

**METHODIST GIRLS' SCHOOL (Primary)**  
**Semestral Assessment 1 2005**  
**Primary 5**

# Science

**Thursday, 12 May 2005**

## Booklet A

Name: \_\_\_\_\_ (      )

Class: P 5. \_\_\_\_\_

Total time for Booklets A and B: 1h 45 min

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

**FOLLOW THE INSTRUCTIONS CAREFULLY.**

**ANSWER ALL QUESTIONS.**



Section A ( 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. The air that we breathe out \_\_\_\_\_ than the air that we breathe in.

- (1) is drier
- (2) is cooler
- (3) has more oxygen
- (4) has more carbon dioxide

2. Some pupils saw some white mushrooms and bird's nest ferns on a tree.

Their observations are as follows :

Azizah : Both the fern and the mushroom are plants.

Betty : The spores from both organisms are dispersed by wind.

Caryn : Both organisms can only grow on trees.

Daisy : The fern and the mushroom are non-flowering plants.

Who has likely made the correct observation ?

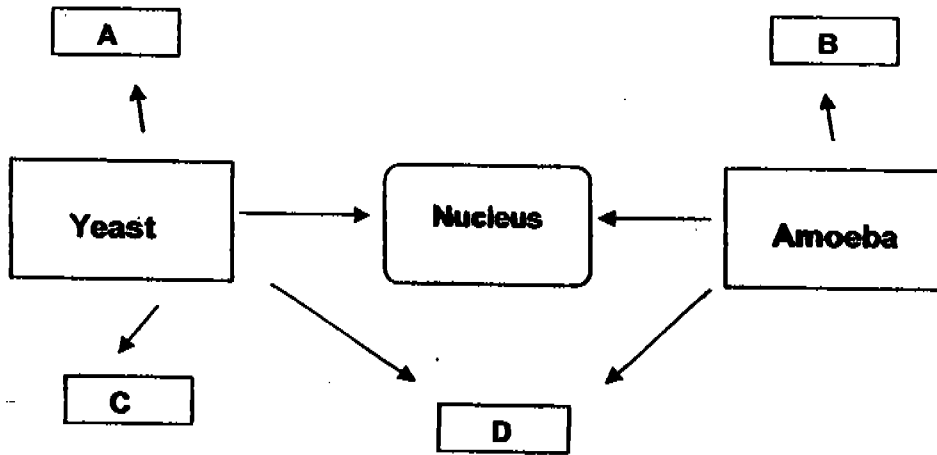
- (1) Azizah
- (2) Betty
- (3) Caryn
- (4) Daisy

3. Jerene planted two papaya plants in her garden. Both plants are healthy and tall. However, there are no fruits on one of the plants. What is a possible reason for the fruitless papaya plant ?

- ~~(1)~~ It does not make food.
- ~~(2)~~ It is infested with bugs.
- ~~(3)~~ It does not bear flowers.
- ~~(4)~~ It only bears male flowers.

4.

The diagram below shows the similarities and differences between a yeast cell and an amoeba cell.



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

A	B	C	D
budding	binary fission	cytoplasm	cell wall
cell wall	cell wall	cytoplasm	budding
cell wall	binary fission	budding	cytoplasm
budding	cytoplasm	cell wall	binary fission

5. Which of these traits can be hereditary ?

- straight hair
- brown eyes
- nerve disease
- colour blindness

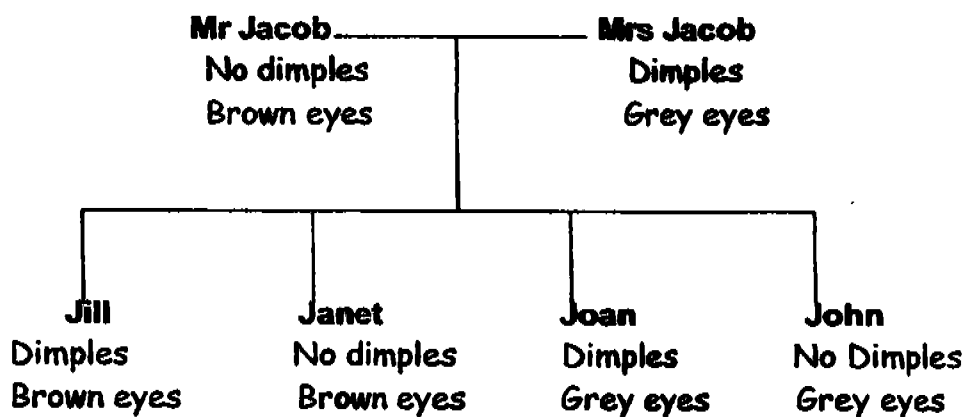
- A and C only
- B and D only
- A, C and D only
- A, B, C and D

6. Siti poured a same amount of hot water into two containers, A and B, of the same size and shape. Both containers were then left to cool at room temperature. After 30 minutes, Siti checked the temperatures of the water in both containers and found that the temperature in B was higher.



What could Siti conclude from the experiment ?

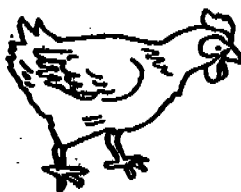
- (X) The water expands in A but not in B.
  - (X) The water contracts in B but not in A.
  - (X) A is made of a material that is a poorer insulator of heat than B.
  - (X) B is made of a material that is a better conductor of heat than A.
7. Study the family tree of Jill.



Which child / children inherited one trait from each parent ?

- (1) Jill
- (2) Jill and John
- (3) Janet and Joan
- (4) Joan, Janet and John

8. The diagrams show a hen and a frog



Hen



Frog

Which of the following statements are true about these animals ?

- A: The eggs of the female animals are fertilised before developing into young animals.
- B: External fertilisation takes place in both female animals.
- C: The female animals lay eggs.
- D: Both female animals incubate their eggs.

- (X) A and B only
- (X) A and C only
- (X) B and C only
- (X) B and D only

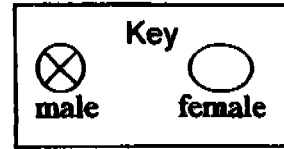
9. Study the table below.

Characteristics	Animal X	Animal Y
Has 6 legs	Yes	Yes
Feeds on nectar	Yes	No
3-stage life cycle	No	Yes

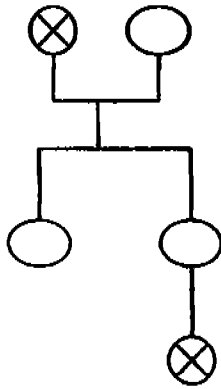
Which one of the following is correct ?

	Animal X	Animal Y
(1)	termite	mealworm
(2)	cockroach	bee
(3)	dragonfly	mosquito
(4)	butterfly	grasshopper

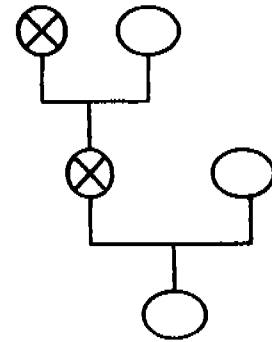
10. Which one of these family trees is correct ?



