RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT (1) 2008

Name : _____ Index No: ___ Class: P 5__

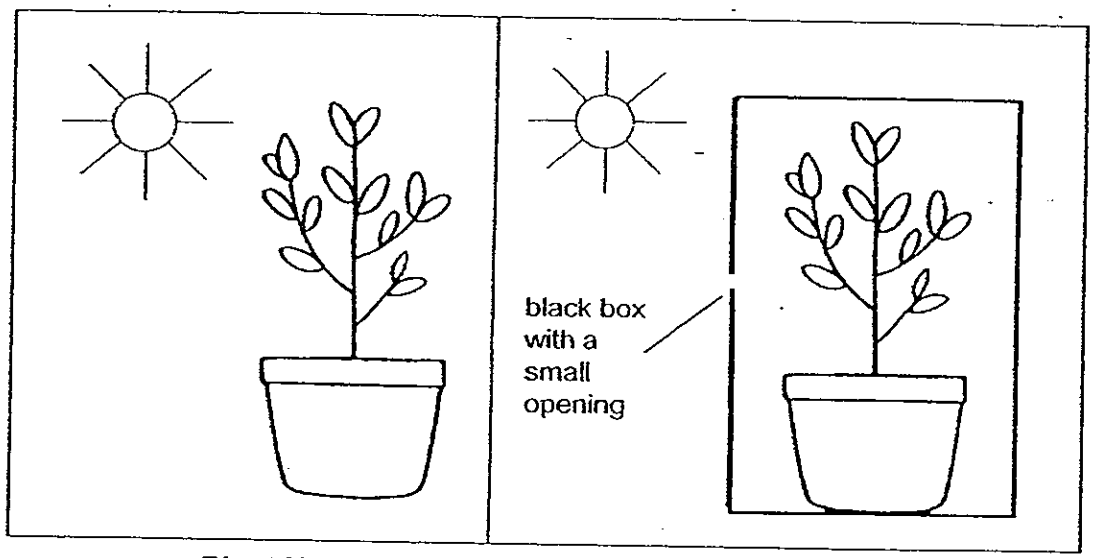
7th May 2008 **SCIENCE** Att: 1 h 45 min

Your score out of 100 marks	100	
	Class	Level
Highest score		
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 on the Optical Answer Sheet (OAS) provided.

1. Nurul conducted the following experiment using 2 similar potted plants, X and Y, placed in an open field for a few days.



Plant X **Plant Y**

What would Nurul observe of Plants X and Y after a few days?

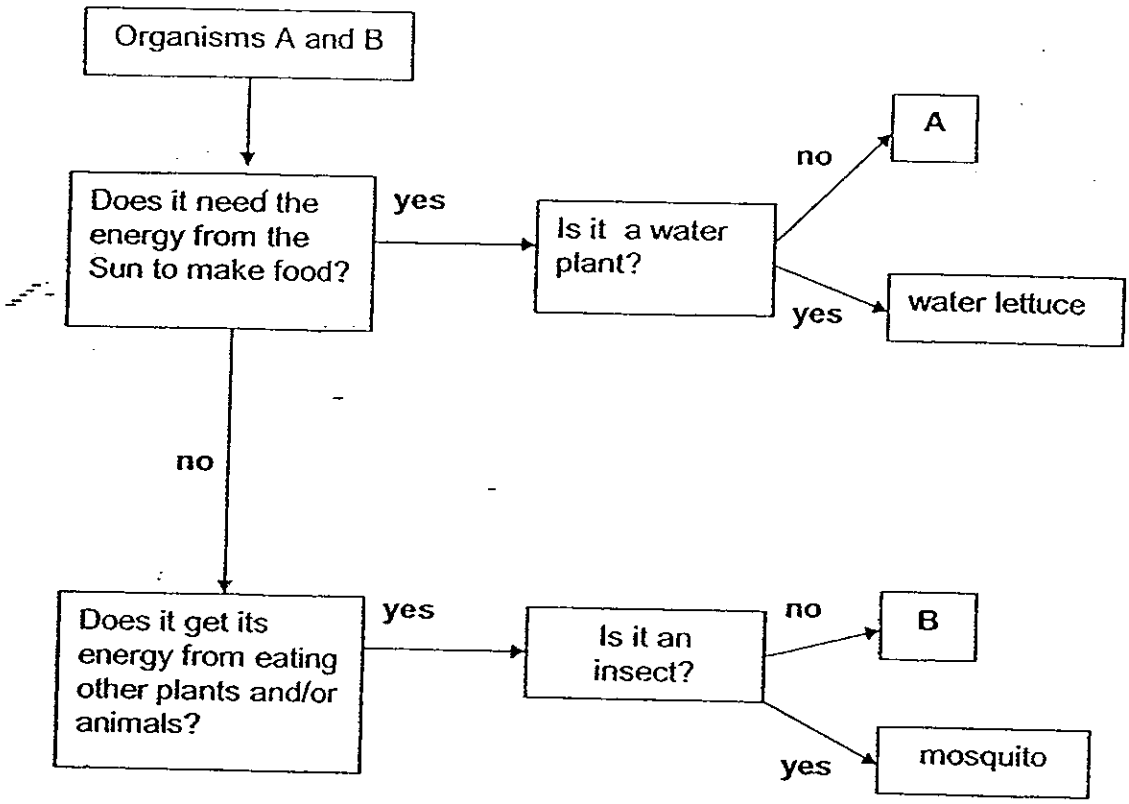
(1) Both Plants X and Y stopped growing.

(2) Both Plants X and Y continued to grow upwards.

(3) Plant Y withered and died while Plant X continued to grow upwards.

(4) Plant Y bent towards the opening of the box while Plant X continued to grow upwards.

2. The diagram below shows how some living things are differentiated.



Which one of the following identifies correctly organisms A and B?

	A	B
(1)	lotus	housefly
(2)	water lily	earthworm
(3)	rose plant	bee
(4)	balsam plant	spider

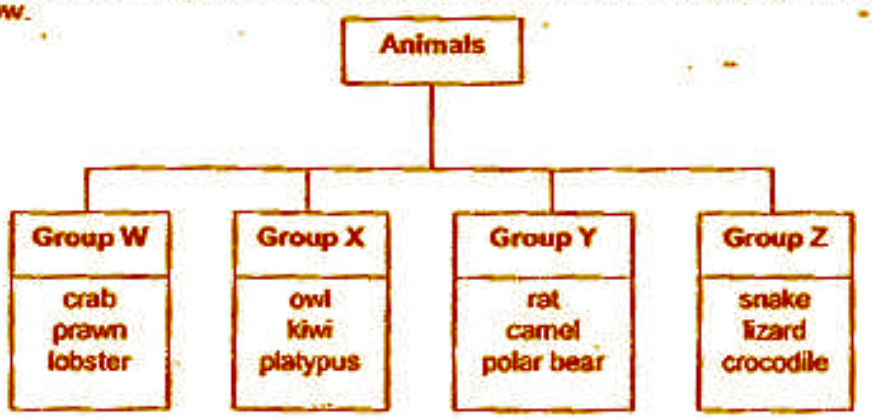
3. Some animals are classified according to Groups P, Q and R as shown in the table below.

Animals		
P	Q	R
eel	emu	walrus
stingray	mynah	dolphin
seahorse	vulture	whale

Which one of the following groups of animals correctly represents P, Q and R?

	P	Q	R
(1)	mammal	bird	fish
(2)	insect	mammal	fish
(3)	fish	bird	mammal
(4)	insect	mammal	bird

4. Some animals are placed into different groups, W, X, Y and Z, as shown below.



The animals above are classified according to the type of outer covering which they have.

Which one of the following animals has been INCORRECTLY grouped?

(1) rat (2) kiwi

(3) camel (4) platypus

5. Which of the following show the similarity between a fern and a fungus?

A Both bear fruits.

B Both make their own food.

C Both reproduce by spores.

D Both have stems and roots.

E Both do not produce flowers.

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

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

6. Four pupils made observations of four different organisms, W, X, Y and Z.

Siti: W is a single-celled organism which does not contain chloroplasts.

Bala: X is a single-celled organism which reproduces by budding.

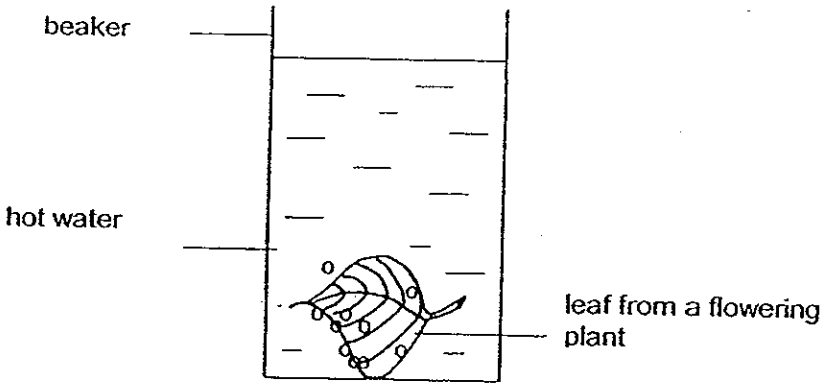
Anne: Y is a multi-celled organism which has chloroplasts.

John: Z is a multi-celled organism which does not have chloroplasts.

Based on the information above, which one of the following sets of organisms matches correctly what the four pupils have described about W, X, Y and Z?

	W	X	Y	Z
(1)	paramecium	yeast	fern	moss
(2)	yeast	paramecium	algae	hydrilla
(3)	paramecium	yeast	cactus	mould
(4)	bacteria	yeast	mould	toadstool

7. Denise plucked a leaf from a flowering plant and placed it in a beaker of hot water as shown in the diagram below.



After some time, Denise observed that bubbles appear on the lower surface of the leaf.

Which one of the following statements explains Denise's observation?

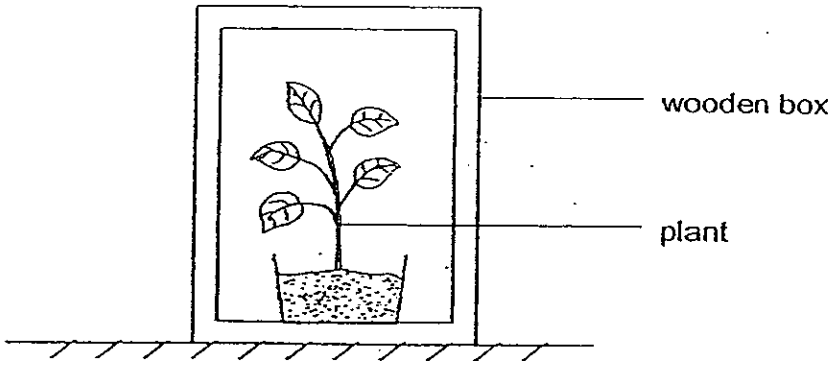
(1) Air in the hot water expanded and escaped to the surrounding.

(2) Air in the hot water caused the bubbles to appear in the water.

