

南洋小學

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:

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FOLLOW ALL INSTRUCTIONS CAREFULLY.

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

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PRIMARY 5 SCIENCE

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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) 365 $\frac{1}{4}$

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.

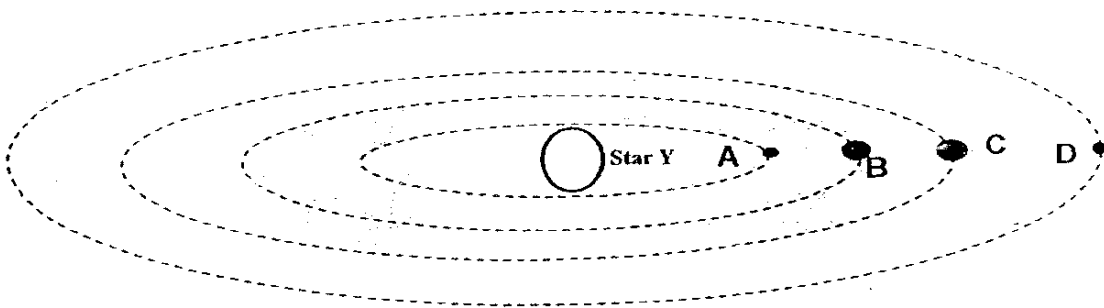
Which of the following statements are correct?

- (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?



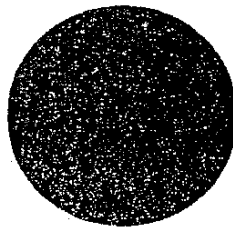
- (1) A
- (2) B
- (3) C
- (4) D

2

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

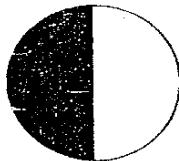
7. The diagram below shows the moon that Joy saw on the 15th January. She observed the moon every night until 21st January.



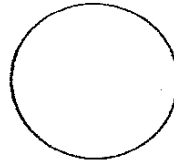
New Moon

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

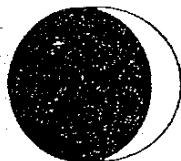
(1)



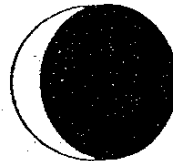
(2)



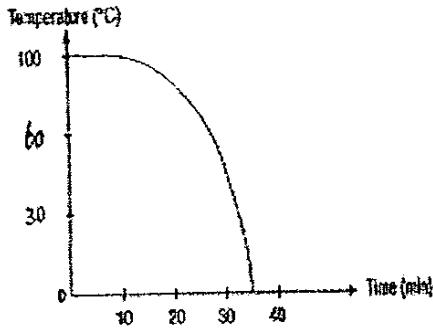
(3)



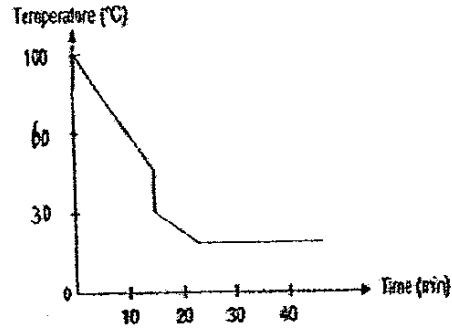
(4)



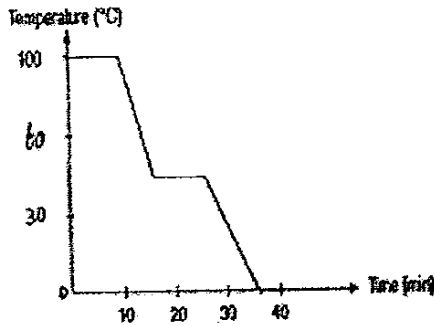
8. Tommy conducted an experiment. He heated a beaker of water till it boiled before placing it into the freezer to freeze. Which one of the following graphs correctly shows how the temperature varied with time from the instant the water boiled till it froze?



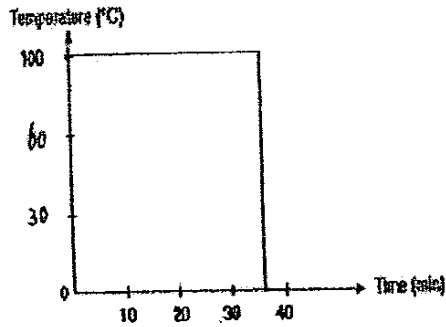
(1)



(2)