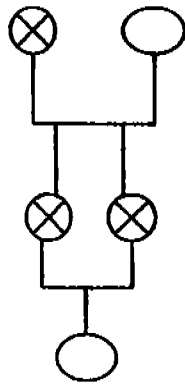
~~A~~



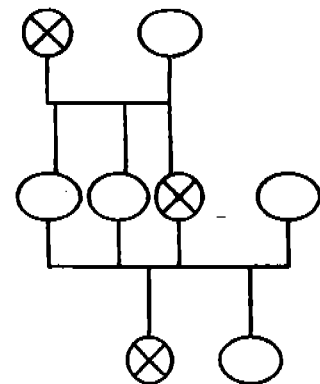
~~B~~



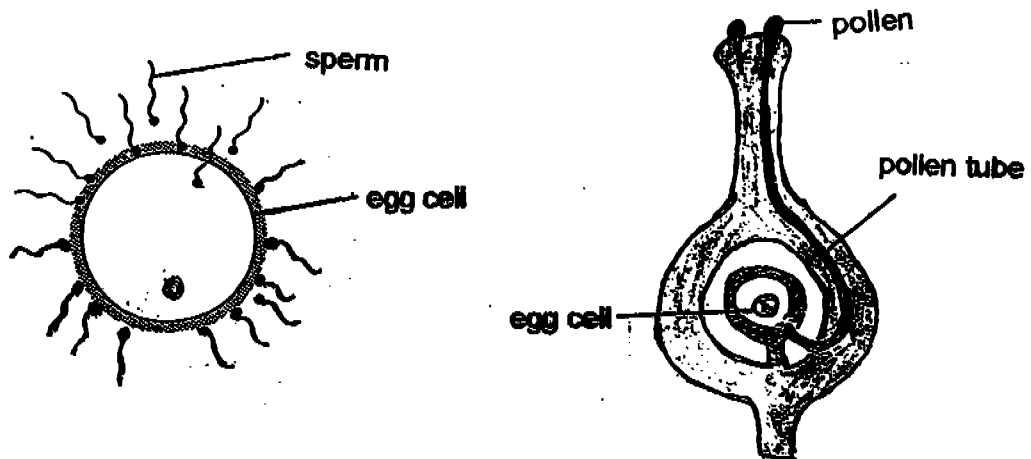
~~C~~



~~D~~



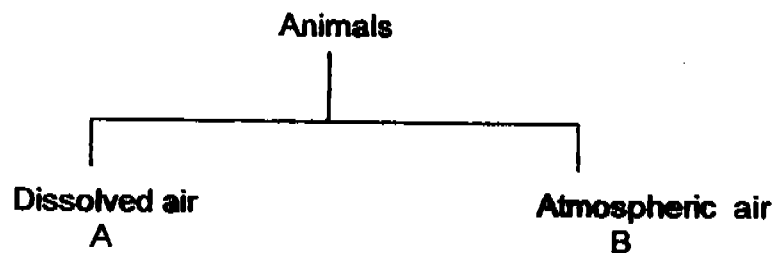
11. The diagrams show the reproductive cells of a human and a plant.



What process is about to take place ?

- (1) Budding
- (2) Pollination
- (3) Fertilisation
- (4) Germination

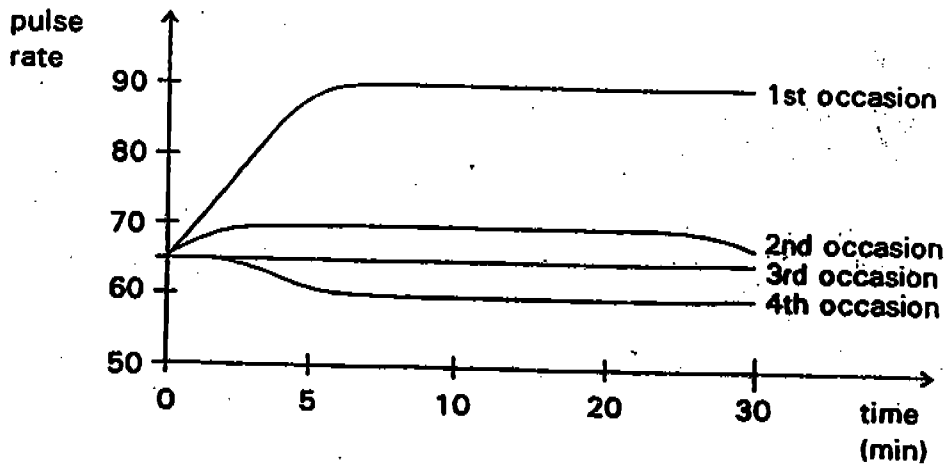
12. The classification table shows animals breathing in dissolved air or atmospheric air.



Which pair represents A and B ?

	A	B
(1)	shark ✓	oyster
(2)	mealworm	mosquito
(3)	tadpole ✓	caterpillar ✓
(4)	maggot	owl

13. The graph shows the pulse rate ( number of heartbeats ) of Zura on 4 occasions.



What could Zura be doing on the 1<sup>st</sup> occasion ?

- (1) She could be running.
  - (2) She could be sleeping.
  - (3) She could be reading a book.
  - (4) She could be listening to soft music.
14. The diagram below shows a shoot growing from a leaf.

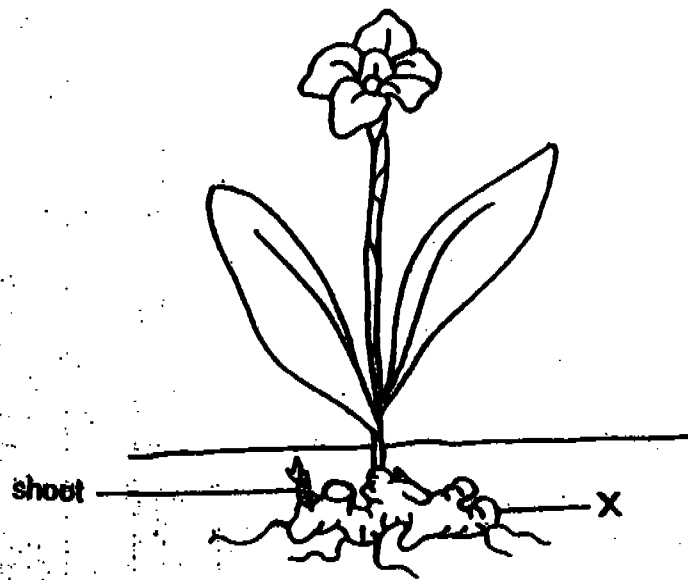


This is an example of \_\_\_\_\_.

- (1) dispersal
- (2) fertilisation
- (3) pollination
- (4) reproduction



15.

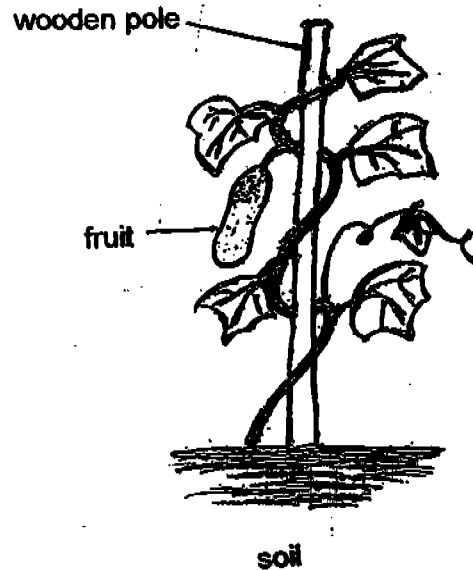


This is a picture of a Canna plant.  
The part of the plant marked 'X' is useful to the plant because  
it \_\_\_\_\_.

