SEMESTRAL ASSESSMENT 1 /
2017 PRIMARY 5

STANDARD SCIENCE

(BOOKLET A)

Name : _____ _____ ( ) Date : 9 May 2017

Class : P5 _____ Total Time for Booklet A & Booklet B : 1 hour 45 min

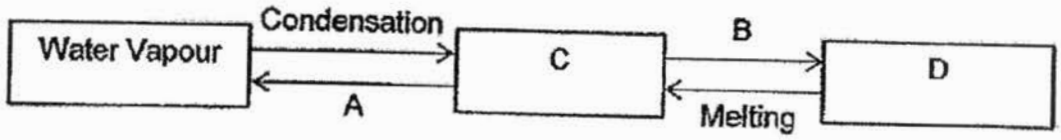
INSTRUCTIONS TO CANDIDATES

1. Write your name, index number and class in the space above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. For Section A, shade your answers for questions 1 to 28 in the Optical Answer Sheet (OAS) provided.
6. For Section B, write your answers for questions 29 to 40 in the space provided in the booklet.
7. The total marks for Booklet A is 56 marks.

Section A (56 marks)

For each question 1 to 28, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The diagram below shows the changes of the states of water.



Based on the diagram above, which one of the following correctly represents A, B, C and D?

	A	B	C	D
(1)	Freezing	Evaporation	Ice	Water
(2)	Evaporation	Boiling	Water	Steam
(3)	Evaporation	Freezing	Water	Ice
(4)	Boiling	Freezing	Steam	Ice

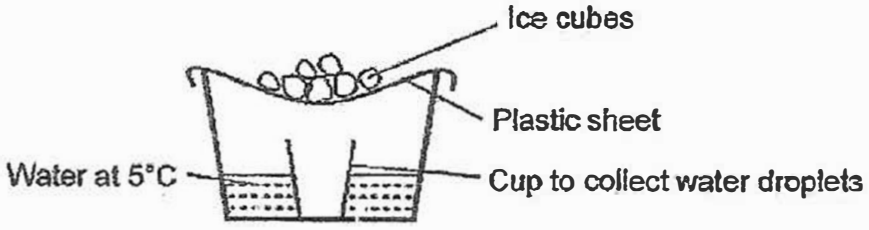
( )

2. An experiment was set up to investigate the factors that affect the rate of condensation of water vapour.

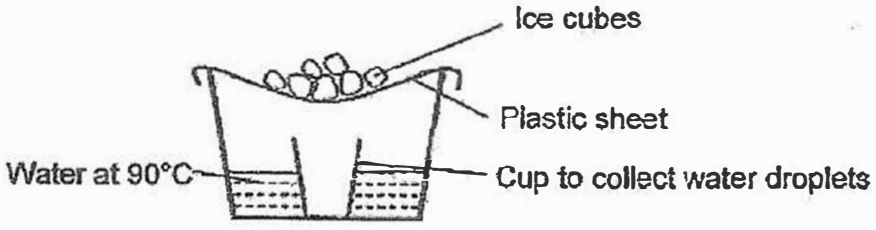
The same amount of water at 5°C or 90°C was poured into similar containers which were covered with similar plastic sheets.

Which one of the following would result in **no water** being collected in the cup?

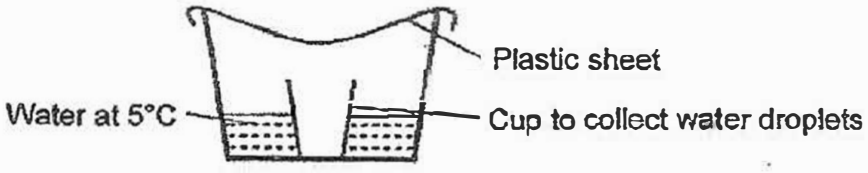
(1)



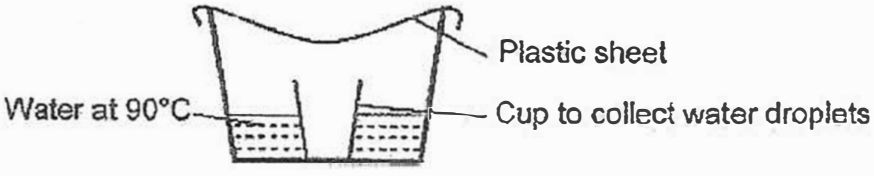
(2)



(3)

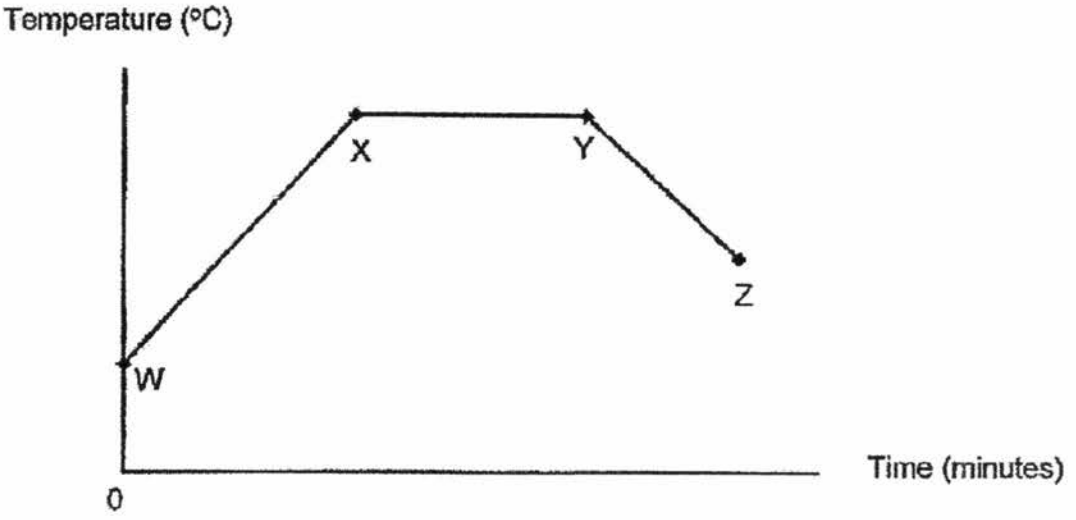


(4)



( )

3. Tommy heated some water in a beaker until it boiled. It was then left in the kitchen to cool. He measured the temperature of the water during the process and plotted the graph shown below.



He then made the following statements.

A: At W, freezing took place.

B: There is heat loss from Y to Z.

C: There is no heat gain from X to Y.

D: Evaporation took place from W to Z.

Which of the following statement(s) above is/are **false**?

(1) A and C only

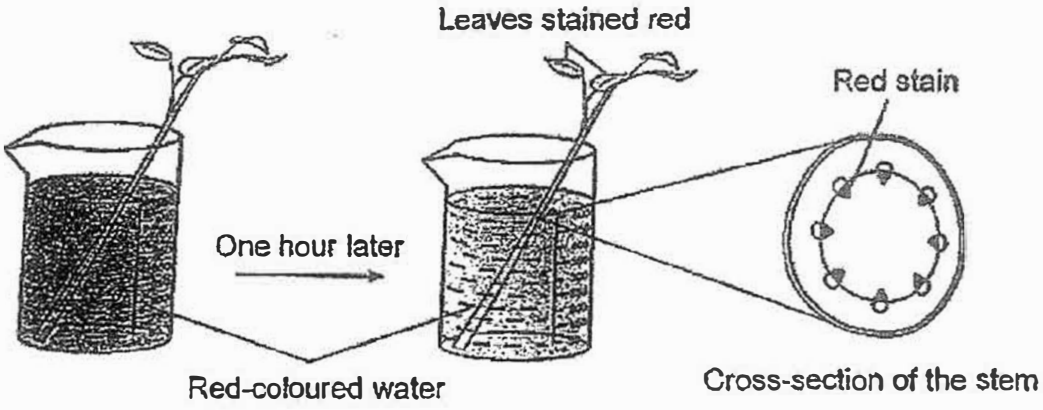
(2) C and D only

(3) B and C only

(4) A, C and D only

( )

4. Mary placed the stem of a plant in a container of water with red food colouring. After some time, she cut a section of the stem.



Mary observed the leaves and the stains on the cross-section of the stem and wrote three statements.

What of the following statement(s) is/are correct?

A: The stem has tubes that transport the water downwards.

B: The colouring on the leaves comes from the red-coloured water.

C: The part of the stem, which is coloured red, transports food to the leaves.