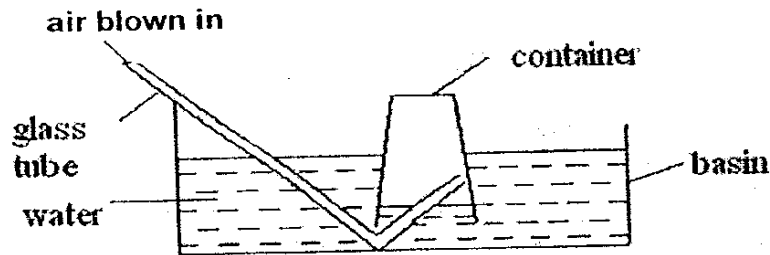


(3)



(4)

9. Bala conducted the following experiment.

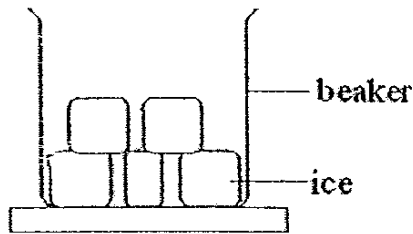


What will he observe if air is blown into the container through the glass tube as shown?

- (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.

4

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?



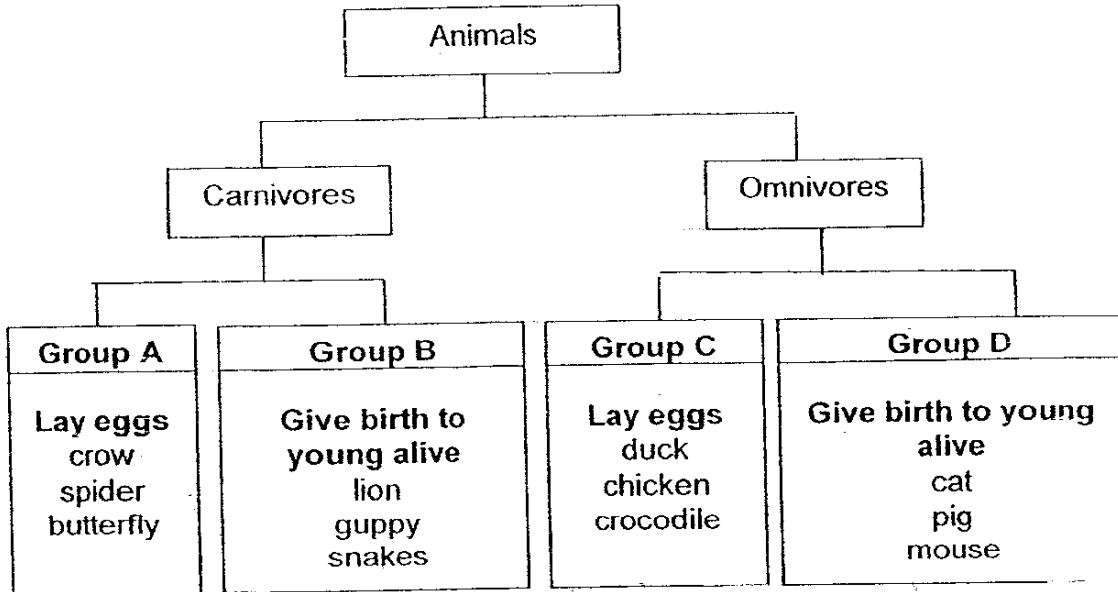
- A) Presence of wind
- B) Humidity of the surrounding
- C) Exposed surface area of water
- D) Temperature of the surrounding
- E) Temperature of the water inside the dish

- (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.



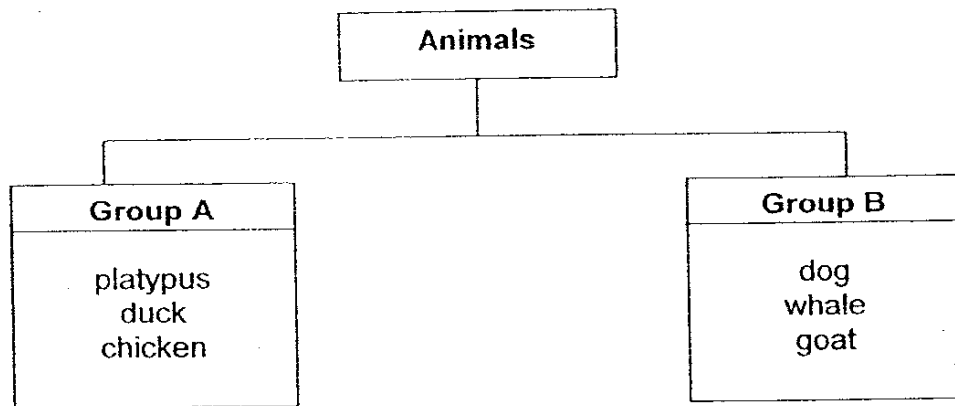
Which group has an animal that is grouped correctly?