- A: protects the plant
- B: supports the plant
- C: stores food for the plant
- D: has buds that grow into new plants

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

16. The diagram shows a plant growing in the garden.

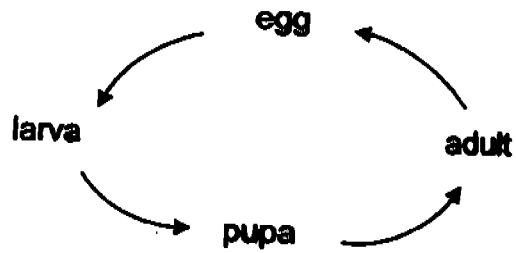


Which of the following statements is / are correct ?

- A: This plant has roots.
- B: This plant has a weak stem.
- C: This plant bears flowers.

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

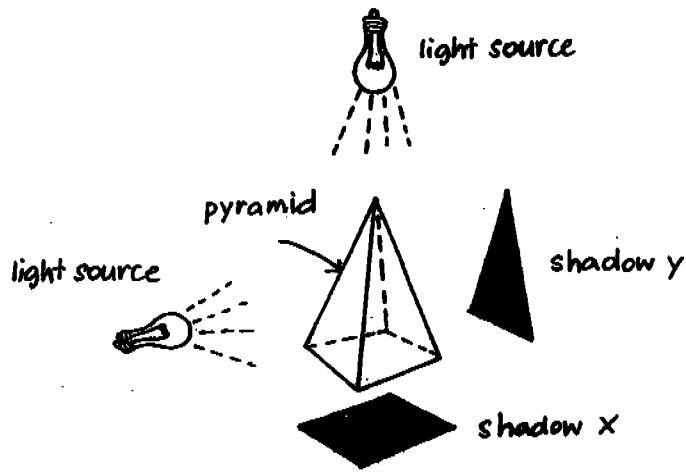
17.



At which stage of the life cycle is the moth when it does not eat at all ?

- (1) egg
- (2) larva
- (3) pupa
- (4) adult

18. The object below can project different shadows depending on the position of the light source.



Which object when replaces the pyramid could produce these shadows shown below?

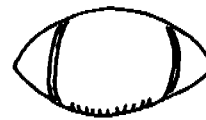


(1)

(2)



mug



football

(3)

(4)

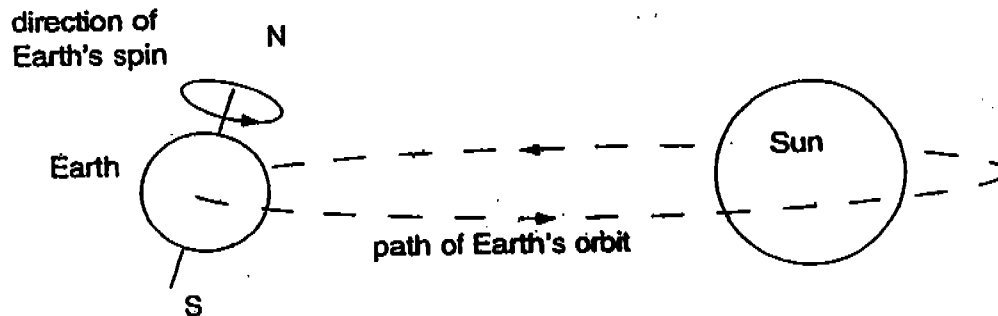


Ice-cream cone



coke can

19. John and Luke were watching the sunset.  
John said, "The sunset is caused by the Earth orbiting the Sun."  
Luke said, "The sunset is caused by the Earth spinning in an anti-clockwise direction."



Which of the following is correct?

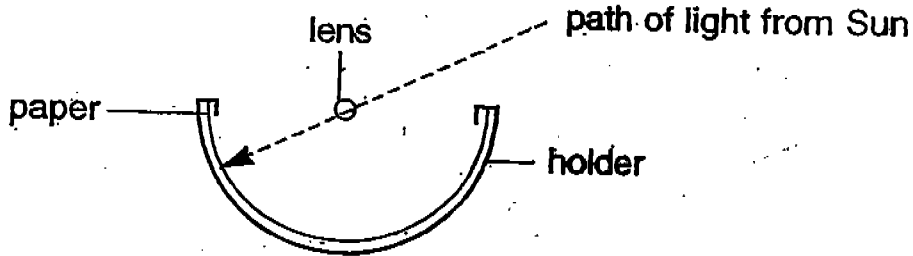
- (1) Both boys' explanations were right.
  - (2) Both boys' explanations were wrong.
  - (3) John's explanation was right but Luke's was wrong.
  - (4) Luke's explanation was right but John's was wrong.
20. Study the table of information given below.

Planet	Distance from the Sun (million km)	Time taken to make one revolution around the Sun
Mars	228	687 days
Jupiter	778	12 years
Venus	108	225 days
Mercury	58	88 days

Earth takes a shorter time to revolve around the Sun than

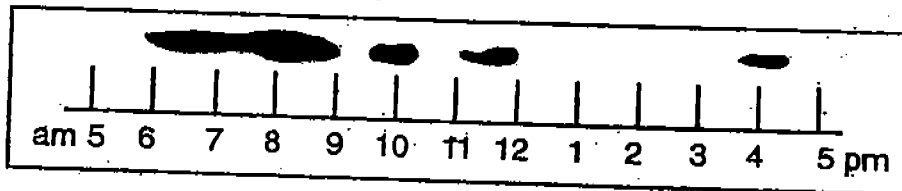
- (1) Mars and Jupiter
- (2) Jupiter and Venus
- (3) Mars and Mercury
- (4) Venus and Mercury

21. The number of hours of sunshine can be measured using the equipment below.



The equipment is left out in the Sun since 5a.m. As the Sun appears to travel across the sky, the light passes through the lens and burns the paper, leaving burnt marks on it. The paper is not burnt when the Sun is covered by clouds.

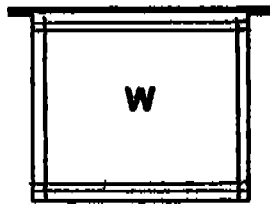
The diagram below shows the results collected on the paper for a day.



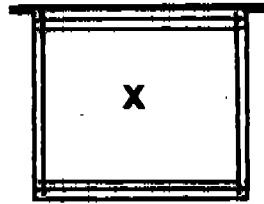
Which part of the day was most likely very cloudy?

- (X) 8a.m.
- (2) 10a.m.
- (3) 2p.m.
- (4) 4p.m.

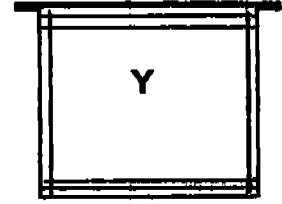
22. Three identical handkerchiefs W, X and Y each containing the same amount of water was allowed to dry under different conditions as shown below. The humidity level for that day was high.



No wind  
No sunlight



Strong wind  
No sunlight



Strong wind  
Sunlight

Linda recorded the weight of each handkerchief at the start of experiment and after 1 hour. The results are shown below.