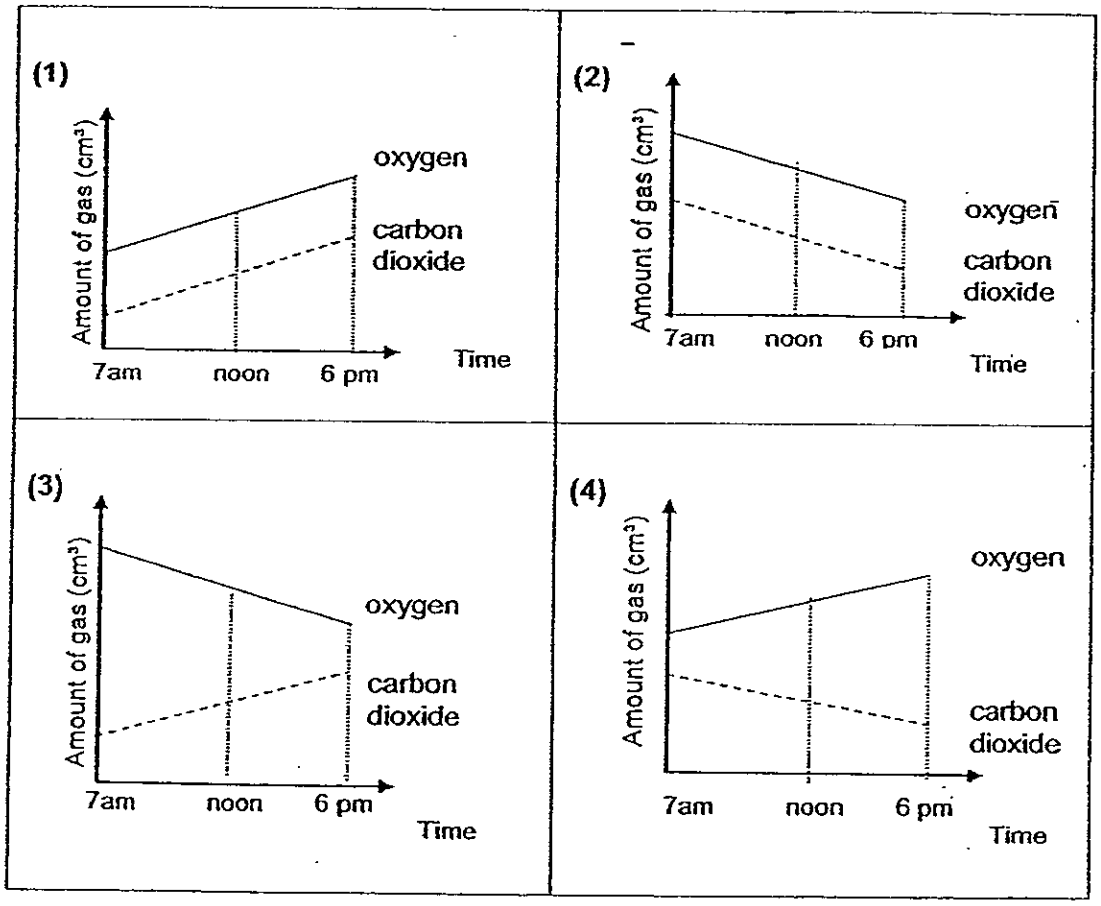
(3) Air escaped through the stomata on the lower surface of the leaf.

(4) Air entered through the upper surface of the leaf and escaped through the lower surface of the leaf.

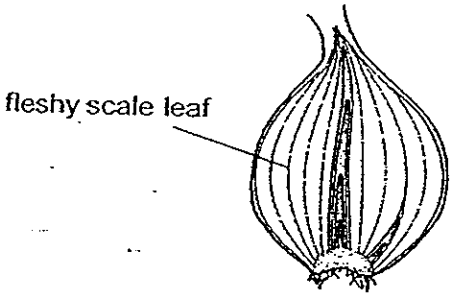
8. A potted plant with sufficient amount of water was placed in an air-tight wooden box as shown below.

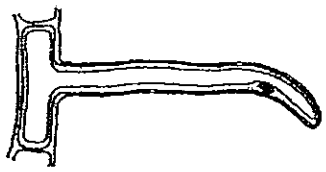


Which one of the following graphs shows the correct amount of oxygen and carbon dioxide present in the box during the day?



9. The diagrams below show parts of an onion and a root cell of a plant respectively.



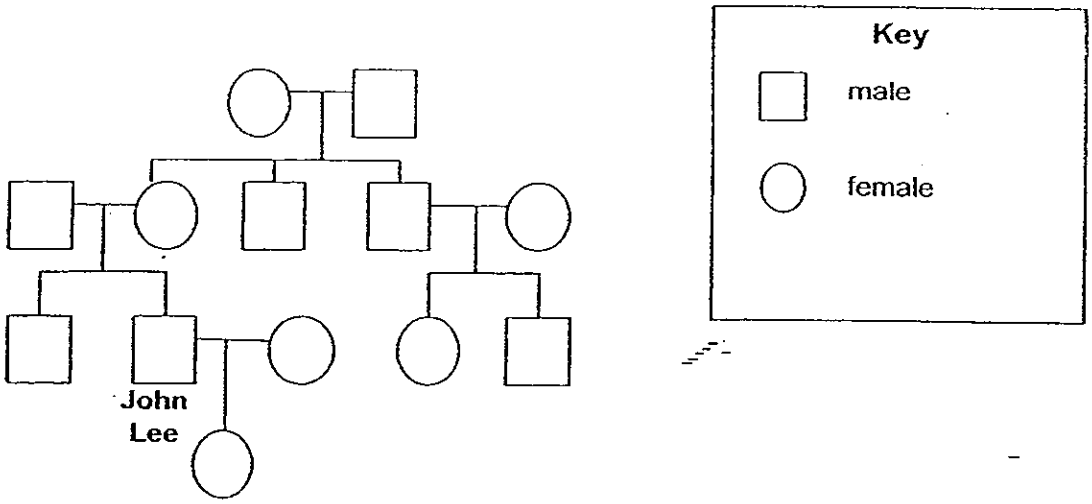


root cell of a plant

Which one of the following shows a correct comparison between a cell from the fleshy leaf of an onion and the root cell of a plant?

	fleshy scale leaf of an onion	root cell of a plant
(1)	has a cell wall	does not have a cell wall
(2)	has a cell membrane	has a cell membrane
(3)	has chloroplasts	has chloroplasts
(4)	does not have a nucleus	has a nucleus

10. The diagram below shows John Lee's family tree.



Which one of the following **CANNOT** be obtained from John Lee's family tree?

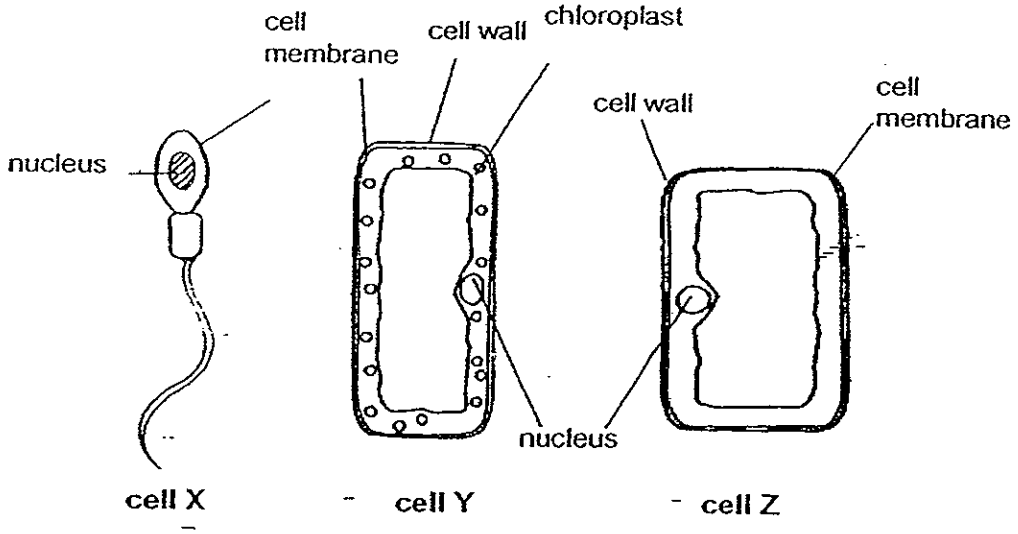
(1) The number of uncles John has

(2) The number of children John has

(3) The number of brothers John's mother has

(4) The number of brothers John's grandfather has

11. A group of pupils observed the following cells, X, Y and Z, as shown below.



The group of pupils made the following statements about these cells:

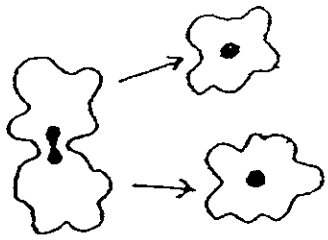
Natash:	Cell X is a type of animal cell because it can move.
Emma:	Cell Z is **NOT** an animal cell because it has a cell membrane.
Tatum:	Cell X is an animal cell because it has **NO** cell wall.
Joell :	Cells X and Z are animal cells because they have **NO** chloroplasts.

Based on the information above, which one of the following pupils has made the correct statement?

(1) Natash (2) Emma

(3) Tatum (4) Joell

12. The diagram below shows an organism reproducing by cell division.



How many of such organisms will there be after the fifth division if there is only one at the beginning of the process?

(1) 10

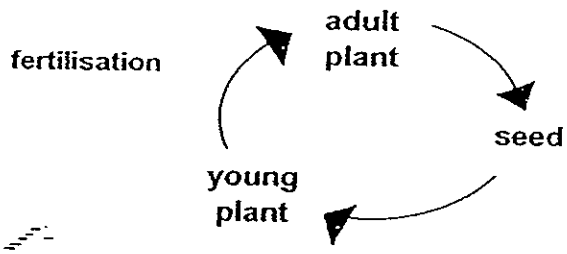
(2) 16

(3) 32

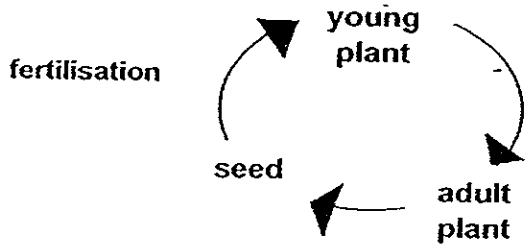
(4) 62

13. Which one of the following diagrams shows correctly the stages involved in the life cycle of a fruit tree?

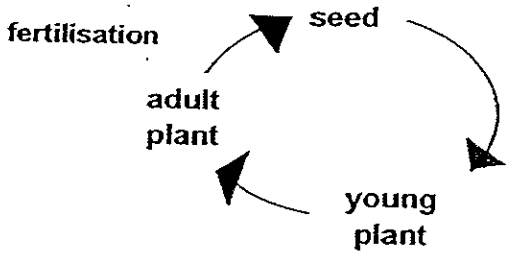
(1)



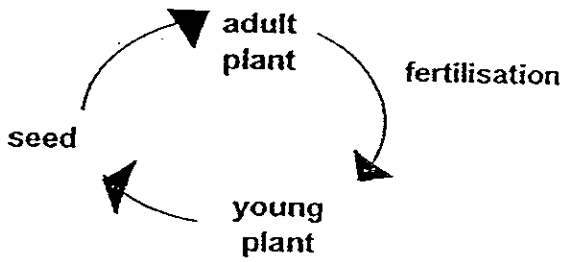
(2)



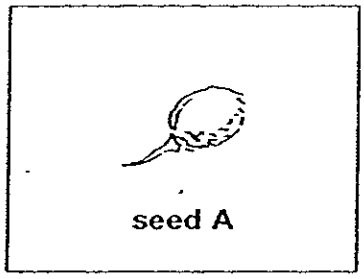
(3)

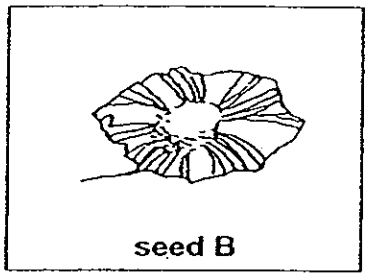


(4)



14. Nicole carried out an experiment with 2 identical angsana seeds. She removed the wing-like structure of seed A but **NOT** seed B.





She dropped both seeds from a height of 5 m at the same time. She observed and recorded the time taken for the seeds to reach the ground.

What was the purpose of Nicole's experiment?

She wanted to find out if the wing-like structure of the angsana seed _____.