(1) A only

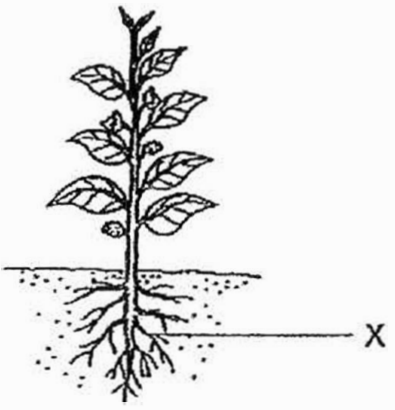
(2) B only

(3) C only

(4) A, B and C

( )

5. **Which of the statements below are <u>not</u> functions of Part X?**



A. It helps the plant to absorb water.

B. It holds the plant firmly to the ground.

C. It supports the plant and holds it upright.

D. It allows the exchange of gases to take place.

E. It transports food from the leaves to other parts of the plant.

(1) A, B and D only

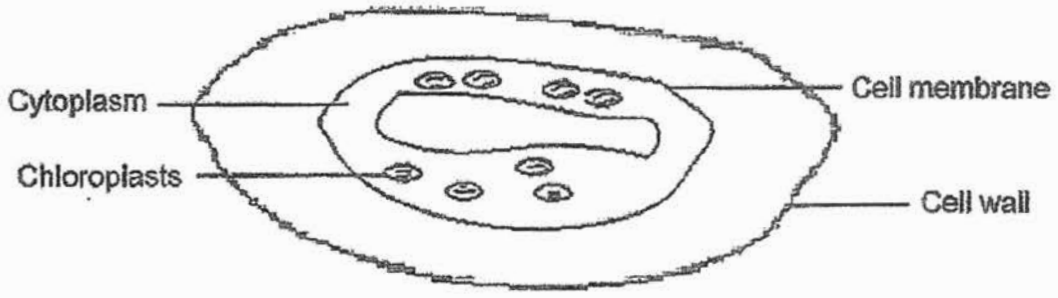
(2) B, C and E only

(3) B, D and E only

(4) C, D and E only

( )

6. Study the cell below. One part of the cell has been removed.



What is the function of the part that has been removed?

(1) It supports the cell and gives it a regular shape.

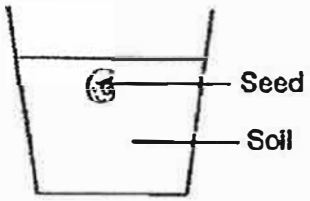
(2) It captures sunlight which plants use to make food.

(3) It allows the chloroplasts to move around easily within the cell.

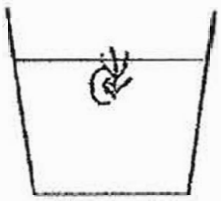
(4) It contains the genetic information that is passed on from parents to young.

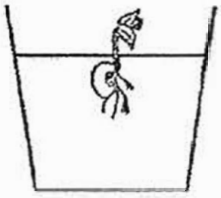
(

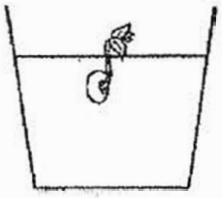
7. Gary placed a seed into a container of soil as shown below. He poured water on the soil daily.

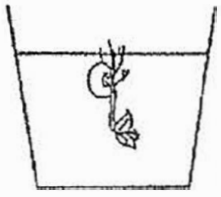


Which one of the following diagrams shows what Gary would observe after some time?

(1) 

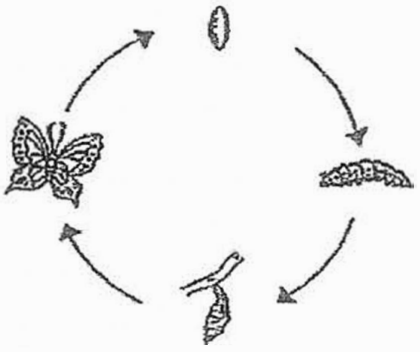
(2) 

(3) 

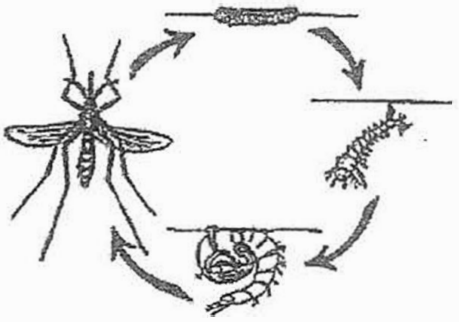
(4) 

( )

8. Study the life cycles of Animal P and Animal Q below.



Animal P



Animal Q

Which one of the following statements is true about the life cycles shown above?

(1) Animal P lays eggs but Animal Q does not.

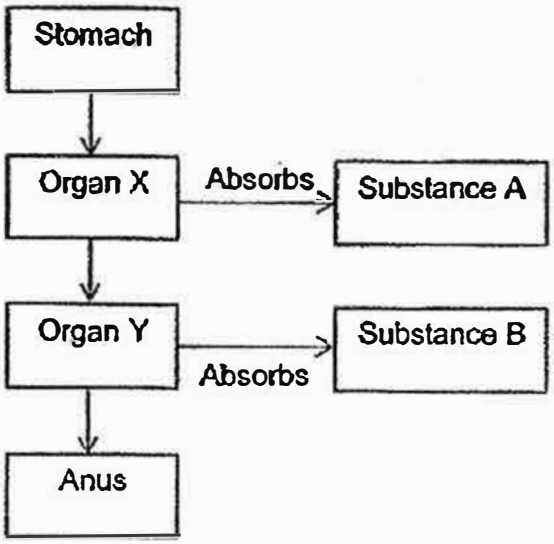
(2) Both Animal P and Animal Q have a pupa stage.

(3) The young of both Animal P and Animal Q live in land.

(4) The young of both Animal P and Animal Q resemble their adults.

( )

9. **Study the flowchart below.**

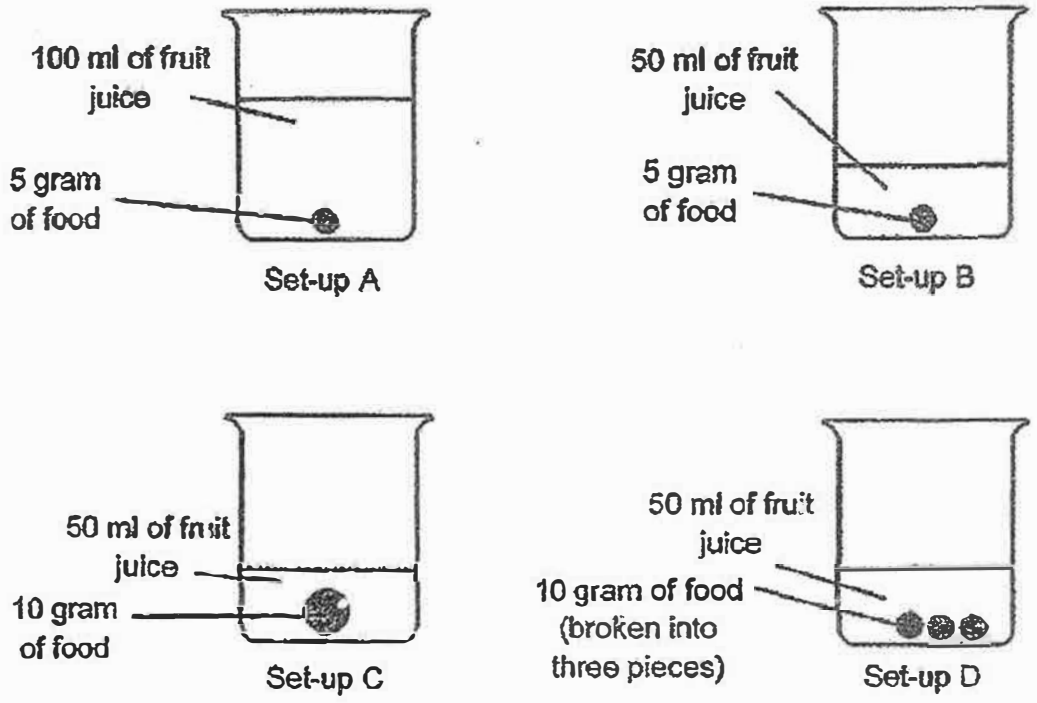


Which of the following correctly identifies the correct organs of the human body and the substances absorbed by it?

	Organ X	Organ Y	Substance A	Substance B
(1)	small intestine	large intestine	digested food	water
(2)	small intestine	large intestine	water	digested food
(3)	large intestine	small intestine	digested food	water
(4)	large intestine	small intestine	water	digested food

( )

10. Ali wanted to test if the surface area of food affects the rate of digestion. He had four set-ups shown below.



Which two set-ups should Ali use in order to ensure a fair test?

