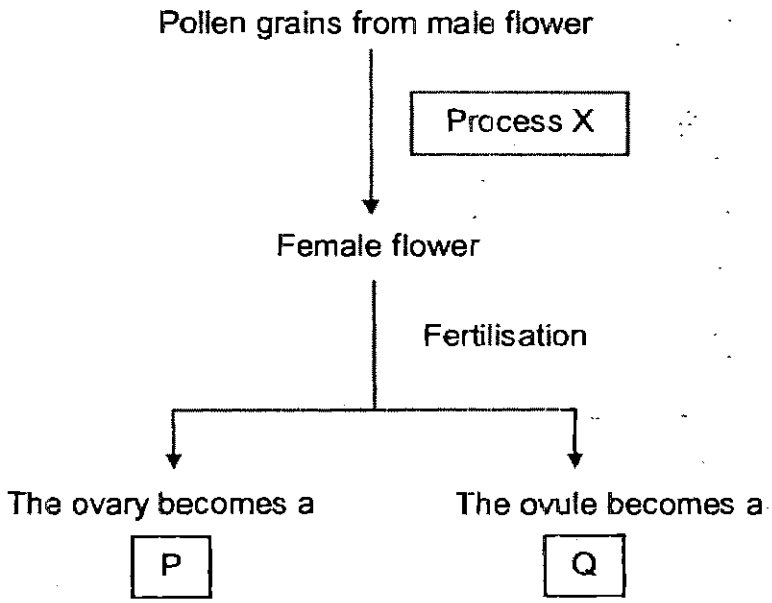
_____

Score	
	62 / 2

22. Put a "**T**" for statements that are **true** and an "**F**" for statements that are **false**. (2 m)

(a)	Only animals reproduce to ensure the continuity of their species.	
(b)	Some species of living things became extinct because their habitats were destroyed.	
(c)	Asexual reproduction involves only one organism.	
(d)	Sexual reproduction occurs only in animals.	

23. Study the diagram below.



Identify Process X, P and Q. (3m)

(i) Process X : _____

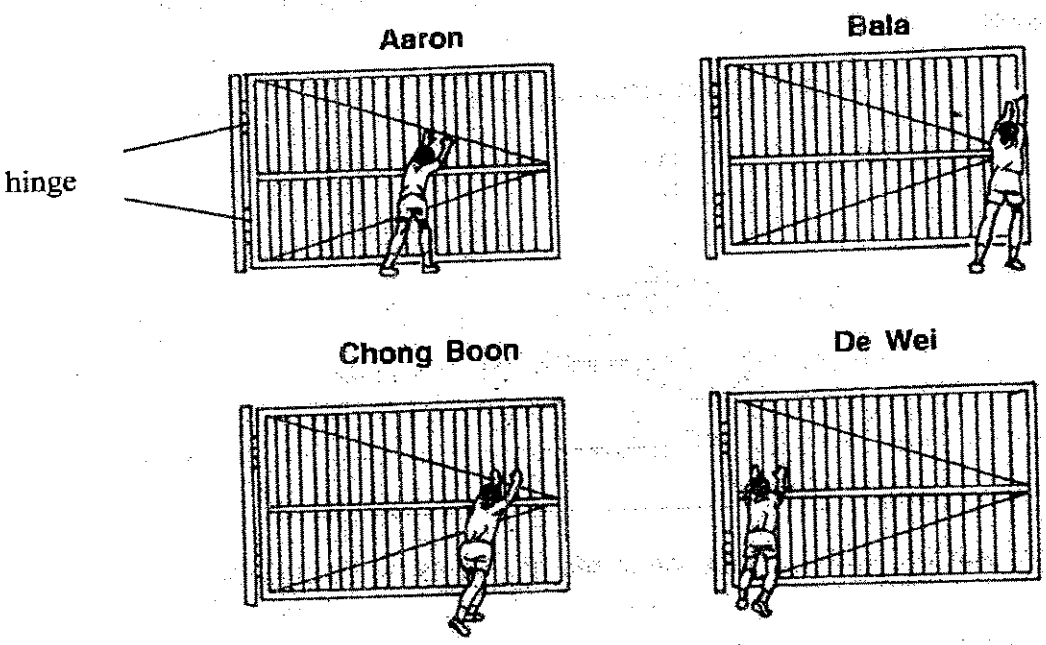
(ii) P : _____

(iii) Q : _____

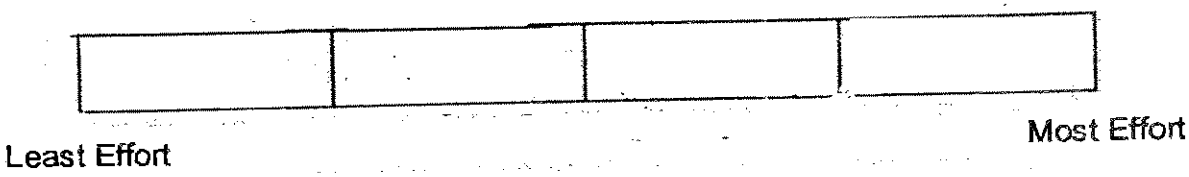
Score	5

63

24. The diagrams below show 4 boys trying to push open the same gate.



(a) Study the diagrams shown above and arrange the boys according to the amount of effort each boy applied to push the gate open in ascending order. (2 m)



(b) State the relationship between the position of the boys and the amount of effort applied to push open the gate. (2 m)

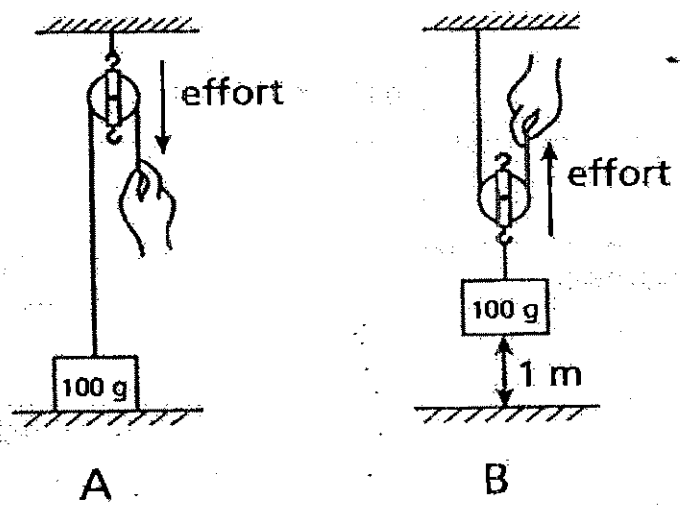
_____

_____

_____

Score	4
	64

25. The diagram below shows two different pulleys.



(a) What is the effort needed to lift the load in pulley B? (1 m)

_____

(b) What is the distance moved by the effort in pulley B when the load moves 1m? (1 m)

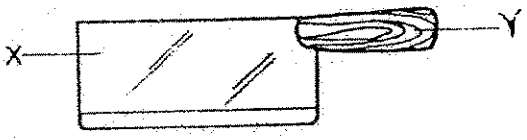
_____

(c) The amount of effort used in pulley A is slightly more than the load being lifted. Why is this so? (1 m)

_____

Score	3
	65

26. Look at the picture of the knife below.



a) Which part of the knife was once a living thing? (1 m)

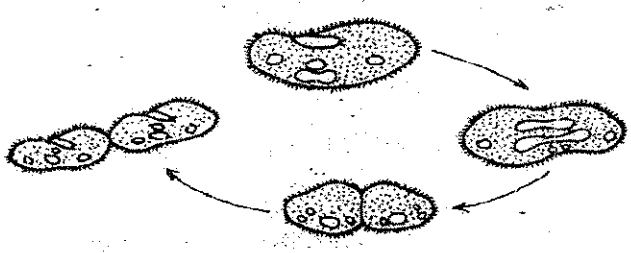
_____

b) Give a reason for your answer to (a). (1 m)

_____

_____

27. The diagram below shows how cell division occurs in the paramecium, a single-celled organism.



a) What is this process of cell division known as? (1 m)

_____

b) Give **two** reasons why cell division is important in human beings. (2 m)

i) _____

_____

ii) _____

_____

Score	66 / 5

28. The following are steps in the sexual reproduction of human beings. Write "1" to "4" in the boxes to show the correct order of occurrence. (2 m)

The fertilised egg develops in the womb and divides many times.	
An egg is released by the ovary and sperms are produced by the testes.	
Major organs are formed and a baby is ready to be born.	
The sperms come in contact with the egg. One of the sperms fertilises the egg by fusing its nucleus with the nucleus of the egg.	

Score	2

67

29. Study the classification table on plants given below.

Group A	Group B	Group C	Group D
fern	potato	bryophyllum	banana
moss	onion	African violet	pineapple

a) How are the plants grouped? (1 m)

_____

_____

b) In which group (A, B, C or D) would you place the begonia plant? (1 m)

_____

_____

Score	2

30. Study the picture below. Four children A, B, C and D sat on see-saws. Every pair sat at the same distance from the centre of the see-saw.

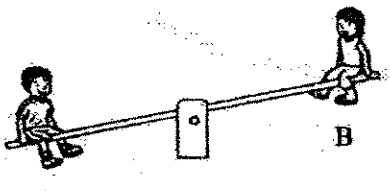


Fig 1

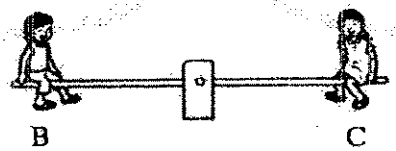


Fig 2

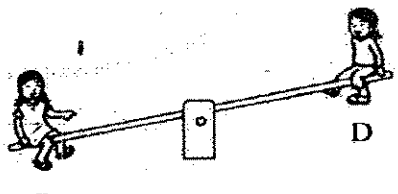


Fig 3

a) Which child, A, B, C or D is the heaviest? (1 m)

_____

b) Write down one thing child C could do in order to balance the see-saw with child D in Fig 3.
(Child C is not allowed to add or remove any objects) (1 m)

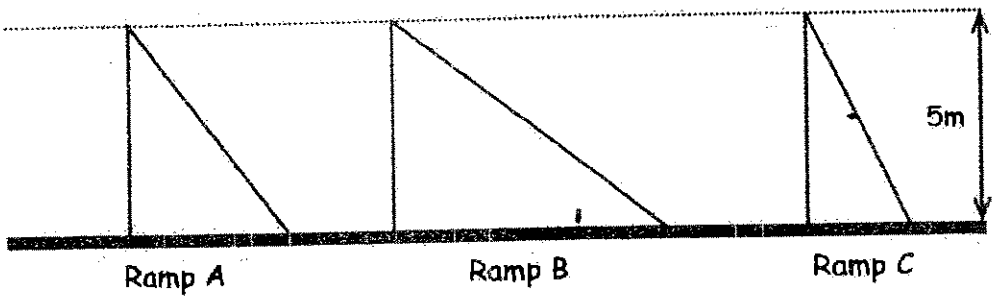
_____

_____

Score	2

69

31. Study the 3 ramps, A, B and C in the diagram shown below.



a) Which one of the ramps above, A, B or C will help you lift a load of 5 kg with the least effort? Explain your answer. (2 m)

_____

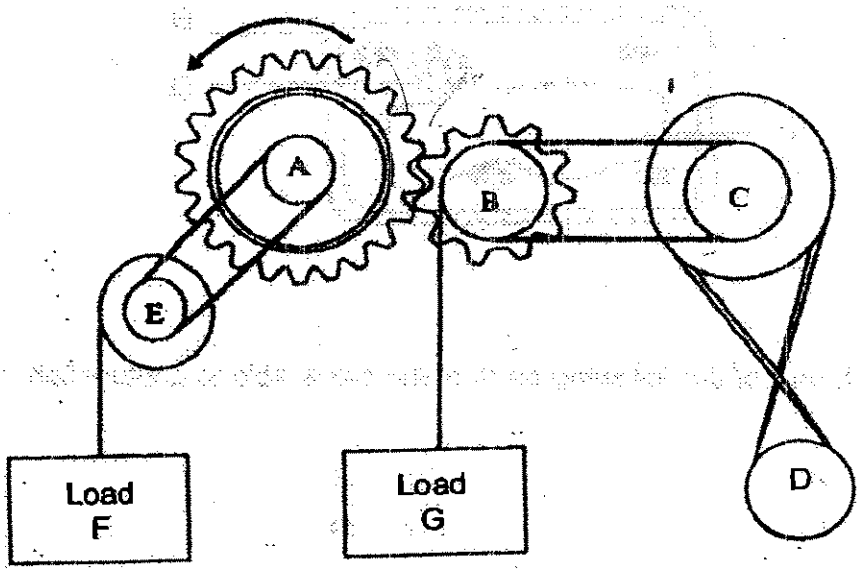
_____

b) Give one disadvantage of using this ramp. (1 m)

_____

Score	3

32. The diagram below shows a system of wheels and gears. Study the diagram and answer the following questions.



(a) When gear A is turned in an anti-clockwise direction, which gear and/or wheel(s) (B, C, D, E) will turn in the clockwise direction? (1m)

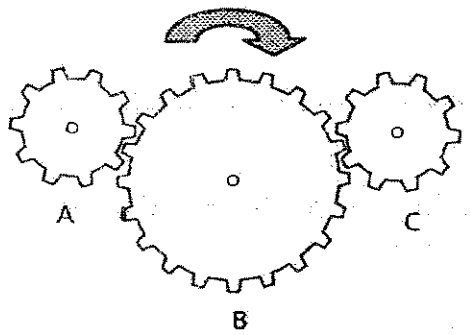
_____

(b) Which load will move upwards? (1m)

Load _____

Score	2

33. The diagram below shows three inter-locking gears, A, B and C.



a) Draw arrows in the diagram to indicate the directions in which Gear A and Gear C are moving. (1 m)

b) If Gear C has 10 teeth and Gear B has 20 teeth, how many rounds would Gear C turn if Gear B turns 10 rounds? (1 m)

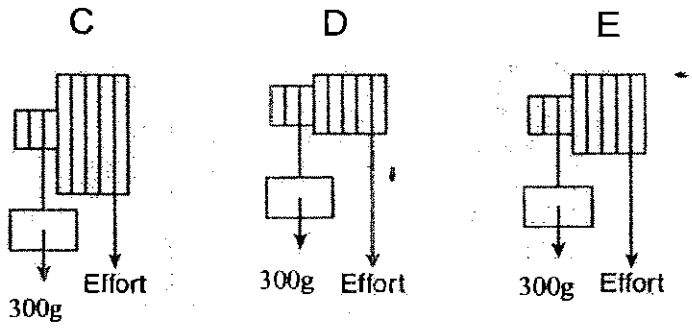
_____

c) If a Gear D is added next to Gear C, how many teeth does Gear D have if it turns 5 rounds while Gear C turns 15 rounds? (1 m)

_____

Score	
	3

34. Kit set up 3 wheel and axles, C, D and E as shown in the diagram below.



Each wheel has a different radius as shown in the table below. The effort in each case is just enough to lift a 300g load.

	C	D	E
Radius of wheel (cm)	6	2	4
Radius of axle (cm)	1	1	1
Effort needed (g)	50g	150g	75g

a) Based on the results shown in the table, what can you conclude about the relationship between the radius of the wheel and the effort needed to lift the load? (1 m)

_____

_____

_____

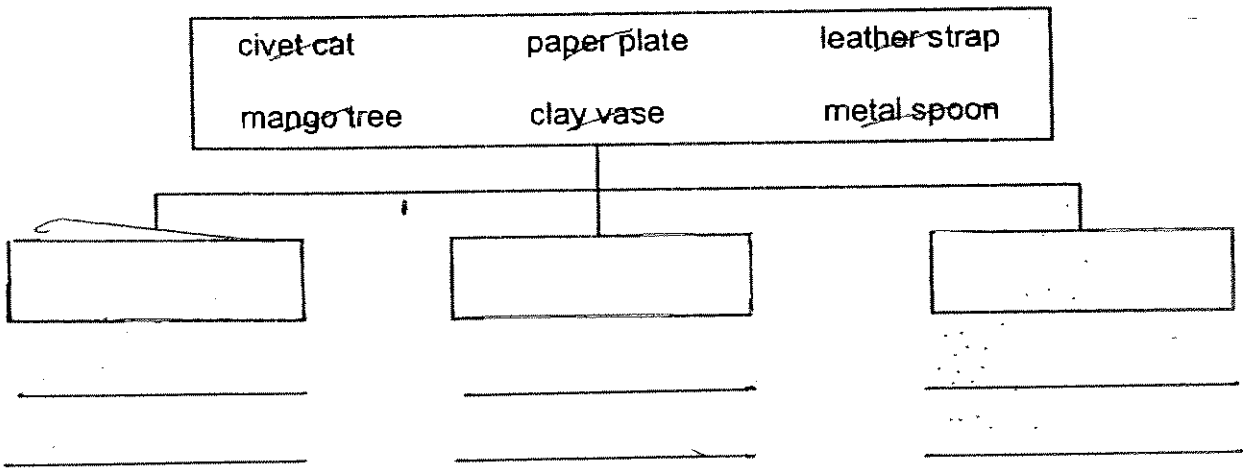
b) If the effort needed to lift the load is 25g, what is the radius of the wheel?

(1 m)

_____

Score	2

35. Classify the objects below into three groups. Give headings for your classification. (3m)



36. The picture below shows a swimming board. People who are learning how to swim usually hold onto a swimming board.

a) What material is a swimming board normally made of? (1 m)

_____

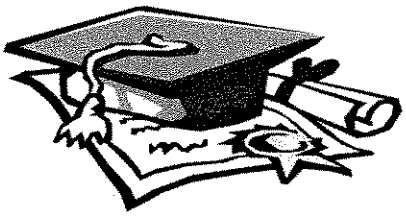
b) Name one property of the material you have mentioned in part (a) which makes it suitable to be used as a swimming board. (1 m)

_____

_____

END-OF-PAPER

Score	5



ANSWER SHEET

NAN HUA PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
CONTINUAL ASSESSMENT (2)

1. 2
2. 1
3. 4
4. 3
5. 4
6. 2
7. 4
8. 3
9. 1
10. 3
11. 2
12. 2
13. 4
14. 2
15. 3
16. 4
17. 4
18. 1
19. 1
20. 3

21)a)The side of the moon which faces the sun is always lighted up.
b)At positions B and D.

22)a)F b)T c)T d)F

23)i)pollination
ii)fruit
iii)seed

24)a)Bala, Chong Boon, Aaron, De Wei
b)When the boys are further away from the fulcrum (the hinge), less effort is needed to push open the gate as the effort moves a longer distance than the load.

25)a)The effort is 50g.
b)The distance is 2m.
c)A slightly more effort is required to overcome friction between the string and the pulley.

26)a)part Y.
b)Y is made from wood which comes from a tree that is a living thing.

27)a)It is known as binary fission.
b)i)Cell division helps to replace old and damaged cells.
ii)Cell division is necessary for growth.

28) 3,1,4,2

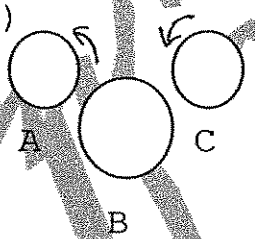
29) a) The plants are grouped according to how they reproduce.
b) Group C.

30) a) Child A is the heaviest.
b) Child C could move closer to the fulcrum.

31) a) Ramp B. Ramp B's inclination between the floor and the slope is the smallest so the least effort is needed.
b) The effort moves a longer distance.

32) a) Gear B and wheel C will turn in the clockwise direction.
b) G

33) a)



b) 10x20=10x20 Gear C would turn 20 rounds.
c) 10x15=5x30 Gear D has 30 teeth.

34) a) When the radius of the wheel is larger, less effort is needed to lift the load.
b) The radius of the wheel is 12cm.

35)

Living Things	Non-Livings (never alive)	Non-Living (once alive)
Civet cat	metal spoon	leather strap
Mango tree	clay vase	paper plate

36) a) It is made of Styrofoam.
b) It floats in water.

---end---

RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT 2

2007

Section A	50
Section B	40
Out of 90 marks	Class / Level
Highest score	
Average score	
Parent's signature	

Name: _____ Index No: ___ Class: P5__

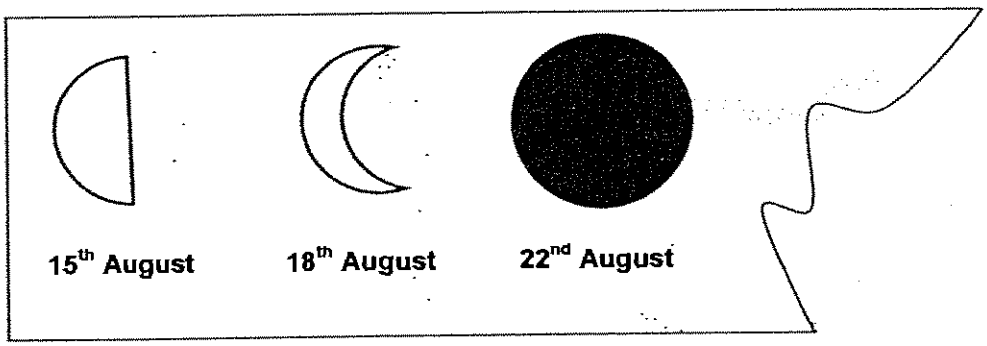
26th Oct 2007 **SCIENCE** Att: 1 h 45 min

SECTION A (30 X 2 marks)

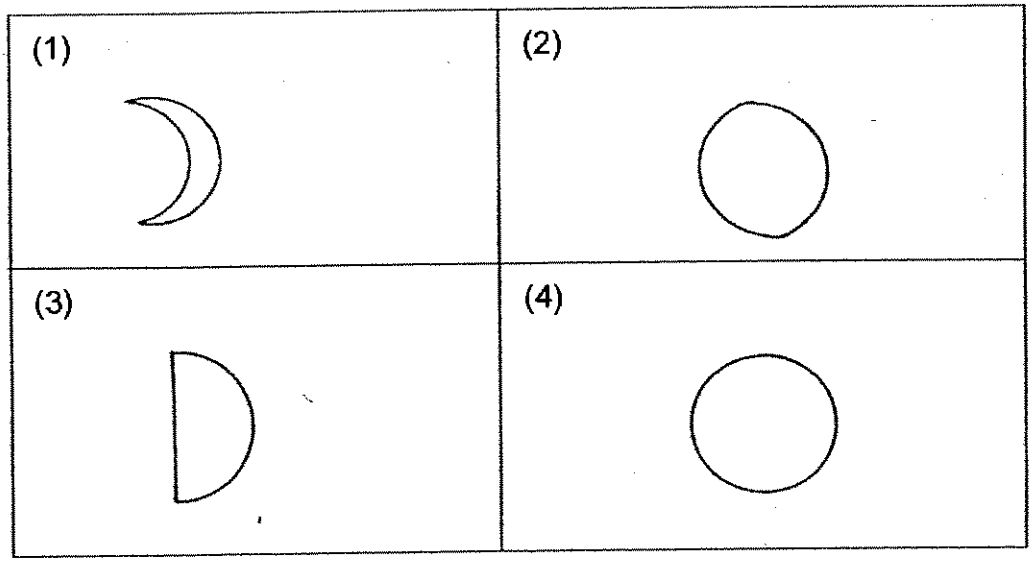
For each of the question from 1 to 30, four options are given.
One of them is the correct answer. Make your choice (1, 2, 3 or 4).
Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet (OAS) provided.

1. From 15th August to 29th August, Adeline observed and recorded the phases of the moon on a chart.

However, part of the chart was torn by her dog and the remainder of it is as shown below.



Which one of the following shapes of the moon was most likely observed by Adeline on 29th August?



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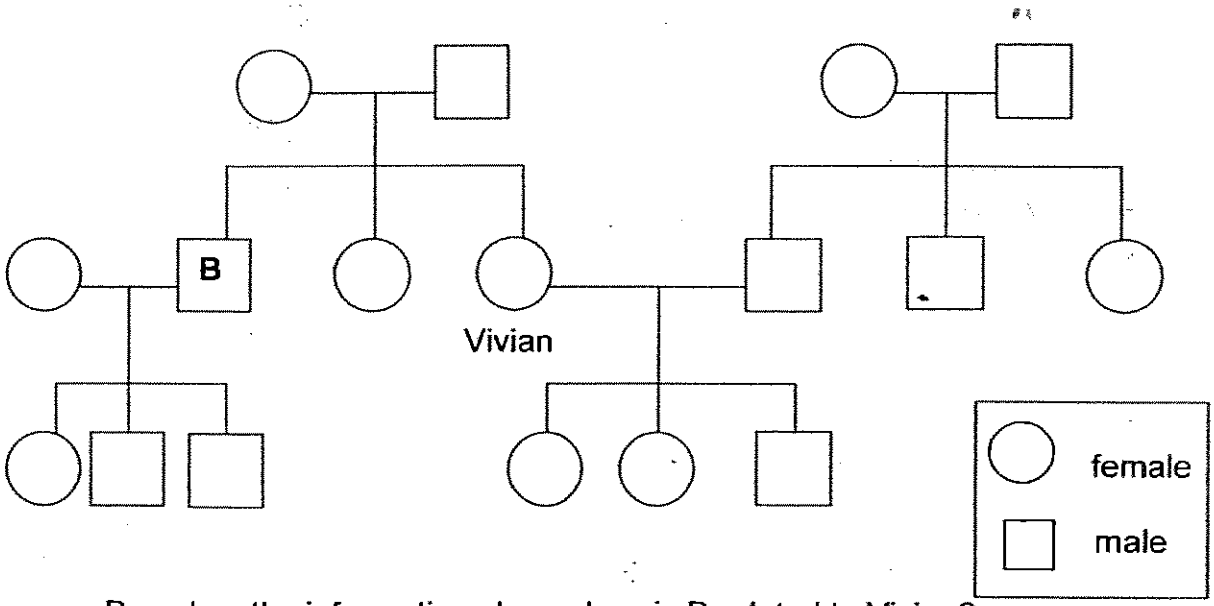
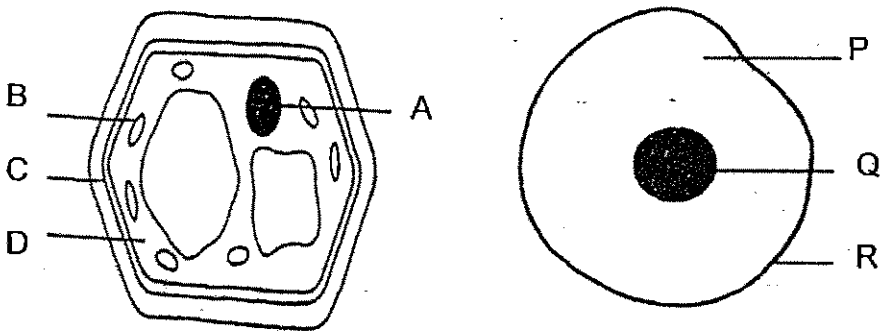
2. The diagram below shows Vivian's family tree.



Based on the information above, how is B related to Vivian?

(1) her sister
(2) her uncle
(3) her brother
(4) her husband

3. The two cells shown below are examined under a microscope.



Which one of the following parts matches correctly to their functions?

	Parts of the cells	Functions
(1)	A, Q	They control everything that happens inside the cells.
(2)	B, Q	The jelly-like substances allow food and oxygen to move around within the cells.
(3)	C, R	They keep the cells firm and help them to stand upright.
(4)	D, P	They hold the cytoplasm inside the cells and control substances that go in or out of them.

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4. Bees and butterflies are agents of pollination.
Butterflies have good vision but a poor sense of smell.
Bees, on the other hand, have a good sense of smell. However, bees are able to see the colours, blue, yellow and ultraviolet, but **NOT** red.

Jason found three different plants, X, Y and Z, in the garden and made the following observations:

Plant	Observations
X	Flowers are bright red. Many bees are seen flying around the plant.
Y	Flowers have huge, red petals. Many butterflies are seen fluttering around the plant.
Z	Both bees and butterflies are found around the plant.

Based on the observations above, what can Jason conclude about plants X, Y and Z?

A Flowers on plant X have a sweet-smelling scent.

B Flowers on plant Y have a sweet-smelling scent.

C Flowers on plant Z are red and odourless.

D Flowers on plant Y might be odourless.

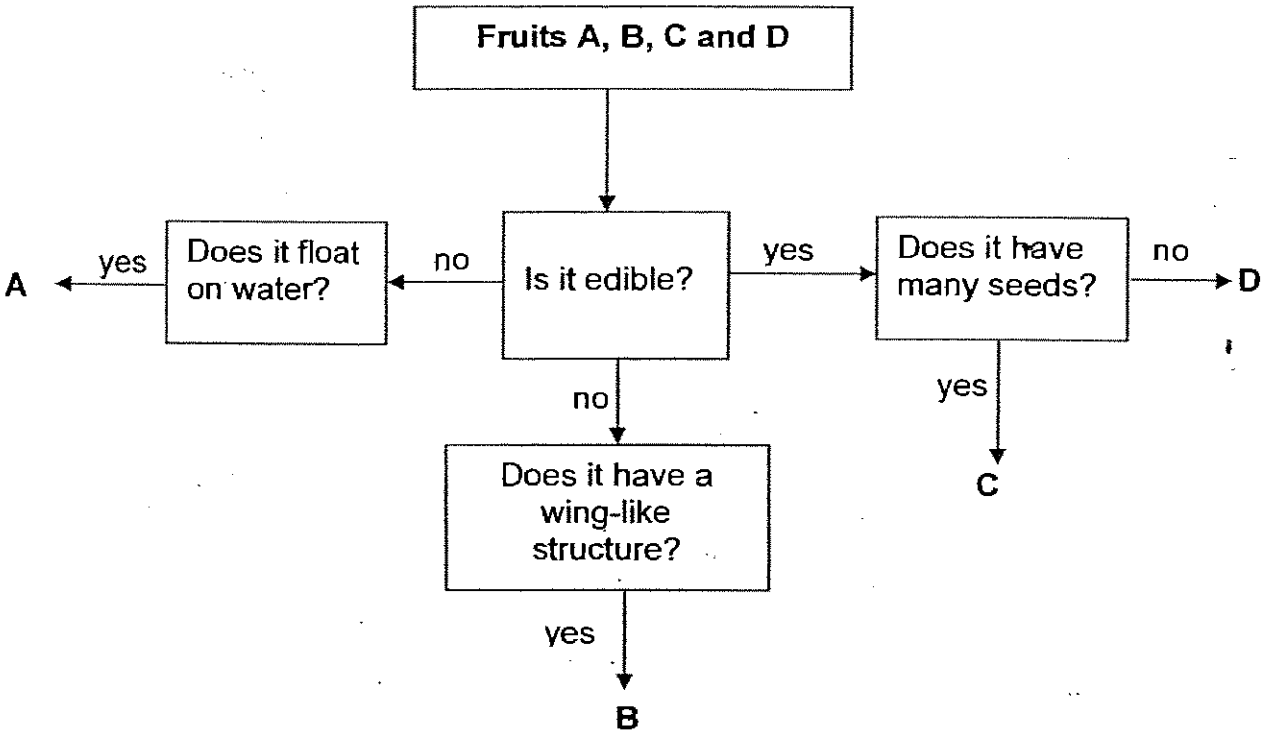
(1) A and D only

(2) B and C only

(3) A, C and D only

(4) B, C and D only

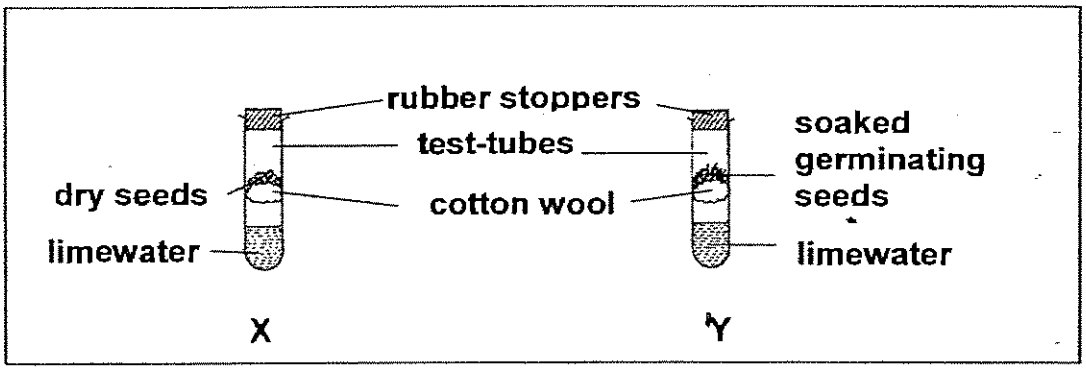
5. The chart below distinguishes some fruits, A, B, C and D.



Based on the information above, which one of the following best represents fruits A, B, C and D?

	Fruit A	Fruit B	Fruit C	Fruit D
(1)	coconut	angsana	papaya	balsam
(2)	pong pong	lalang	watermelon	mango
(3)	~~nipah~~ mangrove	shorea	kiwi fruit	rambutan
(4)	~~mangrove~~ nipah	lovegrass	grape	peach

6. Victor conducted an experiment using the apparatus as shown below.



Victor placed the test-tubes, X and Y, near an open window.
A week later, he noticed that the limewater had turned chalky in Y.

Victor made the following conclusions:

A Oxygen had turned the limewater chalky.

B Seeds need water and warmth to germinate.

C During respiration, the germinating seeds give out carbon dioxide.

Which of Victor's conclusions are **CORRECT**?

(1) A and B only (2) A and C only

(3) B and C only (4) A, B and C

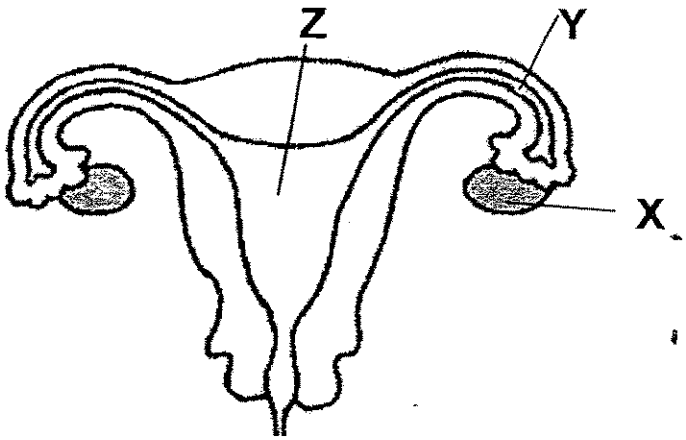
7. Kumar classified some organisms into 2 groups, X and Y, as shown below.

Group X	Group Y
sealing wax plant	tomato
bracket fungus	chilli
mould	chicken
heliconia	frog

Which one of the following pairs shows the organisms which **CAN** be put in Group X and Group Y?

	Group X	Group Y
(1)	penguin	dolphin
(2)	bird's nest fern	rambutan
(3)	coconut	shorea
(4)	pong pong	mango

8. The diagram below shows parts of the female human's reproductive system.



Which one of the following statements is **TRUE** of the system shown above?

(1) The egg travels from Y to X.

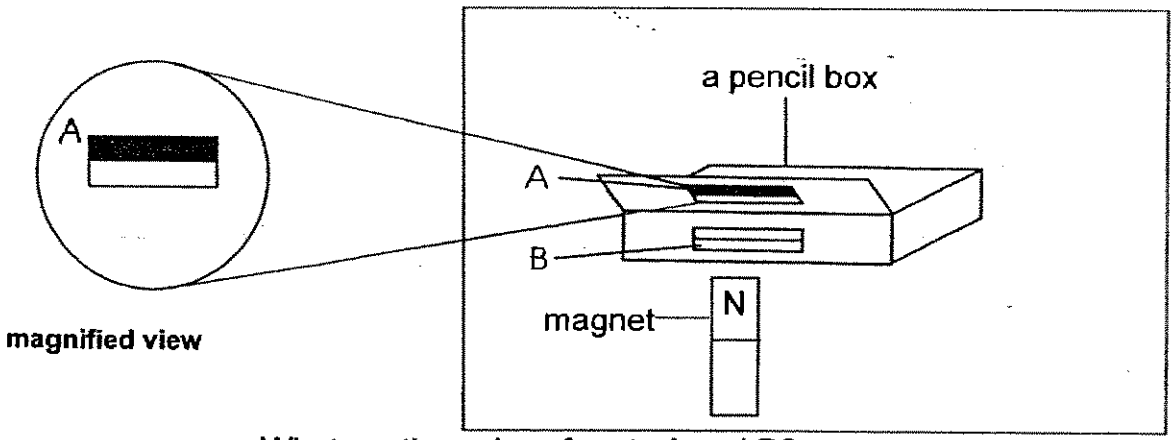
(2) A fertilised egg is released from X every month.

(3) The sperm fuses with the egg at X during fertilisation.

(4) Cell division takes place in Z after the sperm fuses with the egg.

9. Rina's pencil box makes use of two pieces of magnets with parts A and B to close itself.

When Rina places a magnet with its North pole near part A (the black-coloured part) of the flap of her pencil box, the flap moves away.



What are the poles of parts A and B?

	A	B
(1)	North	North
(2)	South	South
(3)	North	South
(4)	South	North

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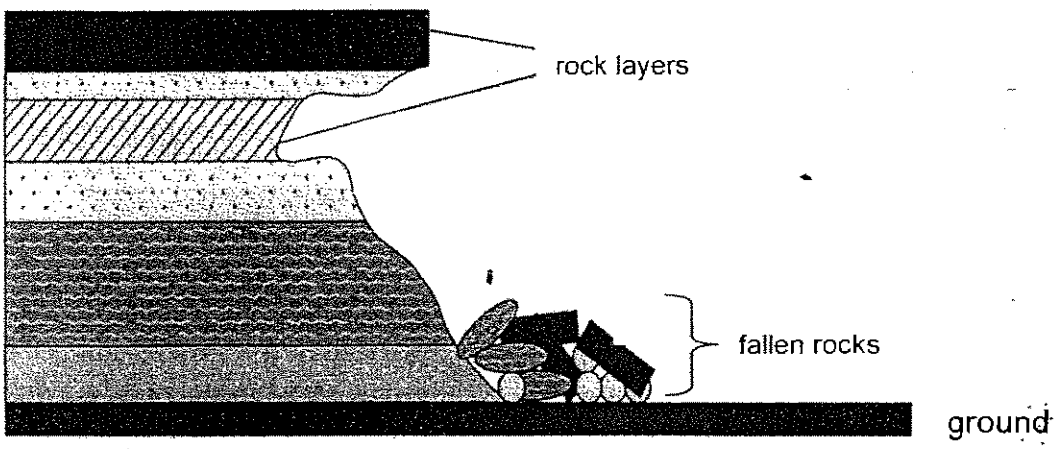
10. When a rock is exposed to wind and rain, it breaks down and drops to the ground. The cross-section of a cliff below shows the erosion that has taken place, exposing different layers of rock.



The above situation shows the effects of forces on an object.

Which one of the following describes the effect of the force shown?

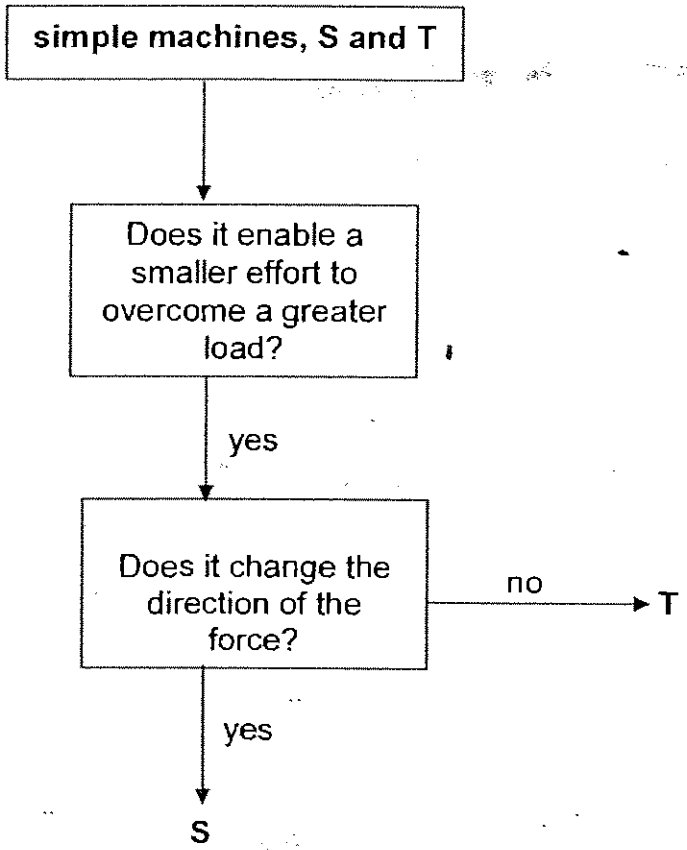
(1) It moves a stationary rock.

(2) It changes the speed of the rock.

(3) It changes the shape of the rock.

(4) It increases the hardness of the rock.

11. Simple machines, S and T, are distinguished using the chart below.

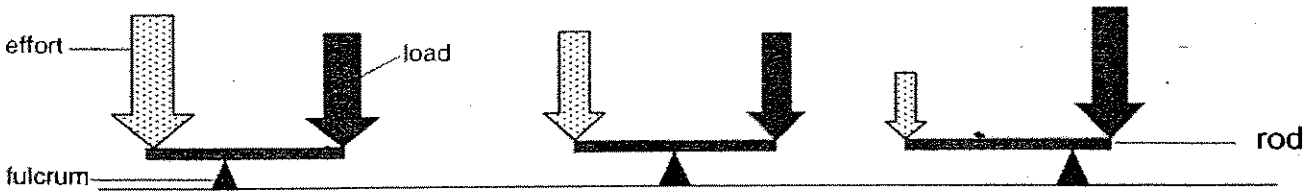


Based on the information above, which one of the following pairs shows what S and T are?

	Group S	Group T
(1)	bottle cap opener	cross spanner
(2)	scissors	fishing rod
(3)	fixed pulley	screw driver
(4)	claw hammer	movable pulley

12. The diagrams below show how a lever can be used.

The arrows represent the SIZE and DIRECTION of the forces.



Based on all the diagrams above, we can conclude that as the distance between the load and fulcrum increases, the effort required to lift the load _____.

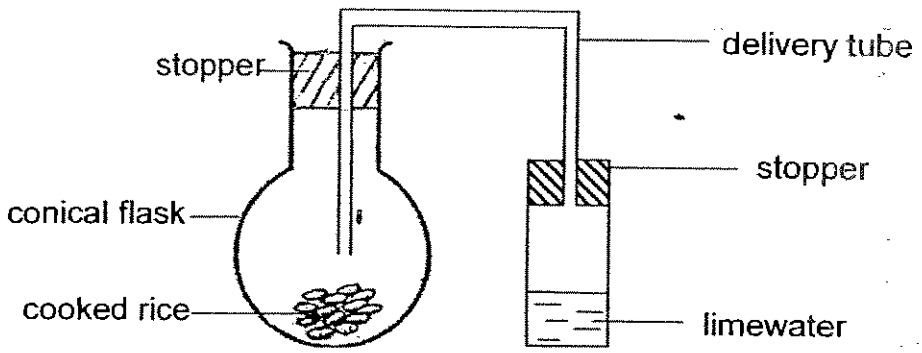
(1) increases

(2) decreases

(3) remains the same

(4) moves in the opposite direction

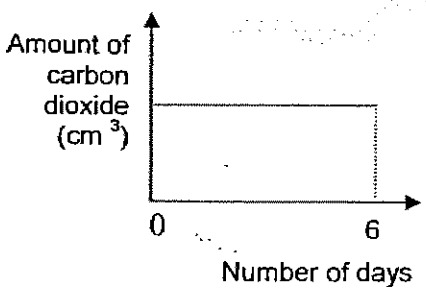
13. Lily put some cooked rice in a conical flask which was connected to the apparatus (**NOT** drawn to scale) as shown below, for 6 days.



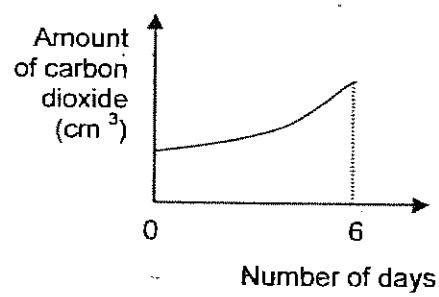
At the end of the 6th day, Lily noticed that the limewater in the test tube had changed from colourless to chalky.

Which one of the following graphs best represents the amount of carbon dioxide in the conical flask over the period of 6 days?

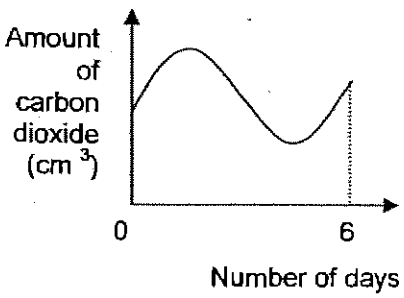
(1)



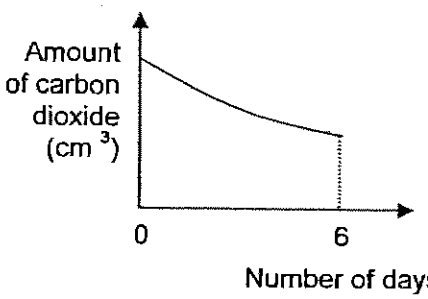
(2)



(3)



(4)



14. Which of the following statements about the circulatory system in humans are **TRUE**?

A Blood flows in a single direction in the arteries.

B Blood rich in carbon dioxide is returned to the heart before it reaches the lungs.

C Contraction of the muscles around the vessels does not help to move blood around the body.

D Digested food, carbon dioxide and water pass through the walls of the veins into the cells of the body.

(1) A and B only

(2) C and D only

(3) A, B and D only

(4) B, C and D only

15. Which one of the following statements about the skeleton of a human body is **FALSE**?

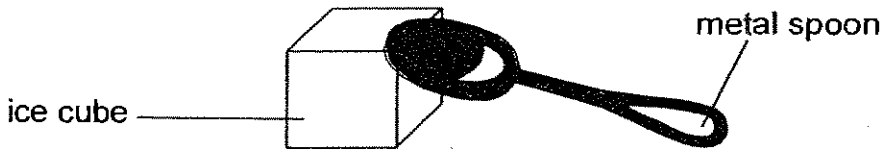
(1) The skeleton protects some of our organs.

(2) The skeleton supports the body and gives it its shape.

(3) The skeletal system is made up of bones, joints and muscles.

(4) The skeletal and muscular systems work together to help us move.

16. Cindy placed a metal spoon on an ice cube as shown below.



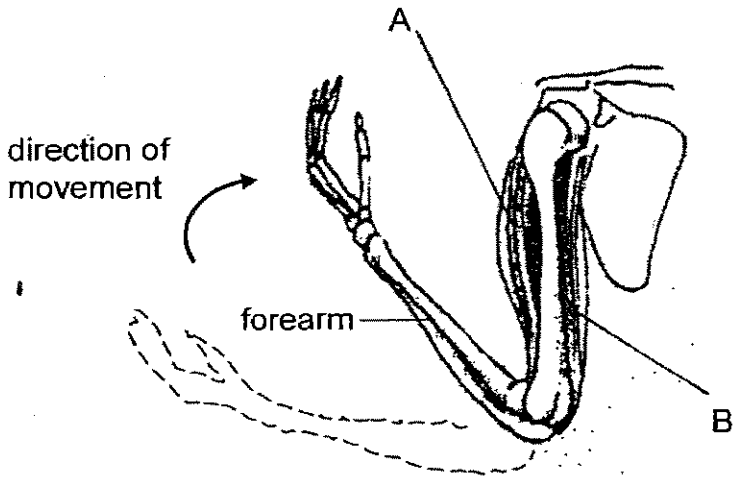
After 3 minutes, Cindy recorded her observations:

Observation 1	The ice cube becomes smaller.
Observation 2	The handle of the metal spoon is cold.

Which one of the following pairs of senses did Cindy use to make her observations?

	Sense(s) Cindy used for	
	Observation 1	**Observation 2**
(1)	sight	touch
(2)	smell	hearing
(3)	taste	sight
(4)	touch	smell

17. The diagram below shows how muscles, A and B, and bones work together to move our forearm.



Which one of the following statements describes correctly what happen to our muscles when we move up our forearm?

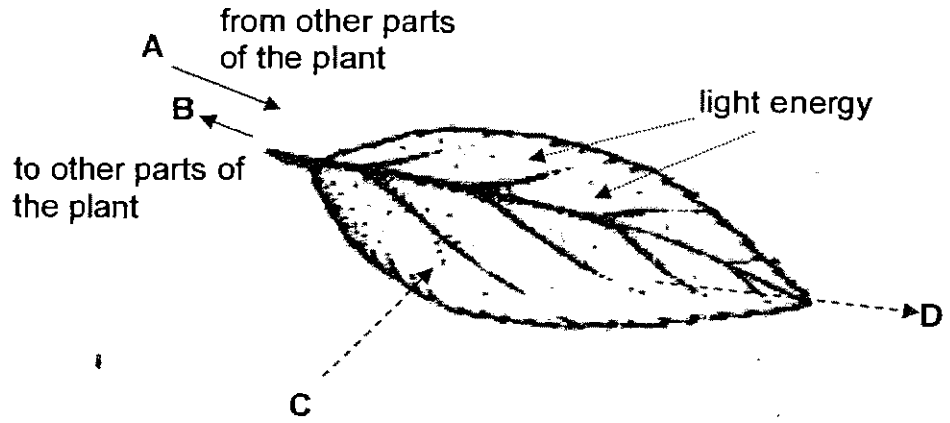
(1) Both A and B relax.

(2) Both A and B contract.

(3) A relaxes but B contracts.

(4) A contracts but B relaxes.

18. The diagram below shows how the leaf of a plant carries out photosynthesis.



The arrows indicate the movement of various substances moving into and out of the leaf.

What do the arrows, A, B, C and D, represent?

	A	B	C	D
(1)	glucose	carbon dioxide	water	oxygen
(2)	carbon dioxide	oxygen	glucose	water
(3)	water	glucose	carbon dioxide	oxygen
(4)	glucose	water	oxygen	carbon dioxide

19. Some organisms, W, X, Y and Z, are found in a community. The information about these organisms is shown below:

- X is eaten by W
- W feeds on Y
- Z feeds on Y but not X
- Y gets its food from X

Which one of the following is the correct classification of the organisms, X, W, Y and Z?

	food producer	herbivore	carnivore	omnivore
(1)	Z	X	Y	W
(2)	X	W	Z	Y
(3)	Y	Z	W	X
(4)	X	Y	Z	W

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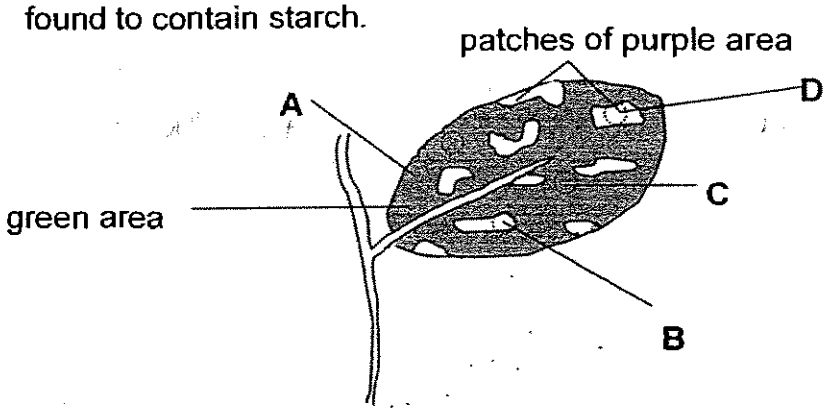
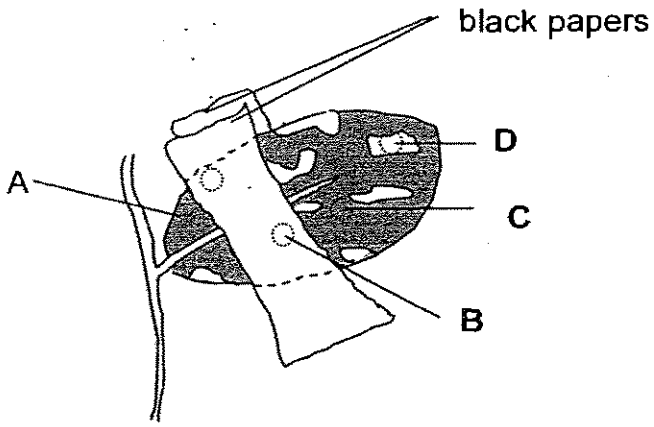
20. The diagram below shows a leaf, with patches of green and purple on the leaf surface, on a plant at the start of an experiment.

The areas, A, B, C and D, were tested for starch. All these areas were found to contain starch.



ANOTHER leaf, with similar patches of green and purple on the leaf surface, from the **SAME** plant was partly covered by black papers, as shown below.



The plant was in the sun for 2 days. After 2 days, the leaf with the black papers was plucked off from the plant. The black papers were removed. This leaf was tested for starch.

Which of these areas, A, B, C or D, was starch found?

(1) A and C only

(2) B and D only

(3) A, C and D only

(4) B, C and D only

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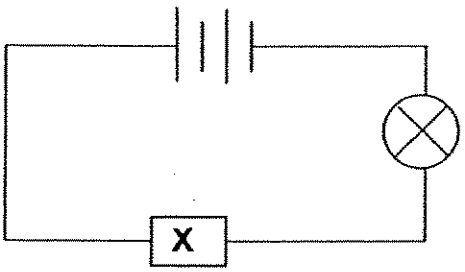
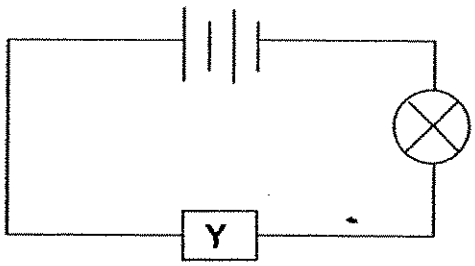
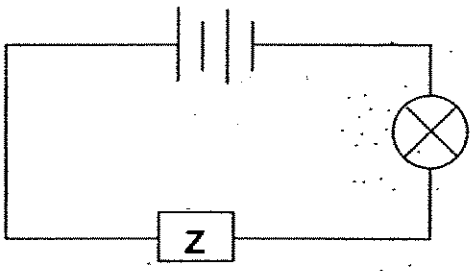
21. Susan set up the circuits, P, Q and R, as shown below, using the **SAME** components and objects of different materials, X, Y and Z, in each circuit.



Circuit P



Circuit Q



Circuit R

Susan made the following observations:

- The bulb in circuit R did **NOT** light up.
- The bulbs in circuits P and Q lighted up.
- The bulb in circuit Q was brighter than the bulb in circuit P.

What can Susan conclude about the materials, X, Y and Z, from her experiment?

A Z is made of metal.

B Z is a non-conductor of electricity.

C X is a better conductor of electricity than Y.

D Both X and Y are good conductors of electricity.

(1) A and C only

(2) B and D only

(3) C and D only

(4) B, C and D only

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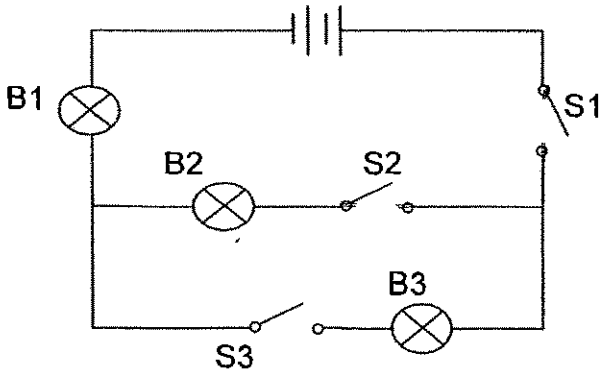
22. Francis set up an electric circuit as shown below.



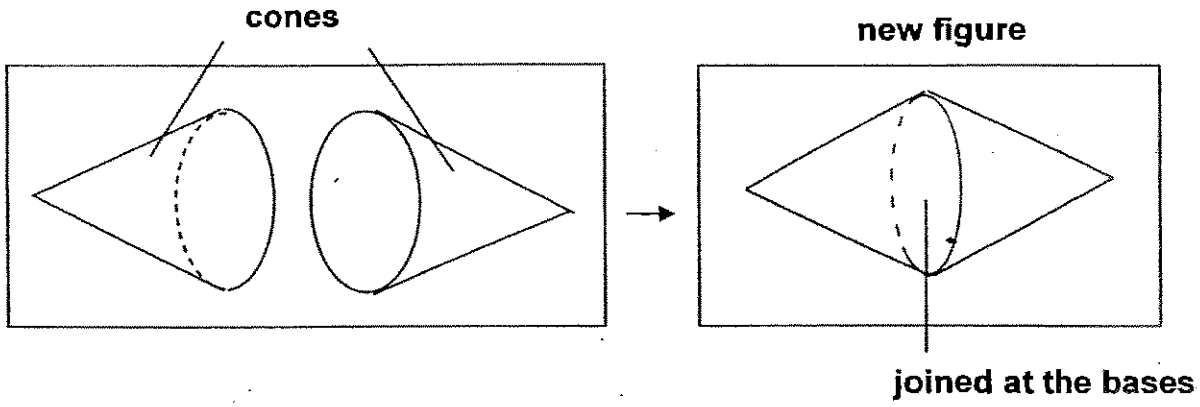
Which of the following bulbs would light up if Francis switched off S3 but switched on S1 and S2?

(1) B2 only
(2) B3 only
(3) B1 and B2 only
(4) B2 and B3 only

23. Which one of the following statements about the Sun is **FALSE**?

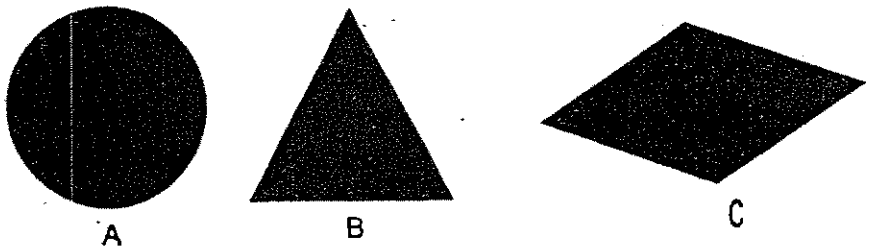
(1) Heat energy from the Sun keeps living things warm.
(2) The plants use light energy from the Sun to carry out photosynthesis.
(3) The Sun's energy is passed to the animals through the plants with chlorophyll.
(4) Light energy from the Sun ensures that the water cycle continues to take place.

24. Two cones made of an opaque material are stuck together at their bases to form the new figure shown below.



Light is shone at different angles on the new figure.

Based on the information above, which of the following shadows can be formed by the new figure?



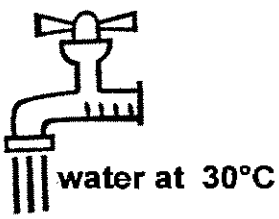
(1) A and B only

(2) A and C only

(3) B and C only

(4) A, B and C

25. Kelly put her left hand in a basin of water for 30 seconds. She then removed her hand and placed it under a running tap. Her hand felt cold.



What was the temperature of the water in the basin which Kelly had put her hand in earlier?

(1) 5°C (2) 15°C

(3) 25°C (4) 40°C

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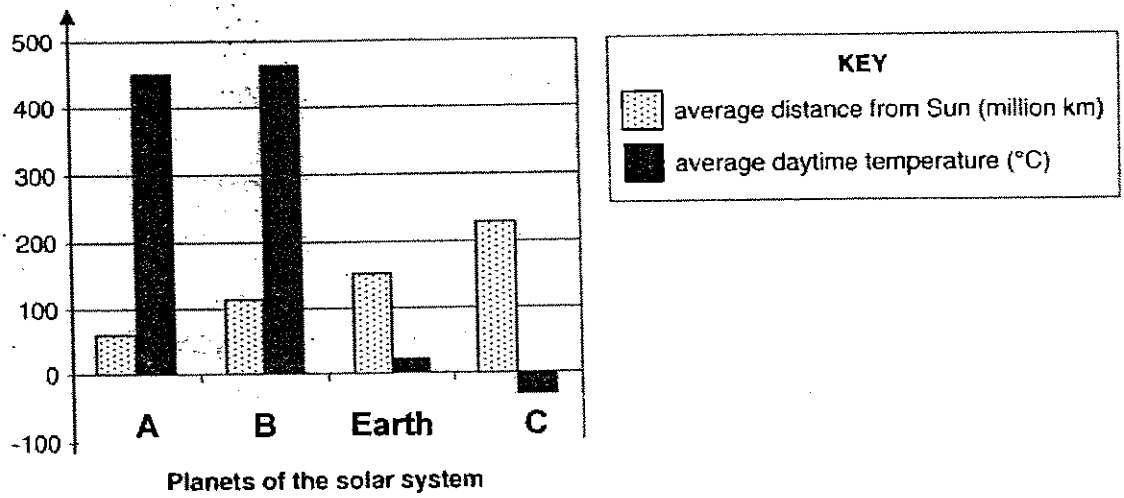
Name : _____ Index No : _____ Class : P5____

40

SECTION B (40 marks)
For questions 26 to 41, write your answers clearly in the spaces provided.

The number of marks available is shown in the brackets [ ] at the end of each question or part question.

26. The graph below gives information of some planets in the solar system.



Planets of the solar system

Based on the graph above, answer the following questions:

(a) What is the pattern between the average distance of the planet from the Sun and the average daytime temperature of the planet? [1]

_____

(b) One planet, A, B or C, does **NOT** follow the pattern which is mentioned in (a). Name this planet. Write its letter, A, B or C, only. [1]

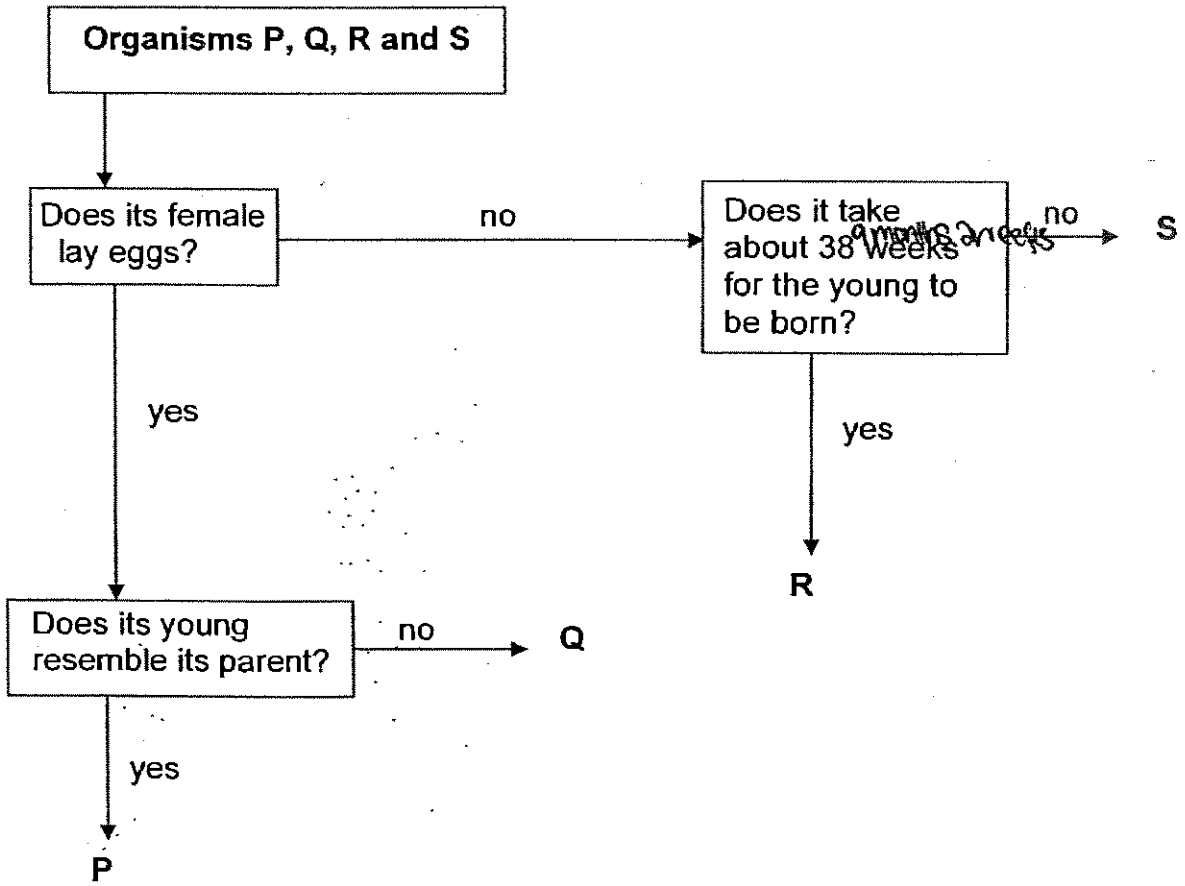
_____

(c) Living things thrive on planet Earth as it receives the right amount of heat from the Sun. List **ONE** other condition that ensures the survival of the living things found on Earth. [1]

_____

95

27. The chart below shows how different organisms, P, Q, R and S, are reproduced.



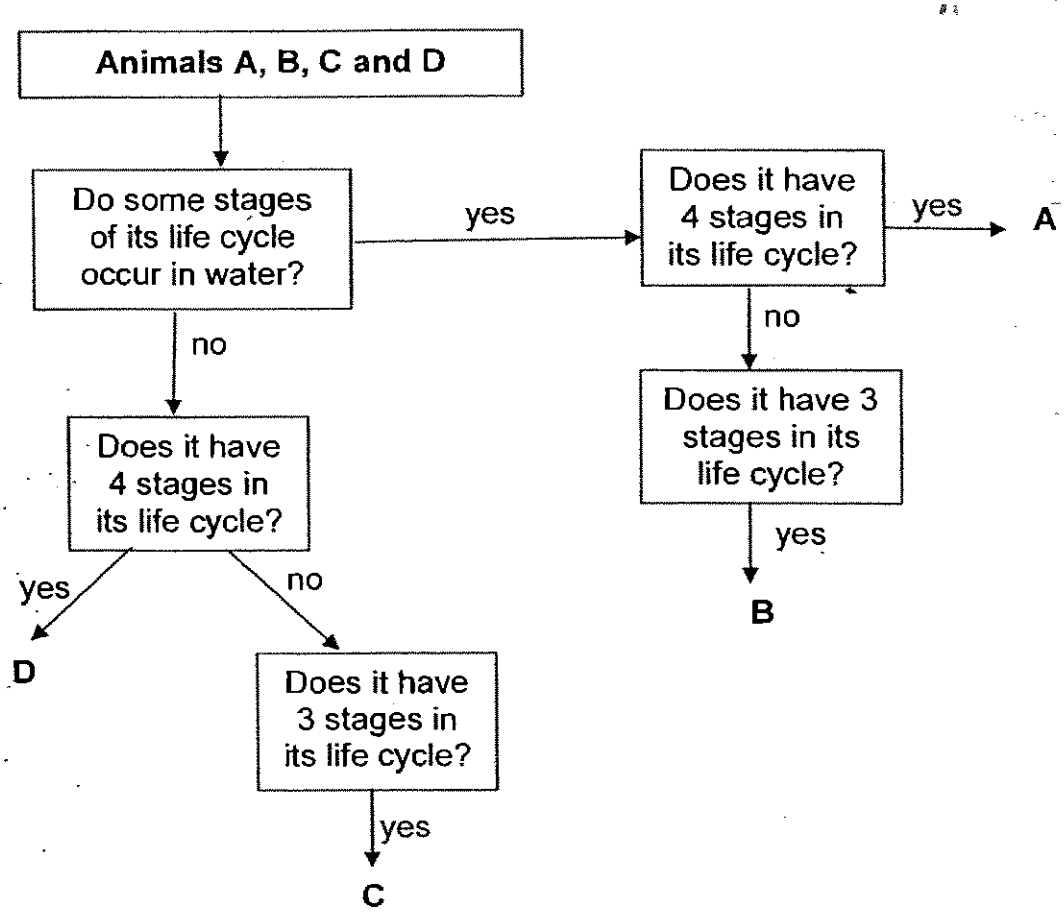
Based on the information above, answer the following questions:

(a) Which organism best represents man?
Write letter, P, Q, R or S, only. [1]

(b) State **ONE** similarity between P and Q. [1]

96

28. The chart below shows some characteristics of different animals.



Based on the information above, answer the following questions:

(a) What could the animals, A, B, C and D, be?
Fill in the blanks using the animals listed below: [2]

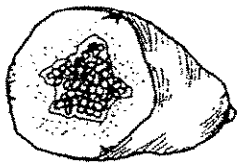
frog	mealworm
mosquito	grasshopper

A	
B	
C	
D	

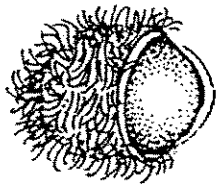
(b) In the life cycle of a butterfly, **moulting** occurs during its _____ stage. [1]

97

29. The diagrams below show the cross-sections of the fruits of a papaya and a rambutan.



papaya



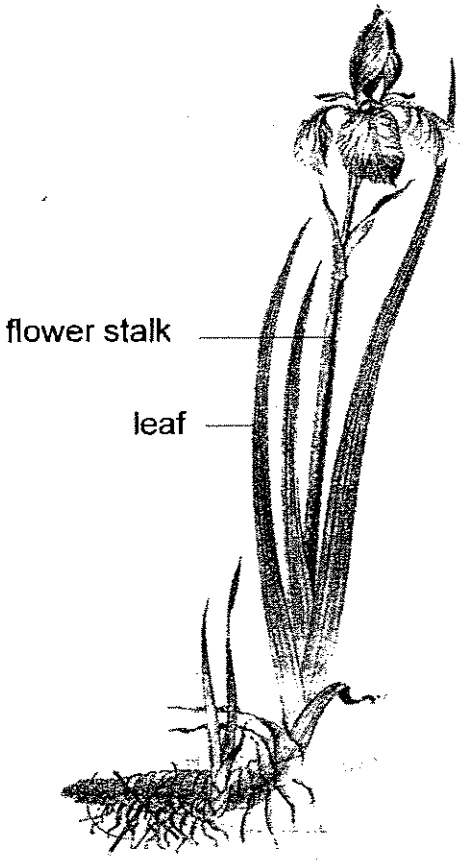
rambutan

(a) Name **ONE** advantage of having small seeds like the papaya fruit. [1]

(b) Give **ONE** common characteristic that both the papaya and the rambutan share in order that their seeds can be dispersed by the animals. [1]

98

30. The diagram below shows a plant that grows from its plant part.



(a) In the diagram, **MARK** with a cross, X, to show where its young is growing from. [1]

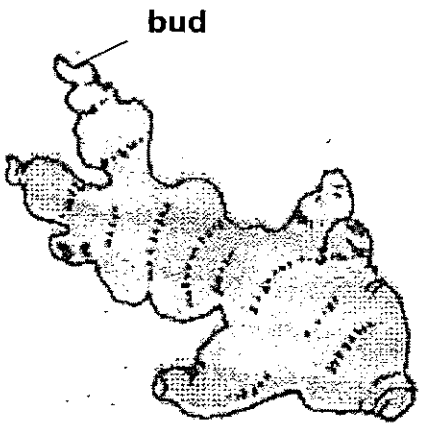
(b) State **ONE** disadvantage of this type of reproduction. [1]

_____

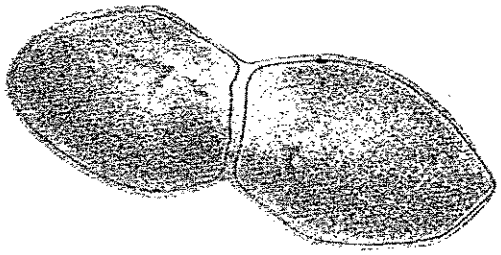
_____

99

31. The diagrams below show a ginger and a single-cell organism (**NOT** drawn to scale).



ginger



single-cell organism undergoing cell division

(a) State **ONE** similarity in the method of reproduction between the ginger plant and the paramecium cell. [1]

_____

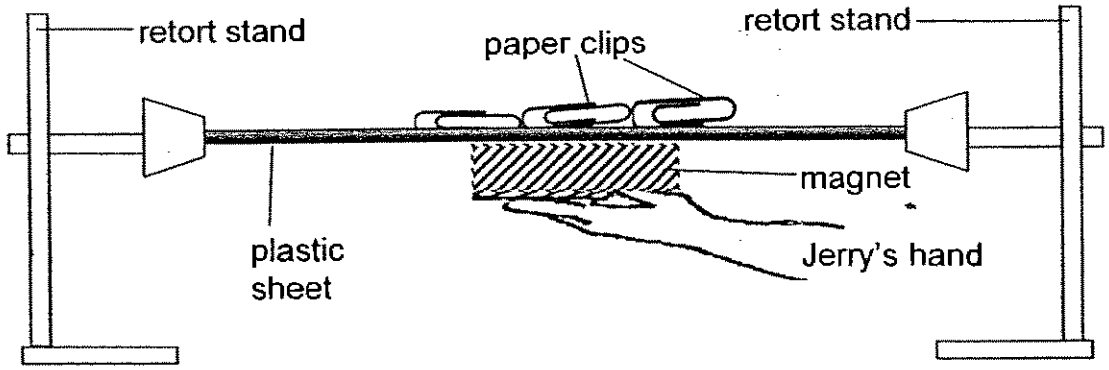
_____

(b) Give **ANOTHER** example of a plant that reproduces the same way as the ginger. [1]

_____

100

32. Jerry placed some paper clips on a thin sheet of plastic. He placed a strong magnet directly under the sheet of plastic.



Based on the information above, answer the following questions:

(a) What would Jerry observe of the paper clips when he moved the magnet to and fro under the plastic sheet? [1]

(b) Explain Jerry's observation(s) of the paper clips. [1]

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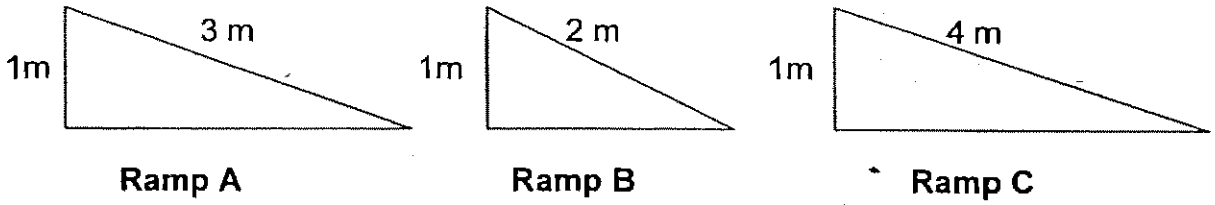
33. Tom pulled a 50-kg sack of rice up three ramps, A, B and C, of height as shown in the diagrams below.



Ramp A **Ramp B** **Ramp C**

Tom measured the effort needed to pull the sack of rice up each ramp and recorded them in the table below.

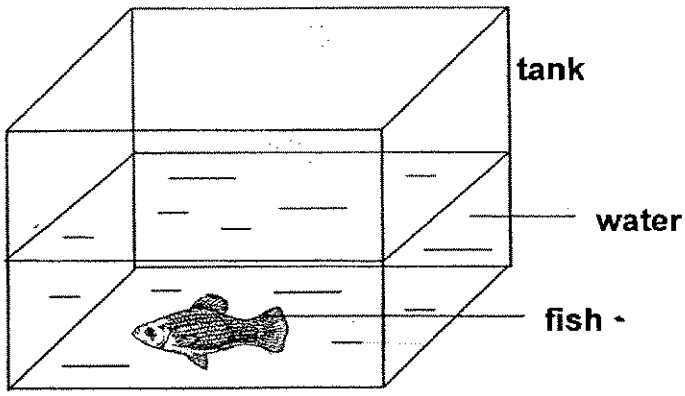
Ramp	Effort needed (kg)
A	30
B	40
C	20

Based on the information above, answer the following questions:

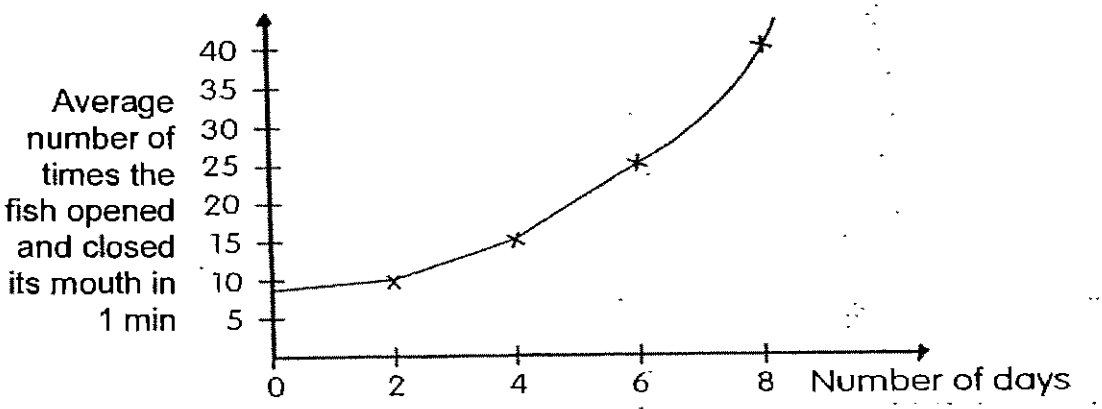
(a) What is the relationship between the length of the ramp and the effort Tom needed to pull the sack of rice up the ramp? [1]

(b) State **ONE OTHER** variable that Tom needs to keep the same to ensure that he conducts a fair test. [1]

34. Kok Lam left a fish in a tank **WITHOUT** changing the water.



He observed the number of times the fish opened and closed its mouth in one minute for several days and plotted the following graph.



Based on the information above, answer the following questions:

(a) What was the average number of times the fish opened and closed its mouth in one minute when it was in the tank on the 6th day?
[1]

_____

(b) What can Kok Lam conclude from the graph that he had plotted?
[1]

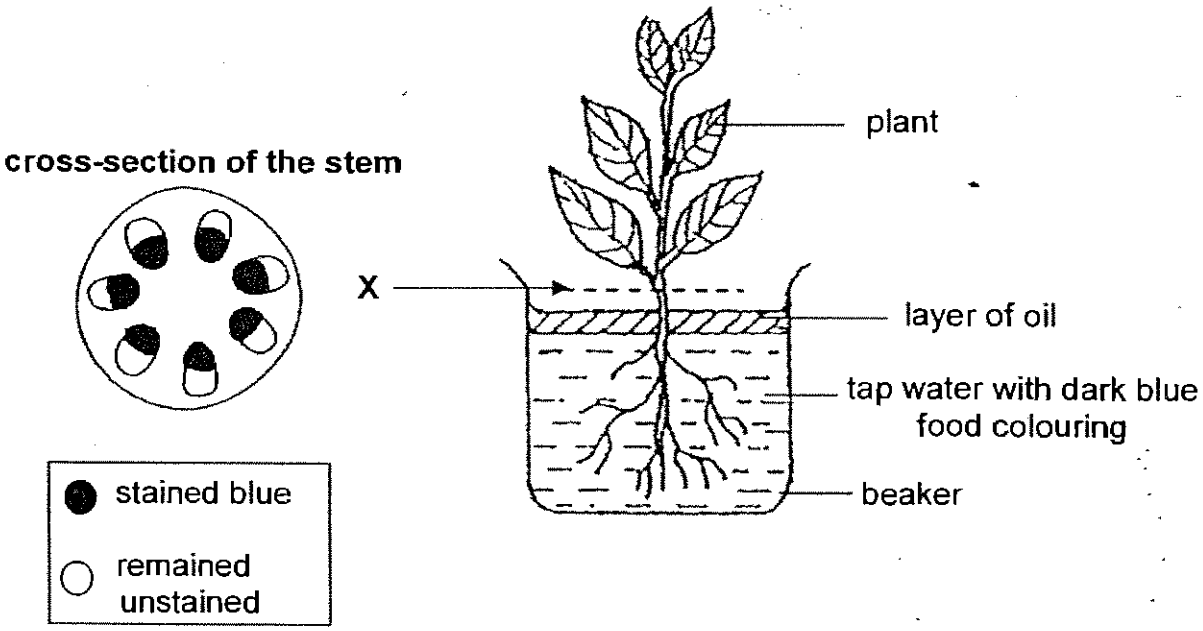
_____

_____

_____

_____

35. Ravi placed a plant in a beaker of tap water with some dark blue food colouring.



After 24 hours, Ravi cut the stem of the plant at point X. He noticed that some parts of the cross-section of the stem had been stained blue.

Based on the information above, answer the following questions:

(a) Name the parts of the stem which had been stained blue. [1]

_____

(b) State **ONE** function of the plant parts that were stained blue. [1]

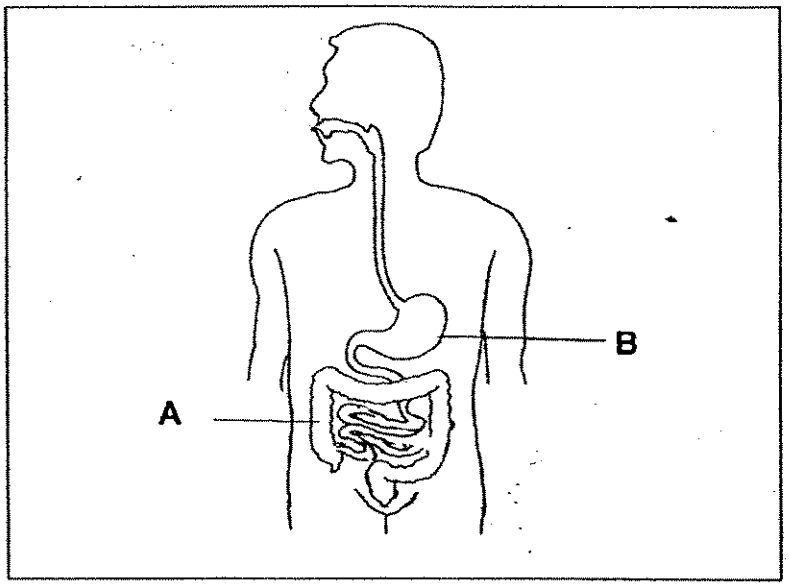
_____

_____

_____

_____

36. The diagram below shows parts of the digestive system of a man.



Based on the diagram above, answer the following questions:

(a) Name the organs, A and B. [1]

A: _____

B: _____

(b) **MARK** and **LABEL** on the diagram the part(s) of the system where the following processes take place: [2]

(i) X, where digestion **starts**

(ii) Y, where digestion **ends**

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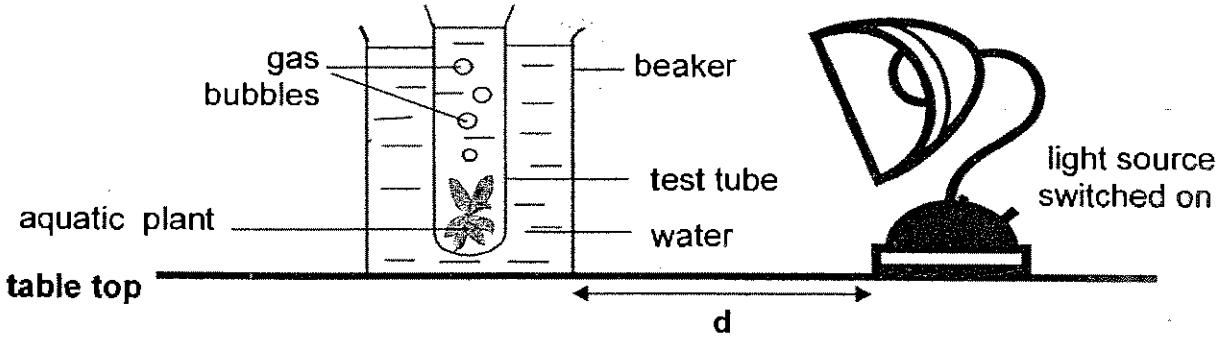
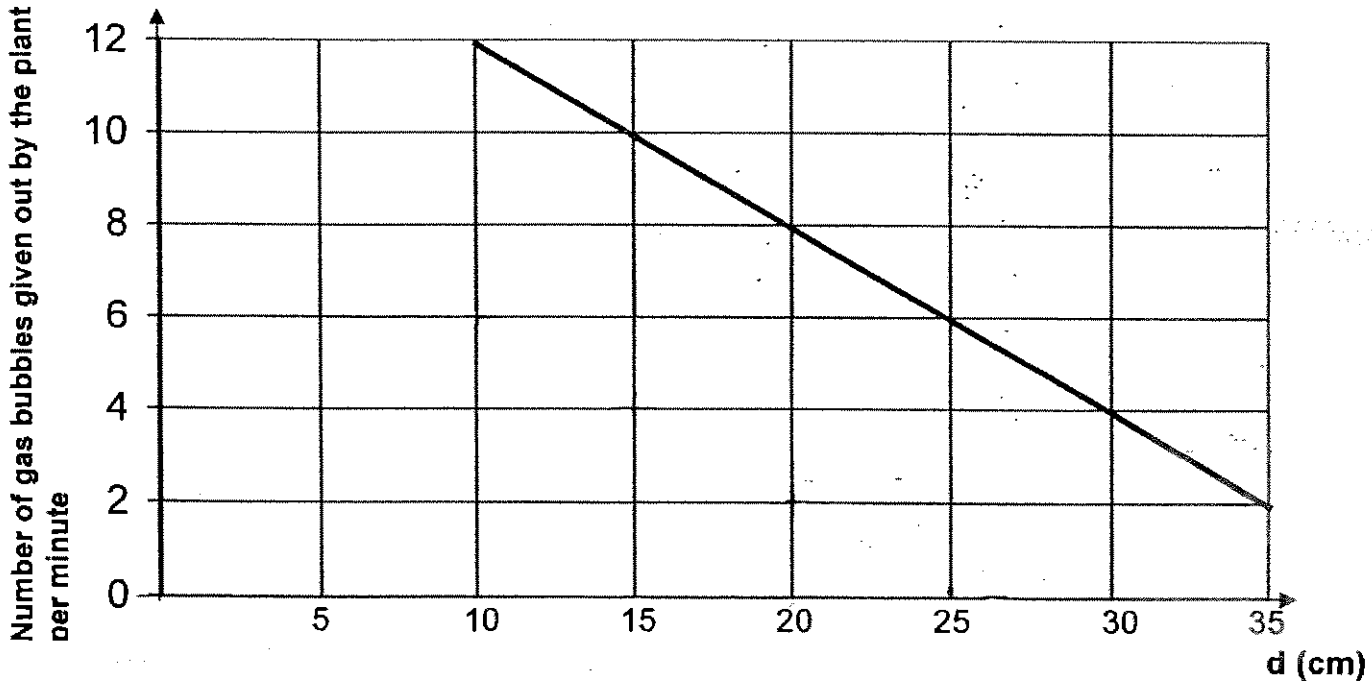
37. David set up an experiment using an aquatic plant and the apparatus as shown below.



As David changed the distance of the light source from the beaker, d, he recorded the number of gas bubbles given out by the aquatic plant per minute.

He plotted a graph below based on his observations.



Based on the graph above, answer the following questions:

(a) What is the number of gas bubbles given out by the aquatic plant per minute when the light source is 20 cm away from the beaker?

[1]

_____

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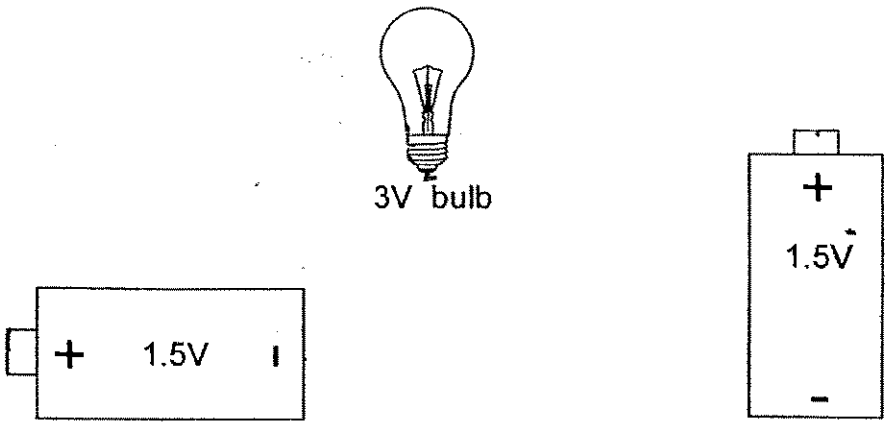
WITHOUT changing the apparatus, David covered the beaker all round with a piece of tracing paper.

Using the **SAME** distance of the light source from the beaker, d, David recorded the number of gas bubbles given out by the **SAME** aquatic plant per minute.

(b) What could David observe from his set-up this time? Explain your answer. [2]

(c) **DRAW** on the graph given on Page 30, the new result David would likely to observe in (b). [1]

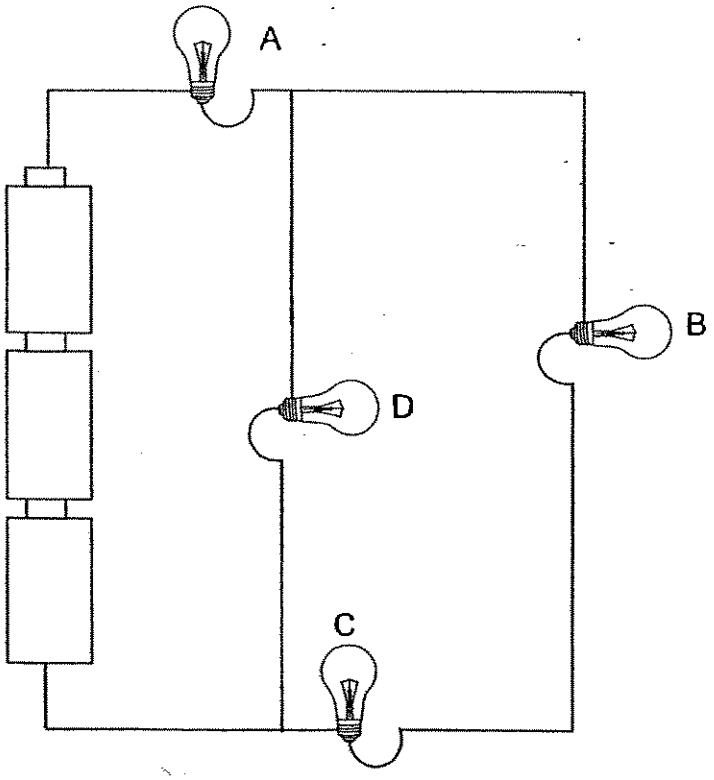
38. The diagram below shows the components of a circuit which are **NOT** connected.



(a) **DRAW** 3 wires in the diagram above to connect all the components to enable the bulb to light up. [2]

The diagram below shows four lighted bulbs, A, B, C and D, connected to the batteries. A switch is added such that when it is open, **ONLY ONE** bulb is **NOT** lighted up while the other three remain lighted at all times.

(b) **MARK** with a cross, **X**, on the part of the circuit in the diagram below, to show where this switch is. [1]



(c) Which one of the bulbs, A, B, C or D, is controlled by the switch? [1]

Bulb _____

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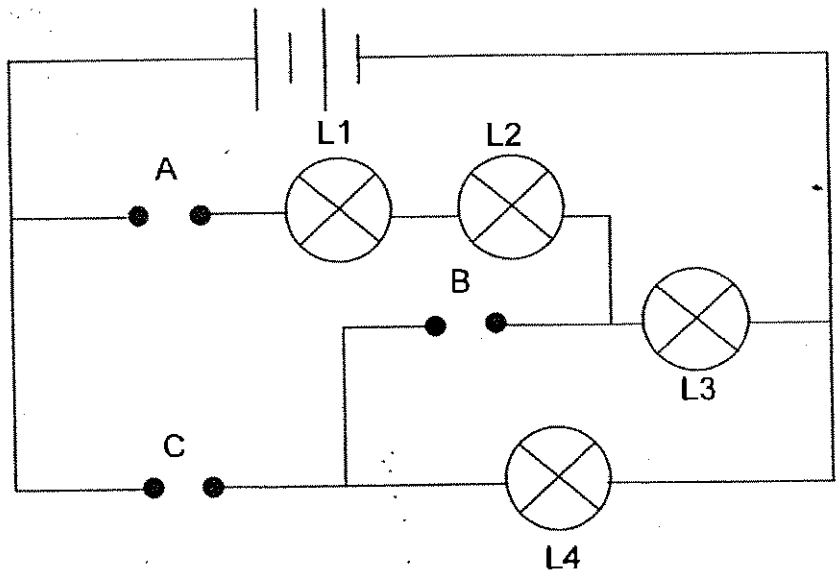
39. Brenda had three rods, X, Y and Z, of unknown materials. She placed them in various positions, A, B and C, in the circuit diagram shown below.



The results of Brenda's experiment were recorded in the table below.
A tick (√) in the box shows that the lamp was lighted up.