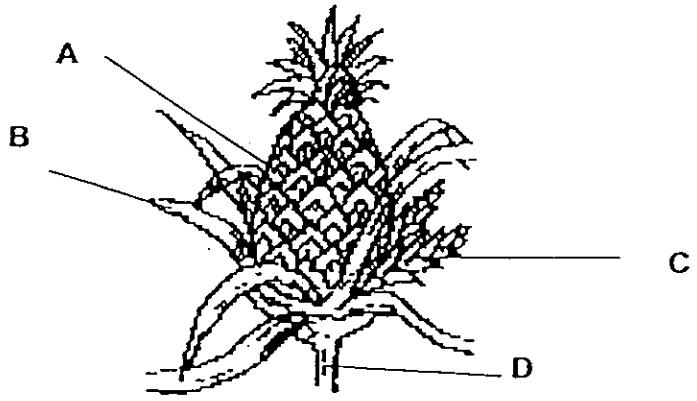
(1) affects the rate of germination of the seed

(2) is needed to prevent the seed from being damaged

(3) enables the seed to stay in the air for a longer period of time

(4) affects the distance the seed is dispersed from its parent plant

15. The picture below shows parts of a pineapple plant.



Which part of the pineapple plant will grow into a new plant?

(1) A (2) B

(3) C (4) D

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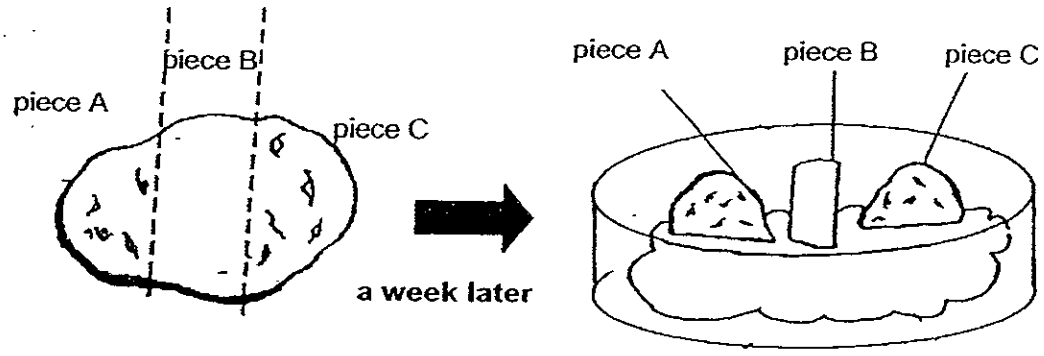
16. Mr Cheng wanted to grow some potato plants. He cut a potato into three pieces, A, B and C, and placed them in a large dish for a week as shown below.



Which one of the following shows correctly what Mr Cheng would observe of the potato pieces A, B and C a week later?

(1) Shoots would grow from piece A only.

(2) Shoots would grow from piece B only.

(3) Shoots would grow from pieces A and C only.

(4) Shoots would grow from all pieces A, B and C.

17. Which of the following properties make plastics a suitable material for water bottles?

A It is light.

B It is durable.

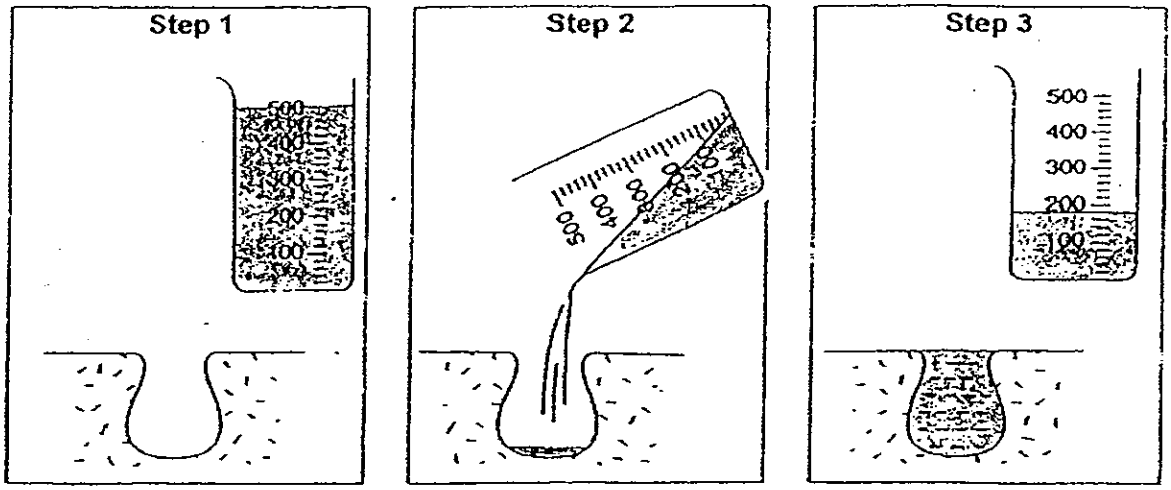
C It conducts heat well.

D It allows most light to pass through.

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

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

18. Water was used to measure the volume of a hole as shown in the diagrams below.



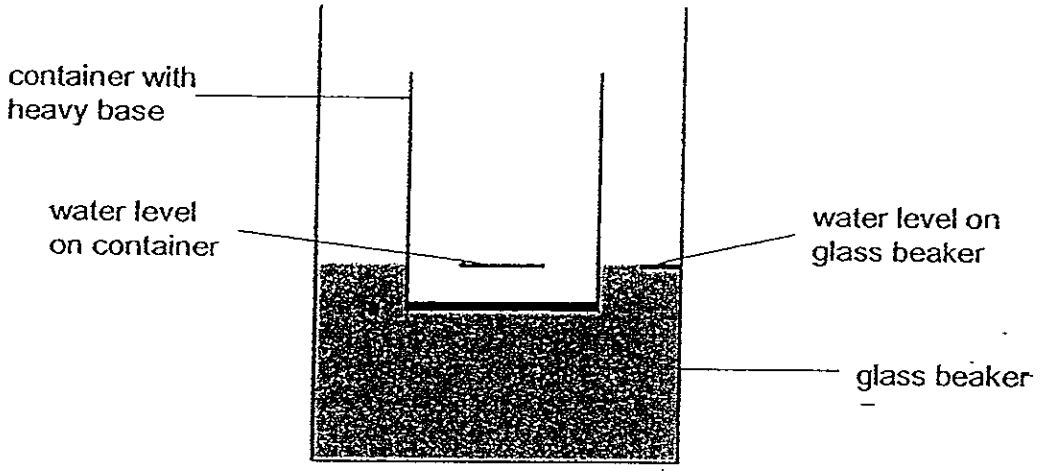
Based on the information above, what was the volume of the hole?

(1) 180 mℓ (2) 220 mℓ

(3) 280 mℓ (4) 320 mℓ

19. Ravi poured some water into a glass beaker. He placed an empty container with a heavy base into the glass beaker.

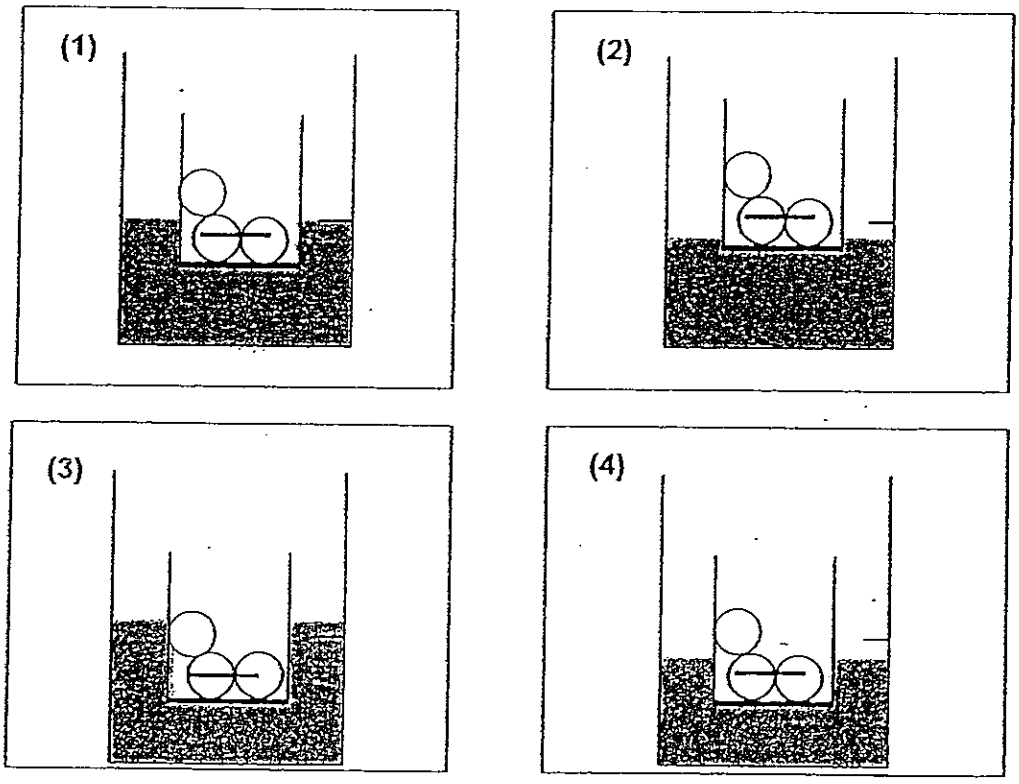
He then marked the water level observed on the side of the container and the glass beaker as shown in the diagram below.



at the beginning of the experiment

Ravi added several marbles into the container.

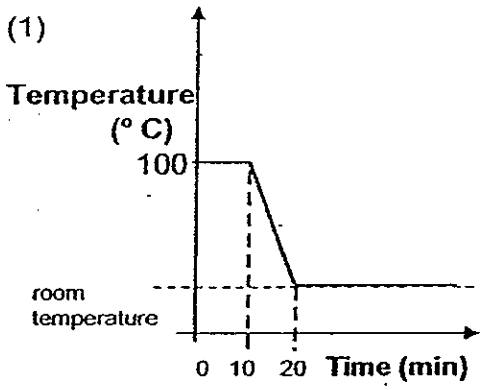
Based on the information above, which one of the following diagrams shows correctly the new water level compared with the initial markings on the container and the glass beaker?



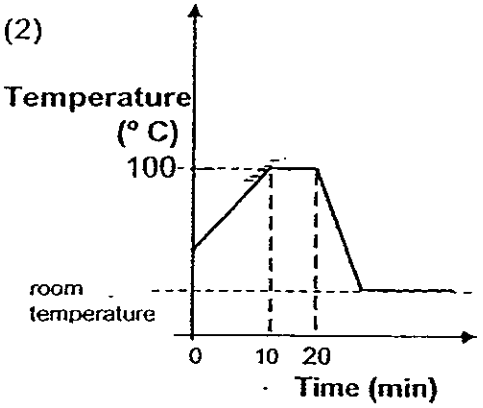
20. A beaker of water at room temperature was heated until it boiled for 10 minutes. It was left to cool until it reached room temperature.

Which one of the following graphs (**NOT** drawn to scale) shows correctly the change in the temperature of the beaker of water?