(1) Set-ups A and C

(2) Set-ups A and B

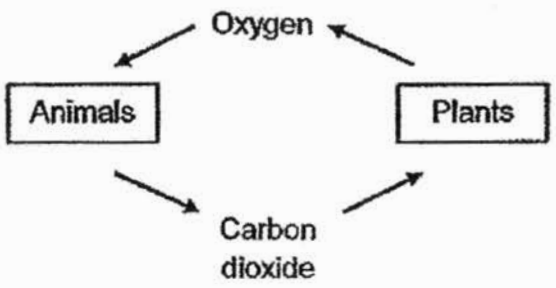
(3) Set-ups C and D

(4) Set-ups B and D

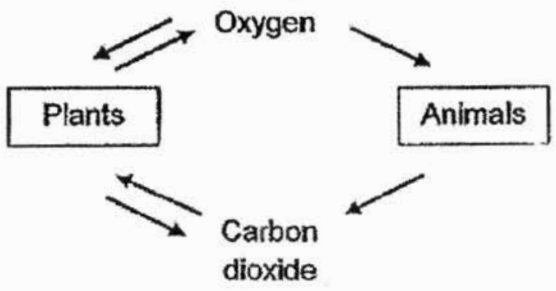
( )

11. **Which one of the following shows the exchange of gases in plants and animals correctly?**

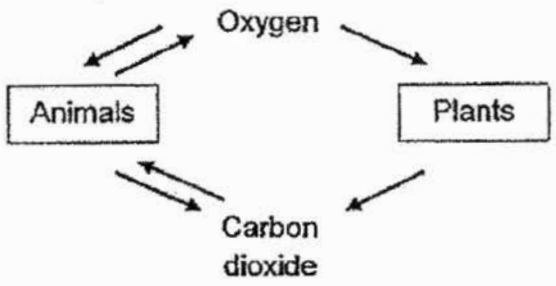
(1)



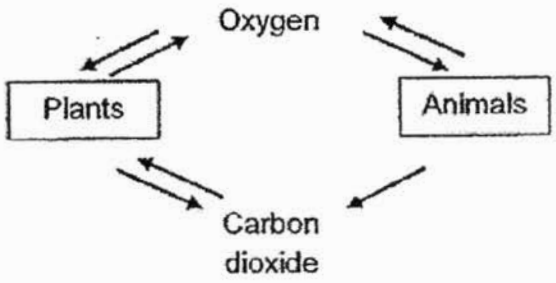
(2)



(3)



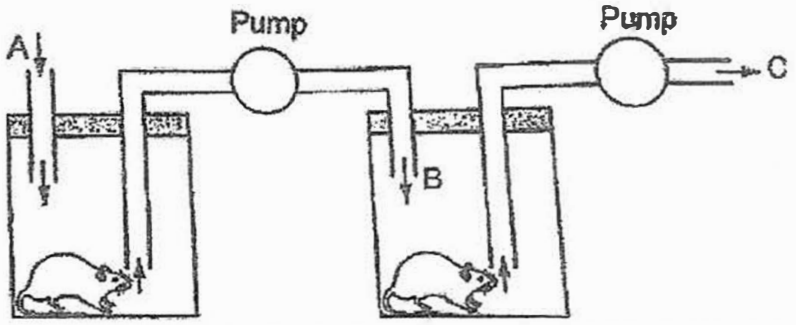
(4)



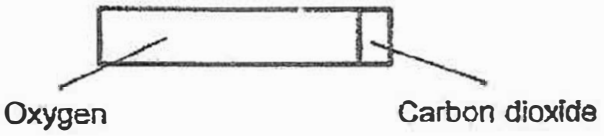
( )

12. Air is pumped into the two containers through a number of tubes, as shown below.

Air flows from A to B and then to C.

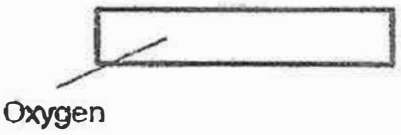


The bar below shows the composition of oxygen and carbon dioxide at A.

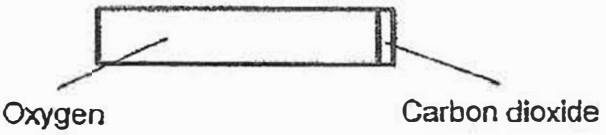


Which of the following bars correctly shows the composition of oxygen and carbon dioxide at C?

(1)

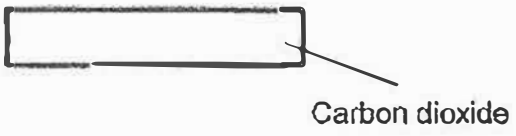


(2)



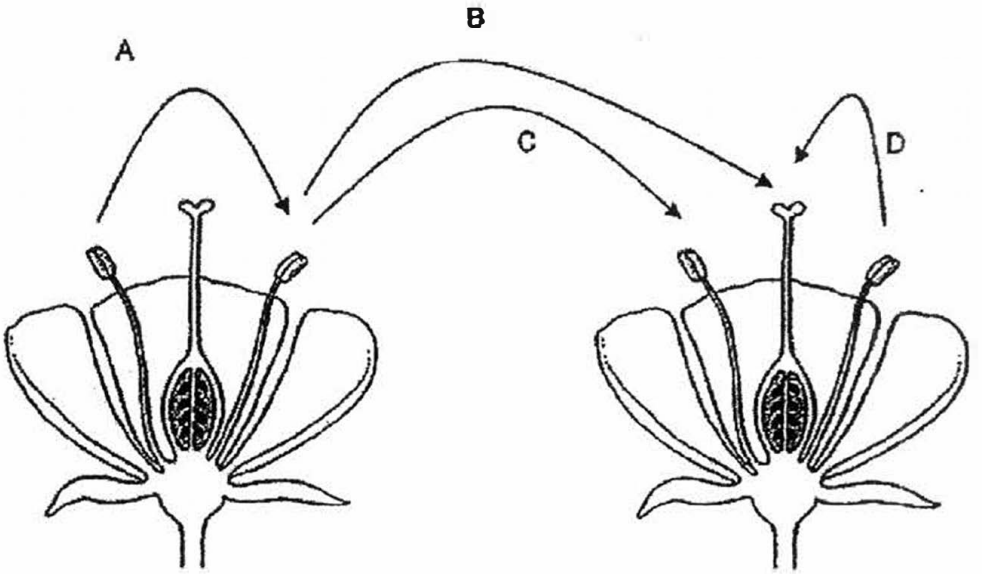
(3)

(4)



( )

13. The diagram shows two flowers.



Which arrows show the process of pollination?

(1) A and B

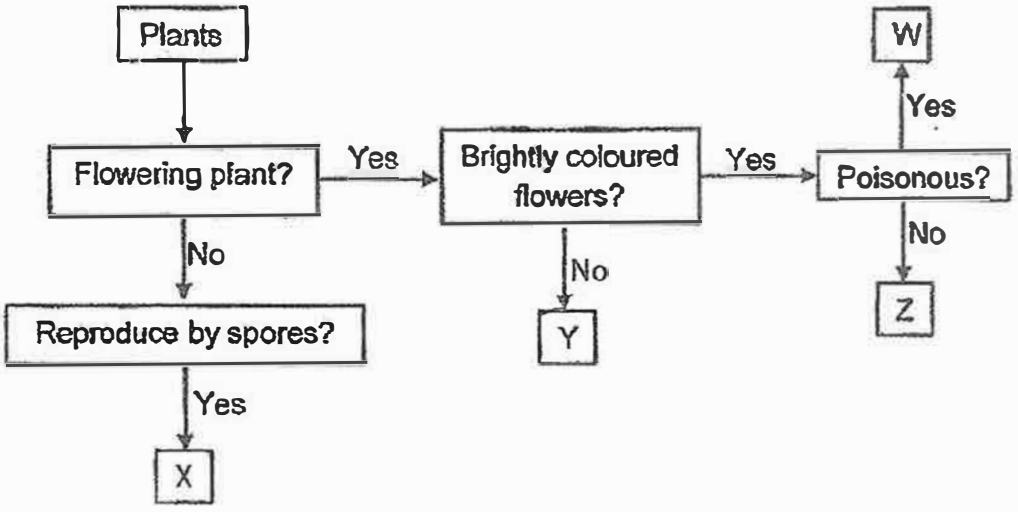
(2) A and C

(3) B and D

(4) C and D

( )

14. Study the flow chart below.



Which letters, W, X, Y or Z represents plants that are **most likely** pollinated by wind?

(1) W

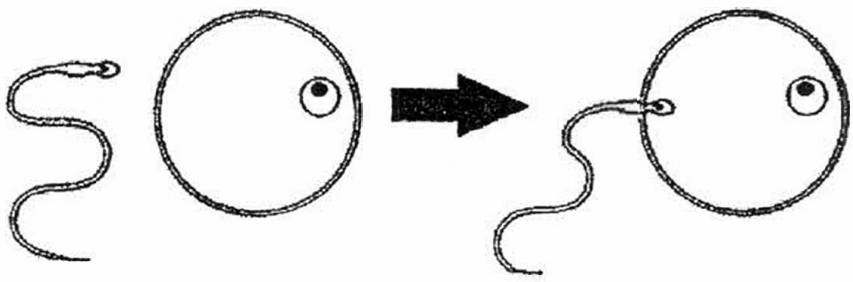
(2) X

(3) Y

(4) Z

( )

15. **The diagram below shows a process that takes place in the human reproductive system.**



Which of the following statement(s) about the process is/are <u>true?</u>

A. The fertilised egg develops in the stomach.

B. The fertilisation process takes place in the female reproductive system only.

C. A fertilised egg carries both characteristics inherited from the male and the female.

D. The fertilisation process only takes place when more than one sperm is fused with the egg cell.

(1) A only

(2) B and C only

(3) A and D only

(4) B, C and D only

( )

16. Bala measured the volume and mass of three balls which were made of different materials. His measurements were recorded below.