Positions at which the rods were placed			lamps			
A	B	C	L1	L2	L3	L4
X	Y	Z				√

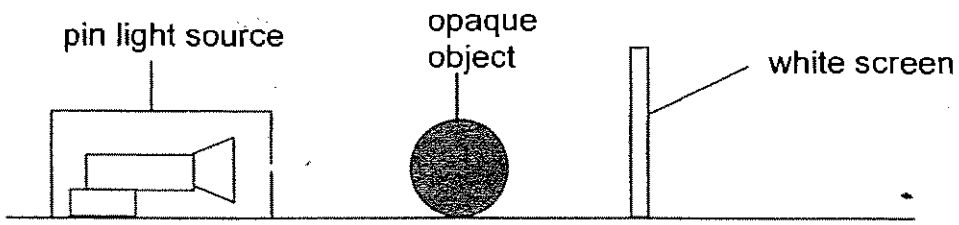
(a) Using the information above, which lamp(s) lighted up when the rods were placed at the different positions indicated in the table below?
[3]

Put a tick (√) in the correct boxes to show the lamp(s) which was/ were lighted up.

Positions at which the rods were placed			lamps			
A	B	C	L1	L2	L3	L4
X	Z	Y				
Z	Y	X				
Y	X	Z				

09

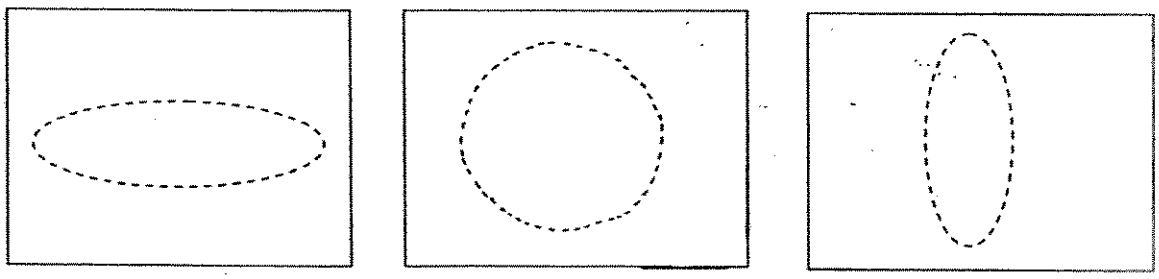
40. The diagram below shows that an opaque object is placed between a pin light source and a white screen.



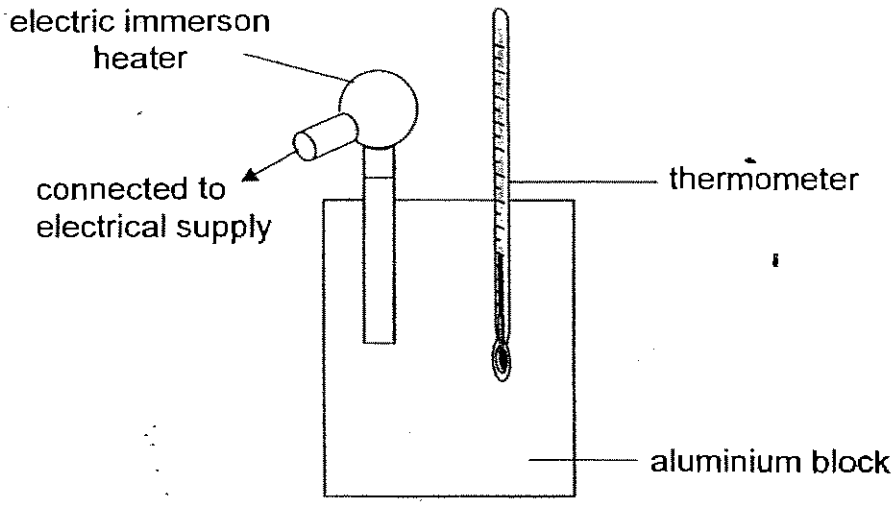
(a) Using the **SAME** object, suggest **ONE** way to increase the size of its shadow **WITHOUT** moving the screen. [1]

(b) Choose the correct outline of the shadow formed on the white screen from one of the boxes below.

Then **SHADE** correctly the shadow that is seen on the white screen. [1]



41. Jane took an aluminium block which was connected to an electrical supply. She inserted a thermometer into the block as shown below.

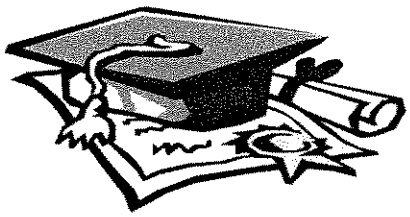


When an electric current was passed through the aluminium block for a while, what would Jane notice of the alcohol level in the thermometer?

Explain your answer. [2]

- END OF PAPER -

Setters : Mrs Lily Ng
Mrs Christina Lim
Mdm Ho Sheen Yee
Ms Pek Xue Yan
Ms Lim Siew Hoon



ANSWER SHEET

RAFFLES GIRLS' PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 3
2. 3
3. 1
4. 1
5. 3
6. 3
7. 2
8. 4
9. 3
10. 3
11. 4
12. 1
13. 2
14. 1
15. 3
16. 1
17. 4
18. 3
19. 4
20. 3
21. 2
22. 3
23. 4
24. 2
25. 4

26) a) The further the average distance of the planet from the sun, the lower is the average daytime temperature of the planet.

b) B

c) On Earth, there is water , one of the necessities for the survival of living things. On other planets, the water will either evaporate or freeze.

27) a) R

b) For both of the organisms, the female lays eggs.

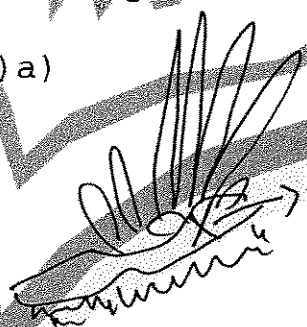
28) a) A: mosquito B: frog
C: grasshopper D: mealworm

b) larval.

29) a) There are many seeds in one fruit making its chance of reproducing bigger.

b) They are edible.

30) a)



b) Overcrowding might occur so the young plant not get enough water, mineral salts, oxygen, carbon dioxide and sunlight to live.

31)a)Both reproduce asexually.
b)water chestnut.

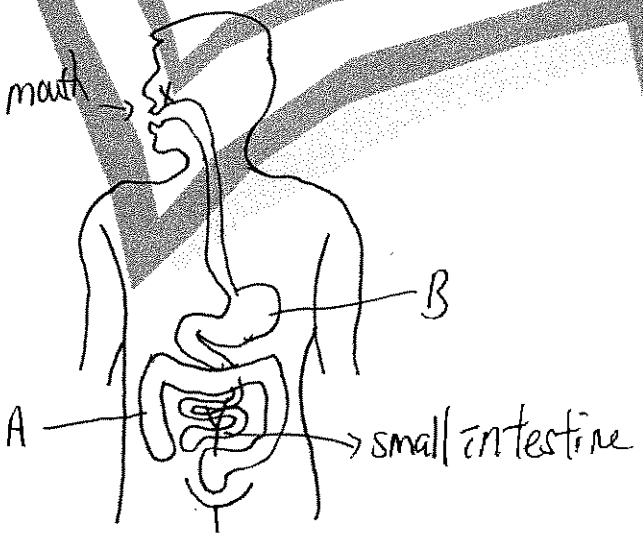
32)a)The paper clips will follow the magnet and go wherever the magnet goes.
b)The magnet exerts a magnetic force on the paper clips, causing them to move.

33)a)The longer the ramp, the less the effort needed to pull the sack of rice up.
b)He must make sure that the material which is used to make the ramp is the same.

34)a)25
b)Less oxygen is in the water day by day, so the fish has to open and close its mouth more after to get sufficient oxygen for its survival.

35)a)xylem tubes.
b)They carry water and mineral salts from the roots to the other parts of the plant.

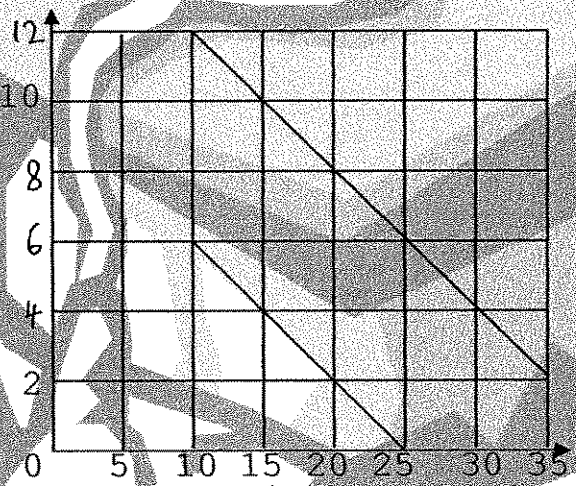
36)a)A:Large intestine B:Stomach
b)i)ii)



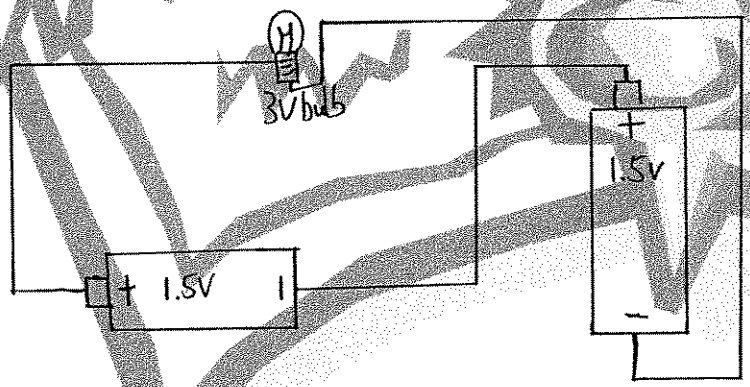
37)a)The number of gas bubbles given out by the aquatic plant is 8.

b)Less bubbles were produced. The tracing paper is translucent. It block some light from reaching the aquatic plant. Hence, less bubbles will be produced from the aquatic plants.

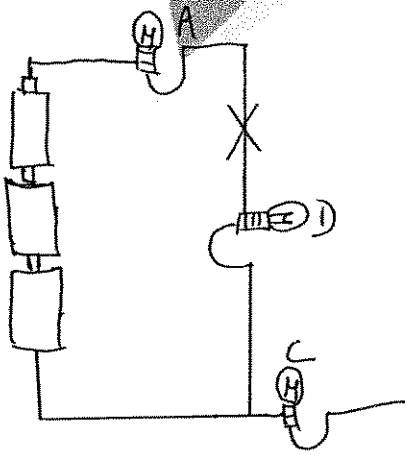
c)



38)a)

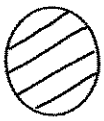


b)



c) D

39) a) ZYX = ✓✓✓
YXZ = ✓

40) a) Move the object towards the pin light source.
b) 

41) The alcohol level in the thermometer rose until it finally stopped. The heat from the aluminium block travels to the bulb of the thermometer and cause the alcohol to gain heat and rise up the tube.

---end---

南洋小學
NANYANG PRIMARY SCHOOL

PRIMARY FIVE SCIENCE

SEMESTRAL ASSESSMENT 2 —

2007

BOOKLET A

Date : 26 October 2007

Duration : 1 h 45 min

Name : _____ ( )

Class: Primary 5 ( )

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature: .....

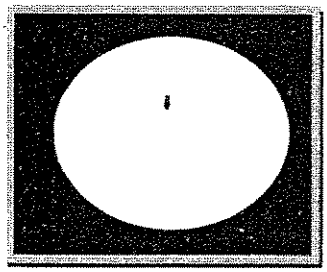
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 20 printed pages including this cover page.

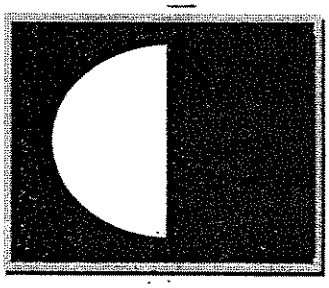
Section A (30 x 2 marks = 60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. The diagrams below show 2 phases of the Moon, M and N, which were observed from the same location on Earth.



Phase M



Phase N

Which of the following statement(s) is/are true about the 2 phases?

A Phase M would always be observed on the same day of each calendar month.

B Light from the Sun was reflected by the Moon to the Earth during both phases.

C The positions of the Earth, Sun and Moon during Phase M were different from that in Phase N.

(1) B only
(2) A and B only
(3) B and C only
(4) A, B and C

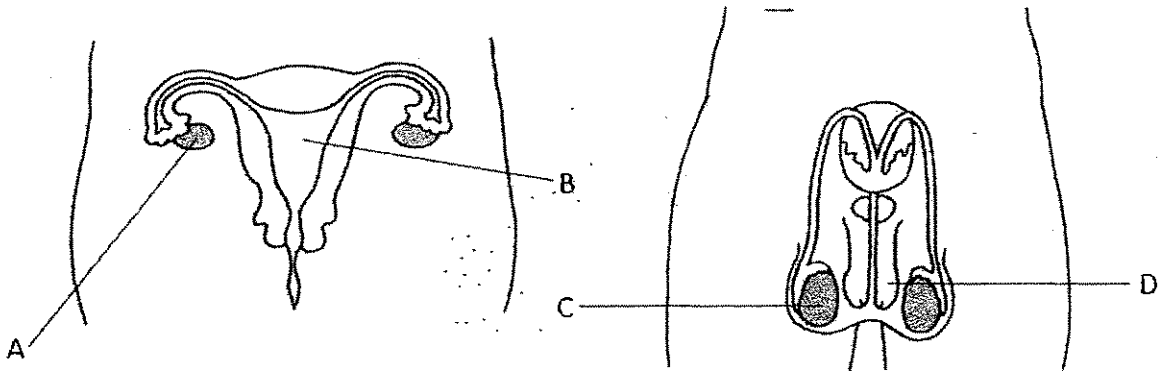
2. Which one of the following cell structures is **not** matched correctly to its function?

	Cell Structure	Function
(1)	Nucleus	Controls all activities that take place within a cell
(2)	Cytoplasm	Jelly-like substance where most activities take place
(3)	Chloroplast	Performs the function of photosynthesis within plant cells
(4)	Cell Membrane	Gives the cell a fixed shape and supports the cell

3. Asexual reproduction occurs when only one parent is required for reproduction. Which one of the following does not undergo asexual reproduction?

(1) yeast
(2) sperm
(3) amoeba
(4) paramecium

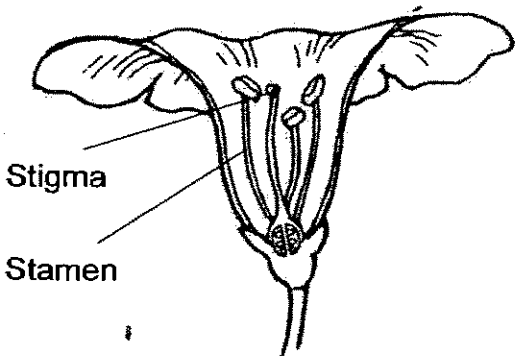
4. The diagrams below show the male and female reproductive systems.



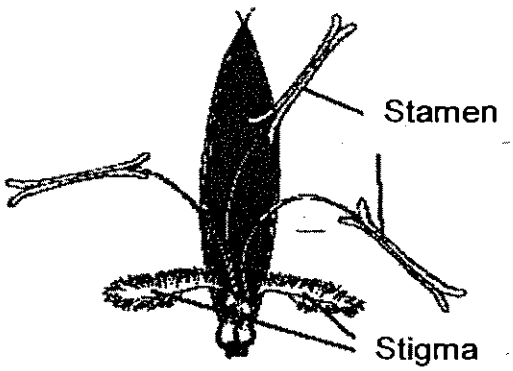
Which of the above parts will produce the cells that are necessary for reproduction to take place?

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

5. Study the flowers of plants A and B as shown in the diagram below.



Flower of plant A



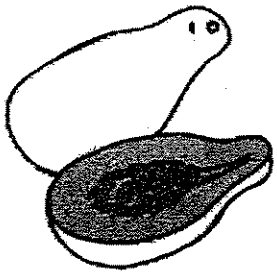
Flower of plant B

Based on the above diagrams, which of the following statements about the two species of flowers are true?

A The flower of plant A possesses nectar or fragrance to attract insects.
B The pollen grains in plant B has to be in large quantities so as to increase the chance of pollination.
C The flower of plant B is most likely to have brightly-coloured petals as compared to the flower of plant A..
D The stigma found in the flower of plant A is sticky and the stigma of the flower in plant B has a large surface area to catch the pollen grains.

(1) A and C only
(2) B and D only
(3) A, B and D only
(4) A, C and D only

6. The diagram below shows the cross-section of a papaya.



Which one of the following statements is most likely to be true about the flower from which this fruit has developed from?

(1) The flower has many ovaries.
(2) There are many ovules inside an ovary.
(3) The fruit developed from a flower with male parts.
(4) The flower did not go through pollination before the fruit was formed.

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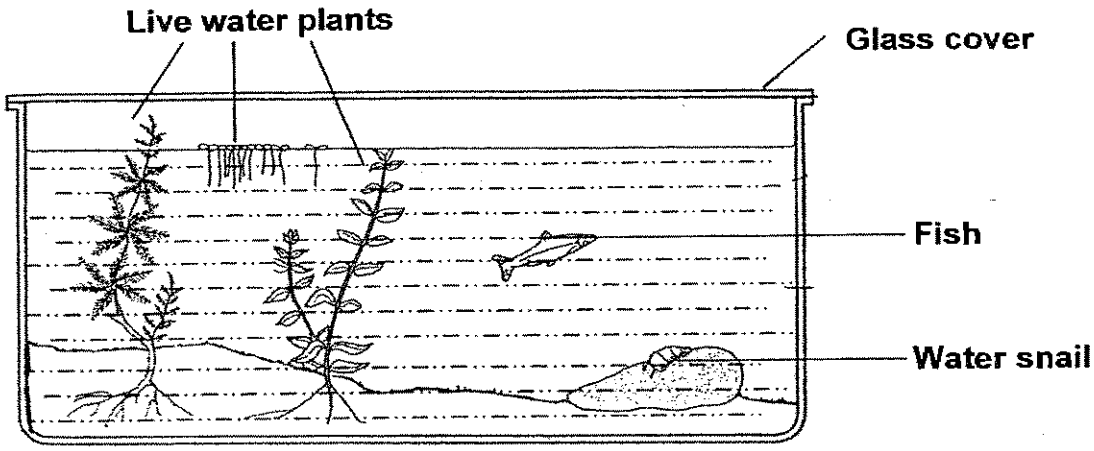
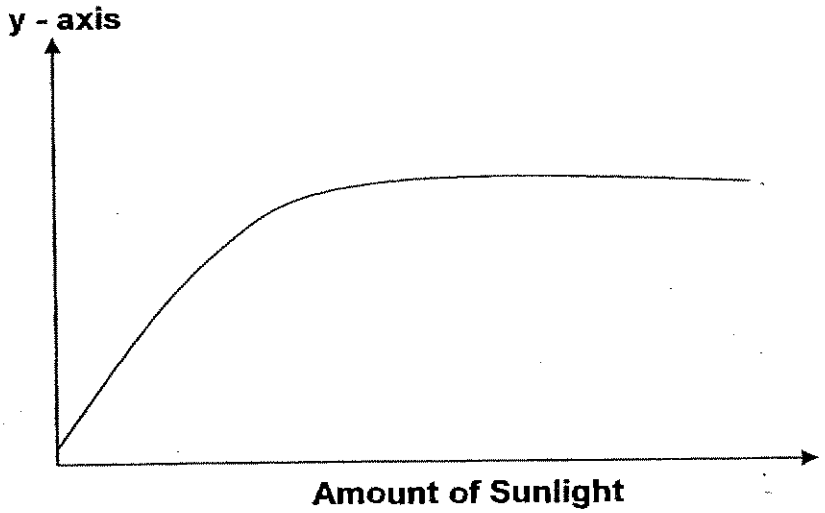
7. Yin Ling set up an aquarium as shown in the diagram below.



Other than food for the fish and water snail, which one of the following conditions must be present so that all the organisms living in the aquarium will live for the longest possible time?

(1) Light
(2) Oxygen
(3) Carbon Dioxide
(4) Nutrients for the plants

8. Raphael conducted an experiment on photosynthesis and plotted his results as shown in the graph below.



The y-axis of the graph is not labelled. Which one of the following would be a suitable label for the y-axis?

(1) Rate of water absorption
(2) Rate of production of oxygen
(3) Rate of absorption of mineral salts
(4) Rate of production of carbon dioxide

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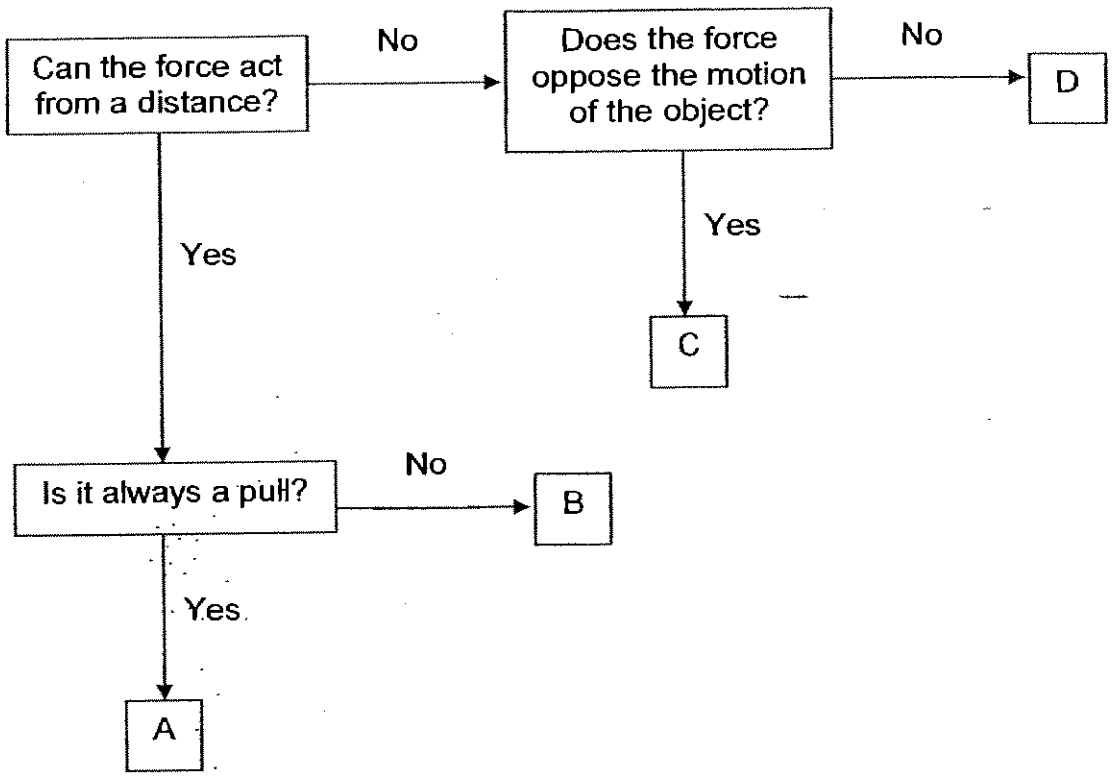
9. The diagram below shows the path of a ball after a boy has kicked it. Points P, Q and R are different positions along the path of the ball.

Which of the following statement(s) is/are true about the forces acting on the ball during its movement from **P to R**?

A The kicking force at P is a push.
B At point R, frictional force is acting upwards.
C Gravitational pull did not act on the ball at point Q.
D The forces acting on the ball caused it to change directions along the path.

(1) A only
(2) B and C only
(3) A, B and D only
(4) A, B, C and D

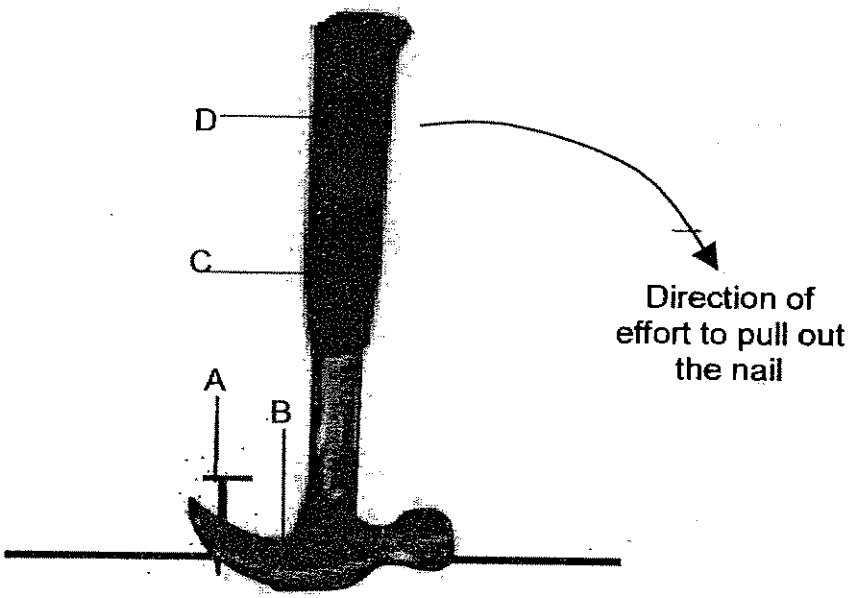
10. The flow chart below is used to classify forces A, B, C and D.



In which one of the following options are the 4 forces identified correctly?

	A	B	C	D
(1)	Gravity	Magnetic force	Push	Friction
(2)	Gravity	Magnetic force	Friction	Push
(3)	Magnetic force	Gravity	Friction	Push
(4)	Magnetic force	Gravity	Push	Friction

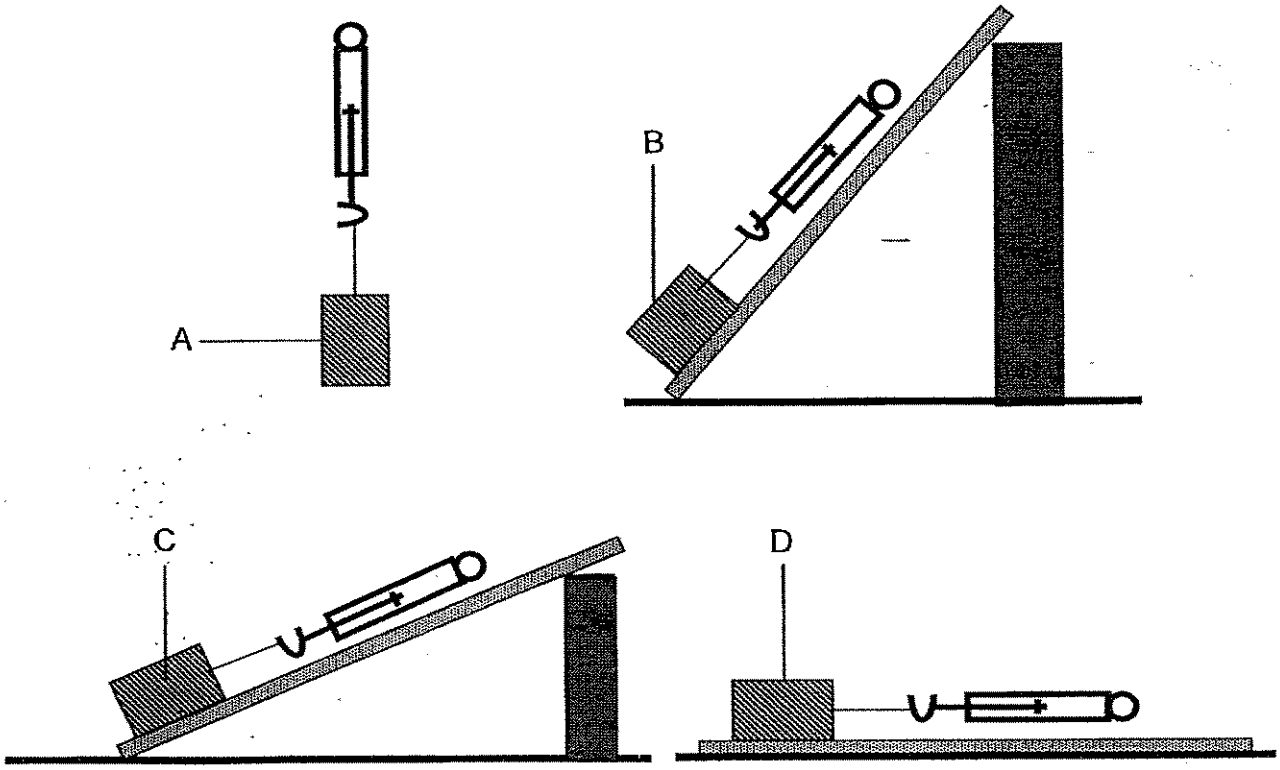
11. The diagram below shows a claw hammer with a nail at position A.



In which of the following situations will the least effort be required to pull out the nail?

	Nail is at Position	Effort is applied at Position
~~(1)~~	A	C
~~(2)~~	A	D
~~(3)~~	B	C
~~(4)~~	B	D

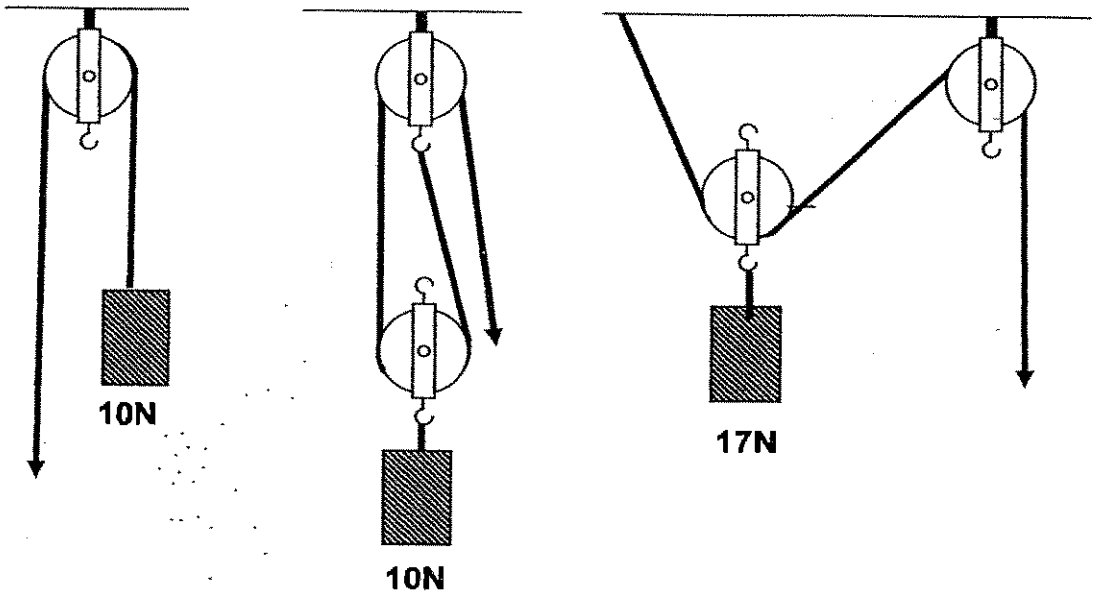
12. Joan carried out an investigation with 4 similar blocks, A, B C and D, made from different materials. She lifted block A vertically upwards and pulled blocks B, C and D over pieces of plank with similar texture.



If all the spring balances recorded the same reading, which block is the heaviest?

(1) A
(2) B
(3) C
(4) D

13. In which of the following set-up(s) would an effort of 8N be sufficient to lift the load?

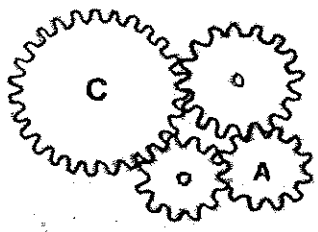


Set-up A Set-up B Set-up C

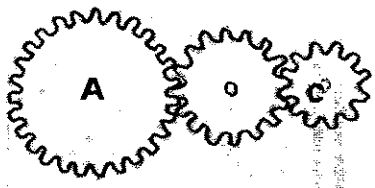
(1) B only
(2) A and C only
(3) B and C only
(4) A, B and C

14. In which one of the following gear systems would Gear C turn faster than, and in the same direction as Gear A?

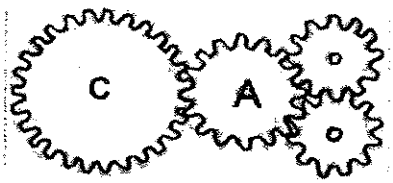
(1)



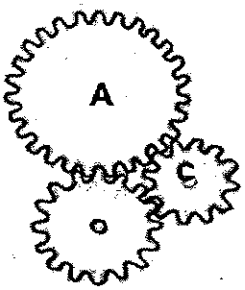
(2)



(3)



(4)



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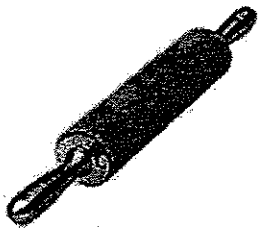
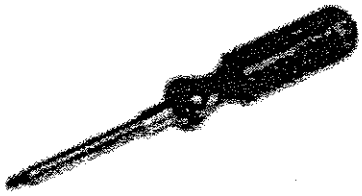
15. The diagrams below show a rolling pin and a screw driver.





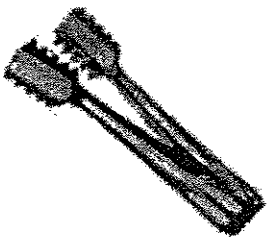
Which of the following statement(s) is/are **true** about both simple machines?

A They change the direction of force(s).
B They are examples of wheel and axle.
C They reduce friction to make work easier.
D They allow less effort to overcome the load.

(1) B only
(2) D only
(3) A and D only
(4) B and C only

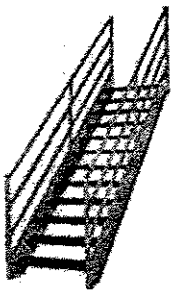
16. Which of the following simple machine(s) help(s) us to do work easier by using a small movement of the effort to cause a large movement of the load?

(A) Ice tong

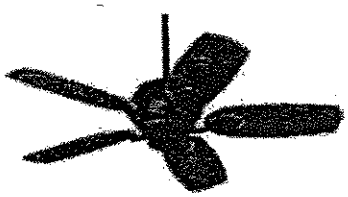


(B) Block and tackle

(C) Staircase

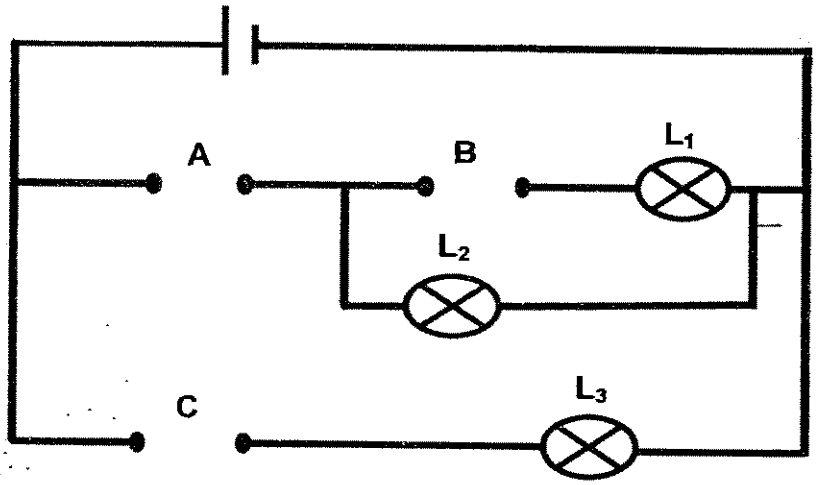


(D) Ceiling Fan



(1) A only
(2) A and D only
(3) B and C only
(4) B, C and D only

17. Peter has 3 rods, P, Q and R, made of different materials. He placed them in various positions, A, B and C, of the circuit shown below.



The results of the experiment were shown in the table below. When any of the lamps, L_1, L_2, or L_3, lit up during the experiment, a tick (✓) was placed in the box.

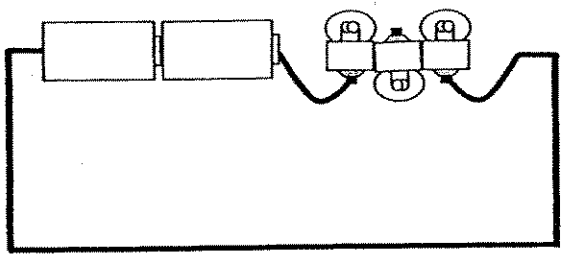
Position where rods were placed			Lamp		
A	B	C	L_1	L_2	L_3
P	Q	R	✗	✓	✓
Q	R	P	✗	✗	✓

Based on the above results, which one of the following classifications of the materials, P, Q and R, according to their electrical conductivity is correct?

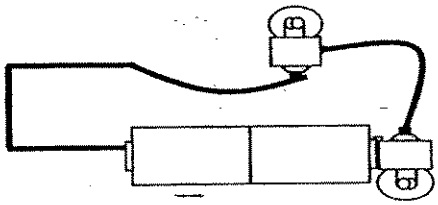
	Conductor(s) of electricity	Insulator(s) of electricity
(1)	R	P, Q
(2)	Q	P, R
(3)	P, Q	R
(4)	P, R	Q

18. In which of the following circuits would **only** 2 bulbs light up?

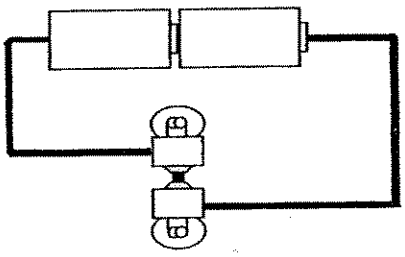
Circuit A



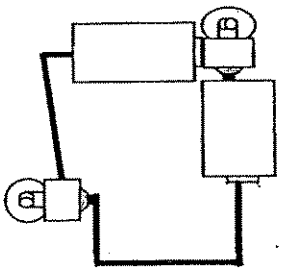
Circuit B



Circuit C

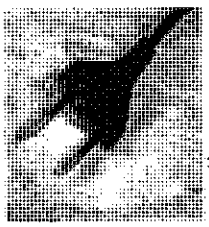


Circuit D



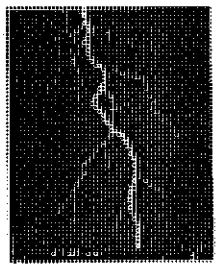
(1) A and D only
(2) B and D only
(3) A, B and D only
(4) A, C and D only

19. Which of the following is/are source(s) of electricity?



A : Two-pin plug

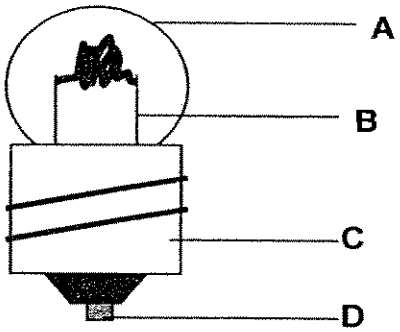
B : Electric eel



C : Lightning

(1) A only
(2) B only
(3) B and C only
(4) A, B and C

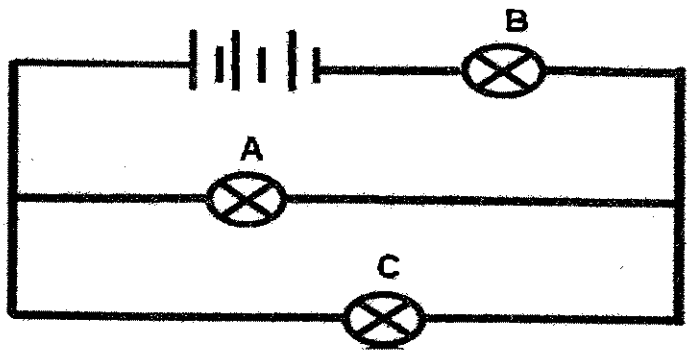
20. The diagram below shows parts of a bulb labelled A, B, C and D.



Which of the parts, A, B, C or D, are conductors of electricity?

	Conductors of electricity	Insulator(s) of electricity
(1)	B,C	A,D
(2)	D,C	A, B
(3)	A, B and C	D
(4)	B, C and D	A

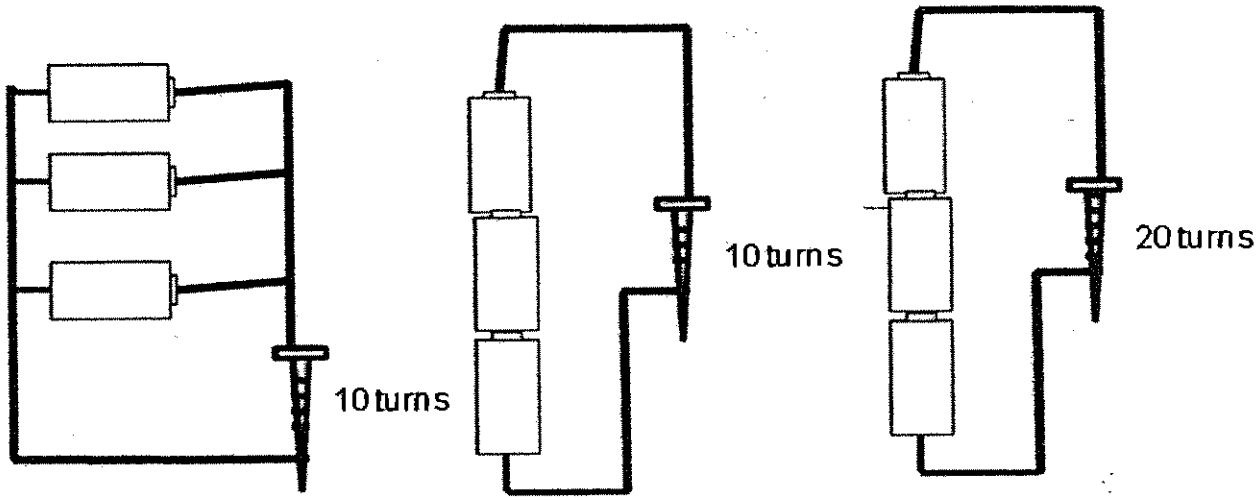
21. Study the circuit diagram below.



Which of the bulbs, A and/or C, will remain lit when bulb B blows?

(1) A only
(2) C only
(3) A and C
(4) None

22. Peter used some new batteries, wires and 3 similar iron nails to make 3 electromagnets as shown below. The number of turns of the wire around the nails is stated in each set-up.

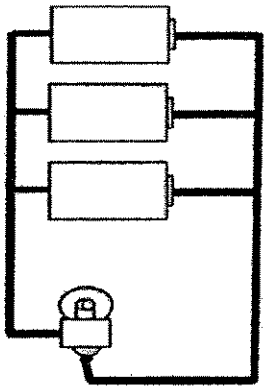


Set-up A **Set-up B** **Set-up C**

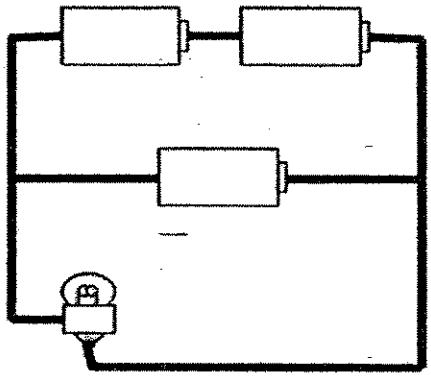
If Peter wished to study how the arrangement of the batteries and the number of turns of wire around the nail affect the strength of the electromagnet, which set-ups should he use?

	To study how the arrangement of batteries affect the strength of electromagnet	To study how the number of turns of wire around nail affect the strength of electromagnet
(1)	Set-ups A and B	Set-ups A and C
(2)	Set-ups A and C	Set-ups B and C
(3)	Set-ups A and B	Set-ups B and C
(4)	Set-ups B and C	Set-ups A and B

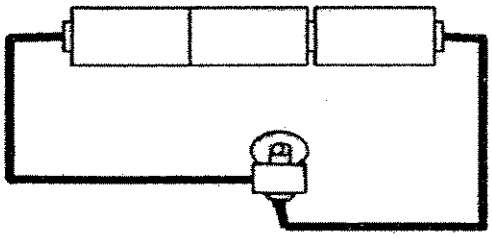
23. Mary used new batteries and bulbs of similar voltage to set up 4 circuits as shown below.



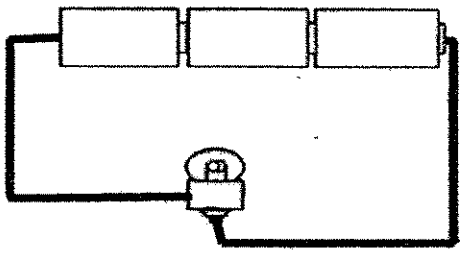
Set-up A



Set-up B



Set-up C

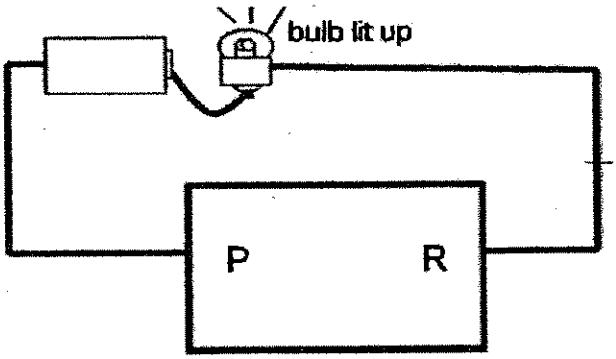


Set-up D

In which set-up would the bulb be the brightest?

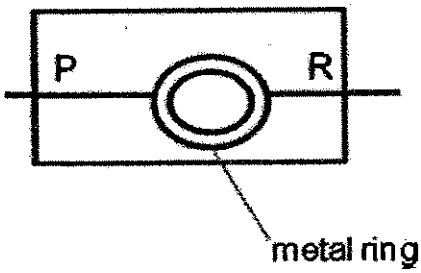
(1) A
(2) B
(3) C
(4) D

24. The diagram below shows a circuit set up by Bala. The sides of the wooden box were marked P and R, and there was an object inside the box.

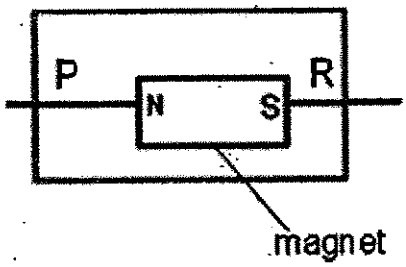


Which of the following show the objects in the box that would light up the bulb?

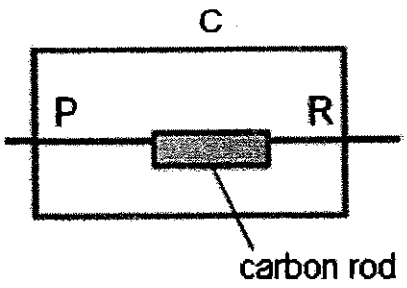
A



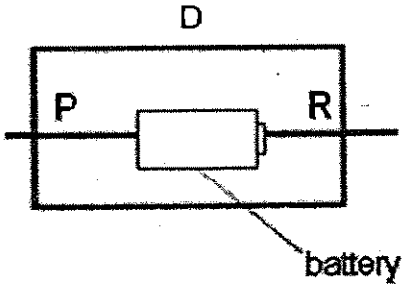
B



C

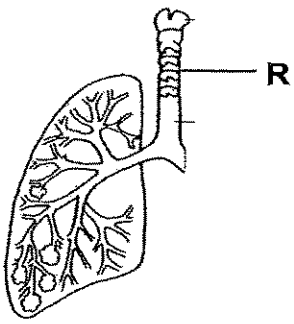


D



(1) A and B only
(2) C and D only
(3) A, B and C only
(4) A, B, C and D

25. The diagram below shows part of the human lungs.



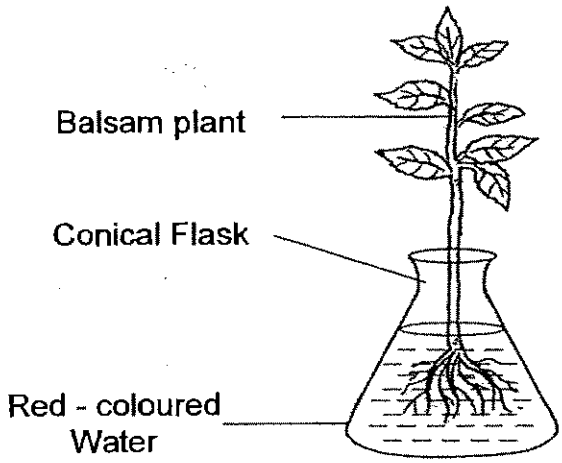
The inner part of tube R is lined with tiny hairs called the cilia. These tiny hairs are especially important if the air that you breathed in is polluted as they _____.

(1) widen the size of the tube
(2) moisten the air leaving and entering the lungs
(3) assist in gaseous exchange that will take place in the lungs
(4) trap dust and other particles that entered the nose with the air taken in

26. The table below shows the composition of four samples of air. Which one of the following samples could **most likely** have been breathed out by a person who was doing vigorous exercises?

	Composition of Air (%)		
Sample	**Carbon Dioxide**	**Oxygen**	**Water Vapour**
(1)	4	21	0.005
(2)	4	16	0.5
(3)	0.03	21	0.5
(4)	0.03	16	0.005

27. A group of pupils wanted to find out if balsam plants can absorb water without the roots. The diagram below shows the control for this experiment.



What are the variables that they should keep constant for their experimental set-up?

A Type of plant
B Number of leaves
C Presence of roots
D Amount of coloured water

(1) A, B and C only
(2) A, B and D only
(3) B, C and D only
(4) A, B, C and D

28. In which of the following part(s) of the body can the ball-and-socket joint be found?

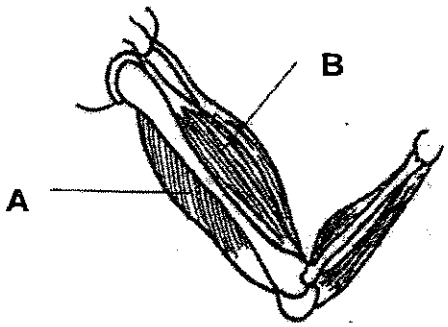
A Hips
B Knees
C Elbows
D Shoulders

(1) A only
(2) C only
(3) A and D only
(4) B and C only

29. Which one of the following parts of the skeletal system is **not** correctly matched to its intended function?

	Part of the Skeletal System	Function
(1)	Skull	Protects the brain
(2)	Backbone	Protects the spinal cord
(3)	Rib cage	Protects the heart and lungs
(4)	Hip bone	Protects the muscles in the lower part of the body

30. The following diagram shows the state of muscles, A and B, when the arm is bent.



Based on the above diagram, which one of the following options describes correctly the muscles when the arm is **straightened**?

	Muscle A	Muscle B
(1)	Contract	Relax
(2)	Contract	Contract
(3)	Relax	Relax
(4)	Relax	Contract

南洋小學

NANYANG PRIMARY SCHOOL

PRIMARY FIVE SCIENCE

SEMESTRAL ASSESSMENT 2

2007

BOOKLET B

Date : 26 October 2007

Duration : 1 h 45 min

Name : _____ ( )

Class: Primary 5 ( )

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

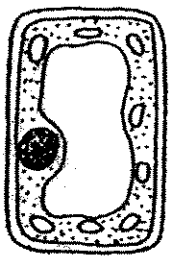
Parent's signature: .....

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

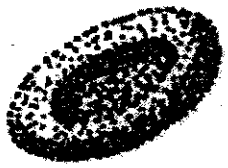
Booklet B consists of 17 printed pages including this cover page.

Section B (40 marks)
Write your answers to questions 31 to 46 in the spaces provided.
Marks will be deducted for misspelt key words.

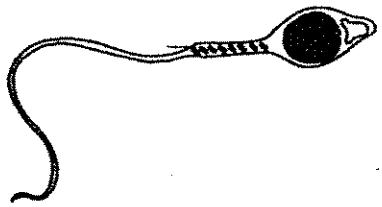
31. The pictures below show some animal and plant cells.



Cell A



Cell B



Cell C

(a) Which one of the above cells is needed for fertilization to take place? (1 mark)

_____

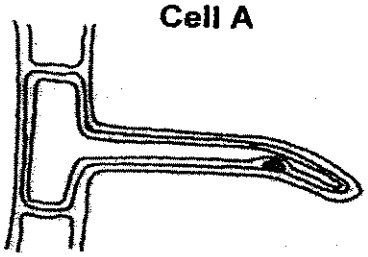
(b) Which one of the above cells could most likely make food for the plant? Give a reason for your answer. (2 marks)

_____

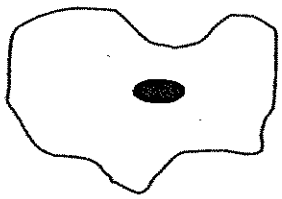
_____

32. Study the following cells carefully.

Cell A



Cell B



Based on the above diagrams, give a difference and a similarity between the 2 cells above. (Do not compare the size and colour.)
(2 marks)

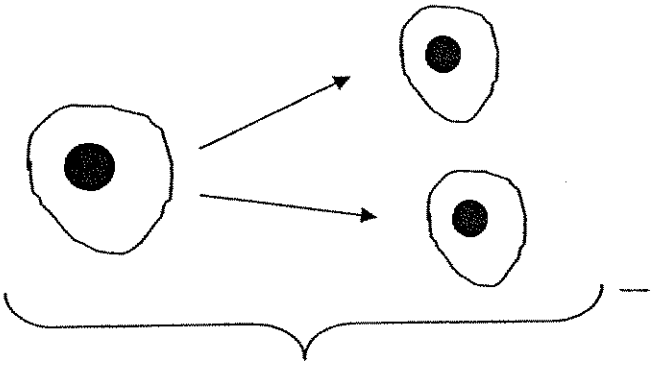
Similarity - _____

_____

Difference - _____

_____

33. The diagram below shows a process that the human cell undergoes.



1 Stage

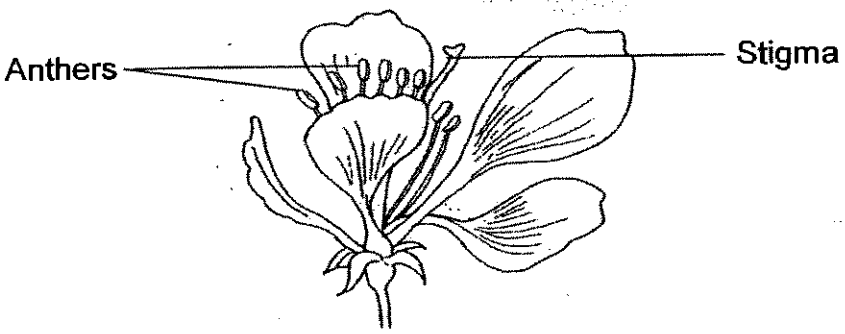
(a) Name the above process. (1 mark)

_____

(b) How many stages must the cells undergo so that there will be 64 cells after some time? (1 mark)

_____

34. Study the following diagram.



Flower X

(a) How is flower X most likely to be pollinated? (1 mark)

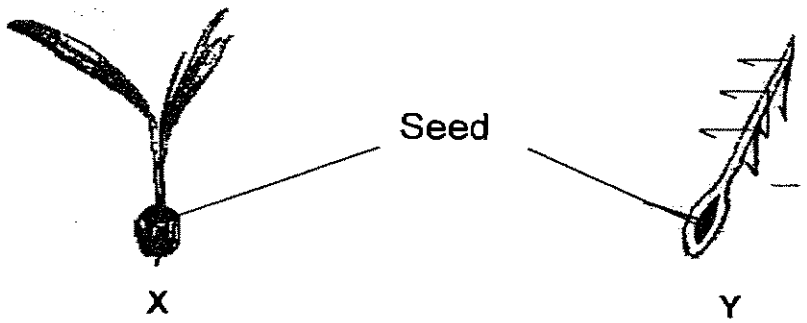
_____

(b) Based on the diagram, how is the chance of self-pollination **reduced** in this plant? (1 mark)

_____

_____

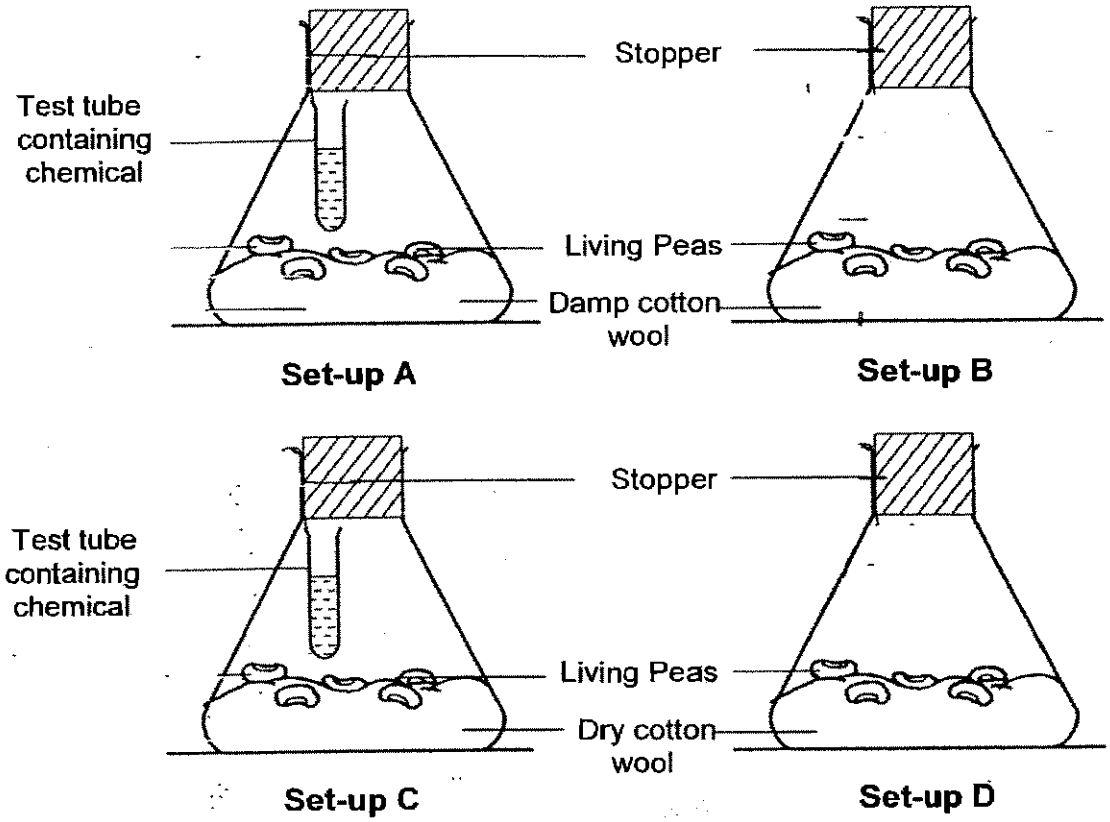
35. The diagrams below show 2 fruits, X and Y (not drawn to scale).



In the table below, suggest how the two fruits are likely to be dispersed and state the structures that help them in their dispersal. (2 marks)

Fruit	Method of Dispersal	Structures
X		
Y		

36. Rafi was given the following set-ups to find out if oxygen is required for respiration to take place in the peas.



The chemicals in Set-ups A and C are used to remove oxygen.

a) He chose to use Set-ups A and C for his experiment. His teacher told him that he had made the wrong choices. Give a reason why his choices were wrong. (1 mark)

_____

_____

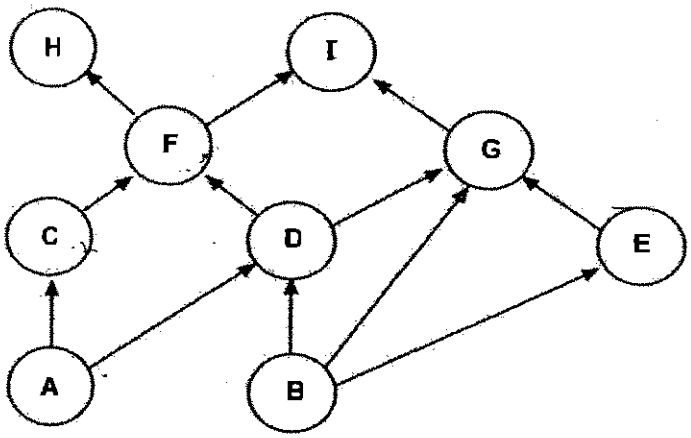
b) Which of the above set-ups should he use instead to verify the aim of the experiment? (1 mark)

_____

c) If he were to use Set-ups B and D to conduct another experiment, what would be the aim of his new experiment? (1 mark)

_____

37. The following diagram shows a representation of a particular food web in a habitat. Organisms A to I represent the organisms in this food web.



(a) Based on the above diagram, organism A is a food producer. Which other organism is also a food producer? (1 mark)

_____

(b) Organism C feeds on plants. What is the diet of organism G? (1 mark)

_____

(c) If the population of organism F was wiped out due to a disease, which **population(s)** will decrease greatly **first**? (1 mark)

_____

(d) Based on the above diagram, write down a complete food chain that involves **only 3** organisms. (1 mark)

_____

38. Jack placed some sand into a plastic container. He measured the temperature of the sand before covering the container. Then he shook the container for 5 minutes and measured the temperature of the sand immediately after.

(a) Explain why the temperature of the sand was higher after shaking. (1 mark)

_____

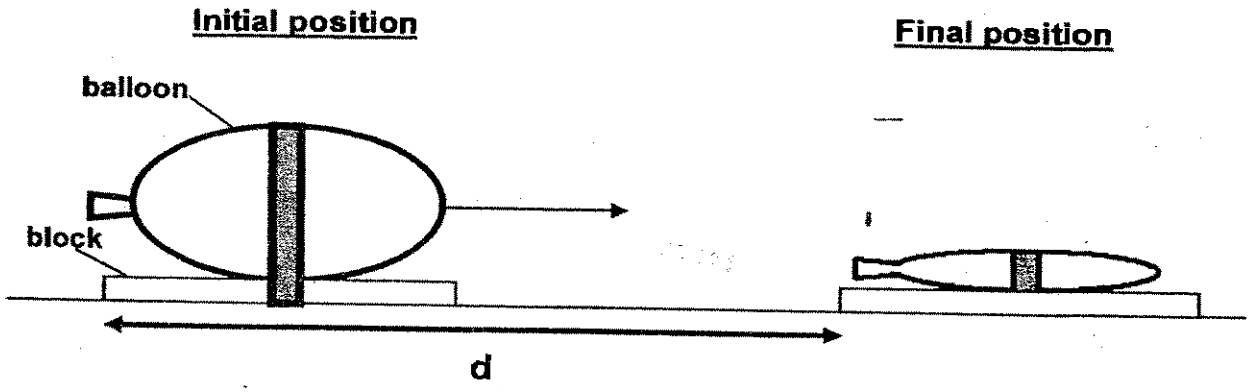
_____

(b) What is the effect on the temperature of the sand if some oil was added to it before it was shaken for 5 minutes? (1 mark)

_____

_____

39. The diagram below shows a toy which Siti had made with a block and a balloon. 50 cm^3 of air was pumped into the balloon and it was then released. The distance, d, moved by the toy was measured.



The table below shows the data collected for different amounts of air pumped into the balloon. The distance, **d**, was not measured when 150 cm^3 of air was pumped into the balloon.

Amount of air (cm^3)	Distance, d (cm)
50	20
100	34
150	?
200	86

(a) Explain why Siti should have taken 3 readings of '**d**' for each volume of air pumped into the balloon. (1 mark)

_____

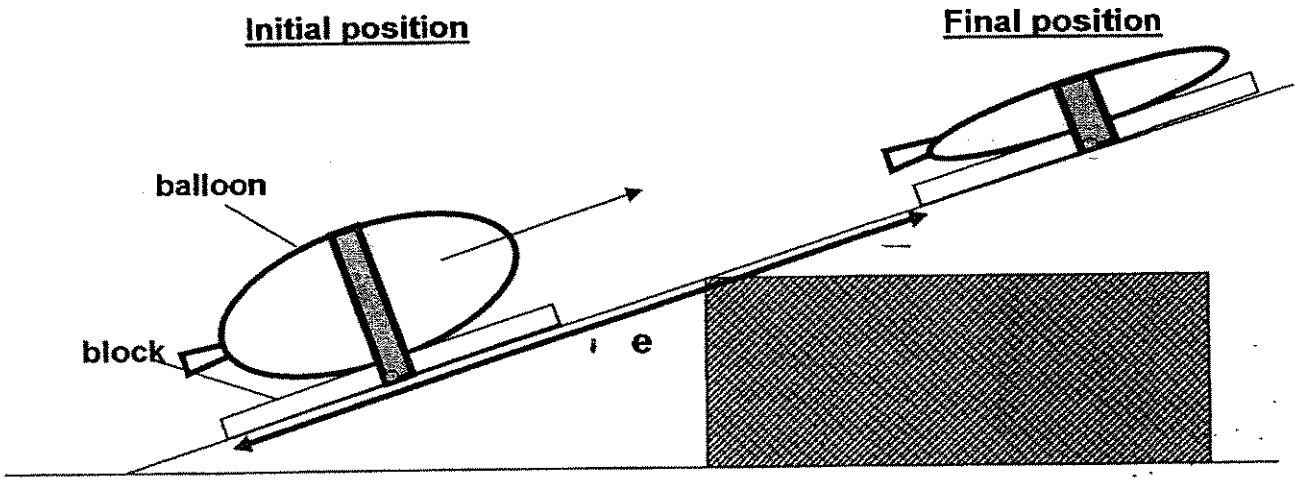
_____

(b) What would the distance, **d**, most likely be when 150 cm^3 of air was pumped into the balloon? (1 mark)

_____

(Turn over to the next page for part (c) of the question)

The experiment was repeated with the toy moving up a ramp. The distance, **e**, moved by the toy was measured.

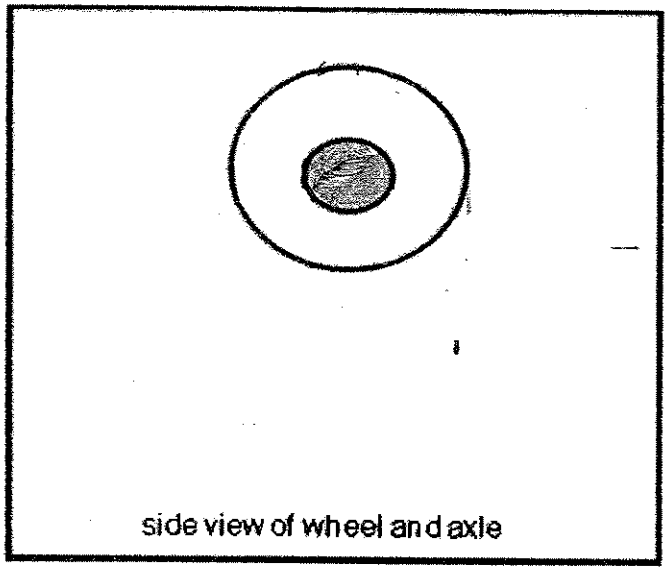


(c) When 100 cm^3 of air was pumped into the balloon and released, the distance, **e**, was lesser than 34 cm. Give a reason why this is so. (1 mark)

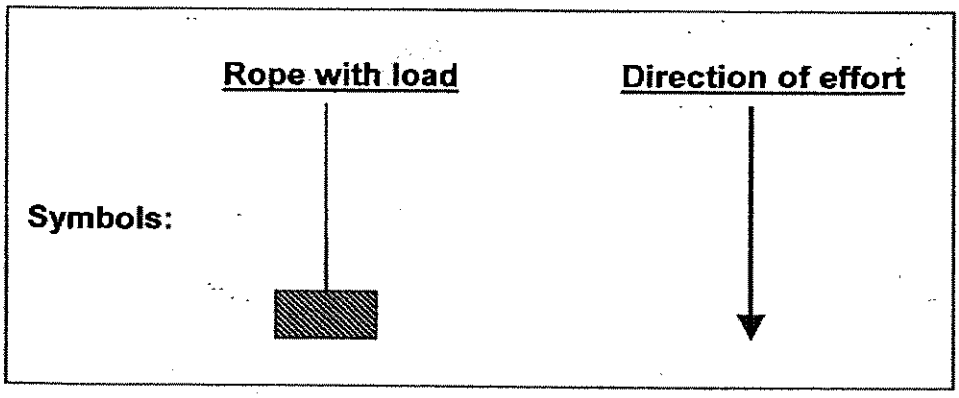
_____

_____

40. The diagram below shows the side-view of a wheel and axle.



(a) Use the 2 symbols below to **complete** the diagram of the wheel and axle above, to show how **less** effort is used to overcome the load. (1 mark)

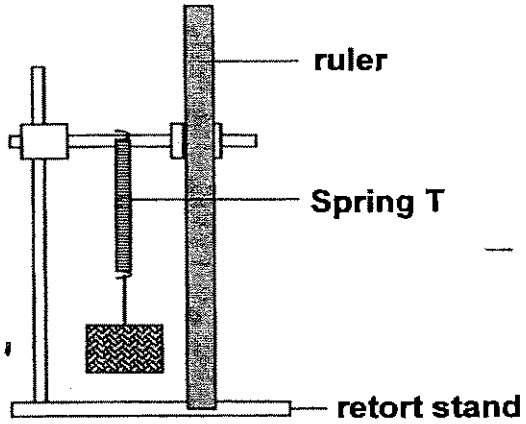


(b) Based on your answer in part (a), state one **disadvantage** of using such a wheel and axle. (1 mark)

_____

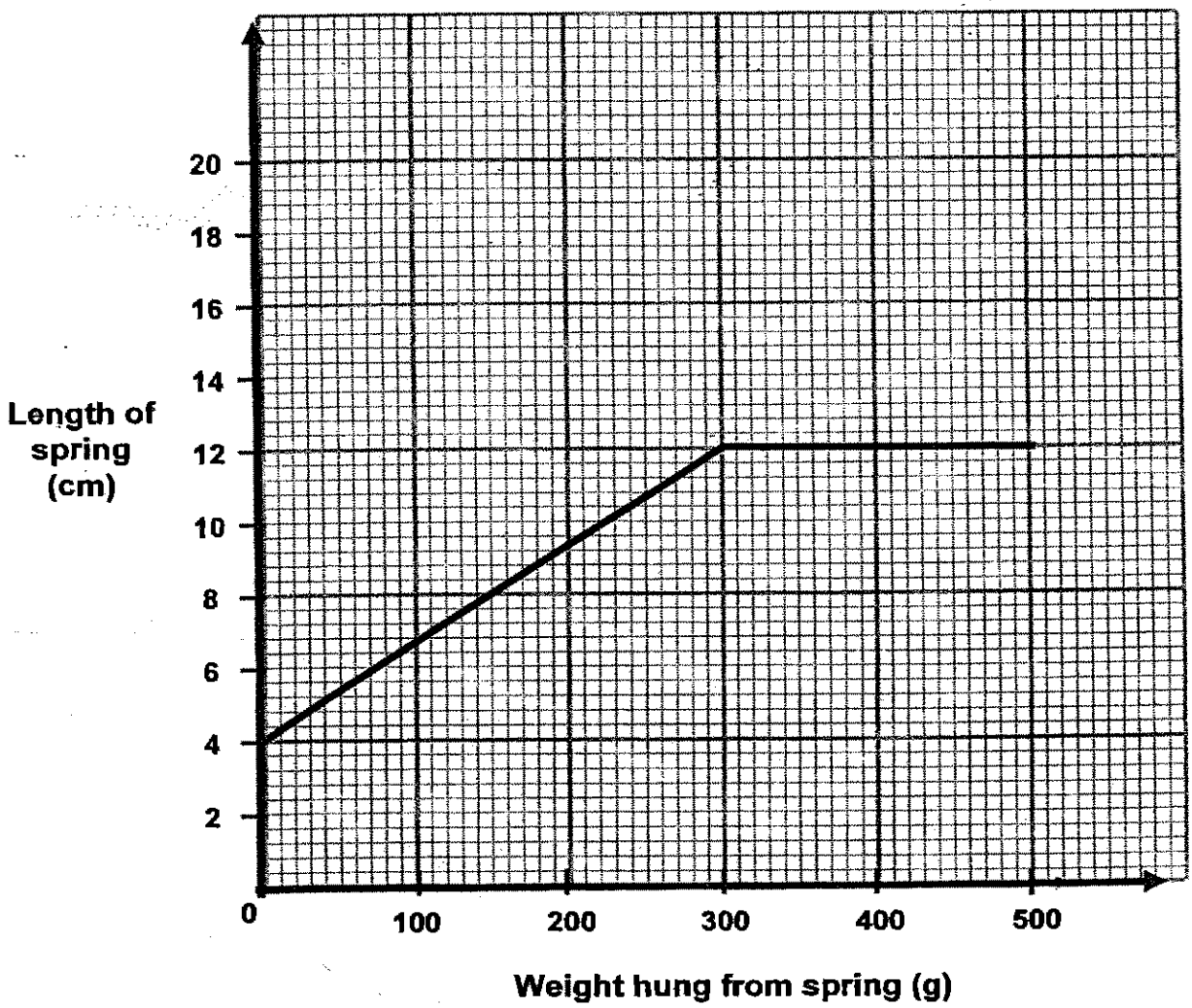
_____

41. The set-up below was used by Jill to investigate how the weight hung at the end would affect the length of the spring, T.



Jill hung different weights at the end of the spring and measured the length of the spring.

After she had collected her data, she plotted a graph as shown below.



(a) Based on the graph, what was the length of spring T before any weight was hung from it? (1 mark)

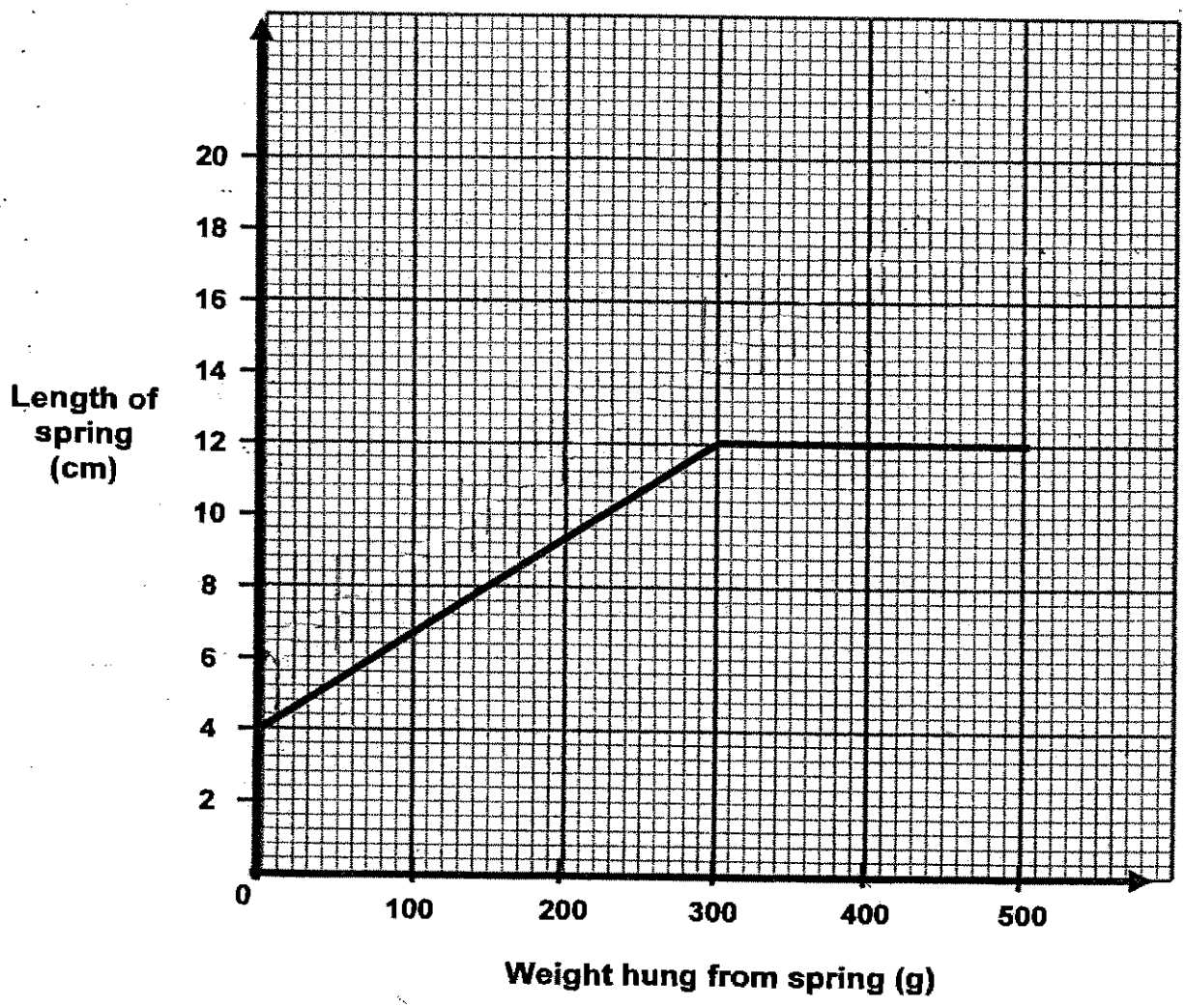
_____

(b) Jill repeated the experiment using the same set-up but with a different spring, **U**.

The original length of spring U was 6 cm and it became **permanently** stretched when a 400 g weight was hung from it.

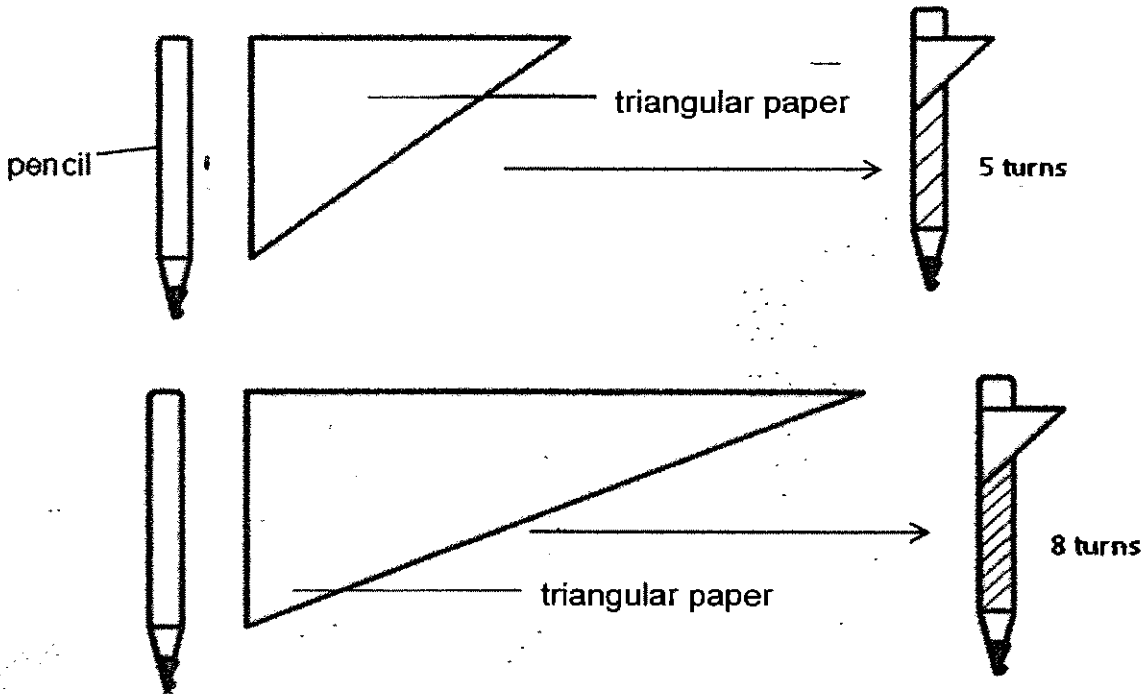
Spring U had also stretched more than spring T when the same weights were hung from both springs.

On the graph below, draw a line graph to show the results that Jill would obtain for spring **U**. (2 marks)



42. Leela was told that the thread of a screw is an inclined plane. She carried out an investigation to find out the relationship between the number of turns of the thread and the steepness of the inclined plane wrapped round the screw.

She wrapped 2 different pieces of triangular paper around a pencil and counted the number of turns as shown in the diagrams below.



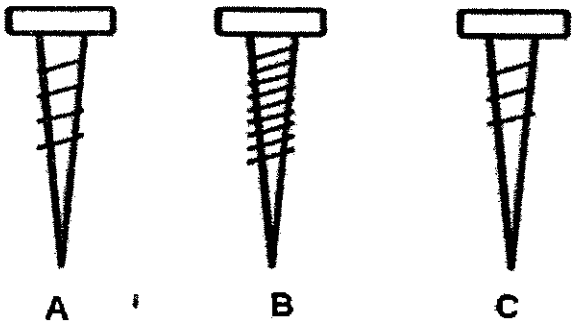
(a) From her investigation, what could she conclude about the number of turns of the thread on a screw and the steepness of the inclined plane of the screw? (1 mark)

_____

_____

(Turn over to the next page for parts (b) and (c) of the question)

Leela was given the three screws A, B and C as shown below to conduct a second experiment.



(b) Which screw would require the least effort when Leela used the same screwdriver to screw them into a block of wood? Give a reason for your answer. (2 marks)

_____

_____

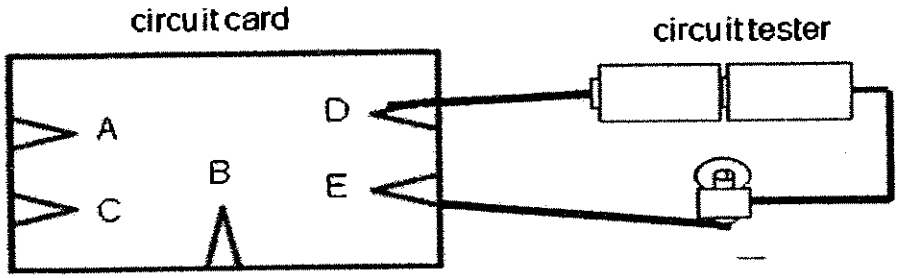
_____

(c) Inclined plane is one of the two simple machines used in a screw. What is the other simple machine? (1 mark)

_____

150

43. Study the circuit tester and circuit card below.



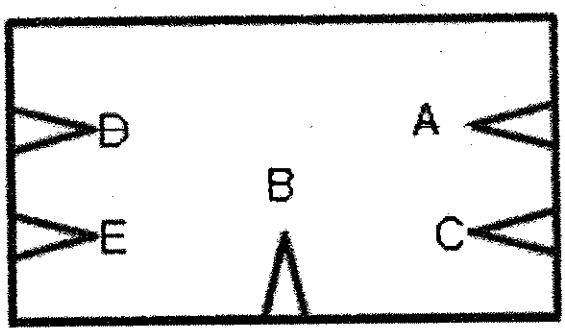
A, B, C, D and E are 5 contact points on the circuit card. The wires underneath the circuit card are not shown. When the ends of the 2 wires of the circuit tester are connected to contact points, the bulb is either lit or unlit.

The table below shows the results obtained when different pairs of contact points were connected to the circuit tester.

Points connected to circuit tester	Observation
D and E	bulb unlit
C and A	bulb lit
B and E	bulb unlit
A and D	bulb lit
A and B	bulb unlit

(a) In the diagram below, draw **only** 2 lines to represent the wires that connect the contact points for the above observations. (1 mark)

Circuit card

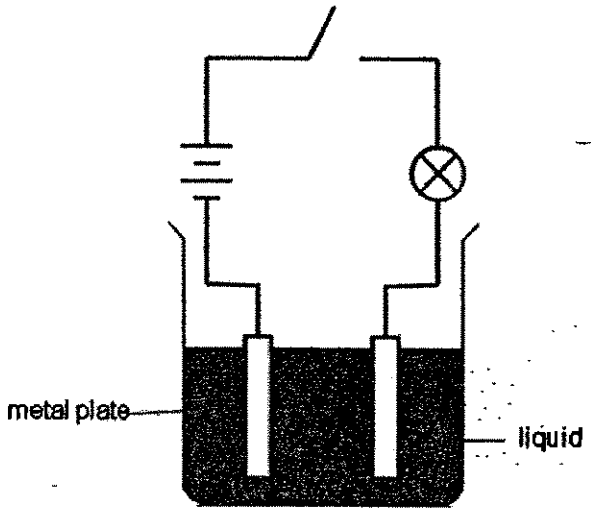


(b) Explain why the circuit card is not made of metal. (1 mark)

_____

_____

44. Jimmy wanted to find out which liquids conduct electricity. He set up the apparatus as shown below. He replaced the batteries and metal plates for each time a new liquid was tested.



The following observations were obtained.

Bulb lit up	Bulb did not light up
Seawater Vinegar	Pure water Cooking oil

(a) State 1 variable that must be kept constant for a fair experiment. (1 mark)

_____

_____

(b) Jimmy inferred that seawater is a better conductor of electricity than vinegar. What could he have observed to make this inference? (1 mark)

_____

_____

45. The table below shows a simple comparison between an artery and a vein in a human body.

	Types of Blood Vessels	
	Artery	**Vein**
Thickness of muscle in vessel	Thick	Thin
Composition of dissolved gases	Rich in oxygen	Rich in carbon dioxide

Based on the above table, the muscular tissue found in the artery is thick as compared to the vein. Explain why the layer of muscle in the artery must be thick. (2 marks)

_____

_____

_____

46. What is the difference in the composition of dissolved gases in the blood leaving the lungs as compared to the blood that is entering the lungs? (2 marks)

(i) Blood leaving the lungs - _____

_____

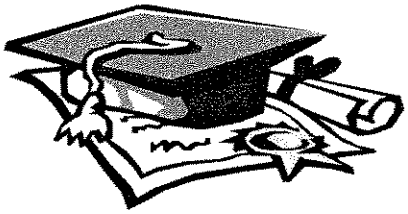
(ii) Blood entering the lungs - _____

_____

----------END OF PAPER----------

Setters: Mr Pang Kia Keng
Mrs Rachel Tan

153



ANSWER SHEET

NANYANG PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 3
2. 4
3. 2
4. 1
5. 3
6. 2
7. 1
8. 2
9. 3
10. 2
11. 4
12. 4
13. 1
14. 2
15. 1
16. 2
17. 4
18. 4
19. 3
20. 4
21. 4
22. 3
23. 4
24. 3
25. 4
26. 2
27. 2
28. 3
29. 4
30. 1

31) a) Cell c.
b) Cell A, there are chloroplast in cell A.

32) Similarity: They have nucleus.
Difference: Cell A has a fixed shape but cell B does not have a fixed shape.

33) a) Cell division is taking place.
b) 6 stages.

34) a) By animals
b) The stigma is higher than the anthers.

35) X: By wind, wing-liked structures
Y: By animals, hooks on the fruit

36) a) There is no control experiment comparison of results since there was no oxygen in both setups
b) He wanted to find out if the peas need water to germinate

37) a) Organism B
b) Both plants and animals
c) Organism H
d) Organism B→Organism G→ Organism I.

38) a) Shaking the sand caused friction between the sand thus heat was produced.

b) The temperature will be higher than before shaking

39) a) So that it is more accurate.

b) 52 cm

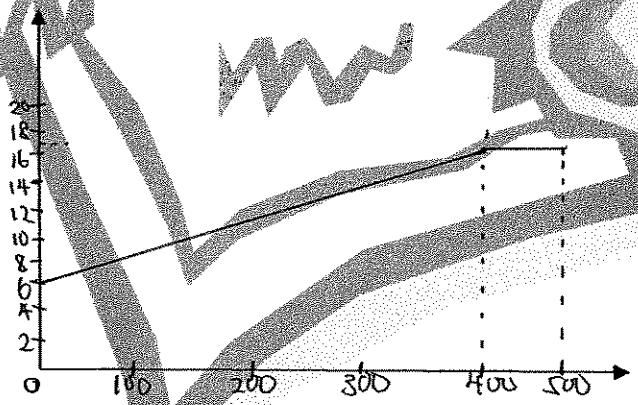
c) The balloon goes up wards the ramp but the gravitational force pull it down, therefore, lesser distance is moved by the balloon.

40) a)

b) The effort moves a longer distance than the load.

41) a) 4 cm.

b)

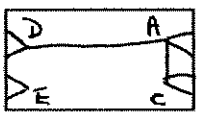


42) a) The lesser the thread, the steeper it is.

b) The lesser the number of threads on a screw the steeper the slope.

b) Wheel and axle.

43) a)



b) So that it does not conduct electricity. If it a metal and conducts electricity, wherever the wire touches on the circuit card, the bulb would lit up.

44) a) Number of batteries.
b) The bulb lit up brighter when testing in sea water than in vinegar.

45) The Artery is thick so that more energy can be carried to all parts of our body.

46) i) Rich in oxygen.
ii) Rich in carbon dioxide.

METHODIST GIRLS' SCHOOL (PRIMARY)

PRIMARY 5

END-OF-YEAR EXAMINATION 2007

SCIENCE

BOOKLET A

NAME : _____ ( )

CLASS : Pri. 5. _____

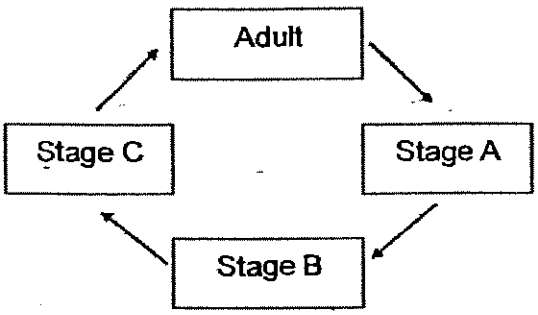
Total Time for Booklets A and B : 1h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CLOSELY.

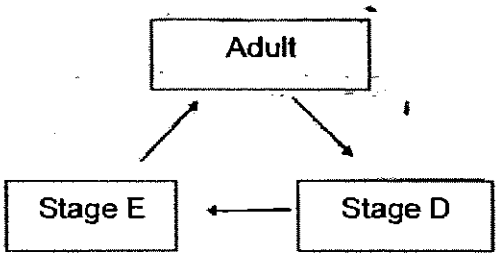
SECTION A

For questions 1 to 25, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The diagram below shows the life cycles of two animals A and B.



Life Cycle of A

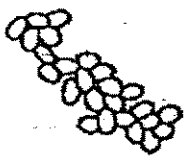


Life Cycle of B

Which option correctly identifies the animals A and B?

	A	B
(1)	Snake	Chicken
(2)	Dragonfly	Silkworm
(3)	Housefly	Platypus
(4)	Moth	Guppy

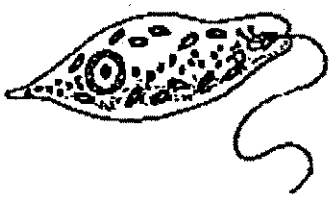
2. Which of the following single-celled organism has the ability to make its own food in the presence of sunlight?



(1) Yeast

(2) Paramecium

(3) Amoeba

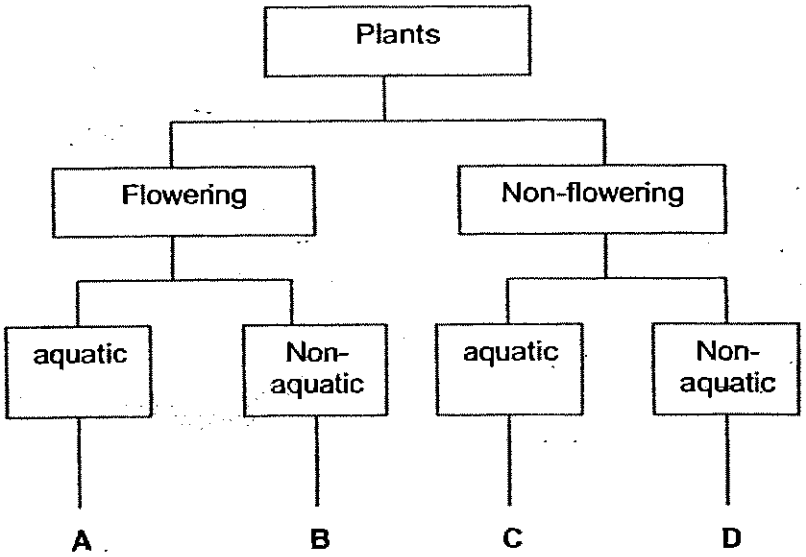


(4) Euglena

3. The following table gives information on four plants W, X, Y and Z, based on two characteristics. A tick shows that the plant has the characteristic.

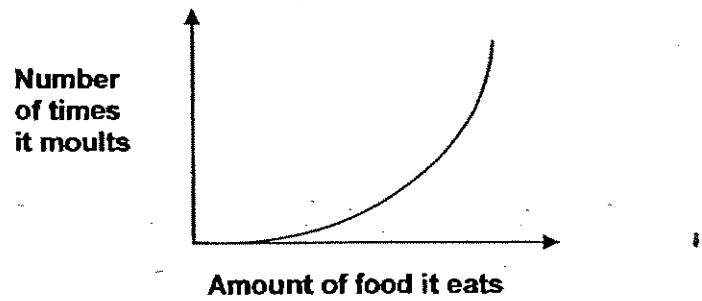
Characteristic	W	X	Y	Z
Bears fruit		√		√
Grows on land	√			√

From the information, where do plants W, X, Y and Z belong in the following classification table?