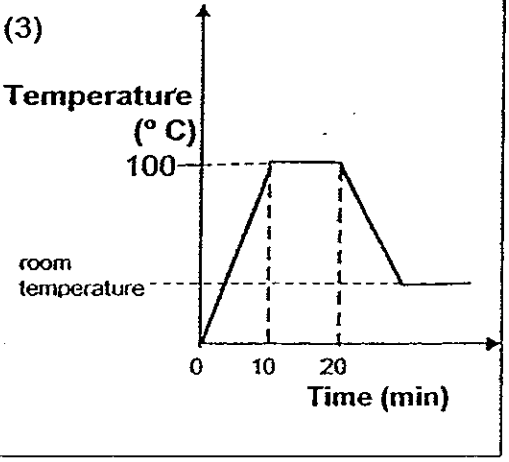
(1)



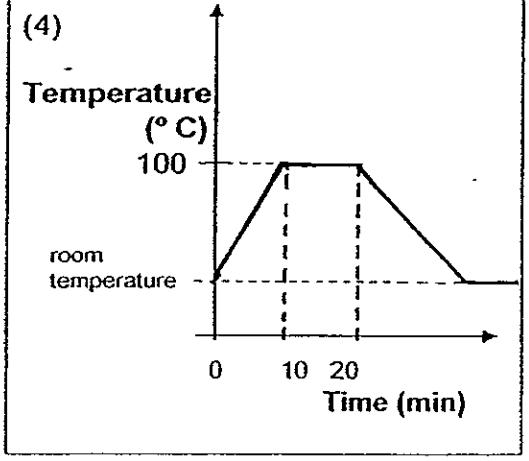
(2)



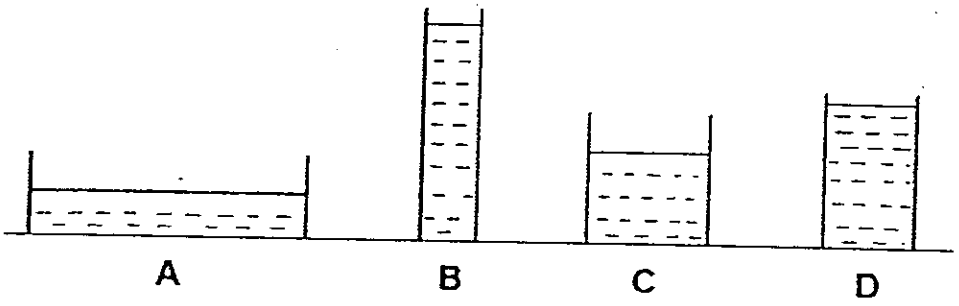
(3)



(4)



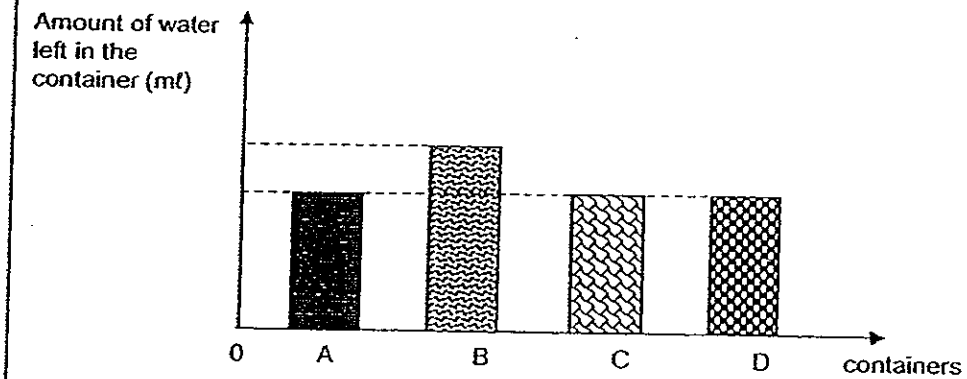
21. Nori poured 500 $m\ell$ of tap water into each container, A, B, C and D, as shown in the diagrams below.



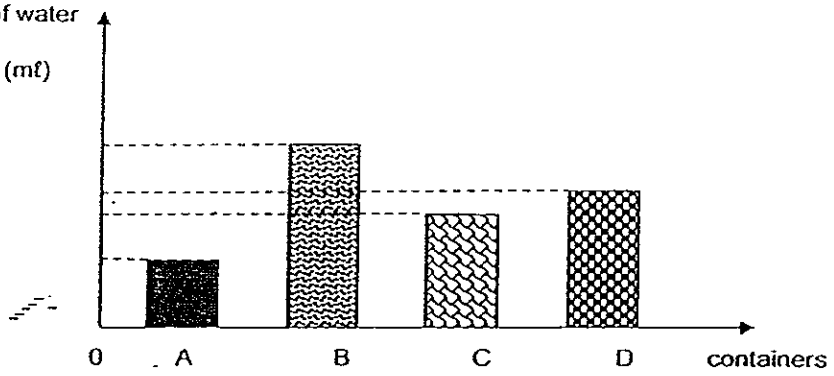
Each of these containers was placed under a moving fan for a day. At the end of the day, Nori measured the amount of water left in each container.

Based on the information above, which one of the following graphs shows correctly her results?

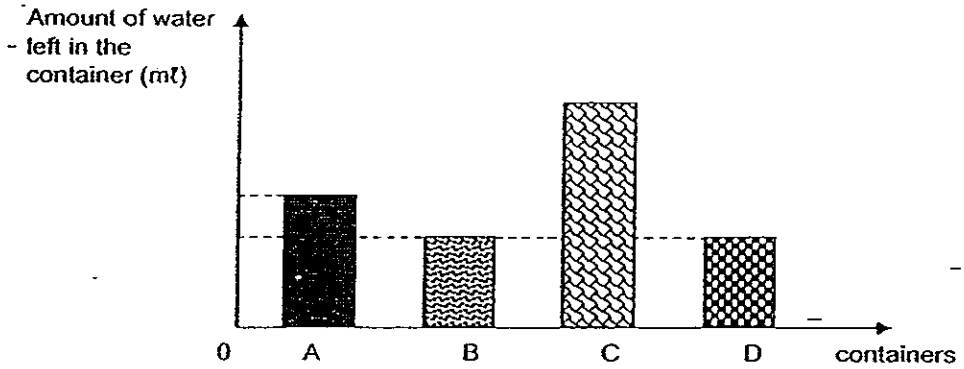
(1)



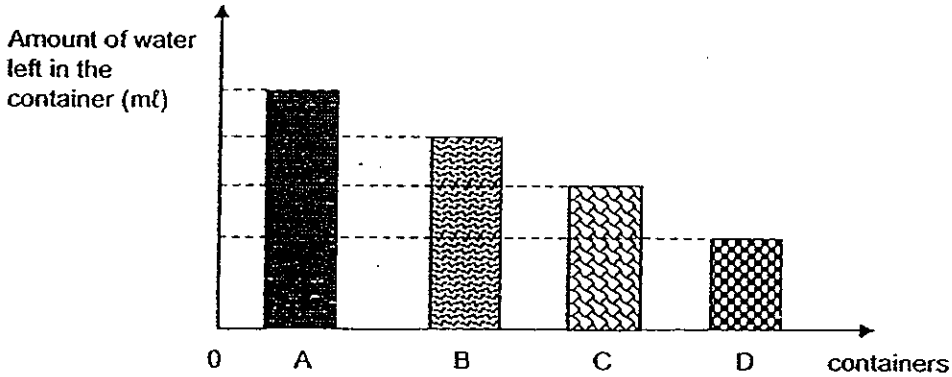
(2)


Amount of water left in the container (mℓ)
0
A
B
C
D
containers

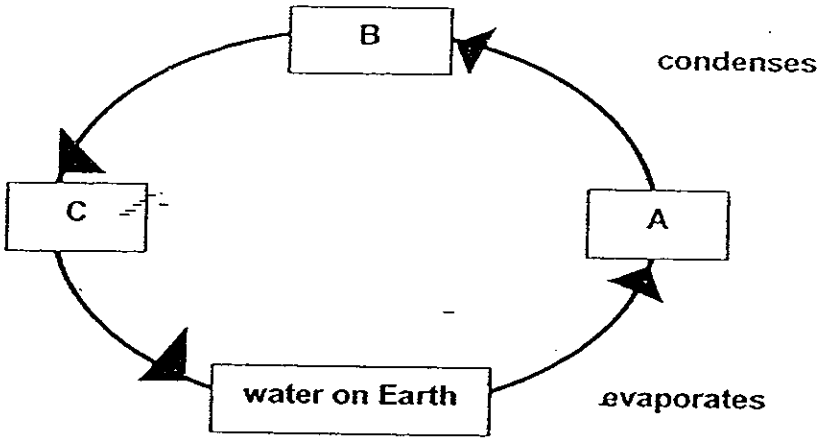
(3)


Amount of water left in the container (mℓ)
0
A
B
C
D
containers

(4)


Amount of water left in the container (mℓ)
0
A
B
C
D
containers

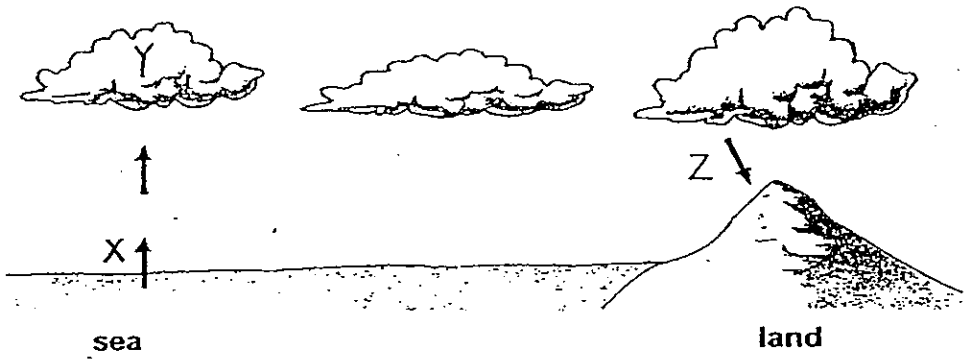
22. The diagram below shows the water cycle.



Based on the diagram above, which one of the following matches correctly what A, B and C stand for?

	A	B	C
(1)	snow	clouds	water vapour
(2)	clouds	water vapour	snow
(3)	water vapour	snow	clouds
(4)	water vapour	clouds	snow

23. X, Y and Z are the processes involved in the water cycle as shown below.



Which of the following statements about the water cycle shown above are correct?

A Heat is lost during process X.

B Heat is gained during process Y.

C Process X can occur at all temperatures.

D Water exists as a liquid during process Y .

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

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

24. Which of the following situations cause water pollution?

A spilling of oil by ships

B soil seeping into the rivers

C removing salt from the seawater

D discharging chemicals into the sea

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

25. The following statements are made by a group of pupils:

Ai Leng : The Sun and the Moon are of the same size.

Bee Hua : The Sun is bigger than the Moon.

Shu Mei : The Moon is bigger than the Sun.

John : The Moon revolves round the Earth.

Han Sheng : The Sun is further from the Earth. The Moon is nearer to the Earth.

Which of these pupils made the correct statements about the Sun, Earth and Moon?

(1) Ai Leng and John only

(2) Shu Mei and Han Sheng only

(3) Ai Leng, John and Han Sheng only

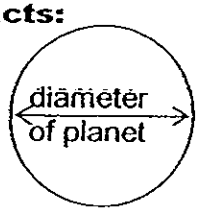
(4) Bee Hua, John and Han Sheng only

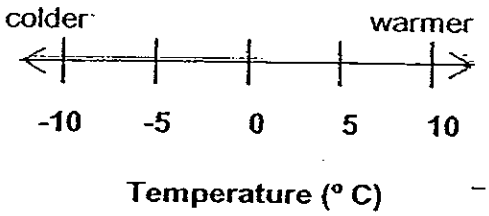
26. The table below shows some facts of some planets in the Solar System.

Planets of the Solar System	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
diameter of the planet (km)	4879	12104	12756	6794	142984	120536	51118	49528
its distance from the Sun (km)	57.9	108.2	149.6	227.9	778.6	1433.5	2872.5	4495.1
its mean surface temperature (° C)	167	464	15	- 65	-110	-140	-195	- 200

Adapted from: http://nssdc.gsfc.nasa.gov/planetary/factsheet/index.html

Some Facts:





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

A Earth is smaller than Mars.

B Neptune is larger than Mercury.

C Uranus has a higher surface temperature than Mercury.

D The surface temperature of Venus is the highest among all the planets.

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

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

27. Which of the following situations involve both a push and a pull?

A mopping the floor

B raising the school flag

C pressing the doorbell

D unscrewing a bottle cap with both hands

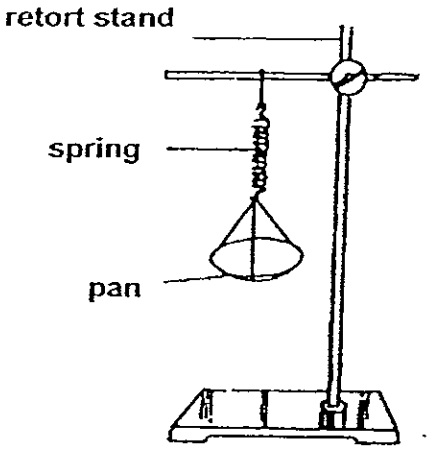
(1) A and D only

(2) B and C only

(3) C and D only

(4) A, C and D only

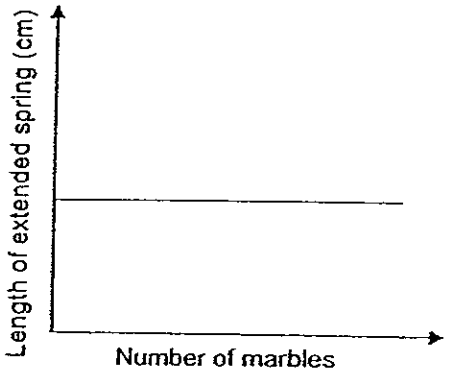
28. Mary set up an experiment using the apparatus as shown below.