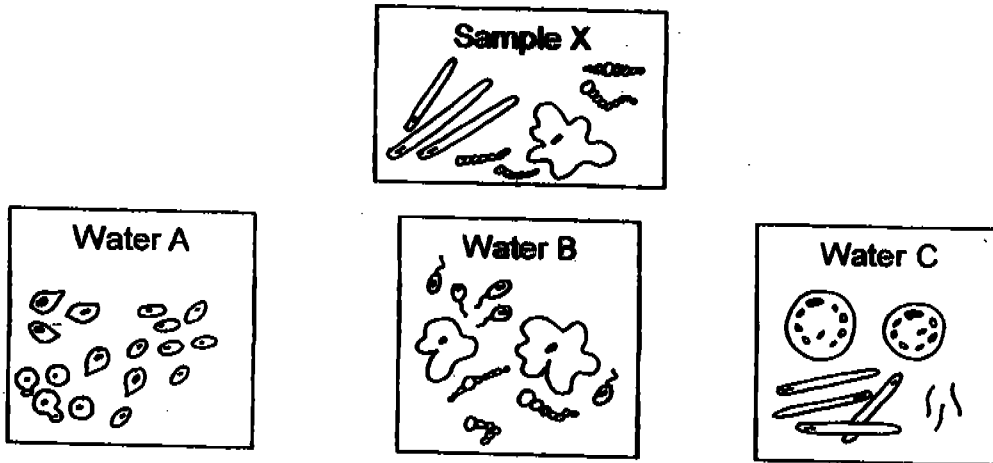
Handkerchief	Start of Experiment	After 1 hour
W	200 grams	190 grams
X	200 grams	120 grams
Y	200 grams	30 grams

Based on the experiment shown above, what is/are the possible explanation(s) for the handkerchief which showed the greatest loss in weight?

- A: It was made of a thinner material.
- B: It was allowed to dry in a sunny place.
- C: It was in a place where humidity was lower.
- D: It was allowed to dry in a very windy condition.

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

23. A forensic scientist took some water sample X from the lungs of a man who had drowned. Below shows what he saw through the microscope. Where is/are the possible place(s) of water the man could have drowned in?



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

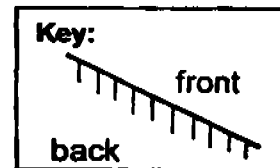
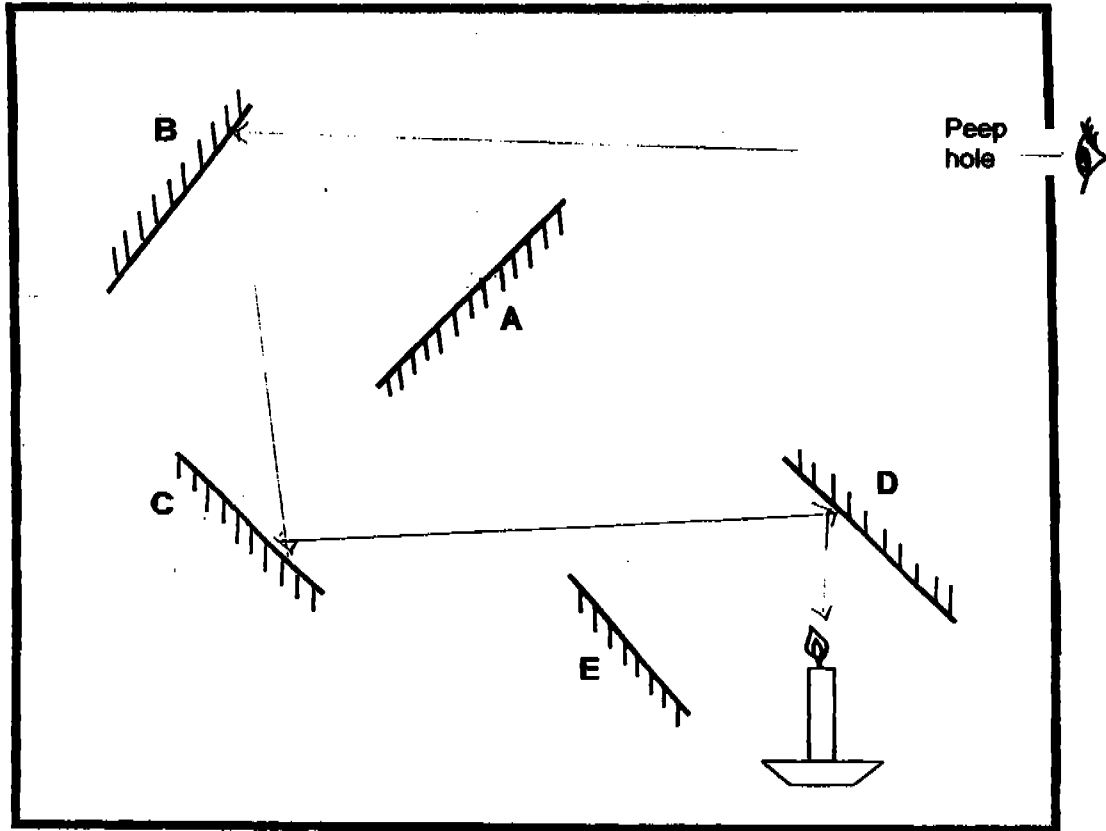
24. Which of the following statement(s) about saliva is/are true?

- ~~A:~~ Saliva helps to digest food.  
~~B:~~ Saliva is produced in the mouth.  
~~C:~~ Saliva makes food easier to swallow.  
 D: Saliva helps food to be absorbed in the stomach.

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



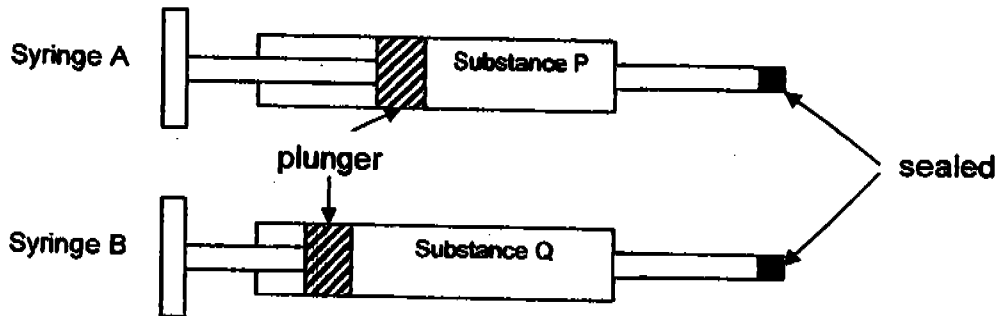
25. Below is a floor plan of a dark room with five mirrors A, B, C, D and E. When Raj looked in through the peep hole, he could see the lighted candle, using only three of the mirrors. Which three mirrors were used?



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

26. Two syringes, A and B, contain substances P and Q respectively. The end of each syringe is sealed.

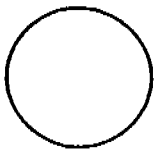

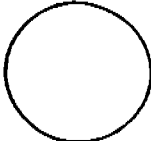
Plunger in syringe A could be pushed in slightly while plunger in syringe B could not be pushed in as shown in the diagram below.



Which of the following substances are most likely to be P and Q?