	Plant W	Plant X	Plant Y	Plant Z
(1)	A	C	B	D
(2)	B	D	A	C
(3)	C	A	D	B
(4)	D	A	C	B

4. The graph below compares the number of times a larva moults with the amount of food it eats.



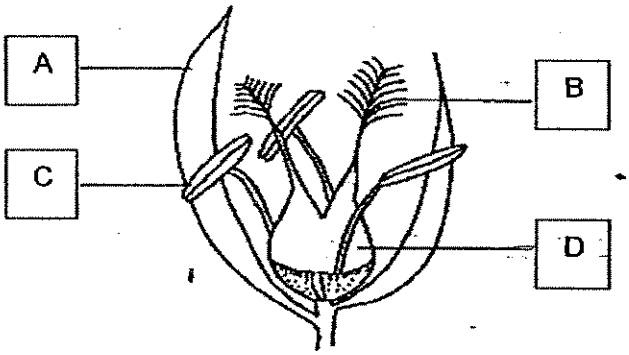
Which one of the following explains the shape of the graph?

(1) The more the larva eats, the more often it moults.
(2) The more the larva eats, the less often it moults.
(3) The less the larva eats, the more often it moults.
(4) The amount of food eaten by the larva has nothing to do with the number of times it moults.

5. Which of the following animals produce young that do not look like them?

	List of Animals
(1)	Giraffe, Butterfly, Moth, Shark
(2)	Mosquito, Frog, Mealworm beetle, Bee
(3)	Cockroach, Grasshopper, Duck, Horse
(4)	Guppy, Crocodile, Platypus, Ant

6. The following diagram shows parts of a wind-pollinated flower.

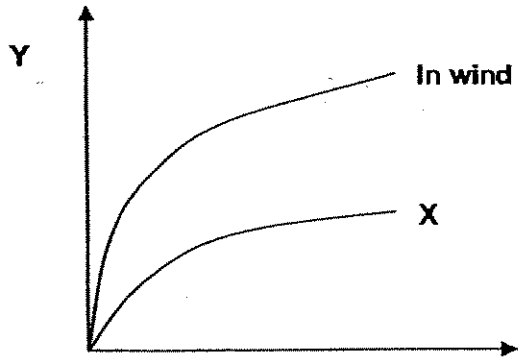


Which of the following statements incorrectly state the function of each part?

A – Is colourful and produces nectar to attract insects for pollination.
B – Small and sticky to receive pollen grains.
C – Large amount of small, dry and smooth pollen grains are produced here.
D – Develops into a fruit.

(1) A and B
(2) B and C
(3) A and C
(4) C and D

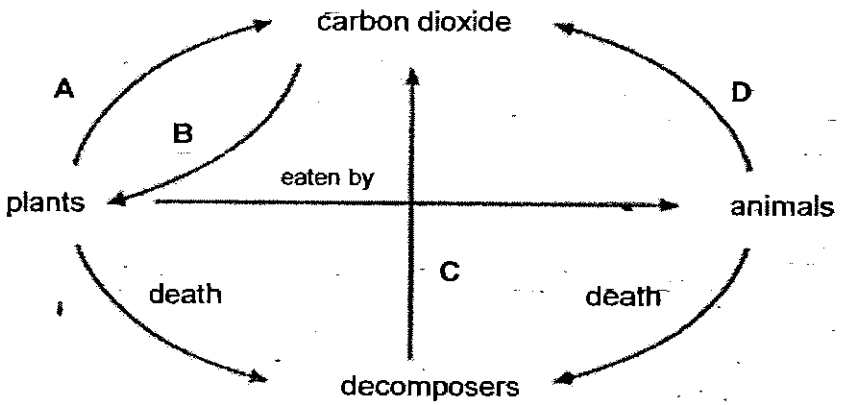
7. The average size of stomata will change during different times of a day according to the conditions of the environment.
The relationship between the size of stomata opening in a plant and the rate of transpiration is shown in the graph below.



The graph however is not complete because of missing information **X** and **Y**.
What could **X** and **Y** represent?

(1) **Y** – The rate of transpiration; **X**– In still air
(2) **Y** – The rate of transpiration ; **X** – In the rain
(3) **Y** – The number of stomata found in the leaves; **X** – In still air
(4) **Y** – The number of stomata found in the leaves; **X** – In the rain

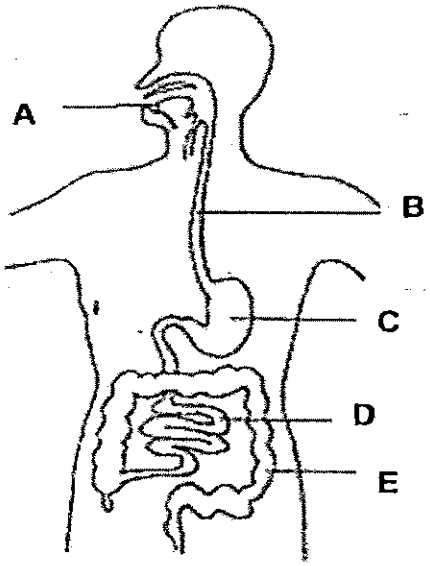
8. Study the diagram below.



The process of photosynthesis and respiration can be represented by _____.

	Photosynthesis	Respiration
(1)	A	B
(2)	A	B, D
(3)	B	A
(4)	B	A, D

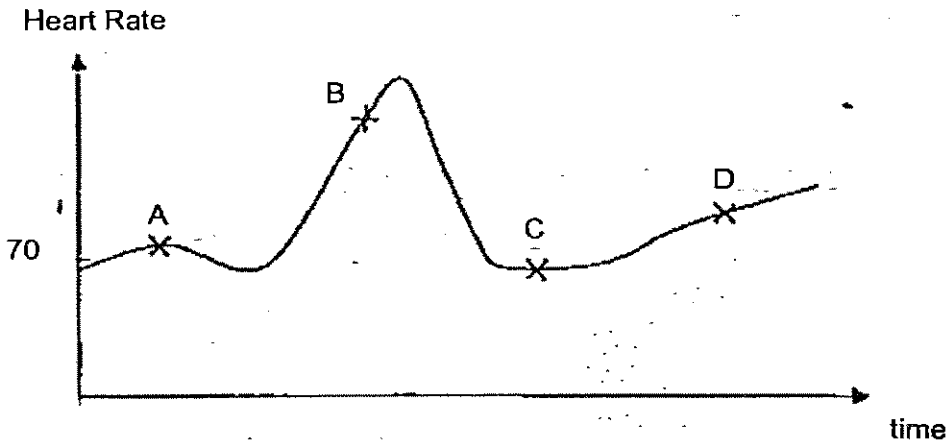
9. The diagram below shows the human digestive system.



No digestion takes place in parts _____.

(1) B and E
(2) D and E
(3) A, C and D
(4) C, D and E

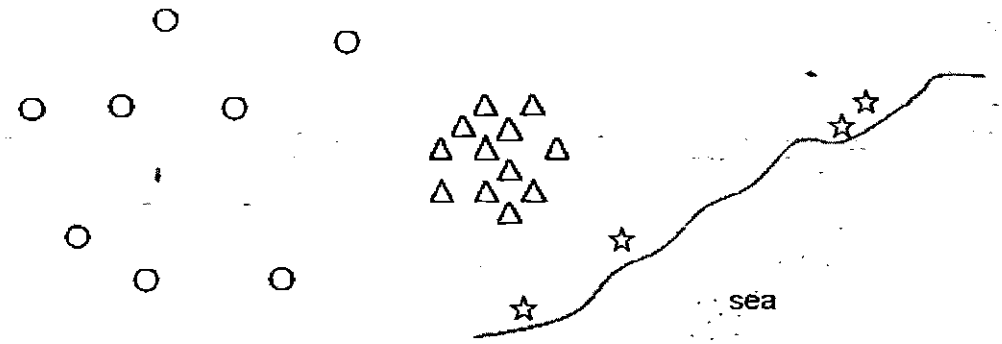
10. The heart rate of a person who is resting is about 70 beats in one minute.
The following graph shows Pamela's heart rate over a few hours.



Which one of the following shows correctly Pamela's activity and her heart rate?

	A	B	C	D
(1)	sleeping	skipping	walking	sitting
(2)	sitting	skipping	sleeping	walking
(3)	sleeping	walking	running	sitting
(4)	walking	sitting	running	sleeping

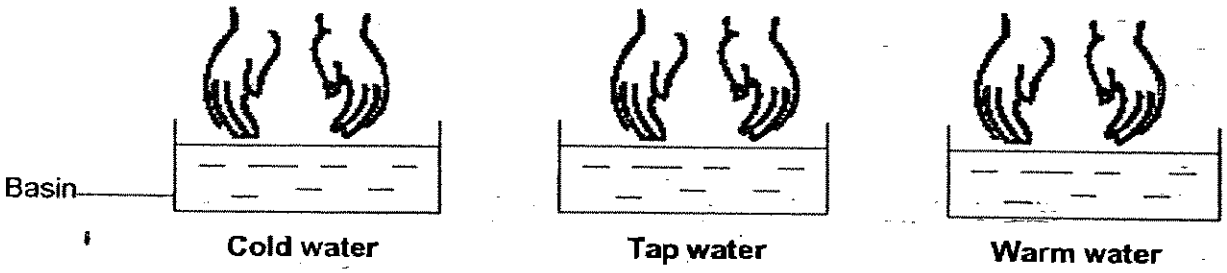
11. The following picture shows how different species of plants are dispersed.



Which of the following represents △ ?

(1) African Tulip
(2) Coconut
(3) Flame of the Forest
(4) Lotus

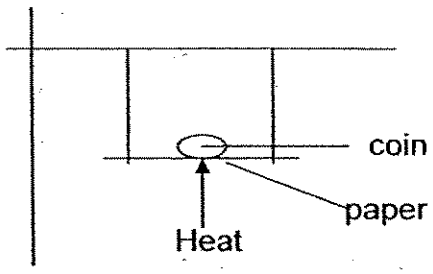
12. There are 3 basins of water of different temperatures. Gladys conducted an experiment by placing her hands in the different basins to find out how her skin would feel.



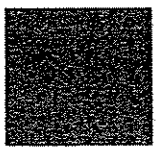
Which one of the following correctly shows the steps Gladys should take in order for the skin on her hands to feel warm at first, cool and then warm again?

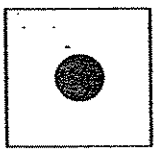
Procedure	Step 1	Step 2	Step 3
(1)	Place hands into warm water	Place hands into cold water	Place hands into tap water
(2)	Place hands into cold water	Place hands into warm water	Place hands into tap water
(3)	Place hands into tap water	Place hands into warm water	Place hands into cold water
(4)	Place hands into tap water	Place hands into cold water	Place hands into warm water

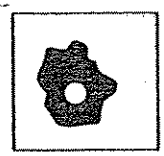
13. Dennis placed a coin on a piece of paper and heated it.



Which one of the following diagrams most closely shows the effect of heating on the paper after one minute?

(1)


(2)


(3)


(4)

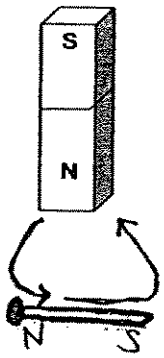

14. The table below shows the state of four substances, A, B, C and D, at different temperatures.

Substance	State of Substance at		
	20°C	40°C	60°C
A	Solid	Solid	Solid
B	Solid	Liquid	Liquid
C	Solid	Solid	Liquid
D	Liquid	Liquid	Liquid

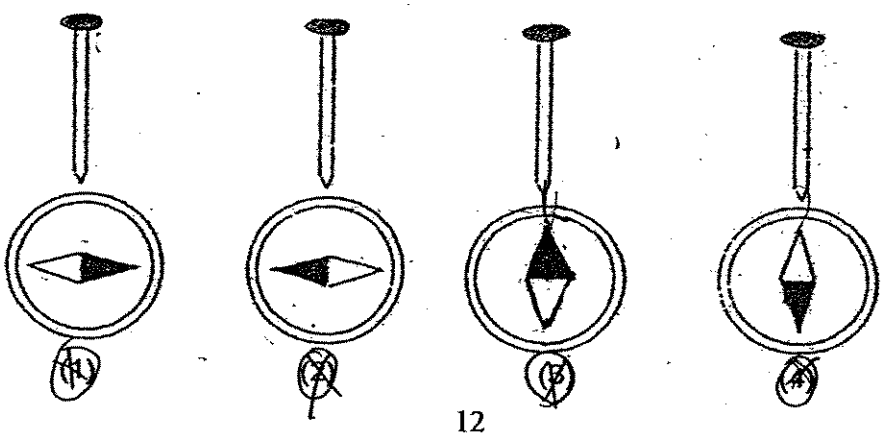
Which of the following statements is correct?

(1) Substance D has the lowest boiling point.
(2) Substance A has the highest melting point.
(3) The melting point of Substance B is above 40°C.
(4) The boiling point of Substance C is below 60°C.

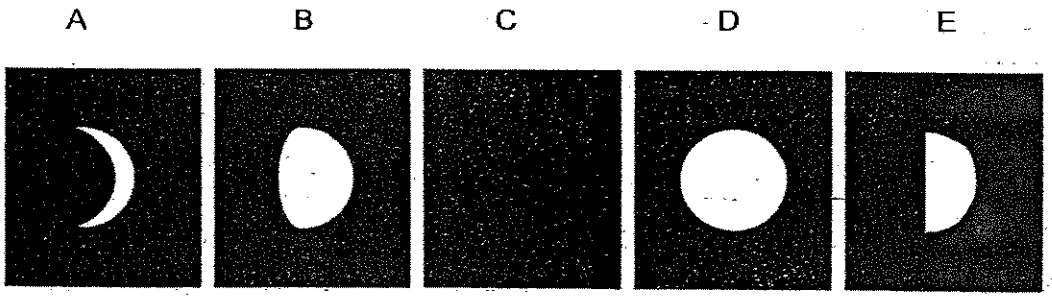
15. An iron nail is made into a temporary magnet by stroking it with a bar magnet in the direction shown by the arrows below.



When a compass is brought near its tip, which one of the following shows the correct result?



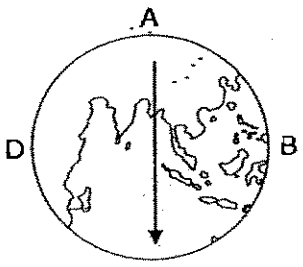
16. The diagrams below show the different phases of the Moon for a single month.
Which of the following gives the correct sequence?



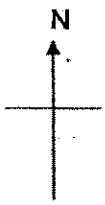
(1) C, B, D, A, E
(2) A, C, E, D, B
(3) B, E, A, C, D
(4) C, A, E, B, D

17. Which of the following arrows correctly indicates how the Earth spins?
(North is indicated by the compass rose in the middle)

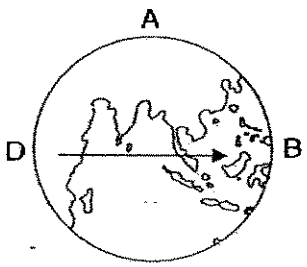
(1)



A to C

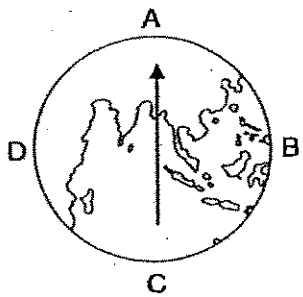


(2)



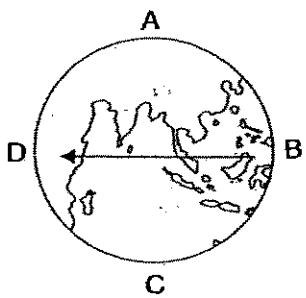
D to B

(3)



C to A

(4)



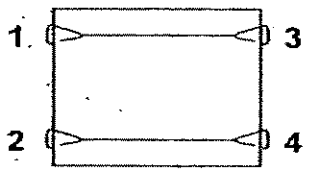
B to D

18. A circuit card is tested with a circuit tester. The results are recorded as follows:

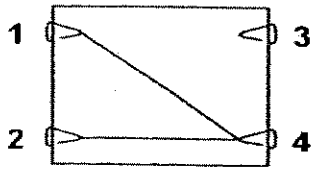
Clips Tested	Bulbs of circuit tester
1 and 3	Lights up
1 and 4	Does not light up
2 and 3	Lights up
2 and 4	Does not light up
3 and 4	Does not light up

Which diagram represents the circuit card that was tested?

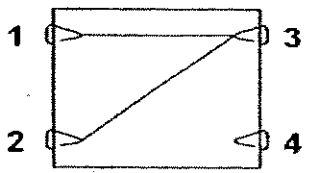
(1)



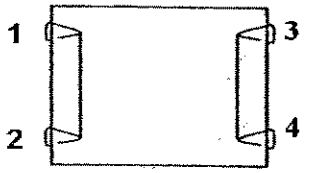
(2)



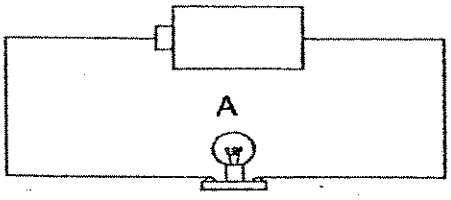
(3)

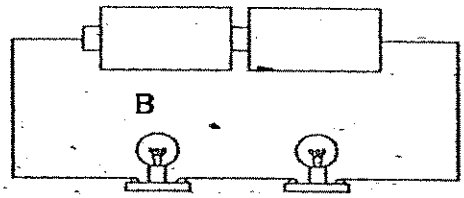


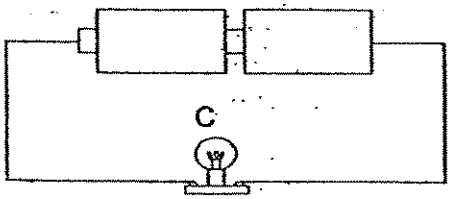
(4)

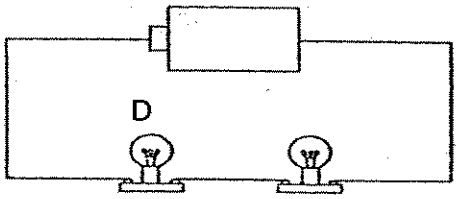


19. The diagram below shows four circuits with different arrangements of identical batteries and identical bulbs. The bulbs in all four circuits light up.









Which of the following shows the **correct** comparison of brightness among the bulbs?

	Brightness of Bulb		
	Low	Medium	High
(1)	D	A	B
(2)	D	B	C
(3)	B	C	D
(4)	B	A	C

20. Which of the following does not help to conserve electricity?

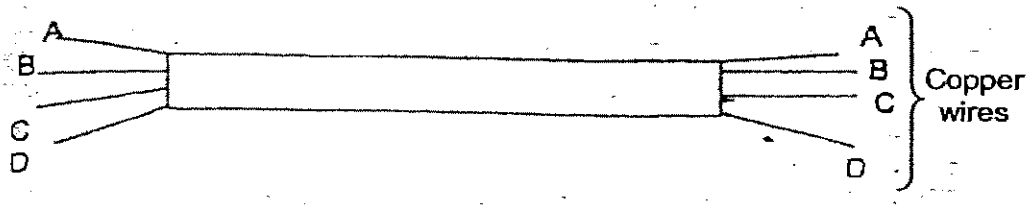
(1) Use fans instead of air-conditioners.

(2) Use energy-saving lamps instead of normal light bulbs.

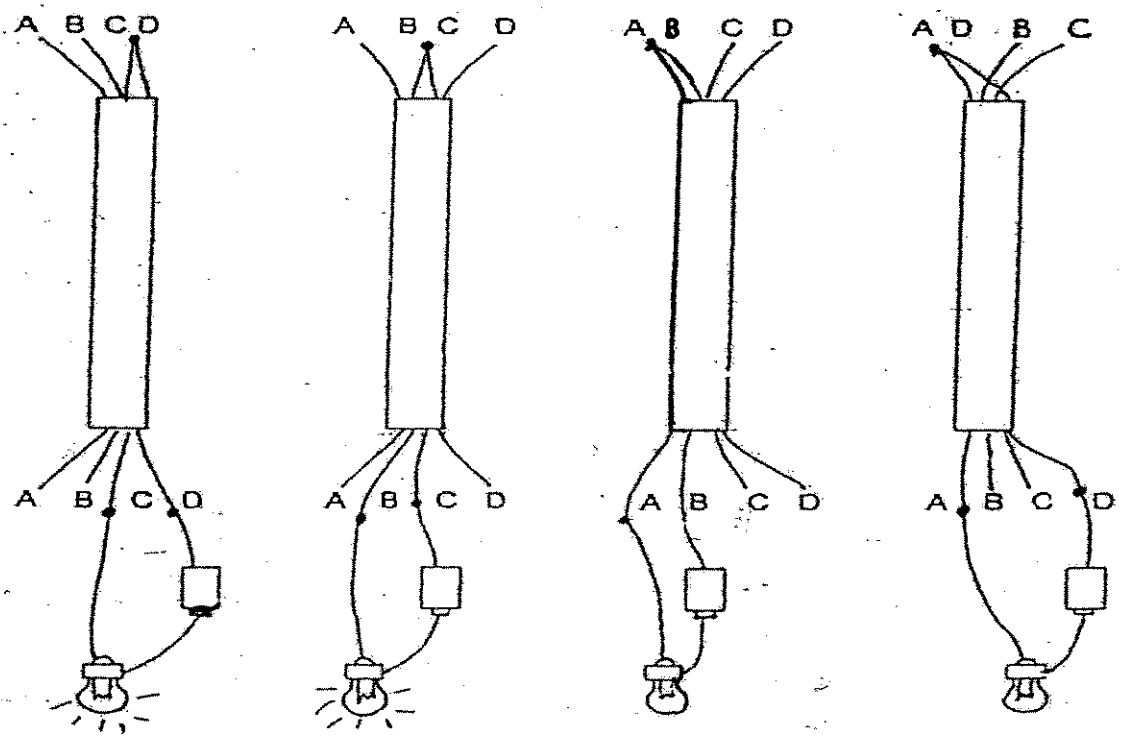
(3) Leave the lights on during the day to keep the room warm.

(4) Avoid using electrical appliances such as the television, computer and radio on stand-by mode.

21. Mrs Lee wanted to test which of the copper wires in a 2-metre insulated cable was broken.



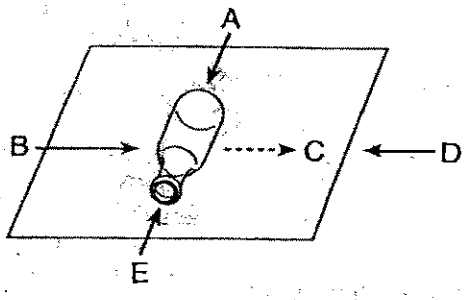
She used a simple circuit tester which was made up of a bulb connected to a battery to test the copper wires in the cable. She twisted the ends of the 2 different copper wires together and connected the corresponding ends to the simple circuit tester.



The diagrams above show the results when the circuit tester is connected to different wires. From the results shown above, which one of the copper wires in the cable was broken?

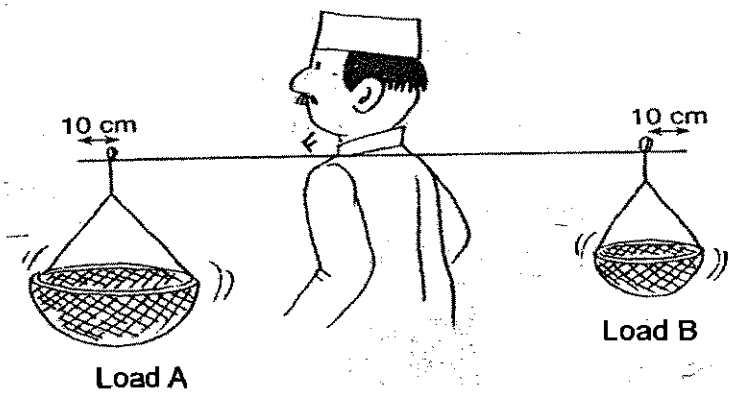
(1) A
(2) B
(3) C
(4) D

22. A bottle is rolling in the direction C. In order to make it move faster in the same direction, a force must be applied from _____.



(1) A
(2) B
(3) D
(4) E

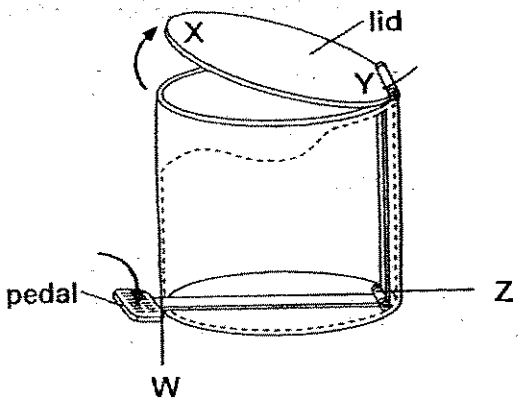
23. The diagram below shows Ahmad balancing two loads on his shoulder with a pole.



If load A is heavier than load B and the pole is supported in the middle by his shoulder, what should Ahmad do to balance the two loads?

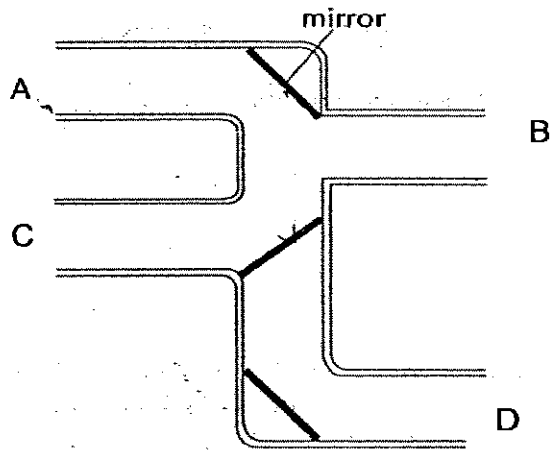
(1) Move load A closer to his shoulder.
(2) Move load B closer to his shoulder.
(3) Move both loads the same distance, closer to his shoulder.
(4) Move both loads the same distance, further from his shoulder.

24. The diagram below shows a waste bin which can be found in many households. When the pedal is pressed down, the lid of a waste bin is pushed upwards at point Y by an attached vertical rod. Which part of the bin, W, X, Y or Z is the fulcrum?



(1) W
(2) X
(3) Y
(4) Z

25. The diagram below shows a connection of pipes. Three mirrors are placed inside the pipes.



In order to see an object through the pipes, where should the eye and the object be placed respectively?

	Eye at position	Object at position
(1)	A	B
(2)	B	D
(3)	C	A
(4)	D	C

METHODIST GIRLS' SCHOOL (PRIMARY)

PRIMARY 5

END-OF-YEAR EXAMINATION 2007

SCIENCE

BOOKLET B1

Life Science

SECTION	MARKS
A (50 marks)	
B1 (19 marks)	
B2 (21 marks)	
TOTAL (90 marks)	

NAME : _____ ( )

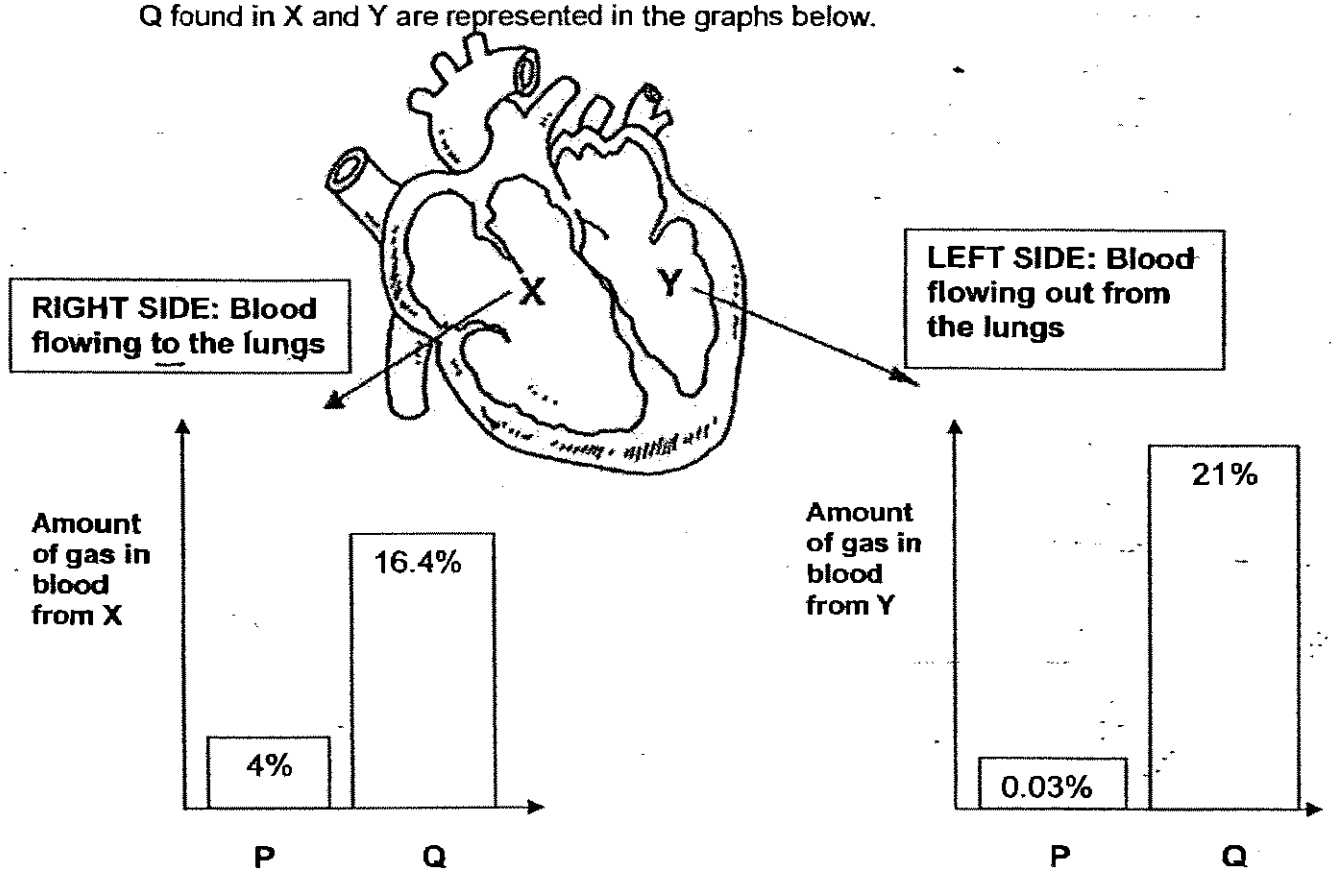
CLASS : Pri. 5. _____

Total Time for Booklets A and B : 1h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CLOSELY.

Section B1 (19 marks): For questions 26 to 32, write your answers in the spaces provided.

26. The diagram below shows a human heart and its four chambers. Two chambers are labelled X and Y. Gases P and Q are found in the chambers. The amount of P and Q found in X and Y are represented in the graphs below.



(a) Identify gas P and Q (2m)

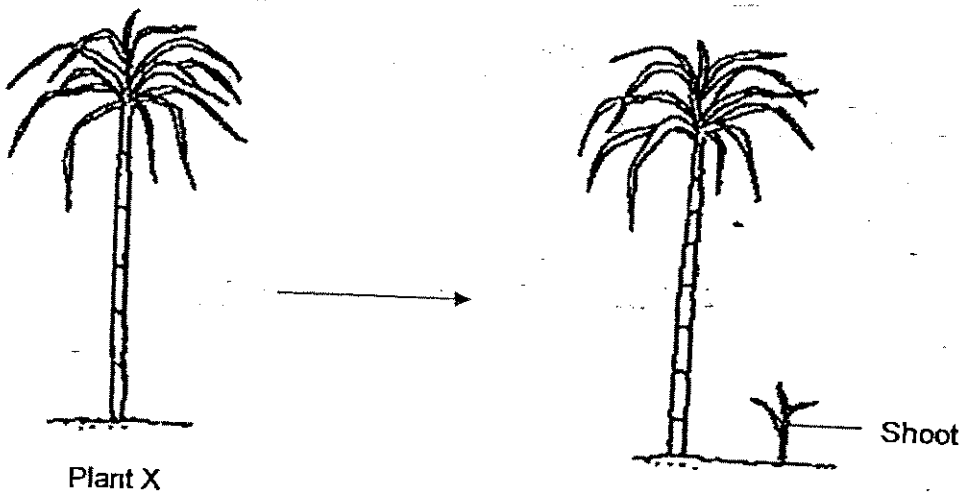
(i) P is _____

(ii) Q is _____

(b) Which system works together with the circulatory system to ensure these gases are circulated around the body? (1m)

_____

27. Study the diagram of Plant X.



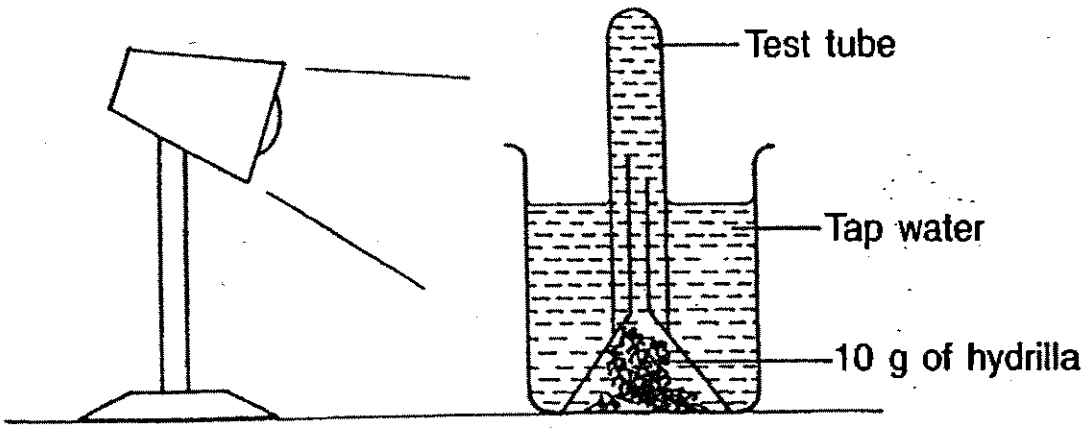
Plant X

(a) It was noted that Plant X **did not** bear flowers or fruits and yet a shoot was seen growing near the plant. What can be concluded about the method of reproduction of Plant X? (1m)

(b) (i) What obvious disadvantage can arise from such a method of reproduction? (1m)

(ii) What are the undesirable effects of such a method of reproduction? (1m)

28. May Cheng set up an experiment in a dark room as shown in the diagram below to find out whether the intensity of light affects the rate of photosynthesis.
After some time, she noticed bubbles were collected at the top of the test tube. At the end of two hours, she measured the amount of gas produced by the hydrilla. She did this by noting the height of the air column in the test tube. She repeated the above steps twice, each time using a different coloured light bulb.



(a) Name the gas collected at the top of the test tube. (1m)

_____

(b) Her teacher commented that the above set-up will not let her fulfill the objective of the experiment. What has to be changed in her set-up in order for her to fulfill her aim? (1m)

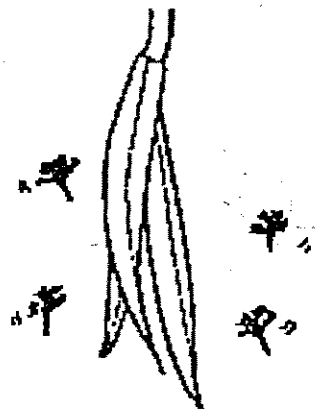
_____

(c) State the relationship between the intensity of light and the amount of gas collected in 2 hours. (1m)

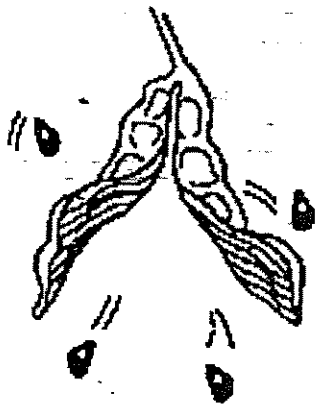
_____

_____

29. The diagram below shows two fruits, X and Y, dispersing their seeds when the fruit wall splits.



X



Y

(a) Based on your observations of the seeds, which seeds are dispersed further? (1m)

_____

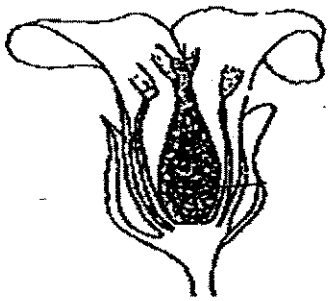
(b) Explain your answer in (a). (1m)

_____

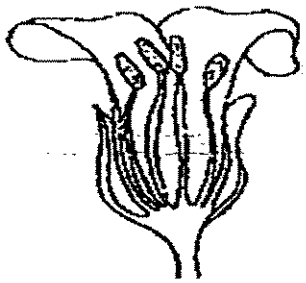
_____

30. The diagrams below show the cross-sections of two flowers.

Self-pollination occurs within the same flower at the right conditions.



S



T

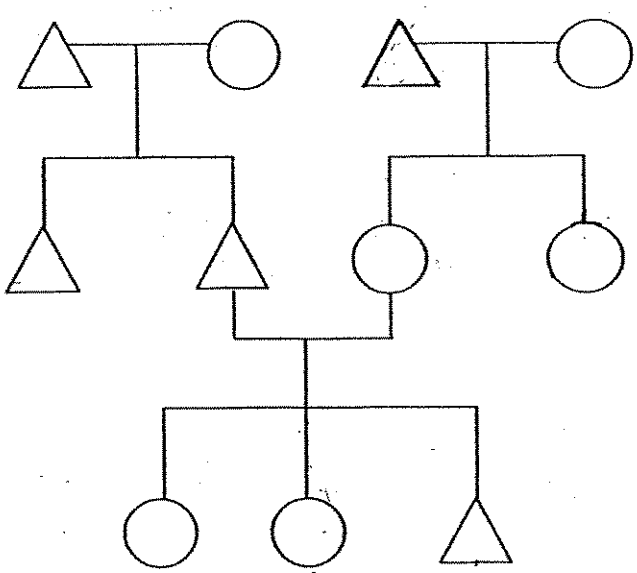
(a) Which flower can self-pollinate? Give a reason for your answer. (2m)

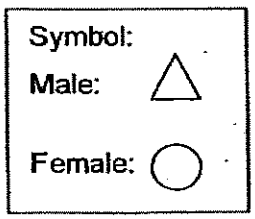
_____

_____

(b) On one of the flowers, draw a line and label to show the part that develops into a fruit after pollination. (1m)

31. Study the family tree below.





(a) Peter has one son-in-law. Shade the shape that represents Peter. (1m)

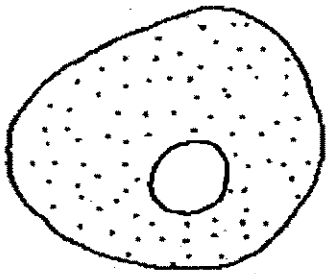
(b) How many grandchildren does Peter have? (1m)

_____

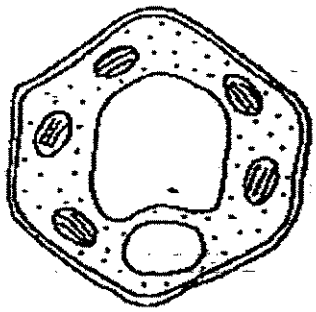
(c) Peter's grandson recently got married. Add to the family tree to show the new addition. (1m)

_____

32. The diagram below shows two cells taken from two places.



Cell X



Cell Y

From the above information, one could tell that X is an animal cell while Y is a plant cell.

(a) Some parts of the plant cell is not found in the animal cell. Name one part. (1m)

_____

A leaf of a green plant was tested with iodine solution for the presence of starch.

(b) What has to be removed in order for the test to be successful? (1m)

_____

_____

METHODIST GIRLS' SCHOOL (PRIMARY)

PRIMARY 5

END-OF-YEAR EXAMINATION 2007

SCIENCE

BOOKLET B2

Physical Science

SECTION	MARKS
B2 (21 marks)	

NAME : _____ ( )

CLASS : Pri. 5. _____

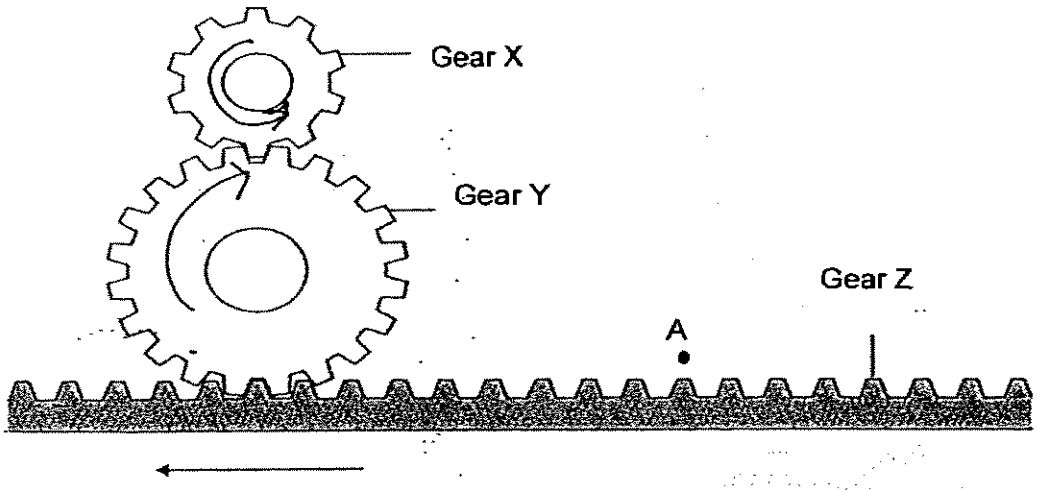
Total Time for Booklets A and B : 1h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CLOSELY.

Section B2 – Physical Science (21 marks)

For questions 33 to 41 write your answers in the space provided.

33. The diagram below shows three gears X, Y and Z. X has 10 teeth while Y has 20 and Z has 200.
(In the diagram below, only one section of Gear Z is shown)



Gear Z moves in the direction as shown in the arrow above. If 80 teeth in Gear Z pass point **A**, fill in the information in the table below. (2 m)

	Number of turns	Direction of rotation
Gear X		
Gear Y		

34. Ryan carried out an experiment to find out the effort needed to lift up some loads using two different types of pulleys. He recorded his results in the form of a table as shown below.

	Pulley A	Pulley B
Load Lifted (g)	**Effort Needed (g)**	**Effort Needed (g)**
200	250	150
400	450	250
600	650	350
800	850	450

(a) With an effort of 300 g, how much load can be lifted by each type of pulley? (1 m)

Pulley A : _____

Pulley B: _____

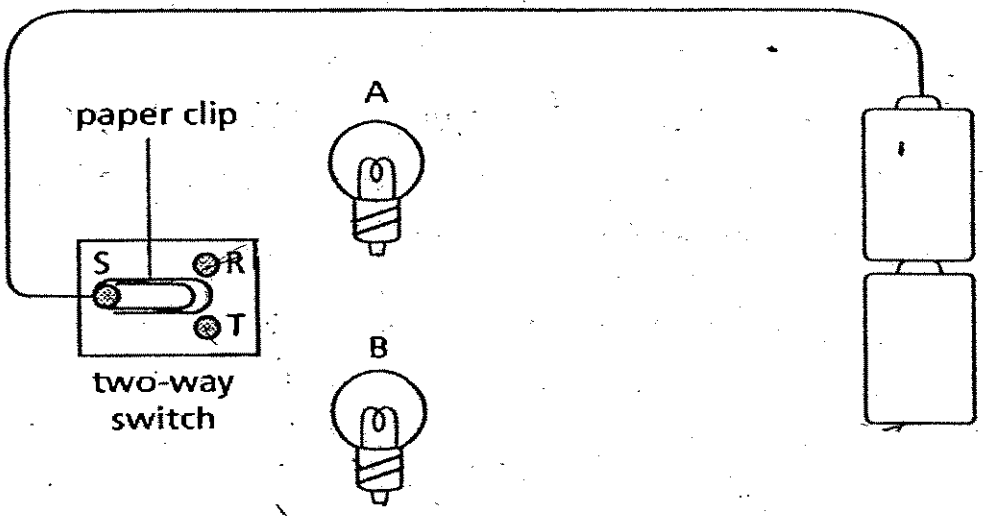
(b) Which pulley would the distance moved by the effort be greater than the distance moved by the load? ($\frac{1}{2}$ m)

_____

(c) Which pulley, A or B, is found on a flag pole? ($\frac{1}{2}$ m)

_____

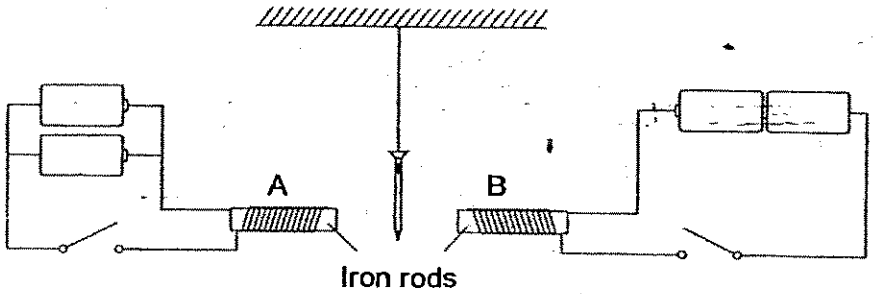
35. Teri set up a circuit shown below. There is a two-way switch which is made up of three thumbtacks, R, S and T. They are fixed on a piece of styrofoam. A paper clip is fixed such that it is able to touch either R or T to close the circuit.



(a) Draw wires on the diagram so that Teri can choose to light up either one of the bulbs by moving the paper clip between R and T. (1 m)

(b) Based on your drawing above, should the bulbs be arranged in parallel or series? (1 m)

36. Lynn set up a circuit with an iron nail suspended between two identical iron rods, A and B, which had an equal number of coils of wire around each.



(a) If both electric set-ups are closed at the same time, what will happen to the iron nail? (1 m)

_____

_____

(b) Explain your answer to (a) (1 m)

_____

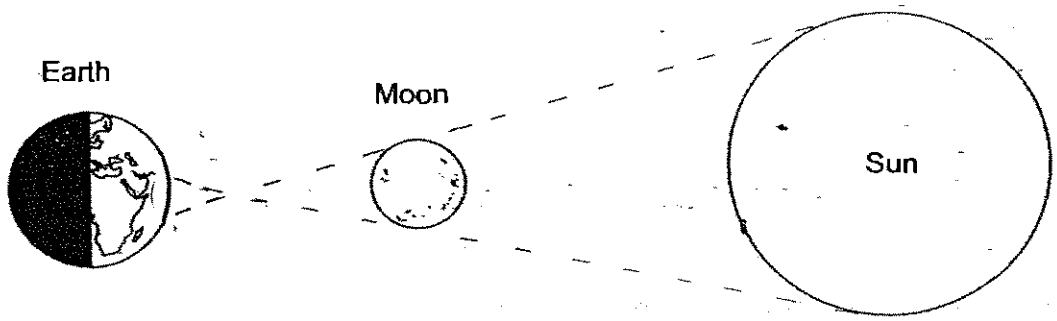
_____

(c) What can Lynn do if she wanted the nail to behave in the opposite direction without changing the number of batteries or the circuit arrangements? (1 m)

_____

_____

37. When the Earth, Moon and the Sun are in a straight line, as shown in the diagram below, the Sun will be completely blocked by the Moon and will not be visible in the sky.



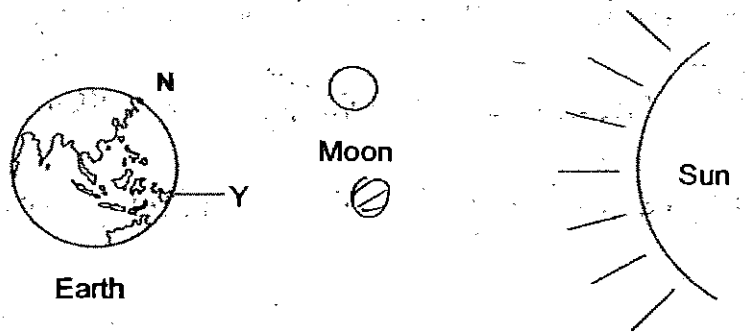
(a) Is the blocking of the Sun by the Moon observed during the day or night? Explain your answer. (1 m)

_____

_____

(b) On the diagram above, shade the specific area on Earth where the shadow of the Moon will be cast and label it **X**. (1 m)

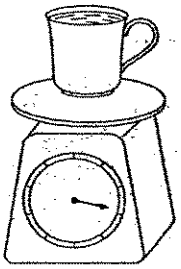
(c) In the diagram below, The Moon, Earth and Sun form a straight line when viewed from the North Pole (represented by **N**).



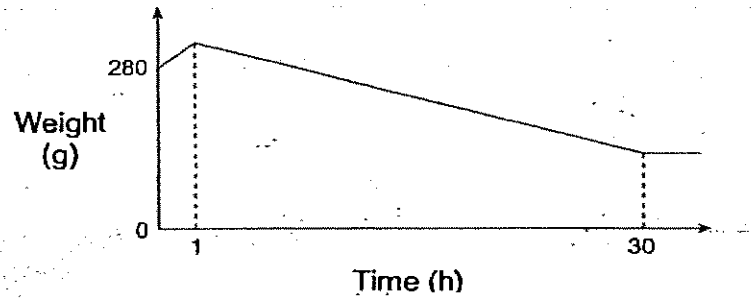
What phase of the Moon will be observed by someone living in Country Y? (1 m)

_____

38. Suresh poured 200 ml of ice-cold water into an 80 g cup and placed it on a weighing machine as shown below. He recorded the mass every hour.



The result of his experiment is shown in the graph below.



(a) What caused the slight increase in mass during the first hour as shown in the graph above? (2 m)

_____

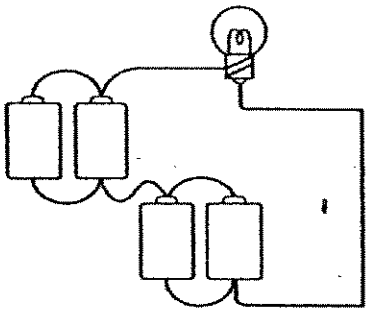
_____

(b) What may have caused the mass to decrease after the first hour? (1 m)

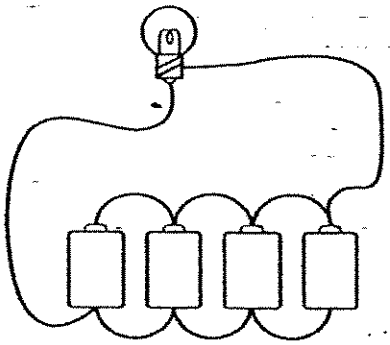
_____

_____

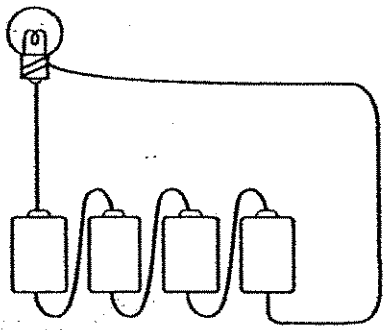
39. Alex, Brenda, Siti and Rani were each given four batteries, a bulb and some wires to make a closed circuit. The diagrams below show how each of them had arranged his/her batteries and bulbs.



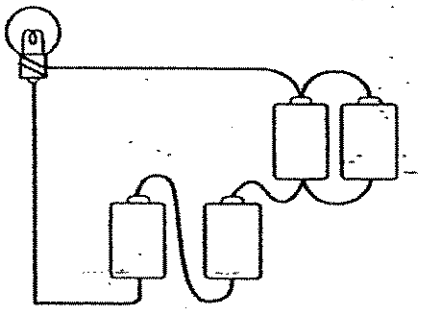
Alex



Brenda



Siti

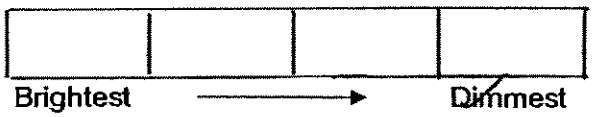


Rani

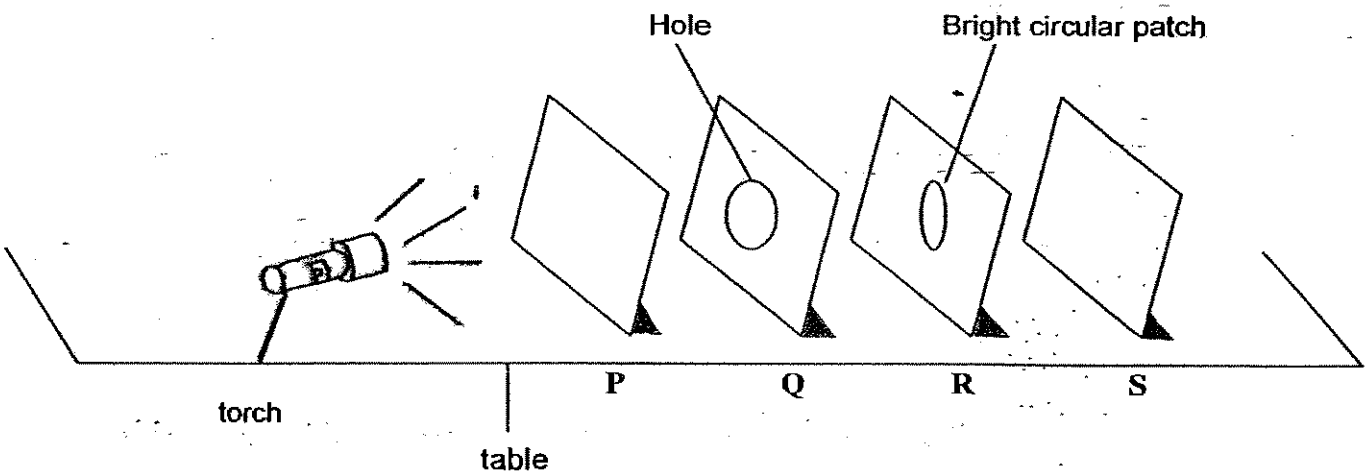
(a) Whose arrangement would ensure the supply of light would last the longest? (1 m)

_____

(b) Arrange the bulbs from the brightest to the dimmest. Write the names of the pupils in the boxes below. (1 m)



40. The following experiment was carried out in a dark room. Four sheets P, Q, R and S of different materials were arranged in a straight line on a table as shown below, equal distance between each. When the torch was switched on, a bright circular patch of light was seen clearly on sheet R only.



a) Materials can be either transparent, translucent or opaque. Based on the experiment above, identify P, Q and R.

(1m)

P: _____

Q: _____

R: _____

b) What material could Sheet Q be made of? ($\frac{1}{2}$m)

_____

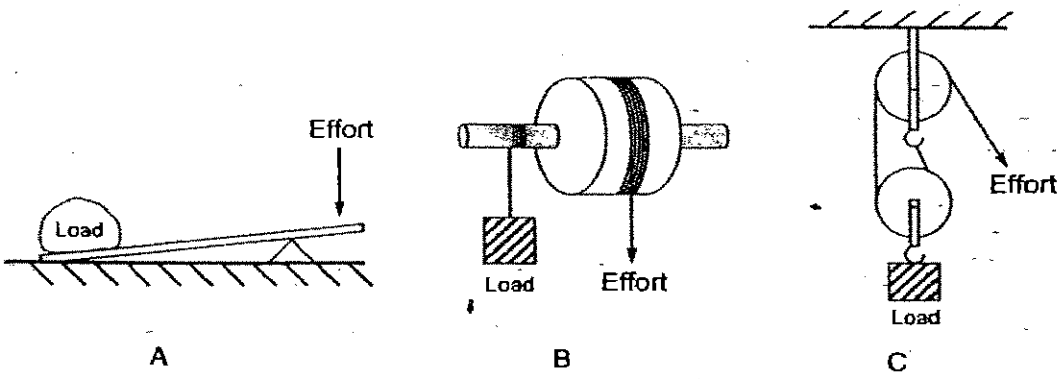
c) What property of light is demonstrated in the above experiment?

($\frac{1}{2}$m)

_____

_____

41. The diagram below shows three simple machines.



(a) Write down one similarity that Machines A, B and C has. (1 m)

_____

_____

(b) Name two ways Machine A is different from B and C. (1 m)

Difference 1 : _____

_____

Difference 2 : _____

_____

END OF PAPER

ANSWER SHEET

M G S PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 3
2. 4
3. 4
4. 1
5. 2
6. 1
7. 1
8. 4
9. 1
10. 2
11. 3
12. 1
13. 3
14. 2
15. 3
16. 4
17. 2
18. 3
19. 2
20. 3
21. 1
22. 2
23. 1
24. 3
25. 3

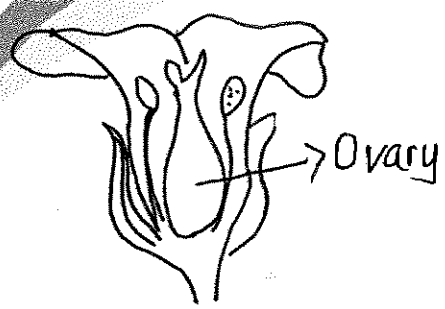
26) a) i) Carbon dioxide
ii) oxygen
b) The respiratory system.

27) a) By suckers.
b) i) Overcrowding results when young plants grow from parent plants.
ii) They compete for sunlight, water, nutrients and space.

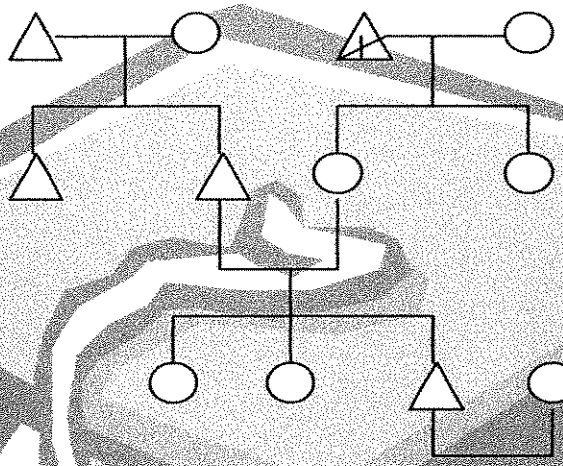
28) a) Oxygen.
b) Coloured light bulb caused to while fluorescent light of different wattage evolved/longer.
c) Stronger the intensity of light the great her the amount of oxygen gas the height of the air column the test tube.

29) a) seed X
b) As the seeds in X have a wing-like structure, the wind would carry them away and thus it will be dispersed even further.

30) a) Flower S. As there are both male and female parts of a flower in the flower, the flower can self-pollinate.
b)



31)a)



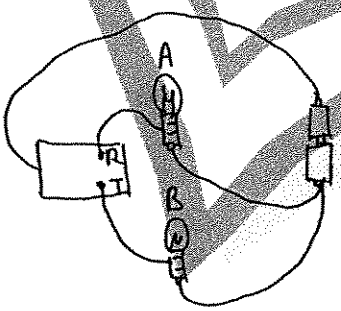
b)Three

32)a)The chloroplasts.
b)The chlorophyll.

33)X:8, Anti-clockwise
Y:4, Clock wise

34)a)A:250g
B:500g
b)Pulley B
c)Pulley A

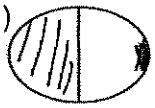
35)a)



b)In parallel.

36)a)It would be attracted to B.
b)As the batteries in B are arranged in series, there will be more current flowing to B and thus it will be a strong electric magnet.
c)Lynn could increase the amount of coils around A.

37) a) Daytime, since that side will be facing earth.

b) 

c) The crescent.

38) a) Water vapour from the surroundings condensed into water droplets on the cold cup and increased the mass.

b) The water evaporated and caused the mass to decrease.

39) a) Brenda's

b) Siti, Rani, Alex, Brenda.

40) a) P: transparent Q: opaque R: opaque

b) wood.

c) Light travels in a straight line.

41) a) They all change the direction of force.

b) 1) In A , effort moves a shorter distance than in B and C.

2) Effort required in A is more than B and C.

SINGAPORE CHINESE GIRLS' SCHOOL

SECOND SEMESTRAL ASSESSMENT 2007

NAME: _____ ( ) DATE: _____

CLASS: PRIMARY 5 (S) / C / G / SE / P

SCIENCE

BOOKLET A

30 questions

60 marks

Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Part 1 (60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

Study the table below carefully and answer Questions 1 and 2.

Group A	Group B	Group C
Cobra	Tortoise	Bat
Red snapper	Crab	Platypus
Iguana	Oyster	Zebra

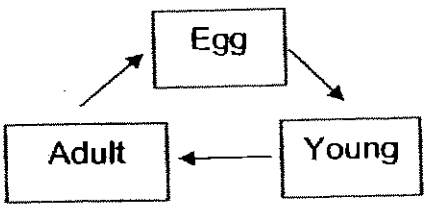
1. Some animals have been classified into three groups as shown above. Which of the following are suitable headings for the three groups?

	Group A	Group B	Group C
1)	Lay eggs	Give birth	Lay eggs
2)	Live in water	Live on land	Live on land and water
3)	Covered with scales	Covered in feathers	Covered in hair
4)	Covered with scales	Covered in hard shell	Covered in hair

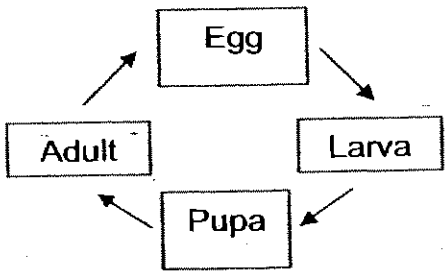
2. What is a similarity between the animals in Group A and B?

1) Live in water
2) Live on land
3) Lay eggs
4) Breathe through gills

3. Study Life Cycles A and B below carefully.



Life Cycle A



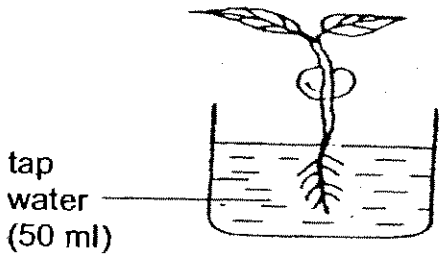
Life Cycle B

Which one of the following pairs of animals has its life cycle shown above?

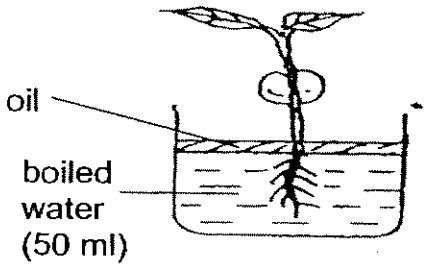
	Life Cycle A	Life Cycle B
1)	Cow	Grasshopper
2)	Cockroach	Dragonfly
3)	Grasshopper	Guppy
4)	Platypus	Fruit fly

3 stages

4. Jeremy carried out an experiment as shown below. In his experiment, he put two similar seedlings into two similar beakers with the same volume of water. In Set-up A, he used tap water while in Set-up B, he used boiled water. He also put a layer of oil on Set-up B's water surface. He wanted to find out which seedling, the one grown in tap water or the one grown in boiled water, would be taller after five days.



Set-Up A



Set-Up B

His friend, Karen, concluded that it was an unfair test after making the following observations.

A: Different types of water were used.
B: Equal amounts of water were used.
C: Beaker A did not have a layer of oil.

Which of the above comments supports Karen's conclusion?

1) A only
2) A and B only
3) C only
4) A, B and C

5. Jane described an object as slimy, round and blue.
Which of her senses did she use to make this observation?

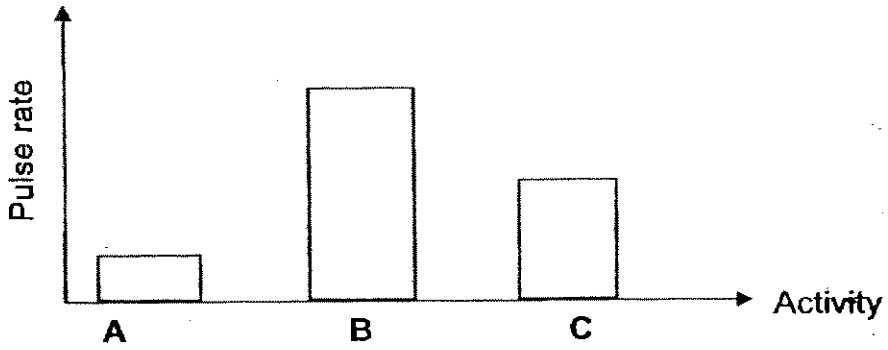
A : Sight
B : Taste
C : Touch
D : Smell

1) A and B
2) A and C
3) B and C
4) C and D

6. Which of the following **correctly** shows the path food takes in the digestive system?

1) Mouth → Stomach → Large intestine → Anus → Small intestine
2) Gullet → Small intestine → Stomach → Large intestine → Anus
3) Mouth → Gullet → Stomach → Small Intestine → Large intestine → Anus
4) Mouth → Stomach → Gullet → Small intestine → Large intestine → Anus

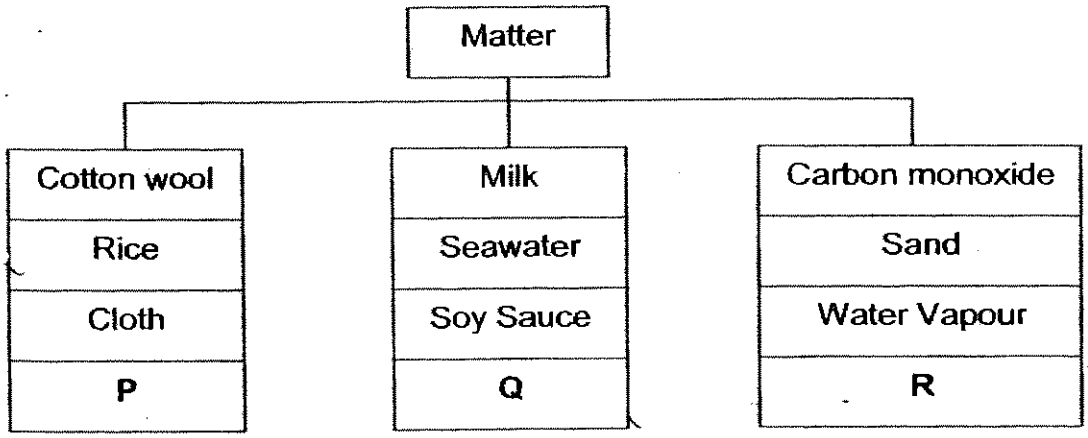
7. Tim plotted the graph below after completing several activities.
A, B and C record the average pulse rate of each activity.



Which of the following activities best describes the pulse rate at each point?

	A	B	C
1)	Running	Reading	Strolling
2)	Swimming	Sleeping	Walking
3)	Reading	Running	Walking
4)	Resting	Strolling	Swimming

Study the classification chart below carefully and answer Questions 8 and 9.



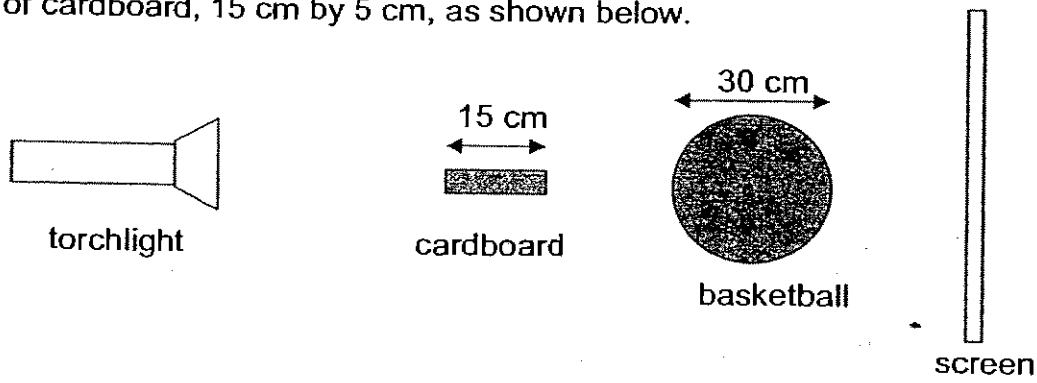
8. _____ has been **wrongly** classified.

1) Rice
2) Sand
3) Seawater
4) Carbon monoxide

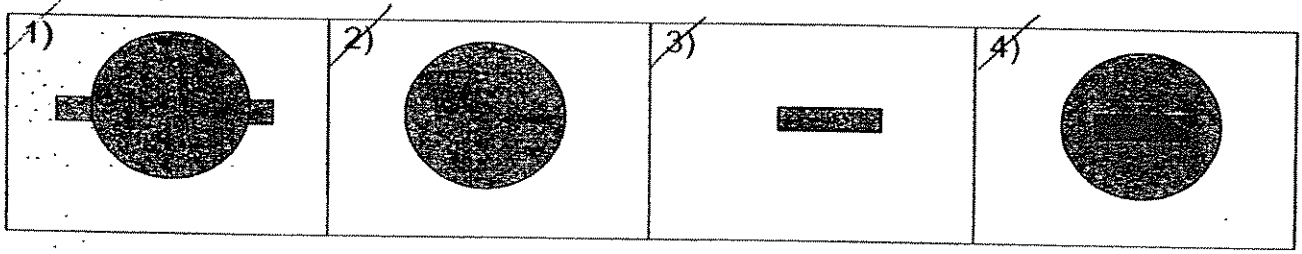
9. Which of the following items can replace **P**, **Q** and **R** respectively?

	P	Q	R
1)	Soup	Box	Nitrogen
2)	Strawberry	Nitrogen	Coke
3)	Helium	Basket	Milo
4)	Octopus	Blood	Oxygen

10. Karen shone a torchlight at a basketball with a diameter of 30 cm and a piece of cardboard, 15 cm by 5 cm, as shown below.



Which one of the following pictures shows the shadow most likely cast by the two objects on the screen?



11. The letters A to E in the table below represent objects in space.

	Man-made	Gives out own light	Revolves around the Earth
A	Yes	No	No
B	Yes	Yes	No
C	No	Yes	No
D	Yes	No	Yes
E	No	No	Yes

Which of the letters, A, B, C, D or E, best represents the moon, the satellite and the star?

	The Moon	Telecommunication satellite	The Star
1)	B	D	C
2)	E	B	C
3)	C	A	B
4)	E	D	C

12. Which part of a cell controls the behaviour of the cell?

1) Nucleus
2) Cell membrane
3) Cell wall
4) Cytoplasm

13. Cindy, Paula, Kelly and Amelia each received a slide from their teacher to observe with a microscope. They recorded the parts of the cells observed in the following table.

	Parts of cells
Cindy	Cytoplasm, cell membrane
Paula	Cytoplasm, cell wall, nucleus
Amelia	Chloroplasts, cytoplasm, cell membrane
Kelly	Nucleus, cell membrane, cytoplasm

Which pupil(s) could have observed plant cells?

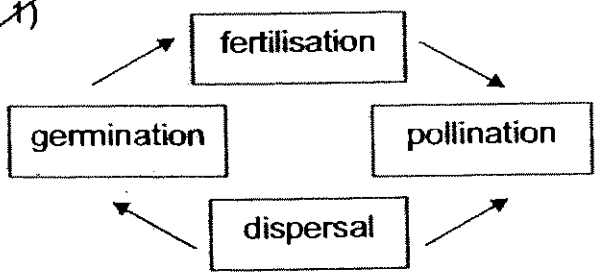
1) Paula only
2) Kelly and Amelia only
3) Kelly only
4) Paula and Amelia only

14. During fertilisation, **D** from the **E** parent fuses with **F** from the **G** parent to form a zygote. What are **D**, **E**, **F** and **G**?

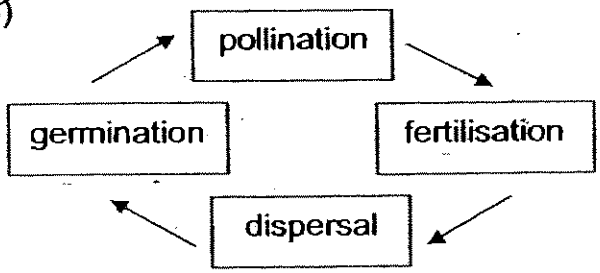
	D	E	F	G
1)	sperm	male	sperm	female
2)	sperm	male	egg	female
3)	egg	male	sperm	female
4)	egg	female	egg	male

15. Which one of the following shows the correct sequence in the reproduction of flowering plants?

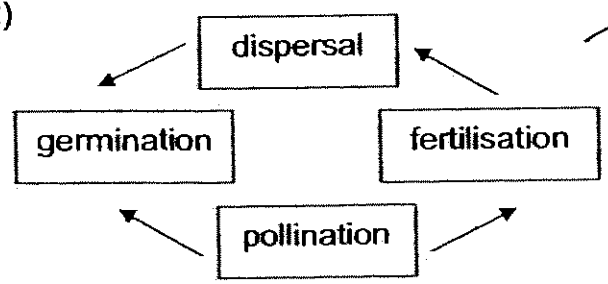
1)



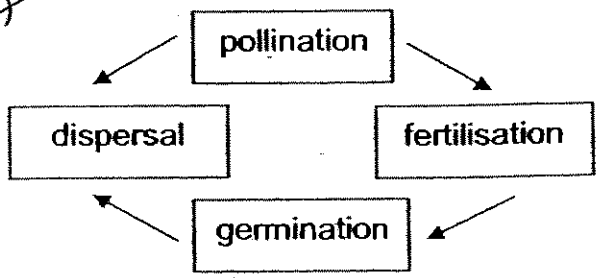
3)



2)



4)



16. Terrence made the following statements about photosynthesis.

A : It can only take place in the day.
B : It is the process of making food in plants.
C : Only plants with chlorophyll can undergo this process.
D : Glucose and oxygen are released during this process.

Which one of them is **incorrect**?

1) A
2) B
3) C
4) D

17. Andrew classified some items into two groups as shown below after completing an experiment to test for starch.

Group W	Group X
Potato	Leather
Bread	Grouper
Spaghetti	Mutton
M	**N**

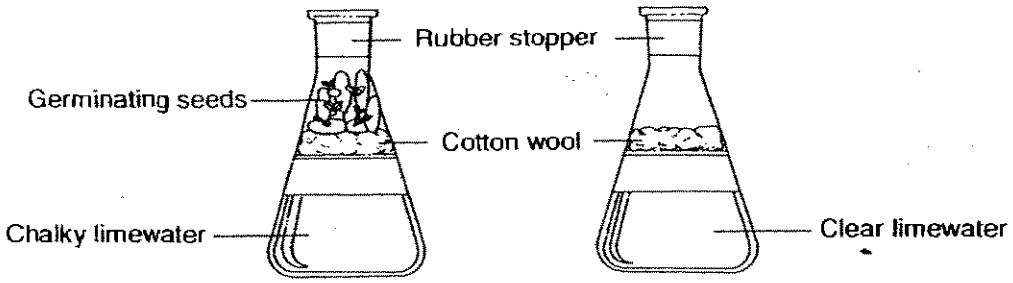
Which of the following pairs of items can substitute **M** and **N** respectively?

	Group W	Group X
1)	Turnip	Yam
2)	Pearl	Ginger
3)	Shrimp	Highlighter
4)	Paper	Beef

18. Which of the following shows the intakes during the processes photosynthesis and respiration respectively?

	Photosynthesis	Respiration
1)	Glucose	Oxygen
2)	Water	Energy
3)	Carbon dioxide	Glucose
4)	Oxygen	Water

19. Christine set up the apparatus as shown below. She left both set ups in a warm dark place for 15 hours. The limewater in Set-up A turned chalky but the limewater in Set-up B remained unchanged.



Her aim for the above experiment was to find out if _____.

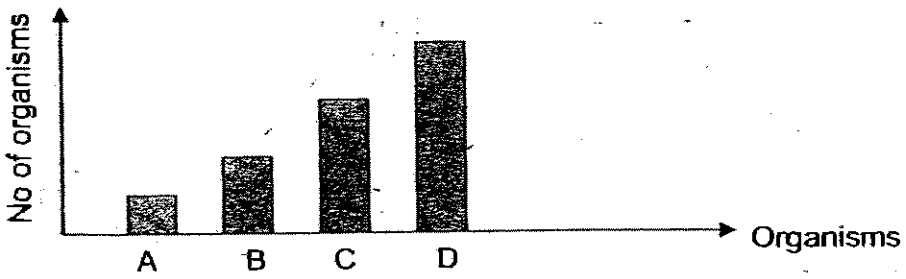
1) germinating seeds respire
2) limewater turns chalky by itself
3) cotton wool turns limewater clear
4) germinating seeds photosynthesise

20. Which one of the following correctly shows how energy is passed?

1) Sun → grass → lion
2) Sun → rabbit → grass
3) Sun → grass → rabbit → lion
4) Sun → grass → lion → rabbit

A, B, C and D

21. The bar graph below shows the number of Organisms ~~W, X, Y and Z~~ living together.



Based on the graph, which one of the following food chains is possible?

1) A → C → D → B
2) B → D → C → A
3) C → A → D → B
4) D → C → B → A

22. Which one of the following is **NOT** an effect of a force?

1) A dented ping pong ball.
2) A ball rolling after being kicked.
3) A wind sock fluttering in the wind.
4) A bar of chocolate melting in the sun.

23. Mohsin and Hambali were playing marbles. Both marbles were moving when Hambali's marble hit Mohsin's marble.

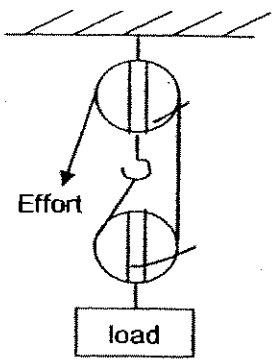
As a result, Mohsin's marble _____.

1) became dented and moved slightly
2) began to move in a different direction
3) gained speed and started to spin by itself
4) moved in the same direction as Hambali's marble

24. Warren wrote down the following statements after learning about simple machines. Which one of them is **incorrect**?

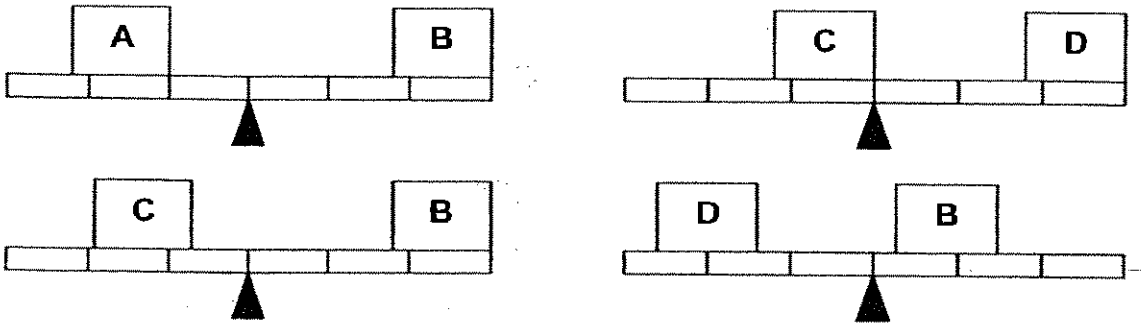
1) All types of simple machines enable us to do work with less effort.
2) Fixed pulleys only change the direction of the force but effort is the same.
3) In the case of the spanner, the effort moves a greater distance than the load.
4) The bicycle and the telpher line are made up of a combination of simple machines.

25. In the pulley system shown below, the load moves up by 14 cm. What is the distance moved by the effort?



1) 3.5 cm
2) 7 cm
3) 14 cm
4) 28 cm

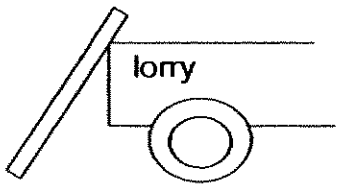
26. Study the diagrams below carefully.

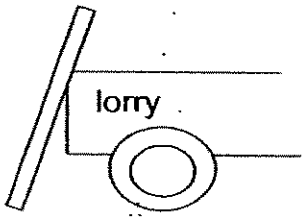


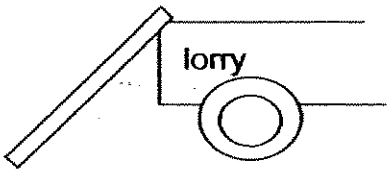
Arrange the above objects (A, B, C and D) from the heaviest to the lightest.

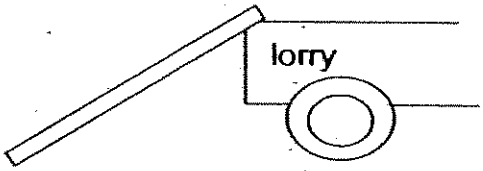
1) A, C, B, D
2) B, A, C, D
3) C, A, B, D
4) D, B, A, C

27. Timothy wanted to load a box onto his pick-up lorry. He learnt in one of his Science lessons that an inclined plane can help him do this work with less effort. Which of the following diagrams below requires the least effort to push the box up the inclined plane onto the lorry?

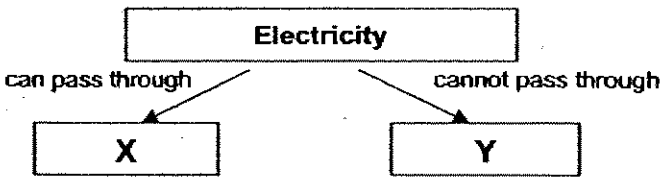
1)


3)


2)


4)


28. Study the flowchart below.



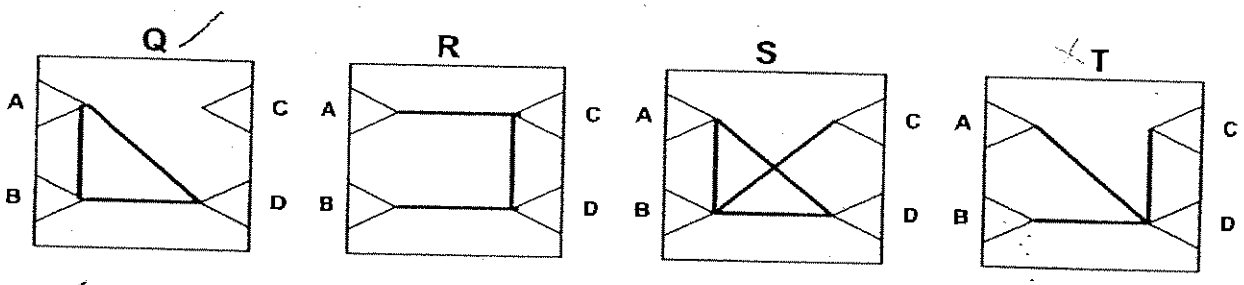
Which of the following can be X and Y?

	X	Y
1)	steel, clay	tin, glass
2)	aluminium, silver	paper, plastic
3)	crayon, cloth	copper, iron
4)	water, gold	air, bronze

29. Benjamin tested a circuit board and recorded the results in the table below.

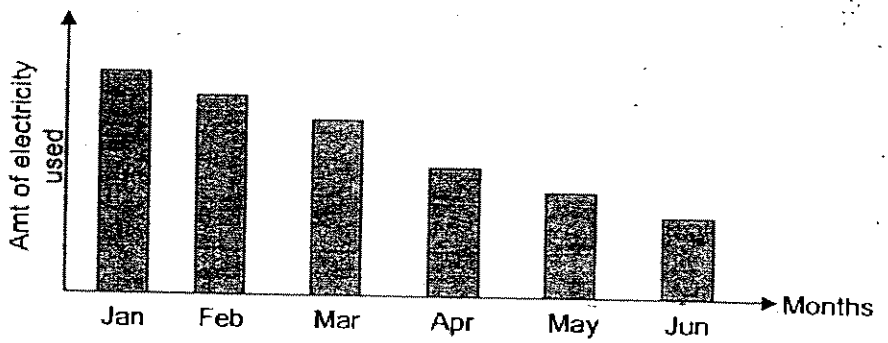
Clips tested	Did the bulb light up?
A and B	Yes
A and C	No
A and D	Yes
B and C	No
B and D	Yes
C and D	No

Which of the following diagrams show the possible connections of the clips by wires?



1) Q only
2) Q, S and T only
3) Q and S only
4) Q, R, S and T

30. The graph below shows the electrical usage in the Tan household from January to June.



Which of the following activities could have contributed to the decreasing trend of electrical usage from February to June in the Tan household?

A: Replace air-conditioners with fans
B: Take hot showers at all times
C: Use energy-saving light bulbs
D: Turn on air-conditioners all day
E: Switch off lights when not in use

1) A, B and E only
2) A, C and E only
3) B, D and E only
4) C, D and E only

SINGAPORE CHINESE GIRLS' SCHOOL

SECOND SEMESTRAL ASSESSMENT 2007

NAME: _____ ( ) DATE: _____

CLASS: PRIMARY 5 (SY) / C / G / SE / P

	Marks Obtained	Total Marks
Booklet A		60
Booklet B		40
Total		100

Parent's Signature

_____

SCIENCE

BOOKLET B

16 questions

40 marks

Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Part 2 (40 marks)

Answer all the following questions.

31. The table below shows the properties of three materials.

Materials	Durable	Transparent	Float on water	Conductor of electricity
X	✓			✓
Y	✓	✓	✓	
Z	✓		✓	

a) Describe the properties of material X. (1m)

b) Janie wants to make a toy boat for her younger brother to play while he takes his bath. Which material(s) is/are suitable for this purpose? Explain your answer. (2m)

32. Catherine was given three similar handkerchiefs that were equally wet. She carried out an experiment and tabulated the results in the table below.

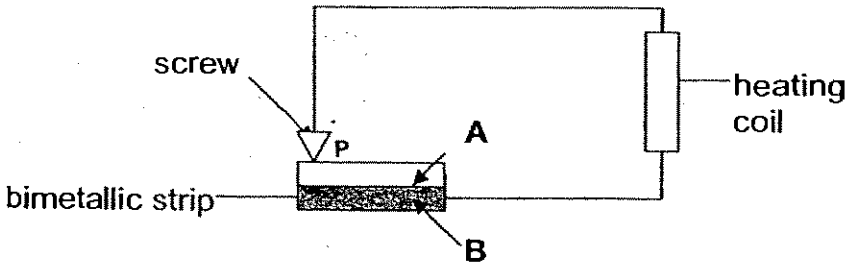
Handkerchief	No of folds	Place	Time taken for water to evaporate (min)
A	0	Under the sun	15
B	1	Under the sun	45
C	2	Under the sun	120

a) What was the aim of her experiment? (1m)

b) Did Catherine carry out a fair experiment? Explain your answer. (1m)

5

33. The electric iron uses a bimetallic thermostat to regulate its temperature while it is being used, keeping it at the desired temperature of 90°C. The strip, which is made up of two types of metals fastened together, 'senses' changes in temperature and works as an electric contact breaker in an electric heating circuit. Below is a simple setup of such a circuit in an electric iron.

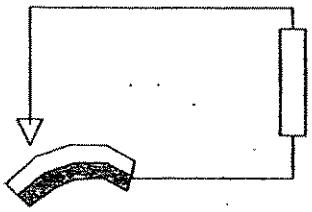
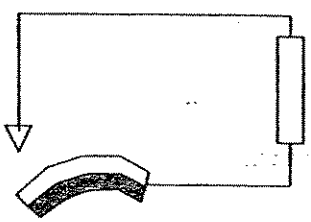


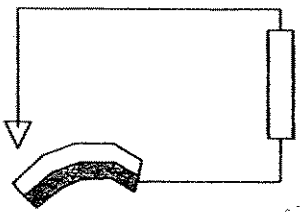
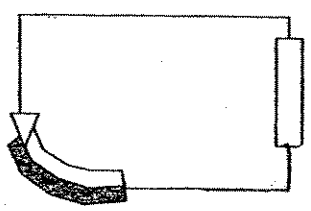
Legend:

- □ - length-wise expansion /contraction at 0.1mm/change in °C
- ▩ - length-wise expansion /contraction at 0.05mm/change in °C
- P - contact point between screw and bimetallic strip

Thermostat shown above is at 24°C. The bimetallic strip touches the screw to allow electricity to flow and heat up the heating coil.

a) Tick below the picture/s showing the correct way the bimetallic strip has reacted to the change in temperature. (2m)

Temperature	91°C	95°C
Bimetallic strip		
Is strip correctly shown?		