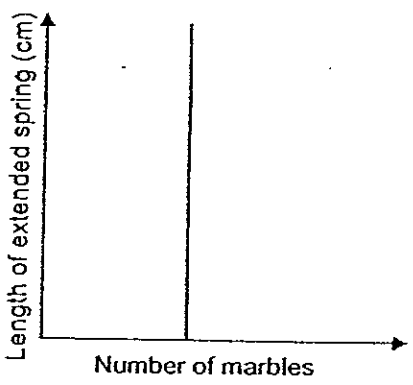
Mary measured the length of the extended spring each time she placed a different number of marbles in the pan.

Which one of the graphs below shows the relationship between the length of the extended spring and the mass of the marbles?

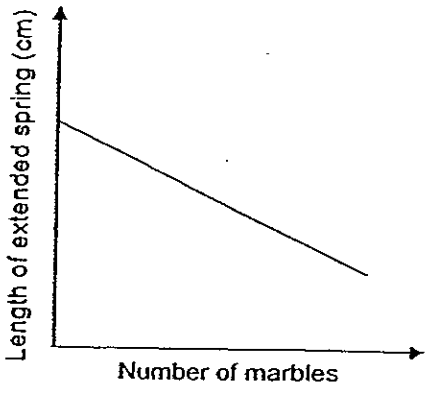
(1)



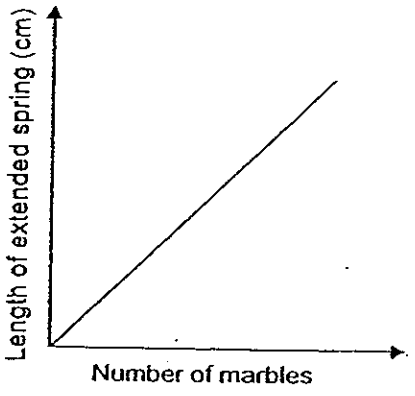
(2)



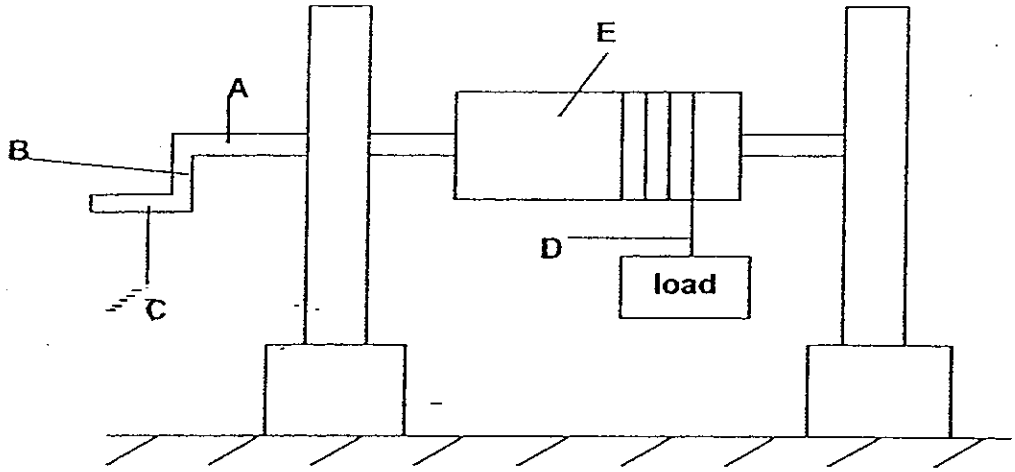
(3)



(4)



29. The diagram below shows a simple windlass with some of its parts, A, B, C, D and E.



What changes must be made to the windlass such that less effort is needed to lift the load?

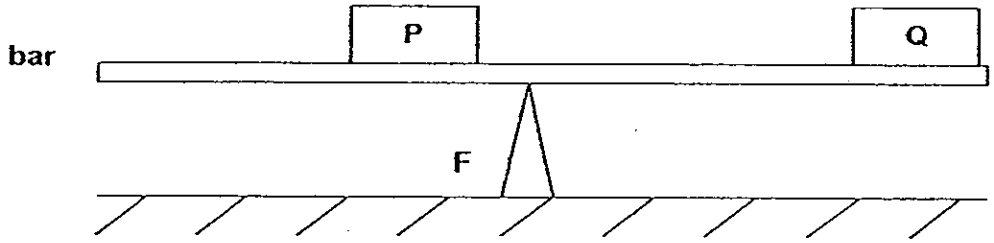
(1) Make A longer and E thicker

(2) Make B longer and E thinner

(3) Make C longer and E thicker

(4) Make C longer and D shorter

30. A lever with its fulcrum, F, pivoted at the centre of a bar is balanced by different objects, P and Q, as shown in the diagram below.



Which of the following statements about the objects is/are likely to be **true**?

A P is heavier than Q.

B Q is further from F than P.

C P has the same mass as Q.

D P alone will make the lever tilt anti-clockwise while Q alone will make it tilt clockwise.

(1) A only

(2) A and B only

(3) A, B and D only

(4) B, C and D only

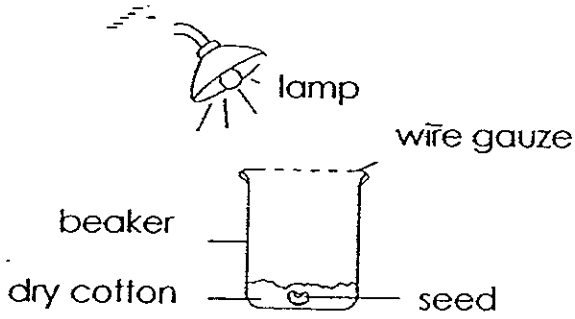
Name : _____ Index No : _____ Class : P5 ___

40

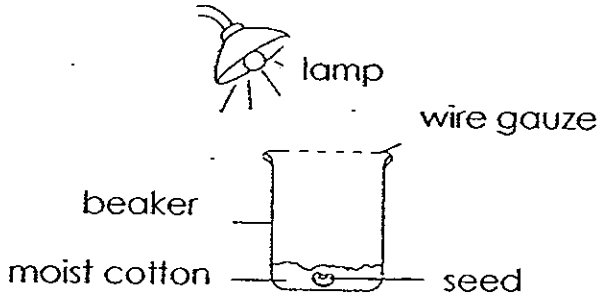
SECTION B (40 marks)

For questions 31 to 47, 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.

31. Wei Ling conducted an experiment using Set-ups A and B as shown below.



Set-up A



Set-up B

After a few days, she noticed that one of the seeds had developed its roots and shoot while the other seed remained undeveloped.

(a) In which set-up, A or B, had the seed developed its roots and shoot? Explain your answer. [2]

_____

_____

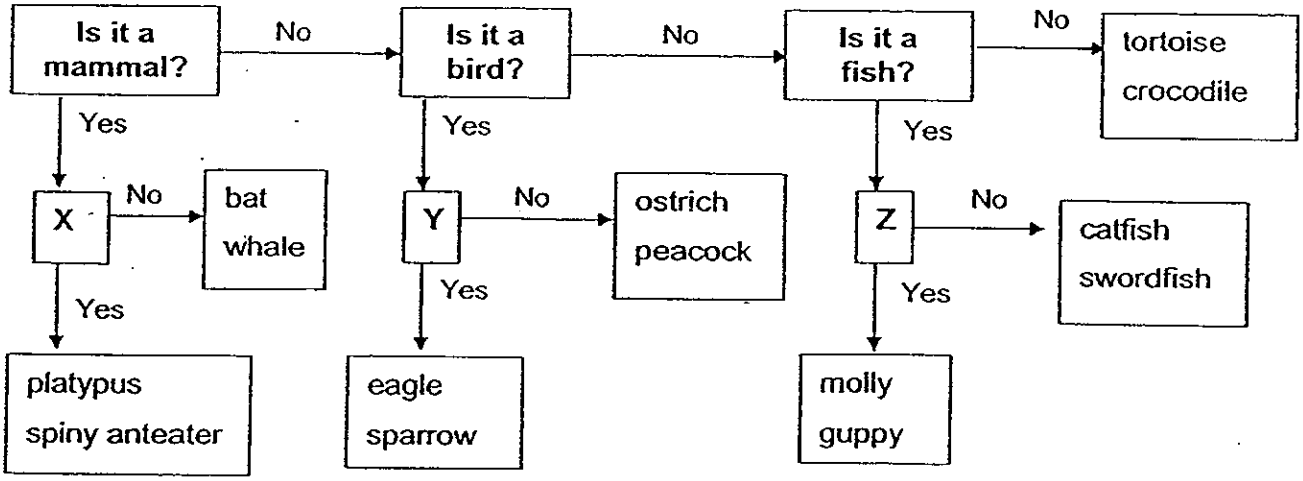
_____

(b) State the aim of Wei Ling's experiment. [1]

_____

_____

32. The diagram below shows how some animals are differentiated.



X, Y and Z each represents a **different question** that helps to classify the animals.

Write the correct letter X, Y or Z in the appropriate boxes below to indicate which question each represents.

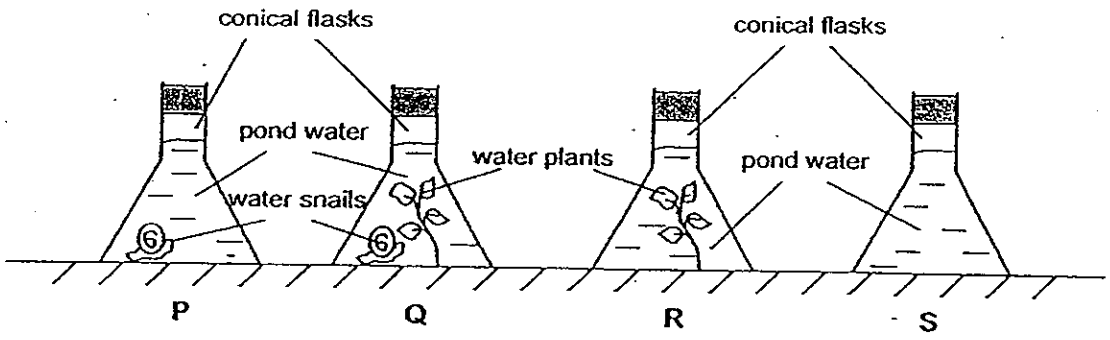
Each letter can only be used **ONCE**. [3]

Question	Letter
Can it fly?	
Can it swim?	
Does it lay eggs?	
Does it have scales?	
Does it have feathers?	
Does it have three body parts?	
Does it give birth to its young alive?	

33. A shepherd took his flock of sheep to graze in a field everyday.

State how the sheep and grass are dependent on each other for survival. [2]

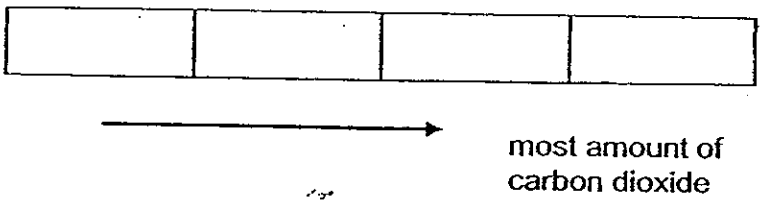
34. Alex filled each conical flask, P, Q, R and S, with an equal amount of water from his school pond. He sealed each conical flask and exposed them to light for a few hours.