- | | | | |
|-----|---|-----|---|
| (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

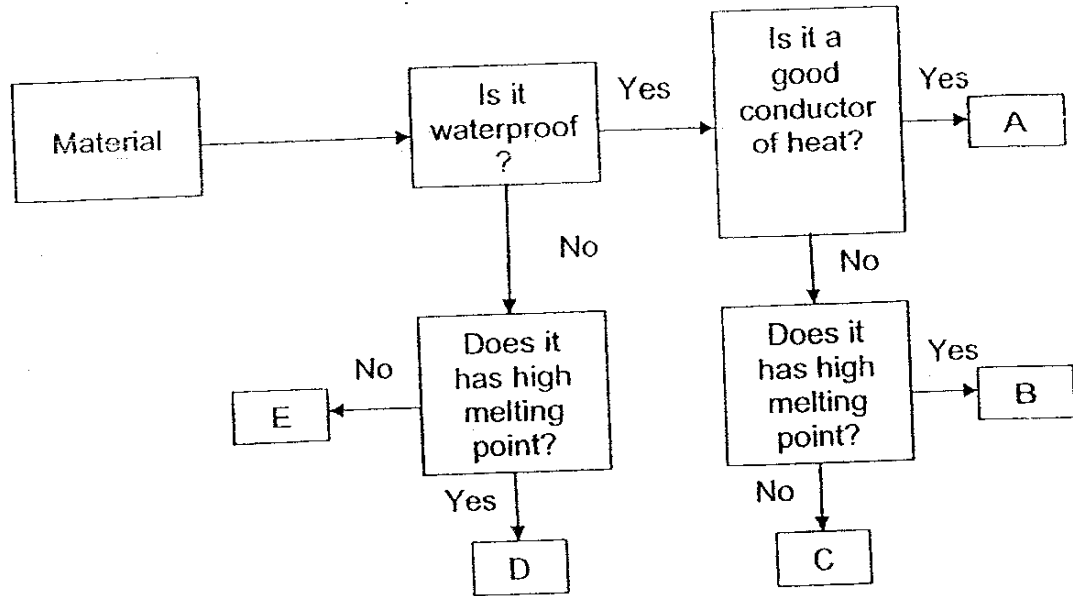
16. The table below shows some animals which are classified according to how they reproduce.



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.

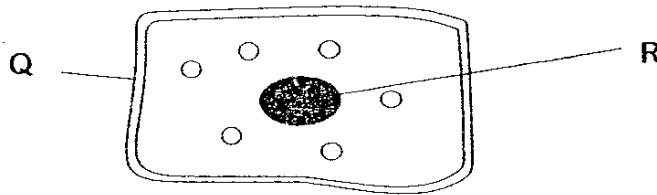
- (1) cell wall
- (2) chloroplasts
- (3) nucleus
- (4) cell membrane

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

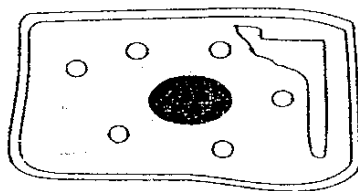
Study the following diagram of a plant cell.



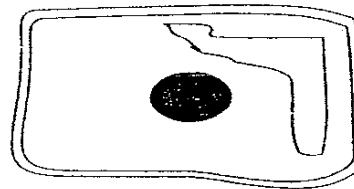
20. What is the function of Q and R?

	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.

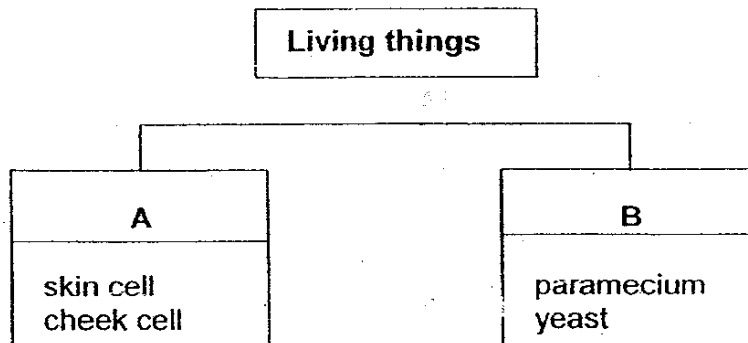
- (1) heat
- (2) light
- (3) sound
- (4) magnetic force

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

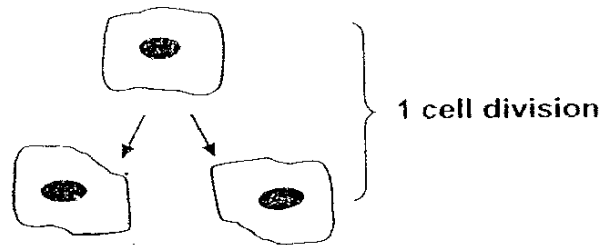
24. Study the classification table below.