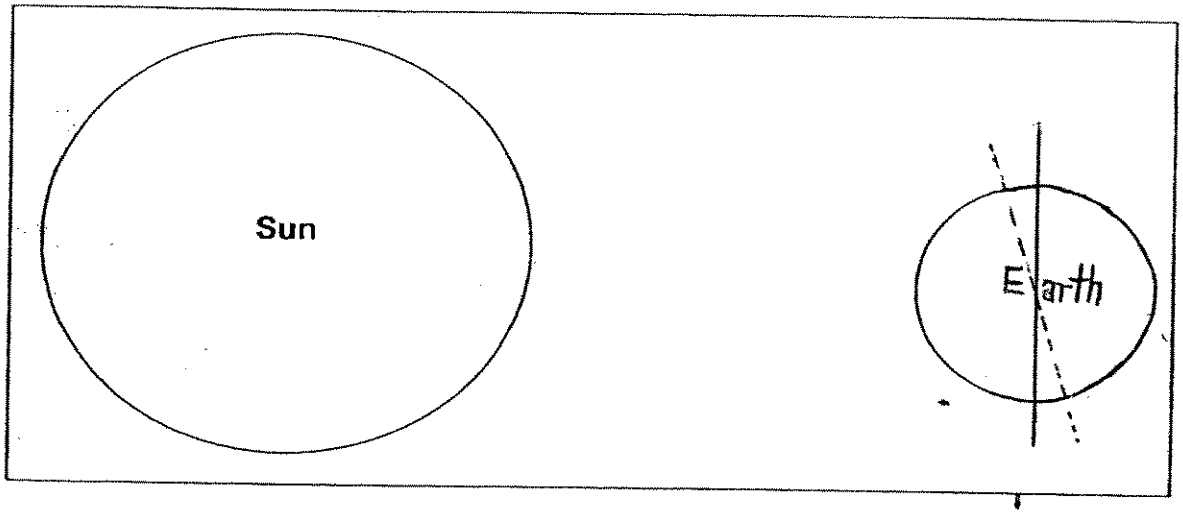
Temperature	7°C	48°C
Bimetallic strip		
Is strip correctly shown?		

b) Name another home appliance that requires the use of a bimetallic thermostat to help regulate its temperature. (1m)

_____

3

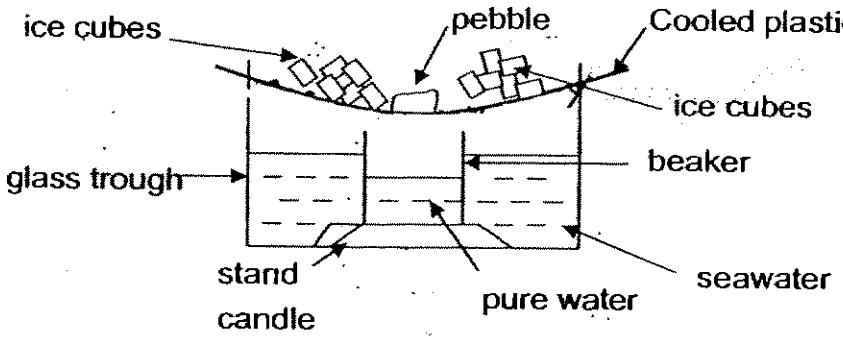
34. The diagram below shows the Sun and the Earth.



a) Shade fully the part of the Earth that is experiencing night. (½ m)

b) The dotted line represents the _____ on which the Earth rotates from _____ to _____. (1 ½ m)

35. Hanlin wanted to obtain pure water from seawater. He tried to do that by using the setup shown below.



a) **Draw** on the diagram what the campers would observe on the cooled plastic sheet after a few minutes. (1m)

b) What is the purpose of the pebble? (1m)

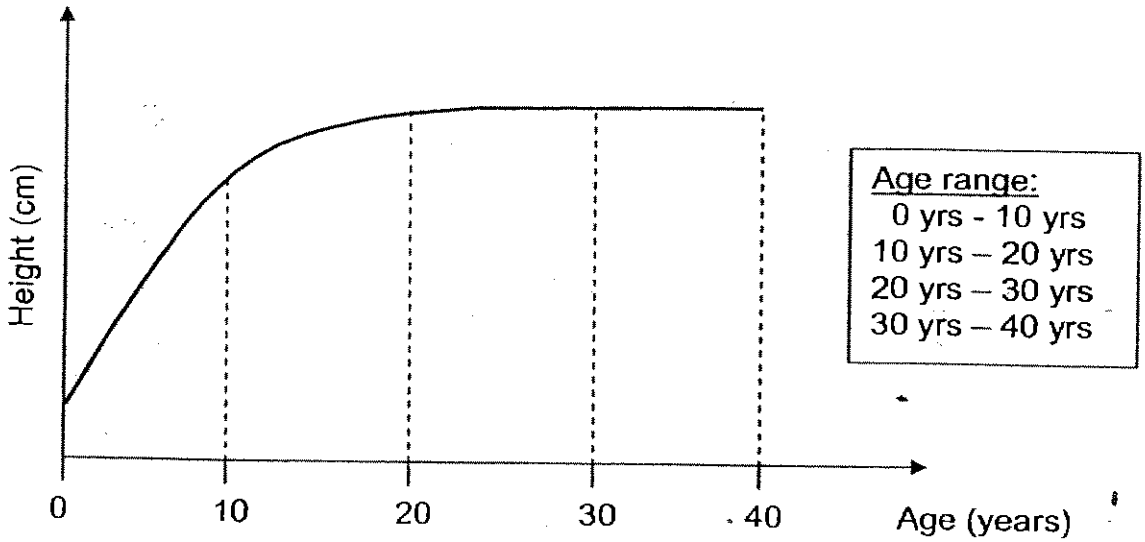
_____

c) What can be done to the set-up to speed up the collection of pure water? (1m)

_____

5

36. The graph below shows Kelvin's height from birth until he was 40 years old.



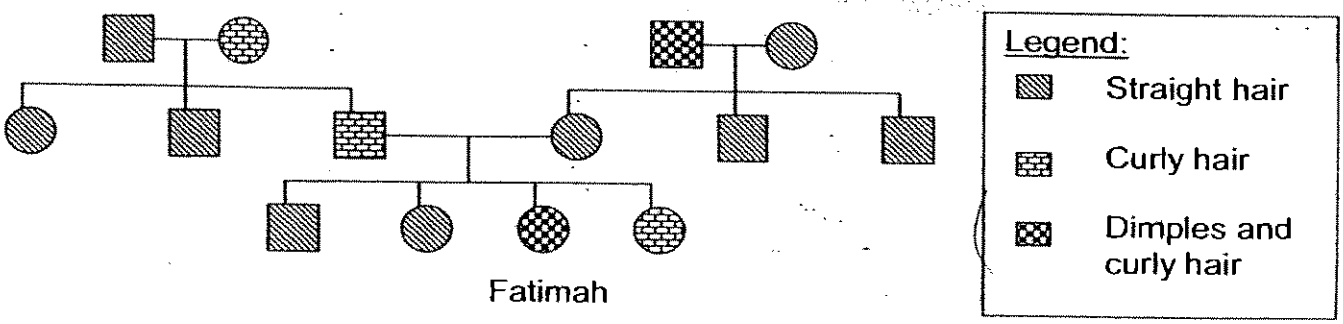
a) At what age range did Kelvin's height start to remain the same? (1m)

_____

b) Cell division was responsible for the increase in Kelvin's height. Name another function of cell division. (1m)

_____

37. The diagram below shows Fatimah's family tree.



a) Which characteristic trait has skipped a generation? (1m)

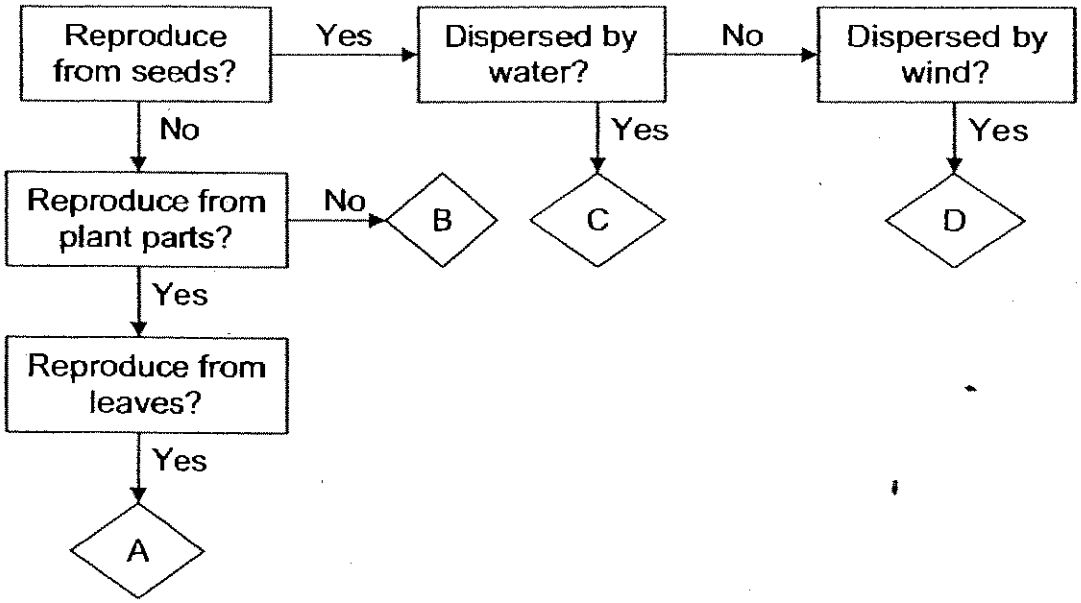
_____

b) How many people in the family have curly hair? (1m)

_____

4

38. Study the flowchart carefully.



a) Give an example for B. (1m)

_____

b) Name the two characteristics D has to enable it to be dispersed by wind. (1m)

_____

39. Sammy conducted an experiment and tabulated the results below.

Plants	Amt of carbon dioxide taken (*mu*)	Amt of carbon dioxide produced (*mu*)
A	430	415
B	500	400
C	459	413

Note:
mu – milli units

a) What is the trend that is reflected by the above data? (1m)

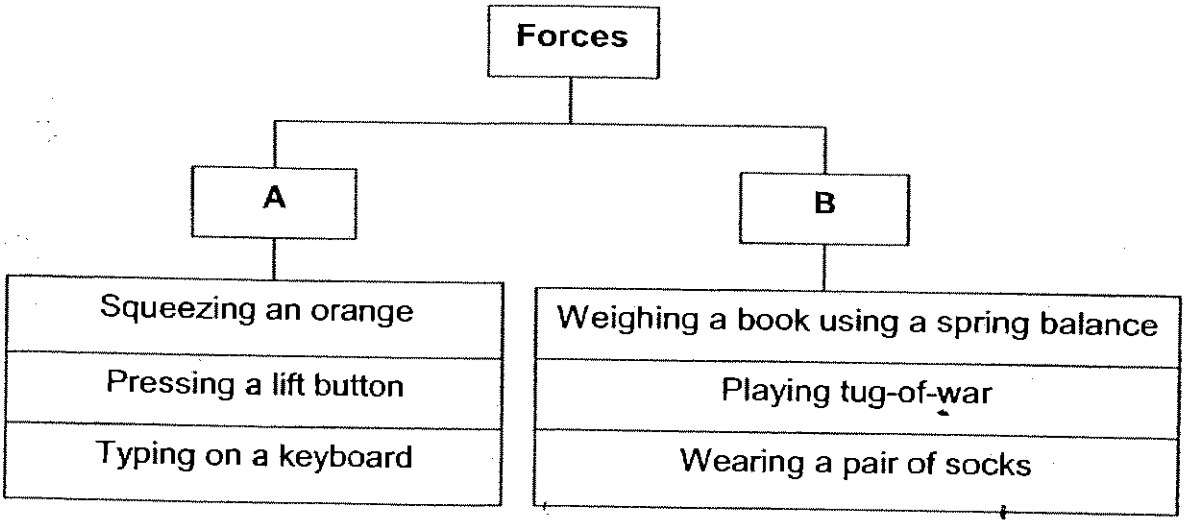
_____

b) Name the process(es) the plants are undergoing? (1m)

_____

4

40. Study the chart below carefully.



a) Write down the headings for **A** and **B**. (1m)

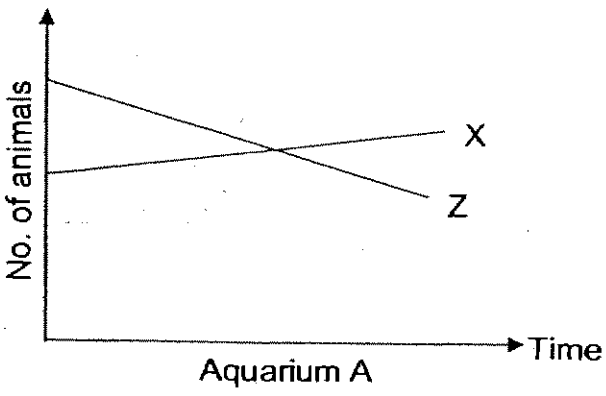
A: _____ **B:** _____

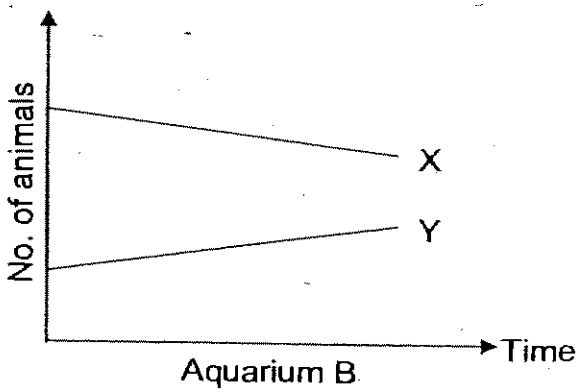
b) Wind (moving air) can be useful and harmful. State one instance each of when it can be useful and when it can be harmful. (2 m)

Useful : _____

Harmful : _____

41. Katherine put three different types of animals X, Y and Z into two aquariums, A and B. She put Animals X and Z in Aquarium A and Animals X and Y in Aquarium B. She also put some water plants in both aquariums.
She counted the number of animals in the aquariums weekly for a month. Her results are shown in the graphs below. No dead animals were visible in the aquariums during the weekly checks.

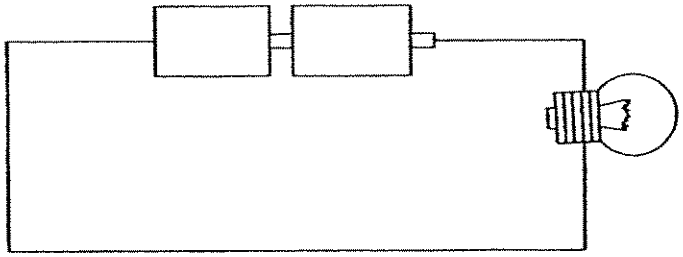




Complete the food chain linking these three animals. (2m)

Plant ⟶ _____

42. Jolyn set up the circuit shown below. The bulb will not light up. His friend told him that he had made a mistake.



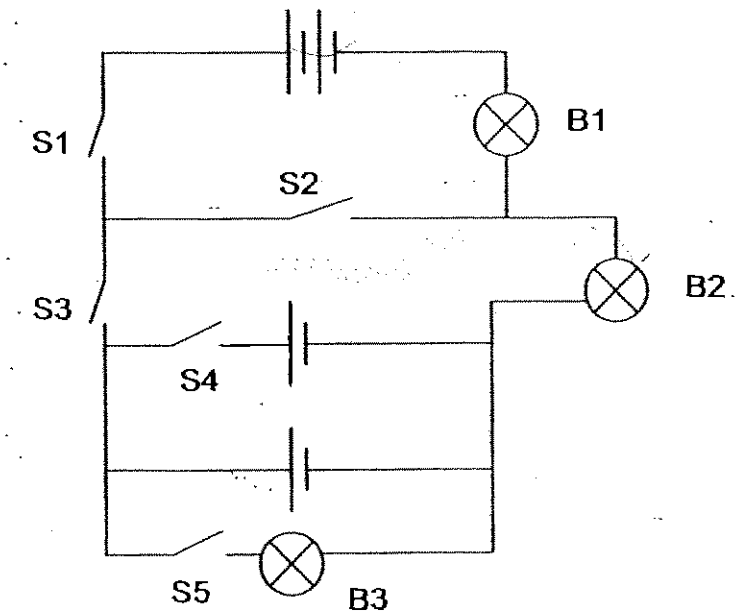
a) What was the mistake made in the above set up? (1m)

_____

b) After correcting his mistake, the bulb still did not light up.
State one possible reason for this. (1m)

_____

43. Study the electrical circuits below carefully.



a) How many switch(es) must be closed to light up only B1? (1m)

_____

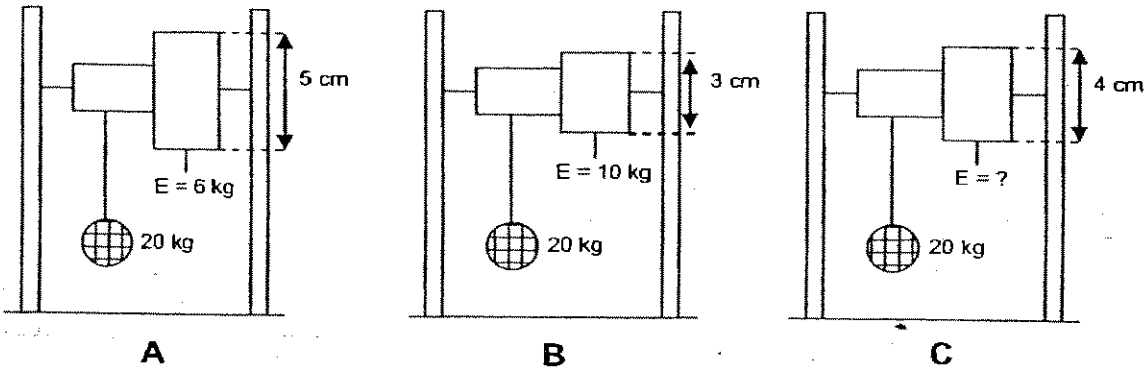
b) What is the least number of switches that must be closed to light up all three bulbs? (1m)

_____

c) Explain why we avoid putting too many batteries in series arrangement. (1m)

_____

44. Three sets of wheels and axles, A, B and C are shown below. The effort (E) in each case is just enough to lift the 20kg load.



a) What is the effort needed in C? (1m)

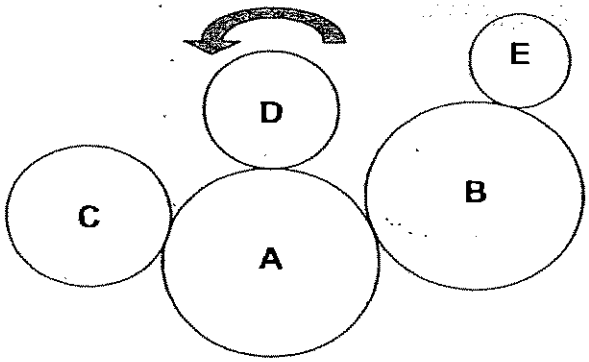
_____

b) State the relationship between the diameter of the wheel and the effort needed to lift the load. (1m)

_____

_____

45. The diagram below shows a system of gears. Study the diagram carefully and answer the following questions.



Legend:

Gear A – 45 teeth
Gear B – 45 teeth
Gear C – 30 teeth
Gear D – 15 teeth
Gear E – 10 teeth

a) Which gears will turn clockwise if gear D turns anti-clockwise? (1m)

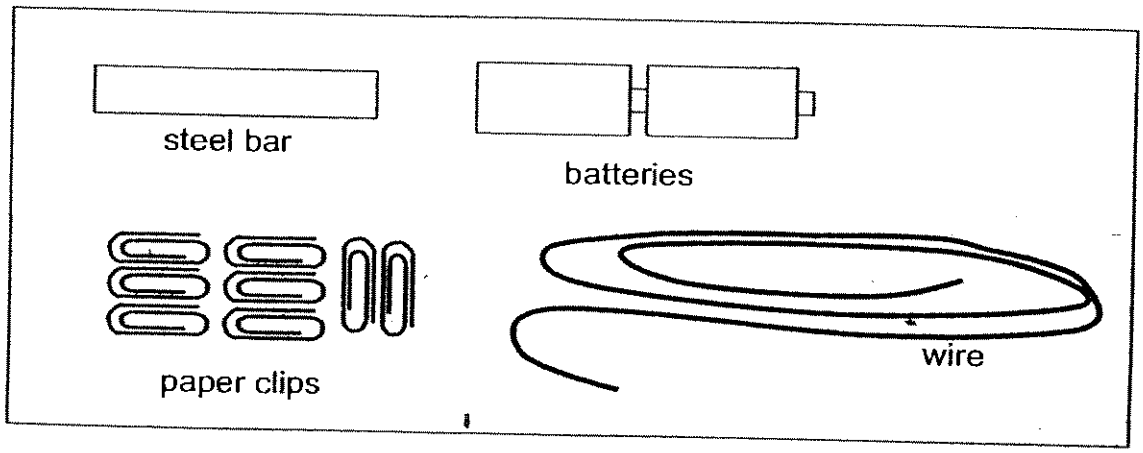
_____

b) Complete the table below to reflect the number of turns Gears C and E make when Gear A makes 3 complete turns. (2m)

	Gear A	Gear C	Gear E
Number of turns	3		

5

46. James was given a steel bar, two batteries, a long piece of wire and some paper clips (as shown below). He was told to make an electromagnet. However, he was not sure how to set it up.



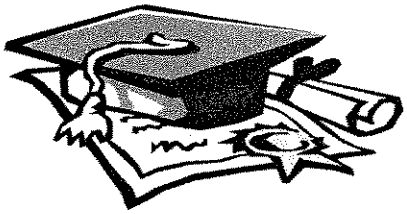
a) Help James by drawing the set-up to make an electromagnet out of the steel bar in the space below. (2m)
You may use a pencil or a blue pen to draw the set-up.

b) List two ways in which James can make the electromagnet stronger. (2m)

i) _____

ii) _____

4



ANSWER SHEET

SCGS PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 4
2. 3
3. 4
4. 3
5. 2
6. 3
7. 3
8. 2
9. 4
10. 2
11. 4
12. 1
13. 4
14. 2
15. 3
16. 1
17. 4
18. 3
19. 1
20. 3
21. 4
22. 4
23. 2
24. 1
25. 4
26. 3
27. 4
28. 2
29. 1
30. 2

31) a) Material X is durable, is a conductor of electricity, is not transparent and cannot float on water.

b) Materials Y and Z. The toy boat must be durable and floats on water.

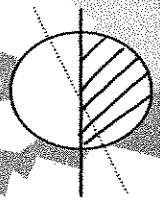
32) a) To find out if the area of the exposed surface affects the rate of evaporation.

b) Yes. Only 1 variable was changed.

33) a) ✓ ✓

b) Refrigerator

34) a)



b) axis, west, east

35) a)

b) To make sure water droplets drop into beaker.

c) Add another candle.

36) a) 20yrs to 30yrs

b) Cell division makes the cell multiply to replace the broken or dead cells.

37) a) Dimples b) Five people

38) a) Fern b) Light and has hair

39) a) Plants take in more carbon dioxide than producing it.
b) Photosynthesis and Respiration.

40) a) A: Push B: Pull
b) Useful: It can be used to dry clothes.
Harmful: It Tornado the fire.

41) Plant → Animal Z → Animal X → Animal Y.

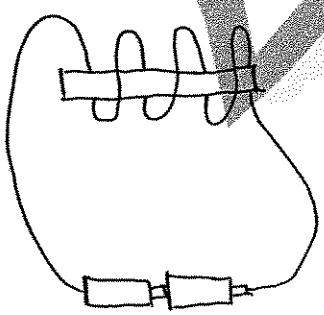
42) a) One end of the wire has to be connected to the metal tip.
b) The bulb has fused.

43) a) 2 switches
b) 3 switches
c) It might blow the bulb.

44) a) 8kg
b) The shorter the diameter of the wheel, the more the effort is needed.

45) a) Gears A and E
b) 4 ½ , 13 ½

46) a)



b) i) Increase the no. of coils round the steel bar.
ii) Increase the no. of batteries.

NAN HUA PRIMARY SCHOOL
END OF YEAR EXAMINATION 2007
PRIMARY FIVE
SCIENCE

MARKS	
Sect A:	/ 60
Sect B:	/ 40
Total :	**/ 100**

Name : _____( )

Class : Primary 5 / ____

Date : 29 October 2007

Duration : 1 hr 45 min

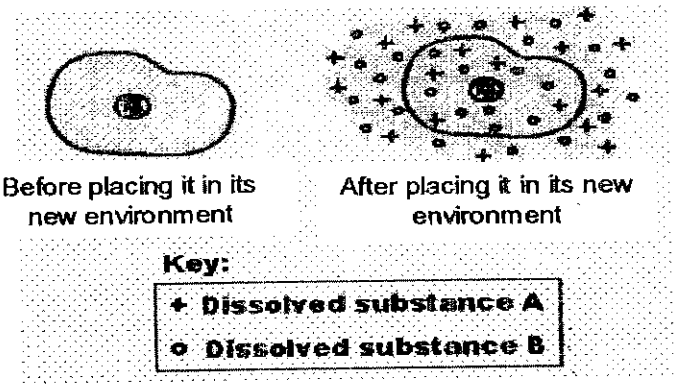
Parent's Signature : _____

Section A: (30 x 2marks = 60marks)
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which of the following causes day and night and the formation of tides?

	Day and Night	Formation of Tides
(1)	The revolution of the Earth around the Sun	The tilting of the Earth's axis
(2)	The tilting of the Earth's axis	The revolution of the Earth around the Sun
(3)	The Moon's and Sun's gravity	The rotation of the Earth about its axis.
(4)	The rotation of the Earth about its axis	The Moon's and Sun's gravity

2. An animal cell was placed in a new environment. The diagram below shows the cell before and after it was introduced to its new environment.



Which of the following can be concluded from the diagram above?

A: The cell membrane prevents some substances from entering.
B: Dissolved substances A and B could move in and out of the cell.
C: The nucleus controlled the movement of dissolved substances A and B within the cell.

(1) A only
(2) B only
(3) A and B only
(4) A, B and C

3. Which one of the following statements about reproduction is true?

(1) All animals give birth to their young alive.
(2) All living things reproduce by sexual reproduction.
(3) The fertilised egg of a human being develops in the ovary.
(4) Living things reproduce to ensure the continuity of their kind.

4. Which of the following conditions are necessary for the germination of seeds?

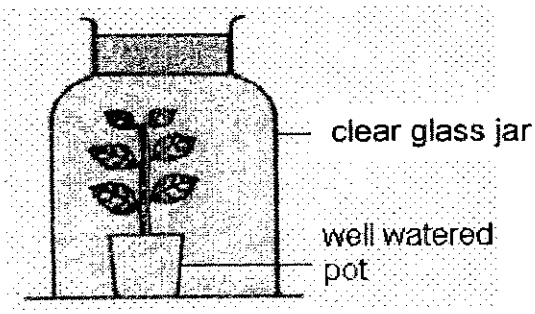
A: Water
B: Sunlight
C: Oxygen
D: Warmth

(1) A and C only
(2) A, B and C only
(3) A, C and D only
(4) A, B, C and D

5. Which one of the following is **not** used to generate electricity in power stations?

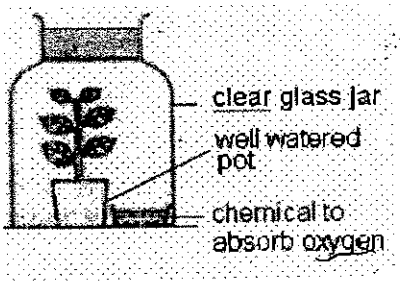
(1) Tidal energy
(2) Wind energy
(3) Solar energy
(4) Sound energy

6. Amy used the following setup as a control for her experiment to be carried out in a sunny place.

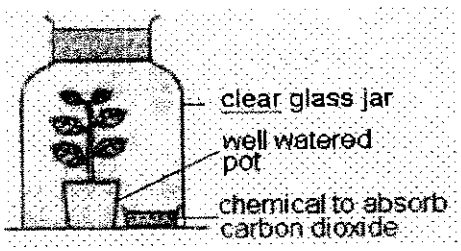


Which one of the following setups can be used with the above control to show that carbon dioxide is necessary for photosynthesis to take place?

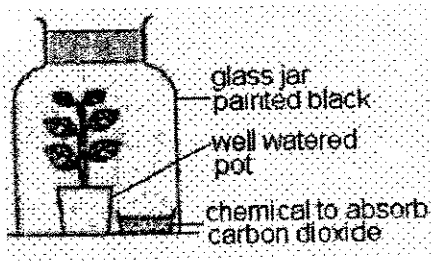
(1)



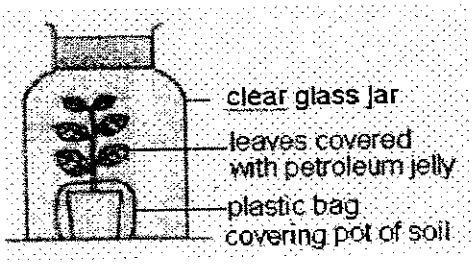
(2)



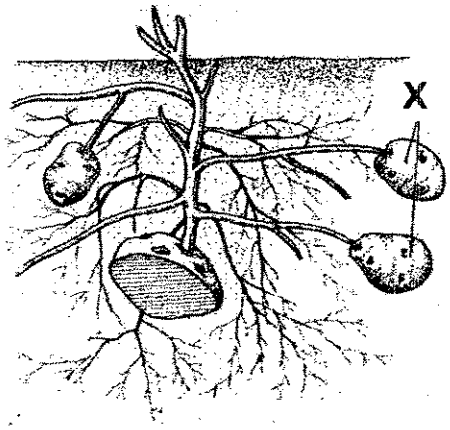
(3)



(4)



7. The diagram below shows a part of the potato plant.



What are the functions of the swollen part marked **X**?

A To help the plant reproduce
B To take in water for the plant
C To store excess food made by the plant

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

8. Which of the following shows the correct stages of digestion of food?

A: Undigested food is passed out of the body.

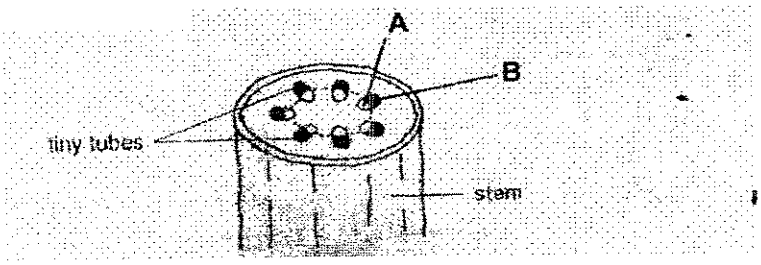
B: Digested food is absorbed by the blood.

C: It is cut and sliced into smaller pieces.

D: It is mixed with digestive juices and changed into a simpler form.

(1) A, B, C, D
(2) C, B, D, A
(3) D, C, B, A
(4) C, D, B, A

9. Look at the diagram below.



Located within the stem of a sunflower plant are tiny tubes. Identify the substances tubes **A** and **B** transport.

	Tube A	**Tube B**
(1)	Oxygen	Carbon Dioxide
(2)	Carbon Dioxide	Oxygen
(3)	Water and dissolved minerals	Food
(4)	Food and dissolved minerals	Water

10. Clara took her breakfast five hours ago. How did the food travel in her body before it was absorbed?

(1) gullet -> stomach -> large intestine -> small intestine
(2) stomach -> gullet -> small intestine -> large intestine
(3) gullet -> stomach -> small intestine -> large intestine
(4) stomach -> gullet -> large intestine -> small intestine

11. Five pupils observed some plant and animal cells under the microscope. They recorded their observations and conclusions in the table below.

Name of pupil	Observation on cell parts seen	Conclusion on type of cell
Sharon	Cytoplasm, nucleus, cell membrane	Animal
Dawn	Nucleus, cell wall, cell membrane, chloroplasts	Plant
Mary	Cell membrane, cell wall, nucleus, cytoplasm	Plant
Joe	Cell membrane, cell wall, nucleus	Animal
Derrick	Cell membrane, nucleus, chloroplasts	Animal

Which pupils made the correct conclusion?

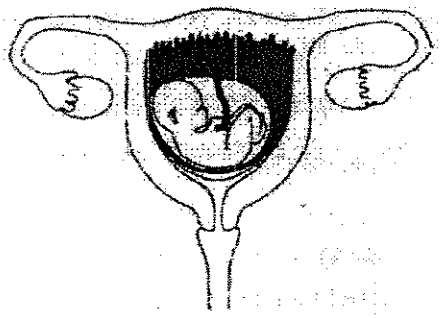
(1) Sharon, Dawn and Mary
(2) Mary, Joe and Derrick
(3) Sharon, Mary and Joe
(4) Dawn, Joe and Derrick

12. An animal W had a mass of 5g when it was 1 week old. It had a mass of 40g when it was 5 weeks old. Which of the following would have contributed to the increase in mass?

A: Cell growth
B: Cell death
C: Cell division

(1) A only
(2) A and C only
(3) B and C only
(4) C only

13. The diagram below shows a developing human baby in a mother's womb.



Which of the following statement(s) about the developing baby is/are correct?

A: It is formed from one fertilised egg cell.

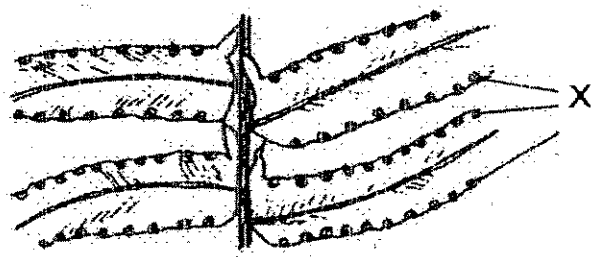
B: It is made up of many different kinds of cells.

C: It will have genetic information from only one parent.

D: It will take one year to develop into a baby, ready to be born.

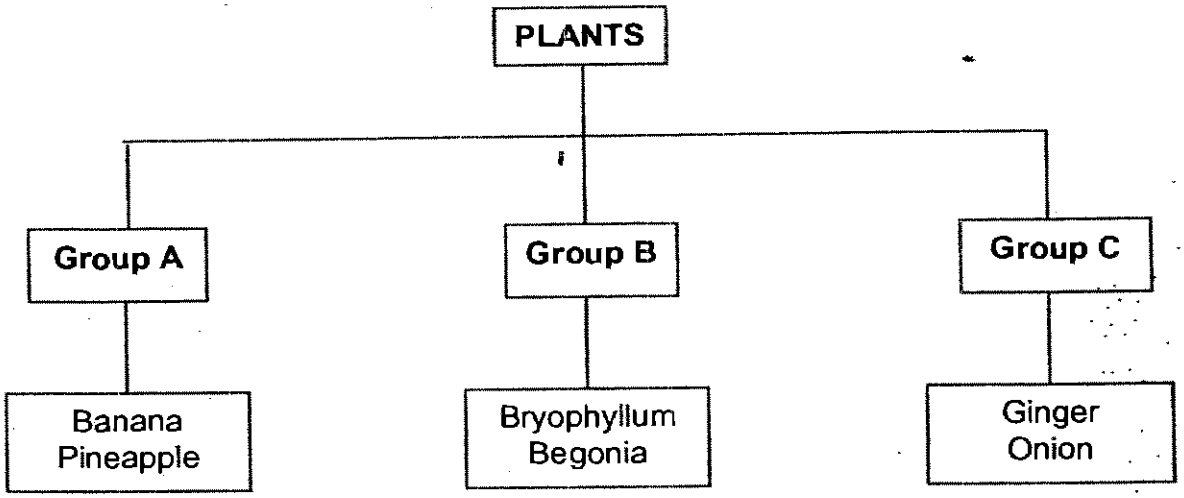
(1) A only
(2) A and B only
(3) A, B and D only
(4) A, B, C, D

14. The diagram below shows the underside of a mature fern frond. Identify the parts marked "X"?



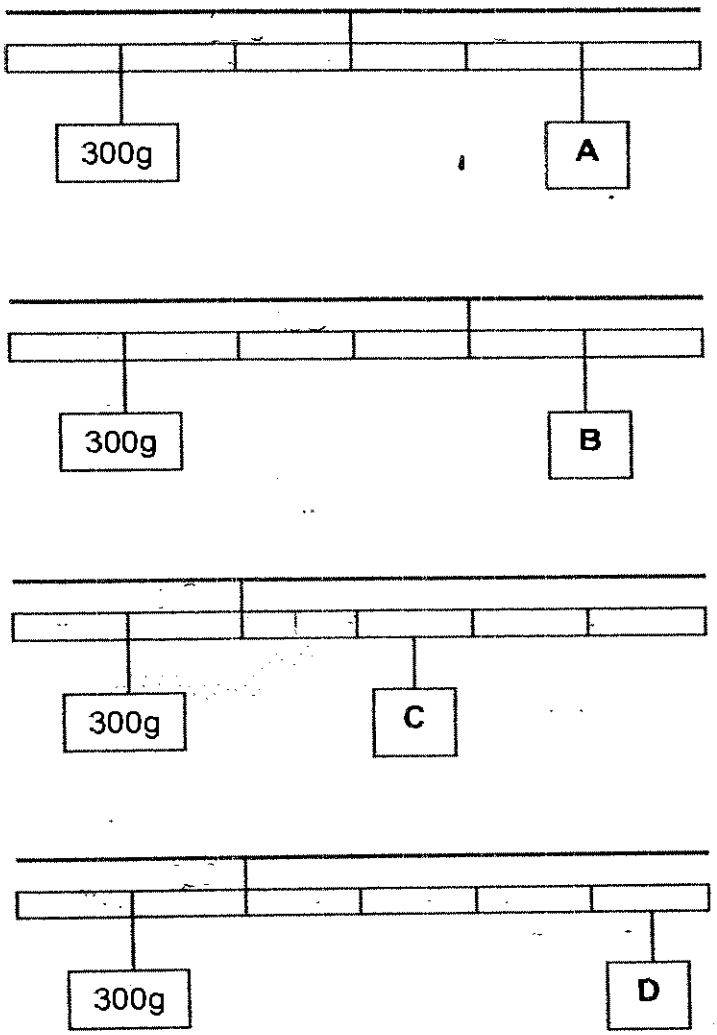
(1) Buds
(2) Fruits
(3) Seeds
(4) Spore bags

15. The plants in the diagram below have been classified according to the plant parts they reproduce from. Identify the plant part each group of plants reproduce from.



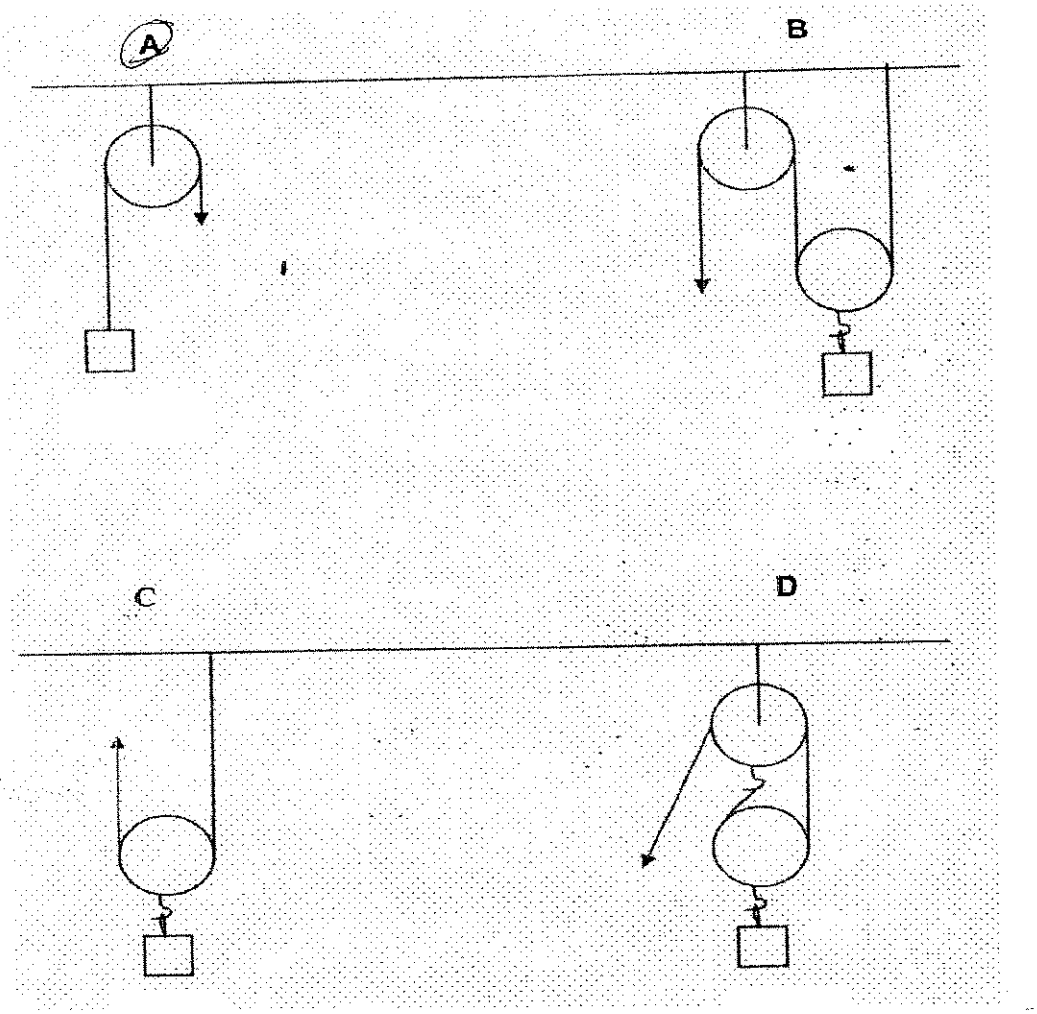
	Group A	Group B	Group C
(1)	Seeds	Underground stems	Roots
(2)	Leaves	Spores	Suckers
(3)	Suckers	Leaves	Underground stems
(4)	Suckers	Leaves	Roots

16. Phillipe used four objects A, B, C and D, to balance a 300g weight as shown below. Which one of the following objects is the **lightest**?



(1) A
(2) B
(3) C
(4) D

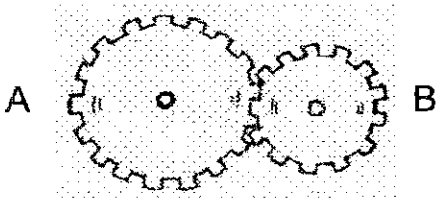
17. Study the diagram carefully.



If the load is 400g and a force of 280g is applied, which of the following machines **cannot** lift the load?

(1) A only
(2) A and C only
(3) B and D only
(4) A, B and C only

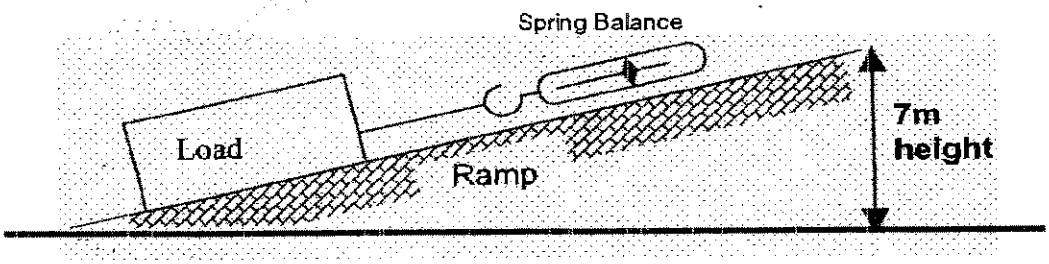
18. Which of the following statement(s) is/are **true** about the gears shown below?



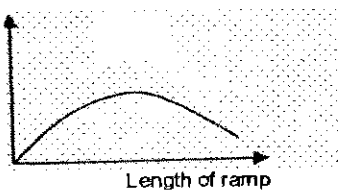
A: Gear A rotates slower than Gear B.
B: Gear A rotates faster than Gear B.
C: They turn in the opposite directions.

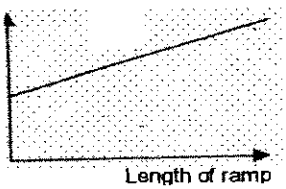
(1) A only
(2) B only
(3) A and C only
(4) B and C only

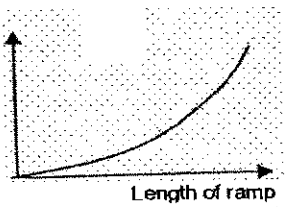
19. Seth conducted an experiment to find out the relationship between the effort needed to move the load and the length of the ramp. Using ramps of different lengths, he pulled the load up to a height of 7m and recorded the effort needed.

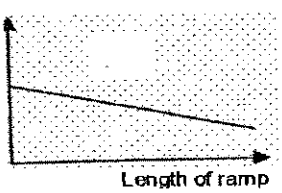


Which one of the following graphs below correctly shows the results obtained?

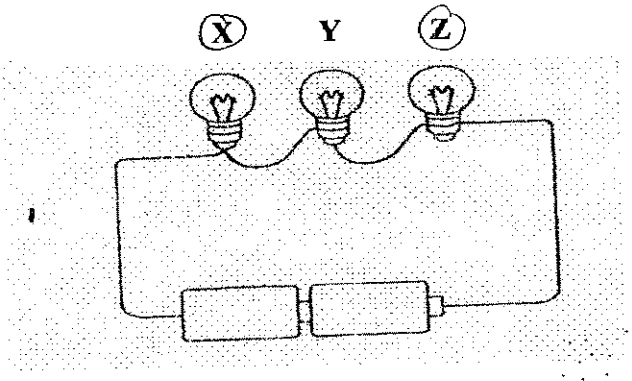
(1)


(2)


(3)


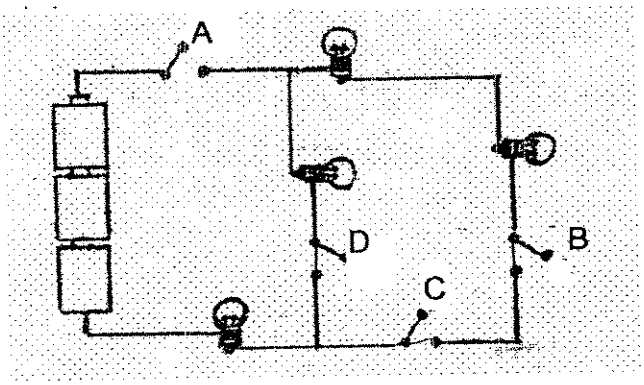
(4)


20. Study the circuit shown below. Three bulbs, X, Y and Z are connected differently. Which of the bulb/s will not light up?



(1) Y only
(2) X and Z only
(3) X and Y only
(4) X, Y and Z

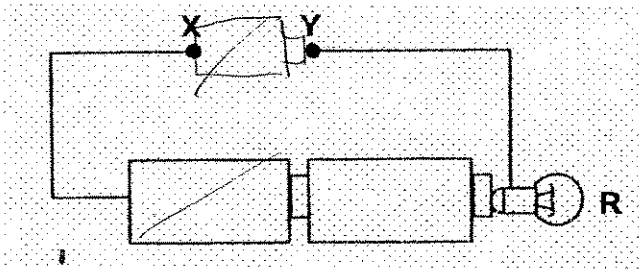
21. Study the circuit below carefully.



When all the switches are closed, all the bulbs light up. Jamie wants to open one switch which will switch off all the bulbs. Which switch should she open?

(1) A
(2) B
(3) C
(4) D

22. The diagram below shows an electric circuit.



Which of the following can be used to join **X** and **Y** so that bulb **R** will light up?

A: A magnet.
B: An eraser.
C: Another battery with the positive end at Y.
D: A bulb with both X and Y connecting to its tip.

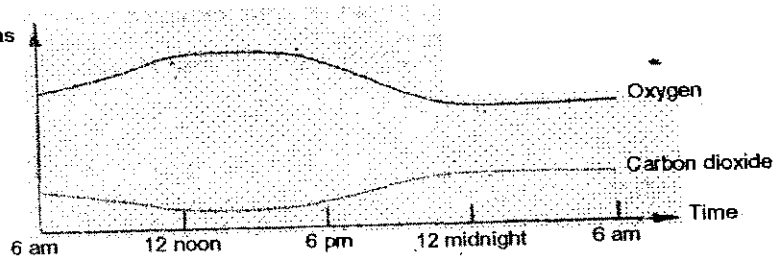
(1) A and C only
(2) A and D only
(3) A, C and D only
(4) A, B, C and D

23. Which one of the following does **not** help to conserve electricity?

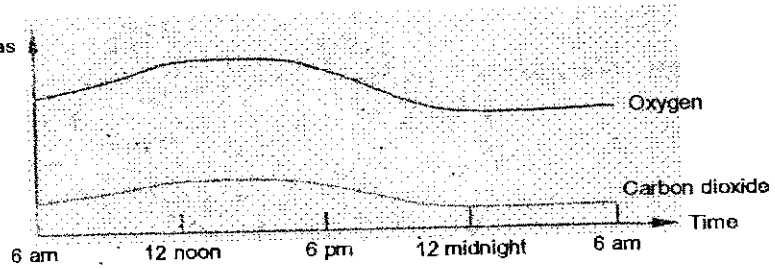
(1) Using energy-saving lamps.
(2) Using fans instead of air-conditioners.
(3) Switching off the lights on a bright day.
(4) Leaving electrical appliances on standby mode when not in use.

24. Which one following graphs best shows the level of oxygen and carbon dioxide in the air in the garden over a period of 24 hours?

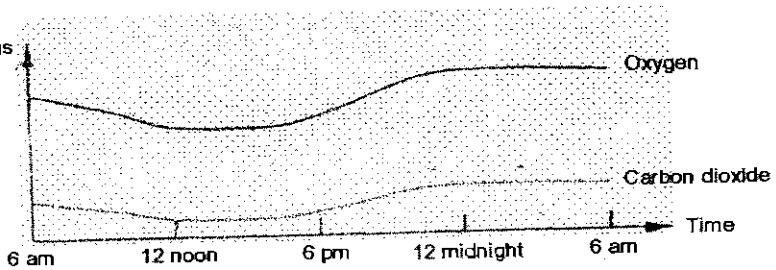
(1)



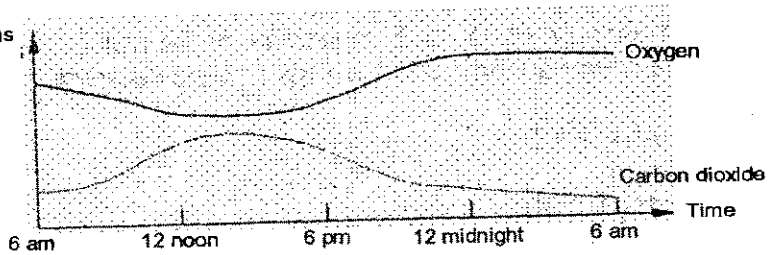
(2)



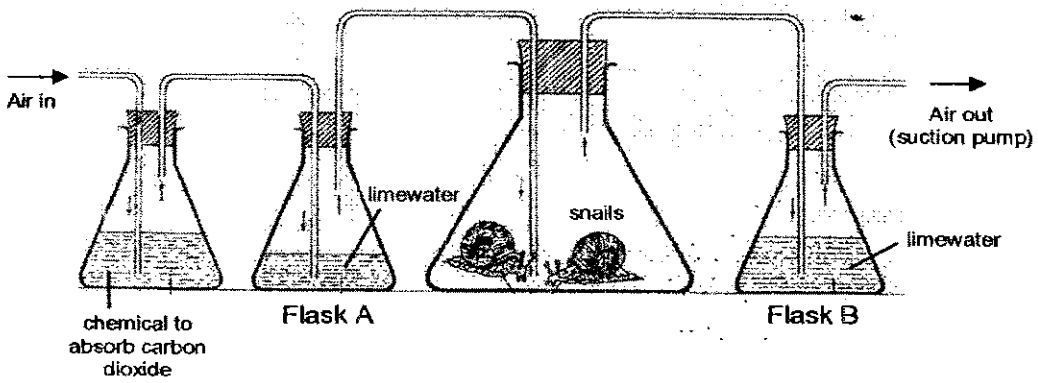
(3)



(4)



25. Ben wanted to find out if carbon dioxide is given off during respiration. He set up the experiment as shown below.



Which of the following observations would he make after 1 hour?

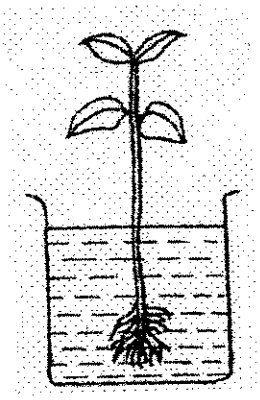
	Lime water in flask A	Lime water in flask B
(1)	Remained clear	Turned chalky
(2)	Turned chalky	Remained clear
(3)	Remained clear	Remained clear
(4)	Turned chalky	Turned chalky

26. What are the similarities between a caterpillar and a cockroach nymph?

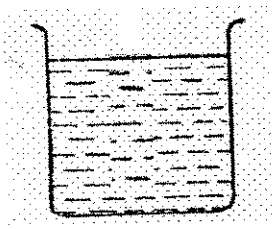
A: They are green.
B: They have wings.
C: They moult several times.
D: They are insects.

(1) A and C
(2) A and D
(3) B and D
(4) C and D

27. Alan wanted to find out the volume of water taken in by a plant. He placed a plant in beaker A and set up beaker B as a control to ensure a fair test.



Beaker A



Beaker B

Beakers A and B were left in the open for 5 days.

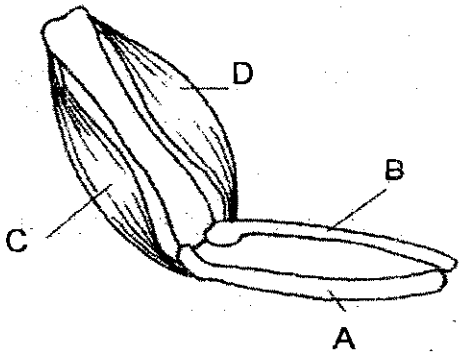
The table below shows the volume of water in beakers A and B on Day 1 and Day 5 of the experiment.

Beakers	Volume of water (cm^3)	
	Day 1	Day 5
A	1000	850
B	1000	950

What was the volume of water taken in by the plant?

(1) 50 cm^3
(2) 100 cm^3
(3) 150 cm^3
(4) 200cm^3

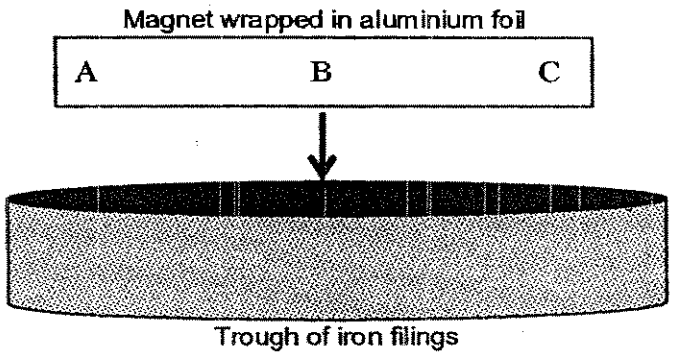
28. Study the diagram below carefully.



This is the bone and muscle structure of an arm. Which part will relax when we bend our arm?

(1) A
(2) B
(3) C
(4) D

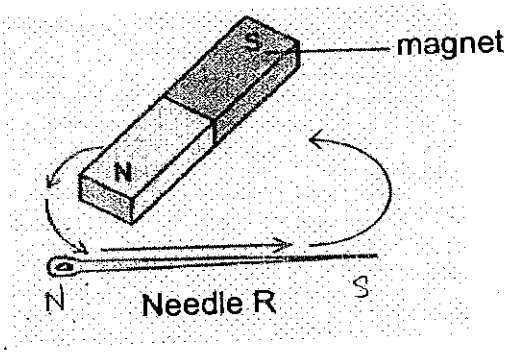
29. A magnet wrapped in aluminium foil was lowered onto a trough of iron filings as shown in the diagram below.



Which one of the following best shows the mass of iron filings attracted to the different parts, A, B and C, of the magnet, when the magnet is removed from the trough completely?

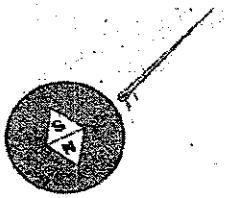
	Mass of iron filings (g)		
	A	B	C
(1)	0	0	0
(2)	4.3	1.3	1.3
(3)	4.9	4.3	4.4
(4)	4.7	0.2	4.6

30. Needle R is made into a temporary magnet by using the stroking method.

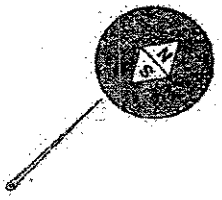


The needle is then placed near a compass. Which one of the needles shown is needle R?

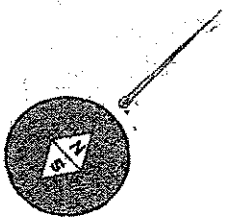
(1)



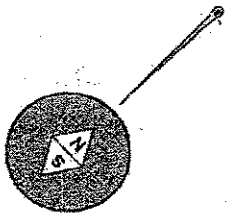
(2)



(3)



(4)



NAN HUA PRIMARY SCHOOL
END OF YEAR EXAMINATION 2007
PRIMARY FIVE
SCIENCE

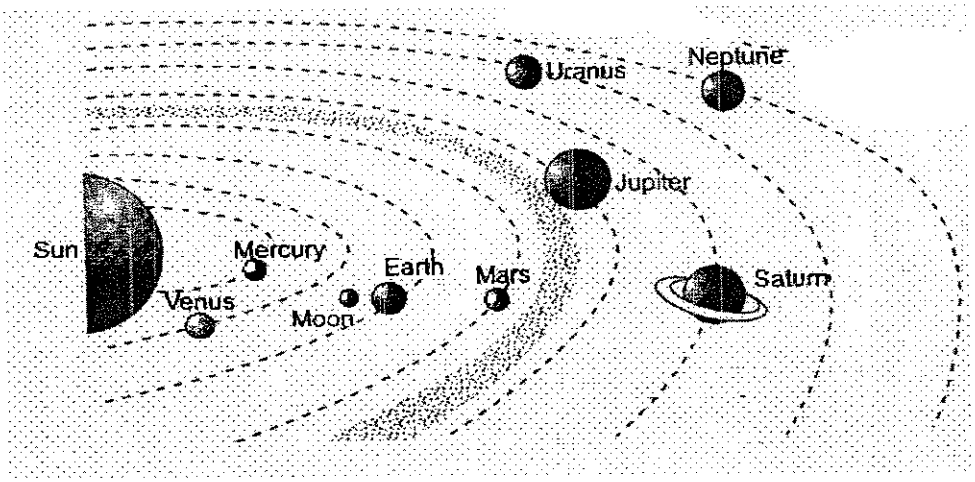
MARKS
40

Name :_____( )

Class : Primary 5 /____

Section B: (40marks)
Write your answers to question 31 to 46.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

31. Life exists on Earth but not on the other planets.



Give **two reasons** why life can exist on Earth. [2]

a) _____

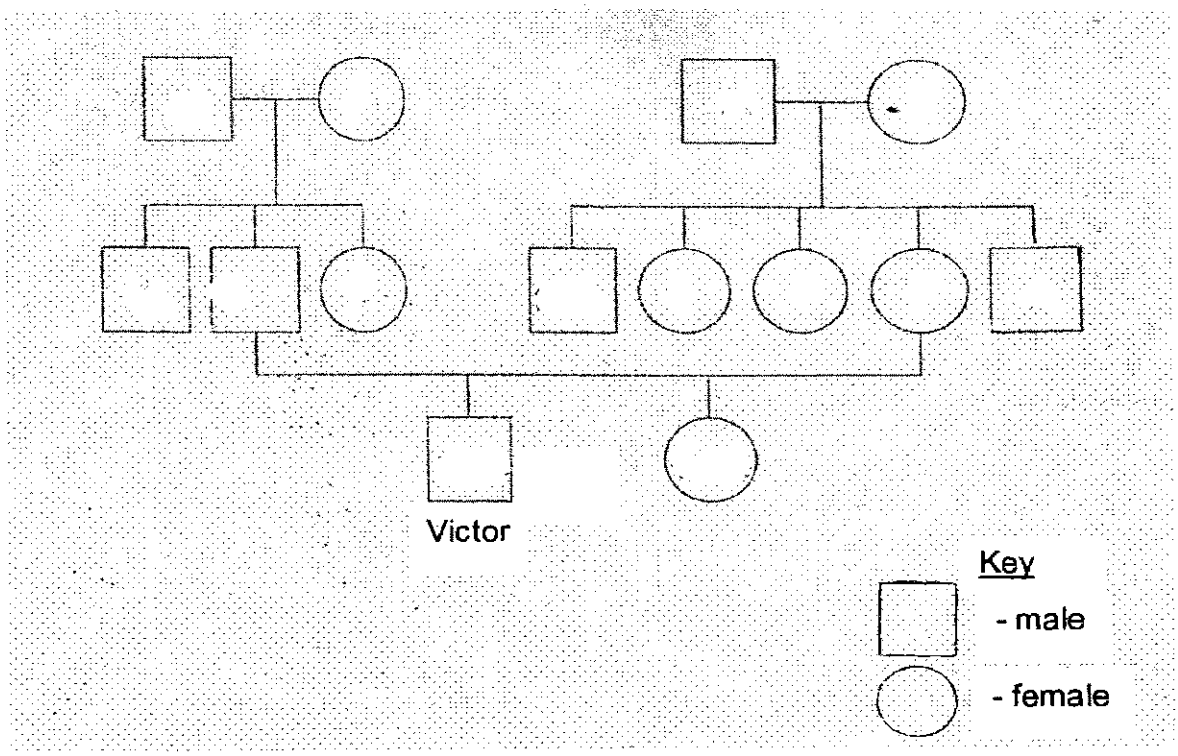
_____

b) _____

_____

Score	2

32. Look at Victor's family tree shown below.



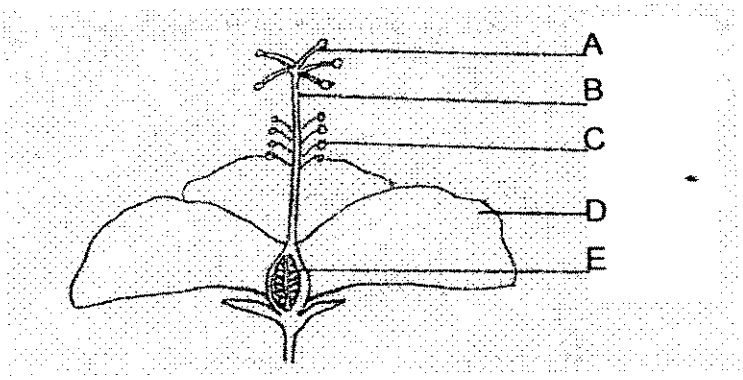
Based on the diagram, determine if the statements are "True", "False" or "Not possible to tell", by putting a tick (√) in the correct column. [2]

	True	False	Not possible to tell
(a) Victor has only one sibling.			
(b) Victor has 3 aunts and 4 uncles.			
(c) Victor's paternal grandfather has 2 sisters and a brother.			
(d) Victor has many cousins as his uncles and aunties are all married.			

Score	2

245

33.



The diagram above shows a cross-section of a flower.

(a) Which of these parts form the female reproductive system of the flower? [1]

_____

(b) Part D is often brightly coloured. Give a reason for this. [1]

_____

_____

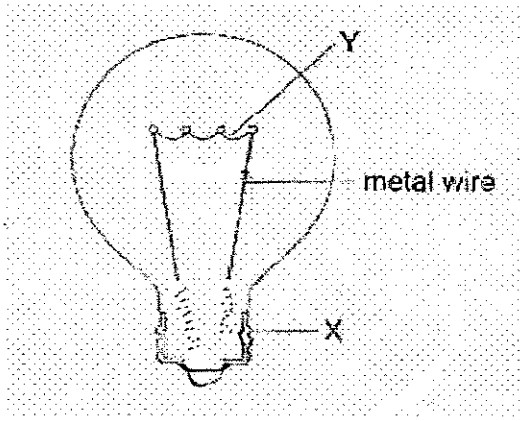
(c) Name the part that will develop into a seed after fertilisation has taken place. [1]

_____

_____

Score	
	3

34. The diagram below shows an **incomplete** diagram of the internal parts of a bulb.



(a) **Complete the diagram by drawing the metal wires** to show how they are connected within the bulb. [1]

(b) Name the following parts of the bulb: [1]

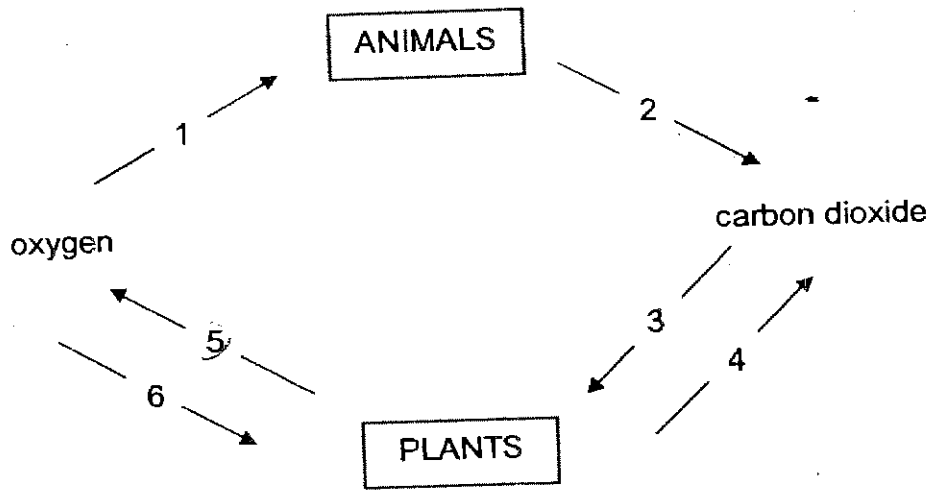
X:_____

Y:_____

Score	2

247

35. The six arrows in the diagram below show exchanges of gases between living things and their surroundings.



(a) Which two arrows show the process of photosynthesis? [1]

_____

(b) Name 2 conditions **not** shown in the diagram that are necessary for photosynthesis. [1]

_____

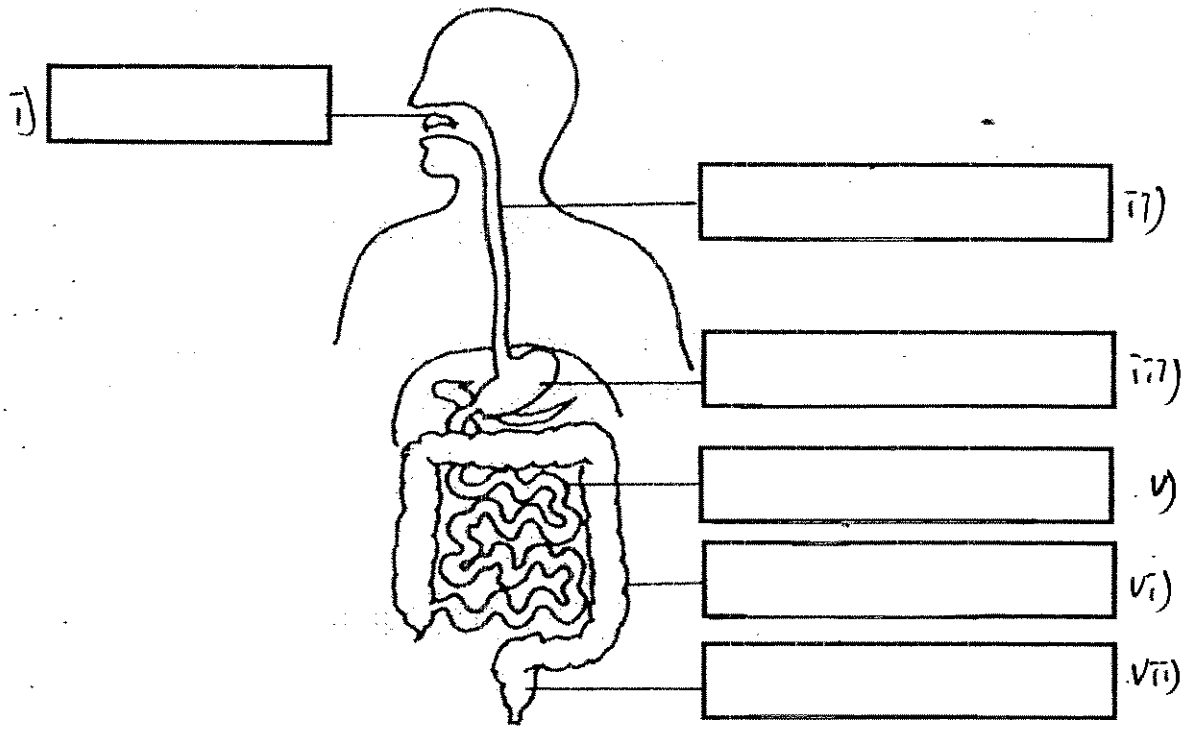
_____

(c) Name the product **not** shown in the diagram that is formed during photosynthesis. [1]

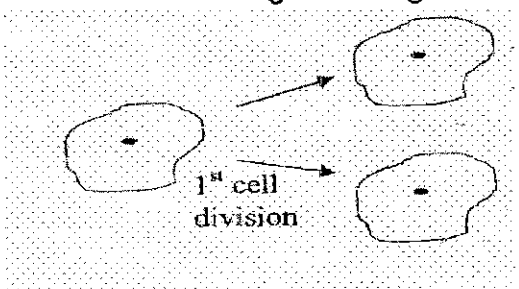
_____

Score	3

36. Look at the diagram below.
Fill in the names of the parts of the digestive system. [3]



37. The diagram below shows a single cell organism undergoing reproduction.

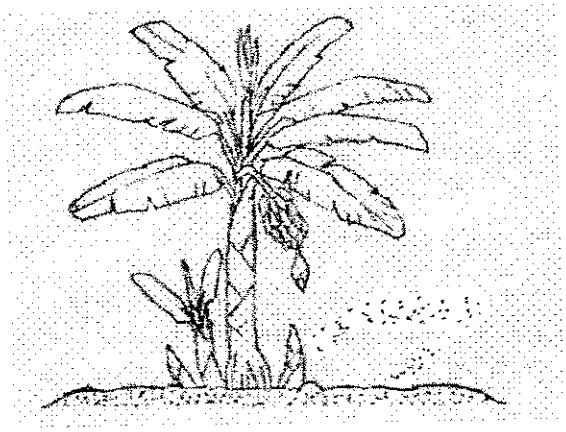


(a) How many cells are there after the 4th cell division? [1]

(b) Cell division occurs in both plants and animals. Why is it important for cells to ~~reproduce~~ divide? [1]

Score	
	5

38. Study the banana plant shown below.



(a) Use **an arrow** to indicate the sucker in the above diagram. [1]

(b) What is the disadvantage of young banana plants growing so close together? [2]

_____

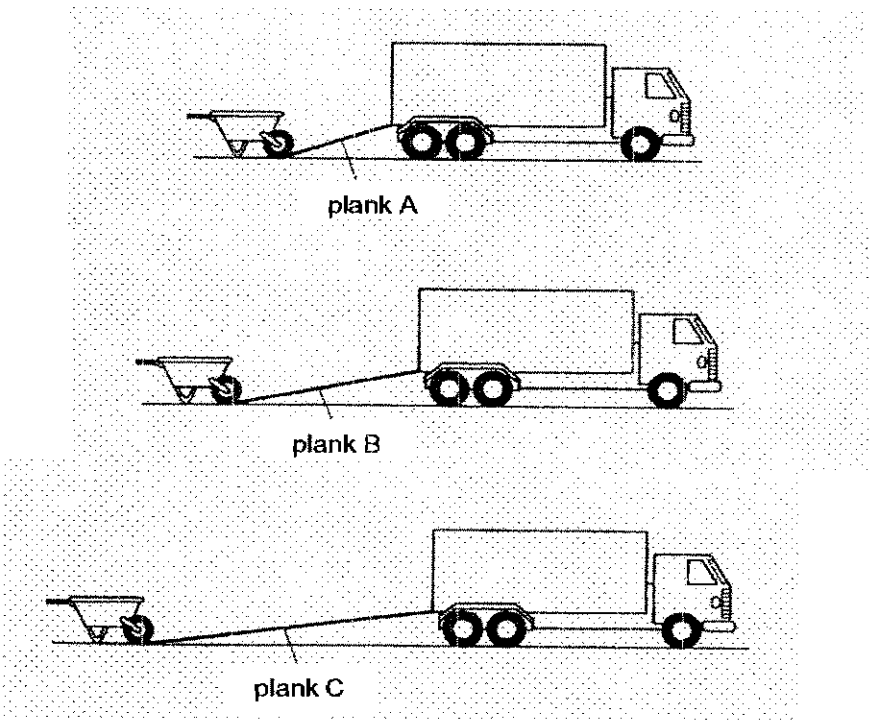
_____

_____

Score	3

39. A deliveryman used a plank to make an inclined plane to push a wheelbarrow of sand up to a truck. He pushed the wheelbarrow up the truck using 3 planks of different length as shown.

He then recorded the effort needed to push the wheelbarrow up the planks as shown in the table below. (Each '☼' represents 1 unit of effort.)



Plank	Effort needed
Plank A	☼☼☼☼☼☼
Plank B	☼☼☼☼
Plank C	☼☼

(a) From the above experiment, what is the relationship between the length of the plank and the effort needed to push the wheelbarrow? [1]

_____

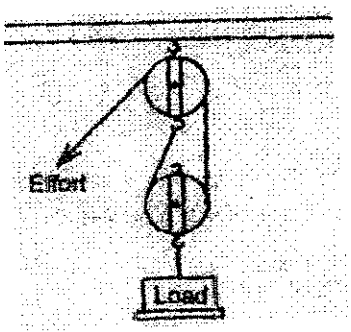
_____

(b) Name one variable that the deliveryman had to keep constant in his experiment for it to be a fair test. [1]

_____

Score	
	2

40. An experiment was conducted using the pulley system shown below.



The effort needed to lift different loads was recorded in the following table.

Load (kg)	Effort needed (kg)
6	3.2
12	6.2
18	9.3
30	

(a) Predict and write in the table above the effort needed to lift a 30kg load. [1]

(b) State two advantages of using this pulley system. [2]

(i) _____

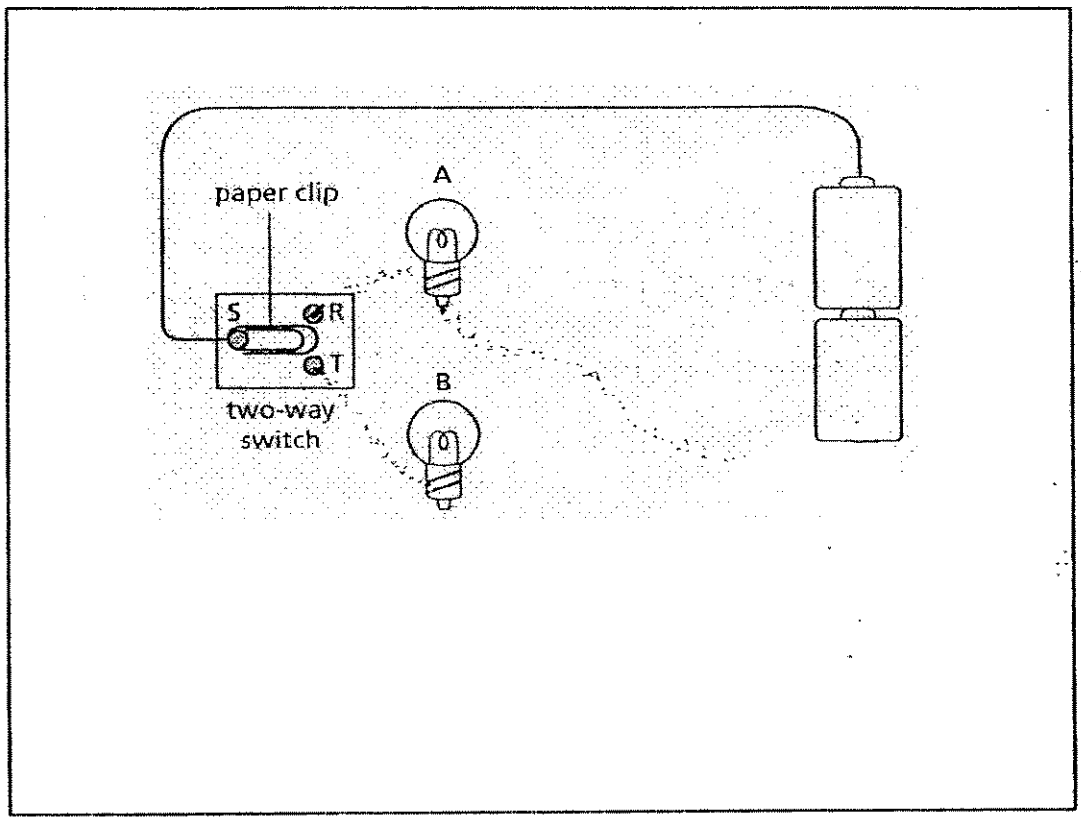
_____

(ii) _____

_____

Score	/ 3

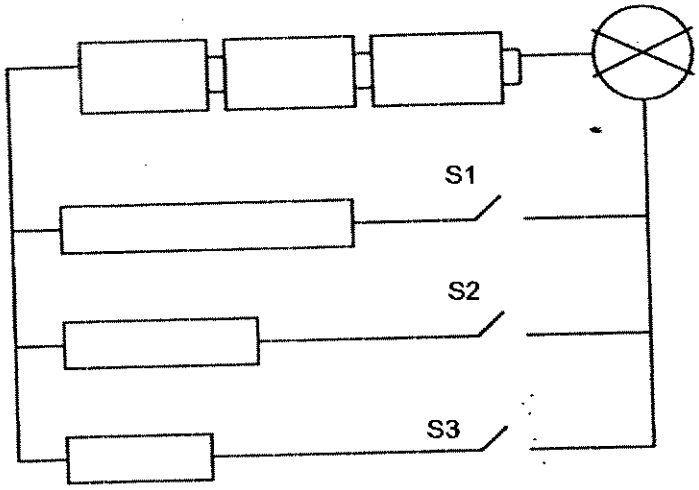
41. The diagram below shows two batteries, two bulbs and a two-way switch. The two-way switch is made up of three thumbtacks, R, S and T, fixed on a piece of styrofoam. A paper clip is connected to S in such a way that it is free to turn about to touch either R or T.



Draw in **wires** on the diagram to show how the bulbs and the two-way switch can be connected so that one can choose to light up either of the bulbs by moving the paper clip between R and T. [2m]

Score	2

42. The diagram below shows a bulb and some batteries connected to three iron rods of different length.



Kelvin closed switch S1 and kept switches S2 and S3 open. He then observed the brightness of the bulb. He repeated the experiment by closing switch S2 and keeping switches S1 and S3 open. Once again, he observed the brightness of the bulb. He did the same with switch S3. At any time, only one switch was closed.

What was Kelvin trying to find out in this experiment? [2m]

_____

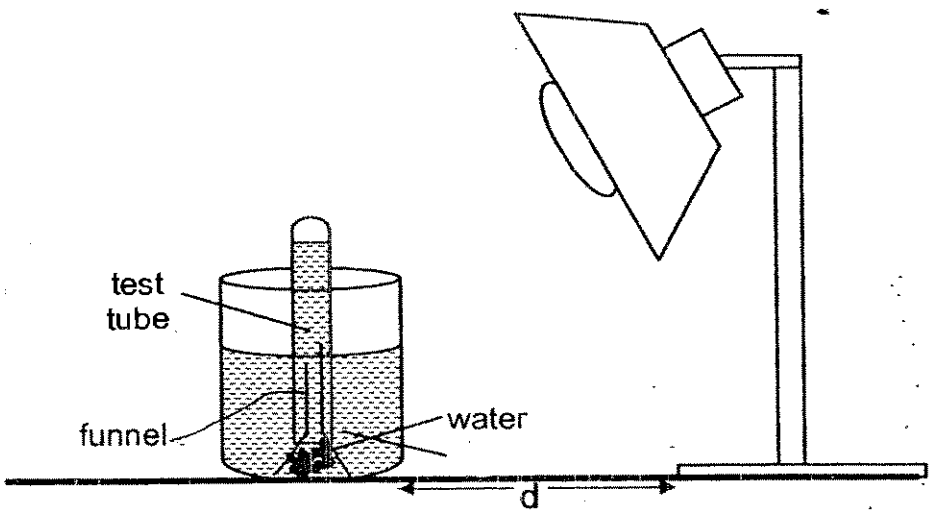
_____

_____

Score	2

43. Jamie set up an experiment to investigate the effect of different light intensity on the rate of photosynthesis.

She carried out her investigation as shown below.



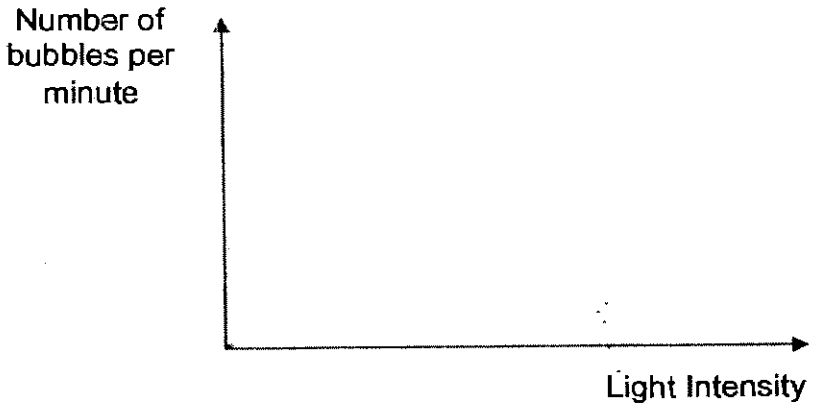
She changed "d", the distance between the lighted bulb and beaker and recorded the number of bubbles produced per minute at each position in the table below.

Distance between the lighted bulb and beaker / cm	40	35	30	25	20	15	10	5
Number of bubbles per minute	6	8	10	12	14	16	16	16

(a) What conclusion can you draw from the results of Jamie's investigation? [2]

Score	2

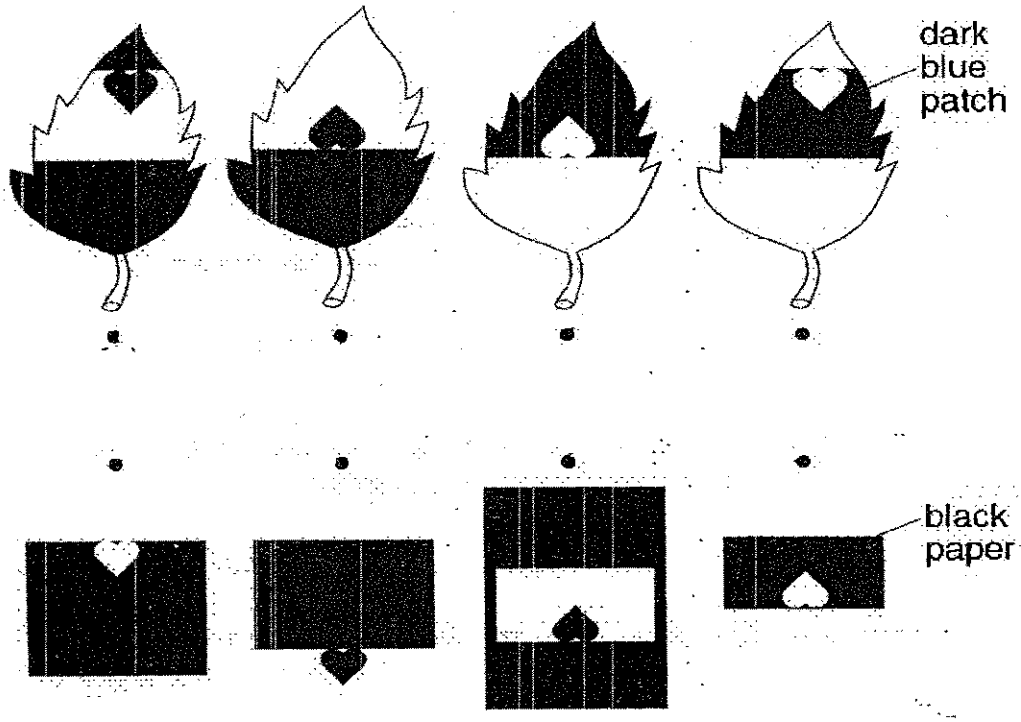
(b) On the axes below, draw a line graph to show the relationship between the number of bubbles per minute and light intensity. [2]



Score	2

44. Joseph cut different shapes out of pieces of black paper and used them to cover some leaves of a plant. After placing the plant under sunlight for some time, he conducted the starch test on the leaves. The first row shows the leaves after the starch test, with dark blue patches. The second row shows the pieces of black paper used to cover the leaves.

(a) Match each leaf to the correct piece of black paper used to cover it. [2]



(b) What do the areas on the leaves where the iodine solution has turned dark blue contain? [1]

_____

_____

Score	3

45. A group of pupils wanted to conduct an experiment to find out if different types of plants take in water at different rates. The following are the variables determined for the experiment.

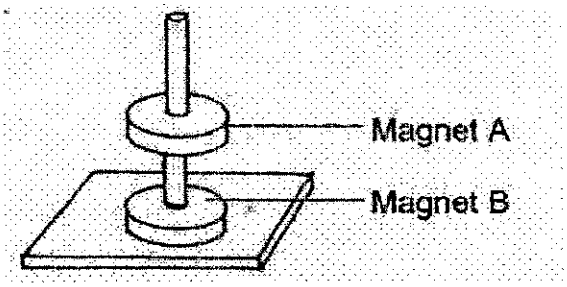
(a) Duration of experiment	**(b) Size of plants**
(c) Amount of water	**(d) Temperature of water**
(e) Place of experiment	**(f) Type of plants**

Which variable(s) must change or remain the same?
Put a tick (√) in the correct boxes below. [2]

Variables	Change	Remain the same
Duration of experiment		
Size of plants		
Amount of water		
Temperature of water		
Place of experiment		
Type of plants		

Score	/ 2

46. Magnet A appears to be 'floating' above Magnet B.



What causes Magnet A to 'float'? [2]

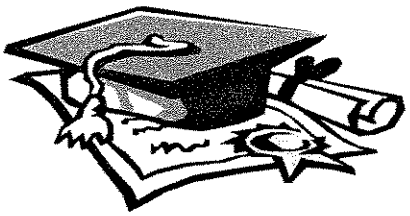
_____

_____

END OF PAPER

Setter: Mr Kum CF

Score	2



ANSWER SHEET

NAN HUA PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

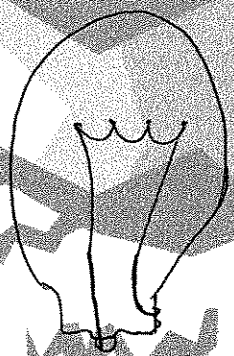
1. 4
2. 2
3. 4
4. 3
5. 4
6. 2
7. 2
8. 4
9. 3
10. 3
11. 1
12. 2
13. 2
14. 4
15. 3
16. 4
17. 1
18. 3
19. 4
20. 2
21. 1
22. 3
23. 4
24. 1
25. 1
26. 4
27. 2
28. 3
29. 4
30. 4

31) a) Earth has an atmosphere which contains oxygen, a gas that living things take in when they respire.
b) Earth's position from the sun is just right so it is neither too hot nor too cold for living things to stay alive.

32) a) True b) False c) Not d) Not

33) a) Part A, B and E.
b) It is to attract insects to pollinate the flower.
c) Part E (ovule).

34) a)



b) X: Metal casing.
Y: Metal filament.

35) a) Arrows 3 and 5.
b) They are sunlight and water.
c) The product is sugar.

36) i) tongue ii) gullet iii) stomach
v) small intestine vi) large intestine
vii) rectum

37)a)There will be 16 cells.(2x2x2x2=16)
b)Cell division occurs for growth and to replace old and damaged cells.

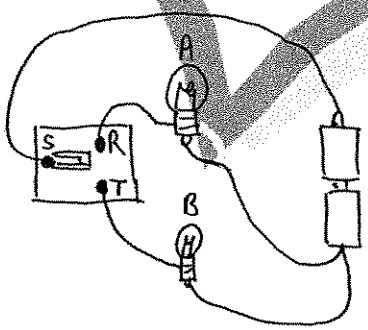
38)a)

b)Overcrowding may happen and young banana plants have to compete with each other for water, space, nutrient and sunlight and will not grow healthily.

39)a)The longer the plank, the less the amount of effort is needed.
b)He had to keep the weight of the sand constant.

40)a)15.4
b)i)This pulley system change the direction of effort.
ii)This pulley system reduces the amount of effort needed to move a load.

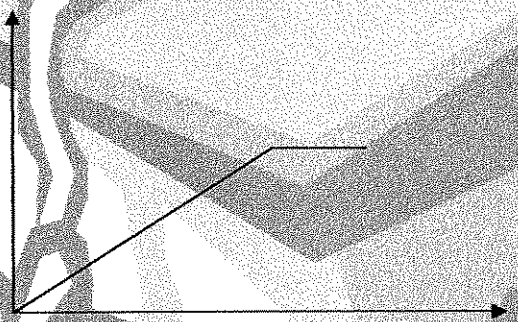
41)



42)Kelvin was trying to find out if the length of the rod affects the brightness of the bulb.

43)a)When the lighted bulb is nearer to the beaker, the intensity of the light is higher so the rate of photosynthesis of the plant is faster more bubbles are produced per minute. However, when the rate photosynthesis reaches a certain speed, the number of bubbles produced per minute will remain the same even if the intensity of the light is increased.

b)



44)a)

b)They contain starch.

45)

46)The like poles of Magnet A and Magnet B are facing each other so they repel each other, causing Magnet A to appear to "float" above Magnet B.

---end---

TAO NAN SCHOOL
PRIMARY 5 SCIENCE YEAR-END EXAMINATION-2007

Name: _____ _____ _____( ) **Date:** 25 October 2007

Class: P 5 (I) **Time:** 8.00 - 9.45 a.m.

Parent's Signature: _____ _____ **Marks:** _____/100

Section A (30 x 2 marks)

For each question from question 1 to 30, four options are given. One of them is the correct answer. Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1.

CROP CHART

CROPS	MONTHS								
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
lettuce		○	○	○	●	●	●	●	●
broccoli		○	○	○ ●	○ ●	●	●	●	●
potato	○			●	●		○	○	
cabbage	●	●					○	○	○
pumpkin		●	●	●					○
melon	●	●	●						○
corn	●	●	●					○	○

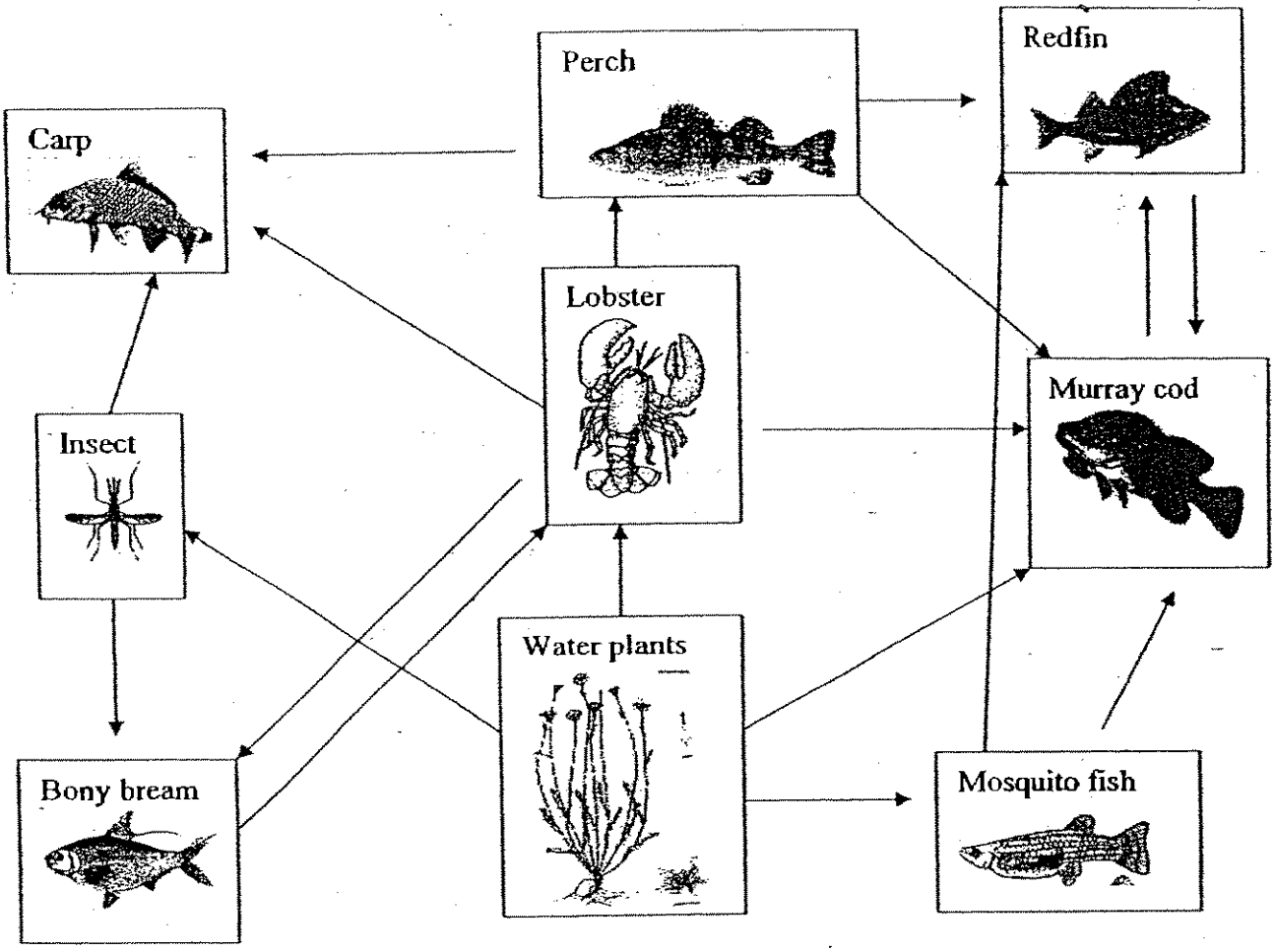
KEY	
○	planting
●	harvesting

In what month would the farmer plant broccoli and lettuce and also harvest broccoli and pumpkins?

(1) February
(2) March
(3) April
(4) May

For questions 2 and 3 use the information below.

The food web shows the food relationships in a freshwater river.



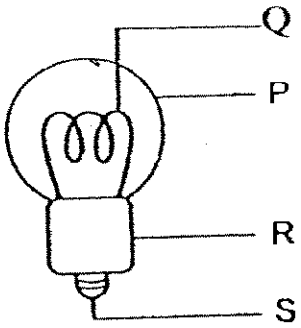
2. What is the Perch eaten by?

(1) Lobster only
(2) Carp and Redfin only
(3) Lobster, Carp and Redfin only
(4) Carp, Redfin and Murray cod only

3. Which one of the following is a herbivore?

(1) Lobster
(2) Murray cod
(3) Bony beam
(4) Mosquito fish

Study the diagram below and answer questions 4 and 5.



4. Which of the following statements about the part labelled Q are correct?

A: It can be made of tungsten.

B: It melts when too much current flows through it.

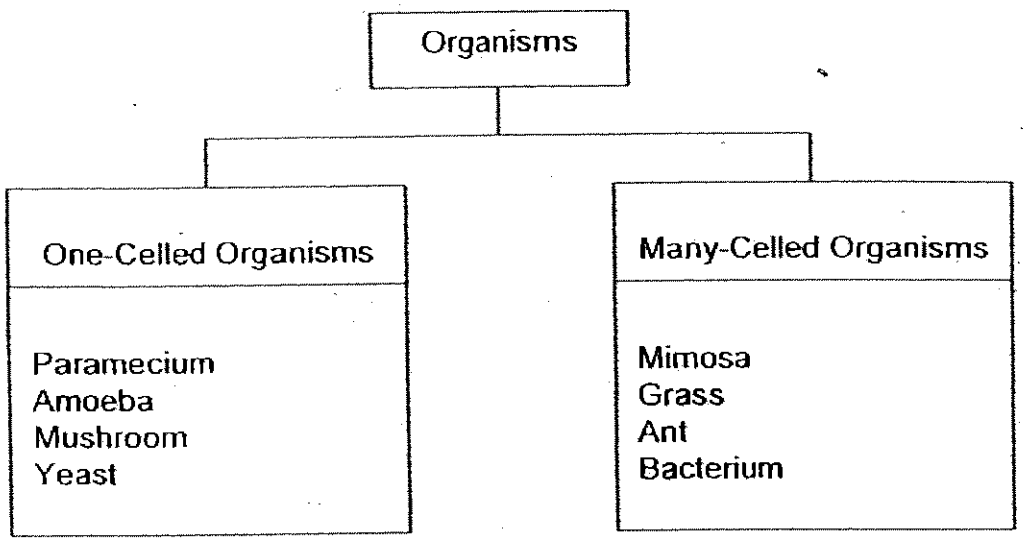
C: It glows when the bulb is connected to an electric circuit.

(1) C only
(2) A and B only
(3) B and C only
(4) A, B and C

5. Identify the two parts that have to be connected to an electric circuit so that the bulb lights up.

(1) P and Q
(2) Q and R
(3) Q and S
(4) R and S

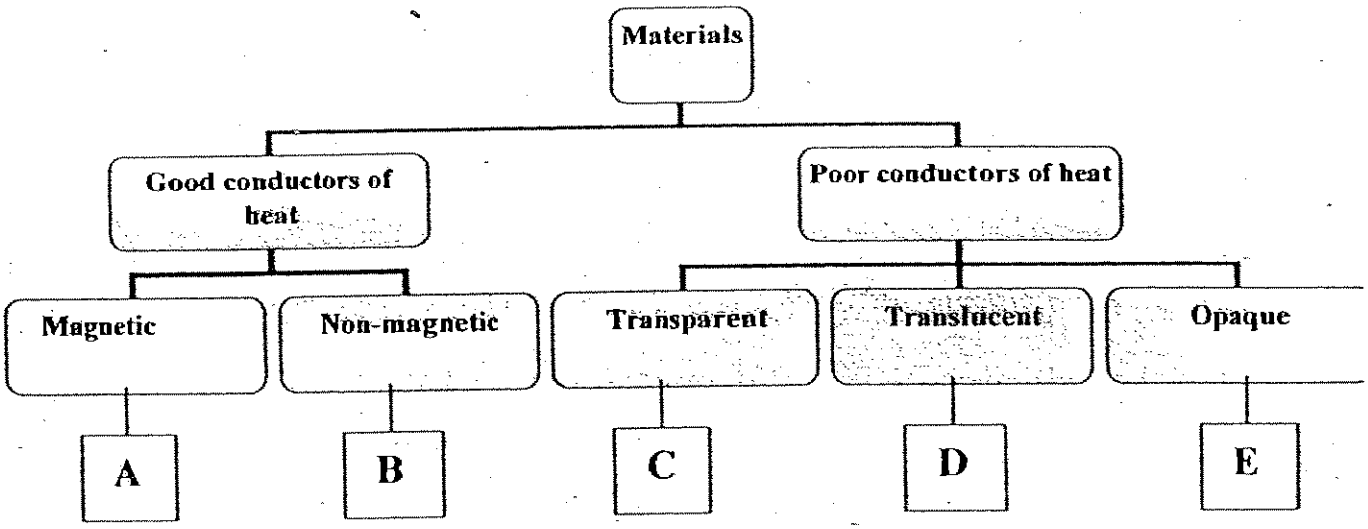
6. Study the classification below.