Alex removed 10 mℓ of water from each flask and tested it for the carbon dioxide that had been dissolved in the water.

(a) Arrange the flask in order according to the amount of carbon dioxide that each has at the end of the experiment.

Write letters P, Q, R and S **ONLY.** [1]

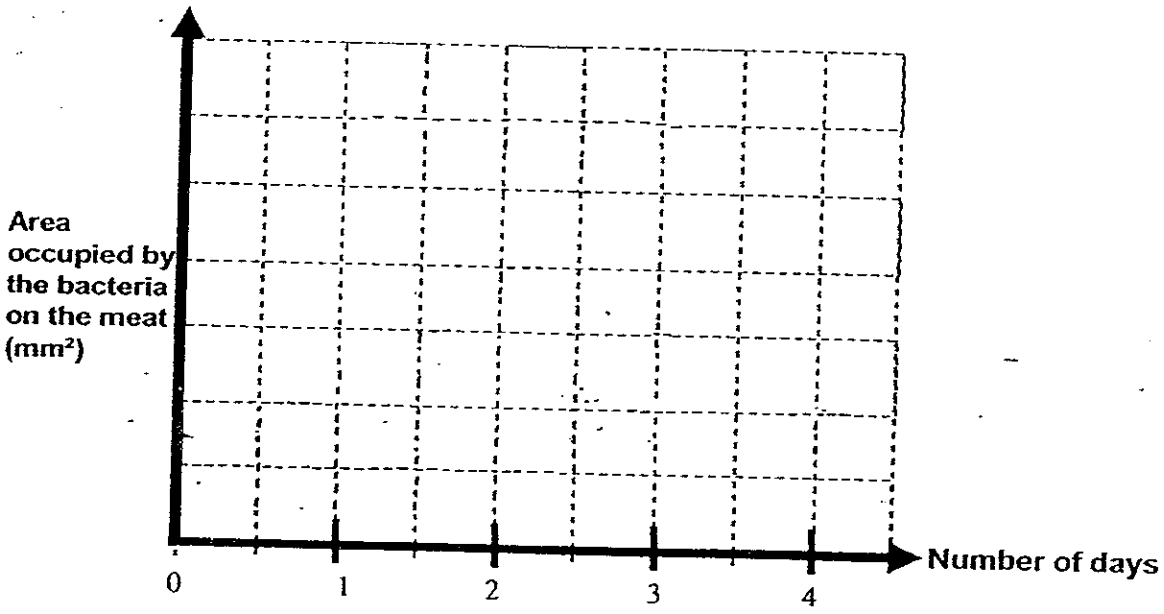


(b) Compare conical flasks, P and Q.

Explain why one flask would contain more carbon dioxide than the other. [1]

35. Beatrice had two similar pieces of meat. She placed one in the refrigerator and left the other piece on a table at room temperature.

She realised that the meat left on the table had gone bad after 36 hours, while the one in the refrigerator stayed fresh for the first 3 days of the experiment.

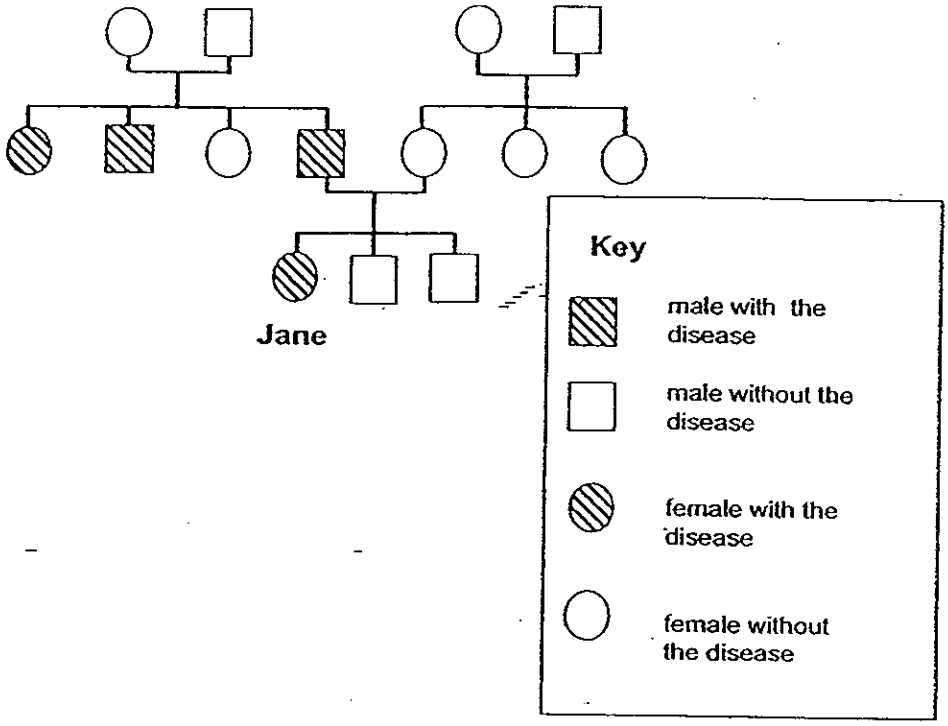


Based on the information above, answer the following questions:

(a) **DRAW** a line on the graph to show the possible rate of growth of the bacteria on the meat that was left in the refrigerator for the first two days. [1]

(b) Explain the effect that temperature has on the reproduction rate of the bacteria. [1]

36. The diagram below shows Jane's family tree.



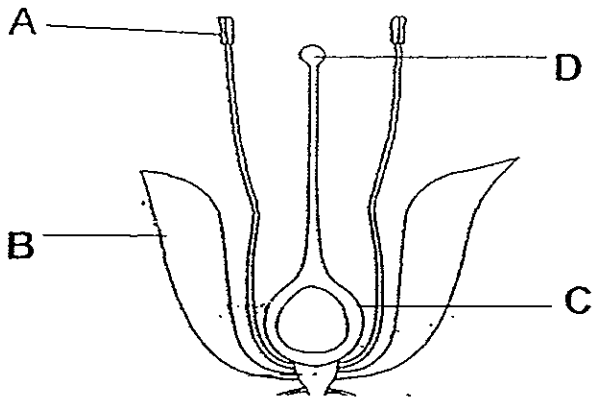
Based on the information above, answer the following questions:

(a) How many of Jane's uncles have the disease? [1]

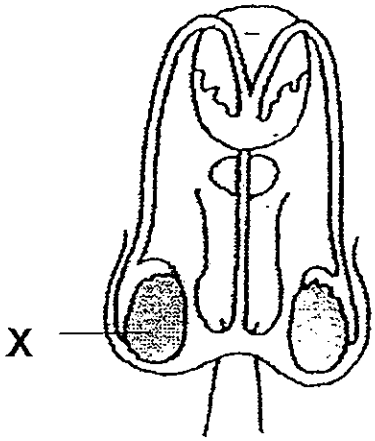
(b) Jane stated that if both parents had the disease, all the children would definitely inherit the disease.

Do you agree with Jane? Explain your answer. [1]

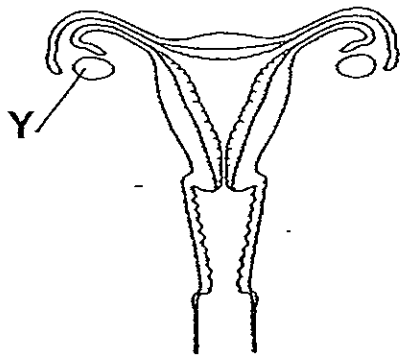
37. The diagrams below show parts of the reproductive system of a flower, of a man and of a woman.



parts of the reproductive system of a flower



parts of the reproductive system of a man



parts of the reproductive system of a woman

Based on the diagrams above, answer the following questions:

(a) Which part of the flower, A, B, C or D, has a similar function as X? [1]

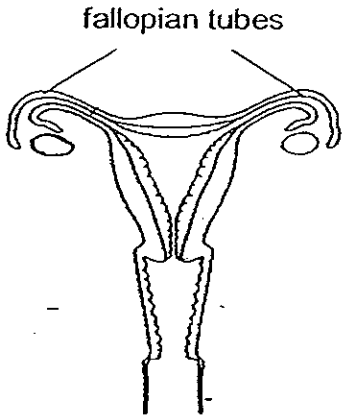
_____

(b) Which part of the flower, A, B, C and D, has similar function as Y? [1]

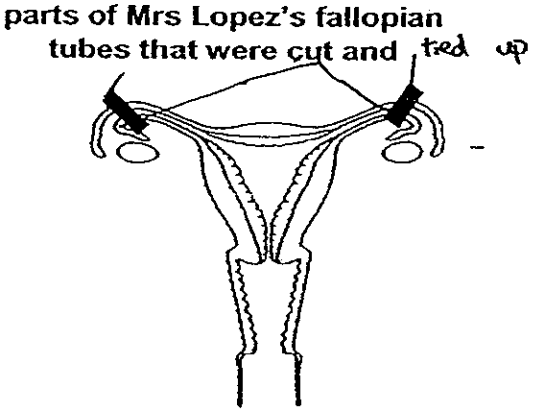
_____

38. The diagram below shows the reproductive system of a female human.

(a) **MARK** "X" on one of ovaries in the diagram below. [1]



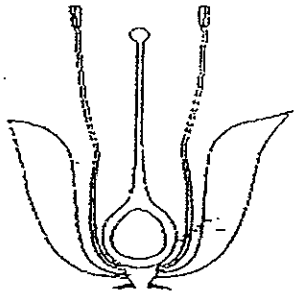
Mrs Lopez had her fallopian tubes cut and tied up as shown in the diagram below.



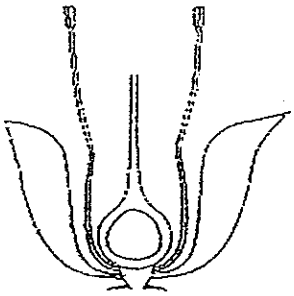
(b) Based on the diagram above, would Mrs Lopez be able to bear children?

Explain your answer. [1]

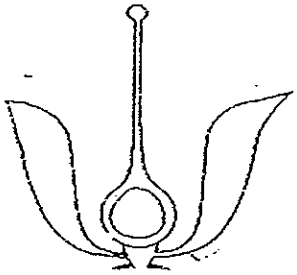
39. Sarah conducted an experiment using insect-pollinated flowers, A, B, C and D, growing on the same plant with some of their parts removed.



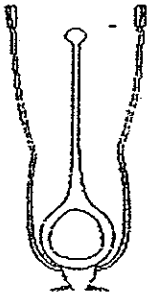
A



B



C



D

Based on the information above, answer the following question:

Which one of the flowers is **NOT** likely to develop into a fruit?