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

- (1) bacteria
- (2) button mushroom
- (3) egg cell
- (4) potato cell

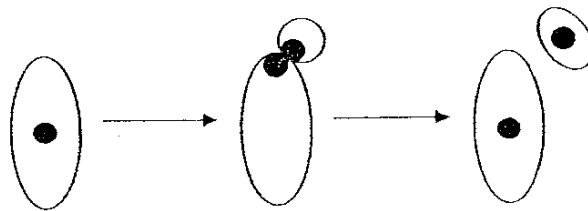
25. The diagram below shows a cell undergoing cell division?



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?

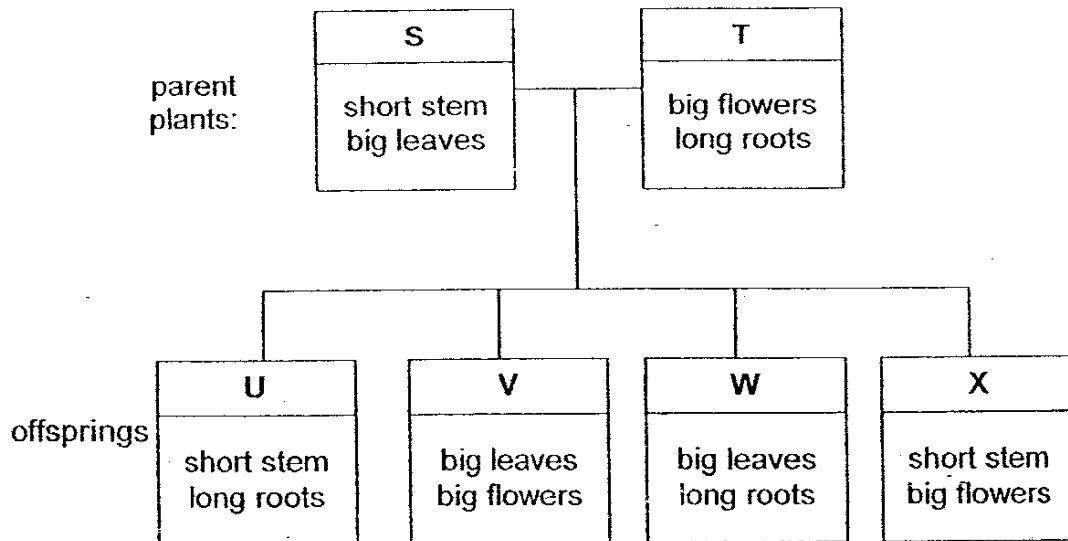
- | | | | |
|-----|---------------|-----|----------------|
| (1) | Budding | (2) | Fertilisation |
| (3) | Cell division | (4) | Binary Fission |

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

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BOOKLET B

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14

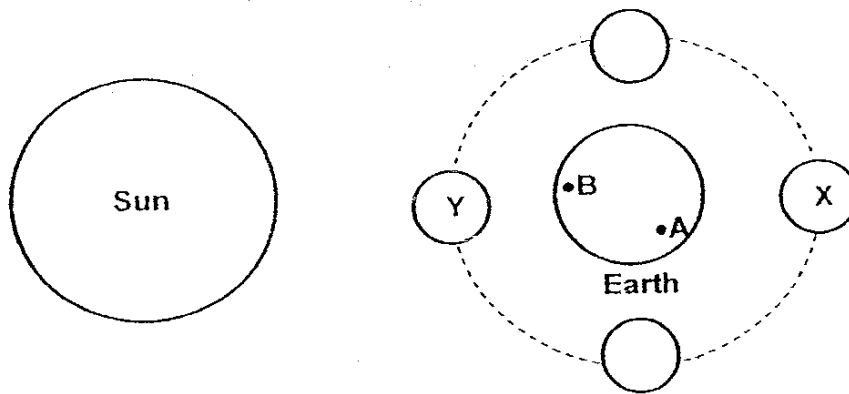
Name : _____ Date : _____

Class : Primary 5 (_____)

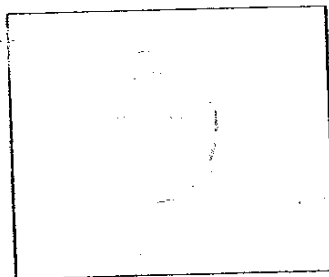
Section B (40 marks)

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.