Which of the following organisms have been classified **incorrectly**?

(1) Yeast and Mimosa
(2) Amoeba and Grass
(3) Mushroom and Bacterium
(4) Paramecium and Ant

7. Study the classification chart below carefully.



What can A, B, C, D and E be?

	A	B	C	D	E
(1)	steel	copper	frosted glass	tinted glass	cloth
(2)	cobalt	mercury	clear plastic	frosted glass	styrofoam
(3)	silver	nickel	tin	oil	leather
(4)	iron	aluminium	clear water	frosted plastic	wood

8. The equation below shows the process of respiration.

Glucose + Oxygen → Energy + Carbon dioxide + Water

Which of the following is true?

A: It takes place in the cell.

B: In plants, it takes place during the day and night.

C: Sunlight provides energy for respiration in plants.

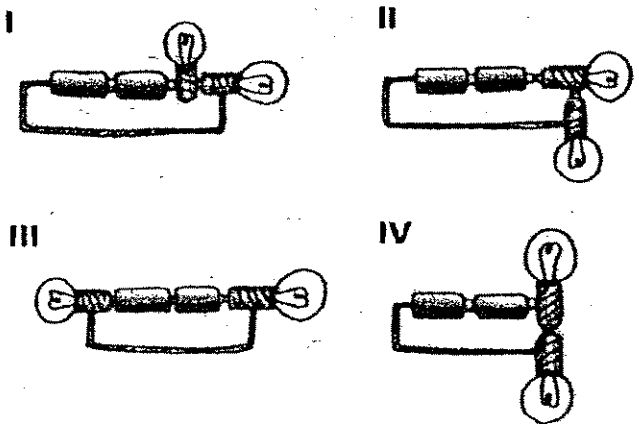
D: Energy, carbon dioxide and water vapour are the products of respiration.

(1) A and B only
(2) C and D only
(3) A, B and D only
(4) A, B, C and D

9. Which one of the following statements is **true**?

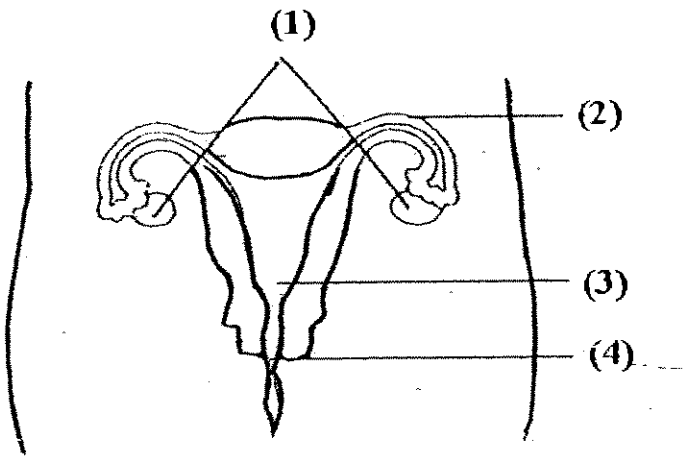
(1) Root cells make chlorophyll in their cytoplasm.
(2) Plant cells have cell walls but no cell membrane.
(3) Leaf cells manufacture starch during photosynthesis.
(4) Leaf cells have chloroplasts to trap light energy for photosynthesis.

10. Which of the following circuits will have **at least one** bulb lighted up?



(1) I only
(2) III and IV only
(3) II, III and IV only
(4) All of the above

11. Where does fertilization takes place in the female reproductive system below?



12. Below are statements about fungi made by four pupils. Which pupil made an incorrect statement?

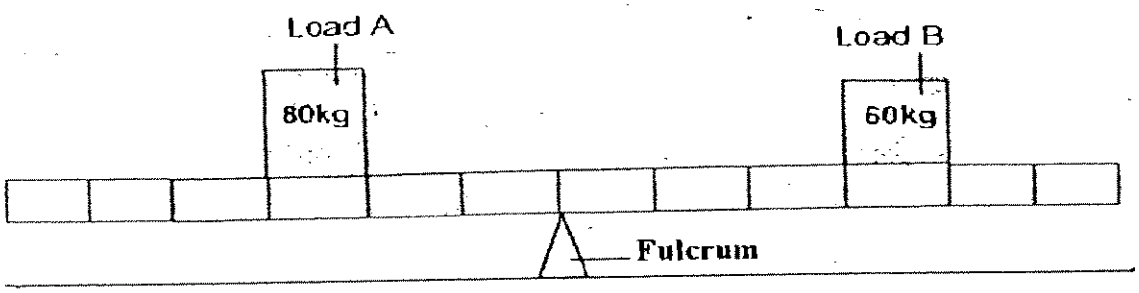
(1) Jonathan: Yeast and bread mould are examples of fungi.

(2) Marcus: Fungi feed on decaying matter.

(3) Eliza: All fungi are poisonous.

(4) Chloe: Fungi undergoes respiration.

13. Richard balanced 2 loads, Load A and Load B on a lever as shown below.



What should he do to make Load B tilt up?

(1) He should move Load A towards the fulcrum.
(2) He should move the fulcrum away from Load B.
(3) He should move Load B towards the fulcrum.
(4) He should move the fulcrum towards Load A.

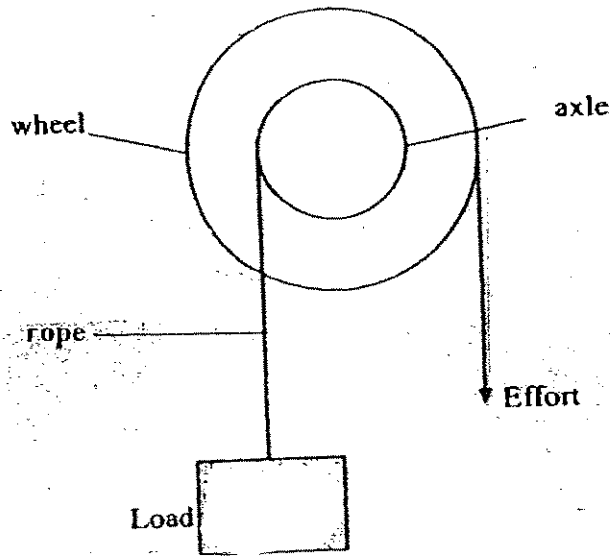
14. Below is a classification table.

A	i	has legs	Go to B
	ii	does not have legs	go to D
B	i	8 legs or less	Go to E
	ii	more than 8 legs	go to F
C	i	body with no shell	Go to F
	ii	body with a shell	Mollusc
D	i	body with rings	Annelid
	ii	body with no rings	Nematode
E	i	6 legs	Insect
	ii	8 legs	Arachnid
F	i	all legs are of the same length	Myriapod
	ii	not all legs are of the same length	Crustacean

Using the classification table given, what is the organism above?

(1) Annelid
(2) Arachnid
(3) Myriapod
(4) Crustacean

15. Study the diagram of the wheel and axle below carefully.



Which of the following conditions will require a bigger effort to lift the load?

A: Increase the mass of the load.

B: Increase the size of the axle.

C: Increase the size of the wheel.

(1) C only
(2) A and B only
(3) B and C only
(4) A, B and C only

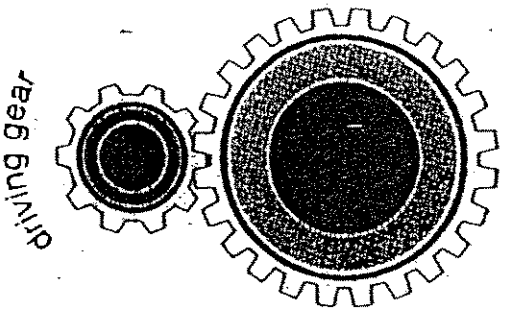
16 Which one of the following is an example of a pull?

(1) Kicking a soccer ball.
(2) Flicking an ant crawling on my shirt.
(3) Pressing the buttons of a remote control.
(4) Lifting a lid from a plastic food container.

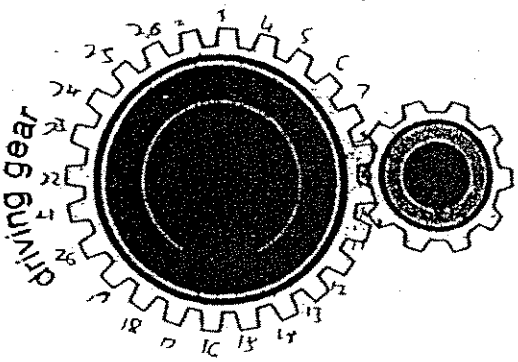
17. A motor turns a driving gear in a machine at 10 turns per minute. The driving gear is attached to another gear that completes 24 turns a minute.

Which diagram represents the gear in this machine?

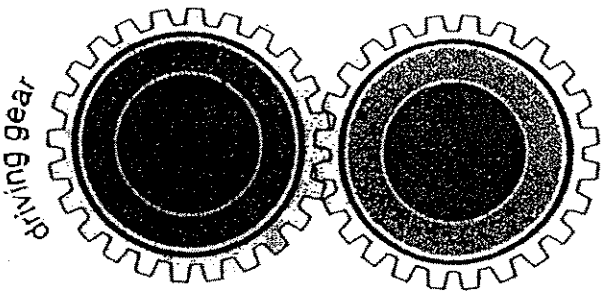
(1)



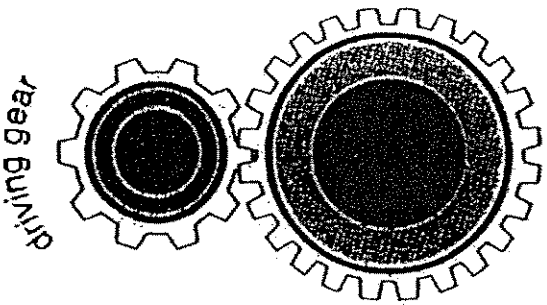
(2)



(3)



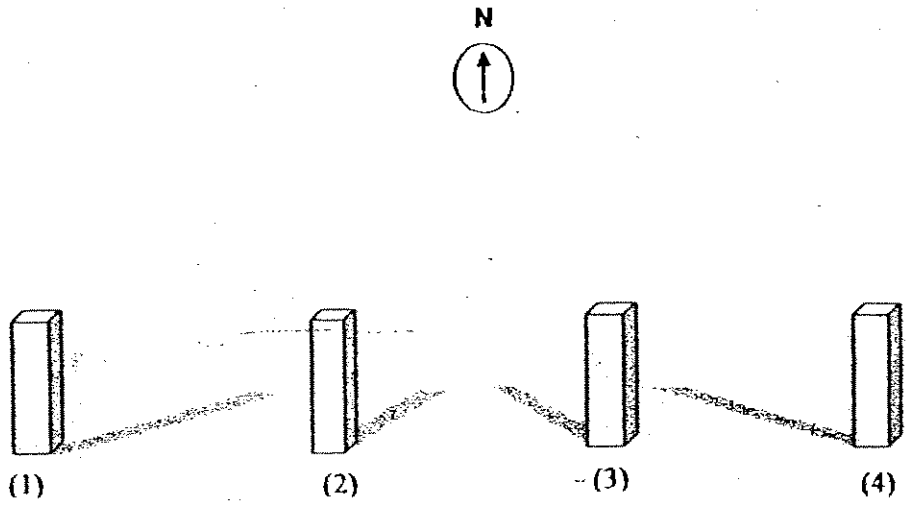
(4)



18. The table below shows some changes that take place around us and the result of these changes. Which of the following shows the result **correctly**?

	Change	**Result**
(1)	Revolution of the Earth	Day and night
(2)	No wind for a month	Low tide
(3)	Cutting of trees in a forest	Death of some animals.
(4)	Evaporation of water from a lake.	Drought in the country

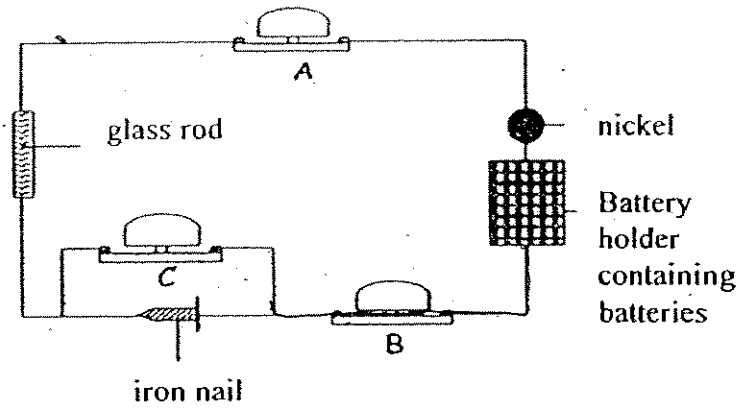
19. The diagram below shows the position of the shadow cast by a stick at 4 different times during a day. Which diagram shows a shadow cast at 6.00pm?



20. Henry has been advised never to touch a switch when his hands are wet. Which one of the following is the best reason?

(1) The wires may rust.
(2) He may dirty the switch.
(3) He may get electrocuted.
(4) The switch may not work if it gets wet.

21 The diagram below shows 3 buzzers, A, B and C in a circuit.



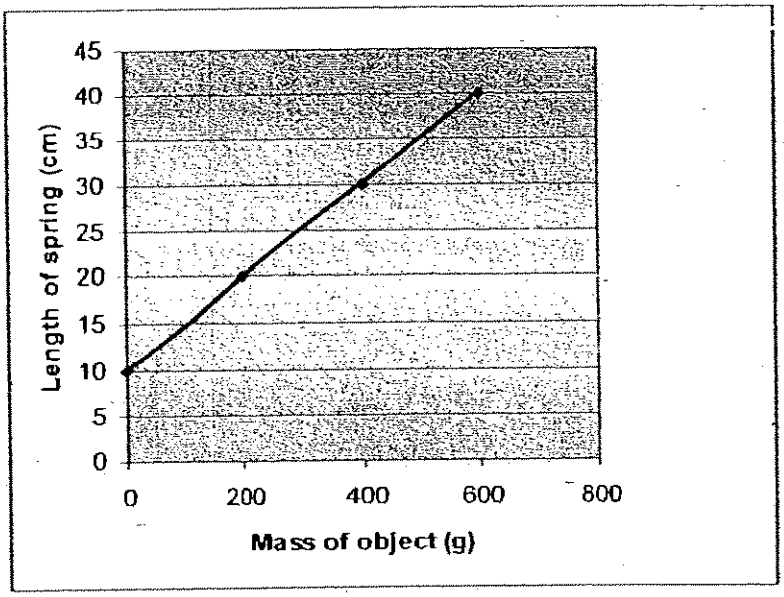
Which buzzer(s) will sound?

(1) C only
(2) A and B only
(3) All of the buzzers
(4) None of the buzzers

22 Which is the function of the cell wall of a plant cell?

(1) It keeps the plant upright.
(2) It absorbs water from the soil.
(3) It controls the activities in the plant cell.
(4) It helps to maintain the shape of the plant cell.

23. John carried out an experiment to determine the effects of objects of different masses on a spring. A line graph was plotted as shown below after the experiment.



What can John conclude from the line graph above?

A: The length of the spring increases proportionately with respect to the mass of the object.
B: Doubling the mass will double the length of the spring.
C: When a 600g object is hung on the spring, the length of the spring is 30cm.
D: The extension of the spring is 15cm when a 300g object is hung on it.

(1) A and B only
(2) A and D only
(3) B and C only
(4) C and D only

24. Our blood can be classified into four groups – A, B, AB and O.

The table below shows how the blood types of blood donors and recipients are matched.

Blood Type	**Blood type of person donating blood**			
Blood type of person receiving blood	A	B	AB	O
A	Yes	No	No	Yes
B	No	Yes	No	Yes
AB	Yes	Yes	Yes	Yes
O	No	No	No	Yes

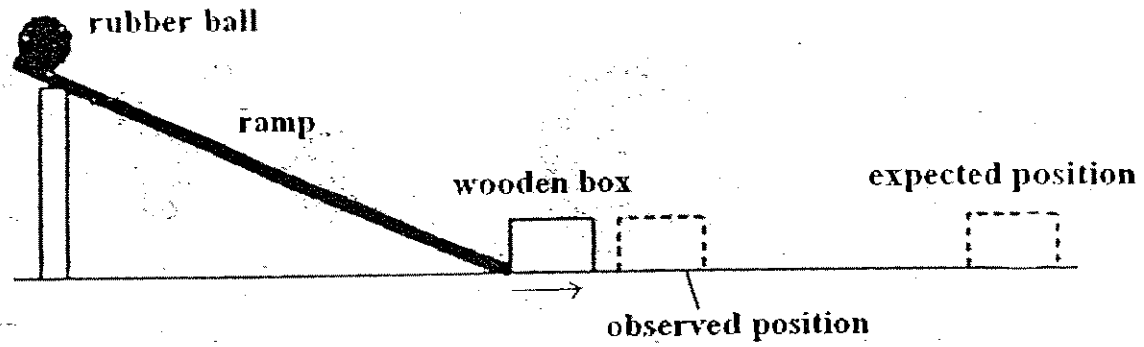
Michael's family members have the following blood types:

Father - B
Mother - A
Brother - AB
Sister - O
Michael - B

If Michael needs a blood transfusion, who can he receive blood from?

(1) His father only
(2) His mother and brother only
(3) His father and his sister only
(4) His father, brother and sister only

25. Li Ying carried out the experiment below.



When she released the rubber ball, the box did not move as far as she had expected. What could she do to the set-up to ensure that the box moves to the expected position or further?

A: Lower the ramp.

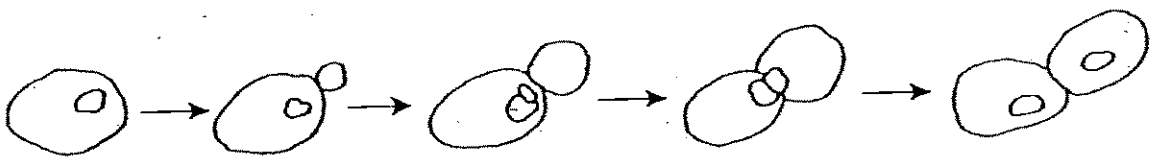
B: Use a heavier ball.

C: Use a smoother ramp.

D: Add weights to the wooden box.

(1) A and B only
(2) A and D only
(3) B and C only
(4) C and D only

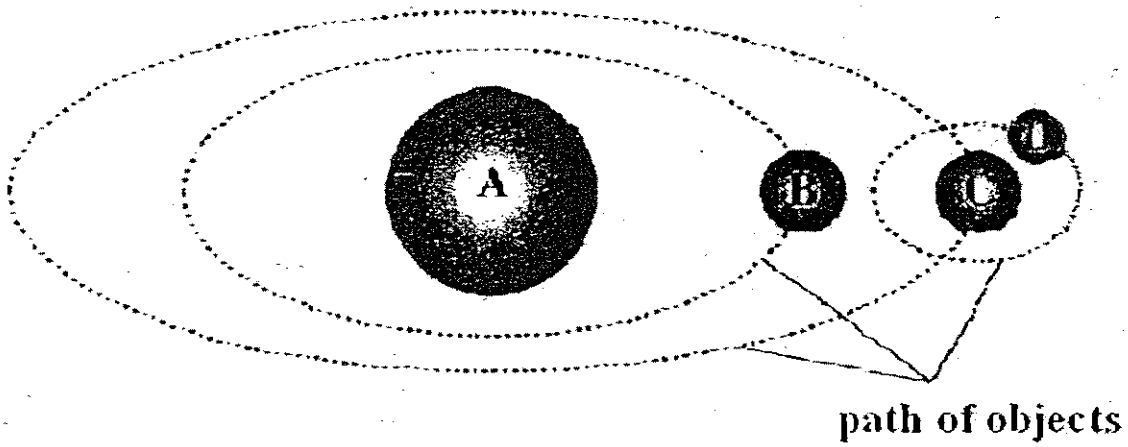
26. The diagram below shows the stages of reproduction of a yeast cell.



Which one of the following about this process is **incorrect**?

(1) This method of reproduction is called budding.
(2) The young cell and the parent cell share the same nucleus.
(3) The young cell has the same characteristics as the parent cell.
(4) Part of the cytoplasm of the young cell comes from the parent cell.

27. The diagram below shows certain objects in the Solar System.



Object A is the source of light and heat.
Object B and Object C move around object A.
Object D moves around object C.

What are Object A, Object B, Object C and Object D?

	A	B	C	D
(1)	Sun	Mercury	Earth	Moon
(2)	Sun	Earth	Moon	Mercury
(3)	Moon	Earth	Mercury	Sun
(4)	Moon	Mercury	Earth	Sun

28 Below are the steps of a starch test.

A — Pluck a leaf from a plant.

B — Leave the plant in the Sun for a few days.

C — Soak the leaf in a test tube of alcohol and place the test tube in hot water.

D — Boil the leaf in water.

E — Wash the leaf and then add a few drops of iodine solution over it.

Which of the following arrangements show the correct order of the starch test?

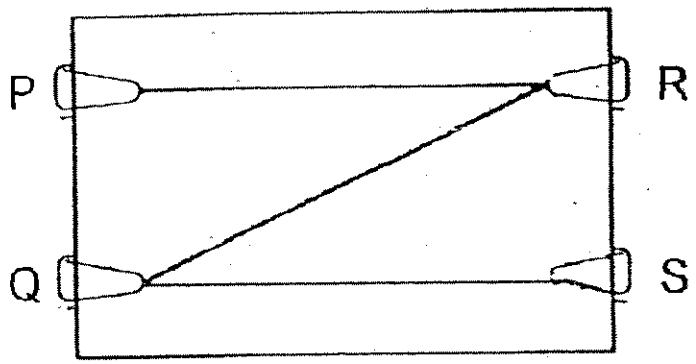
(1) A, B, C, D, E
(2) A, B, D, C, E
(3) B, A, C, D, E
(4) B, A, D, C, E

29. In which of the following is/are heat produced?

A: Striking a match.
B: Watering a plant.
C: Hitting a nail with a hammer

(1) A only
(2) C only
(3) A and C only
(4) B and C only

30. The following diagram shows a circuit card.



Pairs of clips were tested with a circuit tester.

Yes- Represents allow electricity to flow through.
No – Represents do not allow electricity to flow through.

Which of the following shows the result when the pairs of clips were tested with the circuit tester?

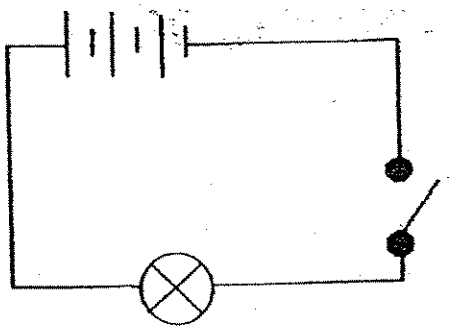
		P	Q	R	S
(1)	P		No	Yes	No
(2)	Q	No		Yes	Yes
(3)	R	Yes	Yes		No
(4)	S	Yes	Yes	Yes	

Name: ___ _____ _____( )
Class : 5 ( )

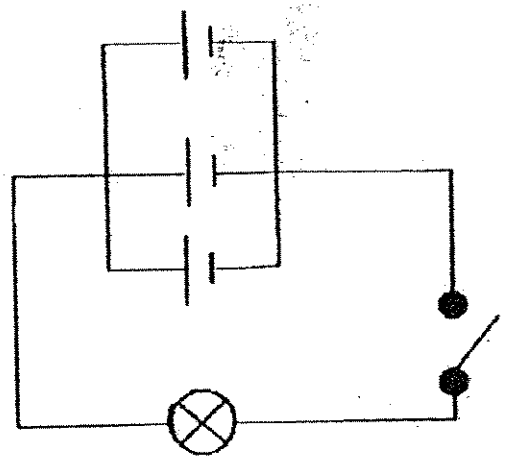
Section B (40 marks)

For questions 31 to 46, write your answers in the spaces provided.

Q31. Ying Run set up 2 circuits using three batteries and a bulb. The type of batteries and bulb used for the 2 circuits are also the same.



Setup A

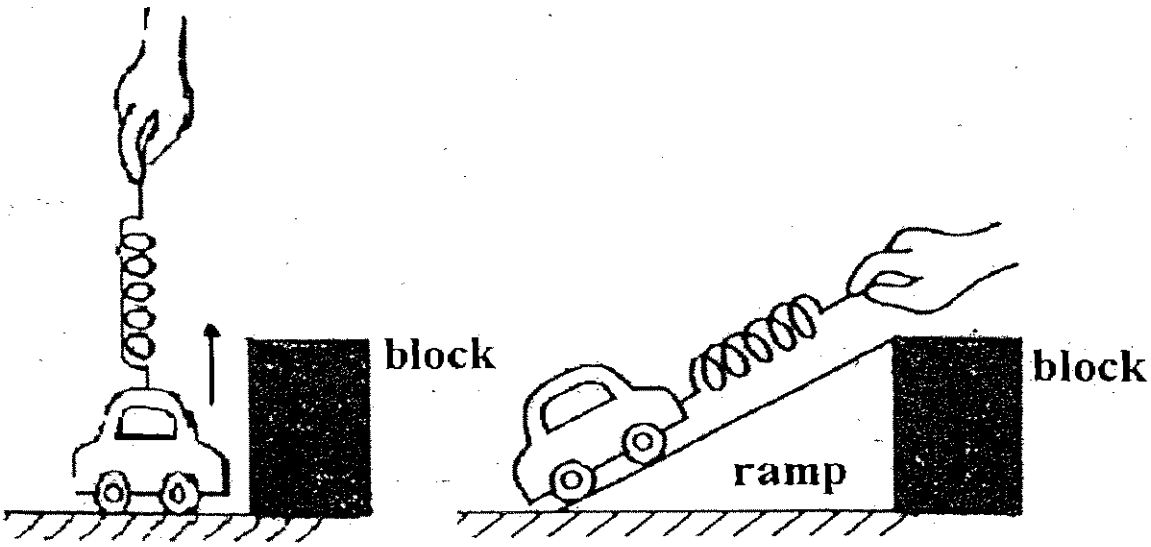


Setup B

(a) When the switch is closed, the bulb in which setup will be brighter? Explain your answer. (1m)

(b) Give one advantage of the arrangement of batteries in Setup B. (1m)

Q32. The same spring is used to move a toy car to the top of a block in two different ways as shown in the following setups.



Setup X **Setup Y**

	Setup X	Setup Y
Original length of spring	10 cm	10 cm
Length of the extended spring when the toy car is moved	16 cm	14 cm
Distance travelled by the toy car	8 cm	12 cm

(a) Which one of the two setups requires greater effort to move the toy car? Why? (1m)

_____

(b) From the results given, what is the advantage of using the way in Setup X to move the toy car to the top of the block? (1m)

_____

(c) What is the length of the extension of the spring in Setup Y? (1m)

_____

_____

20 284

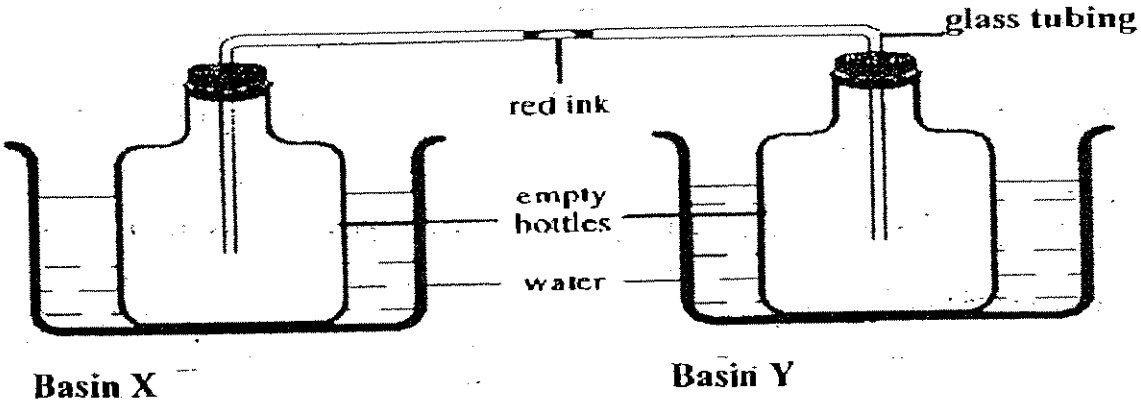
33. Classify the substances in the box below in the table provided. (2m)

Substances:

Steam	Blood	Alcohol
Snow	Helium	Oil

Solid	Liquid	Gas

34. Alex connected two identical empty bottles and a glass tubing as shown in the diagram below. In the glass tubing, he had added a drop of red ink. He then placed each of the empty bottles in a basin of water.



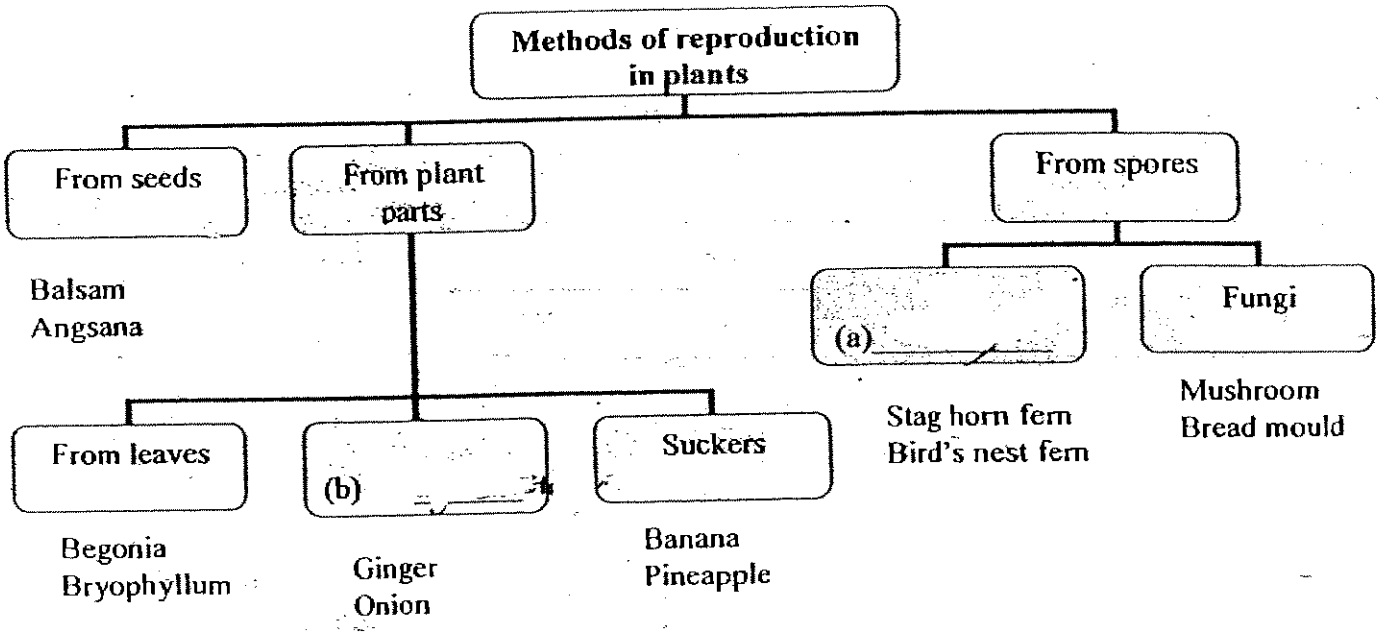
(a) In the table below, state the direction of the movement of the red ink by writing "Towards X" or "Towards Y" when the water has the following set of temperatures. (1m)

	Temperature of water (°C)		Direction of movement of the drop of red ink
	Basin X	Basin Y	
(i)	10	90	
(ii)	90	10	

(b) Explain your answer in (a), (i). (2m)

35. Clara drew the chart below to classify **plants** based on their methods of reproduction.

Complete the chart by filling in the empty boxes (a) and (b). (2m)



(c) Clara was told that there is an error in her chart. What is the error that Clara had made? (1m)

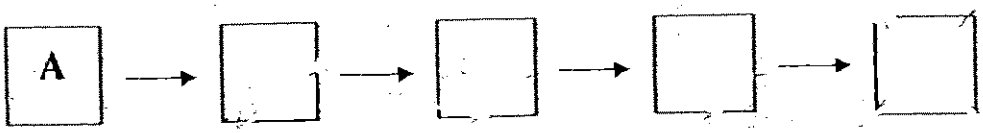
_____

_____

36. Read the following statements carefully.

A:	~~The lungs expand.~~ The chest becomes bigger
B:	The air goes into the lungs.
C:	Air goes through the nose.
D:	The air goes into the windpipe.
E:	~~Hairs in the nose trap dust and dirt present in the air.~~

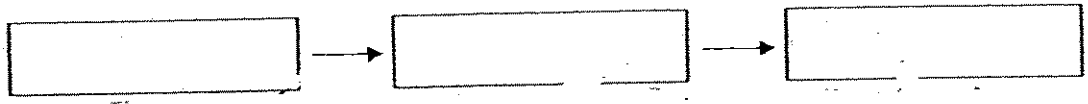
Arrange the above statements in the correct order to describe what happens during breathing. The first has been done for you. (2m)



37. A substance has to pass through various parts of a plant cell before reaching the nucleus.

(a) Use the words given below to write the correct order in which the substance has to pass through. (1m)

Cell membrane	Cytoplasm	Cell wall

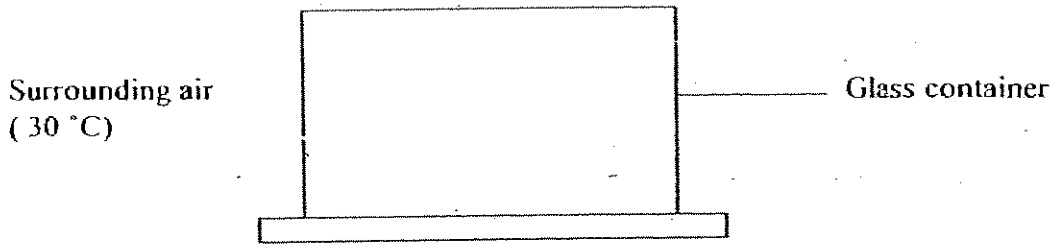


(b) Which organelle in the plant cell helps it to make food? (1m)

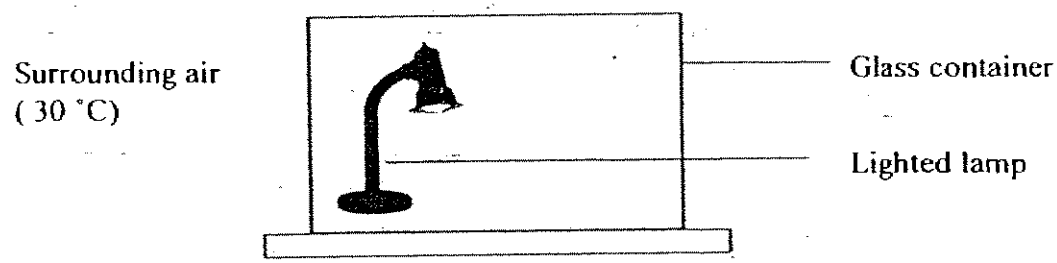
_____

_____

38. James measured the temperature of the air inside a covered glass container.

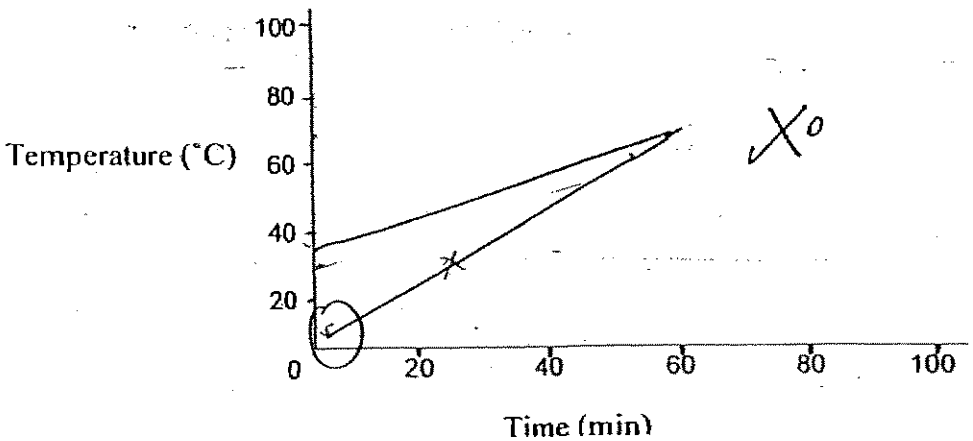


He then placed a lighted lamp inside the same covered container as shown below.



He took the temperature of the air inside the container every 20 minutes, for one hour.

(a) Draw the temperature ~~time~~ Line graph to show the change in the temperature of the air inside the covered glass container during this hour. (1m)

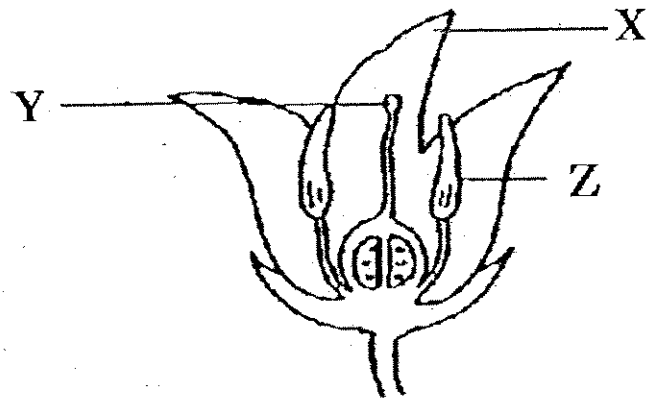


(b) Explain the change in temperature of the air inside the covered glass container during this hour. (1m)

_____

_____

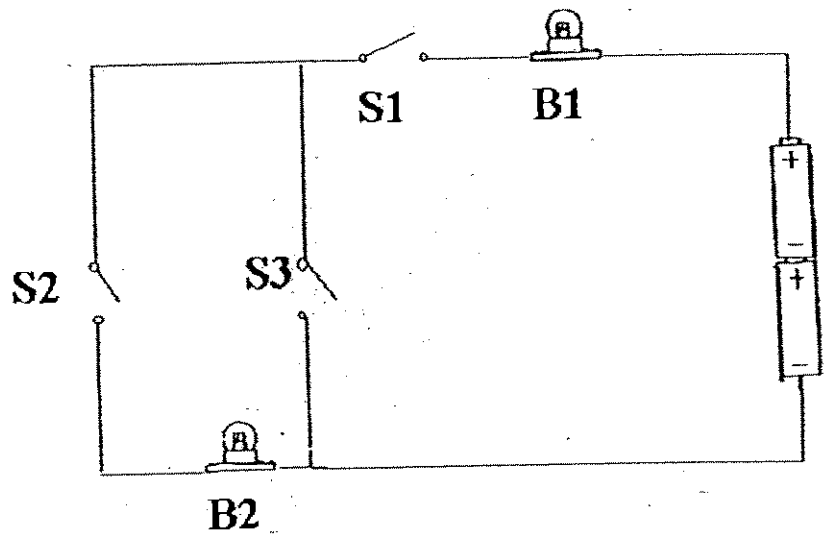
39. Look at the diagram of an insect-pollinated flower below.



Identify the parts marked X, Y and Z and their corresponding functions in the table below. (3m)

	Plant Part	Function
X		
Y		
Z		

40. Zheng Wei set up the circuit below using 2 bulbs, B1 and B2, and three switches, S1, S2 and S3.



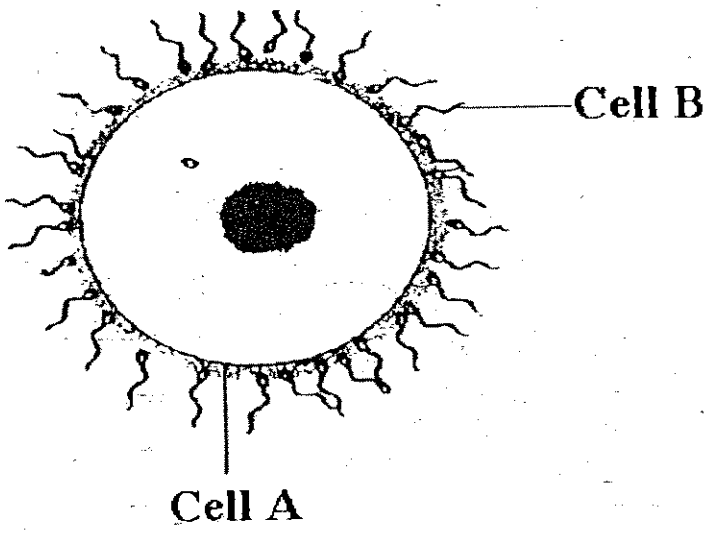
He wanted to find out which of the bulbs, B1 and B2, will light up when the switches were opened and closed. He recorded some of the data he collected in the table below.

(a) Fill in the empty boxes to complete the table. (3m)

	Switches			Did the bulb light up?	
	S1	S2	S3	B1	B2
i)	Open	Closed	Closed		
ii)	Closed	Closed	Open		
iii)	Open	Open	Closed		

(b) What could we do to make the bulbs glow more brightly? (1m)

41. The diagram below shows cells produced by a man and a woman. The cells are labelled, Cell A and Cell B respectively.



(a) Identify Cell A and Cell B.(1m)

Cell A : _____

Cell B : _____

(b) Which reproductive organ is Cell B produced in? (1m)

_____

42. Linda observes 4 fruits each with a different method of fruit/seed dispersal and describes them as follows:

Fruit A: The fruit has a fibrous husk that traps air.

Fruit B: The fruit is fleshy, tasty and has a bright orange skin.

Fruit C: The fruit has a few seeds. It is pod-like and has a dry brown skin when ripe.

Fruit D: The fruit is small with one seed. It is tipped with a tuft of fine soft hair.

Based on the characteristics of the fruits, how are they dispersed? (2m)

Fruit	Method of fruit/seed dispersal
Fruit A	
Fruit B	
Fruit C	
Fruit D	

43. Yu Hui carries out an experiment according to the steps below:

Step 1: Fill a bottle with warm water.

Step 2: Add about 20g of glucose to the water in the bottle and stir.

Step 3: Add about 10g of yeast to the solution in the bottle.

Step 4: Stir the mixture well.

Step 5: Stretch a balloon over the top of the bottle. Use a rubber band to secure the balloon. Observe the balloon after 10 minutes.

Observation: Gas X is produced.

(a) What is Gas X? What can Yu Hui do to identify Gas X? (1m)

_____

(b) Identify the process that has taken place in the experiment? (1m)

_____

44. Terry carried out 4 different activities for the same duration. These activities are represented by the letters A, B, C and D. He then measured his breathing rate and pulse rate for each activity. The results are shown in the table below.

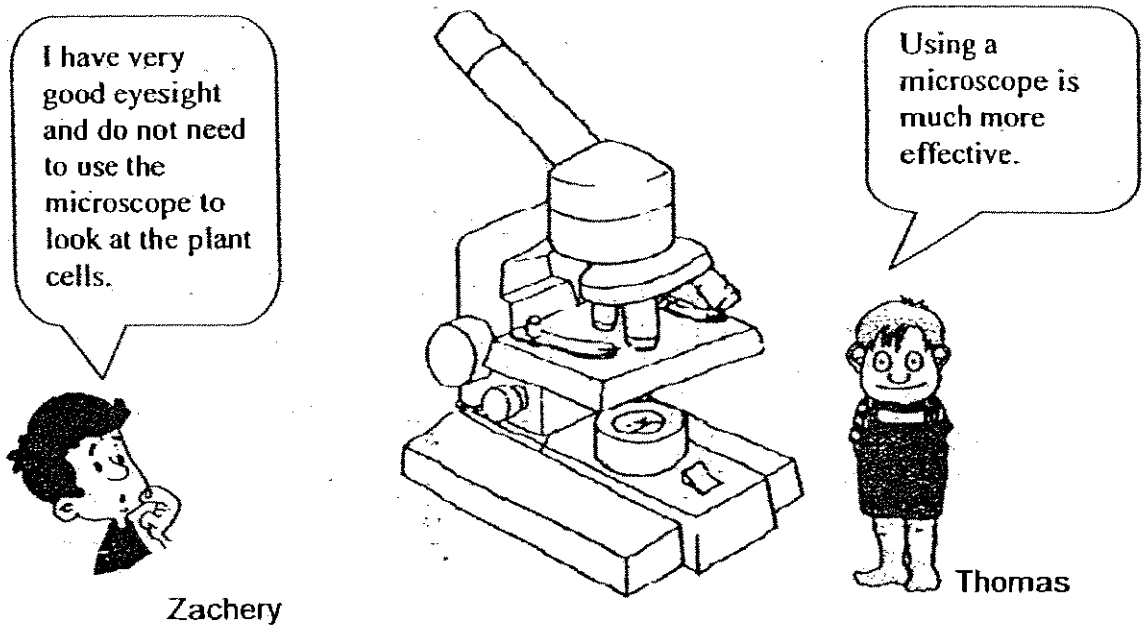
Activity	Breathing rate (per minute)	Pulse rate (per minute)
A	30	66
B	36	70
C	50	105
D	70	140

(a) Match the activities **A, B, C** and **D** that Terry carried out with their corresponding descriptions. Each activity **A, B, C** and **D** can only be used once. (2m)

Description	Activity
Strolling in a park	
Jogging on the spot	
Sleeping at home	
Running a 100m race	

(b) What is the relationship between his breathing rate and his pulse rate? (1m)

45. **During a Science lesson**



(a) Why did Thomas insist that it is better to use a microscope? (1m)

The boys wrote down the procedure when using the microscope. However, they missed out some words and would need your help to fill in the blanks to complete the procedure. (2m)

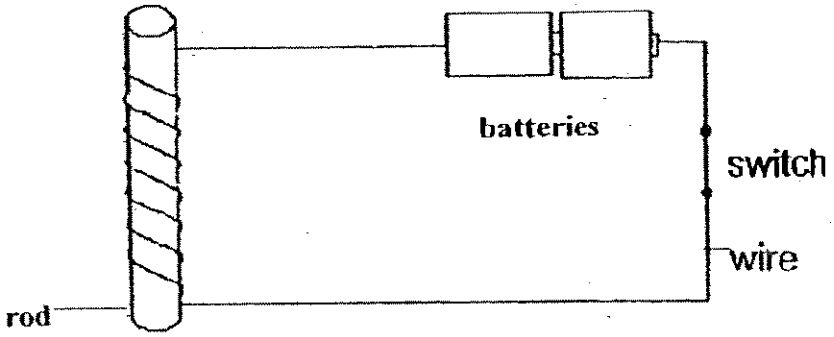
Procedure

Step 1: Switch on the power.

Step 2: Turn the (a)(b) _____ to the lowest magnification (Lower the (b) _____ (a). Place the glass slide on it.

Step 3: To see more clearly, adjust the(c)_____ while looking through the (d)_____. You should be able to see the enlarged specimen.

46. Rachel and Audrey set up an electromagnet as shown below. They wanted to investigate how the material of the rod affects the number of paper clips attracted. Four rods A, B, C and D, each made of a different material is used. The same number of paper clips is used to test each material.



Their teacher required them to control their variables as shown below.

	Changed variable	Constant variable
Material of rod	√	
Number and type of batteries		√
Type of wire		√

The two girls also recorded the number of paper clips attracted and the number of turns of the wire around the rod.

Rod	Number of paper clips attracted	Number of turns of the wire
A	10	7
B	0	10
C	5	7
D	2	7

(a) Their teacher looked at the recordings in the two tables and told the two girls that they did not conduct a fair test. Why is this so? (1m)

_____

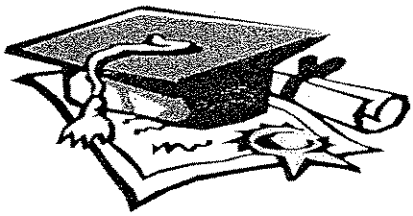
_____

(b) What variable was being measured? (1m)

_____

(c) What material is rod A made of? (1m)

_____



ANSWER SHEET

TAO NAN PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 3
2. 4
3. 4
4. 4
5. 4
6. 3
7. 4
8. 3
9. 4
10. 4
11. 2
12. 3
13. 3
14. 3
15. 2
16. 4
17. 2
18. 3
19. 1
20. 3
21. 4
22. 4
23. 2
24. 3
25. 3
26. 2
27. 1
28. 4
29. 3
30. 4

31)a)The bulb in setup A. Its batteries are arranged in series while in setup B arranged in parallel.
b)They will make the bulb in setup B last for a longer time.

32)a)Setup X.In setup X,the toy car movers a shorter distance than set up Y,hence greater effort is required
b)It does not have to go over a longer distance.
c)14cm

33)Solid: Snow
Liquid: Blood, Oil, Alcohol
Gas: Steam, Helium

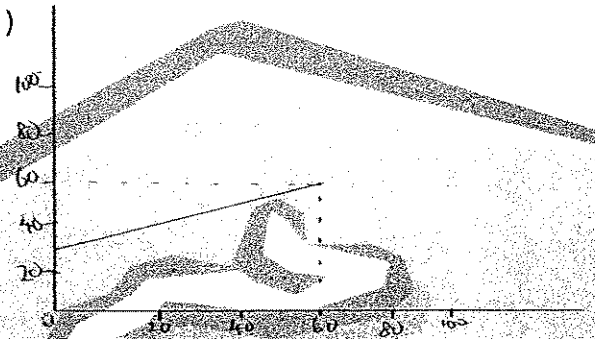
34)a)i)Towards X
ii)Towards Y
b)When the water in Basin Y is heated, the air in the empty bottle expands, hence pushing the ink drop towards X.

35)a)Ferns
b)Underground steam.
c)Fungi are not plants but she classified them as plants.

36)A→C→D→B→

37)a)Cell wall→Cell membrane→Cytoplasm
b)Chloroplast.

38)a)



b)Heat is transferred from the lamp to the air in the container.

39)X:Petals:It is to attract insects to pollinate the flower.
Y:Stigma:It is to trap the pollen grains.
Z:Anthers:It is produce pollen grains.

40)a)i)No, No ii)Yes, Yes iii)No, No
b)We could arrange the bulb in parallel position.

41)a)A: Egg cell. B: Sperm.
b)Testes.

42)A: Water B: Animals C: Splitting D: Wind

43)a)She can pass the gas into a beater of limewater. If the limewater turns chalky, the gas is carbon dioxide.
b)Respiration.

44)a)B,C,A,D
b)The more his breathing rate, the more his pulse rate.

45)a)The microscope can magnify the plant cells so that the plant cell is clearer.

Step 2)b)Objective lens, a)stage
Step 3)c)focus knob, d)eye piece

46)a)They changed two variables instead of one.
b)The number of paper clips attracted.
c)Steel.

Rosyth School
Second Semestral Assessment for 2007
SCIENCE
Primary 5

Total Marks: 100

Name: _____

Class: Pr_____ Register No. _____ Duration: 1 h 45 min

Date: 1 November 2007 Parent's Signature: _____

Instructions to Pupils:

1. Do not open the booklets until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets, Booklet A and Booklet B.
4. For questions 1 to 30 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 31 to 46, give your answers in the spaces given in the Booklet B.

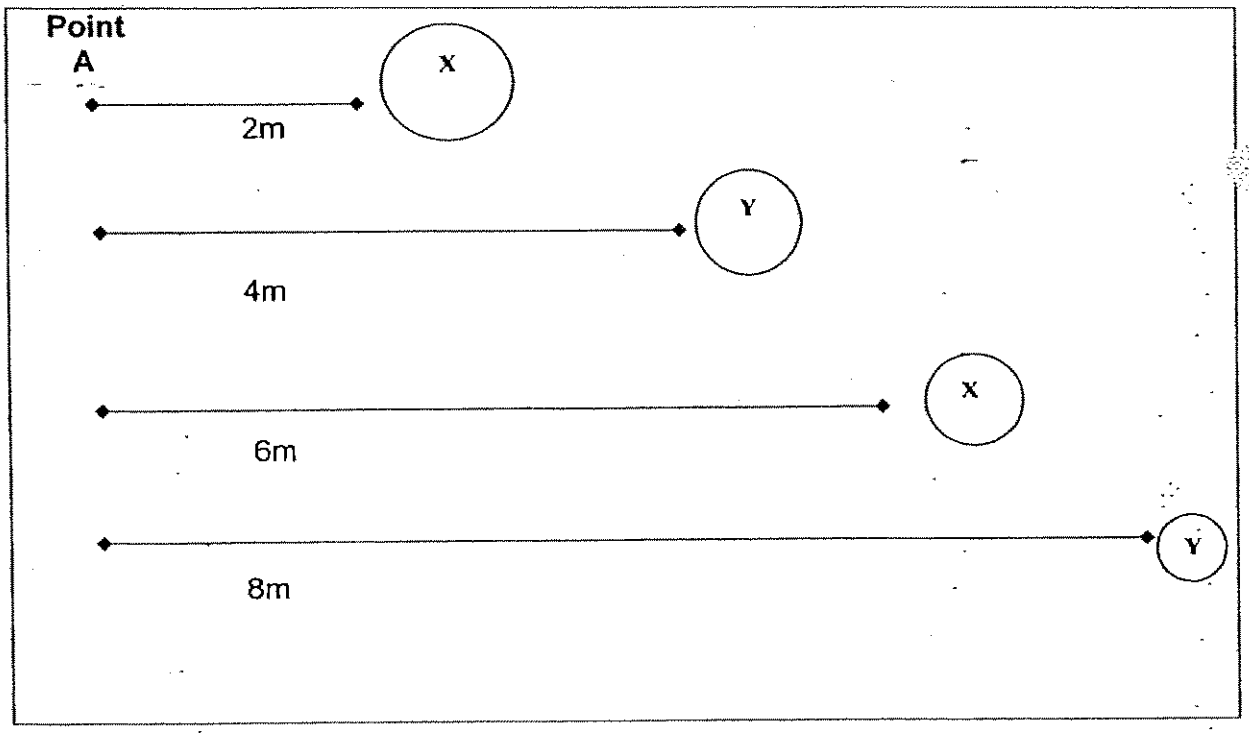
	Maximum	Marks Obtained
Booklet A	**60 marks**	
Booklet B	**40 marks**	
Total	**100 marks**	

* This booklet consists of 24 pages . (Pg. 1 to 24)

Part I (60 MARKS)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. Marshall placed two balls, X and Y, at four different distances from Point A. The diagram below shows the relative sizes of the balls at different distances from Point A.

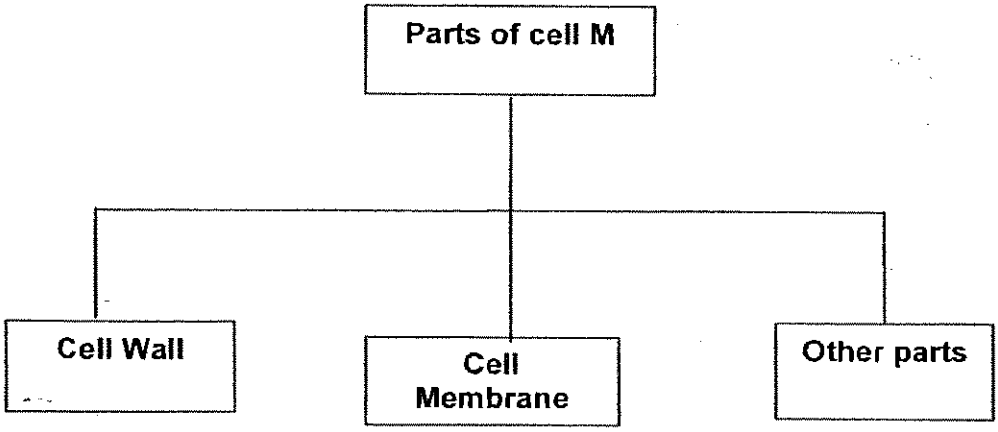


Based on his observations, which one of the deductions is correct?

(1) Ball Y is bigger than Ball X.
(2) Balls X and Y are of similar size.
(3) The further the balls are placed, the smaller they appear.
(4) The distance the balls are placed do not affect their relative size.

(Go on to the next page)

2. The chart below shows the different parts of a typical cell M. Some parts of the cells are not shown in the chart.



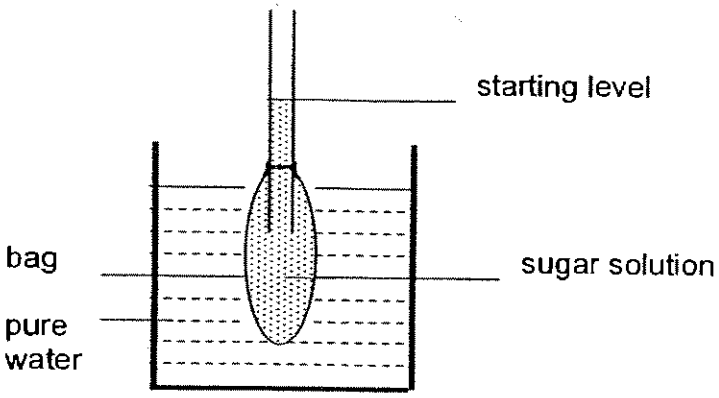
Which are the most likely parts of cell M that are not shown in the chart above?

A : Cytoplasm
B : Chloroplast
C : Nucleus

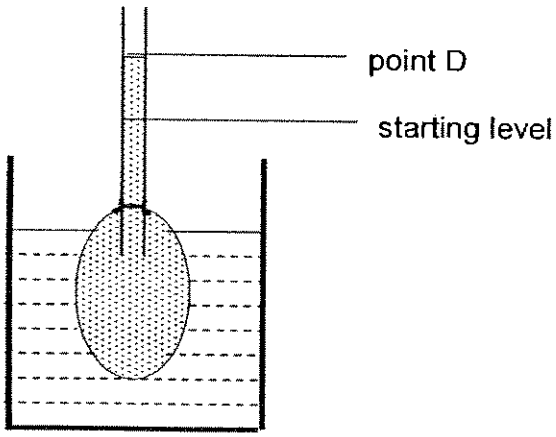
(1) A only
(2) C only
(3) A and C only
(4) B and C only

(Go on to the next page)

3. Kim set up the experiment as shown in the diagram below. She took note of the starting level of the liquid in the glass tube.



After 3 hours, she observed that the liquid level in the glass tube had risen to point D.

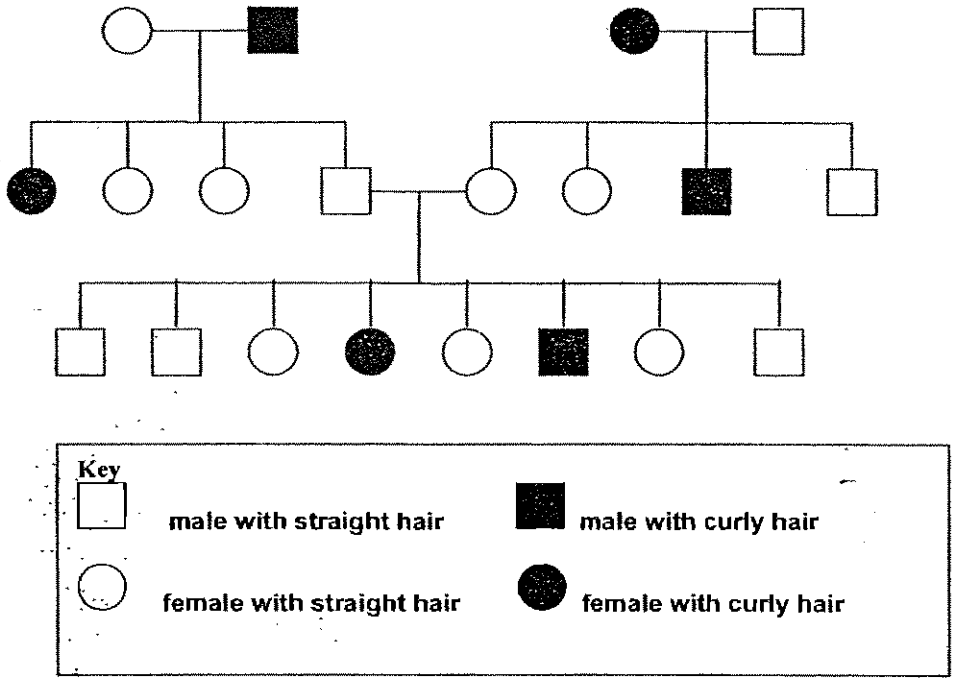


With comparison to a plant cell, which part of the cell has the same property as the material of the bag?

(1) Cell Wall
(2) Cytoplasm
(3) Chloroplast
(4) Cell Membrane

(Go on to the next page)

4. The family tree below shows the inheritance of curly hair of a family.

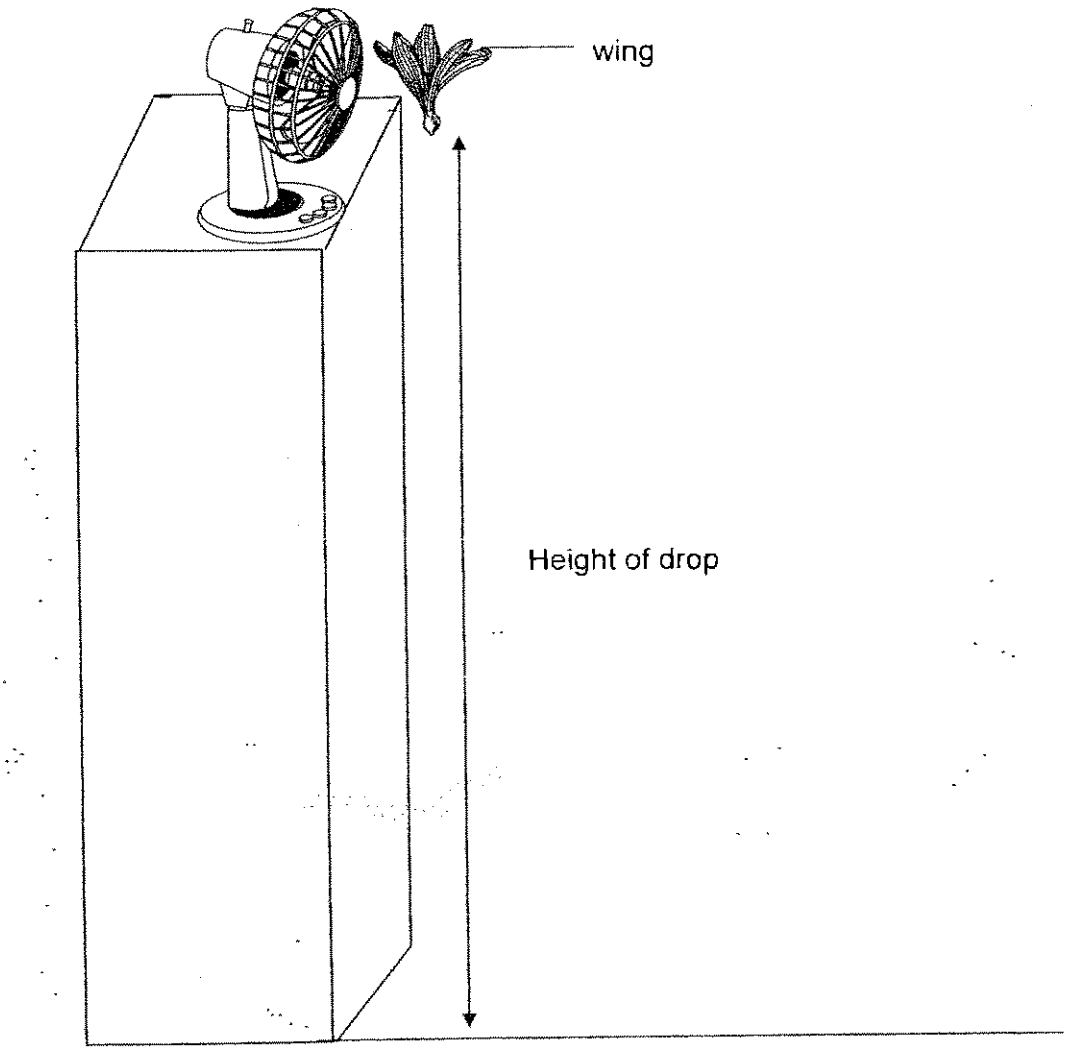


What possible deduction could be made from the family tree above?

(1) Females are more likely to have curly hair.
(2) There are two families in each generation.
(3) Characteristics can be inherited from grandparents.
(4) At least one parent must have the characteristic, for the child to inherit it.

(Go on to the next page)

5. Aziz wanted to investigate if the length of the wing of a shorea has an effect on its dispersal. He released the fruit from a certain height as shown below.



Which two variables must be measured for his investigation?

A : The length of the wing
B : The mass of the fruit
C : The time taken for the fruit to land on the ground
D : The distance it was dispersed from the fan

(1) A and B only
(2) A and C only
(3) B and C only
(4) B and D only

(Go on to the next page)

6. Martin placed equal number of yeast cells in four containers, W, X, Y and Z, with different conditions. The condition of each container is stated below.

10 ml of water at 40 ^{O} C

5 ml of water at 35 ^{O} C

5 ml of water at 40 ^{O} C

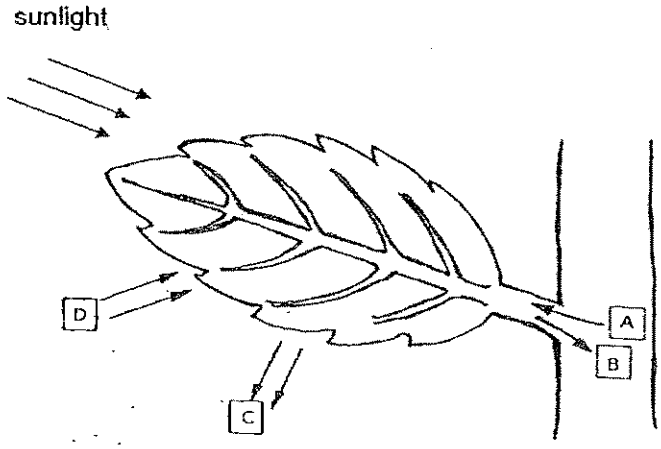
10 ml of water at 30 ^{O} C

Which containers would you choose to show that the amount of water and the temperature of water affect the rate of reproduction in yeast cells?

(1) W and X only
(2) X and Y only
(3) W , Y and Z only
(4) W , X and Z only

(Go on to the next page)

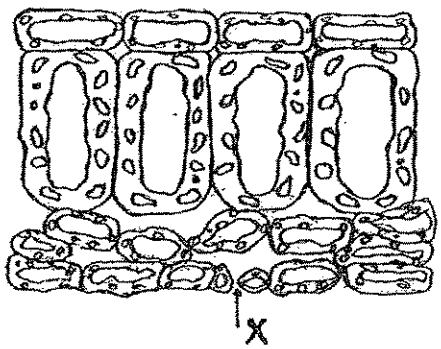
7. The diagram below shows a green leaf on a plant.



Which of the following correctly represents A, B, C and D?

	A	B	C	D
(1)	Oxygen	Sugar	Water	Carbon dioxide
(2)	Water	Sugar	Oxygen	Carbon dioxide
(3)	Water	Oxygen	Sugar	Carbon dioxide
(4)	Sugar	Carbon dioxide	Oxygen	Water

8. The diagram below shows the cross-section of a leaf.



Which of the following is/are the function(s) of the tiny opening, X, found in the leaf?

A : It allows carbon dioxide to be taken in.
B : It allows oxygen to be given out.
C : It helps to trap chlorophyll.

(1) A only
(2) A and B only
(3) B and C only
(4) A, B and C

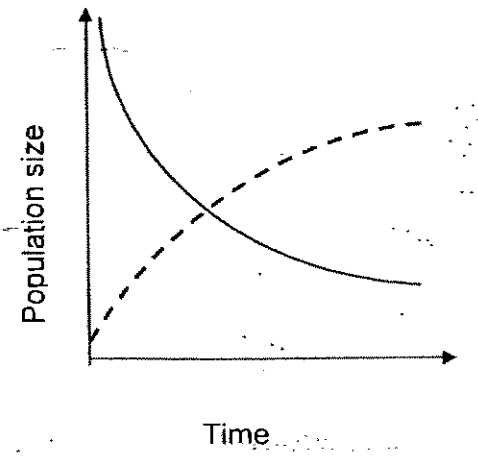
(Go on to the next page)

9. The food chain below shows how energy is transferred from a plant to other organisms.

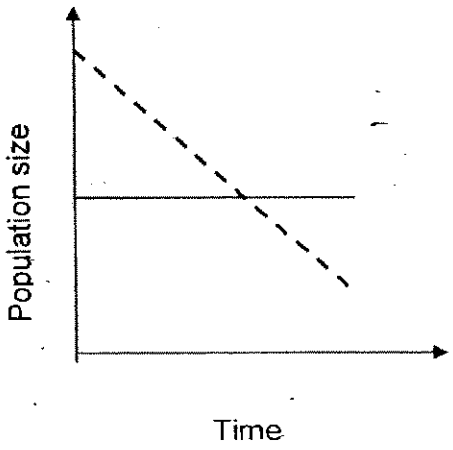
Plant → Grasshopper → Sparrow → Eagle

Which one of the graphs below correctly represents the relationship between the grasshopper and sparrow?

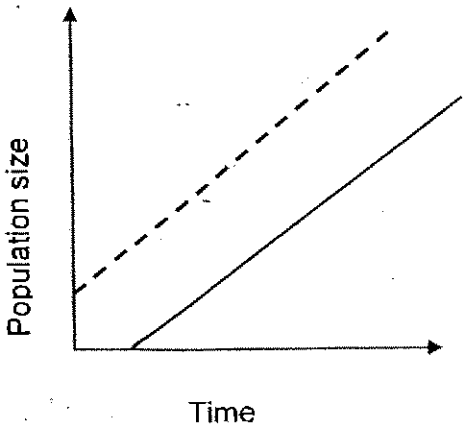
(1)



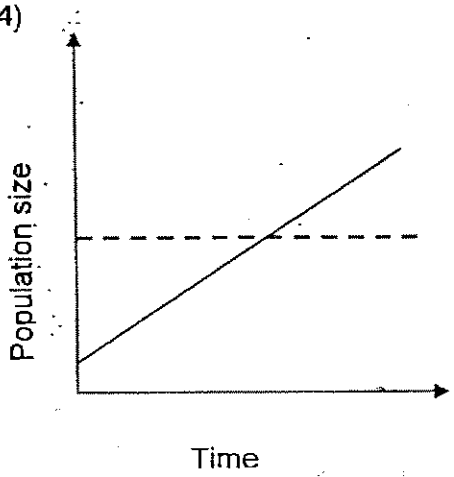
(2)



(3)



(4)

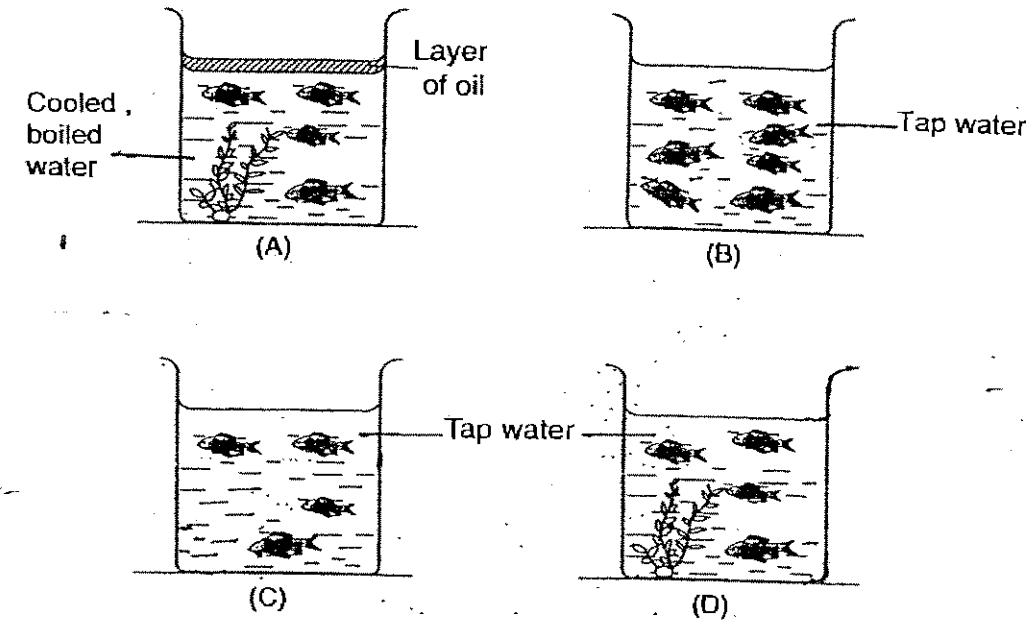


Key : Grasshopper

Sparrow

(Go on to the next page)

10. Terrence wanted to carry out an experiment to find out how the amount of oxygen in an aquarium affected the organisms living in the aquarium. He placed the four set-ups at the same location.



Study the four set-ups A, B, C and D as shown above. Which two set-ups should he use to ensure a fair test?

(1) A and B only
(2) B and D only
(3) A and D only
(4) C and D only

11. The following food chain shows energy transferred from plants to animals.

Plants ⟶ Rabbit ⟶ Fox ⟶ Tiger

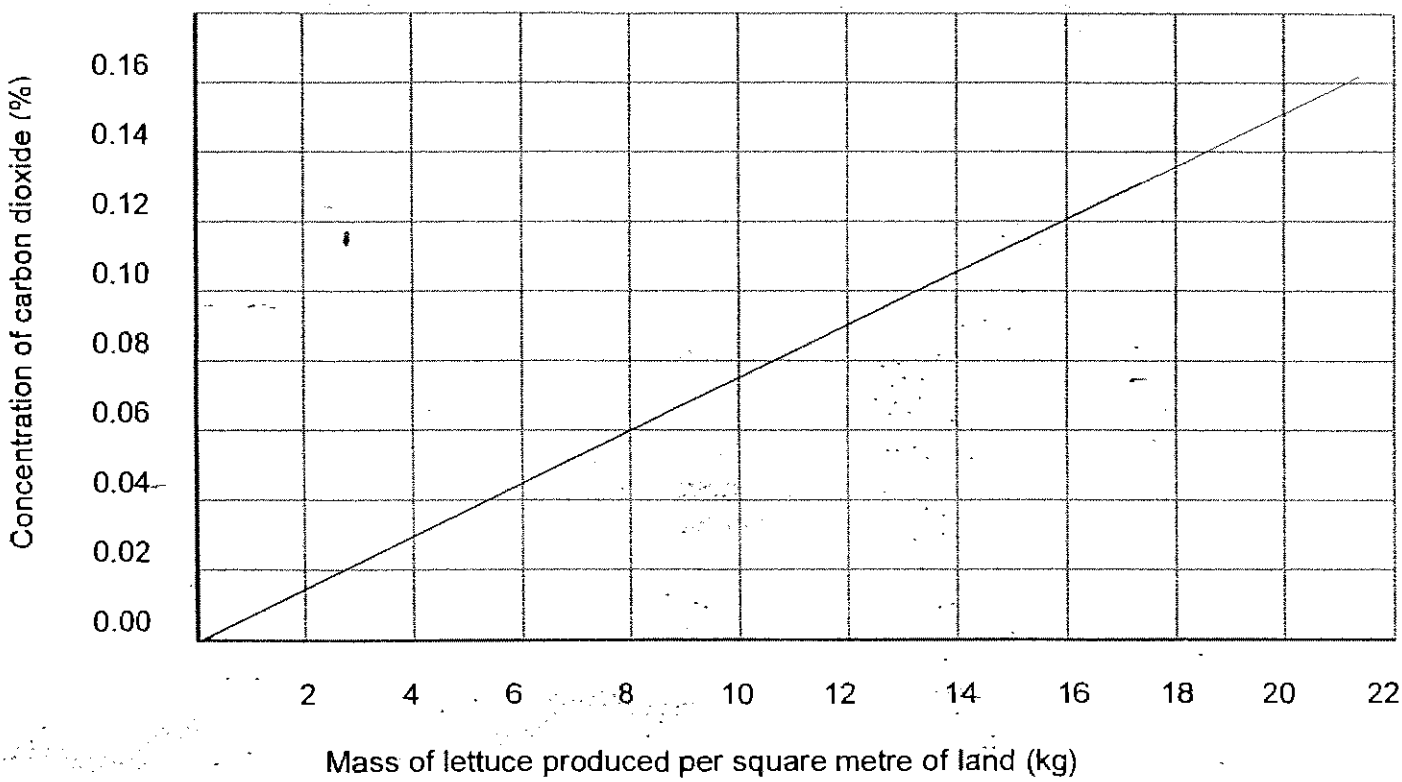
Which one of the following can you deduce from the food chain?

A: The plants, rabbit and fox are eaten by the tiger.
B: Energy from the plants is transferred to the tiger through the rabbit and the fox.
C: The fox gets its energy directly from the rabbit.
D: Only the rabbit eats the plants.

(1) A and B only
(2) C and D only
(3) B,C and D only
(4) A, B, C and D

(Go on to the next page)

12. Lettuce is planted in some greenhouses containing different concentrations of carbon dioxide. The relationship between the concentration of carbon dioxide and the mass of lettuce produced per square metre of land is shown in the graph below.



If the mass of lettuce produced per square metre of land is 20kg, what would be the most likely concentration of carbon dioxide?

(1) Between 0.08% and 0.1%
(2) Between 0.1% and 0.12%
(3) Less than 0.08%
(4) More than 0.14%

(Go on to the next page)

13. Zhihao and his friends carried out an experiment to find out whose toy car consumes more electricity. The table below shows the number of batteries used by each toy car and how long the batteries lasted.

Name	Number of batteries	Number of hours batteries lasted
Zhihao	3	6
Jeya	3	8
Karthik	2	8
Ahmad	2	10

The following conclusions were made based on the results:

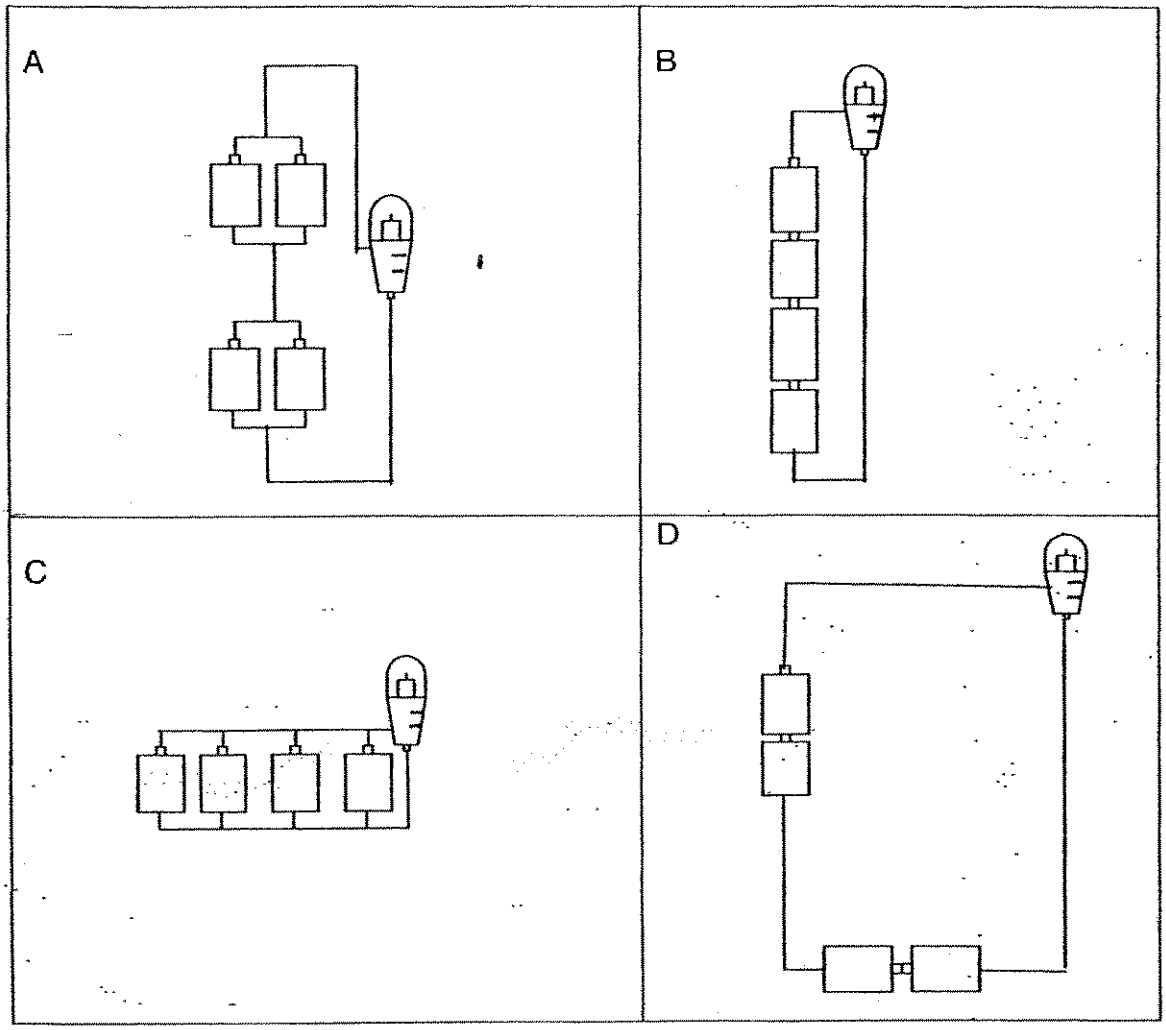
A : Jeya's toy car consumes more electricity than Zhihao's.
B : Karthik's toy car consumes less electricity than Jeya's.
C : Ahmad's toy car consumes less electricity than Karthik's.
D : Ahmad's toy car consumes more electricity than Zhihao's.

Which of the conclusion(s) made is/are definitely true?

(1) A only
(2) A and C only
(3) B and D only
(4) B and C only

(Go on to the next page)

14. Study the electric circuits carefully. All batteries are brand new and of 1.5 volts. The bulbs are also of similar voltage.



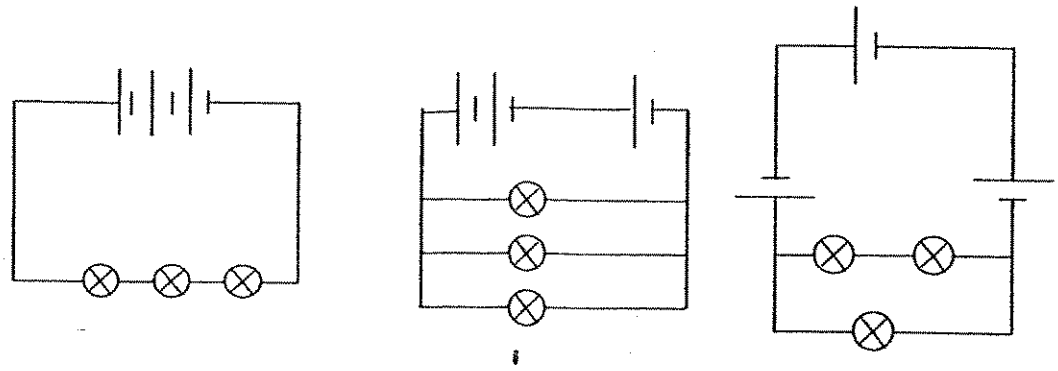
In which two set ups will the bulb be of the same brightness?

(1) A and C
(2) A and D
(3) B and C
(4) B and D

311

(Go on to the next page)

15. Study the three circuit diagrams as shown below.



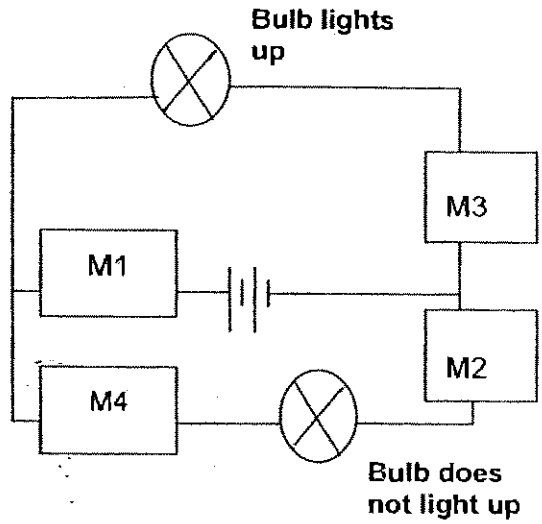
Circuit P Circuit Q Circuit S

What is the difference among the three circuits?

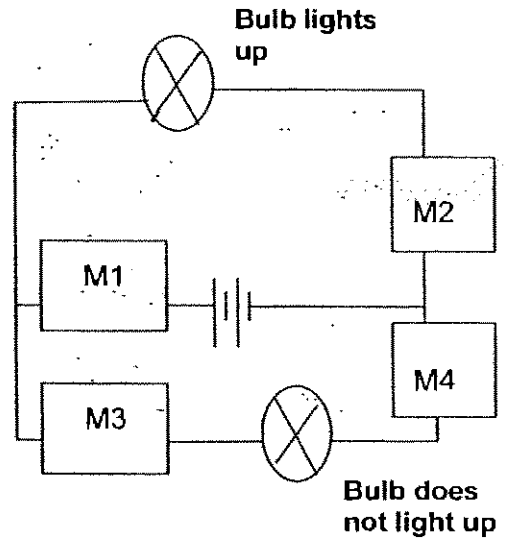
(1) The number of bulbs
(2) The number of batteries
(3) The arrangement of the bulbs
(4) The arrangement of the batteries

(Go on to the next page)

16. Shanti had four materials, M1, M2, M3 and M4. She wanted to find out which material is a conductor of electricity. Firstly she connected the materials in a circuit and made the observations as shown below.



Next, she rearranged some of the materials in the same circuit and made her observations as shown below.



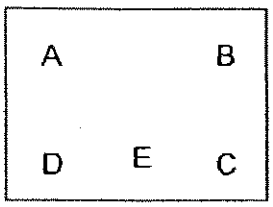
What conclusion could she make from the above results?

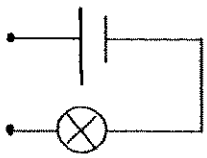
A : M1 is a conductor of electricity.
B : M2 is a conductor of electricity.
C : M3 is an insulator of electricity.
D : M4 is an insulator of electricity.

(1) A and B only
(2) B and D only
(3) A, B and D only
(4) A , C and D only

(Go on to the next page)

17. Bao Rong was given a circuit card and a circuit tester as shown below.

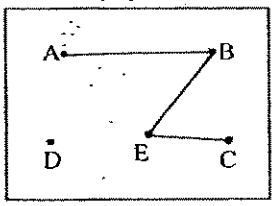




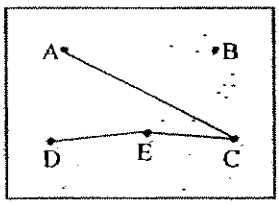
He connected the circuit tester to two points in the circuit card , one at a time. The results are shown in the table below.

Points	Did the bulb light up?	Points	Did the bulb light up?
A and B	No	B and D	No
A and C	Yes	B and E	No
A and D	Yes	C and D	Yes
A and E	Yes	C and E	Yes
B and C	No	D and E	Yes

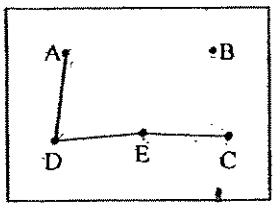
Which the following diagrams match with his observations?



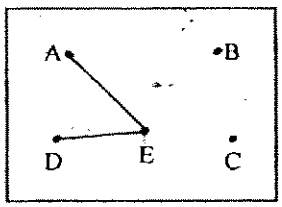
Card W



Card X



Card Y

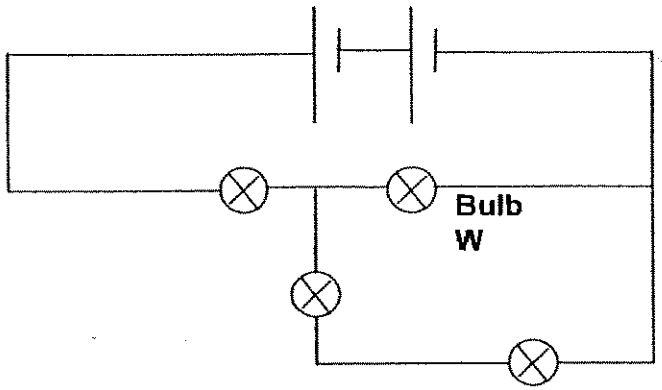


Card Z

(1) Y only
(2) W and X only
(3) X and Y only
(4) X, Y and Z only

(Go on to the next page)

18. Study the circuit diagram as shown below.

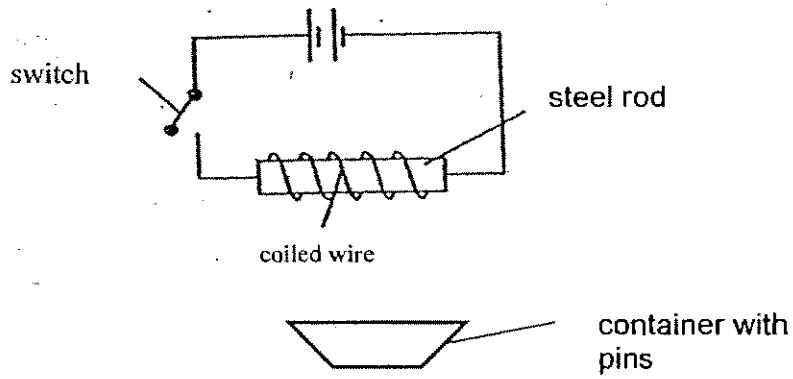


If bulb W fuses, how many bulb(s) will remain lit?

(1) Zero
(2) One
(3) Two
(4) Three

(Go on to the next page)

19. Alex set up the experiment as shown below.



He closed the switch and observed the number of pins attracted by the steel rod. Then he repeated the steps by increasing the number of dry cell. He recorded his results in a table.

Which one of the table shows the possible results obtained by Alex?

(1)

Number of dry cell	Number of pins attracted
1	5
2	10
3	15
4	0

(2)

Number of dry cell	Number of pins attracted
1	5
2	10
3	15
4	15

(3)

Number of dry cell	Number of pins attracted
1	15
2	10
3	5
4	5

(4)

Number of dry cell	Number of pins attracted
1	10
2	5
3	5
4	10

(Go on to the next page)

20. Why should we conserve electrical energy?

A : Fossil fuels can be used up.
B : Fossil fuels take millions of years to form.
C : Burning fossil fuels in power station causes air pollution.

(1) A only
(2) A and B only
(3) B and C only
(4) A , B and C

21. A factory has four types of machines to do a similar task. The amount of electricity and the time taken to complete the task is tabulated below.

Machines	A	B	C	D
Amount of time taken to complete the task (minutes)	20	50	15	60
Amount of electricity used per minute	10	5	7	4

Which one of the following machines would help the factory to conserve energy the most?

(1) A
(2) B
(3) C
(4) D

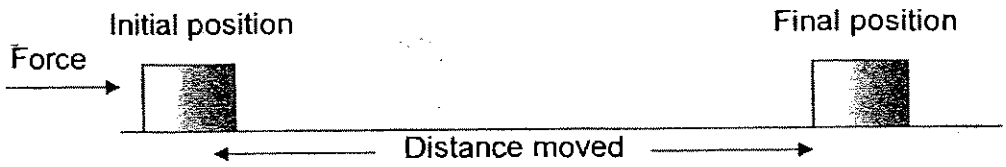
22. Grace and Agnes were playing tennis. When Grace hit the ball over the net, Agnes hit it back harder. Which of the following describe the actions of the force at the point when Agnes' racket hit the ball?

A: The force applied by Agnes caused the ball to change direction.
B: The force applied by Agnes caused the ball to increase in speed.
C: The force applied by Agnes caused the ball to decrease in speed.
D: The force applied by Agnes caused the ball to stop and drop to the ground.

(1) A and B only
(2) A and C only
(3) A, B and D only
(4) A, C and D only

(Go on to the next page)

23. Forces F, G, H and J, of different magnitudes were used to push the same object on the same surface over a distance as shown in the figure below.