Ball	Volume (ml)	Mass (g)
A 	60	230
B 	120	230
C 	250	230

Based on his measurements, which one of the following conclusions is correct?

(1) Objects of different sizes can have the same mass.

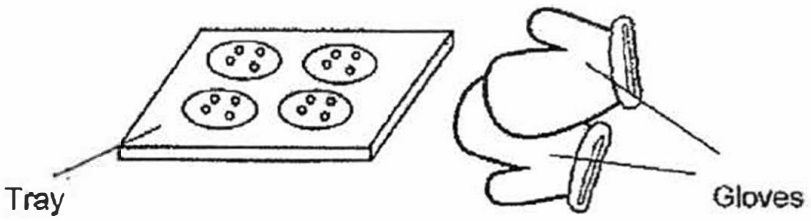
(2) A smaller object occupies more space than a bigger object.

(3) Objects of different sizes occupy the same amount of space.

(4) An object that occupies more space is heavier than an object that occupies less space.

( )

17. The diagram below shows a pair of gloves used to hold a tray in the hot oven.



Study the properties of the four materials shown below.

Material	Properties of material	
	Can it conduct heat easily?	Is it flexible?
A	No	No
B	No	Yes
C	Yes	No
D	Yes	Yes

Which material is most suitable for making the pair of gloves?

(1) A

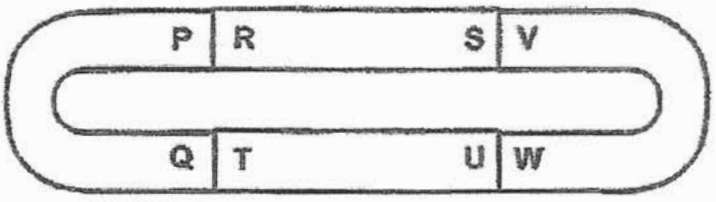
(2) B

(3) C

(4) D

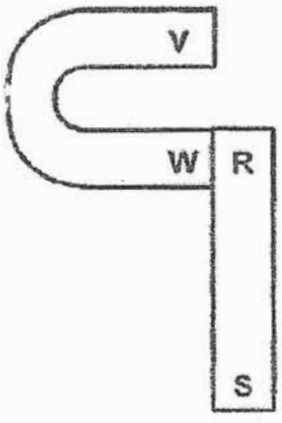
( )

18. The diagram below shows how four magnets are arranged such that they attract each other.

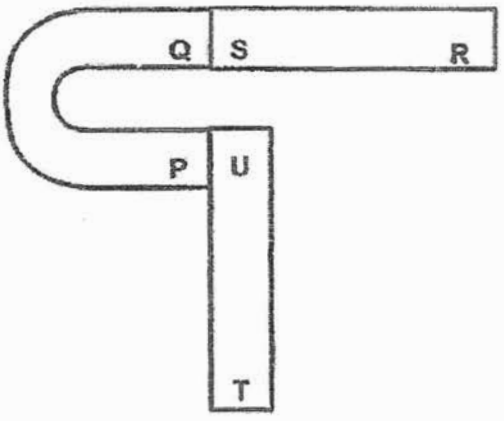


Which one of the following arrangements is <u>not possible</u>?

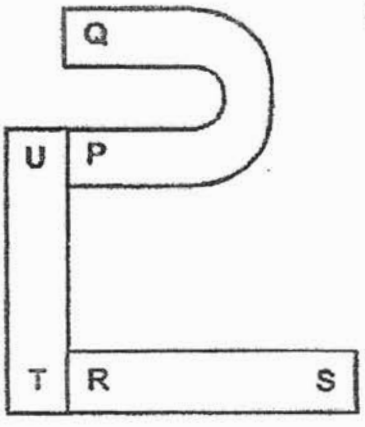
(1)



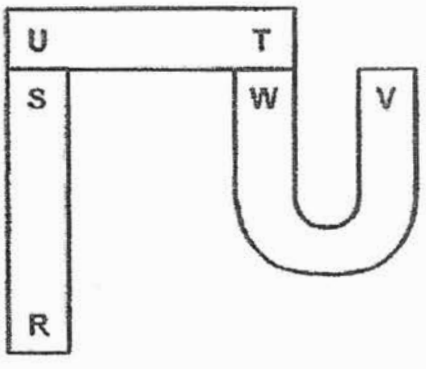
(2)



(3)



(4)



( )

19. Which one of the following is a source of heat?

(1) The moon

(2) A bowl of chilli

(3) A leather jacket

(4) A lighted candle

( )

20. Water vapour that rises to the sky is clean and pure. Why is it so?

(1) Dirt evaporates from the water vapour.

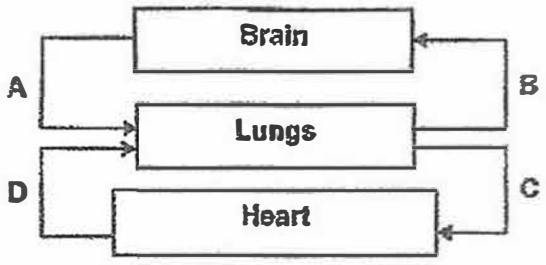
(2) Clean air helps to trap dirt in the water vapour.

(3) The heat that causes water to evaporate also kills the bacteria in the water.

(4) When water evaporates, water vapour becomes separated from the dirt.

( )

21. The diagram below shows how blood is circulated in the body.



Which one of the paths shows the wrong direction of the flow of blood?

(1) A and B only

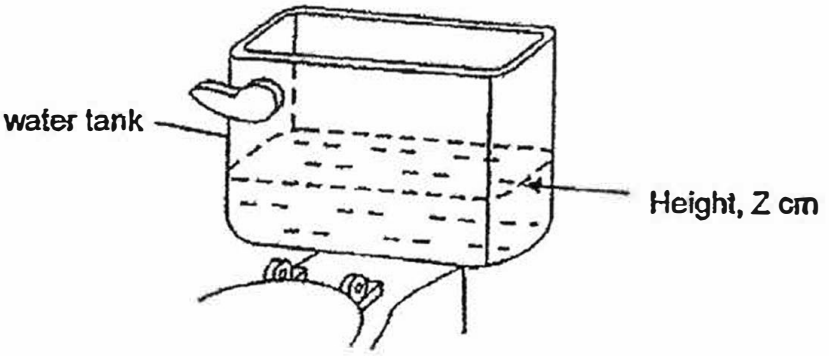
(2) B and C only

(3) C and D only

(4) A and C only

( )

22. The diagram below shows a water tank which is used for flushing a toilet bowl. After flushing, water enters and refills the tank. Once the water level reaches height Z cm, the tank will stop refilling with water.



Salim suggested putting a brick into the water tank in order so that the water reaches height Z faster.

Which of the 3Rs of water conservation is Salim practising?

(1) Reduce only

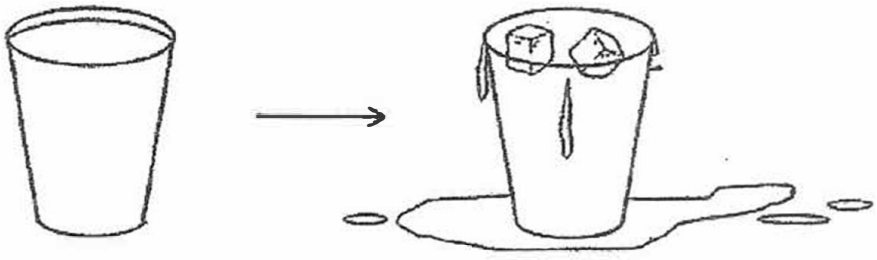
(2) Reduce and Reuse

(3) Reuse and Recycle

(4) Recycle only

( )

23. Gabriel filled a glass with water to the brim. When he put two ice cubes into the glass of water as shown in the diagram below, he observed that the water overflowed.



Which one of the following best explains Gabriel's observation?

(1) Ice has mass.