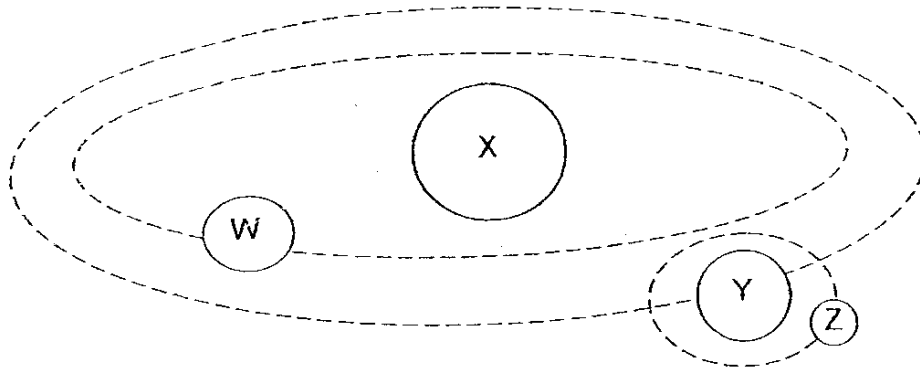
- (a) Draw the phase of the moon at position X observed from A from in the box below. (1m)



- (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.			

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33.

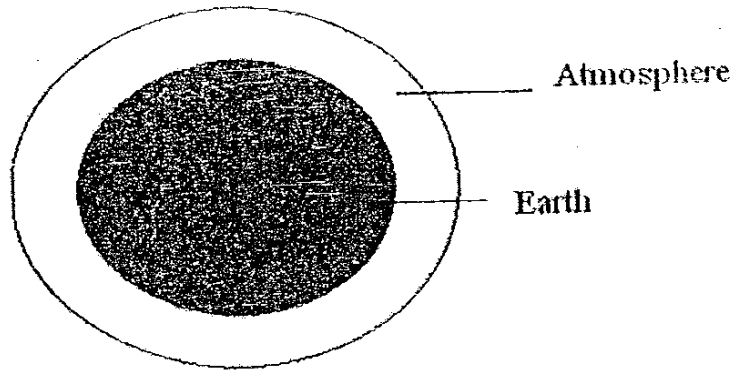
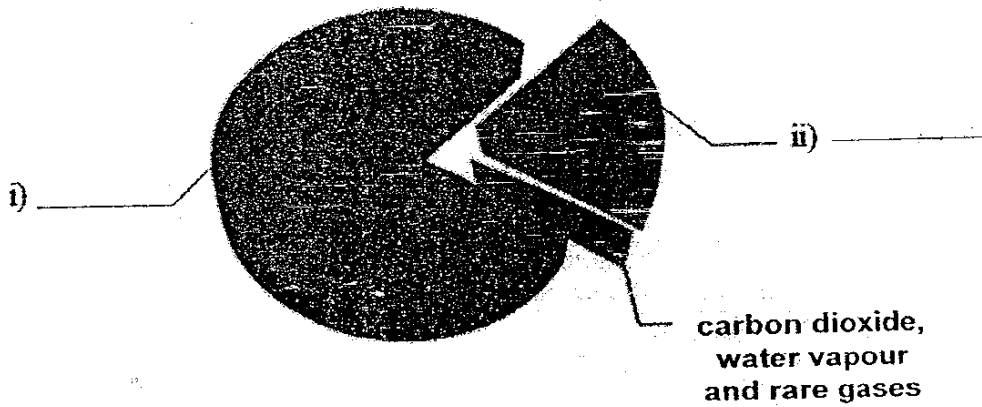


Figure 1

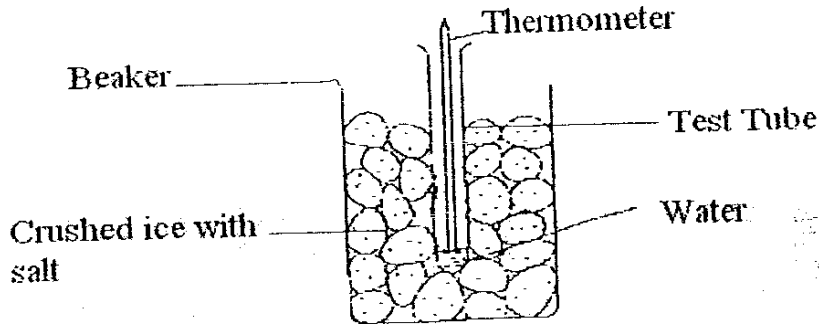
- (a) State the force that holds the atmosphere to the earth. (1m)



- (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)