	Substance P	Substance Q
(1)	air	water
(2)	water	air
(3)	water	oil
(4)	oil	water

27. Some pupils observed the Moon over a period of time and recorded what they saw.

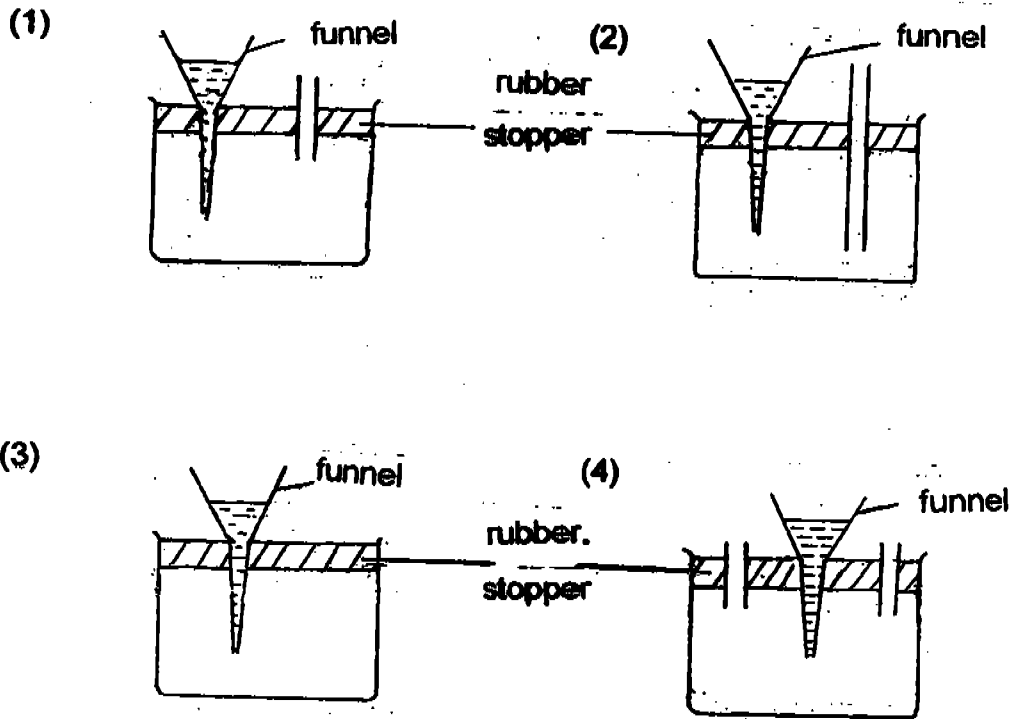
		
15 <sup>th</sup> February	24 <sup>th</sup> February	17 <sup>th</sup> March

What do you think they will see on 1<sup>st</sup> April?

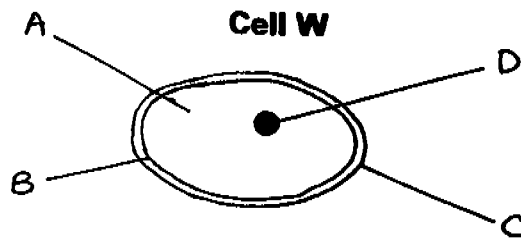
- (X) full moon  
 (2) new moon  
 (3) first quarter  
 (4) last quarter

( )

28. In which of the diagrams below will the water NOT flow through the funnel?



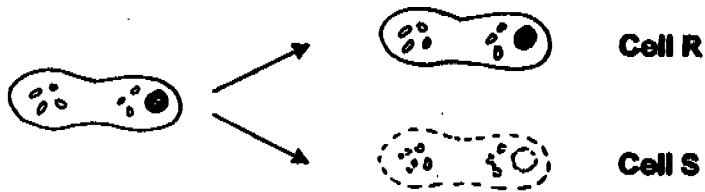
29.



Which part of Cell W controls the substances which enter and leave the cell?

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

30. The diagram below shows a paramecium dividing into two parameciums. Unfortunately daughter cell S died after a short while.



Which of the following is the most likely reason daughter cell S died quickly?

- (1) Cell R consumed Cell S.
- (2) Cell R was bigger than Cell S.
- (3) Cell S did not have a copy of the nucleus.
- (4) Cell S did not have the shape of the parent cell.

5/09

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**Semestral Assessment 1 2005**  
**Primary 5**

# Science

**Thursday, 12 May 2005**

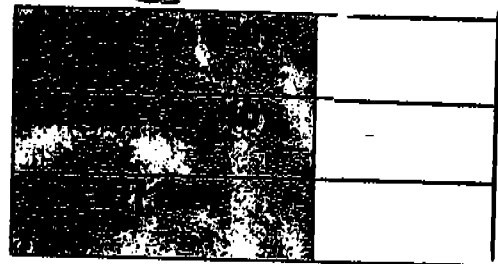
**Booklet B**



Name: \_\_\_\_\_ (      )

Class: P 5. \_\_\_\_\_

Total time for Booklets A and B:  
1h 45 min



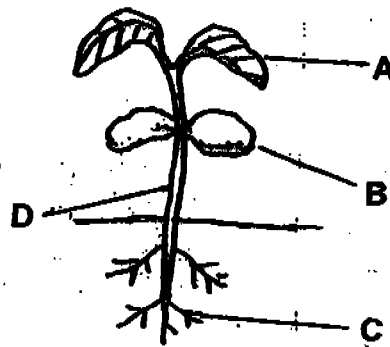
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**ANSWER ALL QUESTIONS.**

Section B ( 40 marks )

Write your answers to questions 31 to 42 in the spaces provided.

31. The seedling increases in weight as it grows into an adult plant.



(a) Which part ( A, B, C, or D ) of the seedling does not increase in weight ? ( 1 mark )

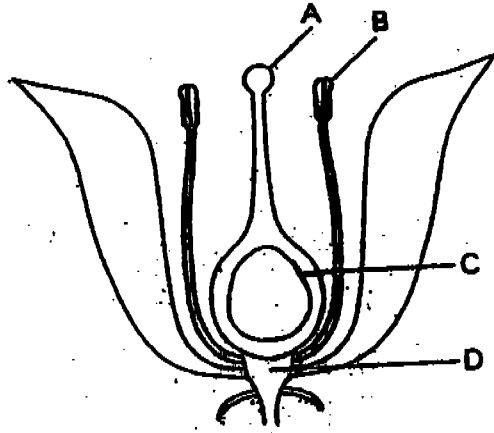
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(b) Explain your answer in (a). ( 1 mark )