Explain your answer. [2]

40. John spotted a plant, as shown below, in a garden.

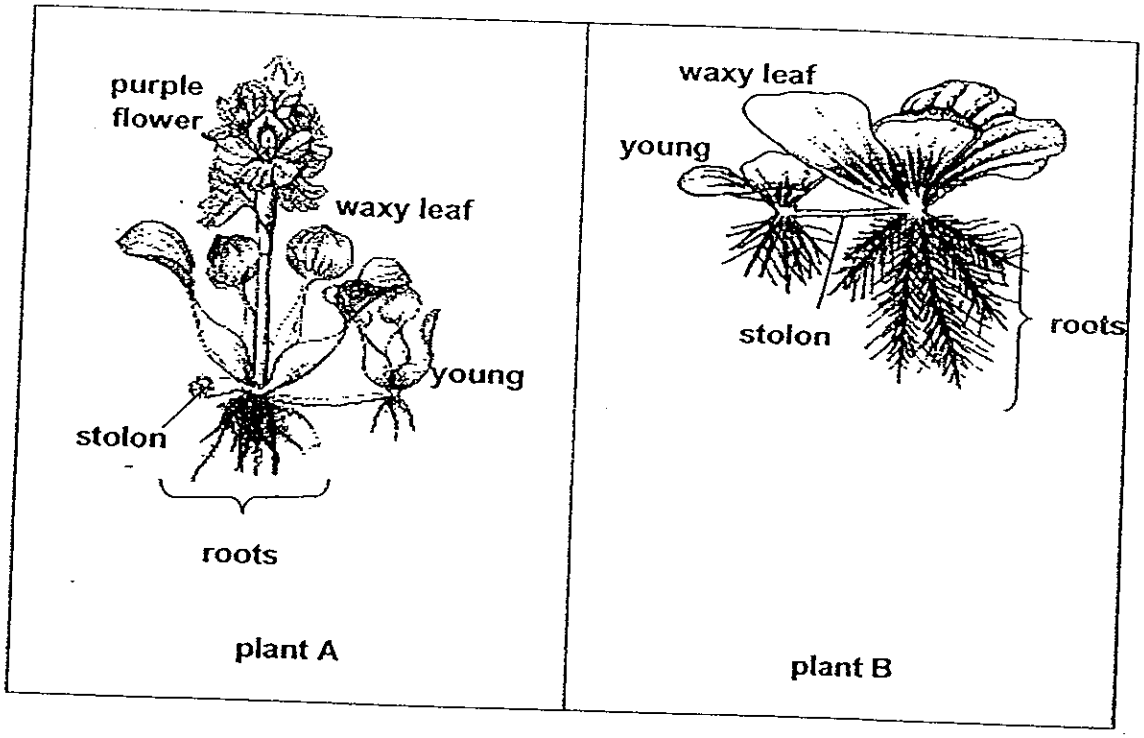
Based on the diagram above, answer the following questions:

(a) **MARK** "X" on the diagram above the young of the plant. [1]

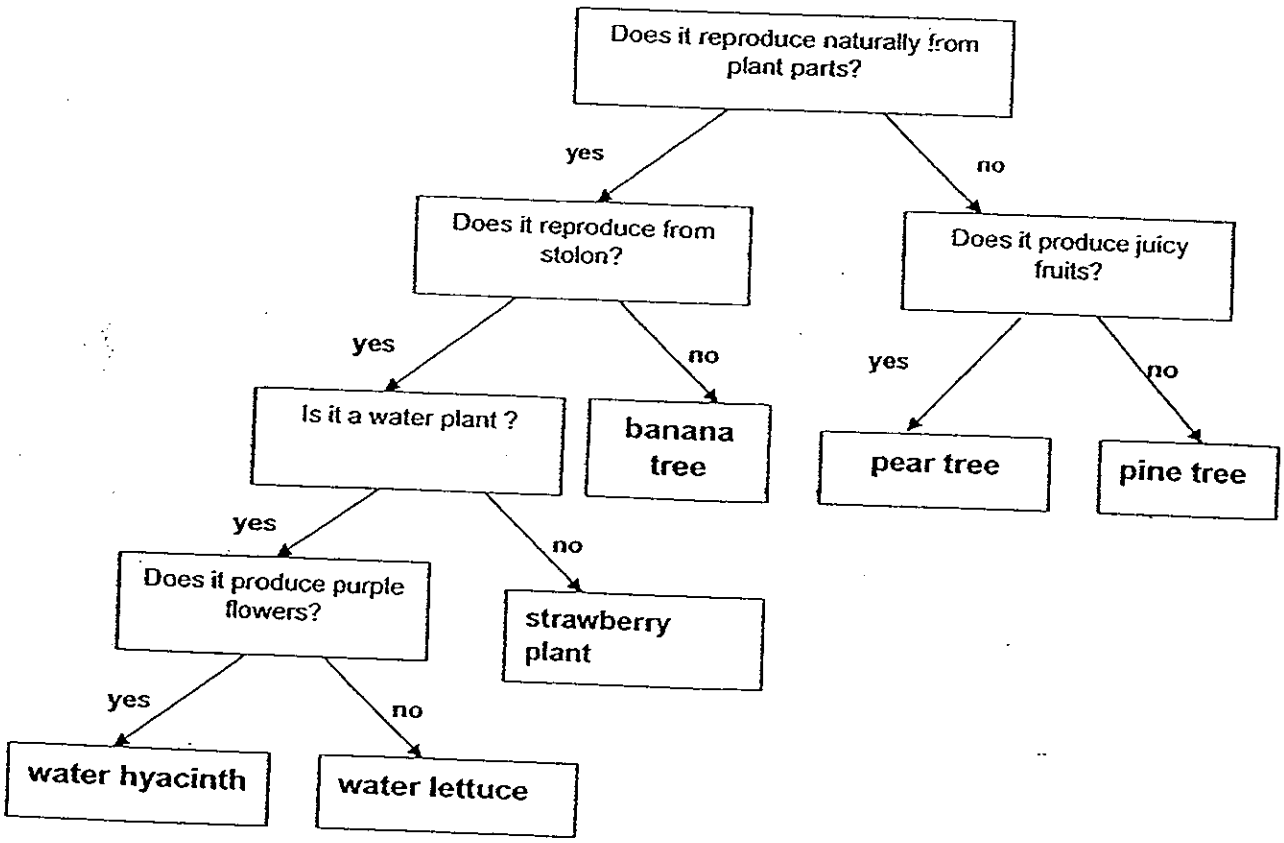
(b) Seeds are generally dispersed away from their parent plants to prevent competition and to enhance the chances of survival for the young.

Explain why the competition for nutrients and water is **NOT** an issue for the young of the plant in this case. [2]

41. Bala was given two different types of water plants, A and B, as shown below.



Bala used the following diagram to identify the water plants A and B.



Based on the given information on the previous page, answer the following questions:

(a) Name the water plants, A and B. [1]

A _____

B _____

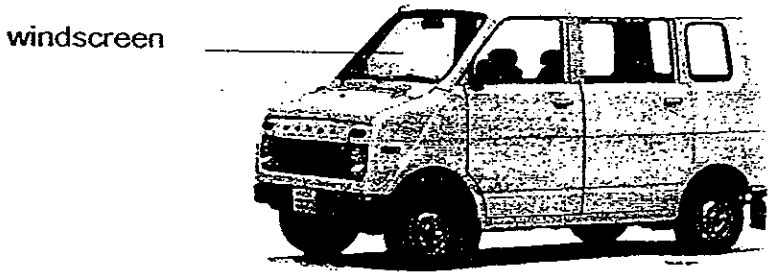
(b) State one similarity between water plants A and B. [1]

_____

_____

_____

42. Mr Tan drives a van as shown below.



(a) Name the material that is used to make the windscreen.

State a property of the material used. [2]

_____

_____

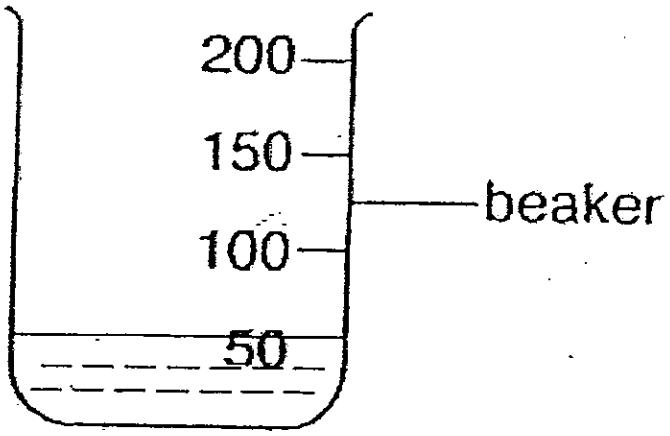
(b) Give a reason why the material in (a) is **NOT** suitable to make the tyres of the van. [1]

_____

_____

_____

43. Amanda had a beaker containing 50 mℓ of water as shown in the diagram below.



The total mass of the beaker and water is 75 g.

Amanda added **ANOTHER** 125 mℓ of water into the beaker and recorded the total mass of the beaker and its contents.

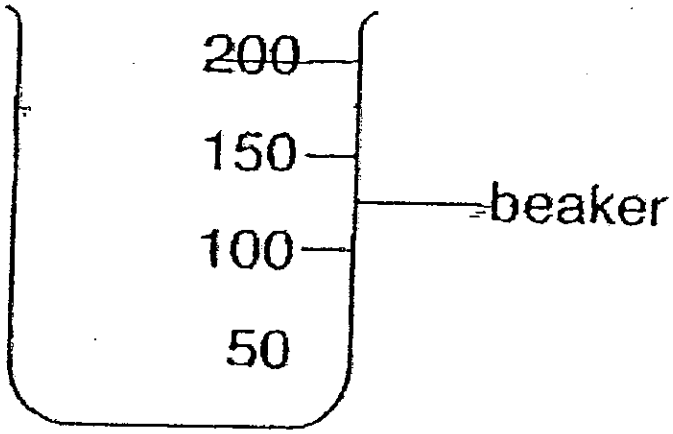
She recorded the mass of the content in the beaker before and after the water was added to the beaker in the table as shown below.

mass of beaker (g)	25.0
total mass of beaker with 50 mℓ of water (g)	75.0
total mass of beaker with ANOTHER 125 mℓ of water (g)	

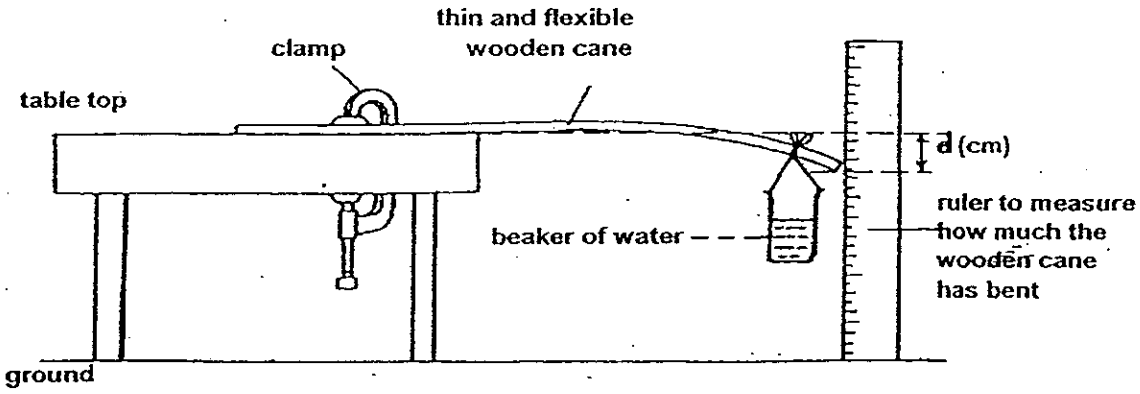
Based on the information above, answer the following questions:

(a) Complete the table provided above. [1]

(b) **DRAW** the new water level in the beaker after **ANOTHER** 125 mℓ of water was added to the contents in the beaker. [1]

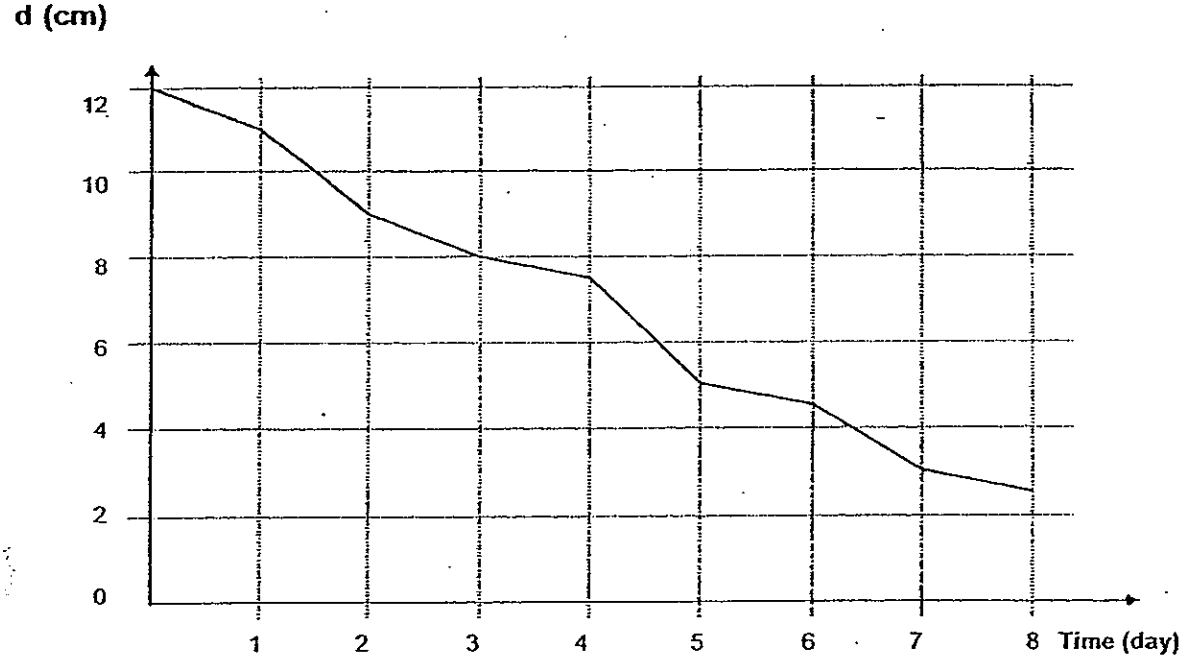


44. Ai Hua set up an experiment using the apparatus as shown below.



Ai Hua recorded the difference in the height between the table top and the end of the wooden cane, d (cm), for a period of time.