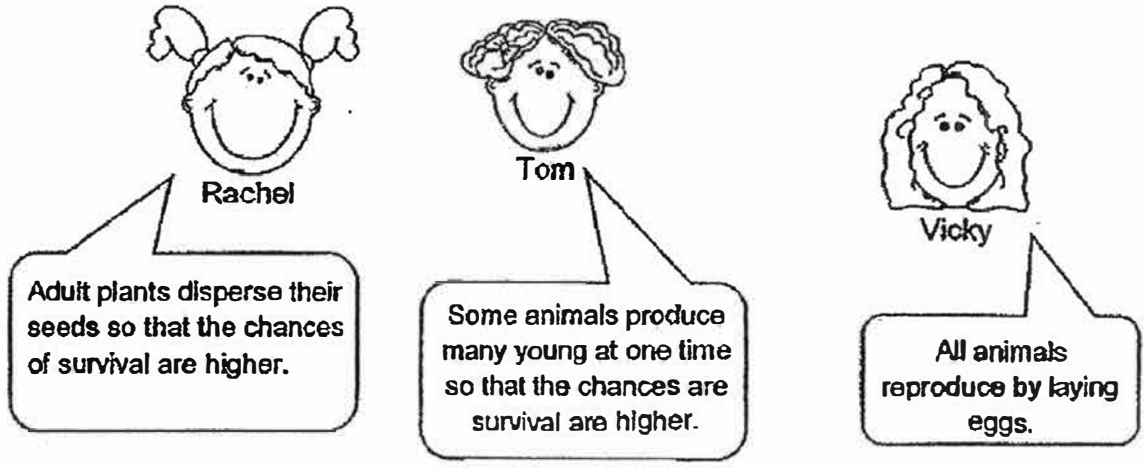
(2) Ice occupies space.

(3) Ice has a definite shape.

(4) Ice changes from one state to another.

( )

24. In the diagram below, each child gave a statement about the reproduction of plants and animals.



Who made correct statement(s)?

(1) Rachel and Tom only

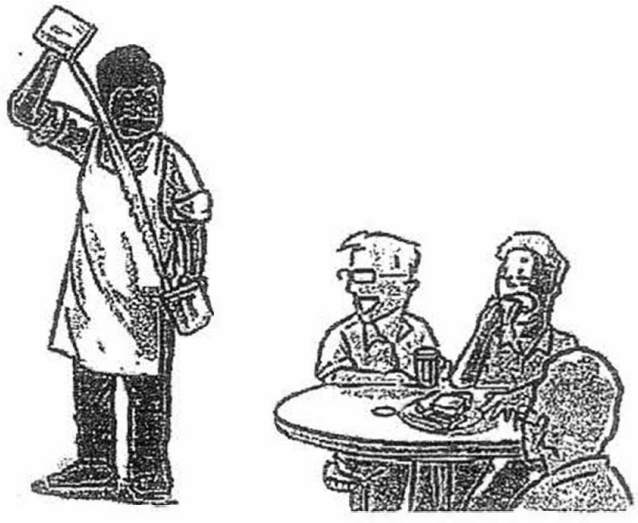
(2) Rachel and Vicky only

(3) Tom and Vicky only

(4) Rachel, Tom and Vicky

( )

25. Shawn was at a beverage stall buying a cup of hot tea. He noticed that the stall-holder would pour the tea from a container to another as shown in the diagram below.



When the tea flowed to another container, Shawn noticed 'mist' forming along the trail of the tea and guessed that the 'mist' is due to _____.

Which of the following is correct?

(1) the evaporation of the tea

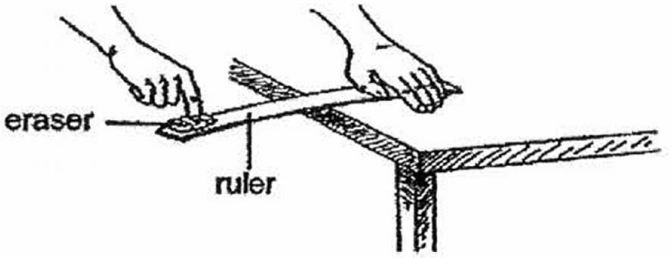
(2) the condensation of the tea

(3) the evaporation of the water

(4) the condensation of the water vapour

( )

26. Tom placed a ruler at the edge of the table and held it down firmly with his hand. On the other end of the ruler, he put an eraser and pressed the ruler down before taking his finger away.



He noticed that the eraser was thrown off the ruler. From the results of the experiment, Tom was trying to find out if the ruler is _____.

(1) strong

(2) flexible

(3) waterproof

(4) transparent

( )

27. The table below shows the freezing point of substances A, B, C and D.

Substance	Freezing point (°C)
A	0
B	5
C	35
D	50

Four students studied the above information and made the following statements.

Kelvin : Substance A is turning into a liquid at 0°C.

Yong Xi : Substances B and C are liquids at 30°C.

Joan : Substances C and D are solids at 20°C.

Aisha : Substance D is turning into a gas at 50°C.

Which of the following student is correct?

(1) Kelvin

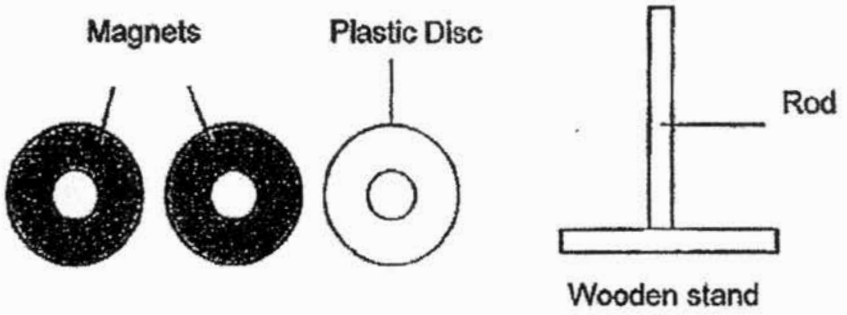
(2) Yong Xi

(3) Joan

(4) Aisha

( )

28. **Melinda had two discs of magnets and one disc of plastic as shown below.**



She placed all the three discs through the wooden rod in random order and recorded her observations below. Which of the following would <u>not</u> be observed by Melinda?

Diagram A	Diagram B

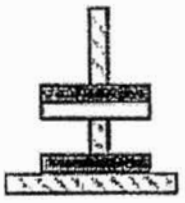
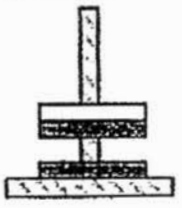
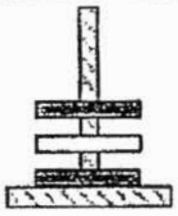



Diagram C	**Diagram D**
	

(1) A and B only

(2) A and D only

(3) B and C only

(4) B and D only

( )

~End of Booklet A~

SEMESTRAL ASSESSMENT 1 / 2017
PRIMARY 5

STANDARD SCIENCE

(BOOKLET B)

Name : _____ ( ) Date : 9 May 2017

Class : P5 _____ Total Time for Booklet A & Booklet B : 1 hour 45 min

INSTRUCTIONS TO CANDIDATES

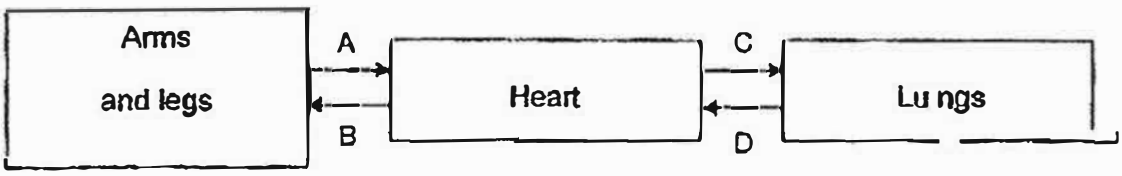
1. Write your name, index number and class in the space above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. For Section A, shade your answers for questions 1 to 28 in the Optical Answer Sheet (OAS) provided.
6. For Section B, write your answers for questions 29 to 40 in the space provided in the booklet.
7. The total marks for Booklet B is 44 marks.

Booklet A		/56
Booklet B		/44
Total		/100
Parent's Signature		

Section B (44 marks)

Write your answers to questions 29 to 40 in this booklet.