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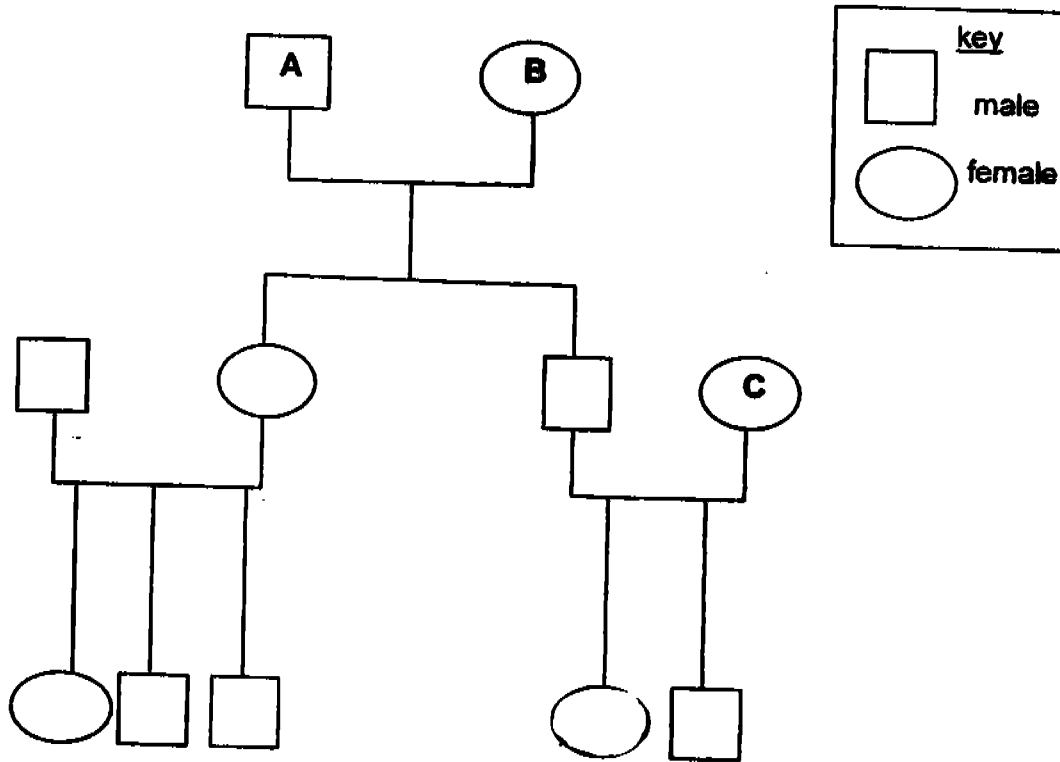
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32. The diagram shows a flower. Both the male and female parts are found in the flower.



- (a) Which part (A, B, C, or D) of the plant will develop into a fruit after fertilisation? (1 mark)
- 
- (b) Which part (A, B, C, or D) of the flower produces pollen? (1 mark)
- 
- (c) Explain why part A is sticky. (1 mark)
-

33. Study Miss Xu's family tree below and answer the questions that follow.



- (a) Miss Xu has three cousins.  
 Shade the blank that represents Miss Xu. (1 mark)
- (b) How is 'B' related to Miss Xu? (1 mark)
- 
- (c) How many siblings has Miss Xu's father? (1 mark)
- 
- (d) Who is 'C' to Miss Xu? (1 mark)
-



34. Study the classification table below.

<b>Fruit</b>	<b>Roots</b>	<b>Underground stem</b>
mango	carrot	yam
chilli	sweet potato	onion

(a) Why is chilli classified as fruit? (1 mark)

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(b) How does a yam reproduce? (1 mark)

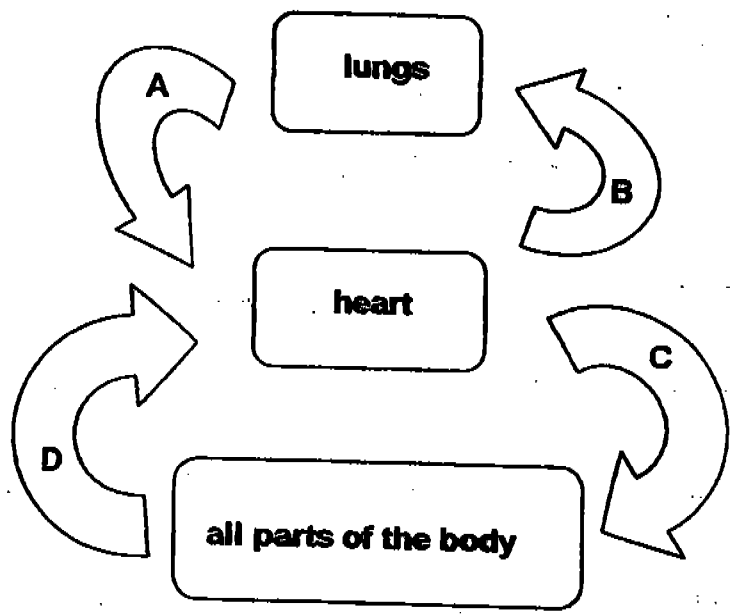
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(c) Give one function of an underground stem. (1 mark)

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(d) Put 'tomato' in the correct box. (1 mark)

35. The diagram shows how our blood travels in the body.  
The arrows represent the movement of blood.  
A, B, C and D represent the blood vessels.



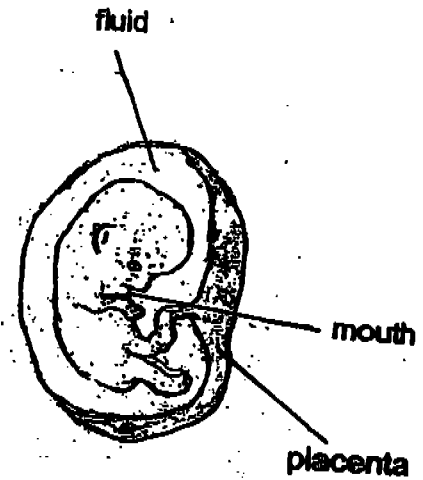
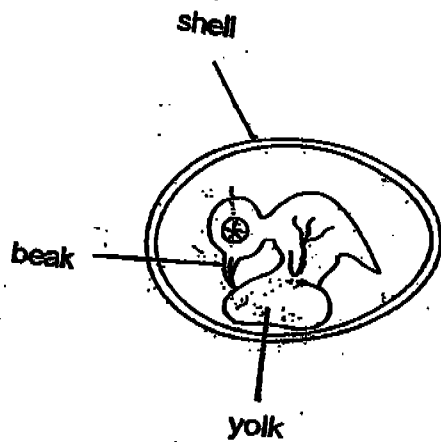
(a) Which two vessels are connected directly to the lungs ? (1 mark)

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(b) Which two vessels carry blood that is rich in carbon dioxide ? (1 mark)

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36. The drawings below show a developing chick and a human foetus.



- (a) Using the words in the diagrams above, answer questions (a) and (b).  
Name the parts where the developing chick and the human foetus receive their food.