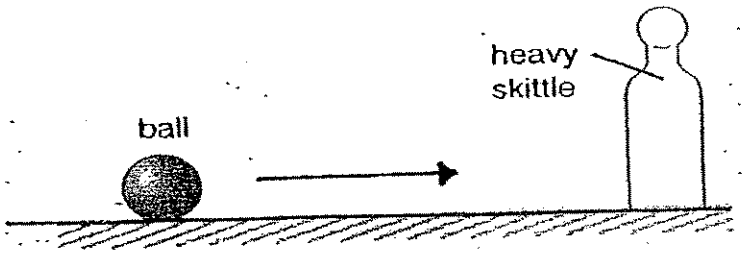
Study the table of information.

Force	Distance moved (cm)	Time Taken (s)
F	120	8
G	80	8
H	80	10
J	120	10

Which force is of the smallest magnitude?

(1) F (2) G
(3) H (4) J

24. Look at the diagram below.



Raju tried to knock down the heavy skittle with a ball but he failed to do so. What two changes should Raju make to knock the heavy skittle down?

A: Use a heavier ball
B: Use a lighter ball
C: Roll the ball at a faster speed
D: Roll the ball at a slower speed

(1) A and D only (2) A and C only
(3) C and D only (4) B and D only

(Go on to the next page)

25. Two forces, F_1 and F_2 acted on the box as shown in the diagram below.

Four children observed that the box moved towards the left. They then made the following conclusions:

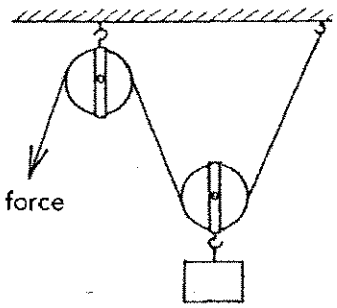
Jacob: F_1 is equal to F_2.
Kevin: F_2 is greater than F_1.
Mandy: F_1 is greater than F_2.

Whose conclusion is correct?

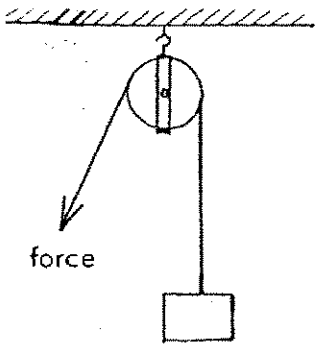
(1) Kevin only
(2) Mandy only
(3) Jacob and Kevin only
(4) Kevin and Mandy only

(Go on to the next page)

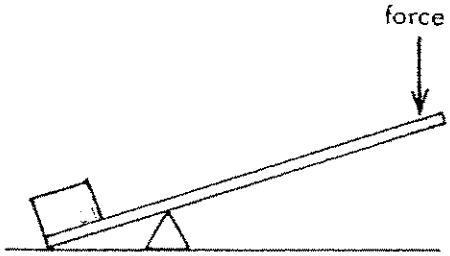
26. Study the three simple machines as shown below carefully.



Simple Machine A



Simple Machine B



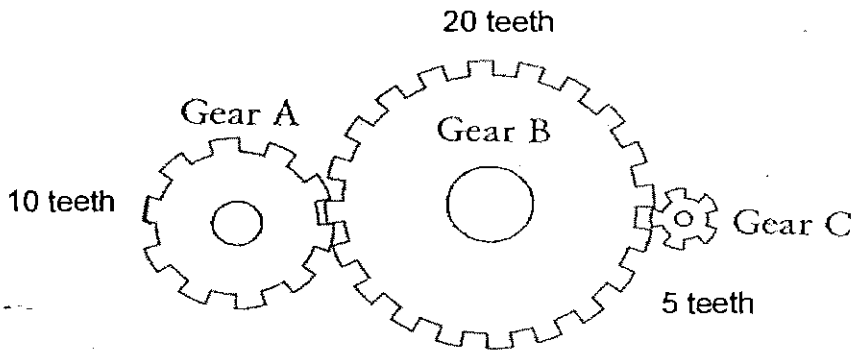
Simple Machine C

Which one of the following statements is false?

(1) The direction of the force is opposite to that of the load in the three machines.
(2) The same amount of force is needed to lift the loads in the three simple machines.
(3) The effort moves a longer distance than the load in simple machines A and C.
(4) Less force is needed to lift the load in simple machine A than in simple machine B.

(Go on to the next page)

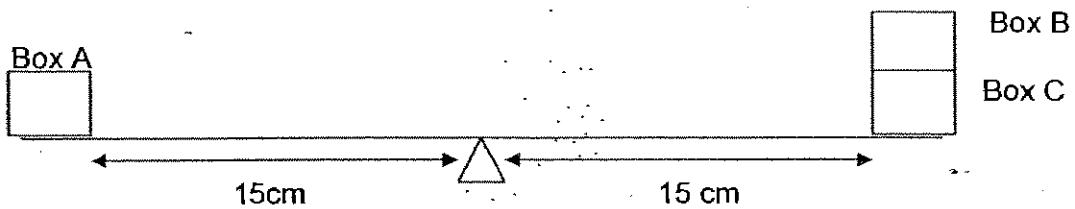
27. The diagram below shows three gears of different sizes fitted together.



If Gear A turned twice in a clockwise direction, how many turns would gears B and C make and in which direction?

	Number of Turns		Direction	
	Gear B	Gear C	Gear B	Gear C
(1)	1	4	Clockwise	Clockwise
(2)	4	1	Anti clockwise	Clockwise
(3)	1	4	Anti clockwise	Clockwise
(4)	4	1	Anti clockwise	Anti clockwise

28. Siew Hoon was given three boxes of unknown masses. They were placed on a lever as shown in the diagram below.



Which of the following can she deduce?

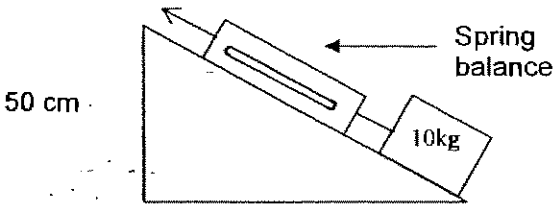
A: Box A is heavier than Box B.
B: Box B is lighter than Box C.
C: Box C is lighter than Box A.

(1) A only
(2) A and B only
(3) A and C only
(4) B and C only

(Go on to the next page)

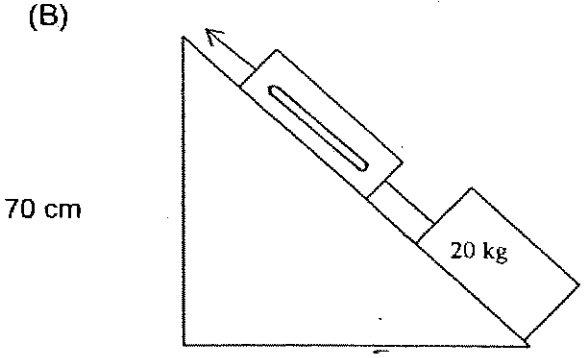
29. Joyce wants to investigate how the length of an inclined plane affects the effort required to pull up a load.
Which two set-ups should she use to carry out a fair test?

(A)



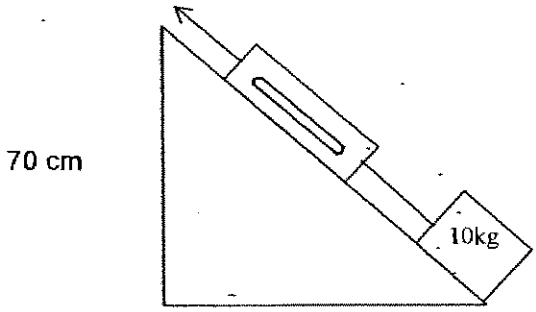
Length of inclined plane is 1m

(B)



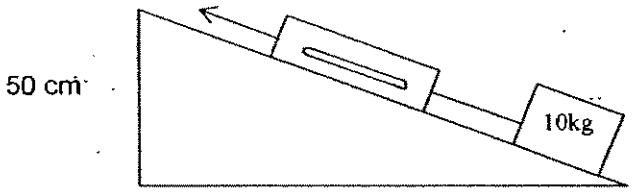
Length of inclined plane is 2m

(C)



Length of inclined plane is 1m

(D)

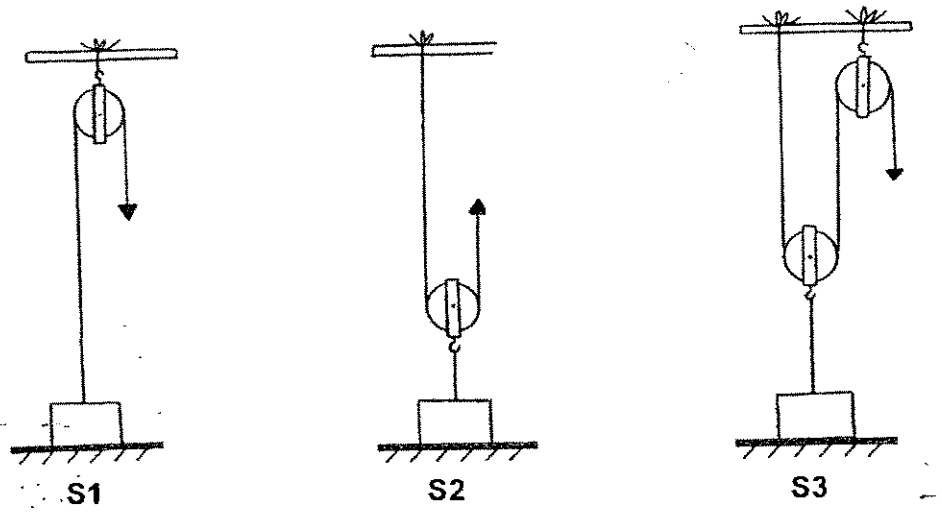


Length of inclined plane is 2m

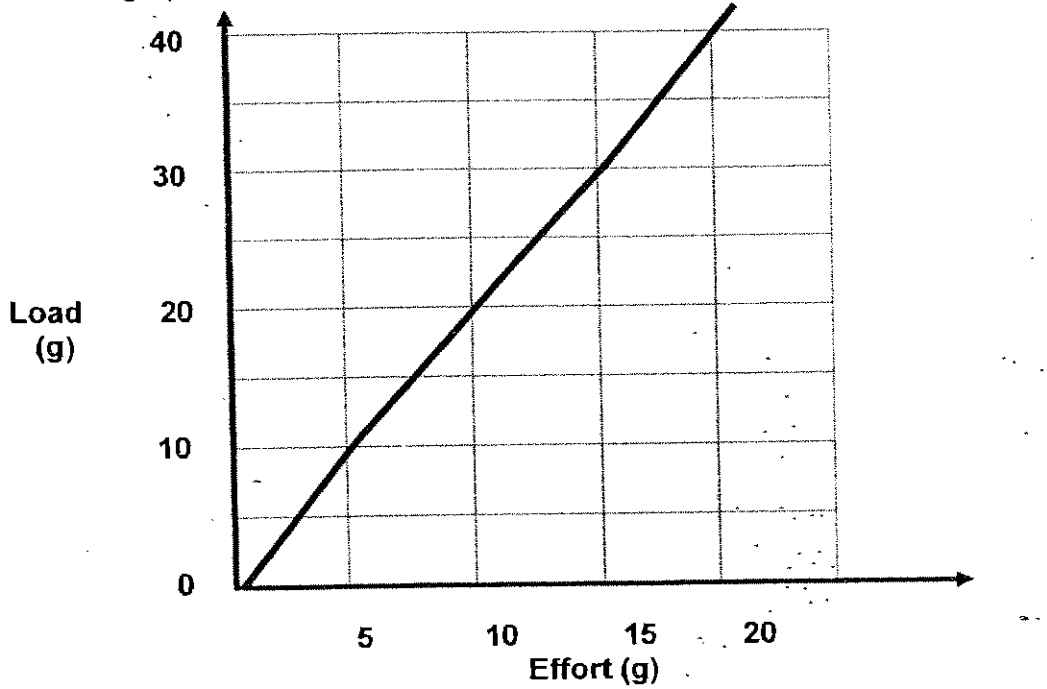
(1) A and B only
(2) B and C only
(3) A and D only
(4) C and D only

(Go on to the next page)

30. Ali used the pulley systems, S1, S2, S3, as shown below, to lift some loads of different masses.



He measured the effort needed for the various loads. He plotted the results in a graph shown below.



Based on the plotted graph, identify the pulley system(s) that he has used in his experiment.

(1) S1 only
(2) S3 only
(3) S1 and S3 only
(4) S2 and S3 only

End of Booklet A

Rosyth School
Second Semestral Assessment for 2007
SCIENCE
Primary 5

Name: _____ Total Marks: /40

Class: Pr_____ Register No. _____ Duration: 1 h 45 min

Date: 1 November 2007 Parent's Signature: _____

Booklet B

Instructions to Pupils:

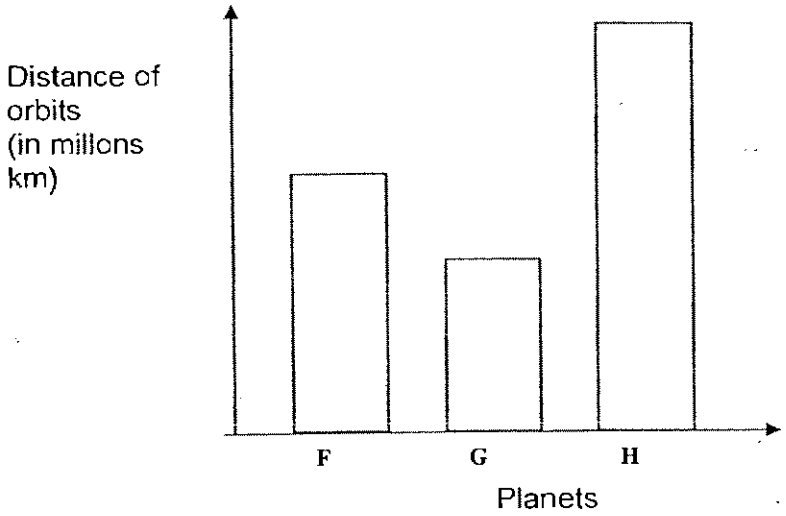
1. For questions 31 to 46, give your answers in the spaces given in this Booklet B.

* This booklet consists of 17 pages. (Pg. 1 to 17)

Part II (40 MARKS)

For questions 31 to 46, write your answers in this booklet.

31. The graph below shows the distance of the orbital paths of three planets, F,G and H , around the Sun in our Solar System.

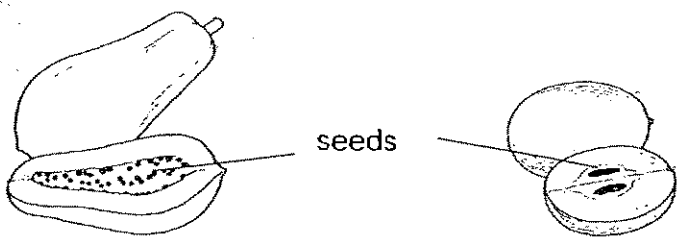


Based on the graph, use a **tick (√)** to indicate which of the following statements are **' true'** , **'false'** and **'not possible to tell'**. (2marks)

No.	Statements	True	False	Not possible to tell
1	G is the smallest planet.			
2	Planet H takes the longest time to make an orbit around the Sun.			
3	Planet F can support life.			
4	Planet G is colder than the Planet H.			

 (Go on to the next page)

32. The pictures below show a papaya and a chiku.



papaya chiku

(a) Based on the pictures, which flower (papaya or chiku) would have a greater number of ovules? (1mark)

_____

_____

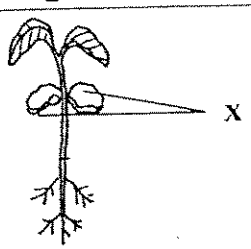
(b) Support your answer in part (a). (1mark)

_____

_____

33. Sally had some red beans. She measured the mass of one bean at stage A. Then she sowed the seeds in a pot with moist soil and placed the pot near the window.

After a certain interval she took a seedling at stage B and measured the total mass. She repeated the step for stages C to E. The results were recorded as shown below.

Stages	Total Mass
 A	2g
 B	4g
 C	8g
 D	12g
 E	15g

Question 33 continues on pg 4

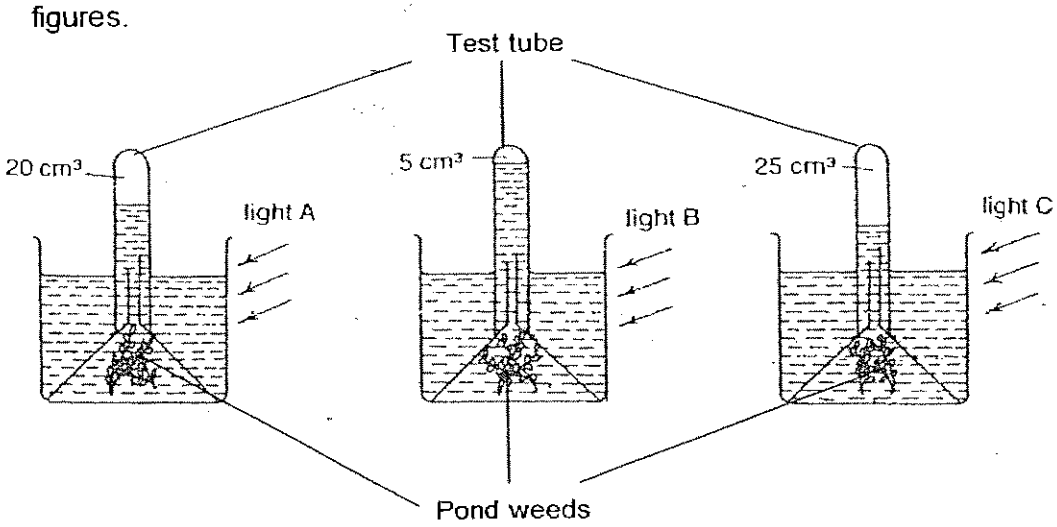
(a) Why was there an increase in the total mass from stage A to stage B? (1mark)

(b) At stage E, the parts X were removed. What would most likely happen to the total mass of the seedling at the next stage? Explain your answer. (1mark)

(c) If Sally had carried out the experiment in a dark cupboard from stage B to D, would there be a change in the results obtained? Explain why. (1mark)

(d) Without repeating the experiment, what could you do to ensure that the results are reliable? (1mark)

34. Mr Lee studied the effects of 3 types of light, A, B and C on the rate of photosynthesis of 10g of pond weeds. The results are shown in the following figures.



If the time taken is the same for all the three experiments, draw two conclusions from the results. (2 marks)

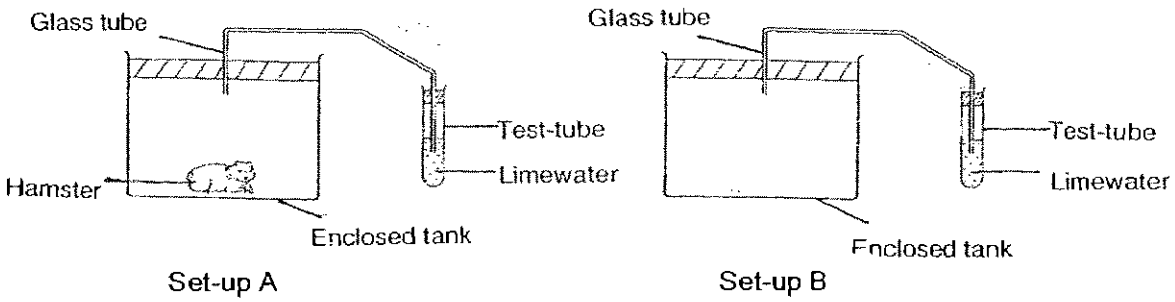
(i) _____

_____

(ii) _____

_____

35. Rosie wanted to find out what gas is produced during respiration. She set up her investigation as shown in the diagram below.



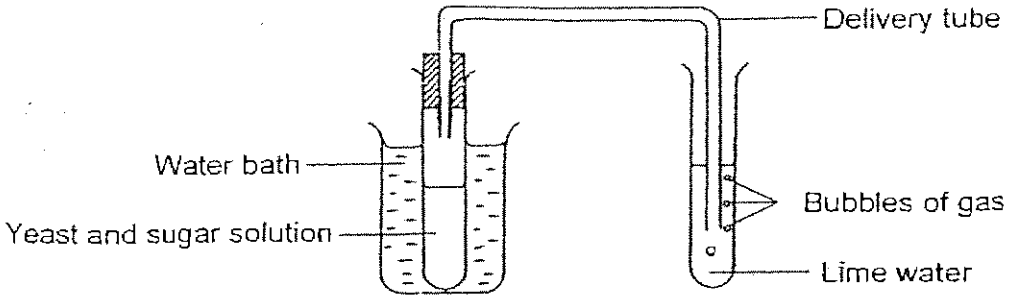
After 30 minutes, she observed that the limewater in Set-up A turned chalky but the limewater in Set-up B remained clear.

(a) What conclusion could she draw from her observation? (1 mark)

(b) What was the purpose of Set-up B? (1 mark)

(c) What variable was kept the same in this experiment? (1 mark)

36. A large test tube containing some yeast and sugar solution was set up as shown in the diagram below. The bubbles of gas produced were passed through limewater by using a delivery tube.



The number of bubbles of gas was counted. This was done with the water bath at six different temperatures. The results were recorded in the table shown below.

Temperature (° C)	Number of bubbles per minute
10	5
20	10
30	20
40	25
50	20
60	10

(a) State the aim of this experiment. (1 mark)

_____

_____

(b) Name the variable which has been changed in this experiment. (1 mark)

_____

(c) Based on the results, what is the optimum temperature for the yeasts to respire and reproduce? (1 mark)

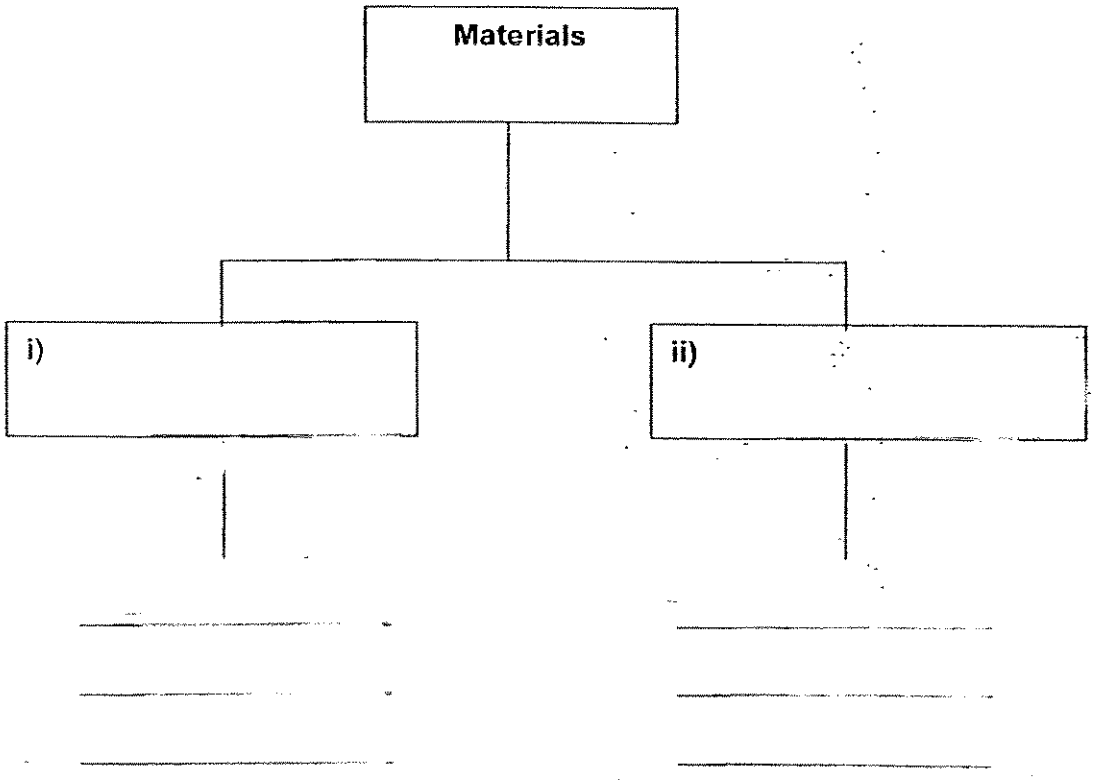
_____

37. Susan set up an electric circuit to test if the materials, J, K, L, M, N and P, will conduct electricity. She recorded the results in the table below.

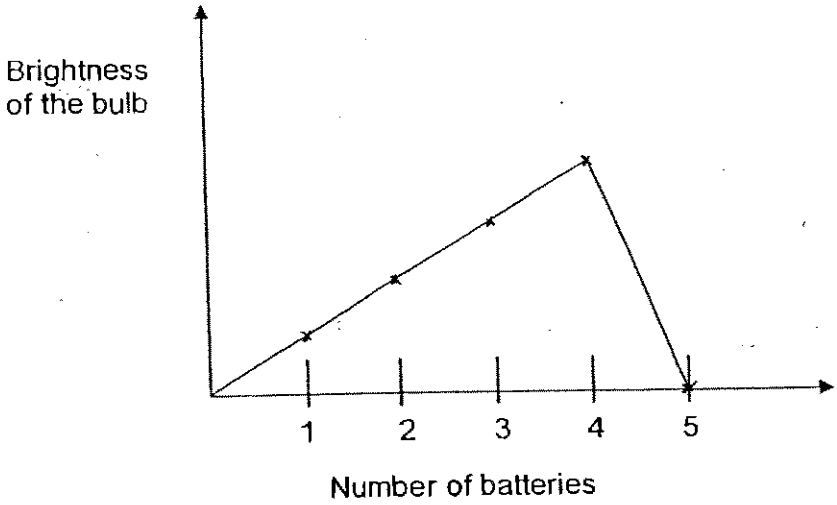
Material	**J**	**K**	**L**	**M**	**N**	**P**
Did the bulb light up in the circuit?	Yes	No	No	No	Yes	Yes

Complete the classification chart below to classify the materials into two groups based on their conductivity of electricity.

Give the headings for boxes **(i)** and **(ii)** and state the materials according to their properties in the lines provided. (2marks)



38. Study the graph shown below.

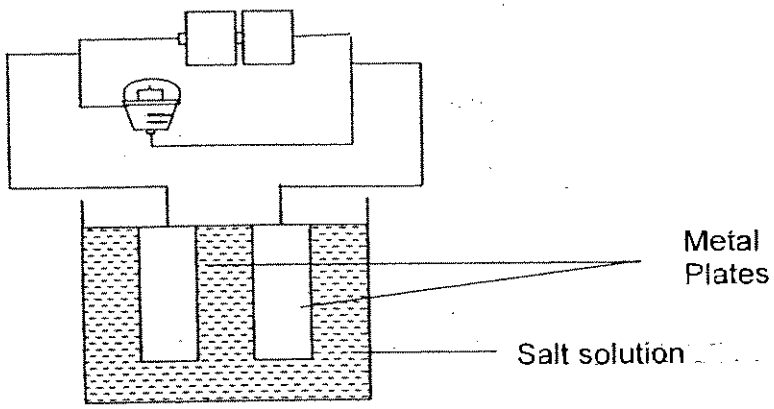


(a) Based on the graph, how do you think the batteries are connected in the circuit? (1mark)

(b) Give a reason for your answer in part (a). (1mark)

(c) Explain why the brightness of the bulb dropped to zero when five batteries were used. (1mark)

39. Study the circuit diagram given below.



Jason used the above set up to find out which metal plates, X or Y, is a better conductor of electricity.

He observed the brightness of the bulb. His friend, Ahmad, told him that his observation could not be used to draw his conclusion.

(a) Give a reason why Ahmad was correct. (1mark)

_____

_____

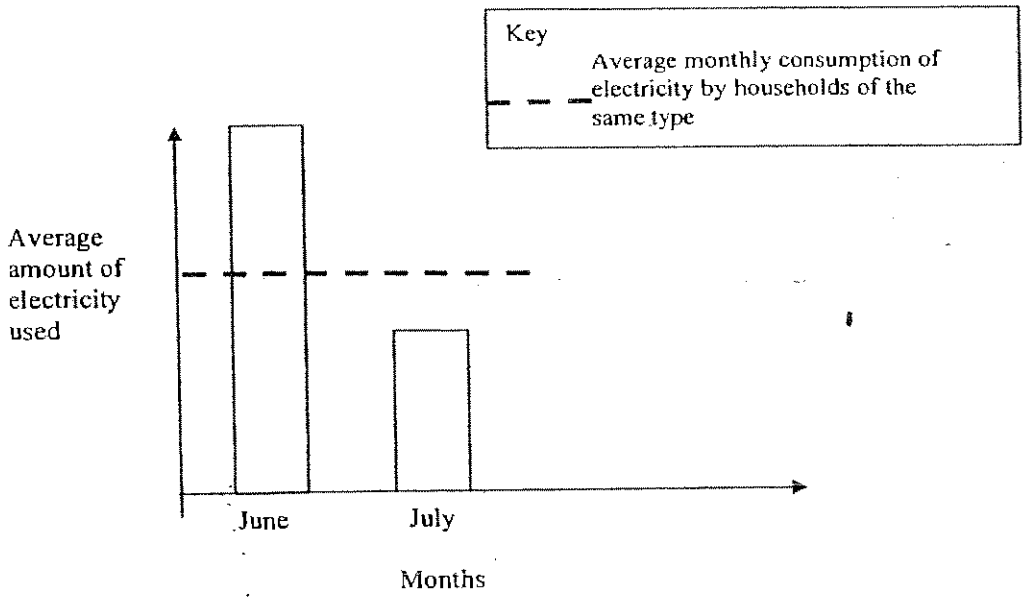
_____

(b) State a possible observation Jason could make for his investigation. (1mark)

_____

_____

40. Ben studied his monthly consumption of electricity for his household for two consecutive months in 2007.



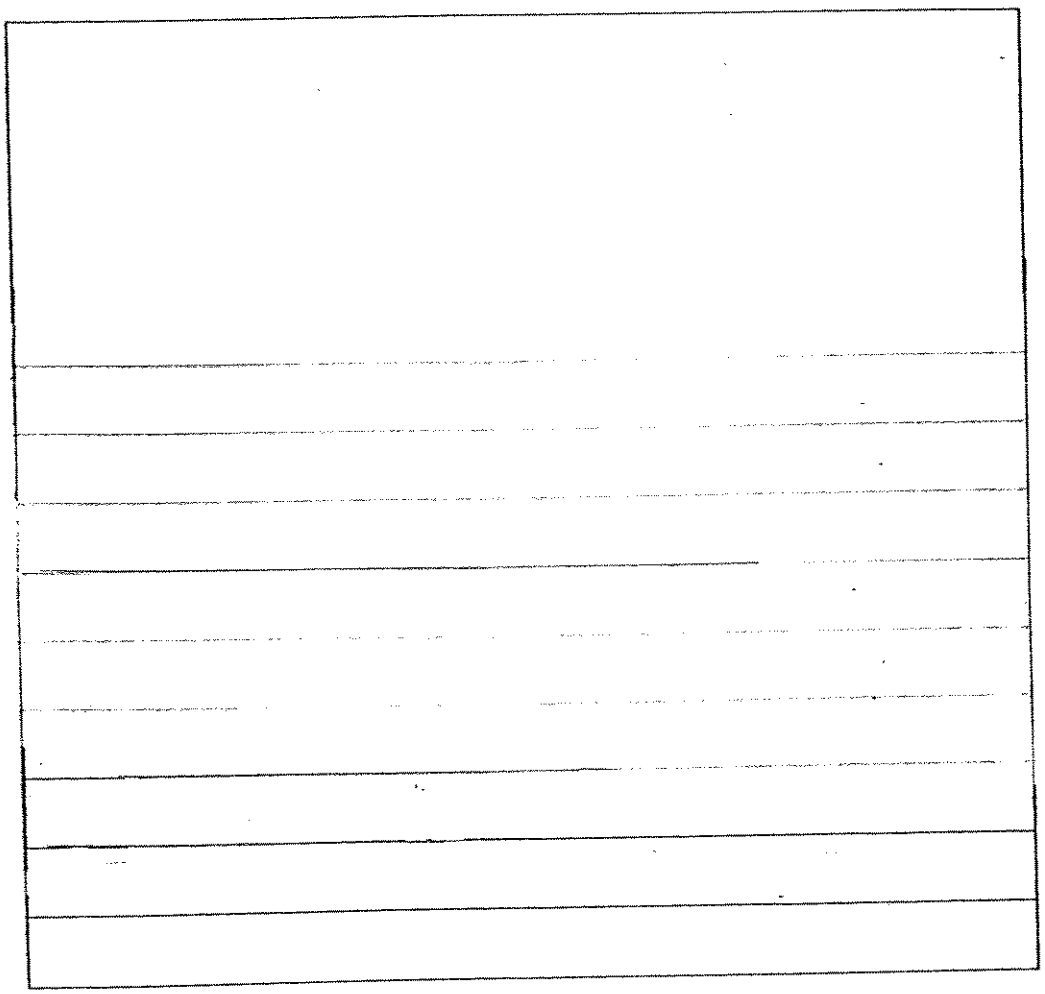
(a) Based on the graph, state the difference between Ben's household monthly consumption of electricity and the average monthly consumption of electricity by households of the same type over the two months. (1mark)

(b) State two measures Ben could have taken to reduce his monthly consumption of electricity. (1mark)

41. Muthu wanted to find out if the number of batteries in parallel will affect the amount of current in the circuit.

(a) Muthu was given **three batteries, one bulb and some wires**. The materials can be reused. Describe the steps on how he would carry out the experiment in the box provided below. Diagrams may be used. (2marks)

Steps to carry out:



Question 41 continues on pg 13

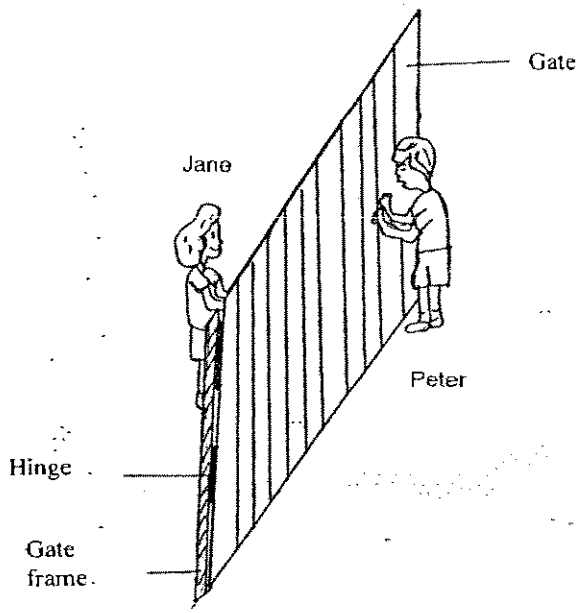
Muthu made his hypothesis that the number of batteries in parallel does not affect the amount of current in the circuit.

(b) If his hypothesis was correct, what observation would he make with regards to the brightness of the bulb? (1mark)

_____

_____

42. Two children, Peter and Jane, exerted an equal force in opposite directions on a gate, as shown in the diagram below.



(a) What kind of force is exerted on the gate by both children? (1 mark)

_____

(b) Who is more likely to move the gate? Give an explanation to your answer. (1 mark)

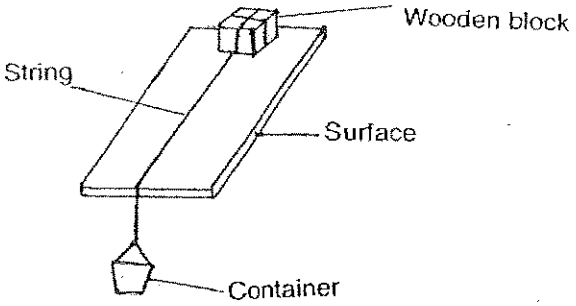
_____

_____

_____

(Go on to the next page)

43. Mr Lim set up an experiment as shown below. A small container was attached to the end of the string. Mr Lee dropped some 10-cent coins into the container until the wooden block began to slide along the surface.



(a) State the force that is exerted on the wooden block by the container of coins. (1mark)

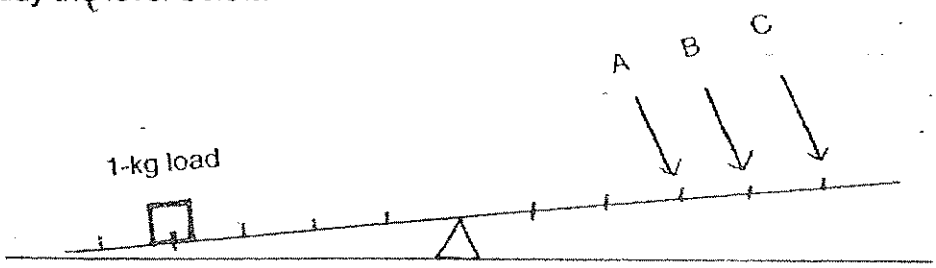
_____

(b) What does the number of 10-cent coins measure? (1mark)

_____

_____

44. Study the lever below.



(a) Roshan wanted to apply his effort at A to lift the load. What could he do to reduce his force applied at A? (1 mark)

_____

_____

(b) Roshan wanted to lift the load of 1 kg using a 700g object. At which position, A, B or C, should he most likely place the object? (1mark)

_____

45. Alicia had two screwdrivers. She wanted to remove the screw from a plank of wood.

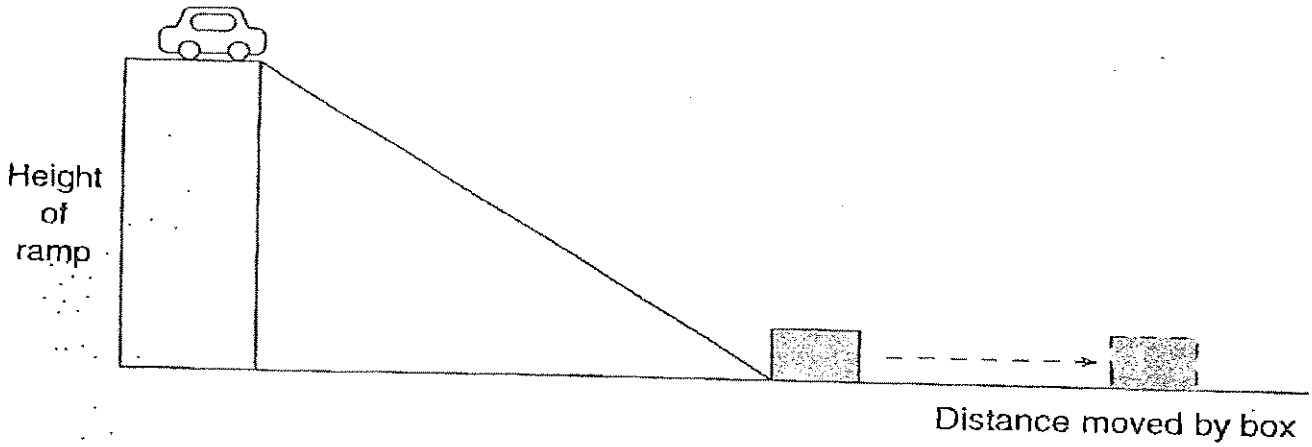
Screwdriver A

Screwdriver B

(a) Which screwdriver (A or B) should she use to make her work easier? Explain your choice. (1 mark)

(b) Alicia decided to use one of the screwdrivers (A or B) to pry open a tin lid. Which screwdriver should she use to make her work easier? Explain your choice. (1 mark)

46. An experiment was set up by Joseph as shown in the diagram below. When the toy car was released, it hit the styrofoam box at the foot of the ramp. The styrofoam box then moved in the direction shown. The distance moved by the styrofoam box was measured and the experiment was repeated with ramps of different heights.

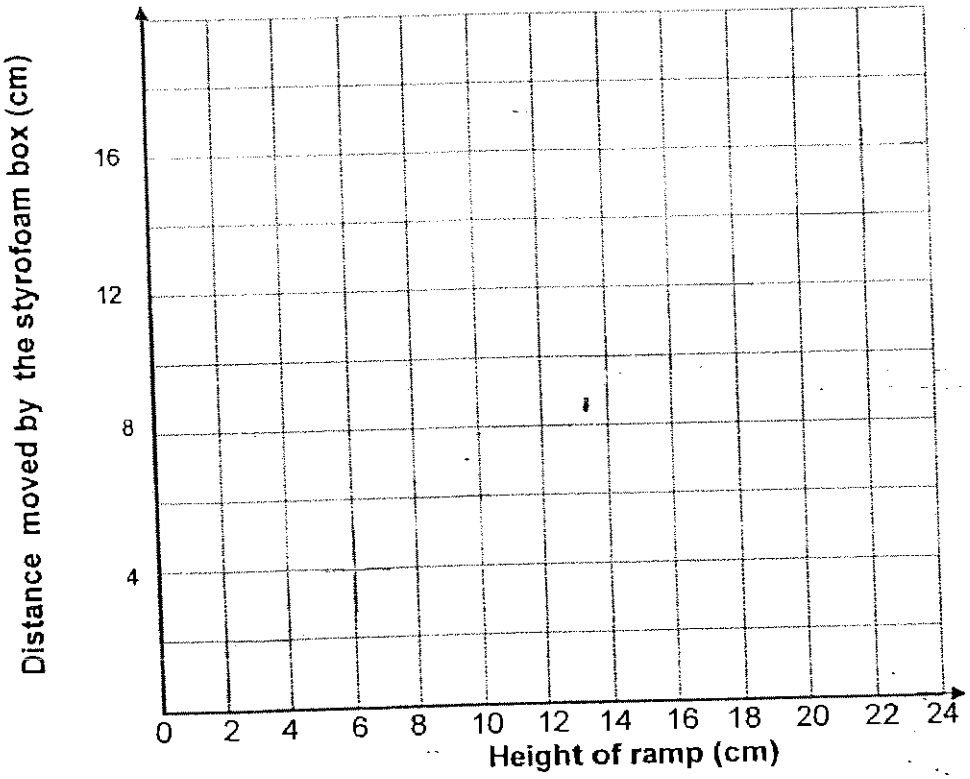


The results are shown in the table below.

Height of ramp (cm)	6	12	18	24
Distance moved by the styrofoam box (cm)	4	8	12	16

Question 46 continues on pg 17

(a) Plot the given results in the grid below. (2 marks)



(b) What do you think was the aim of Joseph's experiment? (1 mark)

_____

_____

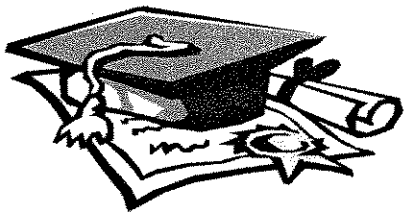
(c) What is the relationship between the height of the ramp and the distance moved by the styrofoam box? (1 mark)

_____

_____

End of Paper

17



ANSWER SHEET

ROSYTH PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 3
2. 3
3. 4
4. 3
5. 2
6. 3
7. 2
8. 2
9. 3
10. 3
11. 3
12. 4
13. 4
14. 2
15. 3
16. 3
17. 3
18. 4
19. 2
20. 4
21. 3
22. 1
23. 3
24. 2
25. 1
26. 2
27. 3
28. 3
29. 3
30. 4

31) 1) Not 2) True 3) Not 4) False

32) a) The papaya flower would have a greater number of ovules.
b) Papaya has more seeds than chiku and seeds are developed from ovules.

33) a) The seed has taken in water.
b) It would increase. It has leaves to make its own food to grow.
c) No, the plant does need sunlight, but and only needs warmth , water and air to survive from stage B to D.
d) Measure the mass of at least 2 seedling and find averages.

34) i) The rate of photosynthesis is least under light B.
ii) C produce faster rate of photosynthesis than Light A which in turn produces faster rate of photosynthesis than Light B.

35) a) Carbon dioxide is produced during respiration.
b) It is prove that the carbon dioxide is produced by the hamster.
c) The amount of water.
The size of the tank.

36)a)To find out the effect of temperature on the reproduction and respiration of yeasts.
b)Temperature of water bath.
c)40℃

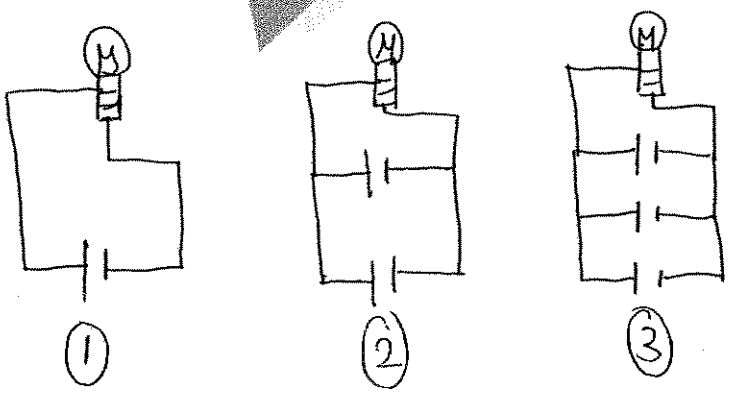
37)i)Conductors of electricity
Material J
Material N
Material P
ii)Insulators of electricity
Material K
Material L
Material M

38)a)They are connected in the series.
b)As the number of batteries increases, the brightness of the bulb increases.
c)The total voltage of the batteries is too high for the bulb and it fuses.

39)a)He should not use both metal plates at the same time but use each one in separate experiment.
b)He would observe the metal plates becoming warm.

40)a)In June, Ben's household consumption of electricity was higher than the average monthly consumption of electricity but in July is was lower.
b)Switch off all the light when they are not required use a fan instead of air-conditioner.

41)a)



41)a)Step 1)Connect a battery to the bulb with wire,Note the brightness of the bulb.

Step 2)Connect another battery in parallel to the circuit and note the brightness.

Step 3)Repeat the experiment with the third battery.

Step 4)Compare the brightness of the bulb.

b)In a parallel circuit, the number of batteries done not affect brightness of the bulb.

42)a)Pushing.

b)Peter is more likely to move the gate. He is further away from the fulcrum than Jane.

43)a)A pulling force.

b)They measure the wooden block.

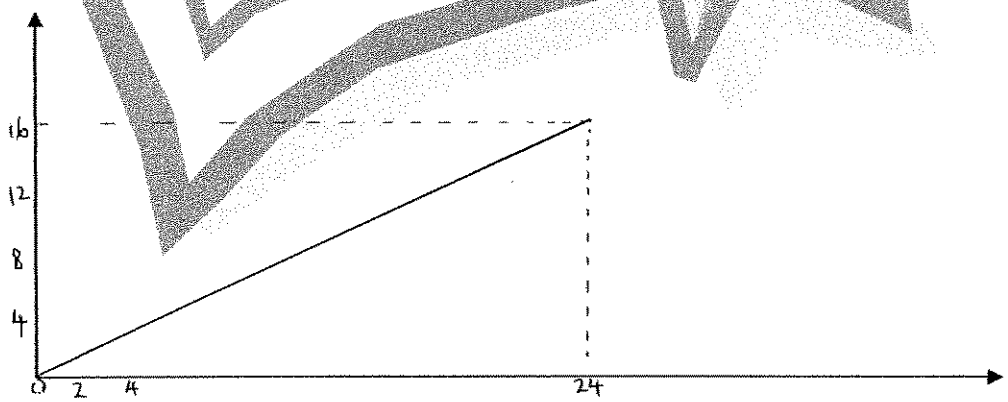
44)a)He could move the 1kg load nearer to the fulcrum.

b)He should place the 700g object at position C.

45)a)The diameter of the wheel is bigger than that of the axle.

b)The diameter of the wheel of A is bigger than that of wheel of B.

46)a)



b)It was to find out if the height of ramp affects the distance moved by the Styrofoam box.

c)The higher the height of the ramp,the further the distance moved by the Styrofoam box.

Anglo-Chinese School (Primary)

P5 SCIENCE 2007

END-OF-YEAR EXAMINATION

BOOKLET A

Name: _____ ( ) Class: Primary 5 __

Date: 1 November 2007 Duration of paper: 1h 45 min

_____
Parent's/Guardian's signature

THIS BOOKLET CONTAINS 22 PAGES.
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

PART I

For each of the following questions from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(30 x 2 marks)

---

1 Benny was asked by his Science teacher to compare the life cycles of a cockroach and a butterfly. He presented the following statements in his assignment:

A Both the cockroach and the butterfly lay eggs.
B Both the cockroach and the butterfly look after their young.
C Both the cockroach and the butterfly have wings in the adult stage.
D The cockroach has a 4-stage life cycle but the butterfly has a 3-stage life cycle.

Which of Benny's statements were correct?

(1) A and B only
(2) A and C only
(3) A and D only
(4) C and D only

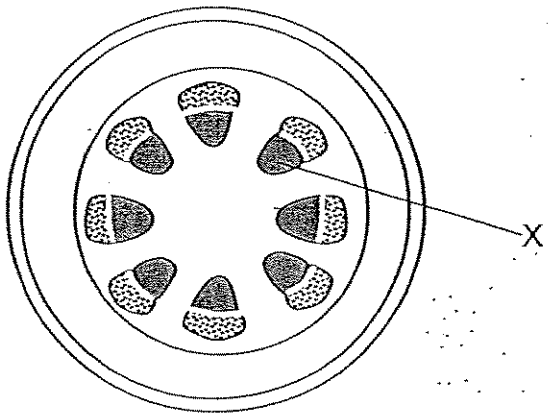
2 Each of the body systems, A, B, C and D below, contains one item which has been classified wrongly.

Body system A	Body system B	Body system C	Body system D
gullet	heart	biceps	nose
lung	skull	elbow joint	stomach
small intestine	rib cage	triceps	windpipe

Which one of the following shows the correct list of wrongly classified items?

(1) lung, heart, elbow joint, stomach
(2) lung, skull, elbow joint, windpipe
(3) small intestine, heart, elbow joint, windpipe
(4) small intestine, skull, triceps, stomach

3 The diagram below shows the cross-section of a plant's stem. Tubes X shown below are used for transporting certain materials from one part of the plant to another. They form one part of the plant's transport system.



Compare the plant's transport system formed by tubes X to a public bus transport system. Choose the one set of answers below that show the correct comparison between the plant's transport system and the public bus transport system.

	Boarding point	Bus	Passengers
(1)	Roots	Food	Food
(2)	Roots	Water	Minerals
(3)	Leaves	Water	Food
(4)	Leaves	Water	Minerals

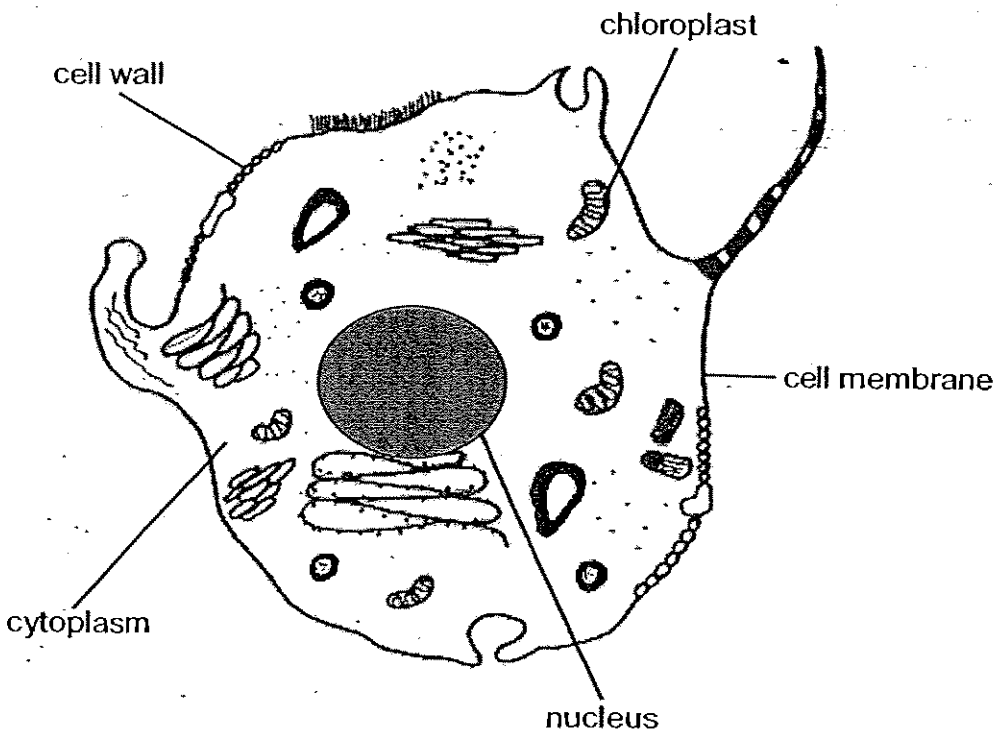
4 In the human body's circulatory system, there are 3 types of blood vessels:

A Thin-walled blood vessels (Veins)
B Thick-walled blood vessels (Arteries)
C Very thin-walled blood vessels (Capillaries)

Which of the following shows the correct flow of blood from the heart to the other body organs?

(1) A → C
(2) B → C
(3) C → A
(4) C → B

5 The diagram below shows the drawing of an animal cell done by a student during his Science class. The labelling of the cell parts is not completely correct.



How many cell parts were labelled wrongly by the student?

(1) 1
(2) 2
(3) 3
(4) 4

6 Claire's Science teacher told her to write down some characteristics that she inherited from her parents.

This is what she wrote in her activity book:

Characteristics inherited from Father:	Characteristics inherited from Mother:
a) Black hair b) Brown eyes c) Short fingernails d) Detached earlobes	a) Long hair b) Sharp nose c) Neat handwriting

How many characteristics written down by Claire were correctly recorded as being inherited from her parents?

(1) 4
(2) 5
(3) 6
(4) 7

7 For the cherry tree, both the male and female parts can be found on a single flower. An investigation was carried out on 4 similar cherry flowers growing on the same tree to find out whether a fruit can be produced when certain parts of a flower are removed. The table below shows which parts have been removed from the 4 flowers.

Cherry Flower / Change(s) made	A	B	C	D
Male parts removed	✓			✓
Female parts removed		✓		
Petals removed			✓	✓

From the information from the table, which of the cherry flowers are still able to produce a fruit?

(1) C only
(2) A and C only
(3) B and D only
(4) A, C and D only

8 Children inherit traits such as hair colour from their parents. Study the family tree below.

Key:

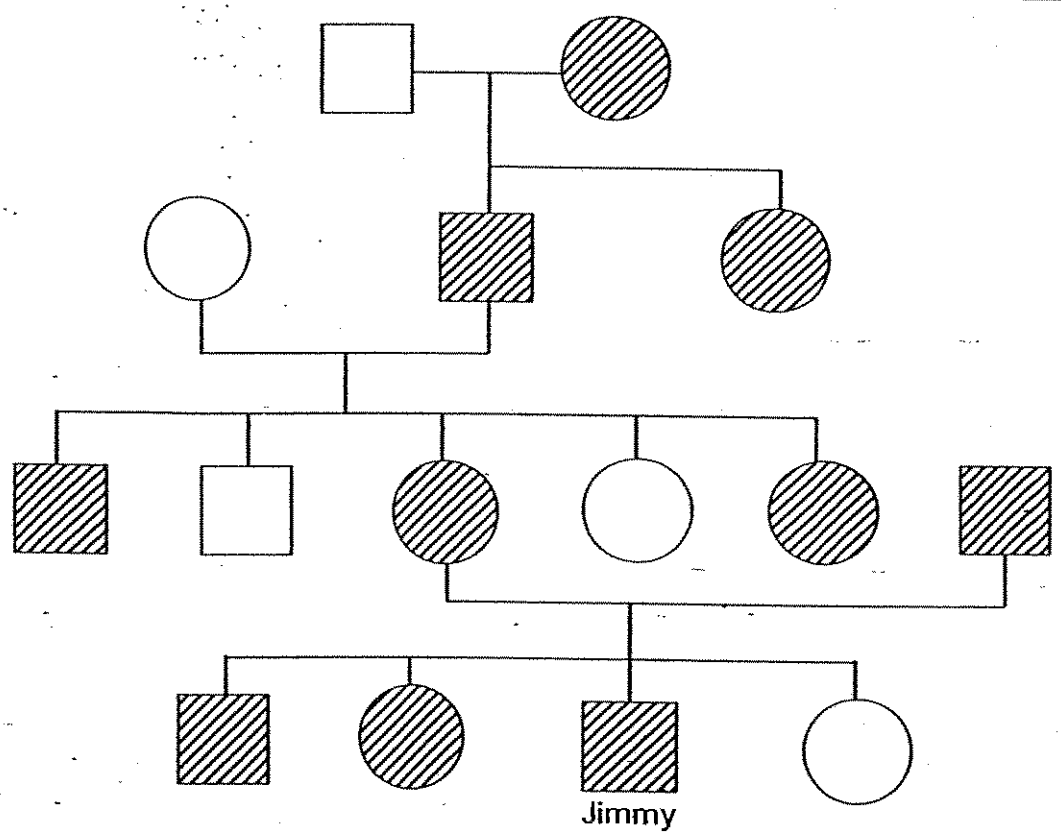
= Male, fair-haired

= Female, fair-haired

= Male, dark-haired

= Female, dark-haired

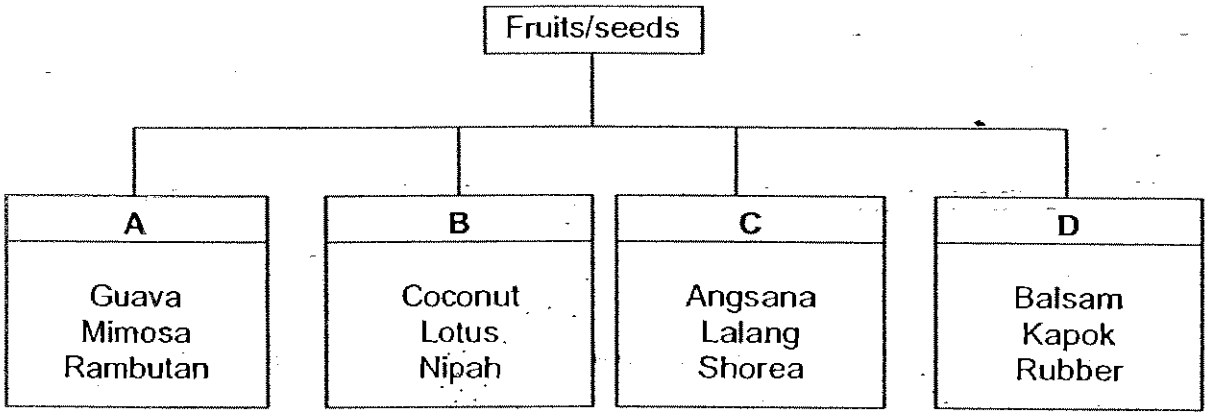
The above shapes represent some traits an individual inherits from his/her parents.



What is the total number of Jimmy's aunt(s) and uncle(s) who are dark-haired?

(1) 1
(2) 2
(3) 3
(4) 4

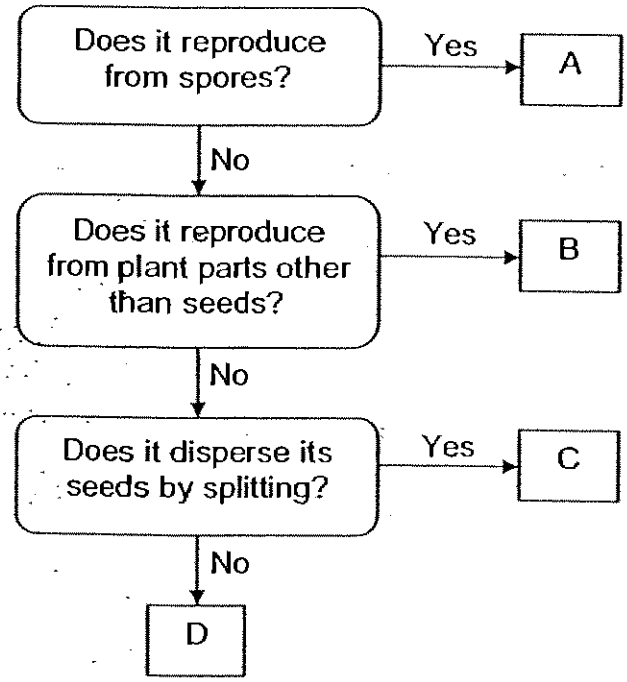
9 Study the four groups (A, B, C, D) below carefully.



Which one of the following correctly identifies how the fruits/seeds are dispersed?

	A	B	C	D
(1)	By animals	By water	By splitting	By wind
(2)	By animals	By wind	By water	By splitting
(3)	By animals	By splitting	By wind	By water
(4)	By animals	By water	By wind	By splitting

10 Study the flow chart below.

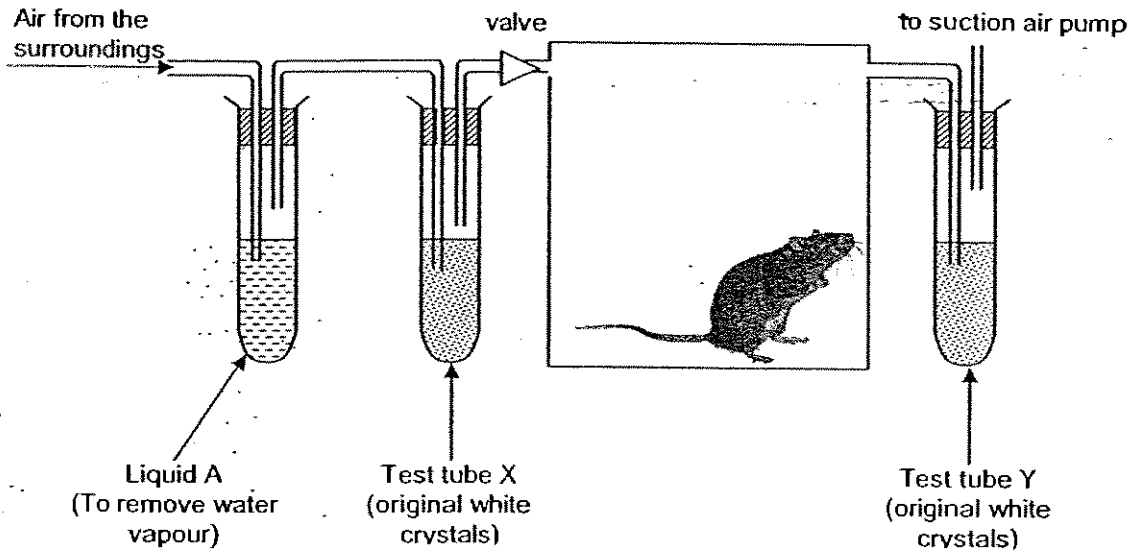


Which one of the following identifies A, B, C and D correctly?

	A	B	C	D
(1)	Fern	Apple	African Tulip	African Violet
(2)	Fern	Pineapple	African Violet	African Tulip
(3)	Moss	Banana	African Tulip	African Violet
(4)	Moss	Pineapple	African Violet	African Tulip

Use the information below to answer questions 11 and 12.

Eddie wants to find out whether rats give out water vapour during respiration. He sets up his experiment as shown below. His Science teacher told him that the original white crystals in test tubes X and Y will turn blue if water vapour is present. The valve stops air in the tank from flowing backwards into test tube X.



11 What is the purpose of test tube X in the experiment?

A To find out if the rat gives out water vapour
B To ensure that the rat gets enough water vapour
C To check if the air entering the tank contains water vapour

(1) A only
(2) C only
(3) A and B only
(4) B and C only

12 Eddie observed the colour(s) of the crystals in the test tubes X and Y at the end of the experiment. He concluded from his experiment that the rat gave out water vapour during respiration. What should the colour of the crystals be for each test tube at the end of the experiment in order for him to have made that conclusion?

	Test tube X	Test tube Y
(1)	Blue	Blue
(2)	Blue	White
(3)	White	Blue
(4)	White	White

13 Four pupils (Amy, Billy, Celia and Danny) were asked to complete a table about photosynthesis and respiration. Their responses were shown below. A tick (✔) indicates a "Yes".

Amy's table		Takes place in the day	Takes place at night
	Photosynthesis	✔	✔
	Respiration	✔	✔

Billy's table		Takes place in the day	Takes place at night
	Photosynthesis	✔	
	Respiration	✔	✔

Celia's table		Takes place in the day	Takes place at night
	Photosynthesis	✔	
	Respiration	✔	

Danny's table		Takes place in the day	Takes place at night
	Photosynthesis	✔	
	Respiration		✔

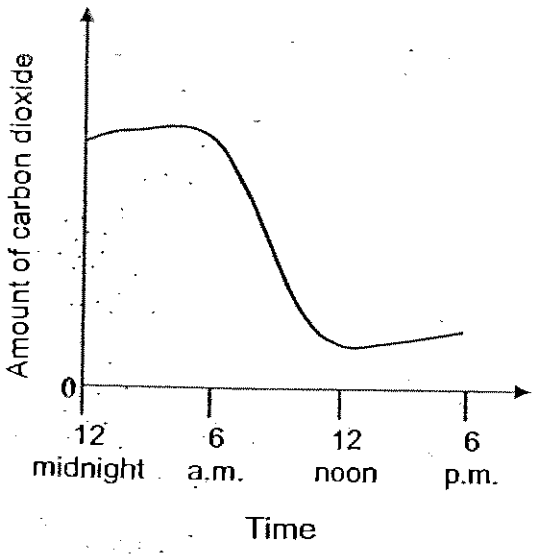
Which pupil completed the table correctly?

(1) Amy
(2) Billy
(3) Celia
(4) Danny

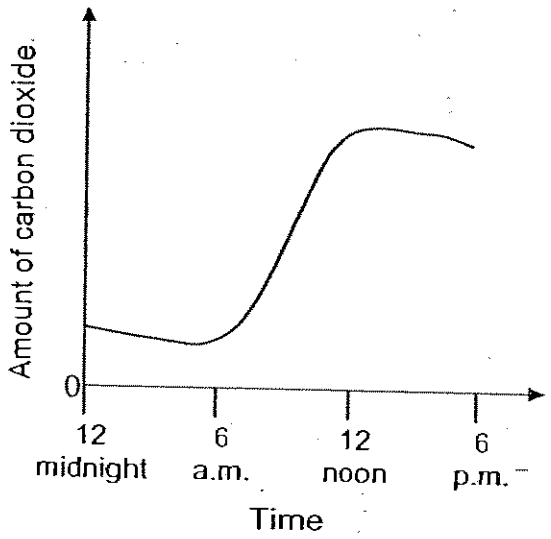
14 Tom sketched 4 graphs each to show the changing amount of carbon dioxide in the air around an angsana tree measured over an 18-hour period.

Which one of the following graphs is most likely to be accurate?

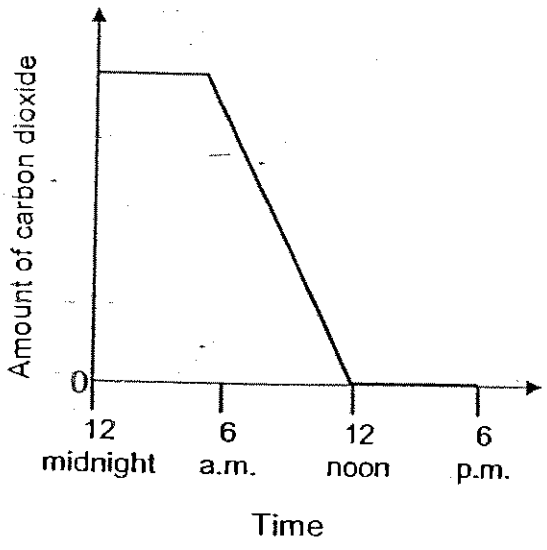
(1)



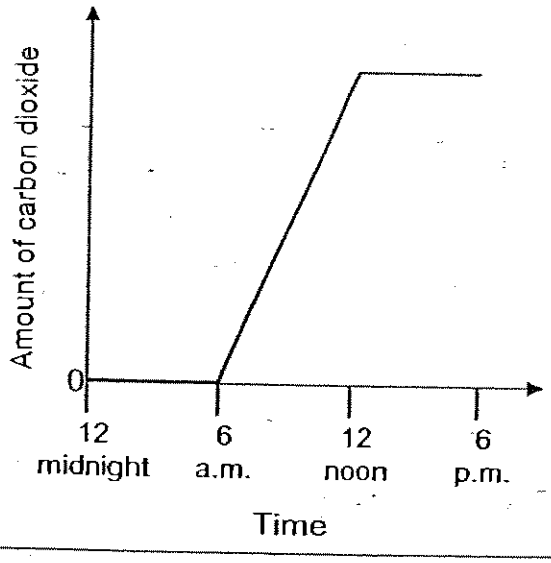
(2)



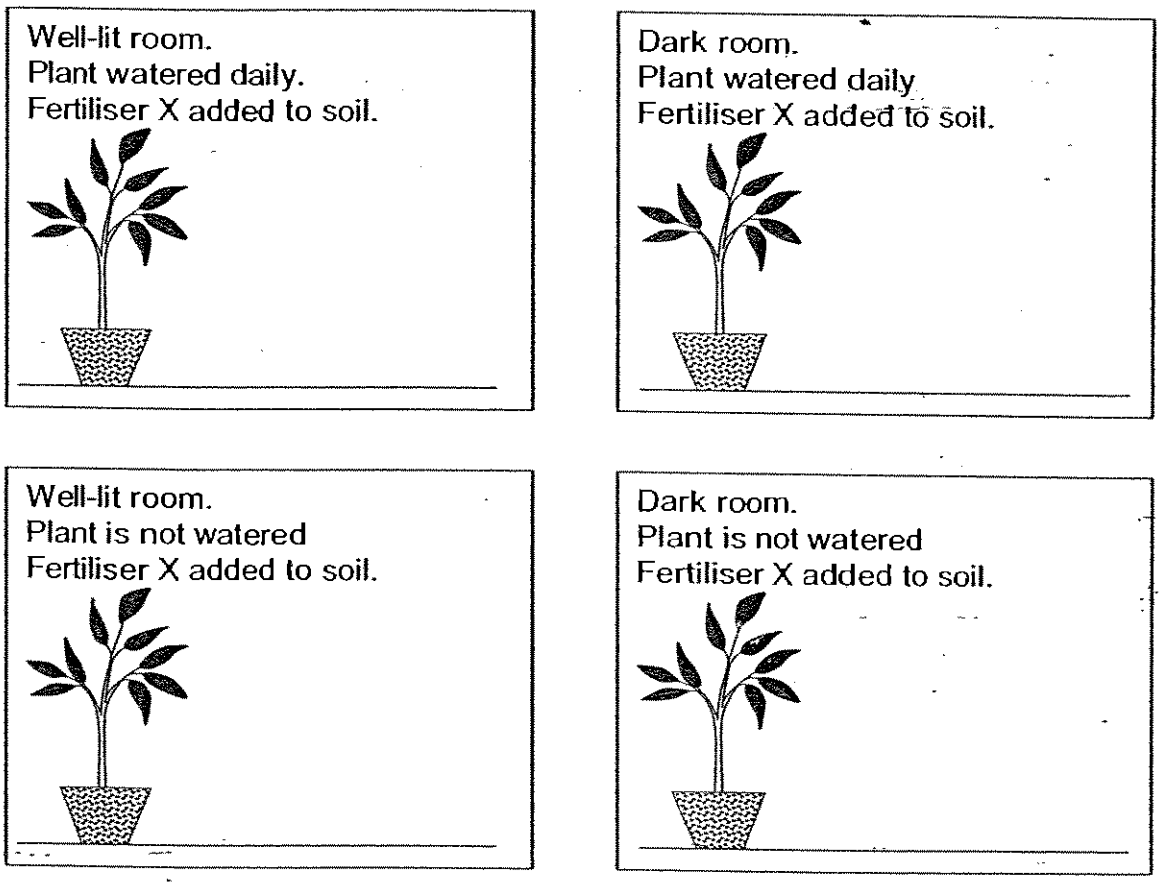
(3)



(4)



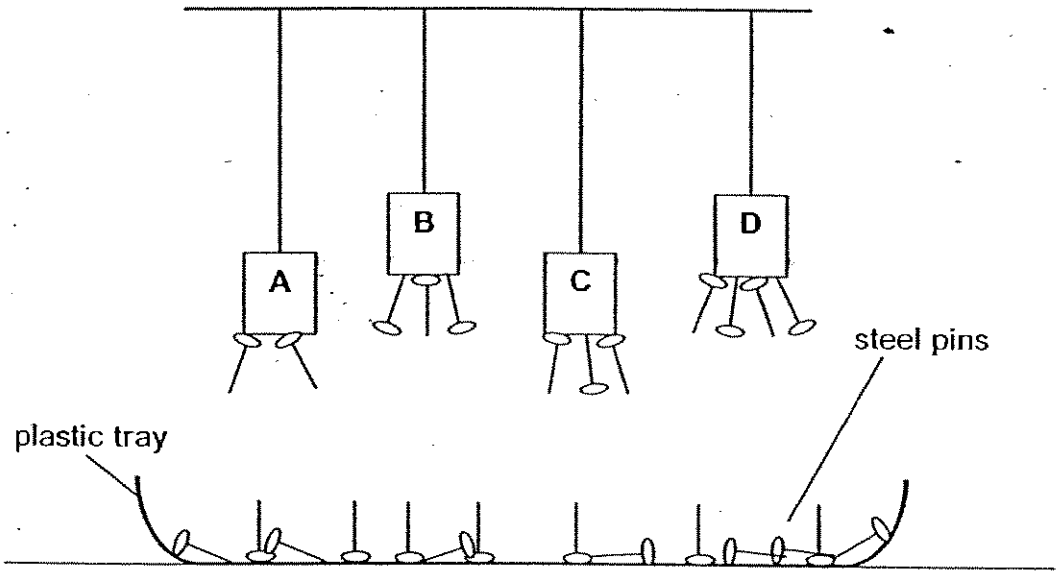
15 Paul set up an experiment over a period of time as shown in the diagram below. At the end of the experiment, it was observed that some of the potted plants grew healthily but not others.



What was the likely aim of Paul's experiment?

(1) To find out whether potted plants need light to grow healthily.
(2) To find out whether potted plants need light and water to grow healthily.
(3) To find out whether potted plants need light and fertiliser to grow healthily.
(4) To find out whether potted plants need light, fertiliser and water to grow healthily.

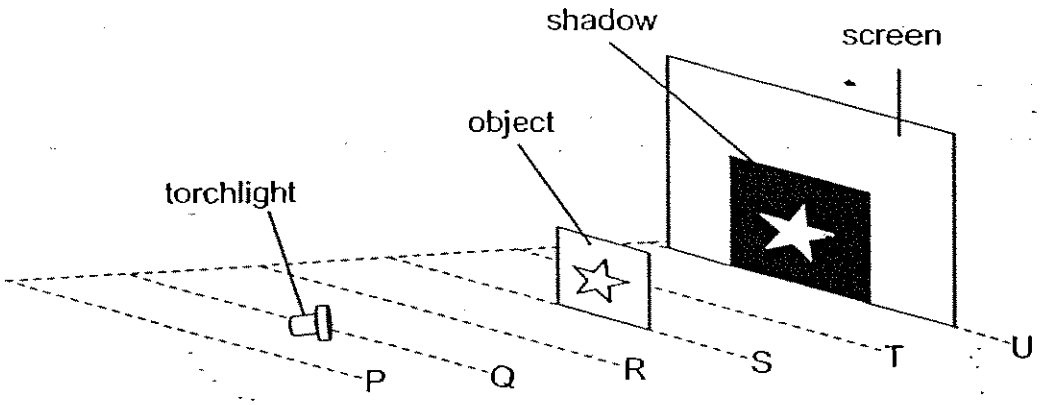
16 A, B, C and D are magnets hanging from strings of two different lengths as shown in the diagram below.
A plastic tray of steel pins is placed below the magnets and different numbers of pins are attracted to the magnets.



Based on the diagram above, arrange the magnets A, B, C and D in descending order of their strength.

(1) ABCD
(2) ACBD
(3) DBCA
(4) DCBA

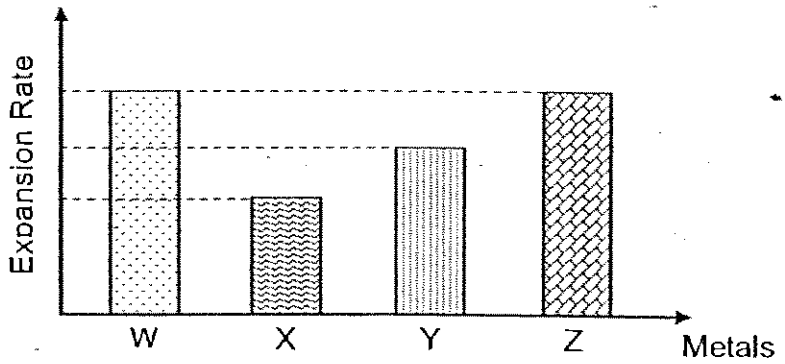
17 Ronald performed an experiment using the setup below.
Lines P, Q. R, S, T and U are 15cm apart and parallel to one another.
The torch light shown below is placed along line Q.



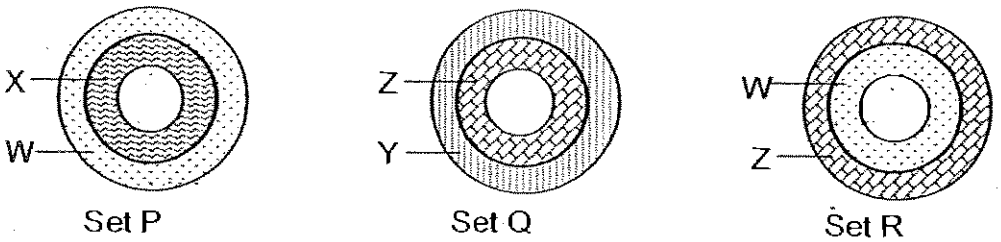
Without moving the screen, how would Ronald be able to create a smaller "star" on the screen?

(1) Move the object nearer to the screen.
(2) Move the torchlight nearer to the object.
(3) Move the object nearer to the torchlight.
(4) Move the object further away from the screen.

18 The graph below shows the rate of expansion of different metals when heated under identical condition.



The diagram below shows 3 sets of rings P, Q and R. Each set of rings comprises of 2 rings made from different metals (W, X, Y and Z). All the inner rings initially fit exactly into the outer rings.



The sets of rings (P, Q and R) are heated evenly over a period of time. Which one of the following statements about the sets of rings is correct?

(1) Only the rings in set R fell apart.
(2) Only the rings in set Q became tighter.
(3) The rings in set P became tighter while those in set Q fell apart.
(4) The rings in sets P and R fell apart while those in set Q became tighter.

19 Which of the following statements are true of the Earth and the Moon?

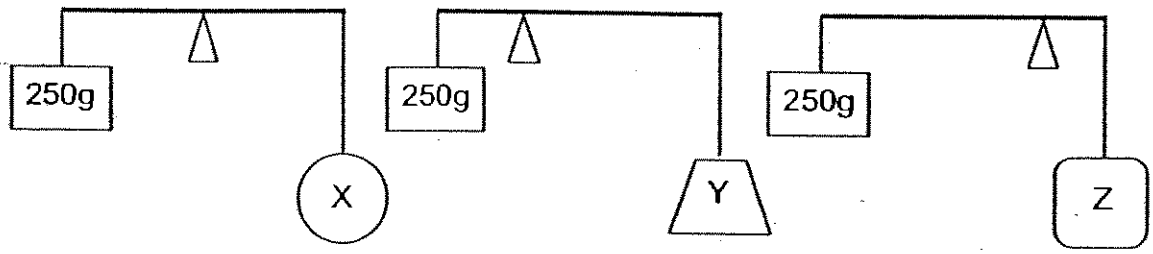
A The Moon can be seen from the Earth every night.
B Both the Moon and the Earth rotate about their own axes.
C The phases of the Moon are caused by the regular movement of the Moon around the Earth.

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

20 Julian was asked to classify some actions according to the forces involved. Which one of the following classification is correct?

	Push only	Pull only	Pull & Push
(1)	rubber fruit exploding	hoisting a flag	wringing a wet cloth to dryness
(2)	pumping air into a ball	wringing a wet cloth to dryness	hoisting a flag
(3)	tearing a piece of paper	tugging a luggage	rubber fruit exploding
(4)	tugging a luggage	tearing a piece of paper	pumping air into a ball

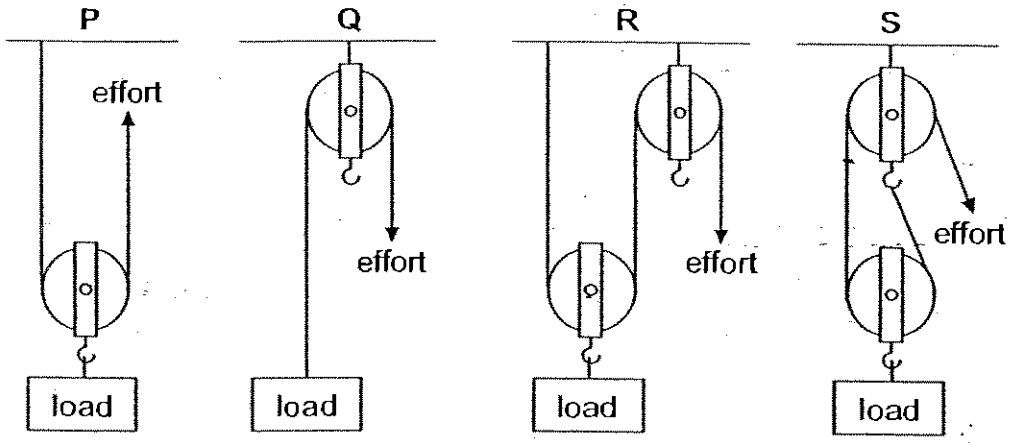
21 The diagram below shows 3 objects X, Y and Z being used to balance a load of 250g.



Arrange objects X, Y and Z in ascending order of their weight.

(1) XYZ
(2) YXZ
(3) ZYX
(4) ZXY

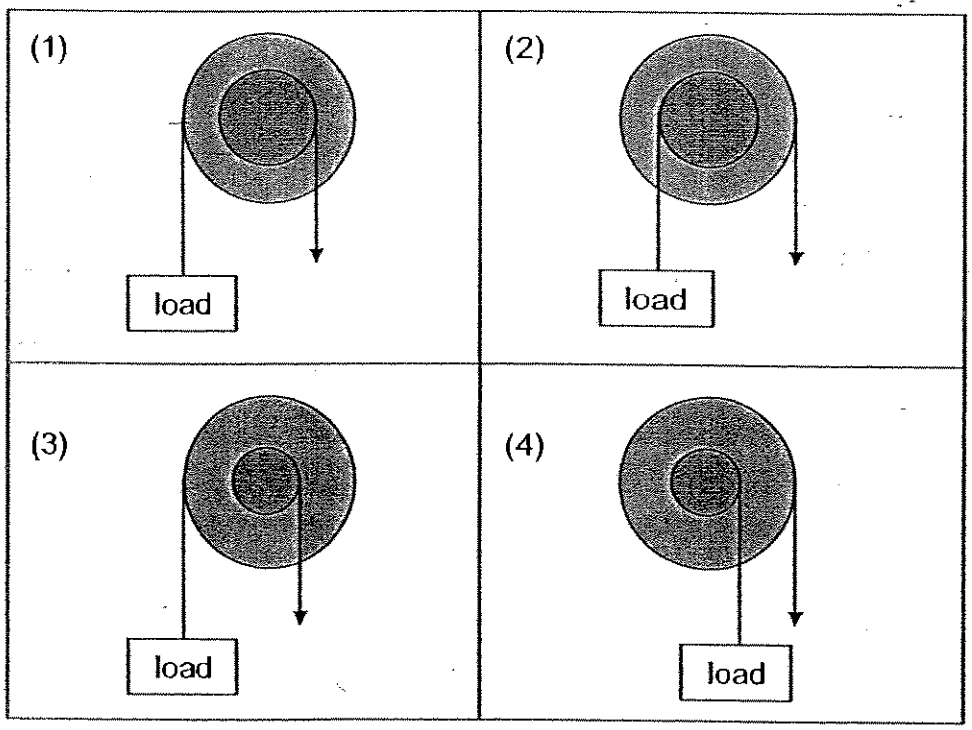
22 The diagram below shows 4 different pulley systems P, Q, R and S.



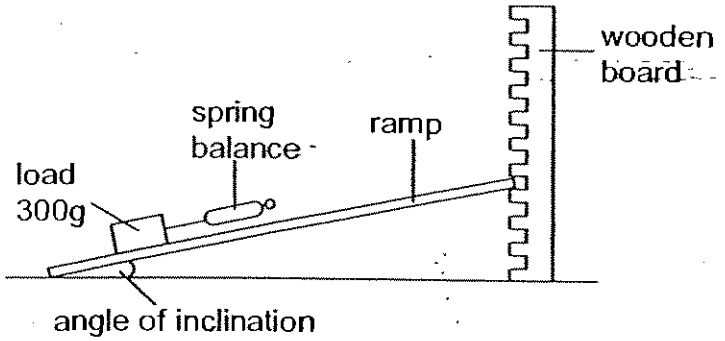
In which of the above system(s) would the distance moved by the effort be greater than the distance moved by the load?

(1) P and Q only
(2) P and R only
(3) R and S only
(4) P, R and S only

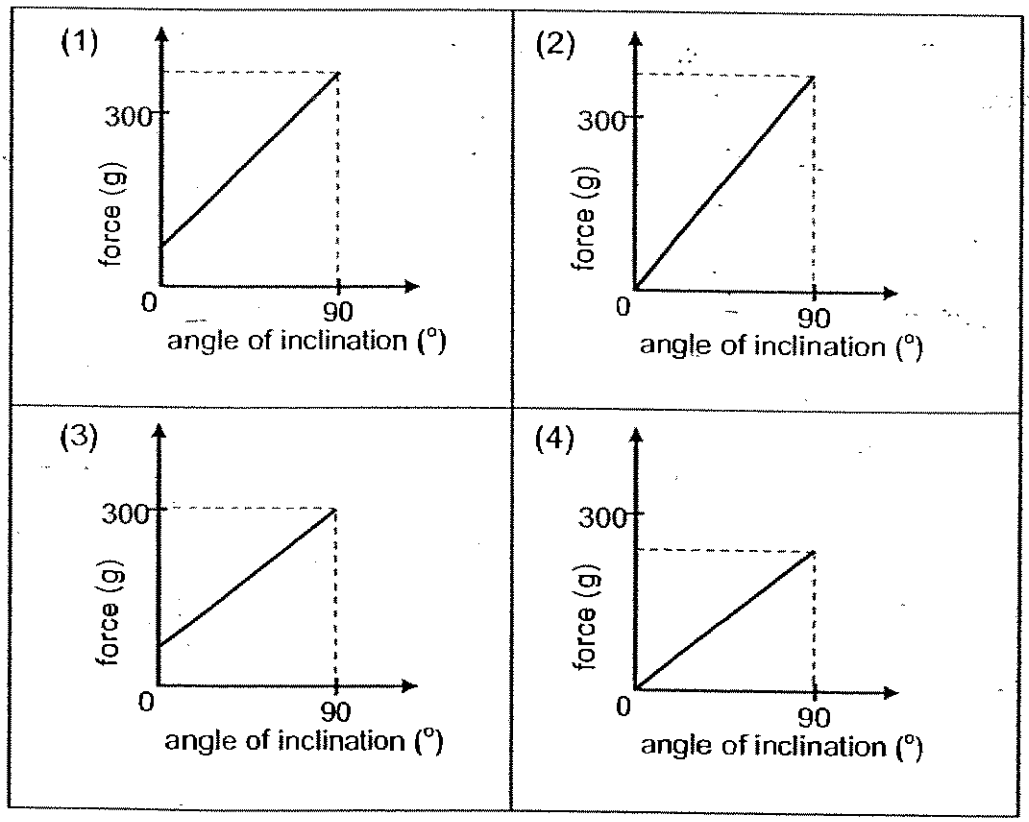
23 Which one of the sets of wheel and axle below helps change the direction of force as well as enables a smaller force to overcome a heavier load?



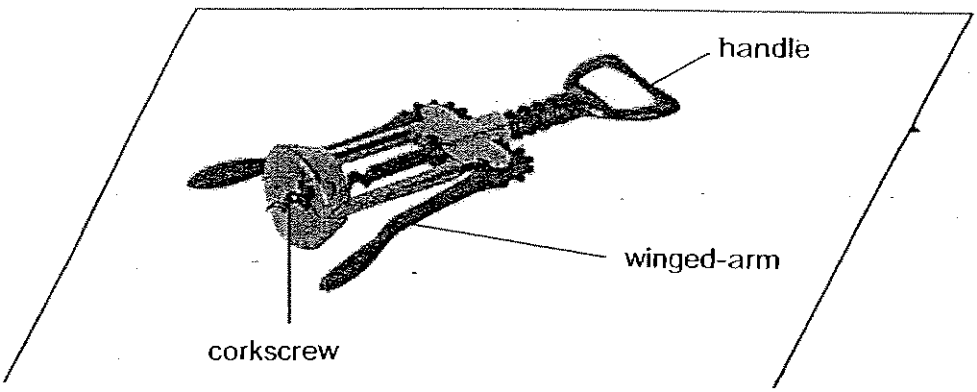
24 Samuel wanted to find out how the angle of inclination affects the force needed to pull a load of 300g up a ramp. He began by pulling the load along the ramp which was placed horizontally on the ground. He then increased the angle of inclination gradually by supporting it against a wooden board. When the ramp was perpendicular to the ground, the load was still in contact with the ramp.



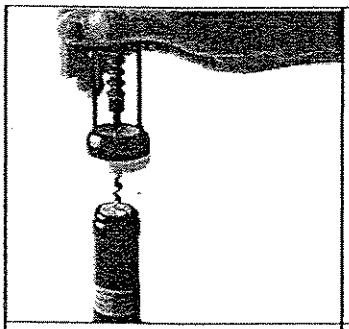
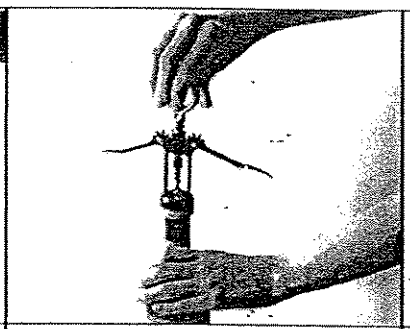
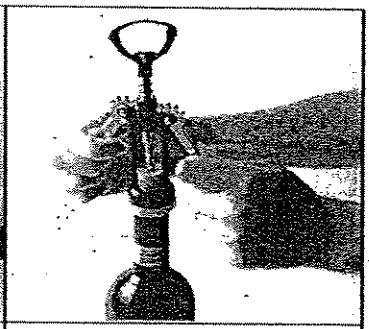
Which one of the following graphs most likely shows the relationship between the angle of inclination and the force needed to move the load?



25 The wine bottle opener shown below is made up of a number of simple machines.



The diagrams below show the steps of using the wine bottle opener to remove the cork from the wine bottle:

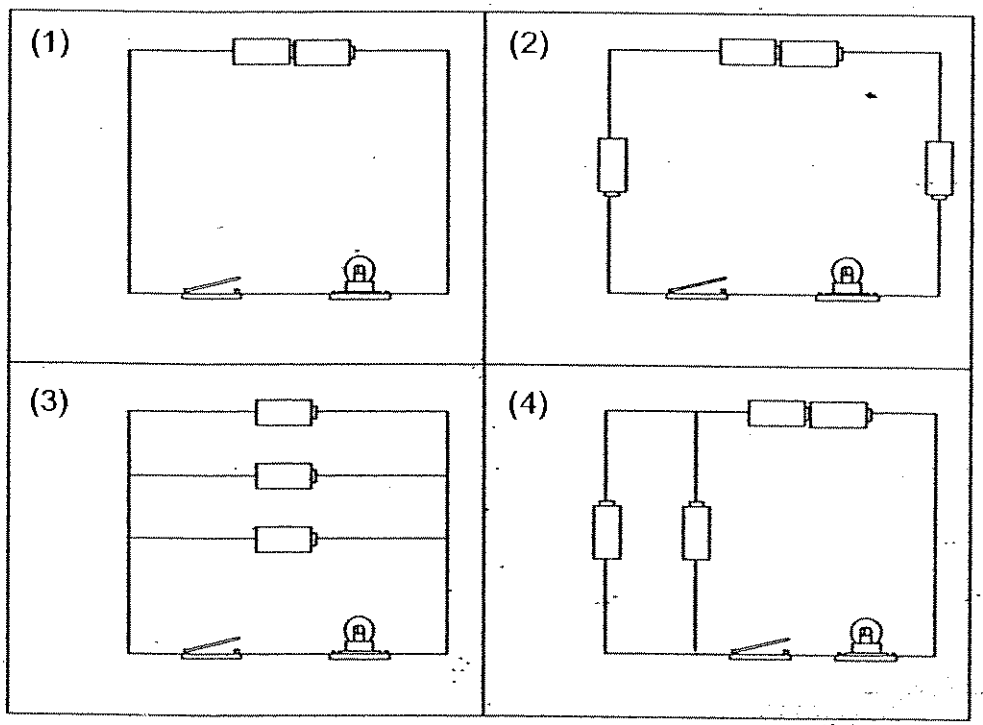
		
Step One Push the end of the corkscrew into the centre of the cork	**Step Two** Turn the handle clockwise until the corkscrew is well into the cork **Note:** As the corkscrew goes into the cork, the winged-arms will begin to rise.	**Step Three** Press the winged arms down to lift the cork out of the bottle

What are the simple machines found in the wine opener?