29. The diagram below shows the movement of blood in the human body. A, B, C and D represent the blood vessels.



(a) Which of the blood vessel(s), A, B, C or D, transport(s) blood rich in carbon dioxide? [1m]

_____

(b) Besides water, state two other **useful substances** that are transported by blood to the arms and legs of the human body. [2m]

_____

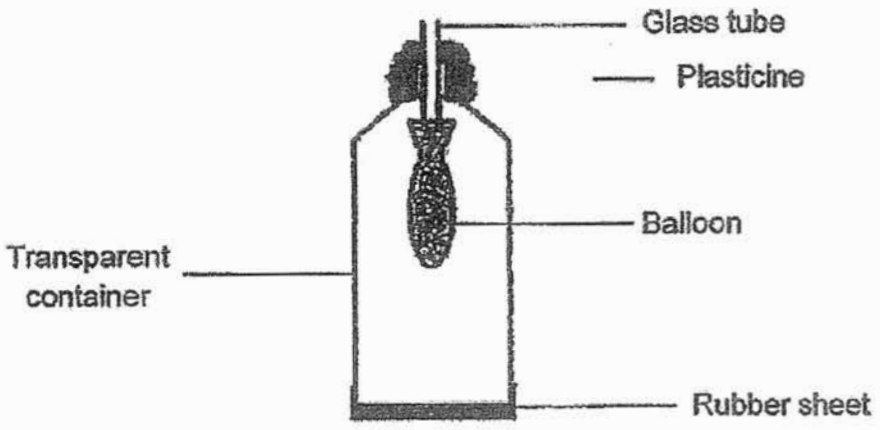
(c) What happens to the substances mentioned in (b) after they reach the arms and legs of the body? [1m]

_____

_____

	4

30. Ali made a model of the human respiratory system below.



(a) Which organs of the human respiratory system represent the following parts of the model? [2m]

(i) Balloon : _____

(ii) Glass tube : _____

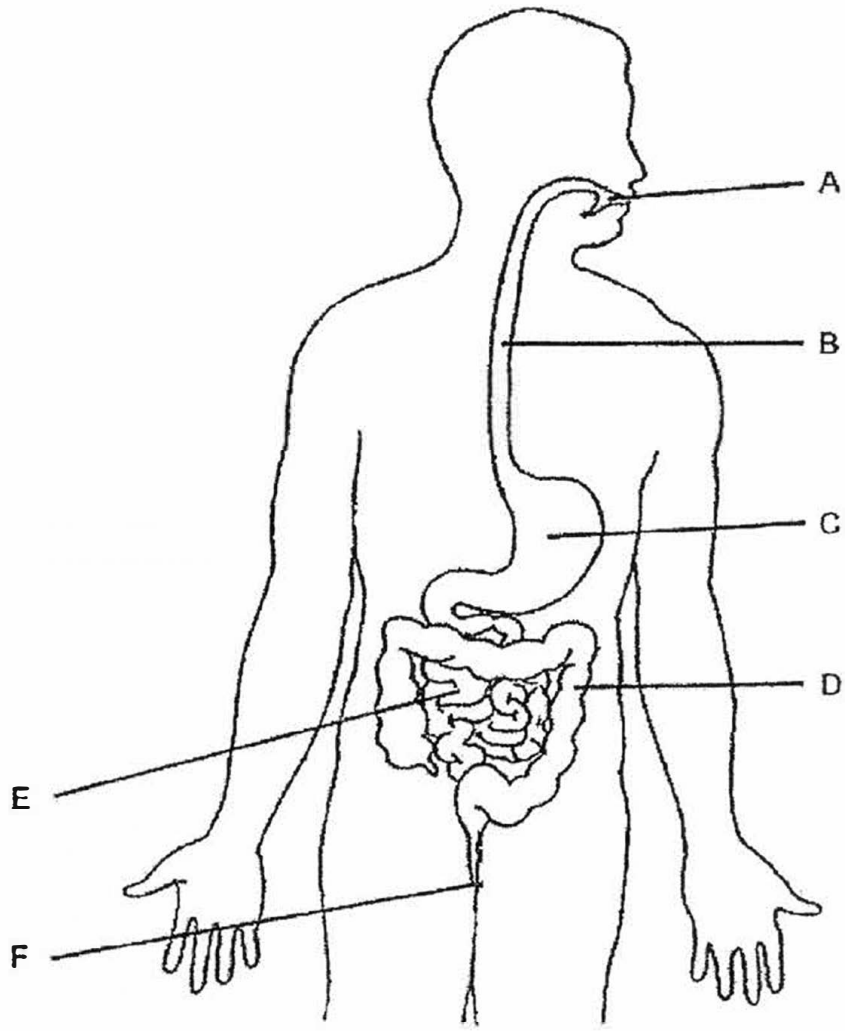
(b) What is the function of the organ in (a) (i)? [1m]

_____

_____

	3

31. **The diagram below shows the human digestive system with the organs labelled.**



(a) State the organ(s) where

(i) digestion takes place: _____ [1m]

(ii) digestion ends: _____ [1m]

(b) State the function of organ F. [1m]

_____

_____

	3

Alice ate some food containing 100 grams of substance X, Y and Z each.
The table below shows the amount of undigested food at the start and at the end of the digestive system.

	Amount of undigested food left (grams)	
	Start	End
Substance X	100	30
Substance Y	100	100
Substance Z	100	50

(c) Which of the three substances (X, Y or Z) could not be digested by Alice's digestive system? Explain your answer. [1m]

_____

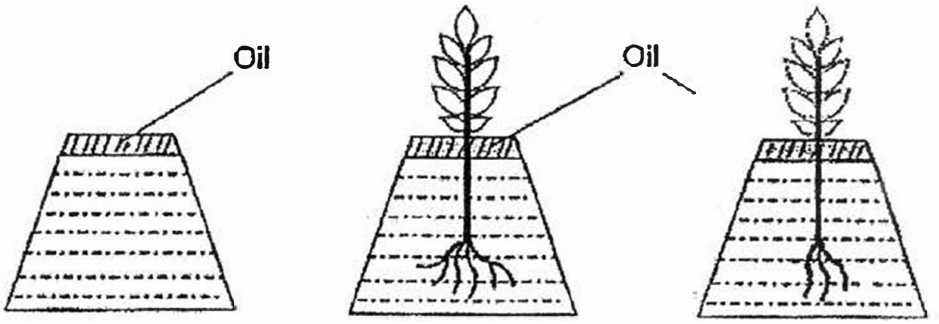
_____

(d) Give an example of food that **cannot** be digested. [1m]

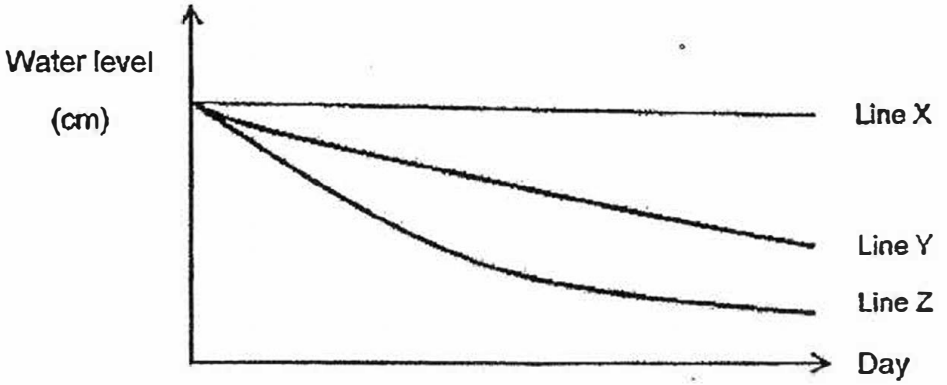
_____

	2

32. Ragu wanted to find out if the number of roots on a plant affects the amount of water absorbed by the plant. He prepared 3 identical containers A, B and C and filled them with equal amount of water. He placed a plant in both containers B and C. He also added a layer of oil on top as shown in the diagram below.



Ragu then measured the height of the water in the container for a few days. The results are shown in the graph below.



(a) Which line, X, Y, or Z, represents the results collected for the plant in Container B? Explain your answer. [1m]

_____

_____

	1

(b) Raju added a layer of oil into all the containers to ensure a fair test. Explain why he added the oil. [1m]

_____

_____

(c) Write down one variable that Ragu had kept constant and one variable he had changed in order for the experiment to be a fair one. [1m]

To keep constant: _____

To change: _____

	2

33. Ali and his sister found a seed of Plant X shown below.

(a) What is the method of dispersal for the seed of Plant X? [1m]

_____

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

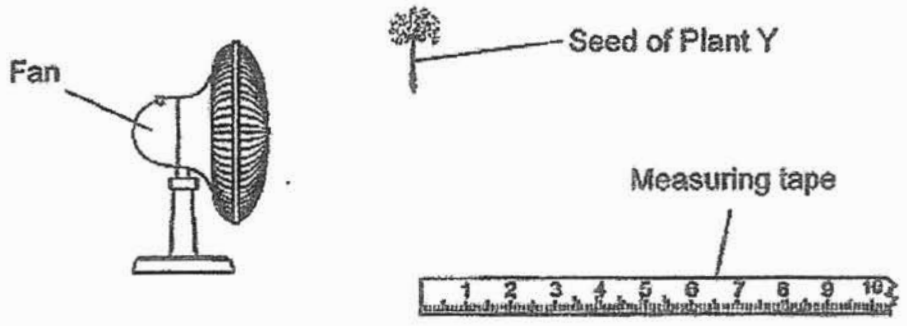
_____

(c) Ali told her sister that if the seeds are not dispersed properly, overcrowding would happen and this is bad for the seedlings. Why is this so? [1m]

_____

	3

They found another seed, a seed of Plant Y, and set up an experiment shown below.