Developing chick : \_\_\_\_\_ (1 mark)

Human foetus : \_\_\_\_\_ (1 mark)

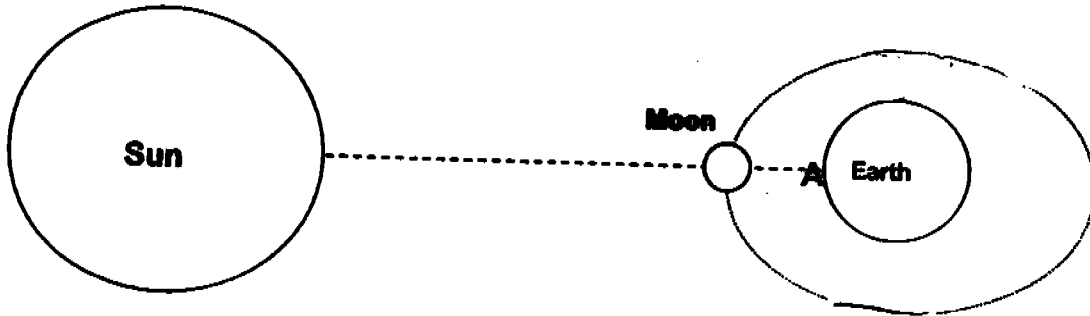
- (b) In which part of the developing chick does the exchange of gases take place? (1 mark)

\_\_\_\_\_

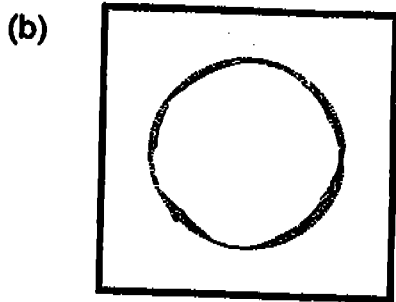
- (c) In what way is the sexual reproduction of both organisms similar? (1 mark)

\_\_\_\_\_

37. The diagram below shows the Moon between the Sun and the Earth. The three objects are in a straight line.



- (a) This shows a total eclipse of the \_\_\_\_\_. (1 mark)



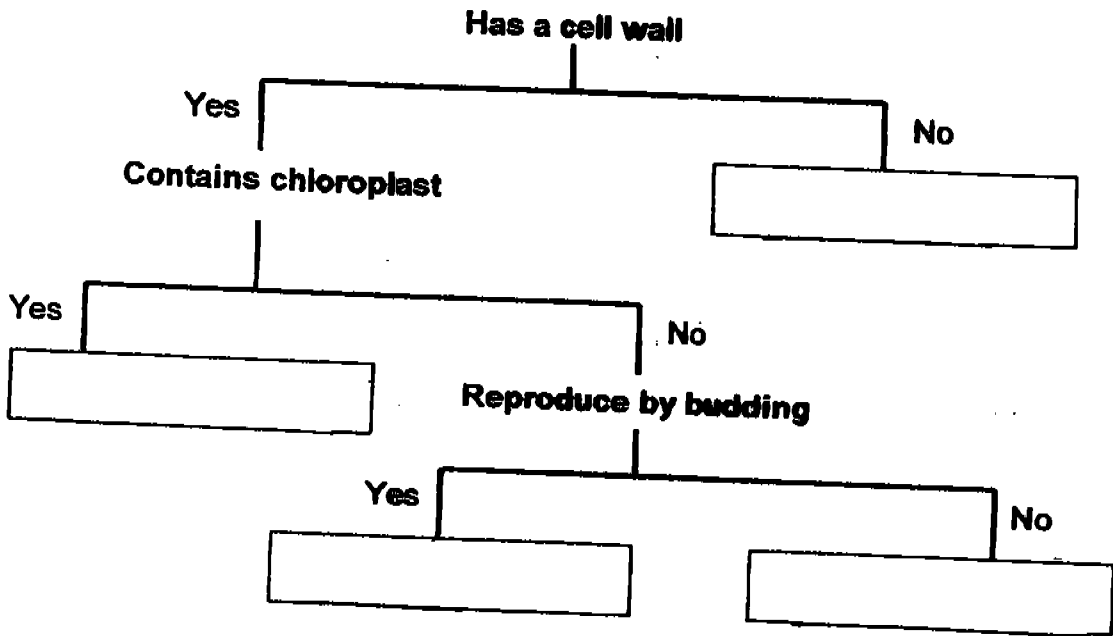
Shade in the box provided the appearance of the Moon that will be observed at point A when the event in part (a) occurs. (1 mark)

- (c) At point A, the shadow of the \_\_\_\_\_ is formed on the \_\_\_\_\_ (1 mark)

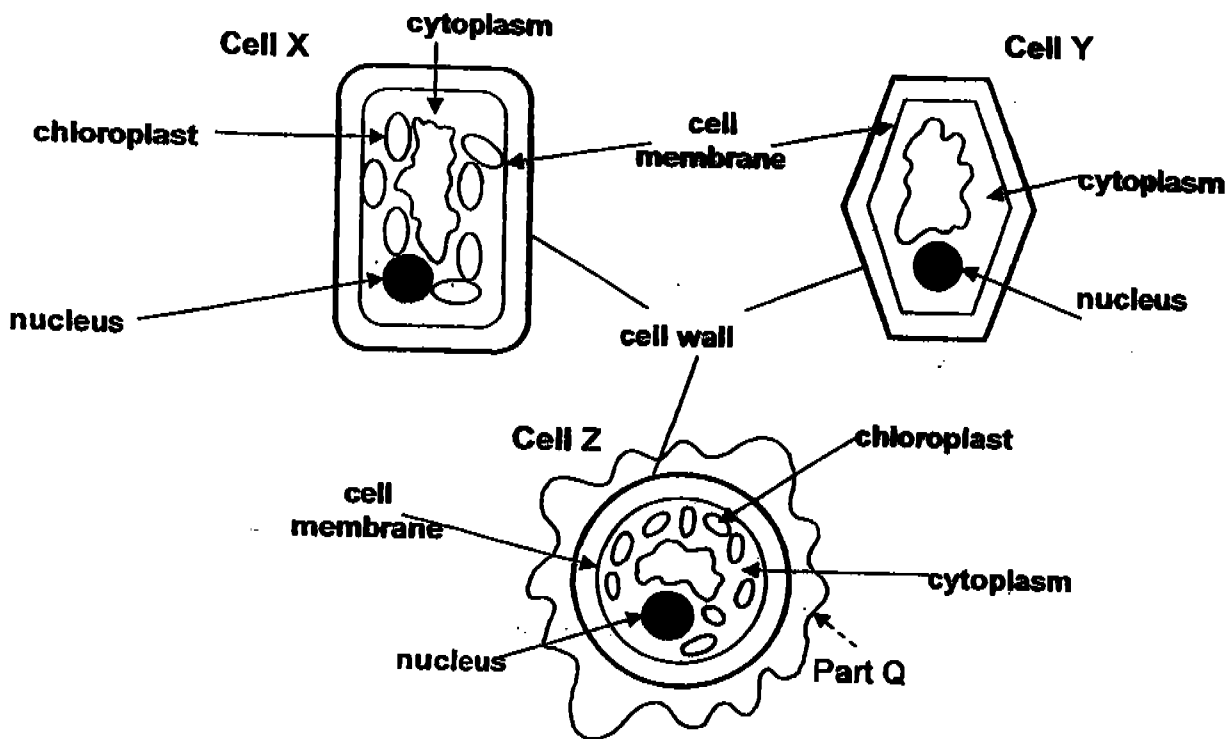
- (d) Mark "X" on the diagram above on the path of the Moon where a first quarter moon will be observed. (1 mark)

38. Fill in the boxes with the correct cells. Use each option once only.  
(4 marks)

- Yeast cell      Liver cell      Cactus stem cell  
Hydrilla cell      Onion bulb cell



39. The diagram below shows three types of plant cells.



(a) List one way in which Cell X and Cell Y are similar. Do not compare shape and size. (1mark)

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(b) Which of the cell(s) is/are not able to carry out photosynthesis? Based on the evidence shown above, provide an explanation for your choice(s). (2marks)