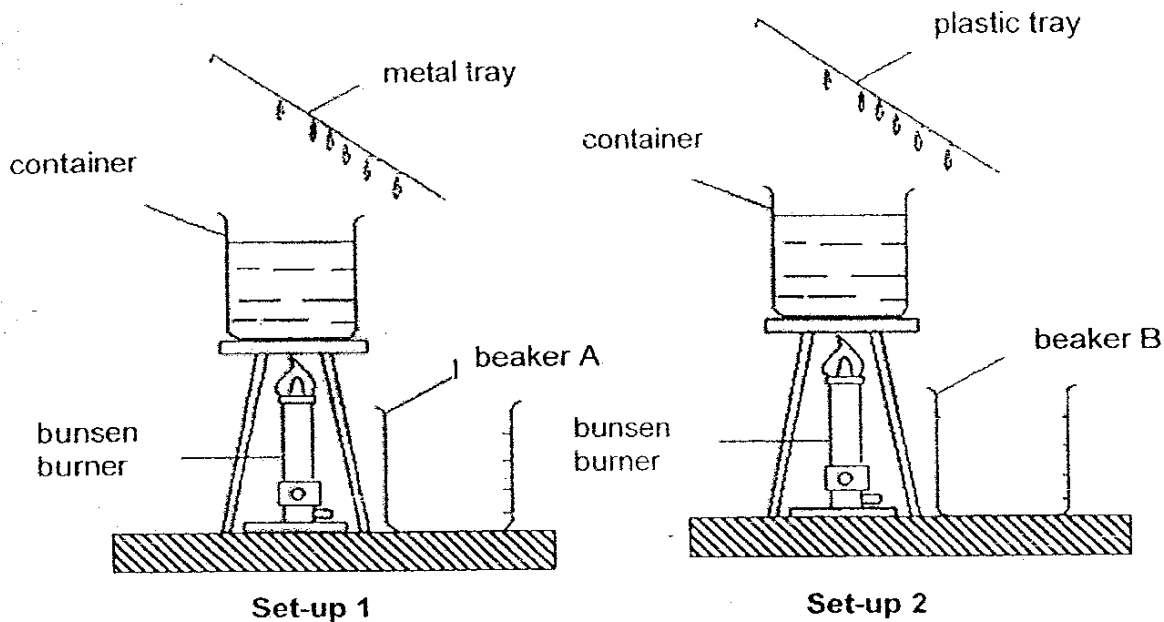
34. Jason set up an experiment as shown below. He wanted to find out if adding salt to ice would lower the temperature of the water inside the test tube. Jason added 200g of crushed ice into a 500ml beaker and filled the test tube with 5ml of water at 30°C. However when Cheryl saw Jason's setup, she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

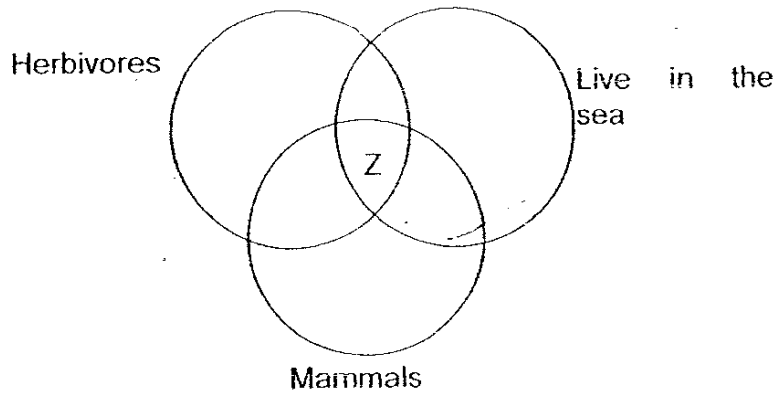
35. The diagram below shows 2 set-ups at the beginning of an experiment **before** any water was collected in 2 similar beakers, A and B. The amount of water in the 2 containers were kept the same. The flames were equally hot.



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

19

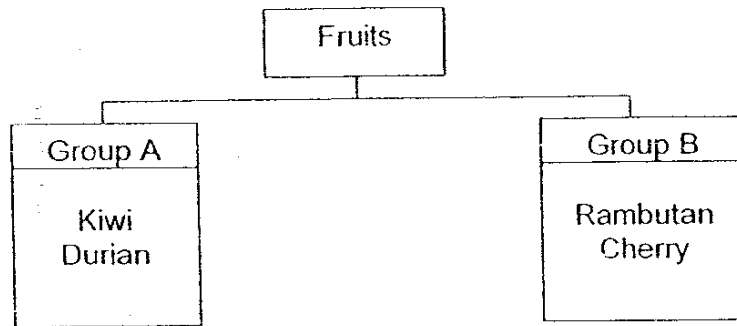
36. Study the Venn diagram below.



(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: _____

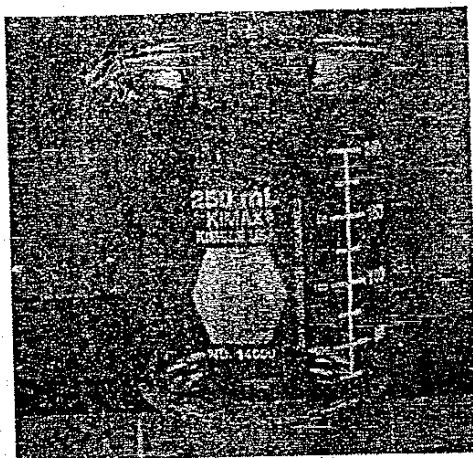
Group B: _____

- (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)

22

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: _____

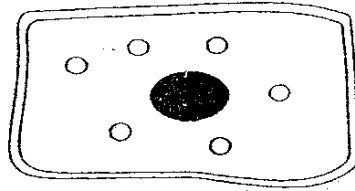
40. Maria observed 2 different types of cactus cells A and B under a microscope. She recorded her observations in the table below.