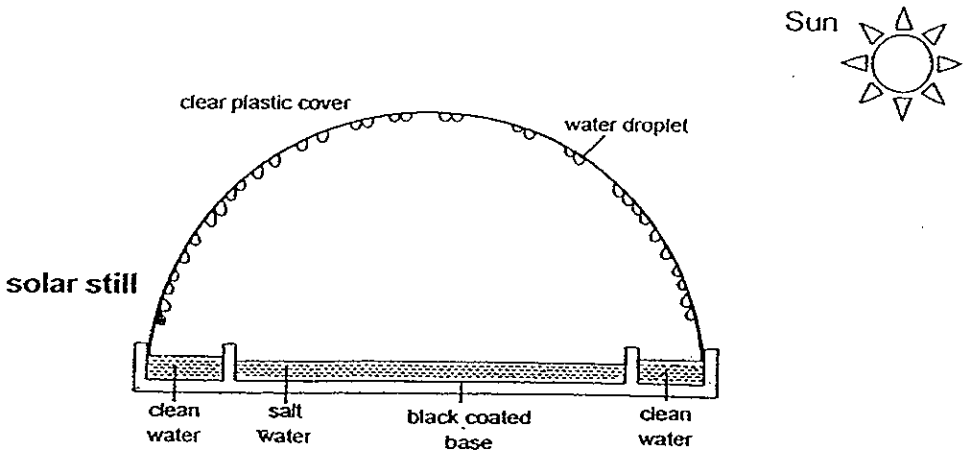
She plotted the following graph to show her results.



Based on the information above, what does the graph tell Ai Hua about the water in the beaker?

Explain your answer. [2]

45. The diagram shows a solar still which is used to get clean water from salt water.

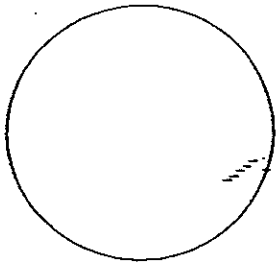


Based on the information given above, answer the following questions:

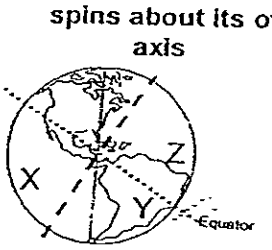
(a) Explain how clean water is obtained from salt water. [2]

(b) Explain how water is conserved in the following situation. [1]

46. The diagram below (**NOT** drawn to scale) shows the Sun and the Earth. X, Y and Z are found on different parts of the Earth.



the Sun



Based on the information above, answer the following questions:

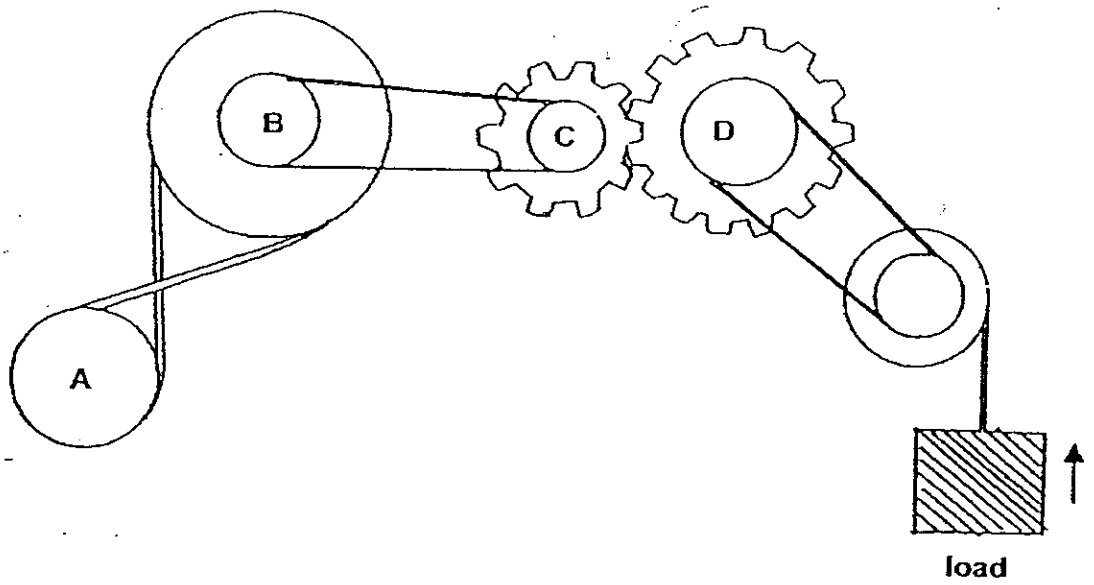
(a) Name the part(s) of the Earth which is/ are experiencing night now. [1]

_____

(b) How long does it take for the Earth to spin about its own axis? [1]

_____

47. A system of wheels and gears is set up to lift a load as shown by the arrow in the diagram below.



Based on the information above, answer the following questions:

(a) Which direction should wheel C rotate to move the load upwards? [1]

(b) Gear C has 10 teeth and Gear D has14 teeth.

How many turns will Gear C make when Gear D makes 2 complete turns? [1]

(c) Name the wheels and/ or gears which will turn anti-clockwise when A turns clockwise.

[1]

- END OF PAPER -

Setters : Miss Aishah Aris, Mrs S M Seet, Mr Tan Siew Whatt, Mdm Melissa Yeo

ANSWER SHEET

EXAM PAPER 2008

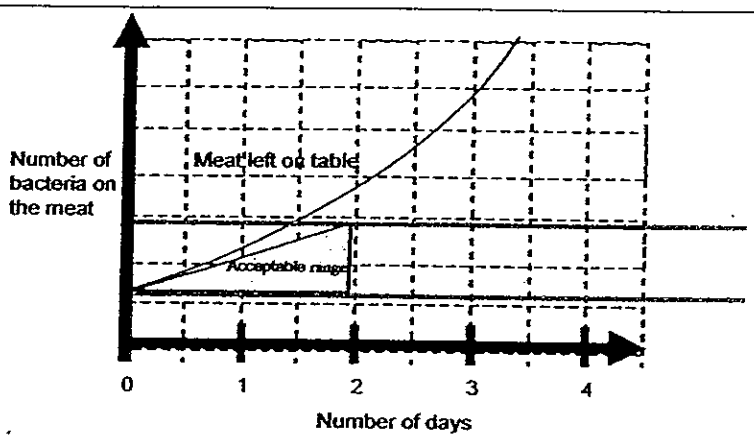
SCHOOL : RAFFLES GIRLS' PRIMARY SCHOOL
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA 1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
4	4	3	4	2	3	3	3	2	4	3	3	3	3	3	3	1

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	3	4	2	4	3	3	4	4	1	4	2	2

2008 PR 5 SA1 SCIENCE - SECTION B:

No.		Suggested Answers	Remarks
31	(a)	Set-up B. The seed inset-up B could germinate as it received warmth (from the lamp), oxygen/air (through the wire gauze) and water/moisture (from the moist cotton) while the seed in Set-up A only received warmth and oxygen but not water from the dry cotton .	Must show comparison between set-up A & set-up B, with supporting statements.
	(b)	To find out if the presence of water/moisture is required for the process of germination .	
32		X: Does it lay eggs? Y: Can it fly? Z: Does it give birth to its young alive?	
33		The sheep is dependent on the grass for food while the grass is dependent on the sheep's dropping for its nutrients/ fertiliser.	Unacceptable terms: *poo, shit, business*
34	(a)	**R S Q P or R Q S P**	**NO** partial marks
	(b)	In both flasks, the snails give out carbon dioxide. However, in Flask P, there is a plant which takes in carbon dioxide to make food. Hence, Flask P has more carbon dioxide than Flask Q.	No comparison (0m)
35	(a)		
	(b)	The higher the temperature, the faster the reproduction rate of the bacteria. Or The lower the temperature, the slower the reproduction rate of the bacteria. Or The higher the temperature, the bacteria will reproduce more. Or The lower the temperature, the bacteria will reproduce less.	Comparative language required. *E.g.: Higher / Warmer instead of high / warm*
36	(a)	1	
	(b)	No. The family tree above does not provide the information to make such a conclusion. Or No. The children will inherit the parents' genes but the genetic information can remain masked in the children. Or	1st answer relates back to the given family tree. 2nd & 3rd answers based on prior knowledge.

		They inherited the genes/genetic information from their parents but the genes may be masked. Hence, the physical traits (*eg: having the disease & showing its symptoms*) skipped generation.	
37	(a)	A	
	(b)	C	
38	(a)		
	(b)	Mrs Lopez will not be able to bear children. Since her fallopian tubes were cut and sealed, the sperms will not be able to reach/meet the female egg. Hence, fertilization will not be able to take place. Or No. The egg produced by the ovary will not be able to travel through the fallopian tube to meet/reach the sperm.	*Focus of the question is on the function of the fallopian tube (i.e. egg travelling through the fallopian tube to meet/reach the sperm) and not the process of fertilization.* Clearing misconception: *Fertilization of human egg takes place in the fallopian tube, close to the womb, NOT in the womb or in the ovaries.*
39	(a)	B has no stigma OR D has no petals	
	(b)	Flower B has no stigma to trap / receive pollen grains. Hence, fertilisation cannot take place. OR Flower D has no petals to attract insects for pollination.	
40	(a)		
	(b)	The sucker depends on the parent plant for food. Hence, even if the sucker is unable to produce sufficient food through photosynthesis (after it develops leaves) due to lack of nutrients and water, it can still survive on its parent plant while the parent plant is still alive.	
41	(a)	A: Water hyacinth B Water lettuce	
	(b)	*Similarities extracted from the given chart:* Reproduced from plant parts / reproduce by stolon / have waxy leaves /have roots / have young.	

42	(a)	Glass. Glass is transparent.	
	(b)	Glass is fragile, hence it can break easily when in direct contact with the road / as it may not withstand the weight of the van.	
43	(a)	**200**	
	(b)	**NEW** water level is between 150ml to 200ml (exclusive of 150ml & 200ml) or **EXACTLY** 175ml	
44		Mass/volume of water in the beaker is reduced due to evaporation of water.	
45	(a)	Pure water **evaporates** from the salt water to form **water vapour** which **condenses on the cooler inner surfaces** of the plastic cover as **water droplets**. These water droplets drip down the sides of the plastic cover as clean water.	
	(b)	By using a pail of water to wash clothes, less water is used / water is not wasted / water used is reduced.	
46	(a)	**Y** **Z**	
	(b)	24 h **OR** 1 day	
47	(a)	clockwise	
	(b)	14/ 5 **OR** **2** 4/5	
	(c)	**B** **C**	

- END OF PAPER -