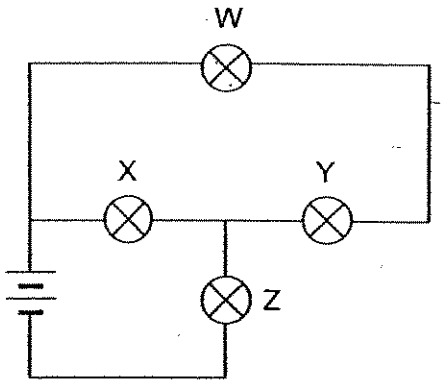
A lever
B gears
C inclined plane
D wheel and axle

(1) A and C only
(2) B and D only
(3) B, C and D only
(4) A, B, C and D

26 A similar bulb is connected to a number of new 1.5V batteries as shown below. In which circuit will the bulb light up most brightly when the switches are closed?



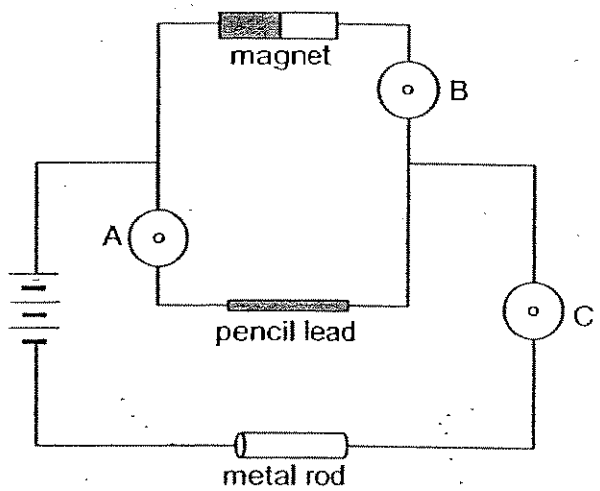
27 Study the circuit below.



Which bulb(s) will remain lighted when bulb Y blows?

(1) Z only
(2) X and Z only
(3) W, X and Z
(4) None of the bulbs

28 The diagram below shows 3 bells (A, B and C) correctly connected in a circuit.



Which of these bells will ring?

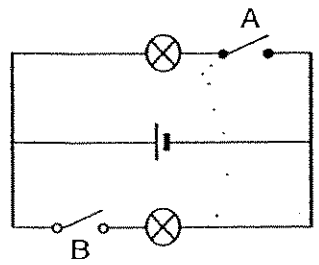
(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

29 Wei Hao recorded the following results when he tested an electrical circuit.

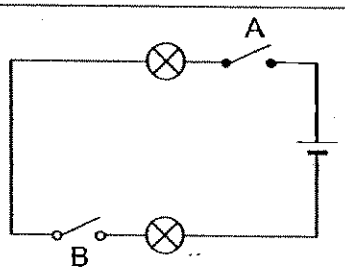
Switch A	Switch B	Number of bulbs lighted
Off	Off	0
On	Off	1
Off	On	0
On	On	2

Which one of the following circuits will produce the results shown above?

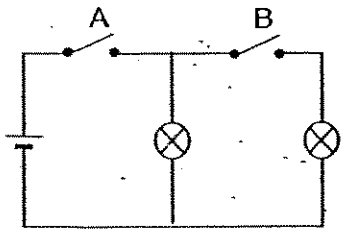
(1)



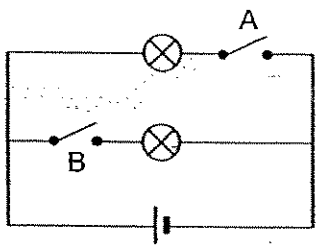
(2)



(3)



(4)

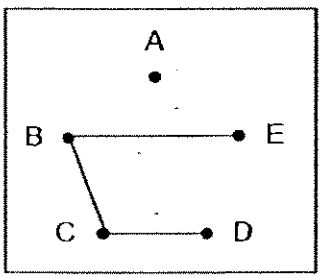


30 A circuit card is tested with a circuit tester. The results are given in the table below.

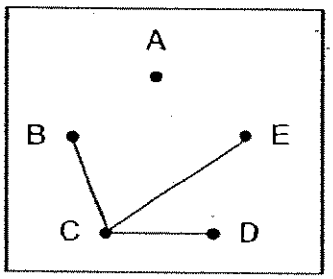
Clips tested	Does the bulb in the circuit tester light up?
A and D	No
B and C	Yes
C and E	Yes
D and E	No

Which one of the following most likely shows the circuit card being tested?

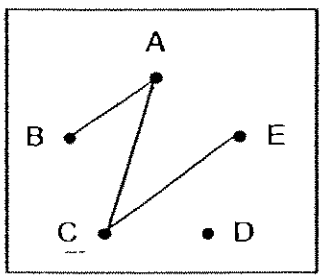
(1)



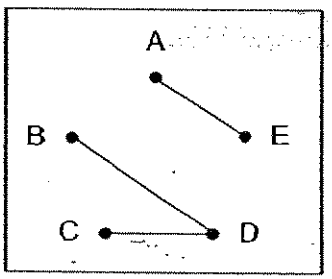
(2)



(3)



(4)



THE END

Anglo-Chinese School (Primary)

P5 SCIENCE 2007

END-OF-YEAR EXAMINATION

BOOKLET B

Name: _____ ( ) Class: Primary 5 ___

Date: 1 November 2007 Duration of paper: 1h 45 min

	Maximum Marks	Marks Obtained
Section A / Booklet A	60	
Section B / Booklet B	40	
Total	100	

THIS BOOKLET CONTAINS 15 PAGES.
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

PART II

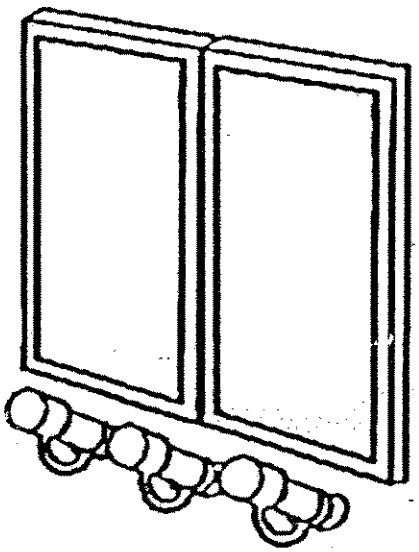
For questions 31 to 46, write your answers in this booklet.

The number of marks available is shown in brackets [ ] at the end of each question or part question.

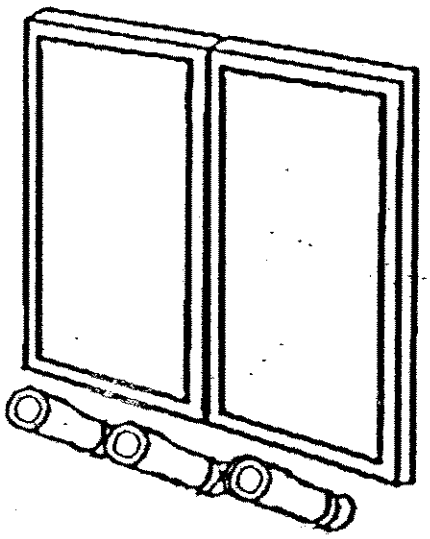
(40 marks)

---

31 Dengue fever is the most common mosquito-borne viral disease in the world. It is transmitted by the female *Aedes* mosquito.
People living in HDB flats were advised to cover their bamboo pole holders (shown below) as a way to prevent the spread of dengue in Singapore.



Covered bamboo pole holders



Uncovered bamboo pole holders

How does covering the bamboo pole holders when they are not in use help to prevent the spread of dengue fever? [2]

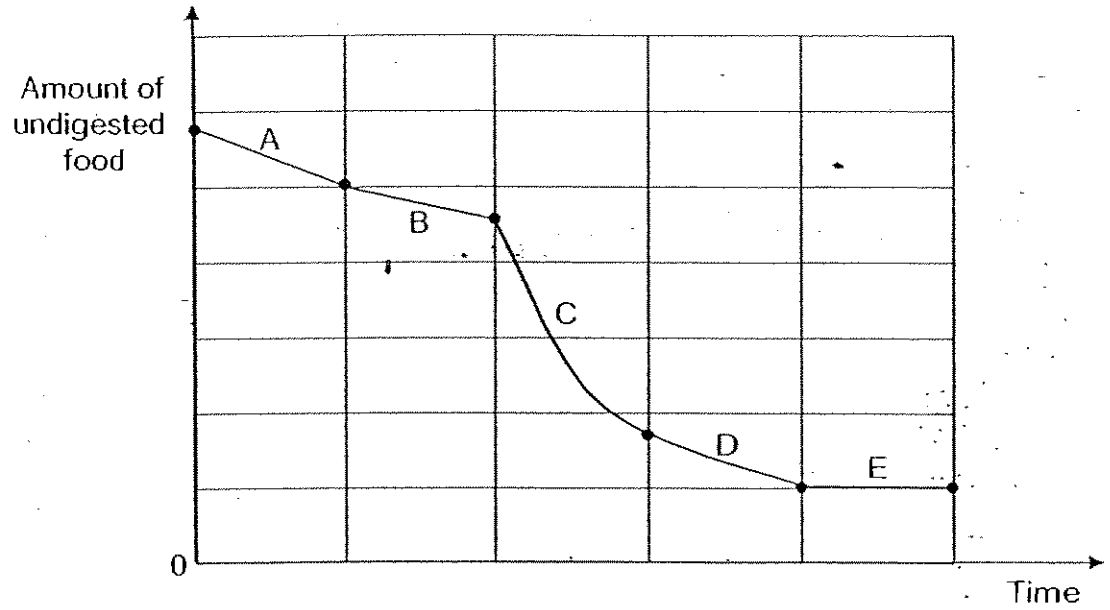
32 Debbie planted a seed in some soil and watered it each day. She observed its growth and recorded the lengths of its root and shoot. The following table shows the lengths of the shoots and roots she recorded.

Day	Part X (mm)	Part Y (mm)
1	0	0
2	0	0
3	0	2
4	0	4
5	2	6
6	5	9
7	8	11

(a) Which part, X or Y, is the root? Explain your answer. [2]

(b) Debbie observed that the seedling did not have any green leaves. Where did it get its energy for growth? [1]

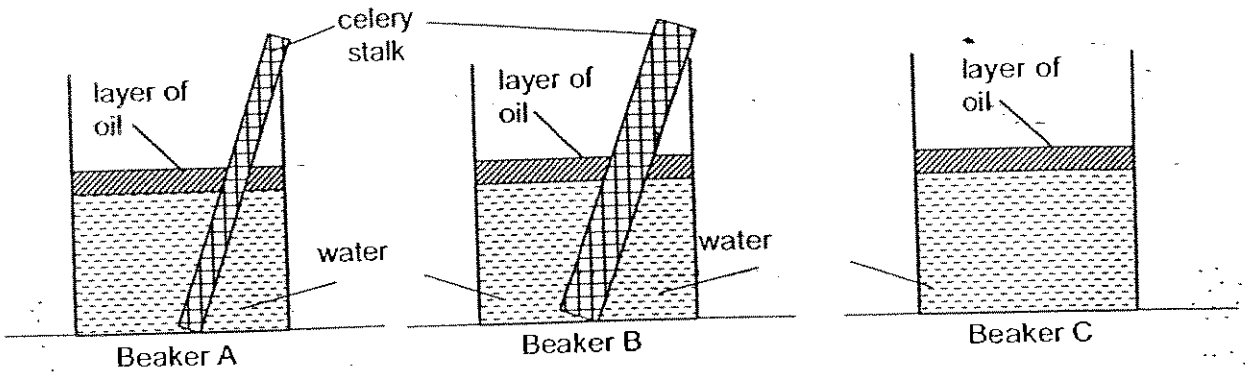
33 The graph below shows the amount of undigested food from the time food was consumed, as it passes through the human digestive system from organ A to E. Study the graph carefully and answer the questions below based on the data in the graph.



(a) Based on the graph, in which of the organs A, B, C, D and E was there no digestion taking place? [1]

(b) Name the organ(s) you mentioned in (a) above. [1]

34 David noticed that some plants needed more water than others. He wanted to find out if plants with thicker stems took in more water than plants with thinner stems. He carried out an experiment using celery stalks. The diagram below shows his experimental setup.

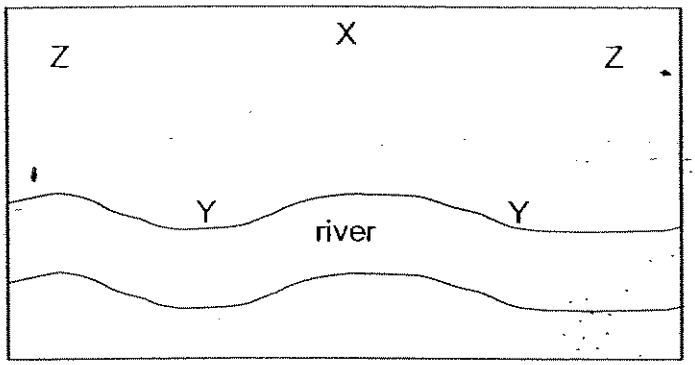


(a) David set up Beaker C as a control. What was the purpose of the control? [1]

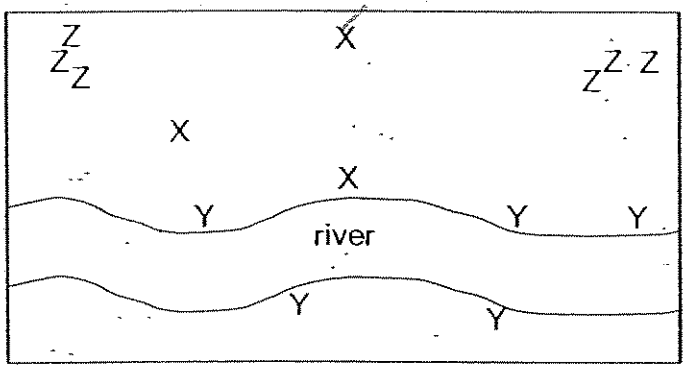
(b) Why did David add a layer of oil to all the three setups? [1]

35 The seeds/fruits of plants X, Y and Z are dispersed using different methods. The following diagrams show the distribution of the 3 types of plants in 2005 and 2006 respectively.

In 2005



In 2006



(a) Which plant's seeds were most likely dispersed by splitting? **[1]**

_____

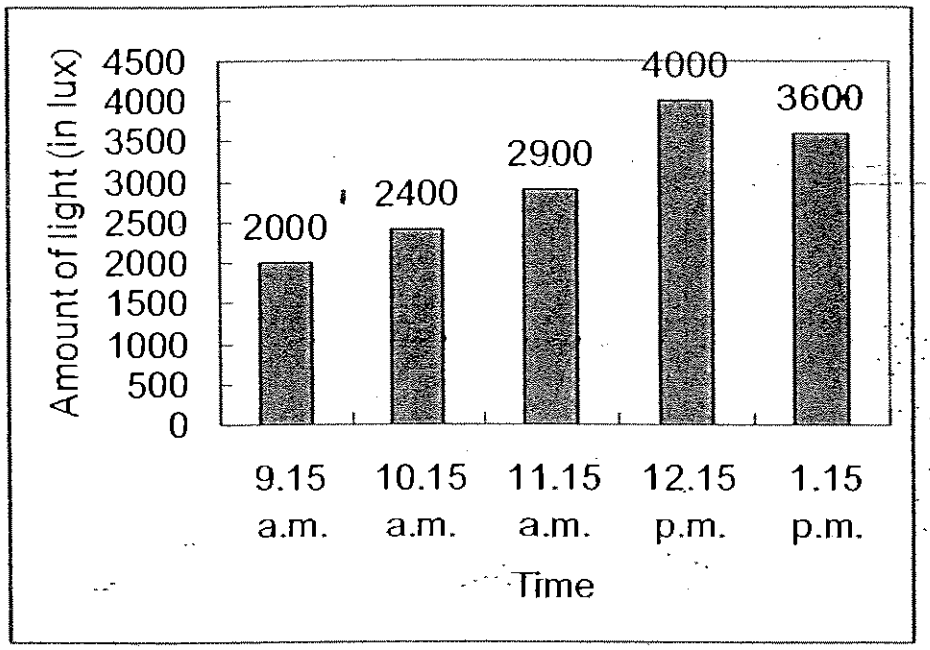
_____

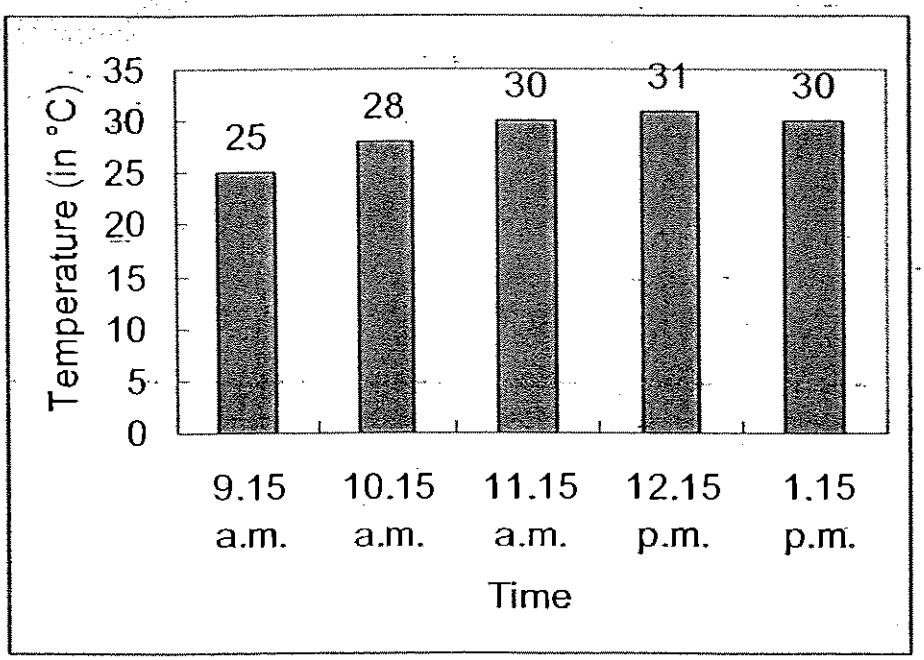
(b) Describe one likely characteristic of plant Y's fruits. **[1]**

_____

_____

36 Maggie placed a datalogger next to a plant to measure the temperature of the surroundings and the light received from the sun at five time intervals.
Study the bar graphs below to answer the questions that follow.



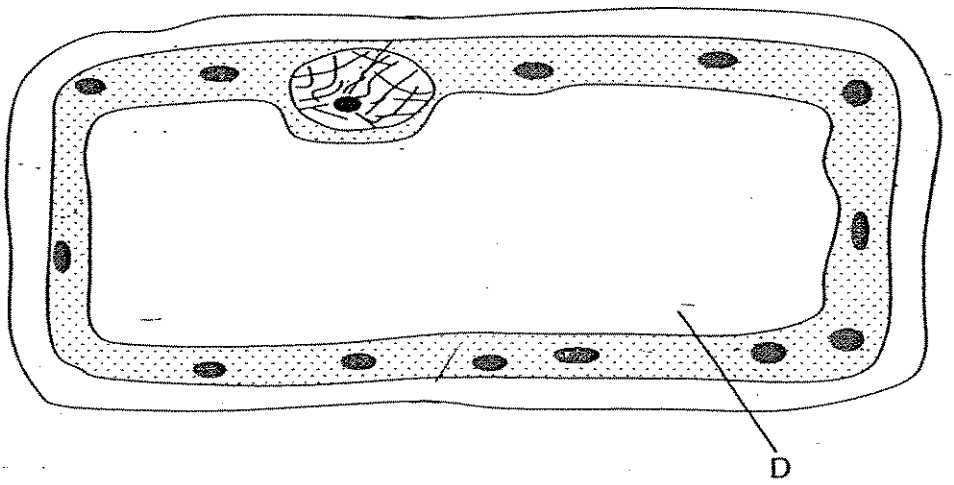


(a) Based on the graphs drawn, at what time was the rate of photosynthesis most likely the greatest? [1]

(b) Based on the graphs drawn, in what way is the temperature related to the amount of light received? [1]

(c) What could be the amount of light received by the plant at 11.45 a.m.? [1]

37 The picture below is a drawing of a plant cell seen under a powerful microscope. The labels for the cell parts have not been written.



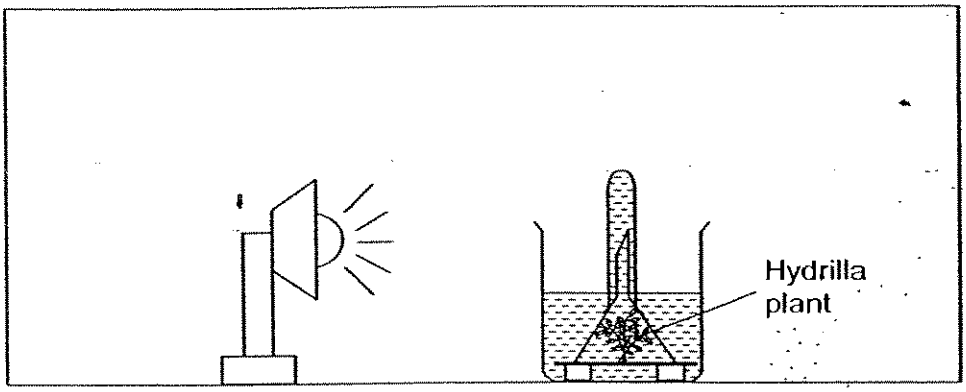
Draw 3 lines and use the letters A, B and C to label the cell parts described below clearly. An example (D: vacuole) has been drawn above.

(a) A: the cell part which controls the activities of the cell [1]

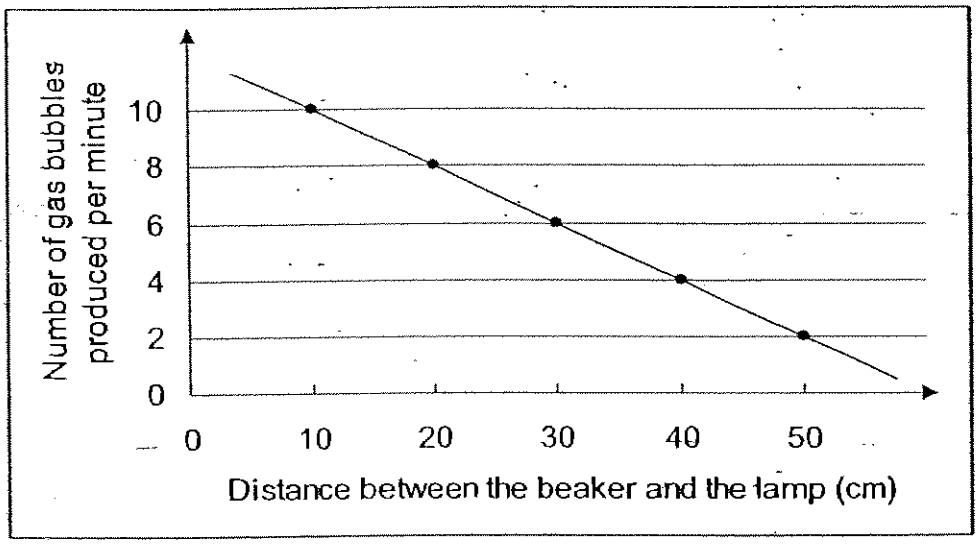
(b) B: the cell part which is partially permeable [1]

(c) C: the cell part which supports the cell and gives it a regular shape [1]

38 Kate sets up an experiment using a table lamp and a small hydrilla plant placed in a beaker of water as shown below. The experiment was conducted in a dark room with the table lamp being the only source of light.



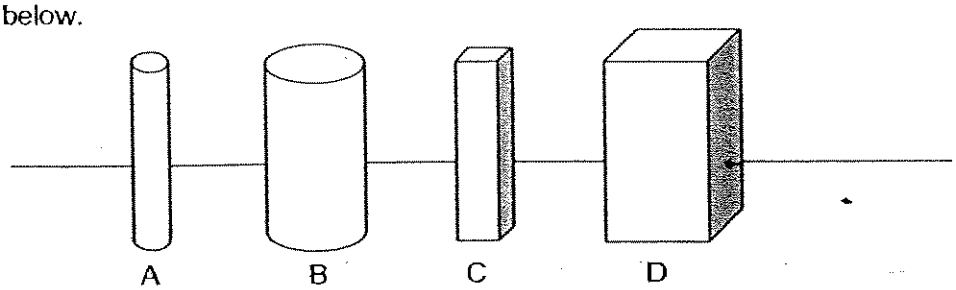
After the experiment, she drew a graph as shown below :



(a) What was the aim of Kate's experiment? [1]

(b) What conclusion can Kate make from the experiment? [2]

39 Melvin wanted to compare the strength of the 4 magnets A, B, C and D shown below.



He placed each of the magnets above a pile of pins and recorded the number of pins attracted by each magnet :

Magnet	Distance between magnet and pins (cm)	Number of pins attracted
A	3	12
B	4	12
C	3	15
D	5	10

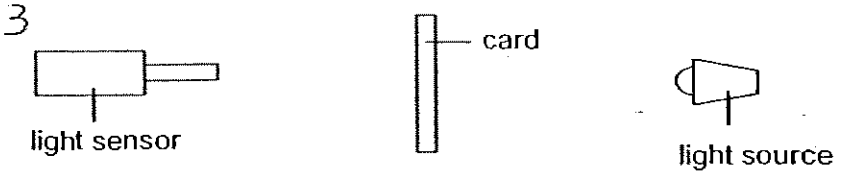
(a) Melvin's experiment was not a fair test. What should he do to ensure a fair test? [1]

(b) State 2 valid conclusions about the strengths of magnets A, B and C that Melvin could draw based on his experimental results shown above. [2]

(i) _____

(ii) _____

40 Rashid used a light sensor to determine the amount of light that was able to pass through 4 similar cards of different materials in his experiment.

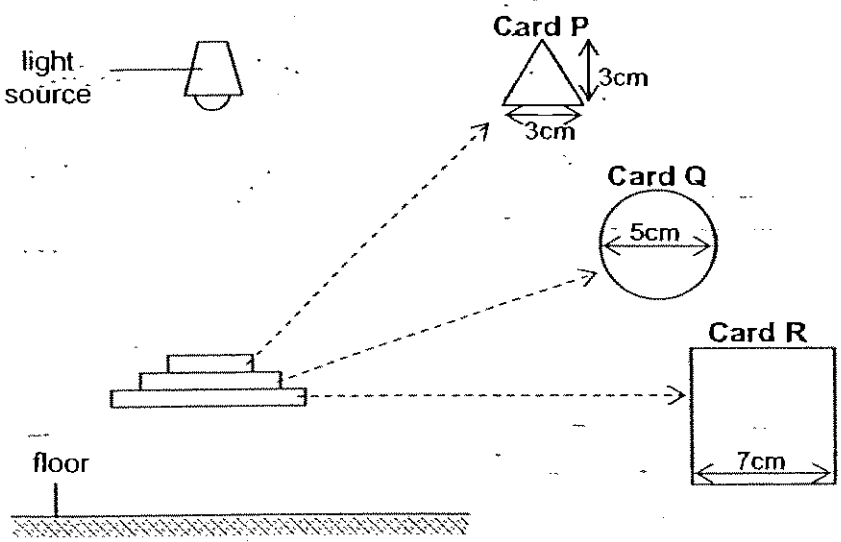


The light sensor reads from a scale of 0 to 10; and a high reading indicates that a greater amount of light has been detected.

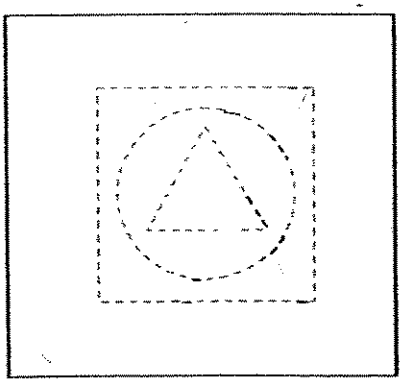
He recorded the results in the table below.

Card	Reading on light sensor
P	0
Q	5
R	10

Rashid then cut the cards P, Q and R into a triangle, a circle and a square respectively. The cut shapes were glued together one on top of the other and held between the light source and the floor as shown below.

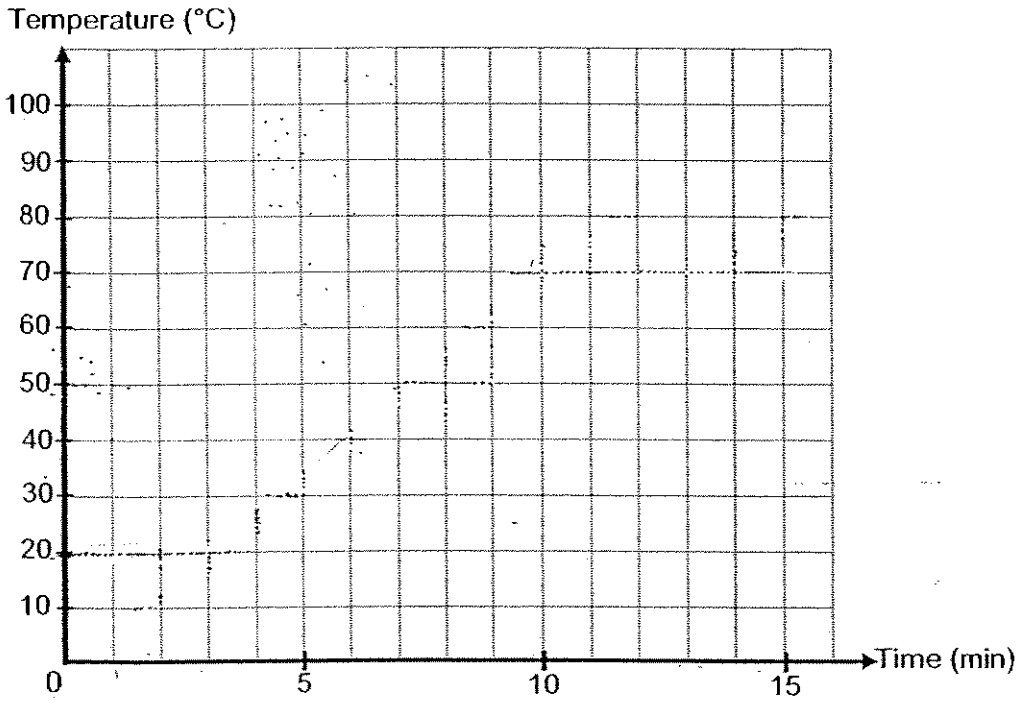


Shade the shadow that would be observed on the floor in the box below.
The outlines of the cut shapes have been included as a guide. [2]

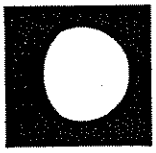


41 Substance W has a boiling point of 70°C and a melting point of 20°C. A sample of solid W was heated from 20°C to 70°C. It took 3 minutes for the solid to become totally liquid and another 7 minutes to start boiling. It was then continuously heated for another 5 minutes till the end of the experiment.

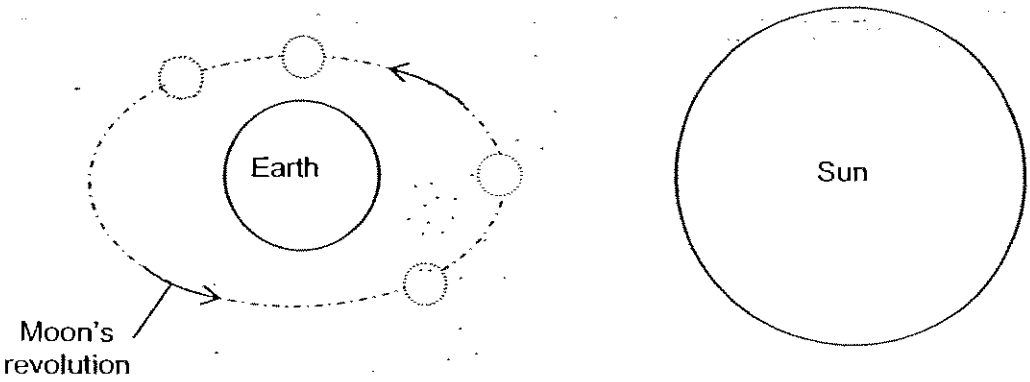
Draw a line graph to show how the temperature of the substance W changes for the first 15 minutes. [2]



42 The following moon phase was observed from Earth on 12 February:



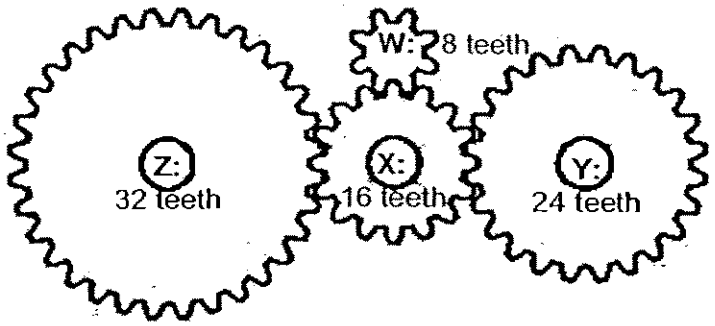
(a) In the diagram below, mark with an 'X' the correct position of the Moon which enable the above moon phase to be seen. [1]



(b) In the boxes below, draw on the outlines provided to show the correct sequence of the shapes of the Moon observed from Earth on 4 February, 19 February and 26 February. [2]

4 February	19 February	26 February

43 Study the gear system below.



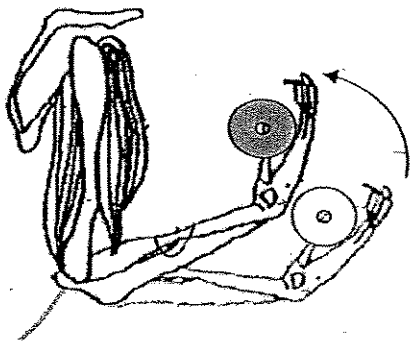
(a) Which gear(s) will rotate at half the speed of gear X? [1]

_____

(b) If gear Z turns clockwise, which gear(s) will turn in an anti-clockwise direction? [1]

_____

44 The diagram below shows a human arm lifting a load upwards.



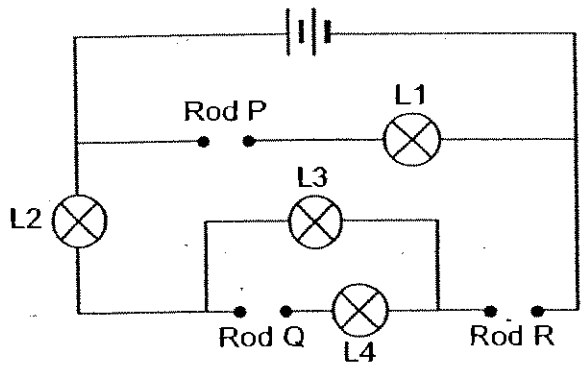
(a) Label the fulcrum and the effort in the diagram above. [1]

(b) How does the human arm help make work easier? [1]

_____

_____

45 Gabriel had three rods (P, Q and R) of different materials. He placed them at different positions as shown in the circuit shown below.



The results of the experiment were shown in the table below.

Did the bulb light up?			
L1	**L2**	**L3**	**L4**
yes	yes	yes	no

(a) Based on the results above, what could you conclude about the properties of the materials for the rods P, Q and R? [1]

(b) Complete the table below by filling in "Yes" or "No" to show the correct results when various different materials were used at the same time to make the rods P, Q and R. [2]

	Material of rods			Did the bulb light up?			
	P	**Q**	**R**	**L1**	**L2**	**L3**	**L4**
(i)	wooden rod	iron rod	silver rod				
(ii)	iron rod	silver rod	wooden rod				

46 Colin wanted to find out how the number of dry cells used in a circuit affects the brightness of a bulb. He was only given the following materials:

- two identical bulbs
- three identical dry cells
- some wires

He was also allowed to set up only two circuits for his experiment.

(a) Using the symbols provided in the key, draw the two circuit diagrams to show how he would carry out his experiment. [2]

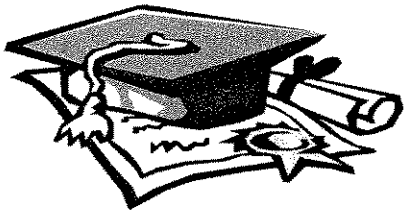
Circuit Diagram	Key
Set-up 1	⊗ bulb | dry cell — wire
Set-up 2	

(b) What could Colin conclude from the two set-ups drawn above? [1]

_____

_____

THE END



ANSWER SHEET

ACS PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 2
2. 1
3. 2
4. 2
5. 2
6. 1
7. 4
8. 2
9. 4
10. 3
11. 2
12. 3
13. 2
14. 1
15. 2
16. 3
17. 1
18. 2
19. 3
20. 1
21. 2
22. 4
23. 2
24. 3
25. 4
26. 4
27. 2
28. 4
29. 3
30. 3

31) When it rains, water will enter the bamboo pole holders, then the water inside will be still. As mosquitoes lay eggs in stagnant water, we can prevent that by covering all bamboo pole holders when they are not in use.

32) a) Part Y. The roots have to grow deeply into the soil to get water and mineral salts for the seed.
b) It comes from the seed leaves that are covered with the seed coat.

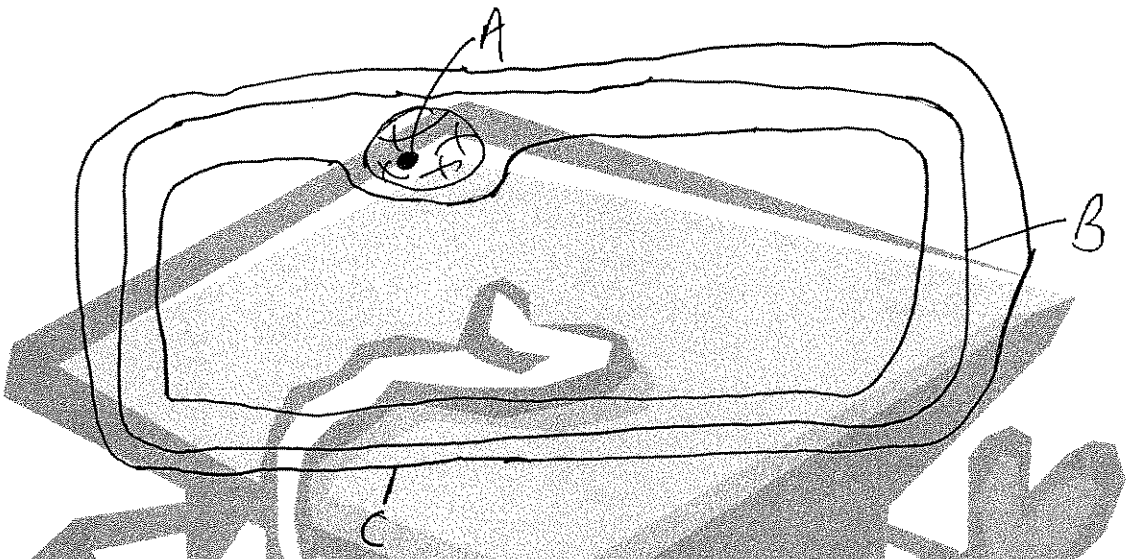
33) a) E.
b) Large intestine.

34) a) To show that the decrease in volume of water is due to the plants taking in water.
b) To prevent evaporation of water so that he can have a fair result.

35) a) Plant 2.
b) It enables it to float on water.

36) a) 12.15pm
b) The more light received, the temperature increase.
c) 3500 lux.

37)



38) a) To find out if the distance between the beaker and the lamp affects the number of gas bubbles produced per minute.

b) The further the beaker from the lamp, the less gas bubbles produced by the plant.

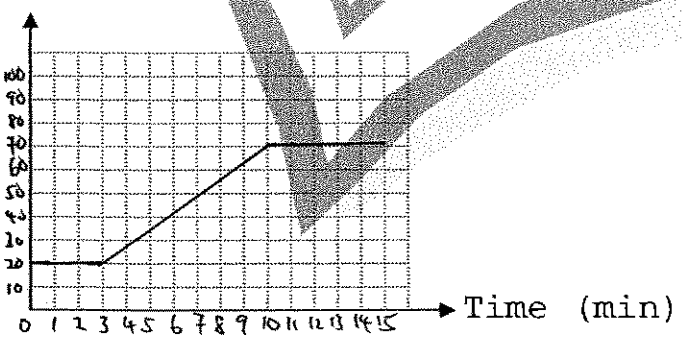
39) a) He should use the same type of magnets.

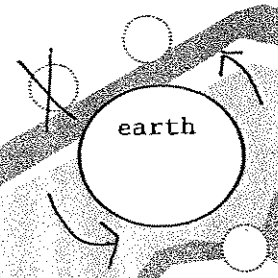
b) i) Magnet B is stronger than magnet A.

ii) The strength of magnet C is stronger than A.

40)

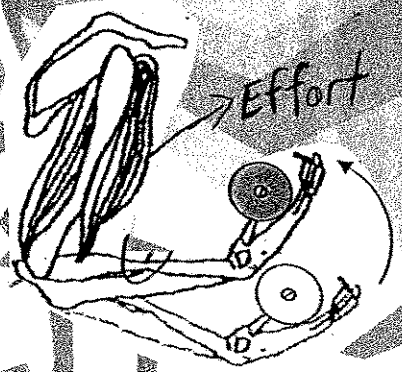
41)



42) a) 

b) 

43) a) Gear Z. b) Gear X.

44) a) 

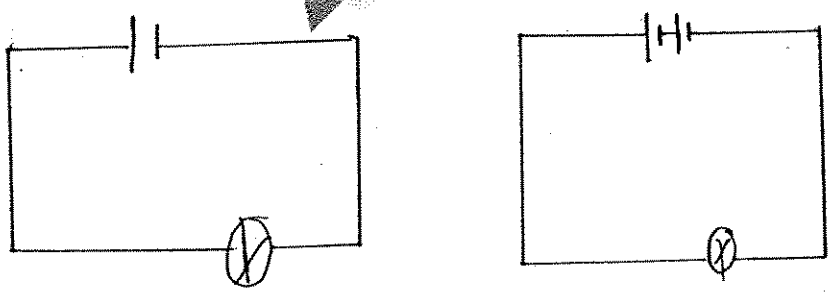
b) It helps us to speed up work.

45) a) P and R are conductors of electricity, while Q is an insulator of electricity.

b) i) No, Yes, Yes, Yes.

ii) Yes, No, No, No.

46) a) set-up 1 set-up2



b) The more number of dry cells, the brighter the bulb will be.

AI TONG SCHOOL

2007 SEMESTRAL ASSESSMENT (2)
PRIMARY FIVE SCIENCE

DURATION: 1HR 45 MIN

DATE: 29 OCTOBER 2007

INSTRUCTIONS

Do not open the booklet until you are told to do so.
Follow all instructions.
Answer all questions.

Name : _____( )

Class : Primary 5____

Parent's Signature : _____

Date : _____

Total	
	100

Section A (30 x 2 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. Which one of the following statements is **not** true about the Solar system?

(1) A satellite does not revolve around the Earth.
(2) The Sun is the only star in the Solar System.
(3) The Moon is nearer to the Earth than the Sun.
(4) The Moon orbits round the Earth.

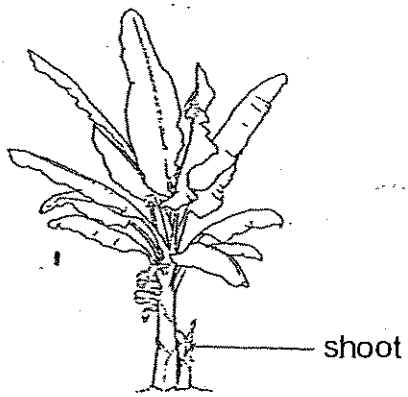
2. The table below shows a comparison of 3 kinds of cells, A, B and C.

Parts of a cell	Cell A	Cell B	Cell C
Nucleus	Yes	Yes	Yes
Cell membrane	Yes	Yes	Yes
Cytoplasm	Yes	Yes	Yes
Chloroplast	No	No	Yes
Cell wall	No	Yes	Yes

Which one of the following statements is correct?

(1) Cell A has an irregular shape but not Cell B and Cell C.
(2) Cell A is a plant cell but Cell B and Cell C are animal cells.
(3) Cell A is able to reproduce but not Cell B and Cell C.
(4) Cell A has more cells but Cell B and Cell C have fewer cells.

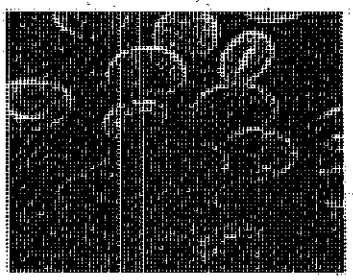
3. The picture below shows an upright shoot growing from the stem of an adult plant.



It reproduces by _____.
(1) bud
(2) leaf
(3) suckers
(4) underground stem

4. The photographs below show 2 types of human cells.

Cheek cells



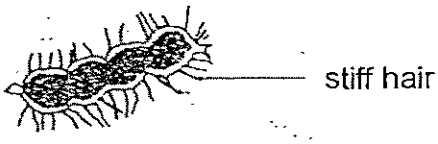
Red blood cells

Which statement(s) correctly describe(s) the differences between these types of cells?

A: Only the cheek cells have nucleus.
B: Only the cheek cells have cell membrane.
C: Only the red blood cells **cannot** carry out cell division.
D: Only the red blood cells allow exchange of gases to take place.

(1) A only
(2) B only
(3) A and C only
(4) B and D only

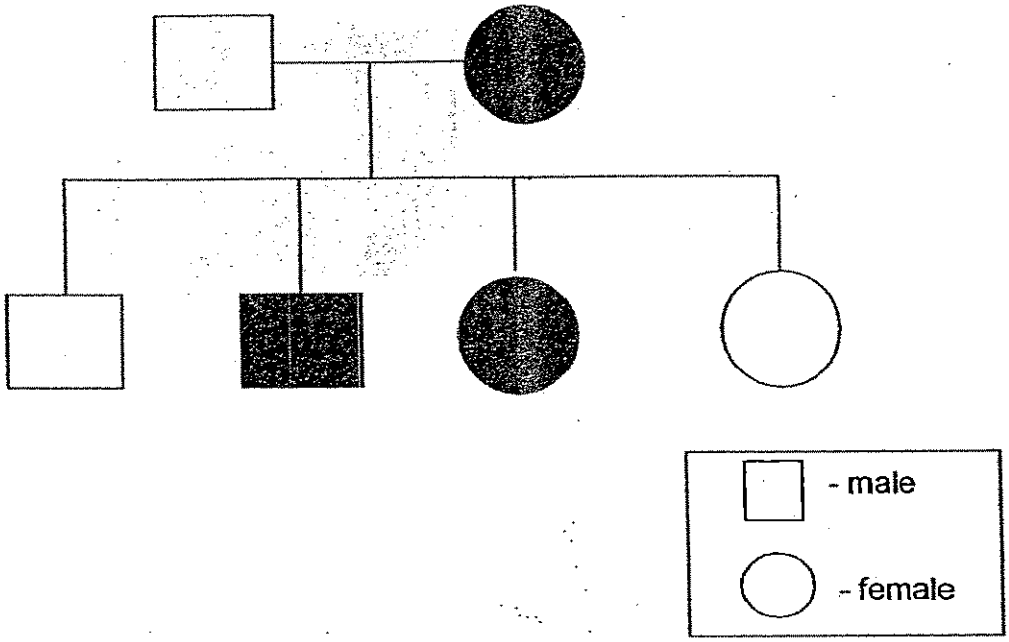
5. The diagram below shows a picture of a fruit.



Which one of the following statements best describes how it is dispersed?

(1) Its seeds are passed out as droppings.
(2) It sticks onto the animals' fur.
(3) It glides in the air.
(4) It floats on water.

6. The diagram below shows the Chew family tree.
A shaded symbol indicates that the person is able to roll his/her tongue.

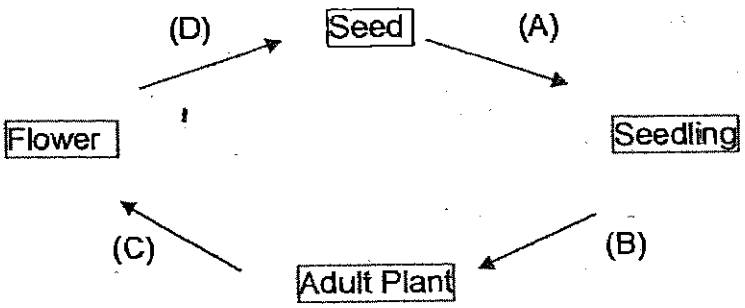


Which of the following statements are correct?

A: Three daughters can roll the tongue.
B: The sons cannot roll the tongue.
C: The children inherit the tongue-rolling characteristics from the mother.
D: Two of the children can pass on the tongue-rolling trait to their children.

(1) A and B only
(2) B and C only
(3) C and D only
(4) B, C and D only

7. The diagram below shows the life cycle of a flowering plant. At which stages, A, B, C or D, does the process of germination and fertilization take place respectively?



(1) A and B only
(2) B and C only
(3) C and D only
(4) A and D only

8. Aces carried out a starch test on the leaves of 3 balsam plants, A, B and C. The aim of his test was to show that light is needed for photosynthesis to take place. He recorded the results in the table below.

Plant	Colour of Iodine
A	Brown
B	Dark Blue
C	Dark Blue

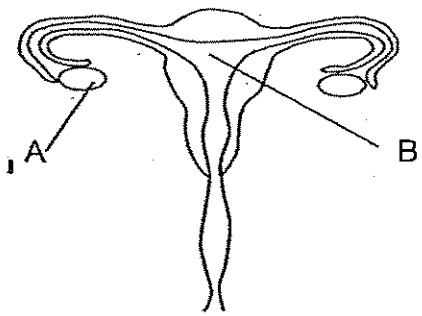
The three plants in the experiment were provided with different light conditions during his experiment. Which one of the following is the correct condition the plant was in?

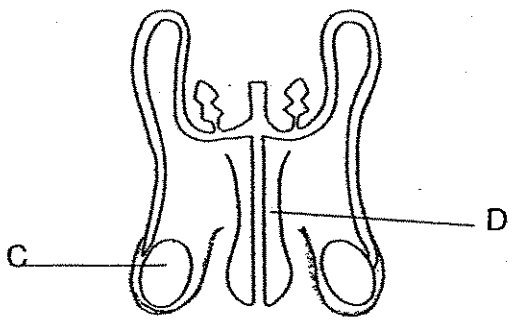
	Light Conditions	Plant
(1)	Placed under a bright lamp	B
(2)	Kept in a dark cupboard	C
(3)	Kept in a dark cupboard	~~A~~ B
(4)	Left it under the Sun	A

9. Which one of the following shows a correct energy path?

(1) Sun → Herbivore → Carnivore
(2) Plants → Deer → Cheetah
(3) Toadstool → Millipede → Centipede
(4) Grasshopper → Snake → Toad

10. The diagrams below show the human reproductive systems.





Which parts produce cells that will join together to develop into a baby?
(1) A and B only
(2) A and C only
(3) B and C only
(4) C and D only

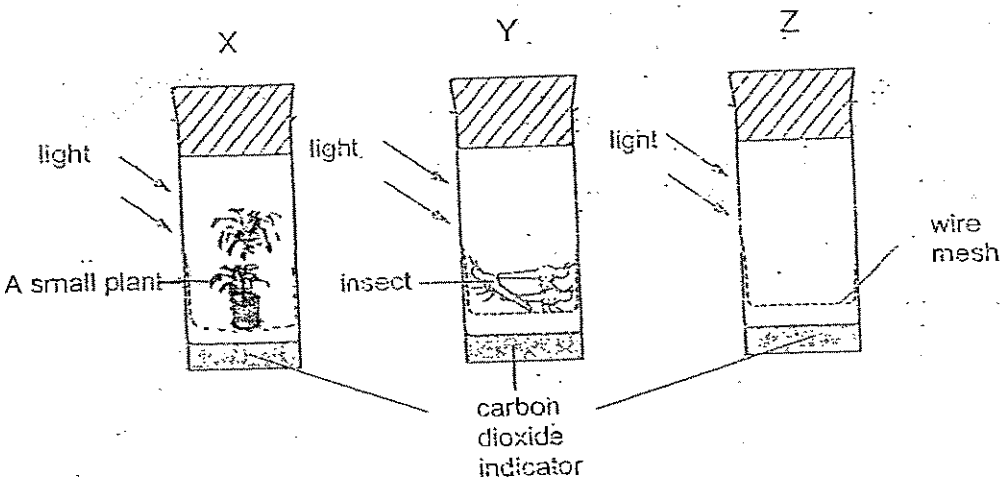
11. The equation below represents a life process. What is X and Y respectively?

Glucose + Oxygen ⟶ X + Y + Water

A : Carbon dioxide
B : Energy
C : Oxygen
D : Food

(1) A and B only
(2) B and C only
(3) A and C only
(4) C and D only

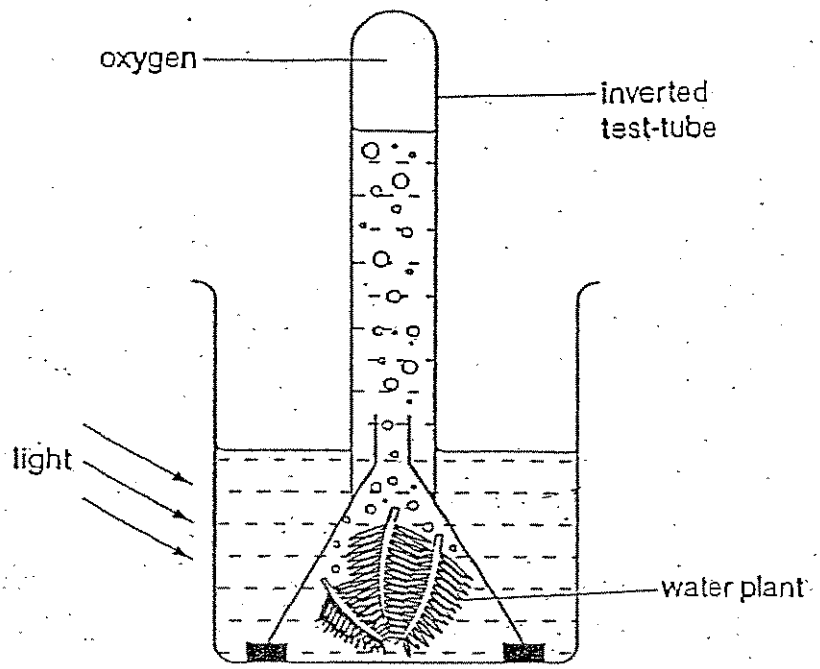
12. Three containers, X, Y and Z, were set-up as shown below. At the start of the experiment, the carbon dioxide indicator in each container was green. The carbon dioxide indicator changes from green to red when exposed to increased amount of carbon dioxide.



What will be the colour of the carbon dioxide indicator in each container after 3 hours?

	Container X	Container Y	Container Z
(1)	Green	Red	Red
(2)	Green	Red	Green
(3)	Red	Green	Green
(4)	Red	Green	Red

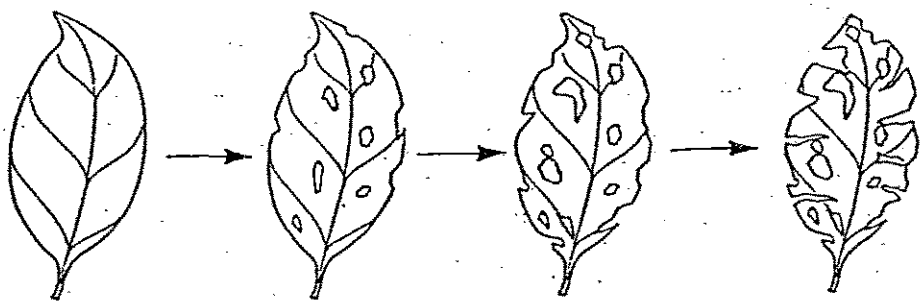
13. Amy set up the following apparatus to find out the effect of different light intensities on the rate of photosynthesis. There are 5 similar set-ups and the diagram below shows one of the set-ups.



Light from 5 bulbs of different voltage was shone on the 5 set-ups. What should Amy do to find out the result of her experiment?

(1) Measure the temperature of the water.
(2) Measure the mass of the water plant.
(3) Count the number of gas bubbles given off.
(4) Observe whether the water turns chalky.

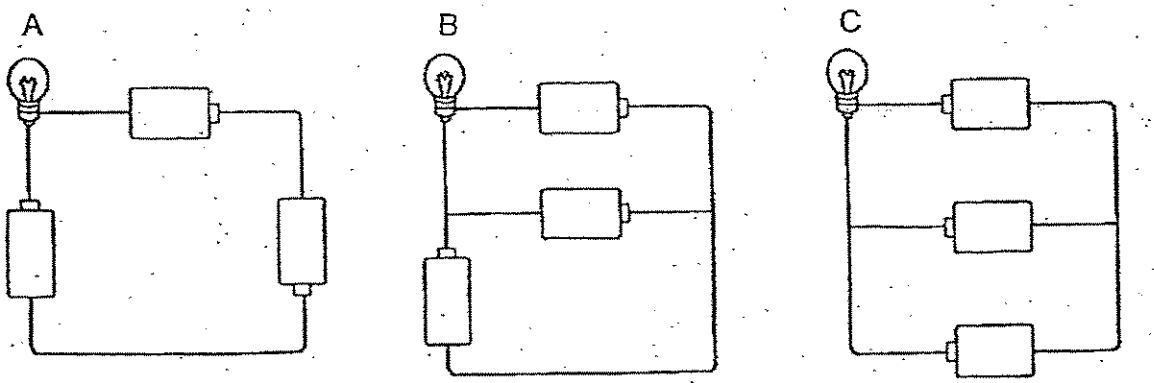
14. The diagram shows changes in the appearance of a leaf on a branch.



Which type of organism is most likely to cause these changes?

(1) Centipede
(2) Dragonfly
(3) Grasshopper
(4) Praying mantis

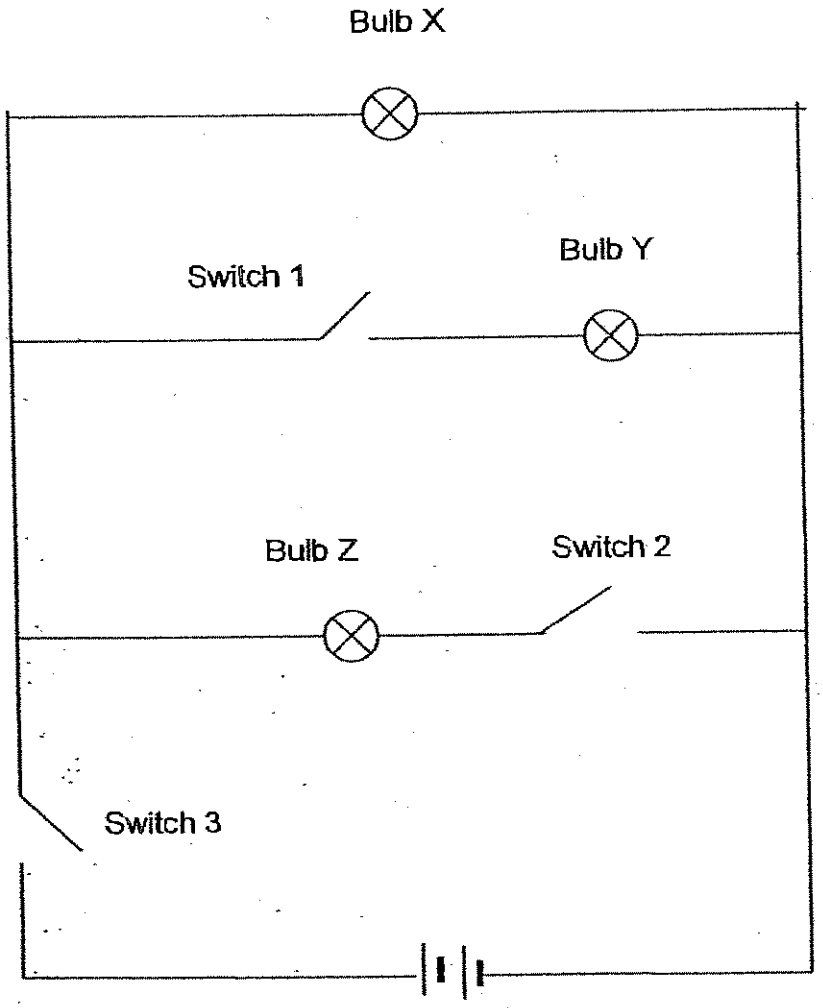
15. The diagrams below show 3 electric circuits.



Arrange bulbs A, B and C in ascending order of brightness.

(1) A, B, C
(2) C, B, A
(3) B, A, C
(4) C, A, B

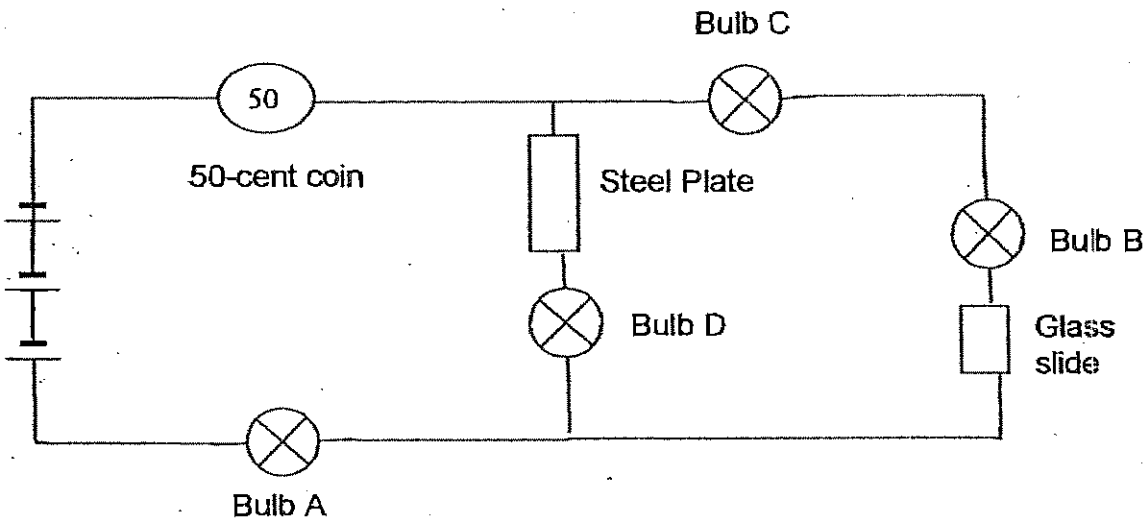
16. The diagram below shows an electric circuit.



In which order must the switches be closed so that Bulb X lights up first, followed by Bulb Y and then Bulb Z?

	First	Second	Third
(1)	Switch 1	Switch 2	Switch 3
(2)	Switch 2	Switch 1	Switch 3
(3)	Switch 3	Switch 1	Switch 2
(4)	Switch 3	Switch 2	Switch 1

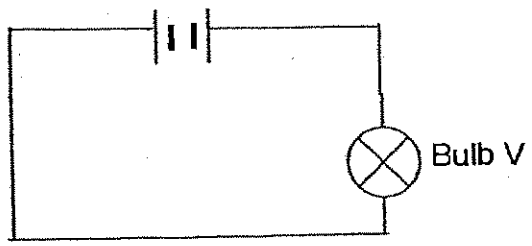
17. Jeff sets up an electric circuit as shown in the diagram below.



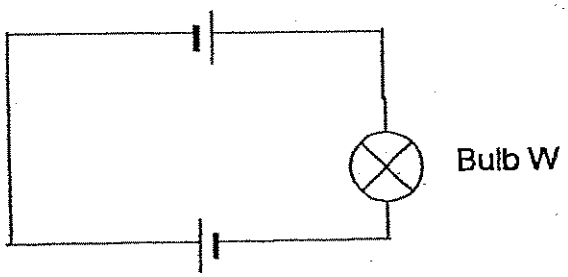
Which of the bulbs will **not** light up?

(1) B only
(2) A and D only
(3) B and C only
(4) A, B and C only

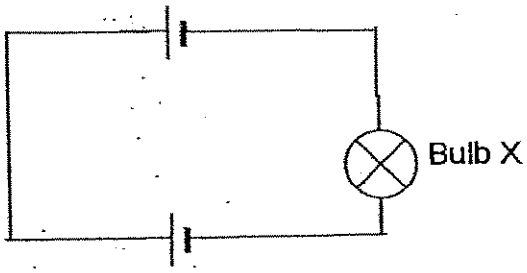
18. The diagram below shows 5 electric circuits.



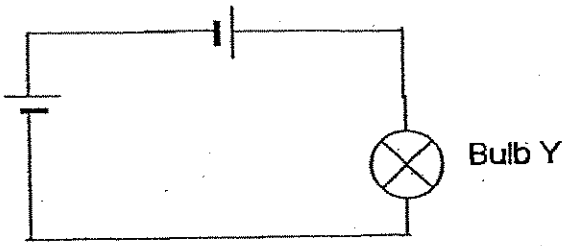
Circuit V



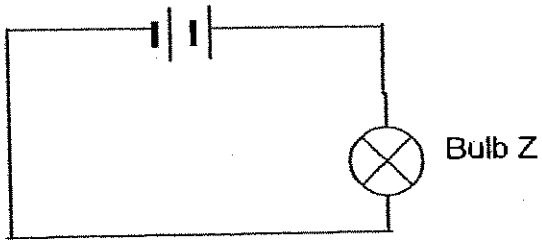
Circuit W



Circuit X



Circuit Y



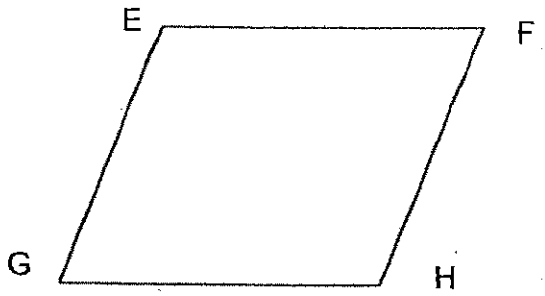
Circuit Z

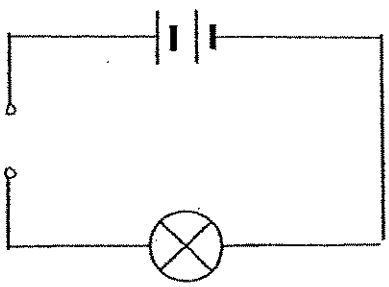
Which of the following statements are correct?

A: Bulb Y is dimmer than Bulb Z.
B: Bulb X and Bulb V do not light up.
C: Bulb X and Bulb Y are equally bright.
D: Bulb W and Bulb Z are equally bright.

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

19. The diagram below shows an electric circuit and a circuit tester with points E, F, G and H.





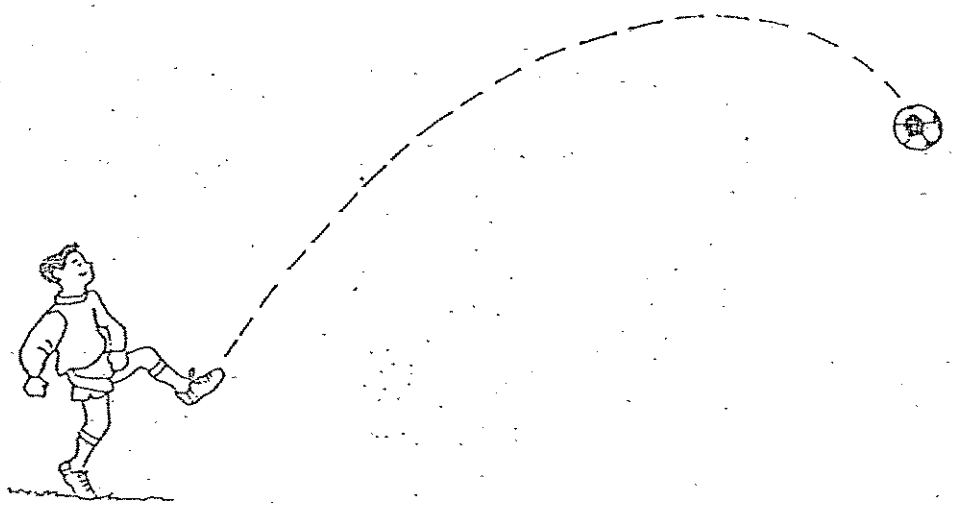
When a circuit tester is connected to points H and F, the bulb lights up. When the circuit tester is connected to points F and G, the bulb does not light up. When the circuit tester is connected to points E and G, the bulb does not light up. When the circuit tester is connected to points E and F, the bulb lights up.

Which of the following are correct?

A : FG conducts electricity.
B : HE conducts electricity.
C : GH does not conduct electricity.

(1) A and B only
(2) B and C only
(3) A and D only
(4) C and D only

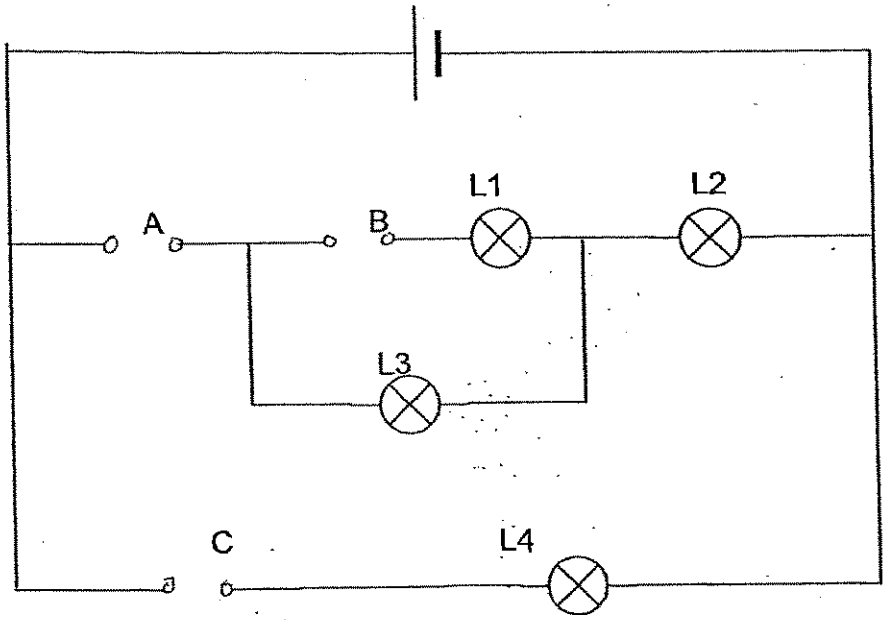
20. Steven kicks a ball as shown in the diagram below.



How can you tell that along the path of the ball, there is a force on the ball?

(1) The ball changes its direction of movement.
(2) The ball changes its shape.
(3) The ball increases its speed.
(4) The ball stops.

21. Sue had three rods, P, Q and R, of unknown materials. She placed them in various positions, A, B and C, of the circuit shown below.



The results of the experiment were shown in the table below. When any of the lamps, L1, L2, L3 or L4, lit up during the experiment, a tick (√) was placed in the box.

Positions where rods were placed			Lamp			
A	B	C	L1	L2	L3	L4
P	Q	R		√	√	√

Which of the following would show the correct result if the rods, P, Q and R, were placed at different positions?

	Positions where rods were placed			Lamp			
	A	B	C	L1	L2	L3	L4
(1)	P	R	Q		√	√	√
(2)	Q	R	P			√	√
(3)	R	Q	P	√	√	√	
(4)	Q	P	R				√

22. Luke used Machine Y and made the following observations.

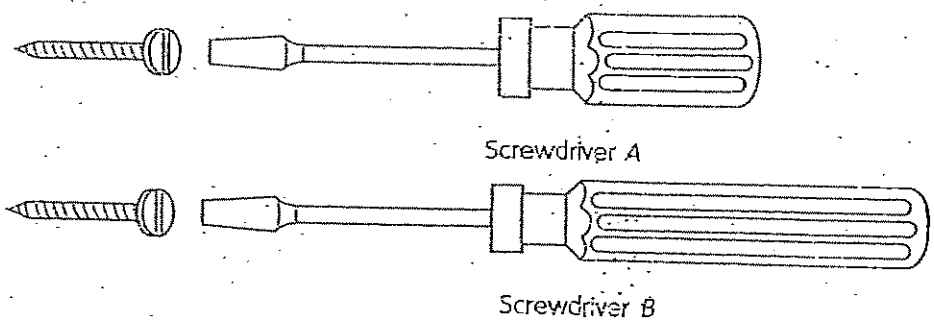
Machine Y	Load	Effort
Effort used	5kg	5kg
Distance moved	1m	1m

Which of the following machines could be Machine Y?

A : fixed pulley
B : inclined plane
C : wheel and axle
D : movable pulley

(1) A only
(2) A and B only
(3) B and C only
(4) C and D only

23.



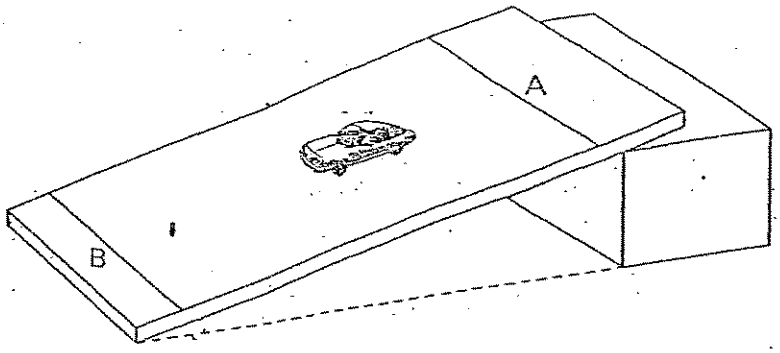
Screwdriver *A*

Screwdriver *B*

It is easier to use Screwdriver A than Screwdriver B to turn a screw because Screwdriver A has a _____.

(1) longer handle
(2) wider handle
(3) shorter handle
(4) lighter handle

24. Candy carried out an experiment using the apparatus below:.



She recorded the time taken for the car to travel from A to B.

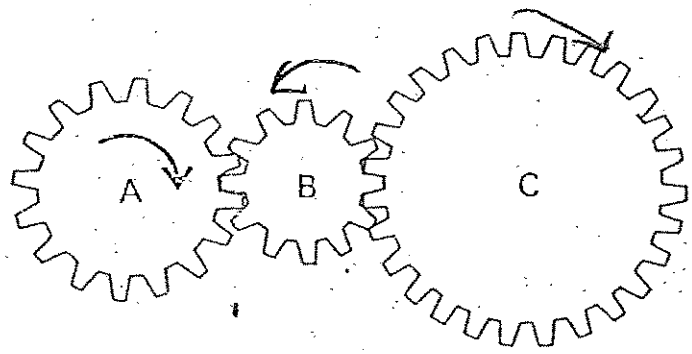
The experiment was repeated and the results are shown in the table below.

	First experiment	Second experiment
Length of ramp	100	150
Distance between A and B	80	80
Angle of ramp	30	30
Surface of ramp	Plastic	Wood
Mass of car	40	40
Time recorded	5.3	6.0

The aim of Candy's experiment is to find out if the _____affects how fast the car moves.

(1) mass of the car
(2) angle of the ramp
(3) length of the ramp
(4) surface of the ramp

25. The diagram below shows a set of gears. The direction of rotation of gear A is as shown.



Which of the following describes correctly the speed and direction of rotation of gear B?

	Speed of rotation	Direction of rotation
(1)	Fastest	Clockwise
(2)	Fastest	Anti- clockwise
(3)	Slowest	Clockwise
(4)	Slowest	Anti- clockwise

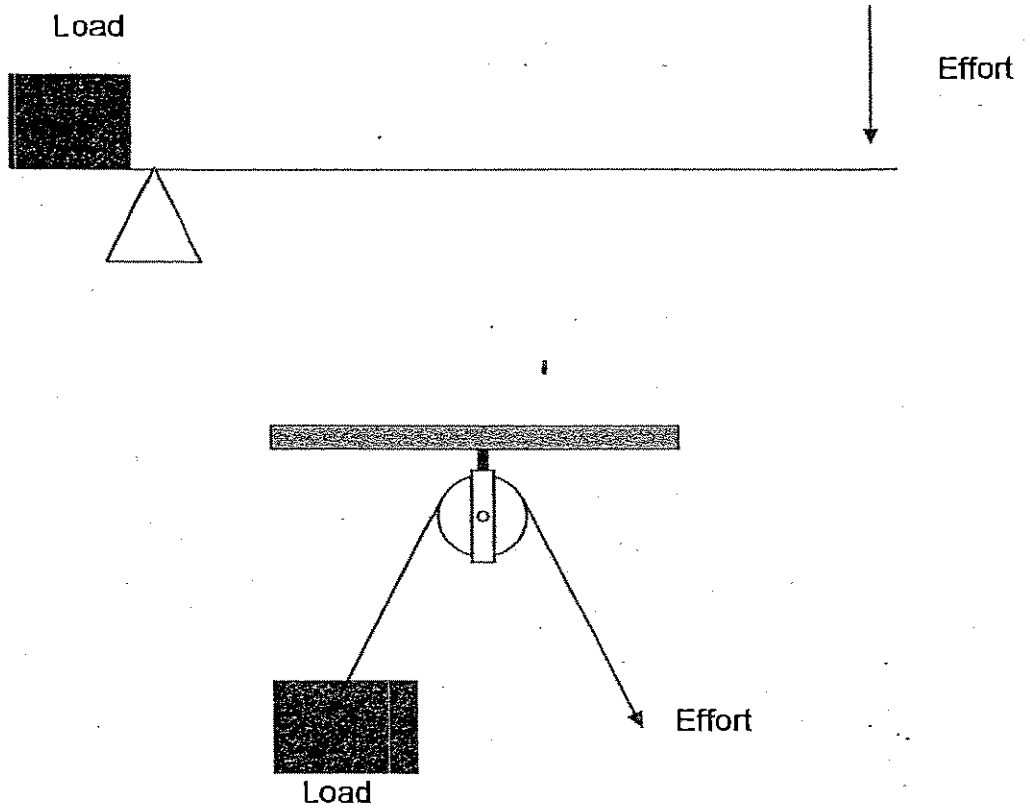
26. The table below gives some properties of four substance A, B, C and D.

Substance	Colour	Can it dissolve in water?	Is it a magnetic material?
A	White	Yes	No
B	White	No	No
C	Blue	Yes	No
D	Black	No	Yes

Mrs Tan mixes some fine grains with the four substances together. She asks her pupils to carry out an experiment to separate them. Which two substances would be most difficult for her pupils to separate?

(1) A and B only
(2) A and C only
(3) B and C only
(4) C and D only

27. The diagrams below show a lever and a fixed pulley system.



Which one of the following is true about both types of simple machines?

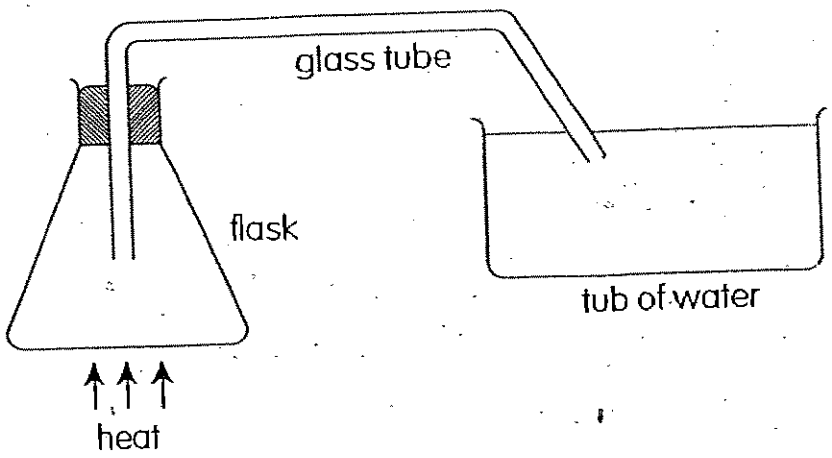
A : The distance moved by the effort is greater than the distance moved by the load.

B : The direction of effort is changed.

C : The effort needed to lift the load is lesser than the load.

(1) A only
(2) B only
(3) A and C only
(4) B and C only

28.



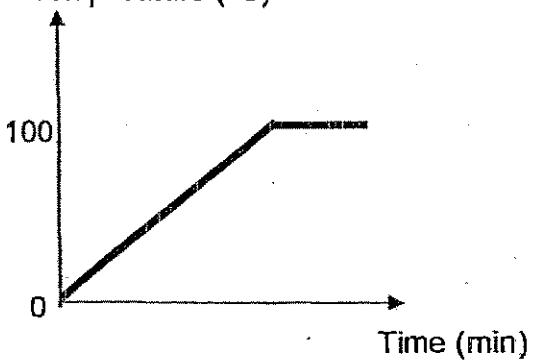
A glass tube was fitted tightly onto an empty conical flask as shown in the diagram above. One end of the glass tube was immersed in a tub of water. The flask was heated.

What can be observed after a while?

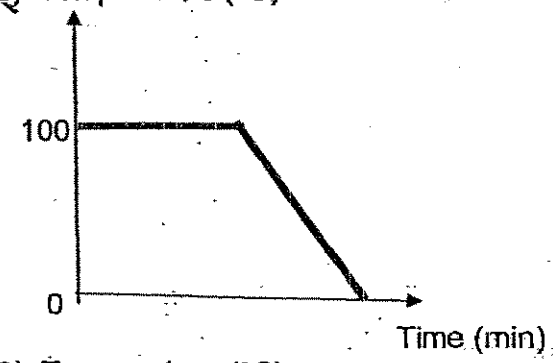
(1) The water will turn chalky.
(2) The level of the water will increase.
(3) The level of the water will decrease.
(4) Bubbles could be seen at the end of the glass tube.

29. Tim heated a beaker of ice cubes until it changed its state from the solid state to the boiled state. Which of the following graphs correctly shows the changes in temperatures of the ice cube over time?

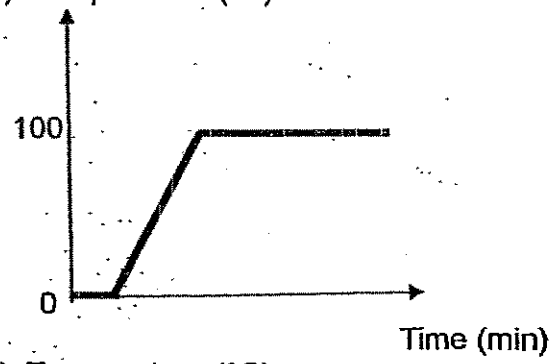
(1) Temperature (°C)



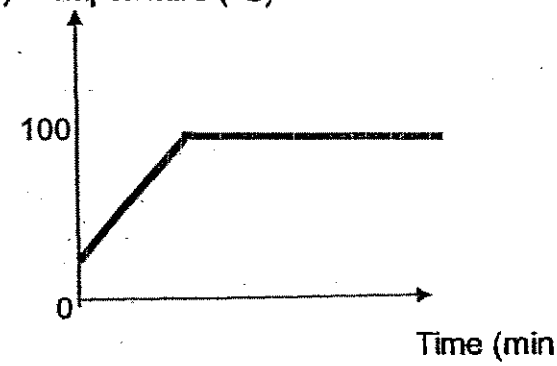
(2) Temperature (°C)



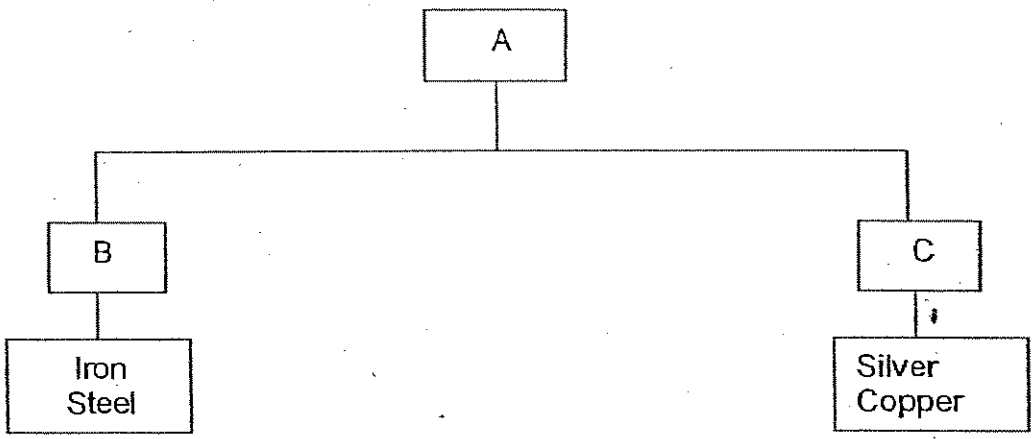
(3) Temperature (°C)



(4) Temperature (°C)



30. The classification chart below shows how some things can be classified.



Which one of the following descriptions about A, B and C is correct?

	A	B	C
(1)	Magnets	Can be repelled by magnet	Cannot be repelled by a magnet
(2)	Metals	Can be made into magnets	Cannot be made into magnets
(3)	Metals	Non-conductor of heat	Conductor of heat
(4)	Materials	Non-conductor of electricity	Conductor of electricity

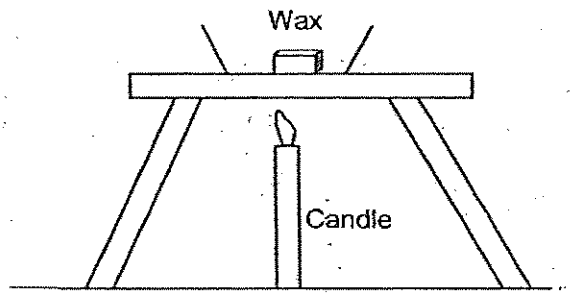
P5 Semestral Assessment 2 (2007)

Name: _____( )

Class: _____

Section B (40 marks)
Write your answer in the spaces provided.

31. The diagram below shows a piece of wax being heated.



(a) What will happen to the piece of wax after some time? [1]

_____

(b) What causes the change in state? [1]

_____

32. Jenny carried out an experiment to compare the rate of evaporation of water. She used 4 different containers and put 40 ml of water in each container. She then placed the 4 containers at the same place and recorded her observations in the table below.

Container	A	B	C	D
Time taken for water to dry up (minutes)	25	38	48	50

(a) Which container has the largest exposed surface area? Give a reason for your answer. [1]

_____

(b) What is the relationship between the exposed surface area of the container and the rate of evaporation? [1]

_____

_____

(c) State 2 other factors that can affect the rate of evaporation.

(i) _____ [1]

(ii) _____ [1]

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33. The table below shows some details about the planets in our Solar System.

Planet	Distance from Sun (million km)	Time taken to make one revolution around the Sun
Mercury	58	88 days
Venus	108	225 days
Earth	150	365 days
Mars	228	687 days
Jupiter	778	12 years
Saturn	1,427	29 years
Uranus	2,870	84 years
Neptune	4,497	165 years
Pluto	5,914	248 years

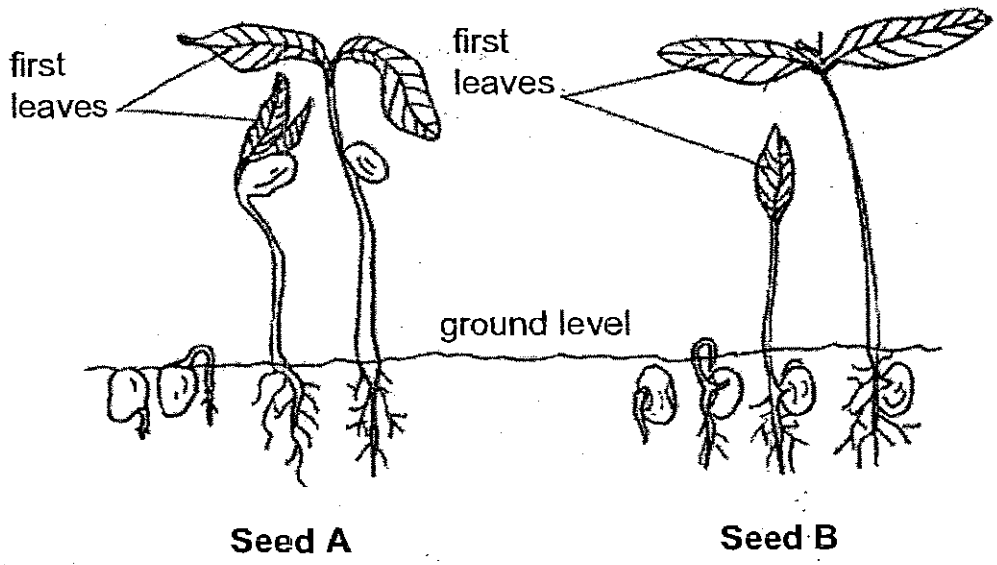
(a) What is the relationship between the distance of the planet from the Sun and its revolution time? [1]

(b) Give a reason, other than its distance from the sun, why the earth can support life. [1]

2

414

34. The diagrams show the germination of two seeds, A and B.



(a) By studying the diagrams, give one difference that can be observed in the way these seeds grow. [1]

_____

_____

_____

(b) Apart from air, state two other conditions that are necessary for the seeds to germinate.

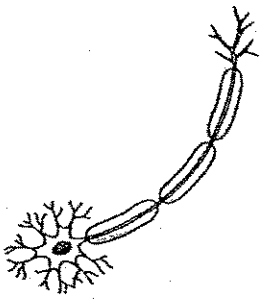
(i) _____ [½]

(ii) _____ [½]

2

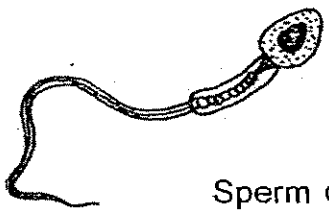
415

35. The diagrams below show 3 cells found in 3 different parts of a man's body.



Nerve cell

Muscle cell



Sperm cell

(a) Why do all 3 cells have different structures? [1]

_____

_____

(b) State two differences between the muscle cell shown above and a cell taken from a leaf.

(i) _____

_____ [1]

(ii) _____

_____ [1]

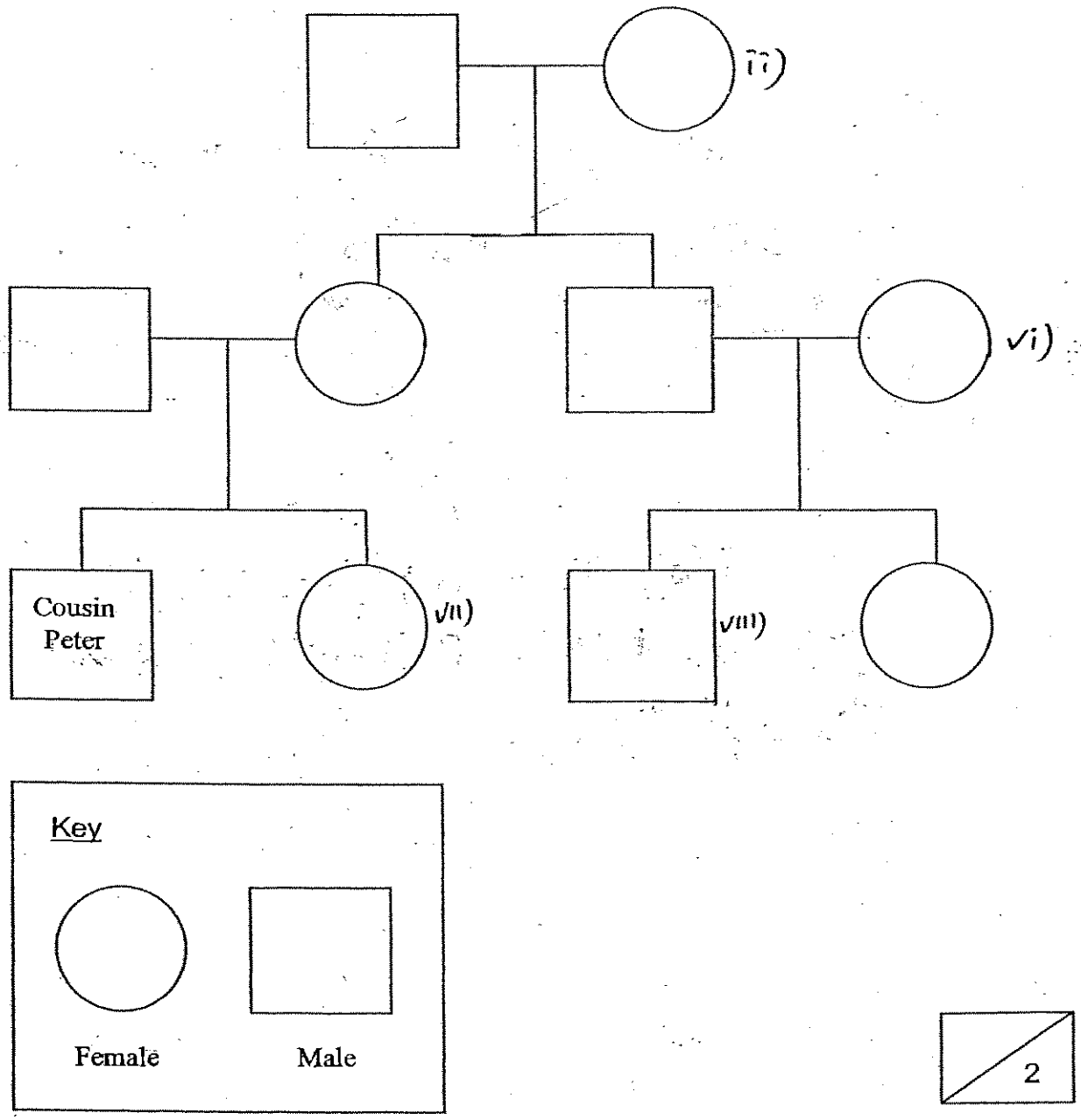
3

416

36. The table below shows Daniel's family tree.

Letter	Family member
A	Daniel's aunt
B	Daniel's mother
C	Daniel's grandfather
D	Daniel

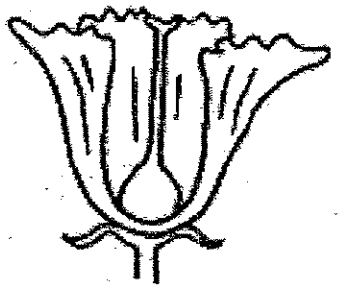
Using the information in the above table, identify the family members by writing the correct letter in the family tree below. Daniel's cousin, Peter, has been identified. [2]



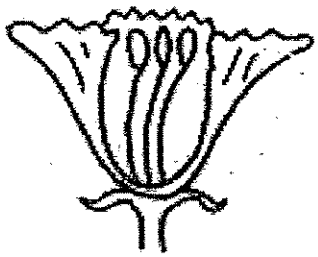
2

417

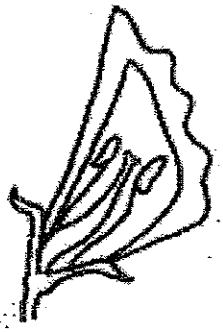
37. The diagrams below show the cross-sections of 4 flowers, A, B, C and D.