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

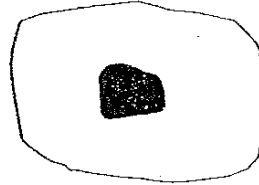
- (a) Based on the table above, which cell is most likely to be a cactus root cell? (1m)

- (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)

24

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.

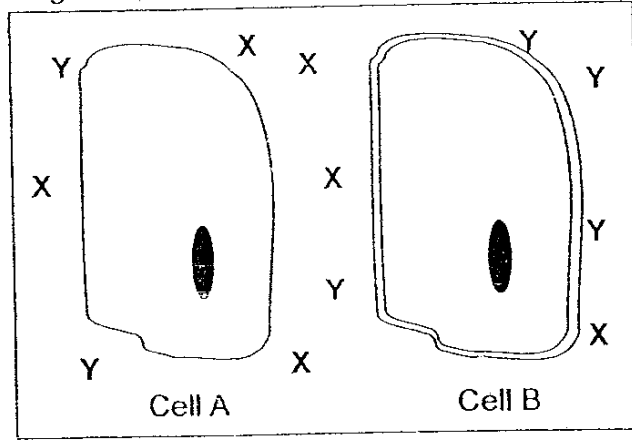


Diagram 1

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

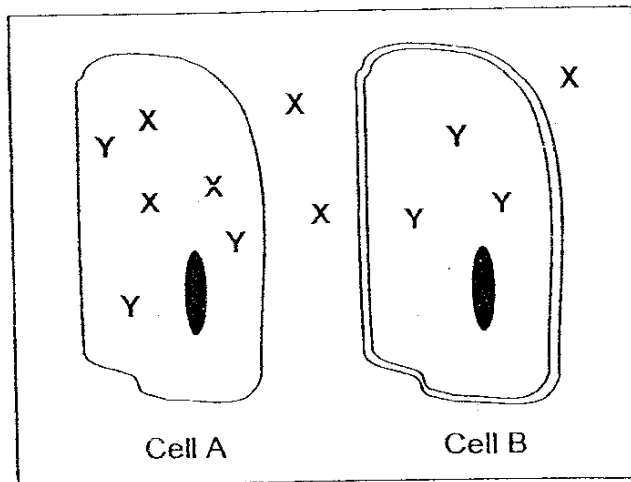
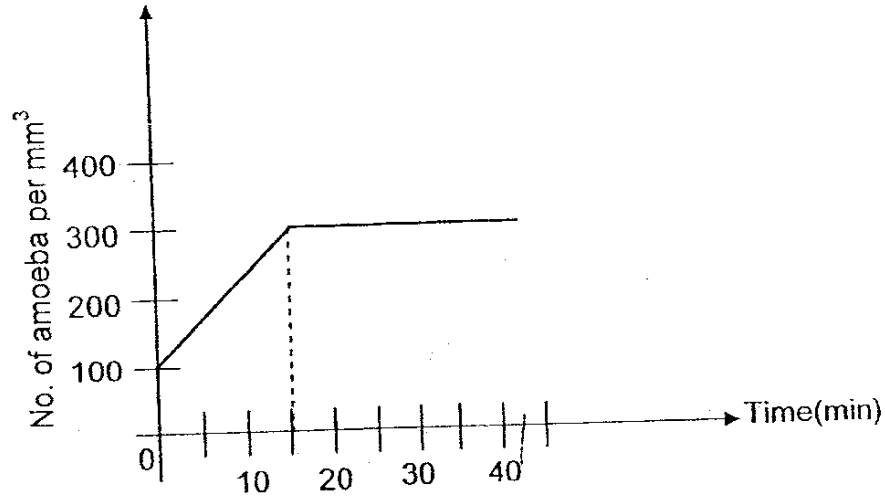