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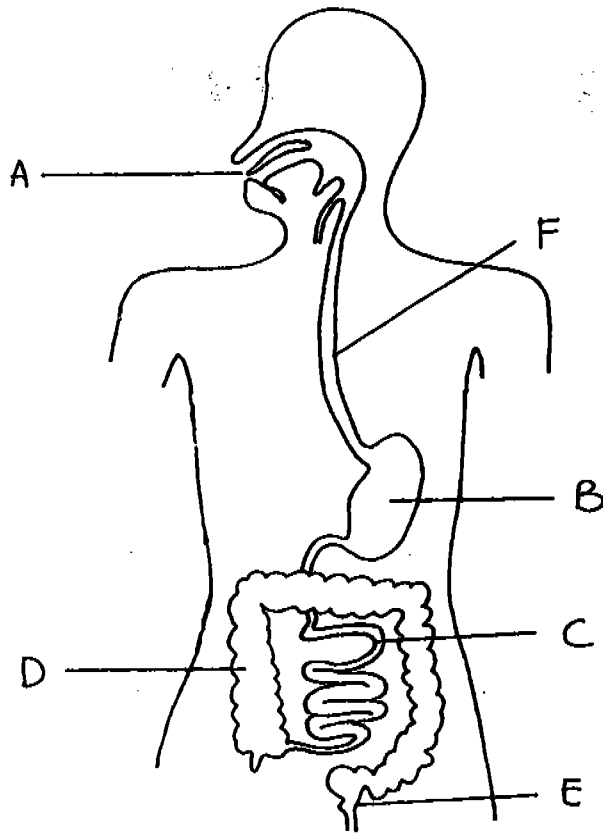
(c) Cell Z is a single-cell organism adapted for living in ponds. What do you think is the function of part Q found on Cell Z? (1mark)

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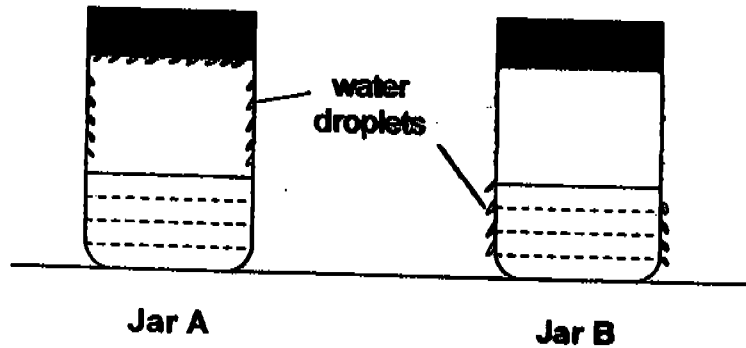
40. The diagram below shows the human digestive system.



Fill in the boxes with the correct letters. (3marks)

Digestion begins here.	
Water is taken away from the undigested food.	
Food is digested and passed into the blood vessels.	

41. David has two similar jars. Hot water was poured into one jar and water from the fridge was poured into the other jar. After a few minutes, water droplets were formed on different parts of both jars as shown below.



Without touching the jars, David asked Sarah to guess which jar held cold water and to explain her answer.

Sarah said, " The water \_\_\_\_\_ from the \_\_\_\_\_  
 (state of water) ( where )

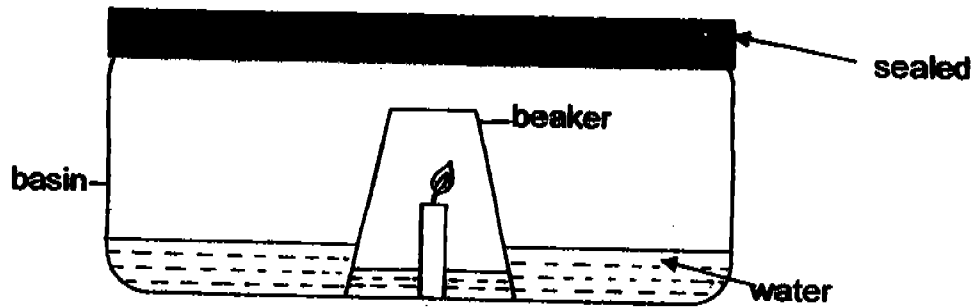
touched the \_\_\_\_\_ surface of the jar and \_\_\_\_\_  
 (temperature) (process)

to form water droplets on the \_\_\_\_\_ part of the jar. Thus cold  
 (outer / inner)

water was found in Jar \_\_\_\_\_"  
 (A / B) (3marks)



42. Look at the set-up below.



After a few seconds, the candle flame went out.

(a) Why did the candle flame go out? (1mark)

---

(b) What happened to the water level inside the beaker? (1mark)

---

(c) Circle the appropriate answer. (1mark)

- The volume of water in the set-up
- a. increased
  - b. decreased
  - c. remained the same

END OF PAPER

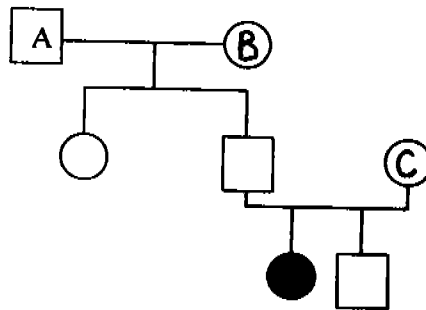
Methodist Girls Primary School  
Primary 5 Science SA1 (2005)

*ExamSaver*

**Answer Sheets**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	2	4	3	4	3	2	2	4	2
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	3	1	4	4	4	3	4	4	1
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	2	3	3	2	1	2	3	2	3

- 31a. Part B does not increase in weight.  
 31b. Food in the seed leaves is used up by the seedling.
- 32a. Part C will develop into a fruit after fertilization.  
 32b. Part B produces pollen.  
 32c. Part A is sticky because the pollen grains need to stick to part A so that the nucleus of the pollen grain can fuse with the egg.



33a.

- 33b. 'B' is Miss Xu's grandmother  
 33c. Miss Xu's father has no sibling.  
 33d. 'C' is Miss Xu's mother.

- 34a. The chilli is classified as a fruit because it is dispersed by men and animals and grows from a flower.
- 34b. A yam reproduces by underground stem.  
 34c. An underground stem supports the plant.  
 34d. mango  
 chilli (tomato)

35a. Vessels A and B.

35b. Vessels D and B.

36a. Yolk

Placenta

36b. The shell

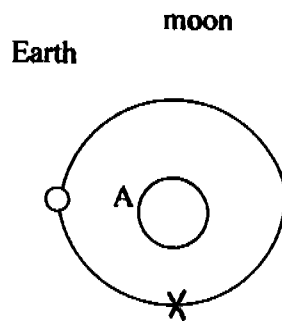
36c. Both organisms need two parents, the male and the female to produce a baby.

37a. Sun



37b.

37c.



37d.

38.

Hydrilla

Liver cell

Yeast Cell

Onion bulb cell

39a. Both cells have a cytoplasm, cell membrane, and nucleus.

39b. Cell Y. Cell Y do not have chloroplasts that contains a green pigment called chlorophyll to make food in the presence of sunlight.

39c. Float in water/move/swim.

40. A  
D  
C

41. vapour surrounding air  
cool condensed  
outer  
B

42a. The candle flame went out because the oxygen in the beakers was all used up for burning.

42b. The water level rose.

42c. Remained the same.