They wanted to investigate if the height where the seeds are dropped affects the distance that the seeds are dispersed. The result are shown in the table below.

Height (m)	Distance (m)
0.5	1
1	3
1.5	W
2	8

(d) What is the possible value of W? [1m]

_____

(e) What can they conclude from the result of the experiment? [1m]

_____

	2

34. Figure A and B below shows Mr Lim's swimming pool at different times.

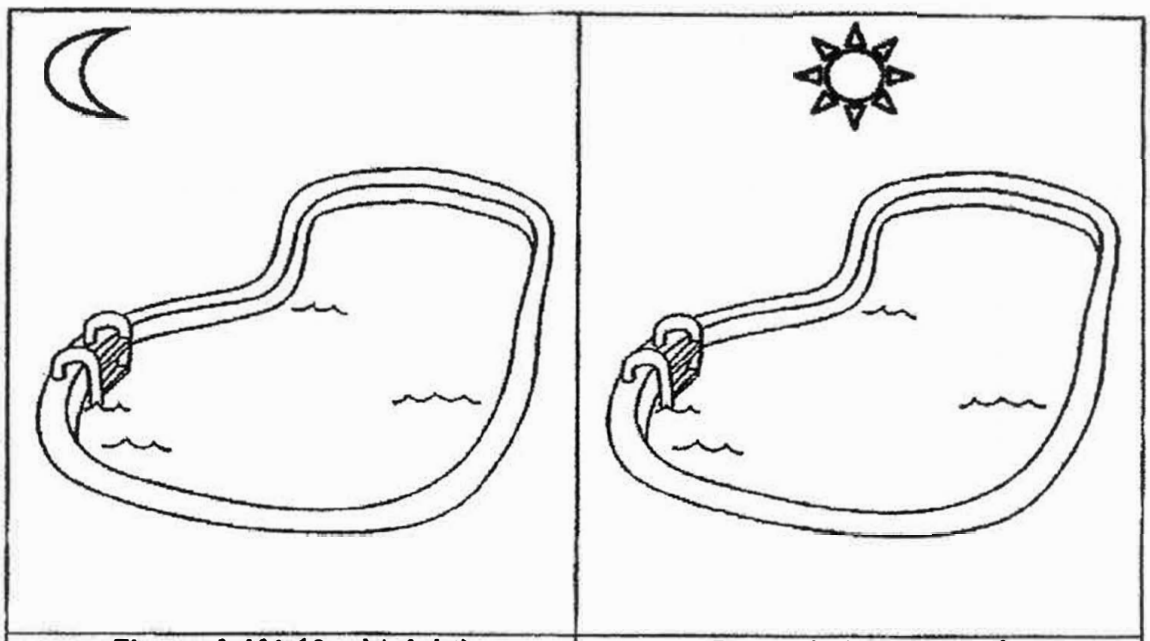


Figure A (At 12 midnight) | Figure B (At 12 noon)

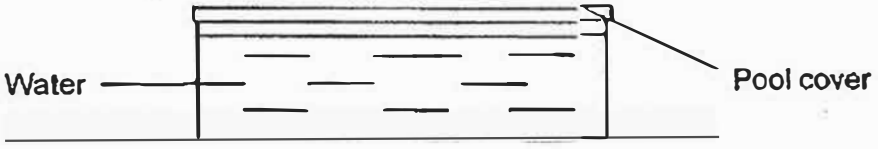
(a) The water in Figure _____ will evaporate faster. [1m]

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

_____

_____

(c) Mr Lim used a pool cover to reduce the amount of water in the pool from evaporating.



Provide two reasons how using a pool cover can reduce evaporation of water. [1m]

(i) _____

(ii) _____

	3

35. Lily has two cups of water, X and Y, filled with ice. Cup X was left in the open on a table. She placed Cup Y in a bag and removed as much air as possible and sealed it before placing it on the table.

After a few minutes, water droplets formed on the outer surface of both cups.

(a) Explain how these water droplets are formed on the surface of the cups. [2m]

_____

_____

After some time, she observed that less water droplets were found outside the surface of Cup Y than Cup X.

(b) Explain the observation made by her. [1m]

_____

_____

(c) Besides placing the cups in the same location, state another variable that must be kept the same in order to ensure a fair experiment. [1m]

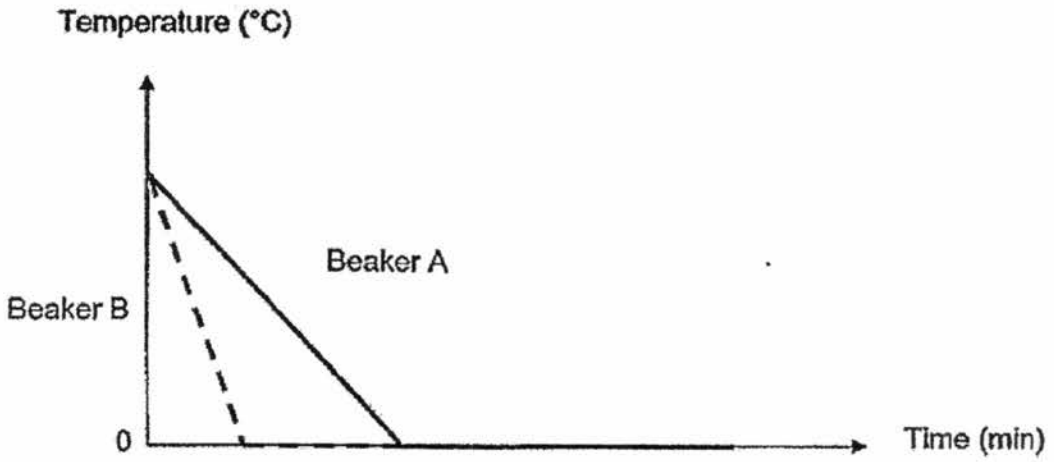
_____

	4

36. Siti has two beakers of water, A and B, at 30 °C. The beakers are made of the same material and of the same size. She then placed both beakers in the freezer.

A B

The graph below shows the changes in temperature of water in beakers A and B after some time.



(a) Which beaker (A or B) of water took a shorter time to reach its freezing point? [1m]

Beaker _____

(b) Suggest a possible reason for the difference in time taken for each beaker of water to reach freezing point. [1m]

_____

_____

(c) What is her aim of the experiment? [1m]

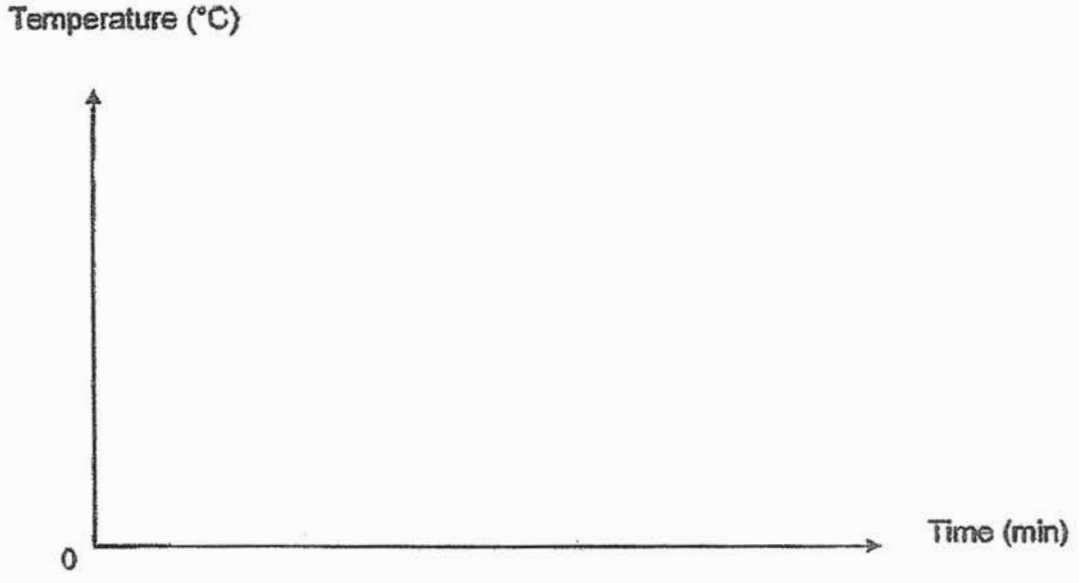
_____

_____

	3

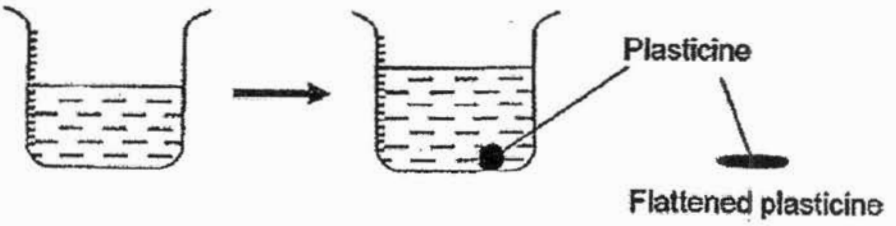
(d) Siti removed both cups from the freezer and left them on her kitchen table until all the ice melted.