Diagram 2

- (a) Describe what Aaron observed in Cell A and Cell B after 15 minutes

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

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

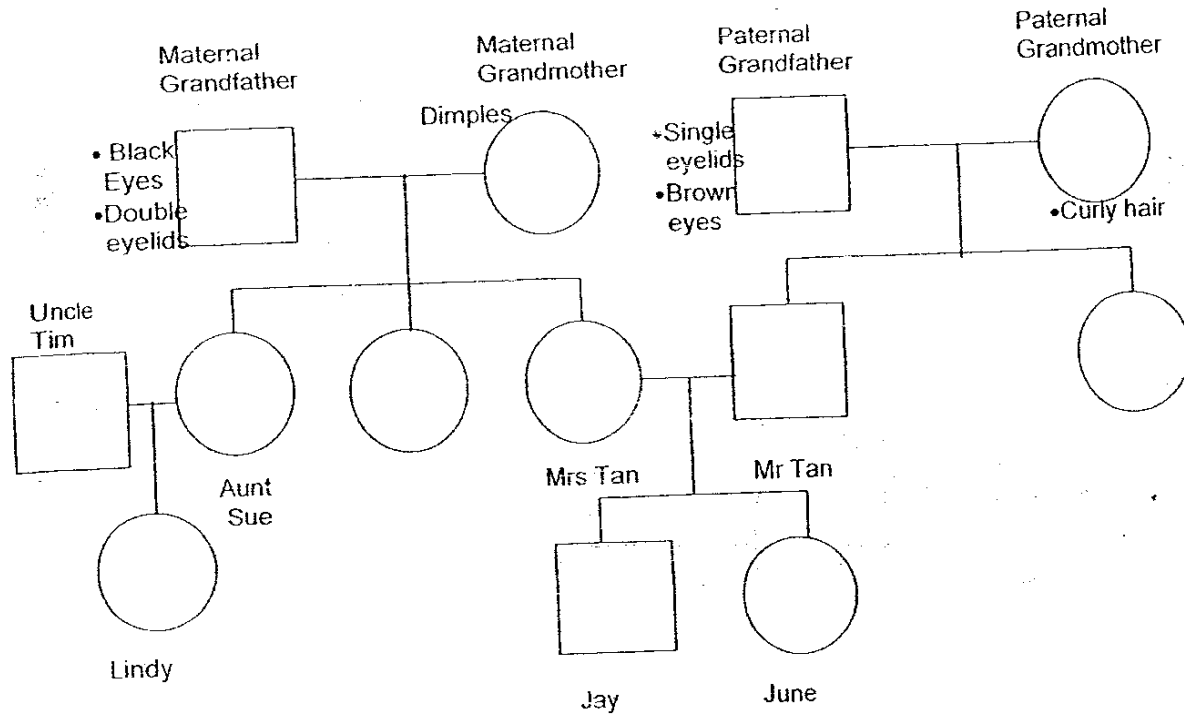


- (a) Name the process which caused the change in the number of amoeba from 0 to 15 minutes. (1m)

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

26

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)

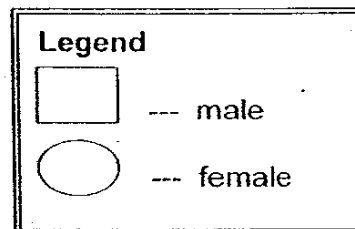
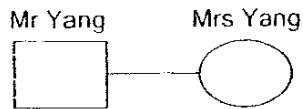
(b) What trait(s) is/are common to June and her paternal grandfather? (1m)

(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

28

Nanyang Primary School

Primary 5 Science CA1 Exams (2007)

Answer Keys

SECTION A : (60 MARKS)

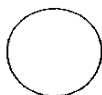
Qn no.	Ans
1	4
2	2
3	1
4	2
5	4
6	1
7	1
8	1
9	2
10	2

Qn no.	Ans
11	4
12	4
13	2
14	4
15	4
16	3
17	1
18	2
19	4
20	1

Qn no.	Ans
21	2
22	2
23	1
24	1
25	1
26	1
27	4
28	1
29	4
30	3

SECTION B (40 MARKS)

31a.



31b. New moon

31c. Lighted part of the moon is facing the earth

32a. True

32b. False

32c. Not

32d. True

33a. Gravitation force

33b. (i) Oxygen

(ii) Photosynthesis

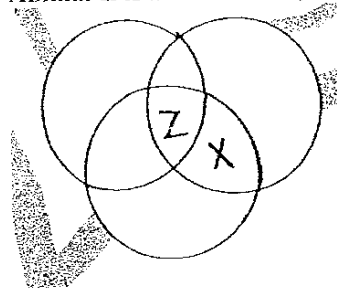
34a. The water in the test tube will freeze.

34b. 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 sometime the metal plate become hot and steam cool no longer condenses in it to form water droplets.

36a.
36b.

Animal Z is an herbivore, lives in the sea and it is a mammal.



37a. A : Many seeds B : One seeds
37b. A : Papaya B : avocado

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

39. (i) Pour the mixture into the beaker of water and stir until all the salt has dissolved.
(ii) Filter the mixture using the filter funnel and filter paper. Sand will be left on left on the filter paper.
(iii) Heat the salt solution with the bunsen burner until all the water has evaporated.

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

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

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

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

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

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

46.