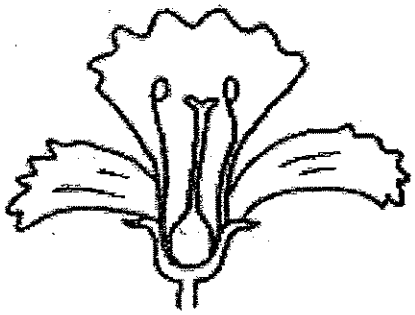
A



B



C



D

(a) Which one of the above flowers can never develop into a fruit? Give 2 reasons for your answer. [2]

2

418

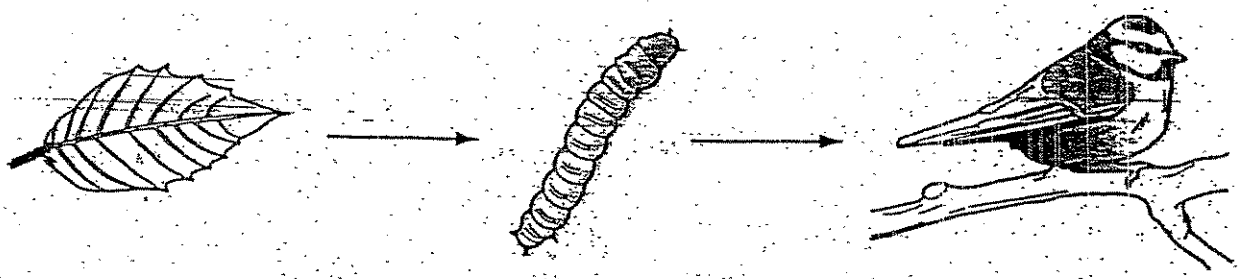
38. David observed several buds growing on a potato. He cut away one of the buds from the potato and planted it in a pot of soil. Both the pot and the potato were placed together in front of a window. David provided each of them with the same amount of water everyday.

(a) What do you think would happen to the bud in the pot and the buds on the potato after one week? [1]

(b) Explain your answer in (a). [2]

3

39. The diagram shows a simple food chain.



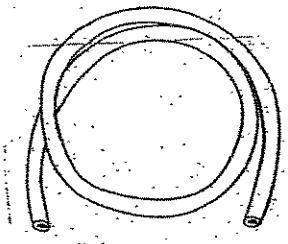
(a) What is the source of energy for the leaf? [1]

(b) Animals depend on plants for food. How does the plant depend on the bird? [1]

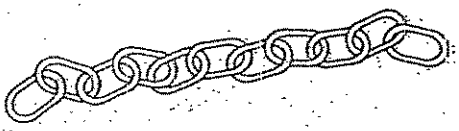
(c) Explain what happens when the food we eat reaches the small intestine. [2]

4

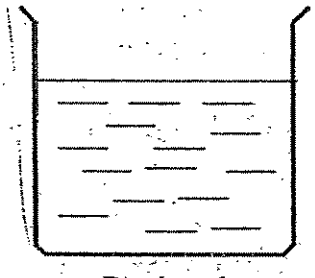
40. You are given the apparatus shown below.



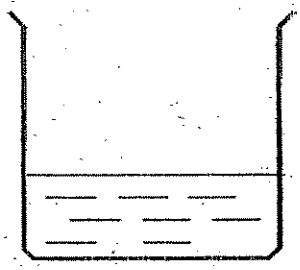
Rubber hose



Metal chain



Beaker A
90°C



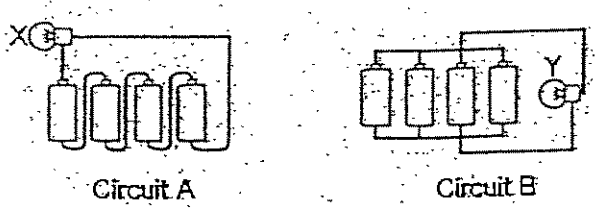
Beaker B
25°C

(a) Write down the steps, you will take, using the materials above to show how heat can be transferred from one container to another, without pouring any water over. You need not use all the materials. [2]

(b) Explain your choice of object used in the above experiment. [1]

3

41. Study carefully the two electrical circuits, A and B, given below.



Circuit A Circuit B

What do you think will happen when one of the batteries runs out of energy in each of the circuits? Give one reason to explain your answer.

(a) Circuit A:

_____

_____ [1]

(b) Circuit B:

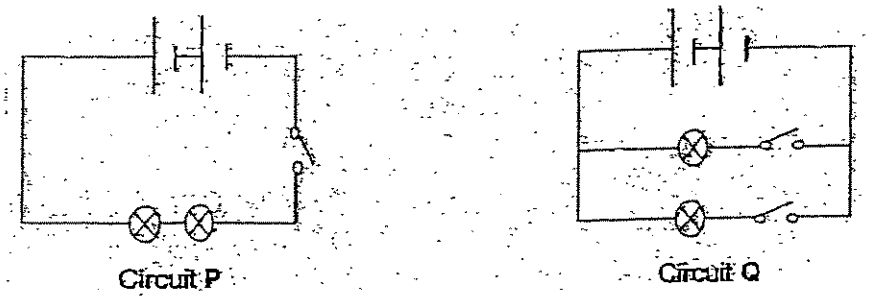
_____

_____ [1]

2

422

42. A boy set up two electrical circuits, P and Q, below.



What are two advantages of connecting the bulbs in Circuit Q as compared to Circuit P?

(a) _____

_____ [1]

(b) _____

_____ [1]

2
423

43. Explain by giving reasons why both metal and non-metal parts are always found in an electrical appliance.

(a) Metal parts:

_____

_____ [1]

(b) Non-metal parts:

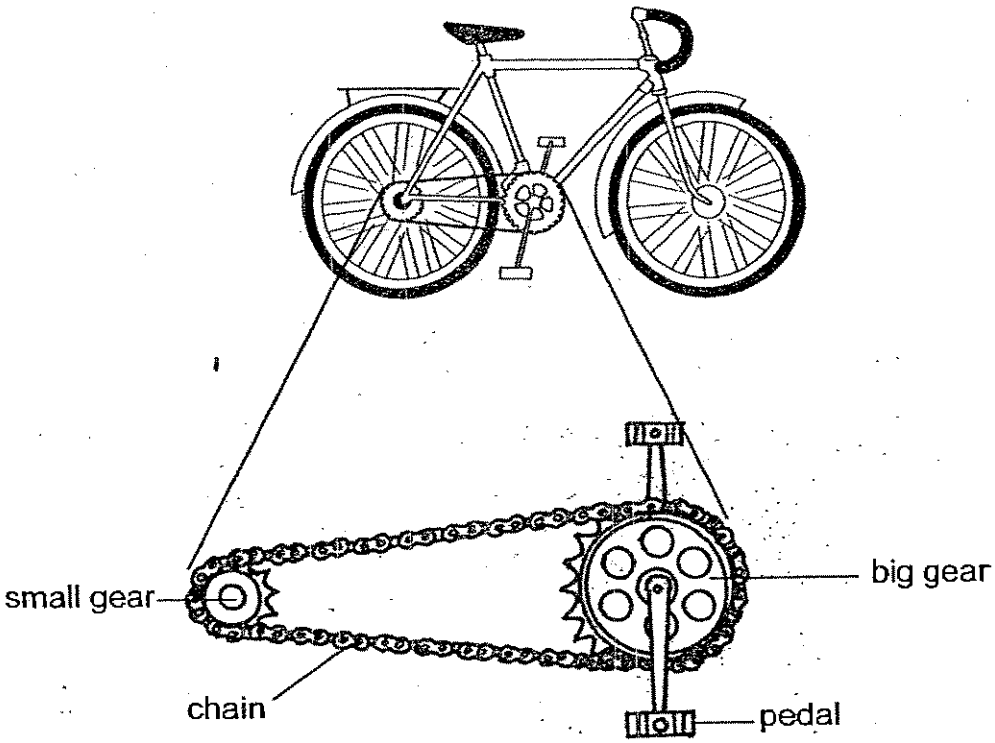
_____

_____ [1]

2

424

44. The diagram below shows a bicycle and its gears.



Explain how two features of the gears in the bicycle enable it to move forward quickly when the pedal is turned.

(a) _____

_____

_____ [1]

(b) _____

_____

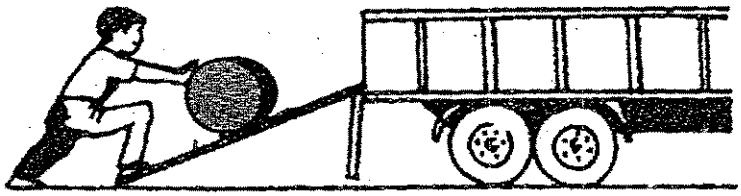
_____

_____ [1]

2

425

45. A construction worker used a plank to raise a drum of sand up a truck as shown below. He found it very difficult to raise the drum. The worker then changed the plank to a longer one.



(a) How is the effort needed to raise the drum changed? [1]

_____

(b) How is the distance the man has to move the drum changed? [1]

_____

(c) From your answers to (a) and (b), what can you conclude about the effort needed and the distance the effort has to move through? [1]

_____

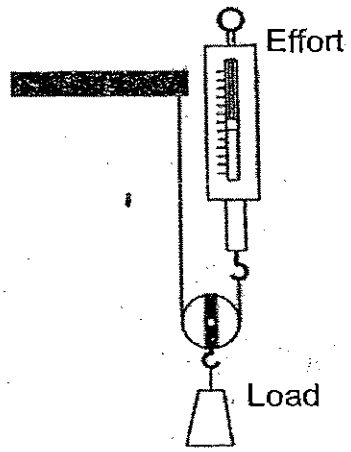
_____

_____

3

426

46. 2 boys, John and Henry, set up the pulley system as shown below to find out the relationship between the load and effort. They put different loads of 100g, 200g, 300g and 400g on the pulley one at a time and determined the effort required.



They recorded the results in the table as shown below:

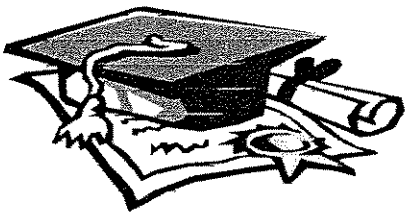
John's readings		Henry's readings	
Load / g	Effort used / g	Load / g	Effort used / g
100	255	100	56
200	500	200	110
300	645	300	162
400	855	400	218

(a) Whose readings were correct? Give a reason for your answer. [1]

(b) Name an object that makes use of a fixed pulley. [1]

2

427



ANSWER SHEET

AI TONG PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

1. 1
2. 1
3. 3
4. 3
5. 2
6. 3
7. 4
8. 1
9. 2
10. 2
11. 1
12. 2
13. 3
14. 3
15. 2
16. 3
17. 3
18. 4
19. 2
20. 1
21. 4
22. 1
23. 2
24. 4
25. 2
26. 2
27. 2
28. 4
29. 3
30. 2

31) a) It will melt.
b) The heat given out by the lighted candle cause the change in state.

32) a) Container A. The time taken for water in container A to dry up is the fastest.
b) The larger the area of exposed surface, the faster the rate of evaporation.
c) i) Wind ii) Temperature

33) a) The shorter the distance of the planet from the sun, the lesser time needed for it to make one revolution around the sun.
b) The earth has the ozone layer to block harmful rays from the sun.

34) a) The seed leaves of seed A are above the ground but that of seed B are below the ground.
b) i) Water ii) Warmth

35) a) All three cell have different structures because they have different function cells.
b) i) The muscle cell does not have a cell wall but the cell taken from leaf have a cell wall.
ii) The muscle cell does not have chloroplasts but the cell taken from a leaf have chloroplasts.

36)i)C v)A vi)B viii)D

37)a)Flower B. Flower B can never develop into a fruit because it is a male flower, and has anthers only. B also does not have an ovary.

38)a)The bud in the pot could not grow but the buds on the potato could grow.

b)The bud in the pot could not grow as there were not food given but the buds on the potato could grow as there were stored food in the potato so the buds could use the food that is stored.

39)a)The sun.

b)The plant depends the bird for pollination of its flower, the dispersal of seeds and the supply of number when it decomposes.

c)Food is digested and absorbed into the blood stream in the small intestine.

40)a)Soak the metal chain in beaker A for ten minutes. Take the metal chain up and soak it in beaker B for another ten minutes. The temperature of the water in beaker B will rise.

b)Metal chain is a good conductor of heat. It will gets hot easily if it is in touch with hot things.

41)a)The bulb will not light up. The batteries are arranged in series, once there is a broken circuit, the others will stop working.

b)Bulb Y will continue to light up brightly as usual due to the parallel arrangement of the batteries.

42)a)If one bulb in circuit P fused, the second bulb will also not light up. If one bulb in circuit Q fused, the other one will still light up.

b)The bulb in circuit Q will not be affected if one switch is open but the bulb in circuit P will be affected if one switch is open.

43) a) They conduct electricity.
b) They are non-conductors of electricity so when we touch it we will not be electrocuted.

44) a) The connection of the two gears by the chain in the way shown allows them to turn in the same direction.
b) The small gear turns faster than the big gear and so causes the near wheel to spin faster than pedal.

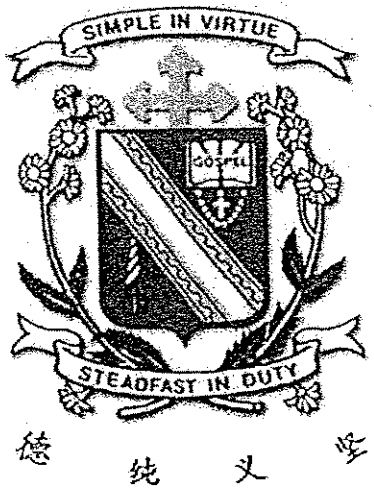
45) a) The effort used is lesser.
b) The distance is longer.
c) The effort needed, the longer distance the effort has to move.

46) a) Henry's reading were correct. Movable pulley will reduced the effort use instead of increasing the effort use.
b) Fishing rod.

Name : _____ ( )

Class : Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5

Second Semestral Assessment – 2007

SCIENCE

BOOKLET A

12th October 2007

Total Time for Booklets A and B: 1 hour 45 minutes

30 questions
60 marks

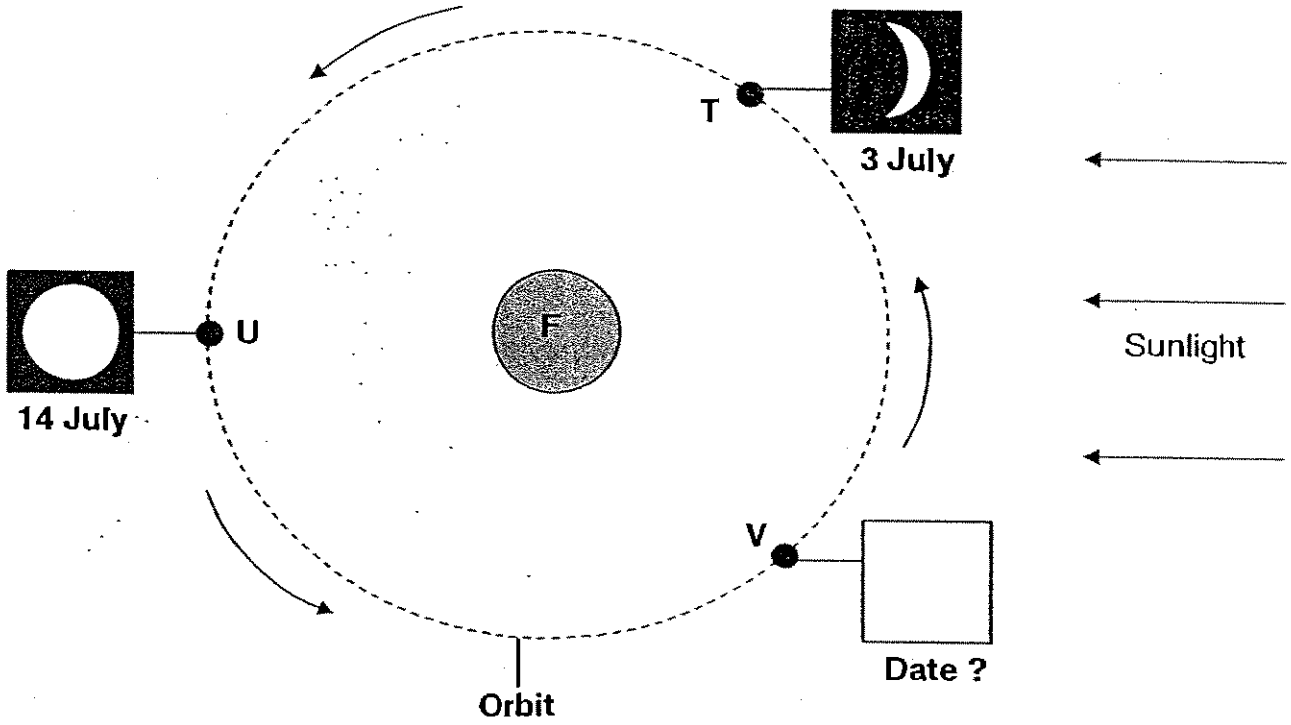
Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

433

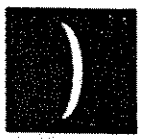
Section A : (30 x 2 marks)

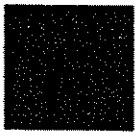
For each question from 1 to 30, four options are given. One of them is the correct answer. Mark your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. T, U and V show the positions and phases of the Moon on 3 July, 14 July and an unspecified date respectively as seen from Country F.



Which one of the following shows the phase of the Moon in Position V?

(1) 
25 June

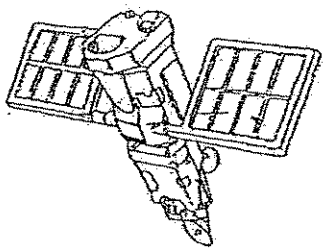
(2) 
29 June

(3) 
25 July

(4) 
25 July

434

2. The diagram below shows a satellite.

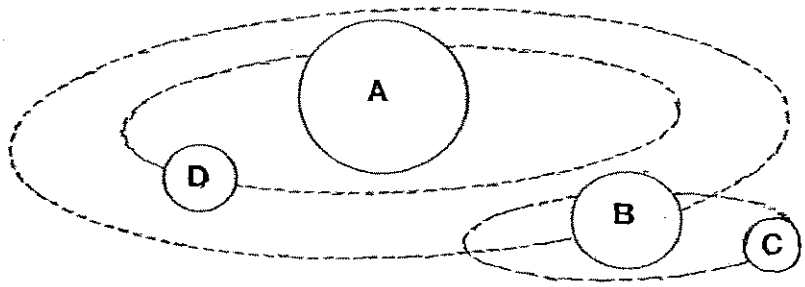


Which one of the following statement(s) about the satellite is/are correct?

A. It revolves around the sun.
B. It is a natural satellite of the Earth.
C. It helps ships and aeroplanes to locate their positions.
D. It orbits in a fixed path around another object in space.

(1) C only
(2) A and B only
(3) C and D only
(4) B, C and D only

3. The diagram below shows the orbits of some objects, A, B, C and D in space.



Which one of the following statements is true?

(1) Object B revolves around Object D.
(2) Object C is a natural satellite of Object A.
(3) Object B, C and D are planets of Object A.
(4) Object D takes a shorter time than Object B to revolve around Object A.

4. Study the table below carefully.

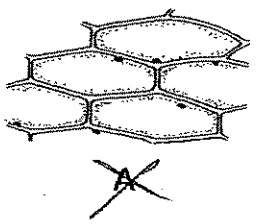
Planet	Distance from the Sun (million km)	Time of revolution round the Sun
A	778	12 years
B	4500	165 years
C	58	88 days
D	108	225 days
E	150	365 days

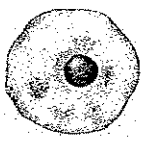
Based on the given table, what conclusions can be made about the planets?

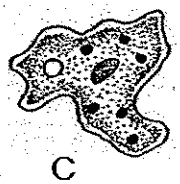
A Planet C is the closest planet to the Sun.
B Planet B will have a lower temperature than Planet A.
C Planet E revolves around the Sun faster than Planet C.
D Among the 5 planets, the Sun will appear the smallest from Planet D.

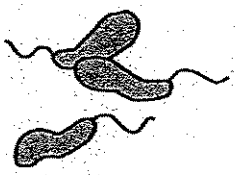
(1) A and B only
(2) C and D only
(3) A, B and C only
(4) A, B, C and D

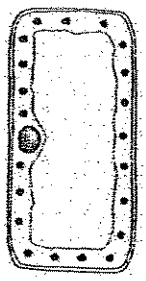
5. The diagrams below show 5 different cells as viewed through a microscope.


A


B


C


D


E

Which of the above cells are animal cells?

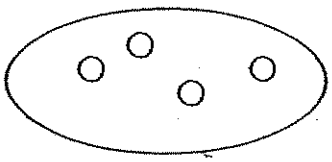
(1) A and E only
(2) B and D only
(3) A, C and E only
(4) B, C and D only

436

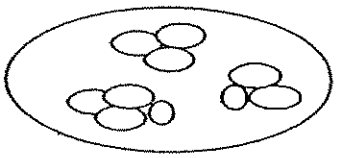
6. There are 96 paramecia after 4 generations of cell division. How many paramecia were there at first?

(1) 3
(2) 6
(3) 12
(4) 24

7. Some single-celled organisms were placed in a beaker of water and left in the open for 3 weeks. The diagram below shows the top view of the organisms at the start and end of the experiment.



Start

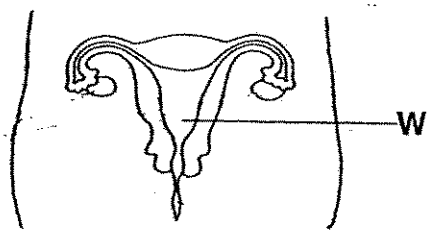


End

It was observed that the number and size of organisms increased after three weeks. Which could have caused the changes?

(1) growth
(2) reproduction and growth
(3) reproduction and germination
(4) growth and replacement of damaged cells

8. The diagram below shows the female reproductive system.



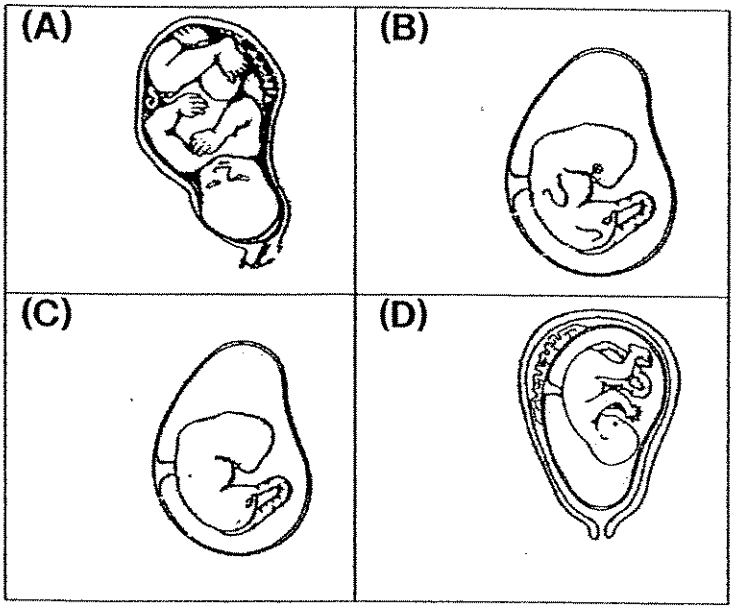
What is/are the function(s) of W?

A. To produce the eggs
B. For cell division to take place
C. To develop the unfertilised egg
D. To protect and nourish the foetus

(1) A and C only
(2) B and D only
(3) A, B and C only
(4) B, C and D only

437

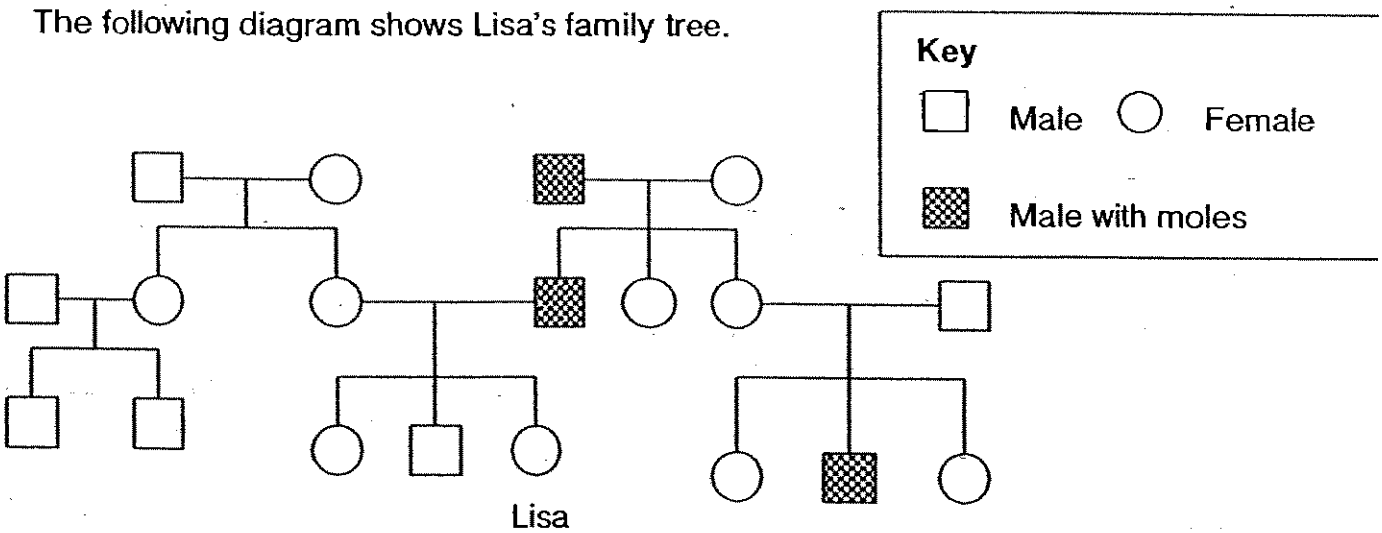
9. The diagram shows the stages of growth of a baby in its mother womb.



Arrange the stages of growth of the baby in the correct order.

(1) A → D → B → C
(2) B → C → D → A
(3) C → B → D → A
(4) D → B → C → A

10. The following diagram shows Lisa's family tree.

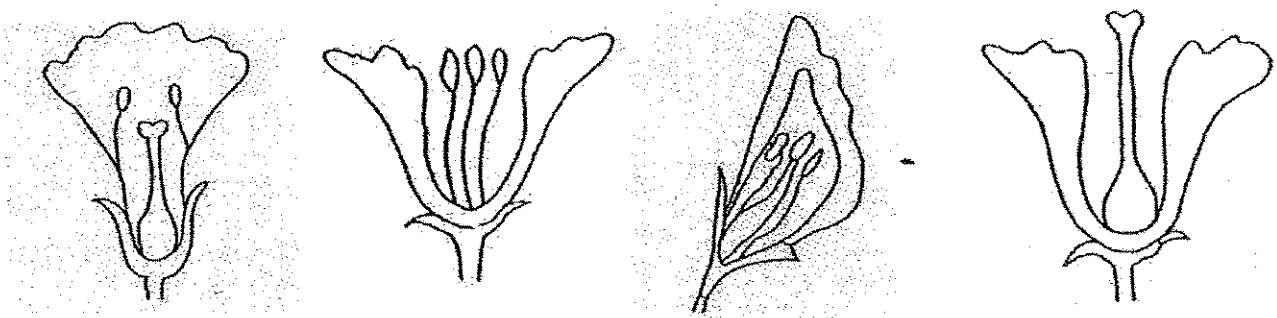


Which one of the following statements is true?

(1) Lisa has 2 aunts and 2 uncles altogether.
(2) There are 4 generations in Lisa's family tree.
(3) There are 5 members altogether in Lisa's family.
(4) One of Lisa's male cousins inherits his moles from Lisa's father.

438

11. Study the diagrams of the cross-sections of the 4 different flowers, N, P, Q and R given below.

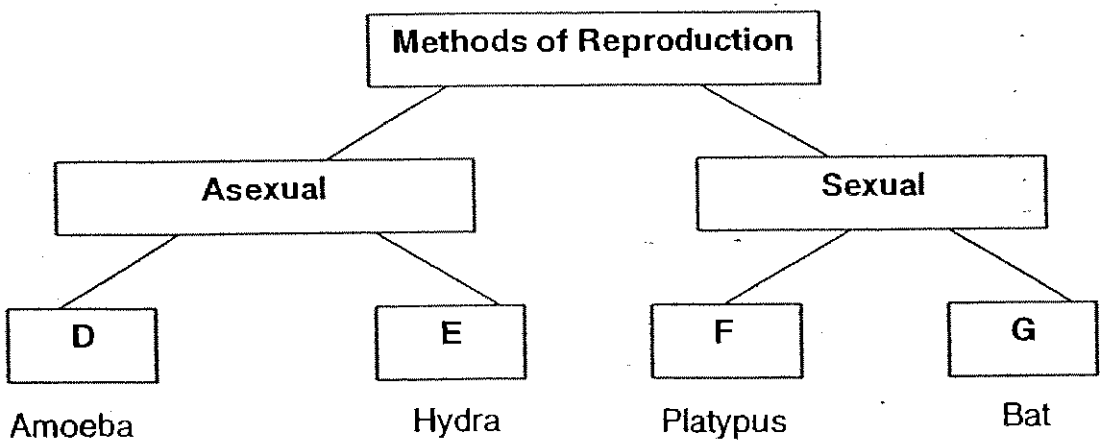


Flower N Flower P Flower Q Flower R

Which of the above flowers will **not** develop into a fruit?

(1) Flower N and Flower Q only
(2) Flower N and Flower R only
(3) Flower P and Flower R only
(4) Flower P and Flower Q only

12. Study the classification table shown below.

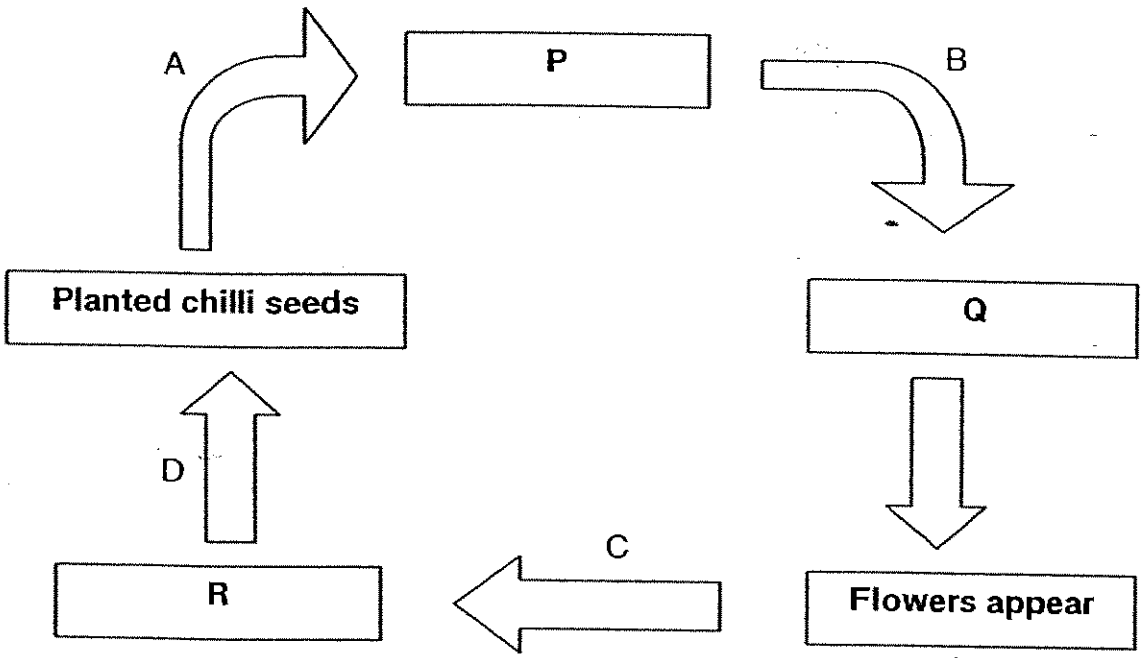


Which of the following are suitable headings for D, E, F and G?

	D	E	F	G
(1)	Budding	Binary fission	Give birth	Lay eggs
(2)	Binary fission	Budding	Lay eggs	Give birth
(3)	Budding	Binary fission	Lay eggs	Give birth
(4)	Binary fission	Budding	Give birth	Lay eggs

439

For questions 13 and 14, refer to the diagram below.



13. Study the life cycle of the chilli plant given above.

Which one of the following correctly identifies P, Q and R?

	P	Q	R
(1)	Appearance of first leaves	Fruit appear and grow bigger	Fully grown chilli plant
(2)	Seedling appears	Fully grown chilli plant	Fruits appear and grow bigger
(3)	Fully grown chilli plant	Appearance of first leaves	Fruits appear and grow bigger
(4)	Seedling appears	Appearance of first leaves	Fully grown chilli plant

14. Fertilisation and germination of the chilli plant occurs at stages _____ and _____respectively.

	Fertilisation	Germination
(1)	B	D
(2)	C	B
(3)	C	A
(4)	D	A

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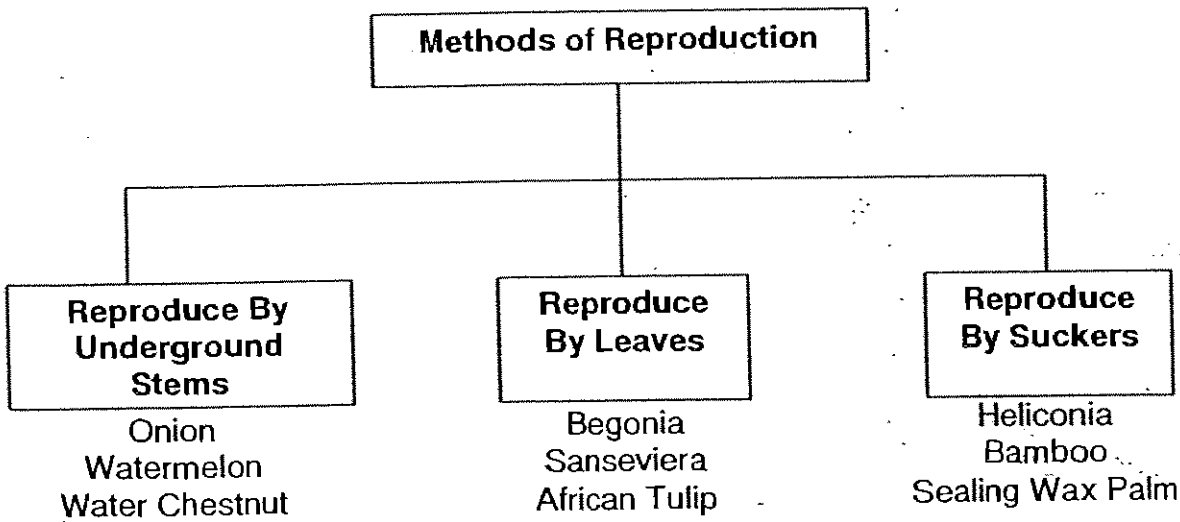
15. Teck Meng wants to find out how overcrowding affects the growth of plants. Besides using the same type of soil and the same amount of fertiliser, which of the following variables should he also keep the same?

A: Size of pots
B: Type of plants
C: Amount of water
D: Number of plants

(1) A and C only
(2) B and D only
(3) A, C and D only
(4) B, C and D only

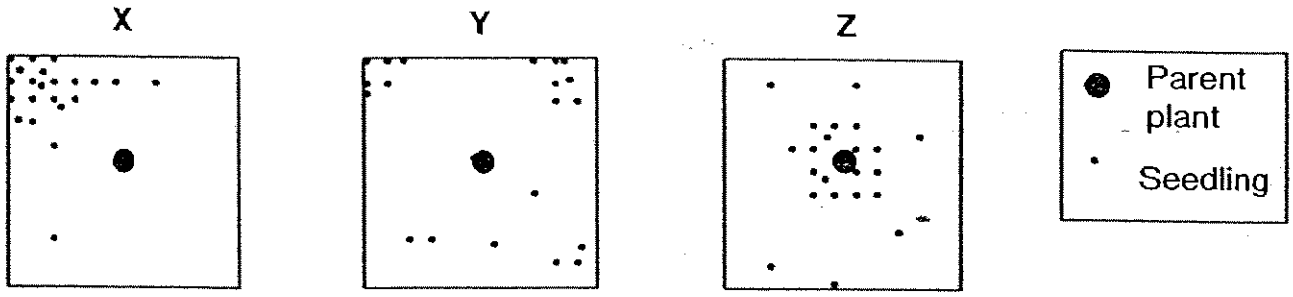
16. Study the classification table below.



Which of the above plants have been wrongly classified?

(1) Watermelon and African Tulip
(2) Water Chestnut and Sanseviera
(3) Watermelon, African Tulip and Heliconia
(4) Sealing Wax Palm, Heliconia and Begonia

17. Study the diagrams below carefully.



X, Y and Z show how the fruits of 3 types of plants P, Q and R are dispersed.

The characteristics of the fruits of the 3 plants are shown in the table below.

Fruit of Plant	Characteristics
P	Bristle-like hairs in the fruit
Q	Flat wing-like structures
R	Fruit wall splits open when it dries up

Which one of the following matches the fruits of the plants to their dispersal patterns?

	X	Y	Z
(1)	Q	R	P
(2)	P	Q	R
(3)	Q	P	R
(4)	R	Q	P

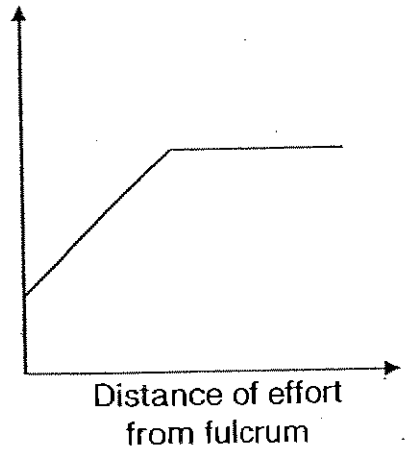
18. All simple machines _____.

A: reduce the amount of work done.
B: need an effort to overcome the load.
C: change the direction of the force applied.
D: enable the load to move a shorter distance than the effort.

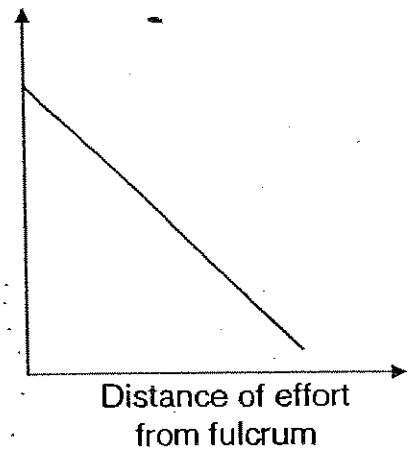
(1) B only
(2) A and B only
(3) B and C only
(4) A, C and D only

19. Which one of the following graphs correctly shows the relationship between the amount of effort required to raise the load and the distance of the effort from the fulcrum of a lever, given that the distance between the load and fulcrum remains unchanged?

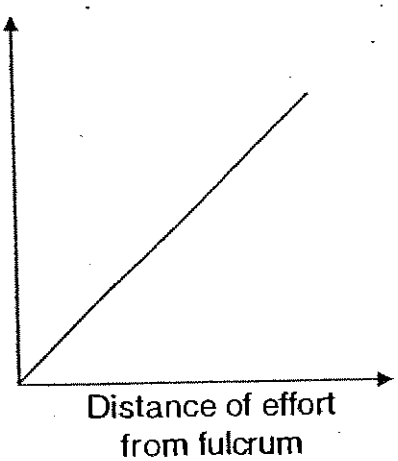
(1)



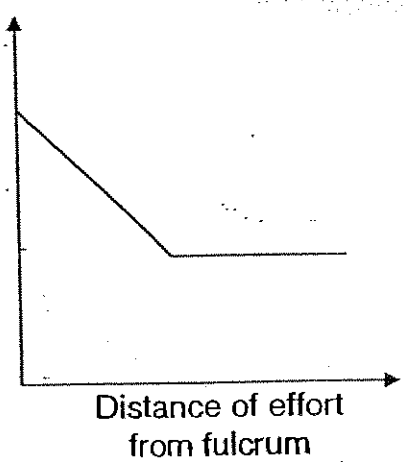
(2)



(3)

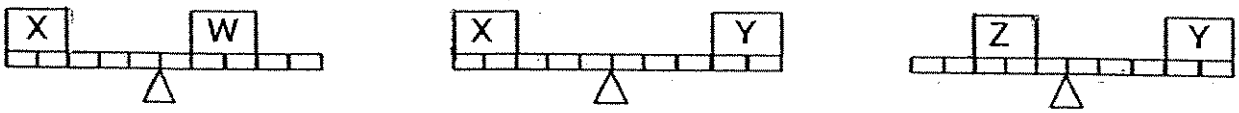


(4)

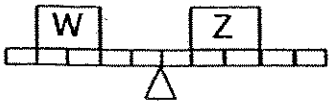


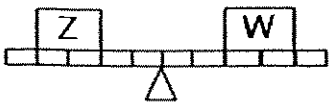
443

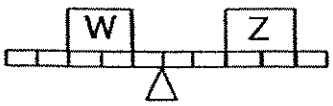
20. Four different loads W, X, Y and Z are being balanced using the lever systems as shown below.

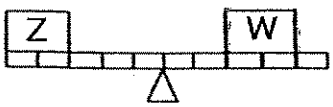


Which of the following diagrams correctly shows how loads W and Z are balanced on the lever?

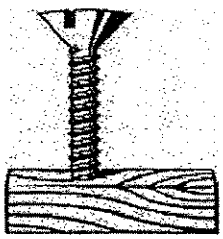
(1)


(2)


(3)


(4)


21. Ahmad uses a screwdriver to drive a screw into a block of wood as shown below.



What type of simple machine(s) does/do the screw represent?

(1) Inclined plane only
(2) Lever and inclined plane only
(3) Wheel and axle and lever only
(4) Wheel and axle and inclined plane only

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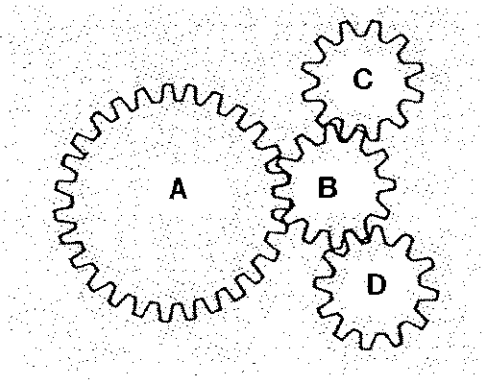
22. The diagram below shows a system of 4 gears, A, B, C and D.



When the four gears start moving together, which one of the gears will move in a different direction from the other three gears?

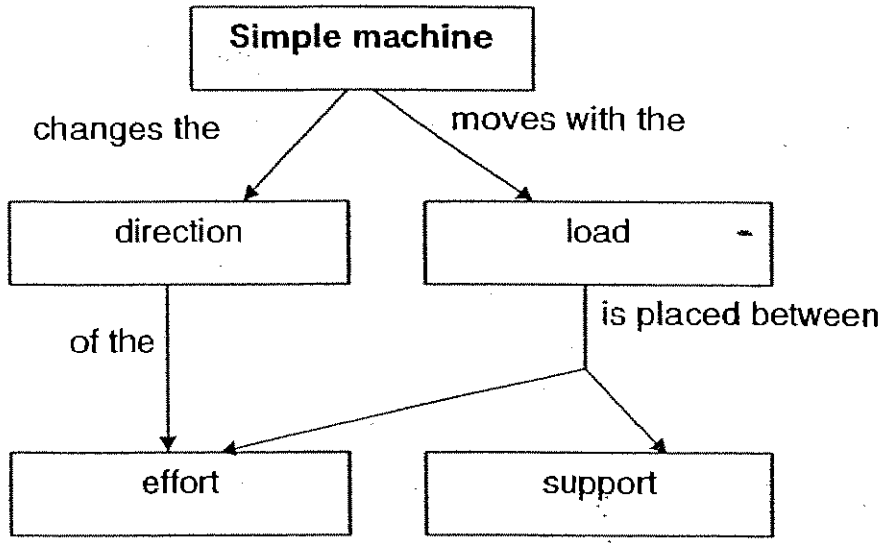
(1) A
(2) B
(3) C
(4) D

23. Dave used two ramps, K and L, to raise an identical load up to the same height. He observed that the effort needed for ramp K was greater than the effort needed for ramp L. What possible conclusion(s) can he draw about the two ramps, K and L?

A: Ramp K is longer than ramp L.
B: Ramp L is less steep than ramp K.
C: The distance moved by the load using ramp L is shorter than the distance moved by the load using ramp K.
D: The distance moved by the effort using ramp K is shorter than the distance moved by the effort using ramp L.

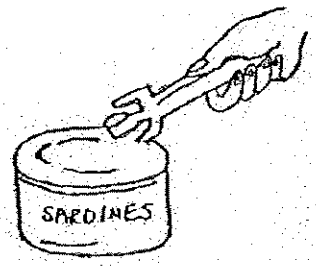
(1) B only
(2) A and C only
(3) B and D only
(4) A, C and D only

24. The concept map below shows the characteristics of a simple machine.



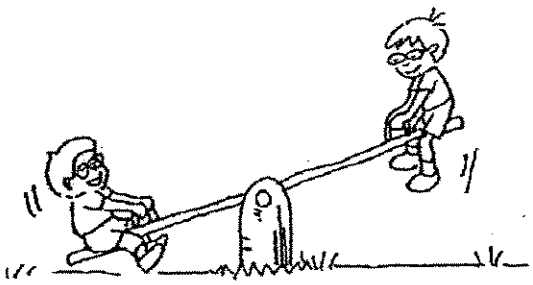
Which one of the following uses the type of simple machine as described in the concept map above?

(1)

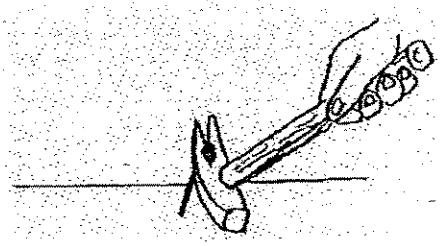


(2)

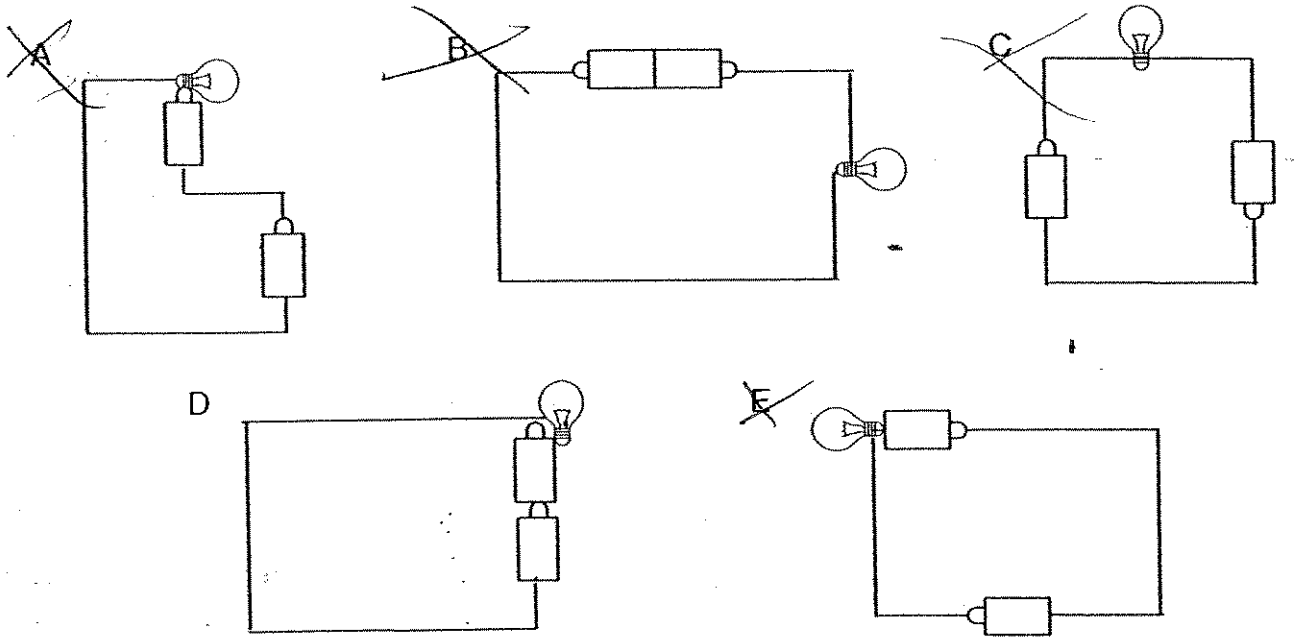
(3)



(4)



25. Study the circuits below.

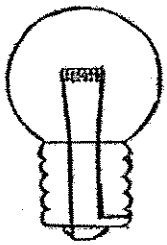


Which of the above circuits will light up?

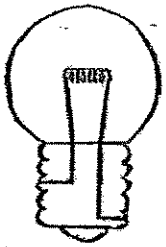
(1) A and E only
(2) B and C only
(3) A, B and E only
(4) B, C and D only

26. Which one of the following correctly shows how the filament is connected in the metal casing of the light bulb?

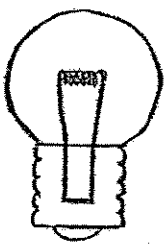
(1)



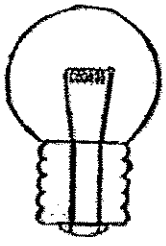
(2)



(3)



(4)



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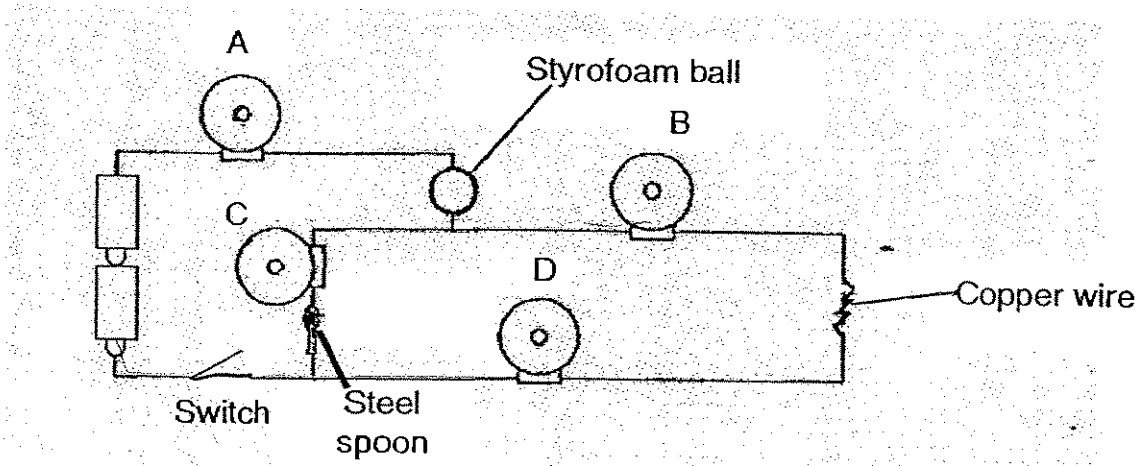
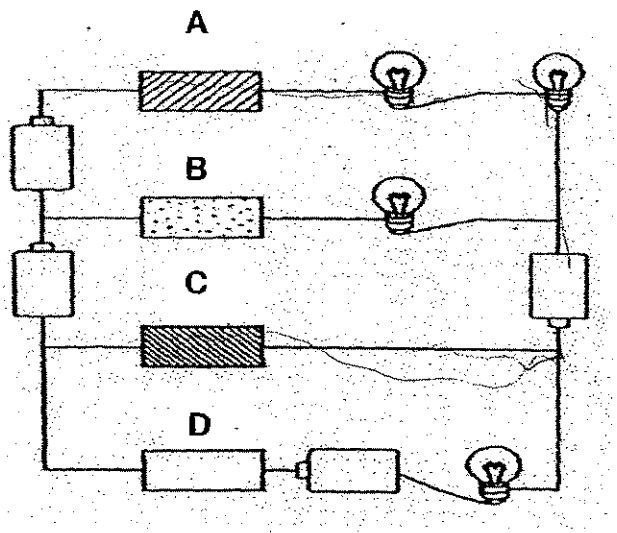
27. The diagram below shows 4 bells A, B, C and D in a circuit that is correctly connected.



When the switch is closed, which of the bell(s) will ring?

(1) A and C only
(2) A, B and D only
(3) B, C and D only
(4) None of the bells

28. Four materials, A, B, C and D, were connected in the electrical circuit as shown below.

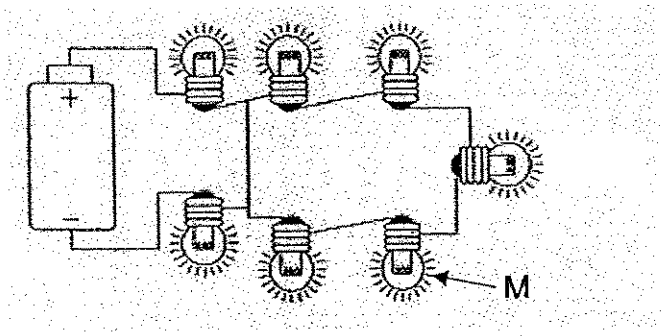


Which one of the following correctly represents the materials A, B, C and D in the electrical circuit so that only two of the bulbs will light up?

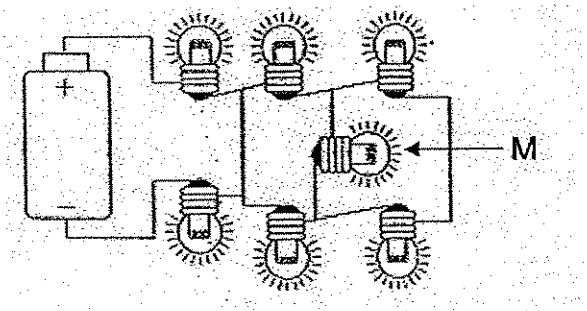
	Material A	Material B	Material C	Material D
(1)	Lead	Plastic	Steel	Porcelain
(2)	Brass	Glass	Ceramic	Copper
(3)	Plastic	Wood	Rubber	Gold
(4)	Iron	Porcelain	Glass	Nickel

29. Study the circuits shown below.

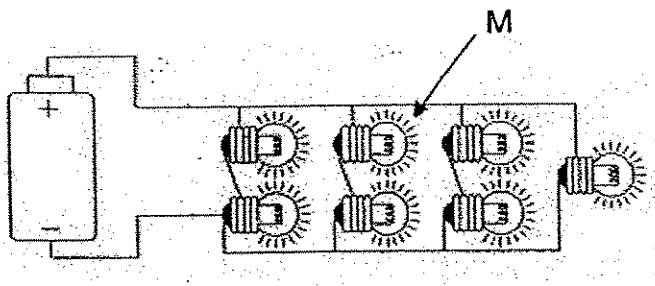
A



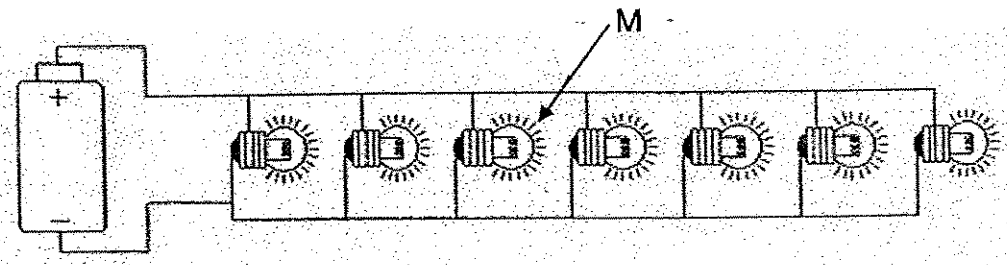
B



C



D



In which of the above circuits would the same number of bulbs continue to be lit when bulb M blows?

(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

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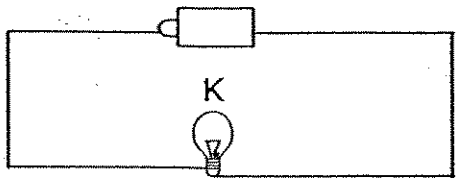
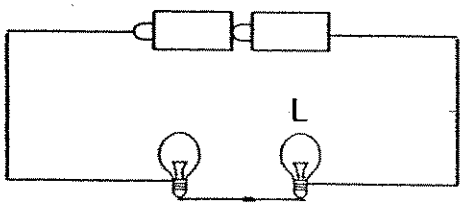
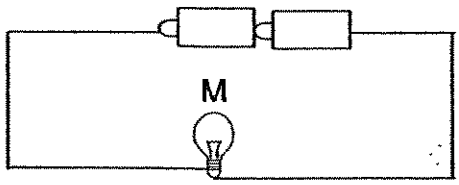
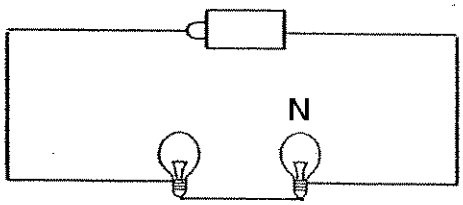
30. The diagram below shows four circuits with different arrangements of identical batteries and identical lamps. The bulbs in all four circuits are lighted up.









Which one of the following shows the brightness of the lamps, K, L, M and N?

	Brightness of lamp		
	Low	Medium	High
(1)	N	K	L
(2)	N	L	M
(3)	L	M	N
(4)	L	K	M

*******END OF BOOKLET A*******

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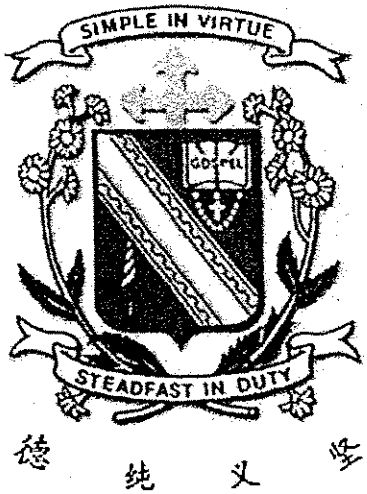
Name : _____ ( )

Class : Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5
Second Semestral Assessment – 2007
SCIENCE

BOOKLET B

Booklet A	60
Booklet B	40
Total	100

Total Time for Booklets A and B: 1 hour 45 minutes

16 questions
40 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.

_____
Parent's Signature/Date

Section B : (40 marks)

Answer the following questions in the spaces provided.

31. Joy was told by her teacher that a cell needed food, water and oxygen for growth. She performed the following steps in order to observe the multiplication process of some yeast cells.

Step A : Fill a conical flask with 250ml of warm water.

Step B : Add one table spoon of yeast and sugar and stir the mixture.

Step C : Take 1 drop of mixture from conical flask and place it onto a specimen slide.

Step D : Add one drop of methylene blue to the mixture.

Step E : Place a cover slip over the specimen.

(a) How did the adding of sugar to yeast in Step B help in the growth of the yeast cells? (1 mark)

_____

(b) What was the purpose of performing step D? (1 mark)

_____

(c) Joy placed a specimen on the stage of the microscope and focused it using the coarse focus knob. However, no matter how she turned, the coarse focus knob, she was unable to obtain a clear view of the reproduction process of yeast.

What should she do to obtain a clear, focused view of the multiplication process of yeast? (1 mark)

_____

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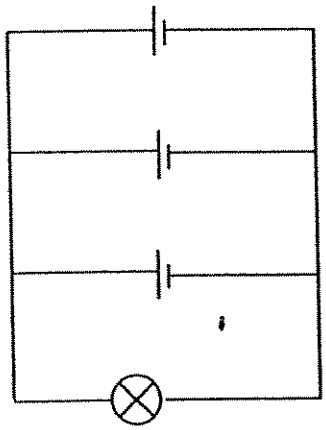
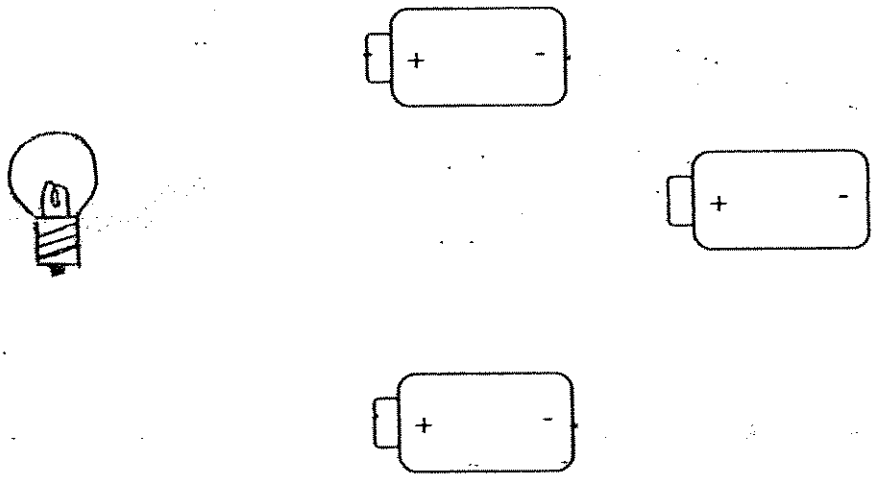
32. Study the circuit diagram.



(a) Connect the batteries and the bulb below to form the circuit represented by the circuit diagram above. (1 mark)



(b) State an advantage of using the above circuit. (1 mark)

_____

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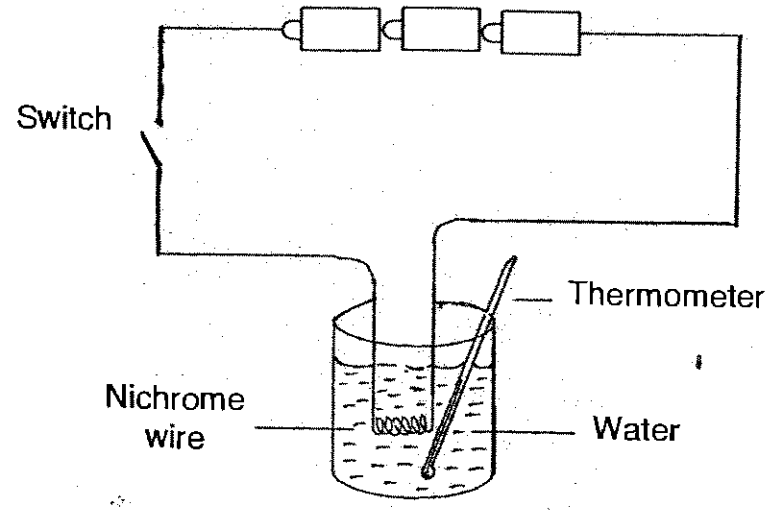
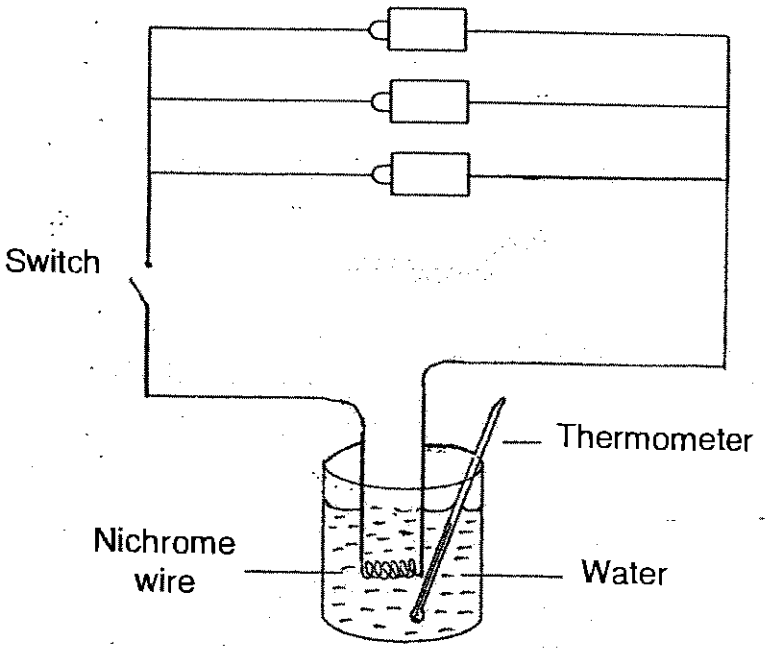
33. Study the 2 circuits below carefully.



Circuit A

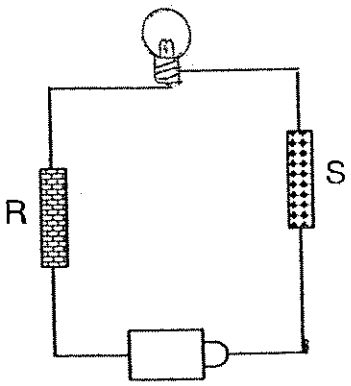


Circuit B

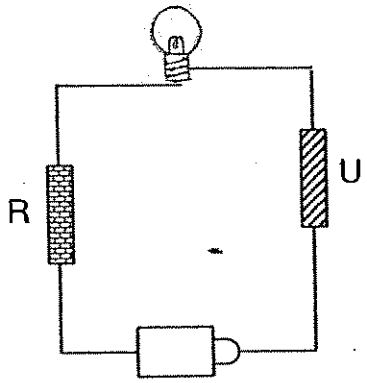
In which circuit will the water reach the boiling point first? Explain your answer clearly. (2 marks)

454

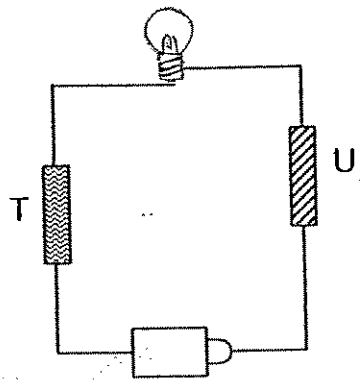
34. Johnny sets up the experiment to test the electrical conductivity of 4 objects R, S, T and U which are made of different materials.



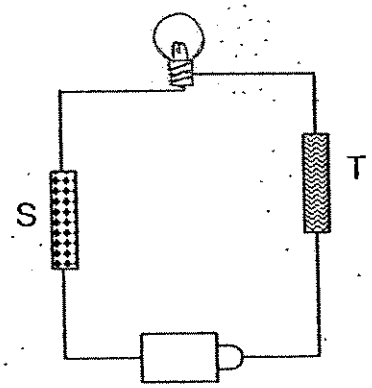
Setup A



Setup B



Setup C



Setup D

The table below shows the results of the experiment.

Setup	Bulb lights up	Bulb does not light up
A	√	
B		√
C		√
D	√	

(a) Which of the objects is/are not conductors of electricity? (1 mark)

(b) Given that all the batteries and bulbs are in good working conditions, Johnny replaces objects R and U in setup B with iron and copper respectively. However, the bulb still does not light up. Suggest a possible reason for his observation. (1 mark)

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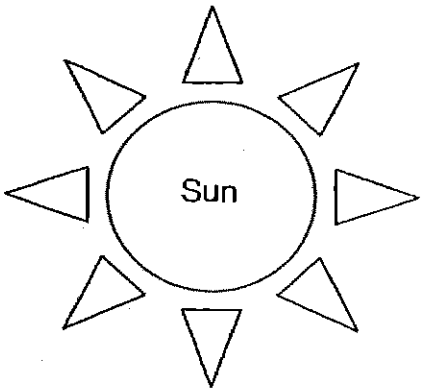
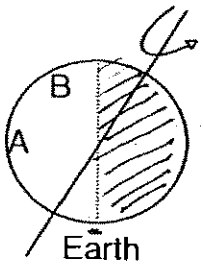
35. Study the diagram of the Earth shown below.





(a) Shade the part of the Earth which is experiencing night. (1 mark)

(b) What is the difference between the climate in Country A and B? Give a reason for your answer. (1 mark)

_____

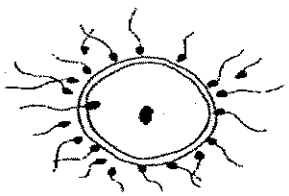
_____

(c) How is the Earth's position from the Sun important for its ability to support a great diversity of life? (1 mark)

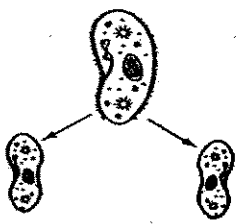
_____

_____

36. The diagram below shows two methods of reproduction.



Method A



Method B

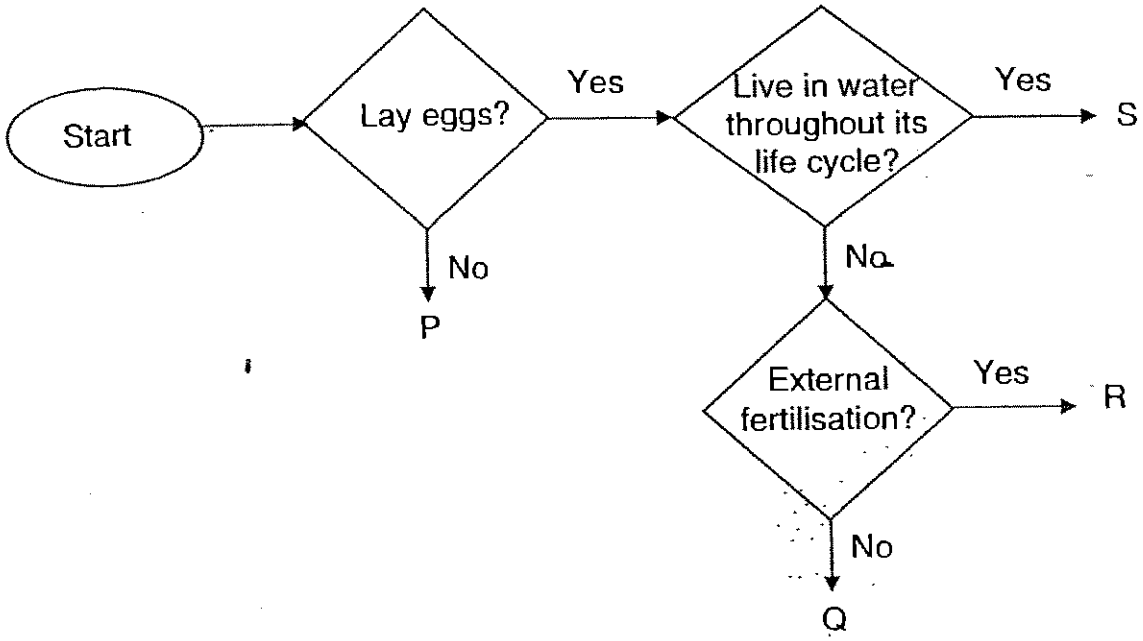
Which method of reproduction will reproduce young that are exactly like their parents? Explain your answer clearly. (2 marks)

_____

_____

456

37. Study the flow chart below.



(a) Identify the exit points, P, Q, R and S for the following organisms. (1 mark)

(i) Mosquito : _____

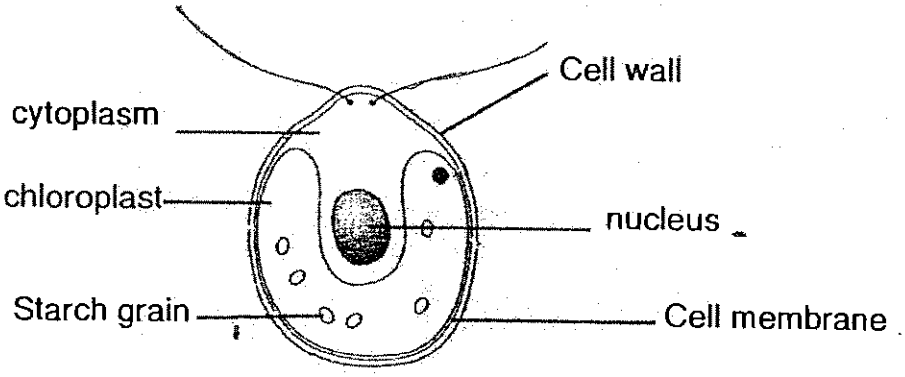
(ii) Salmon : _____

(b) State a similarity between the organisms in R and S. (1 mark)

_____

457

38. The diagram below shows a single-celled organism called Chlamydomonas which lives in pond water.



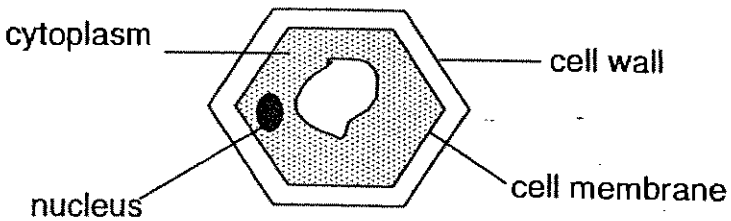
(a) State two features of the Chlamydomonas which show that it is more likely to be a plant cell than an animal cell. (1 mark)

_____

(b) What is the function of the nucleus in Chlamydomonas? (1 mark)

_____

Another Cell H was taken from a multicellular organism and viewed under the microscope. It looked slightly different from the Chlamydomonas as shown in the diagram below.



Cell H

(c) Based on observation, state the difference between the cells in the singled-celled and multicellular organisms. (1 mark)

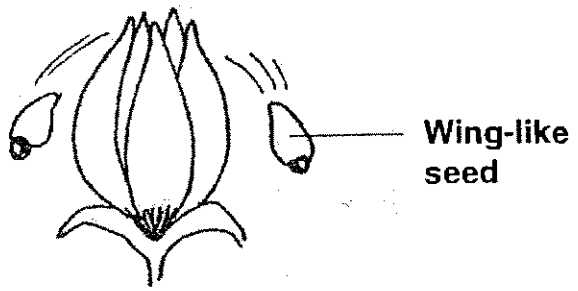
_____

(d) Which part of the multicellular organism could Cell H be taken from? (1 mark)

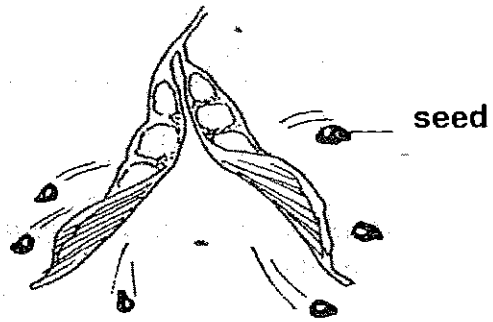
_____

458

39. The diagrams below show the fruits of the Rose of India tree and the Peacock tree.



Rose of India



Peacock tree

Both fruits split open when they are ripe to disperse their seeds.

(a) Which fruit would disperse its seeds nearer to its parent plant? Give a possible reason by comparing the physical characteristics of the seeds. (1 mark)

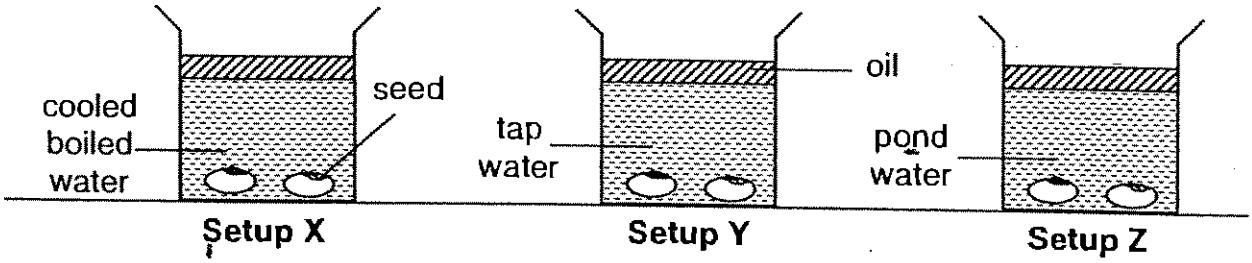
_____

(b) What is a possible disadvantage of the dispersal method of the fruit as stated in your answer in (a). (1 mark)

_____

459

40. Fatimah sets up an experiment to investigate the conditions that are necessary for seeds to germinate. She prepares 3 setups, X, Y and Z as shown below and leaves them in a sunlit room with a temperature of 40°C.



(a) State the conditions which are necessary for the germination of seed. (1 mark)

(b) In which setup(s) will Fatimah observe the germination of seeds? Explain your answer clearly. (1 mark)

(c) Why does Fatimah add a layer of oil to the beakers of water? (1 mark)

460

41. Study the diagram of the flower below carefully.

(a) Indicate , using an arrow, the part where "pollination" takes place. (1 mark)

(b) Why is pollination important to the plant? (1 mark)

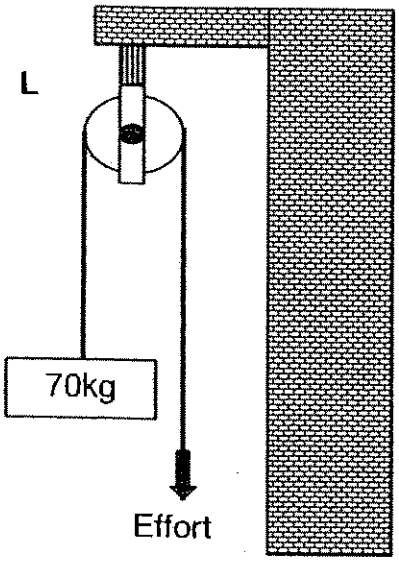
_____

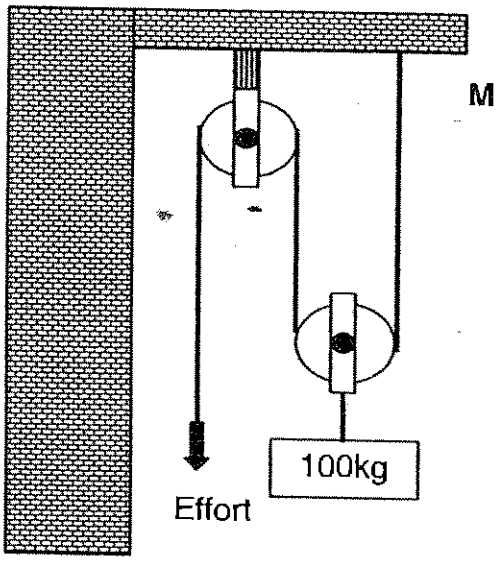
(c) Based on the diagram above, why do you think the male parts of the flower are hanging out? (1 mark)

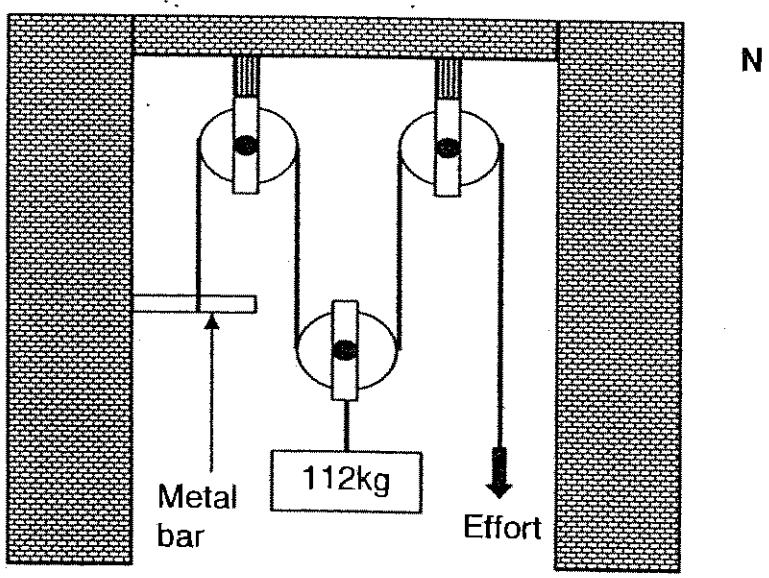
_____

_____

42. A rope snaps when a load of 60kg is hung from it. This rope is used in all the pulley systems L, M and N below. All the pulleys have a weight of 1kg.







(a) In which of the above pulley system(s) would the rope be able to support the load? (1 mark)

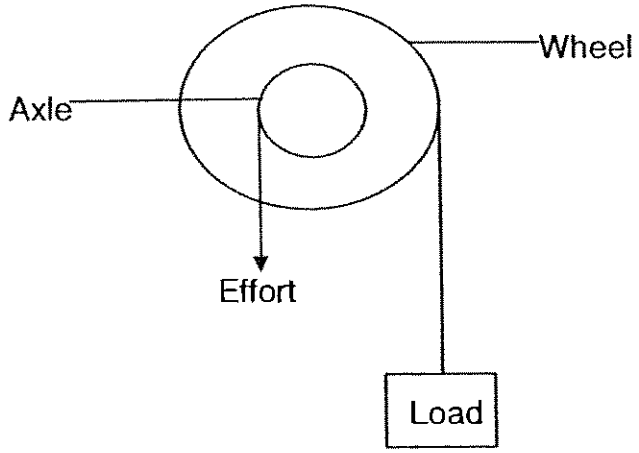
_____

(b) Explain your answer for (a). (1 mark)

_____

462

43. Study the diagram below carefully.



Without changing the positions of the effort and load, suggest two changes that can be made to the wheel and axle so as to reduce the effort needed to lift the load. (2 marks)

(a) _____

(b) _____

44. Ahmad conducted an investigation on 3 types of simple machines and recorded the following results.

Simple Machine	Load (g)	Effort (g)	Distance travelled by load (cm)	Distance travelled by effort (cm)
W	30	50	15	8
X	40	20	6	15
Y	60	35	16	8

(a) Which simple machine W, X or Y uses the same principle as a fishing rod? Give a reason for your answer. (1 mark)

_____

_____

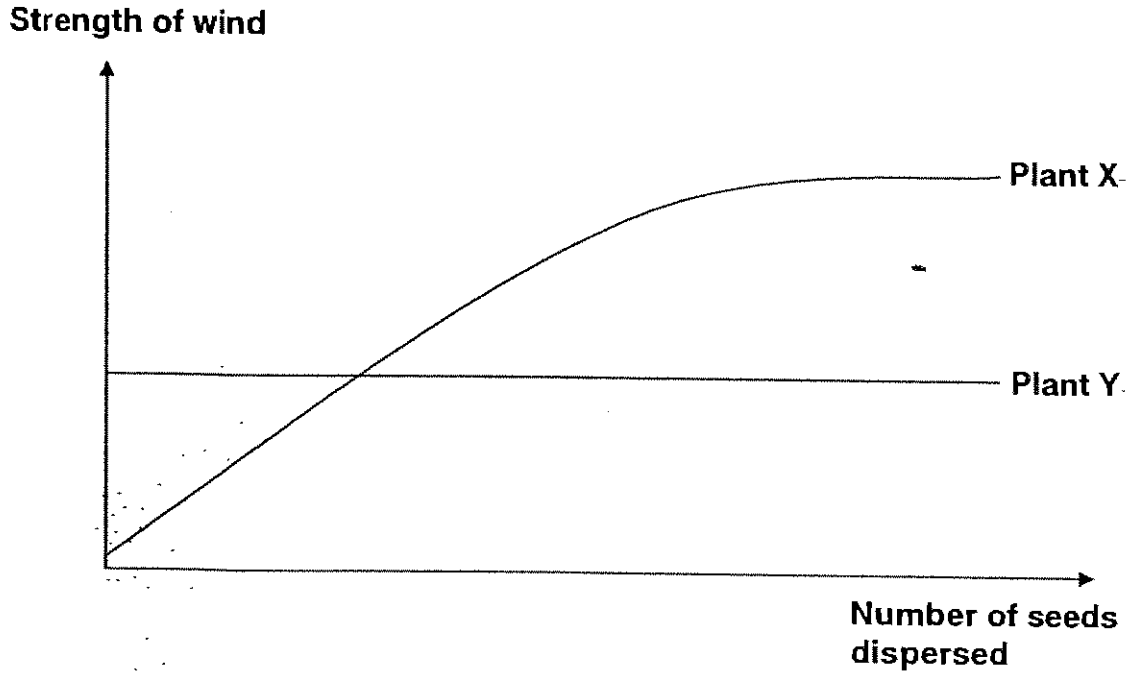
(b) Ahmad's teacher told him that he had made a mistake in recording the result for one of the simple machines. Identify the simple machine and explain your answer clearly. (2 marks)

_____

_____

463

45. Study the graph below carefully.

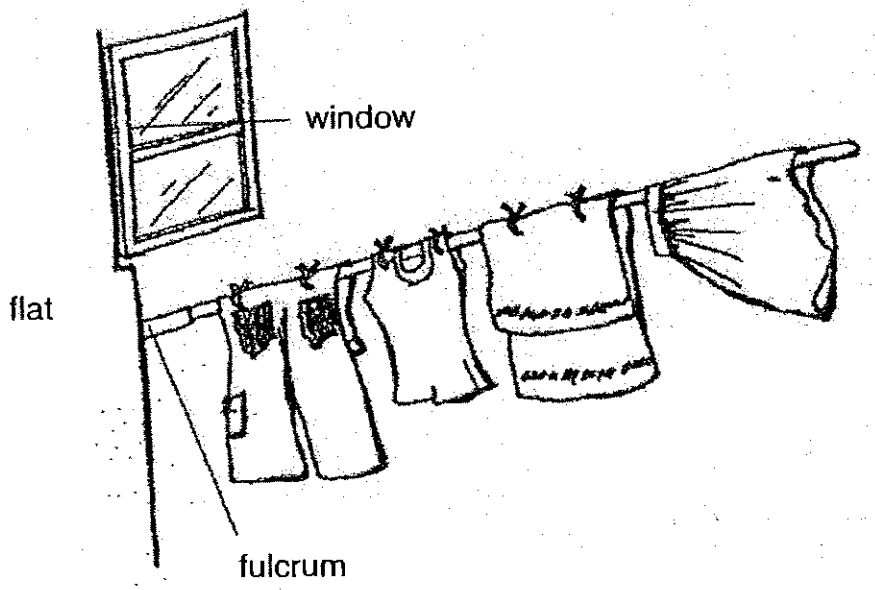


(a) Based on the graph above, what can you conclude about the relationship between the number of seeds dispersed from Plants X and Y and the strength of the wind? (2 marks)

(b) List two characteristics of the seeds from Plant X. (1 mark)

464

46. Natalie lives in a HDB flat. One day, she helps her grandmother to put out some clothes to dry. Her grandmother asks Natalie to hang the heavier clothes on the inner end of the bamboo pole so that she can put out the bamboo pole more easily.

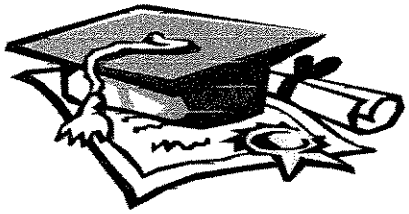


What do you think is her grandmother's reason for saying so? (2 marks)

_____

_____

*******END OF PAPER*******



ANSWER SHEET

CHIJ PRIMARY SCHOOL - PRIMARY 5 SCIENCE 2007
SEMESTRAL ASSESSMENT (2)

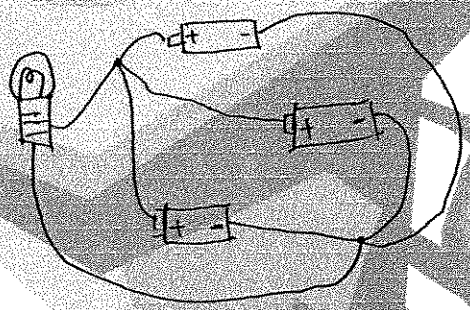
1. 4
2. 3
3. 4
4. 1
5. 4
6. 2
7. 2
8. 2
9. 3
10. 3
11. 4
12. 2
13. 2
14. 3
15. 4
16. 1
17. 3
18. 1
19. 2
20. 2
21. 4
22. 2
23. 3
24. 1
25. 1
26. 1
27. 4
28. 1
29. 3
30. 2

31) a) Sugar is the food for the yeast.

b) It stains the yeast cells and allows her to see the cells more clearly under the microscope.

c) She could adjust the fine focus knob.

32) a)



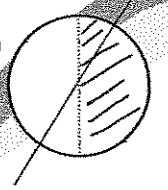
b) When one battery is not working the rest of the two batteries will still help the bulbs light up.

33) Circuit A. The batteries are arranged in series so the current is more.

34) a) U and S.

b) The wires are wronging connected.

35) a)



35)b)Country B's cooler than A.
c)If the Earth is too near the son it would be too hot, as all the water on Earth would dry and we will die, and if it is too far, it would be too cold and the water would freeze and we will die.

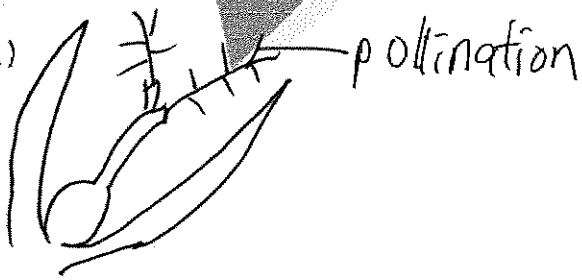
36)The cell splits into Z identical, each containing the same genetic materials. The meeting of the sperms and the egg fuse two node as which contain different genetic materials.

37)a)i)Q ii)S
b)Both lay eggs.

38)a)It has chloroplast and cell wall.
b)It controls the activity in the cell.
c)Single-celled organism has chloroplast and starch grain but cell-it does not have.
d)Root/Petal/underground stems.

39)a)The peacock fruit. The seeds of rose of lndia has wing-like structure so it may fly away from the adult plant, but the seeds of peacock tree does not have wing-like structure.
b)It might form overcrowding.

40)a)It needs air, water and warmth.
b)Y and Z. The seeds have oxygen, water and warmth.
c)It is to prevent oxygen in the air from entering the water.

41)a) 

b)The plant need to pollinate in order for the plant to reproduce into a fruit and dispersed to ensure their kind not to be extinct.

41)c)Male parts are sticking out so as to allow the pollen grains to be carried away more easily by the wind to other flower.

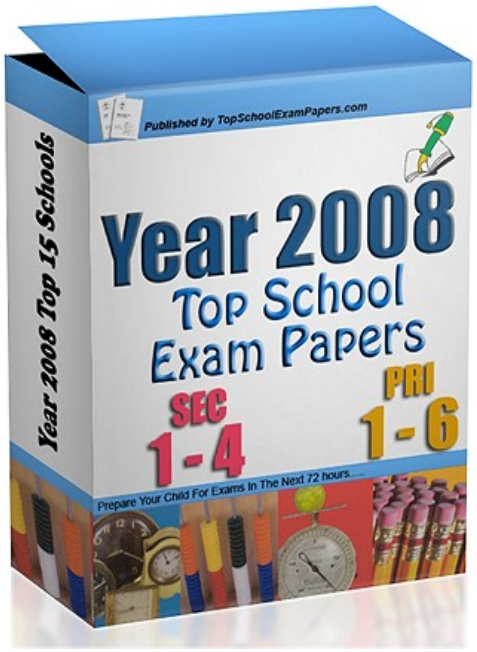
42)a)Pulley system M and N.
b)As long as there is a movable pulley the load is reduce by half, but the fixed pulley the effort is equals to the load.

43)a)Decrease the size of the wheel.
b)Increase the size of the axle.

44)a)Effort is not reduced and the load travels a greater distance than the effort.
b)Since effort is reduced, the distance moved by effort should be longer.

45)a)The greater the strength of the wind, more seeds from plant X will be dispersed up to a certain point where the number of seeds dispersed is not dependent on the strength of the wind. The strength of the wind does not affect the number of seeds dispersed by Y.
b)It is light and has wing-like structure.

46)The heavier load is nearer to the fulcrum, so less effort is used.



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