Draw and label the graph of the changes in temperature of water for beaker A and B below. [2m]



	2

37. Sally has a beaker with 65 ml of water. She placed a ball of plasticine into the water. She observed that the water level rose to 80 ml.



She then flattened the plasticine ball and placed it back into the water.

(a) Where would the water level be this time? Explain your answer. [1m]

_____

_____

Sally then read a story, "The Crow and the Pitcher", where the crow dropped several stones into the pitcher so that it could drink the water.

(b) Why did the water level increase when stones are dropped into the pitcher? [1m]

_____

_____

	2

(c) Besides dropping the stones faster, suggest one thing that the crow could do to make the water level increase faster. [1m]

_____

_____

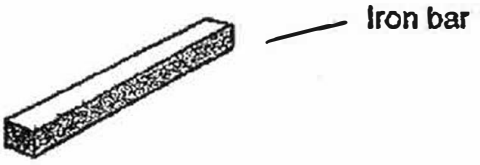
(d) The crow found some stryrofoam pieces and dropped them into the pitcher. However, the water level did not increase. Give a reason. [1m]

_____

_____

	2

38. Jen wanted to make the iron bar below into a magnet for her experiment.

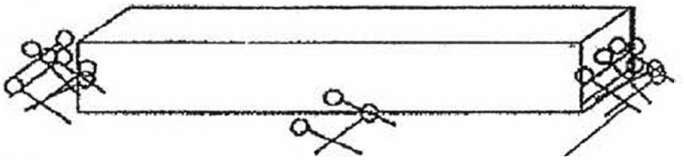


(a) Name one method she can use to make the iron bar into a magnet. [1m]

_____

_____

After making the iron bar into a magnet, Jen then placed it into a box of steel pins. She observed that the steel pins were attracted to the iron bar as shown below.



Steel pins

(b) Based on her observation, what could she conclude about the magnetic strength of the magnet? [1m]

_____

_____

(c) Jen repeated the experiment by placing the magnet into a box of copper clips. She observed that the magnet did not attract the copper clips. Why is this so? [1m]

_____

_____

(d) After Jen is done with her experiment, she no longer needs the magnet.
Name two methods she can use to make the magnet lose its magnetic strength. [1m]

(i) _____ (ii) _____

	4

39. Mrs Chen taught her three children to conserve water by practising the 3 Rs. Her children wrote 'Reduce', 'Reuse' and 'Recycle' for each of the activities below.

Child	Activities	3 Rs
1	Using a mug when brushing your teeth.	Reduce
2	Using water from washing clothes to wash toilets.	Reuse
3	Using water from washing vegetables to water plants.	Recycle

(a) Which child wrote the 3 Rs wrongly? [1m]

Child _____

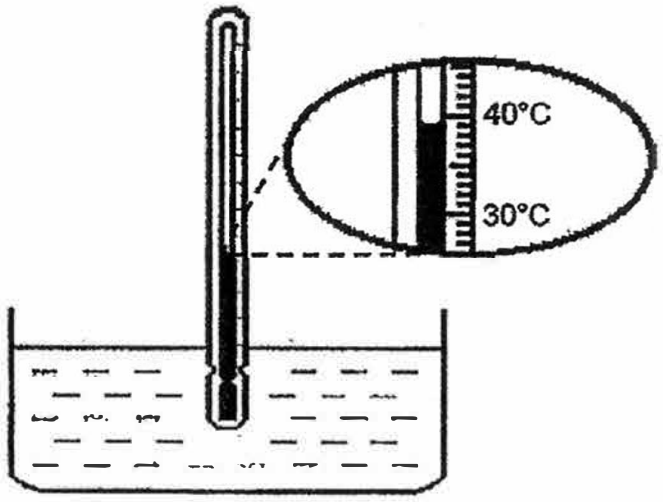
(b) Besides the activities mentioned above, describe two other activities where water can be reduced and recycled. [1m]

(i) Reduce: _____

(ii) Recycle: _____

	2

40. Jimmy used a thermometer to measure the temperature of warm water in a glass container.



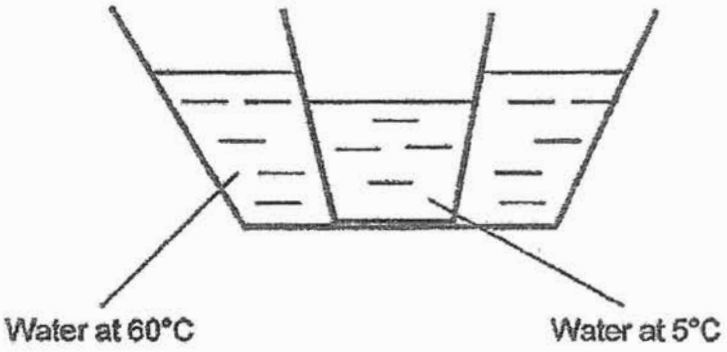
(a) He measured the temperature after he had placed the thermometer into the warm water for ten minutes. Is the temperature correct? Explain your answer. [1m]

_____

_____

	1

Jimmy filled a tub with warm water at 60°C. He them immersed a cup of cold water at 5°C into the tub as shown in the diagram below.



After some time, he measured the temperature of the water in both the tub and the cup. He discovered that both readings were the same.

(b) Explain why the temperature of both the water in the tub and the cup became the same after some time. [1m]

_____

_____

	1

~End of Paper~

SCHOOL : RIVER VALLEY PRIMARY SCHOOL
LEVEL : PRIMARY 5
SUBJECT : SCIENCE
TERM : 2017 SA1

SECTION A

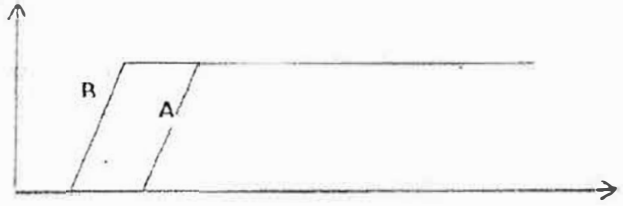
Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	3	1	2	4	4	2	2	1	3

Q 11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	3	3	3	2	1	2	4	4	4

Q 21	Q22	Q23	Q24	Q25	Q26	Q27	Q28
1	1	2	1	4	2	3	2

SECTION B

Q29)	(a) Blood vessel A and C (b) Nutrients and oxygen (c) They will be converted to energy.
Q30)	(a) (i) lungs (ii) windpipes (b) For gaseous exchange
Q31)	(a) (i) A, C, E (ii) E (b) It is for the human waste materials to pass through. (c) Substance Y as Substance Y did not reduce its weight. (d) Seeds
Q32)	(a) Line Z. As the plant in Container B has more roots than container C, the rate of absorption of the plant in Container B is faster. (b) So that no water was lost due to evaporation

	(c) To keep constant : The amount of water To change : The number of root on each plant
Q33)	(a) By wind (b) It has a wing-like structure for the seed to be blown away further. (c) The seedlings would have to fight for food, water and sunlight which resulted in some seedlings withering and dying. (d) 6 meters (e) The higher the seeds were released, the further they would land.
Q34)	(a) B (b) The heat energy from the sun evaporated the water from the swimming pool. (c) The pool cover reduces the temperature of the water. Even though with the cover is there, water still evaporate. The water vapour will come in contact with the cool surface of the pool cover, loses heat and forms water droplets which drip back into the pool.
Q35)	(a) Warm water vapour touches the cooler surface of the cups, loses heat and condense and forming water droplets (b) There is lesser water vapour around Y. So lesser water vapour touches the cooler Cup Y and condenses to form water droplets. (c) The amount of water in both cups.
Q36)	(a) B (b) Lesser water lose heat faster. (c) Different volume of water affects the time taken for it to freeze. (d) 
Q37)	(a) It would still be at 80 ml. Plasticine is a solid which has a definite volume. (b) As the stones are solid which has a definite volume, they occupy space. (c) Use larger stones (d) The styrofoam is light and will float, it did not occupy the space of the water. So, the water level did not increase.

Q38)	(a) Stroke the bar with a magnet with one pole in one direction for at least 20 times. (b) A magnet is stronger at its poles. (c) As copper is not a magnetic material, it cannot be attracted to a magnet. (d) (i) Drop the magnet from the highest point (ii) Heat up the magnet
Q39)	(a) Child 3 (b) (i) Reduce : Use the water for watering plant after washing rice (ii) Recycle : Filter the dirty water into drinkable water
Q40)	(a) No. The water loses heat to the surrounding./ The water has cooled down. (b) The tub of water lost heat to the cup of cold water and the cup of cold water gained heat from the tub of warm water.