

Anglo-Chinese School (Junior)



SEMESTRAL ASSESSMENT 1 (2017)

PRIMARY 6

SCIENCE

BOOKLET A

Wednesday

17 MAY 2017

1 hour 45 minutes

Name: _____ () Class: 6.()

INSTRUCTIONS TO PUPILS

- 1 Do not turn over the pages until you are told to do so.
- 2 Follow all instructions carefully.
- 3 There are 28 questions in this booklet.
- 4 Answer ALL questions.
- 5 Shade your answers in the Optical Answer Sheet (OAS) provided.

This question paper consists of 16 printed pages (inclusive of cover page).

Booklet A (56 marks)

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

1. Maximus placed three identical slices of bread on three identical plastic plates A, B and C. One of the slices was toasted and another was sprinkled with water. All three plates were placed side by side in a warm and dark place. He observed the slices over 5 days and recorded his observation in the table below.

Day	Estimated area of mould growth (cm ²)		
	Slice on Plate A	Slice on Plate B	Slice on Plate C
1	0	0	0
2	0	10	0
3	0	20	5
4	0	40	10
5	5	80	15

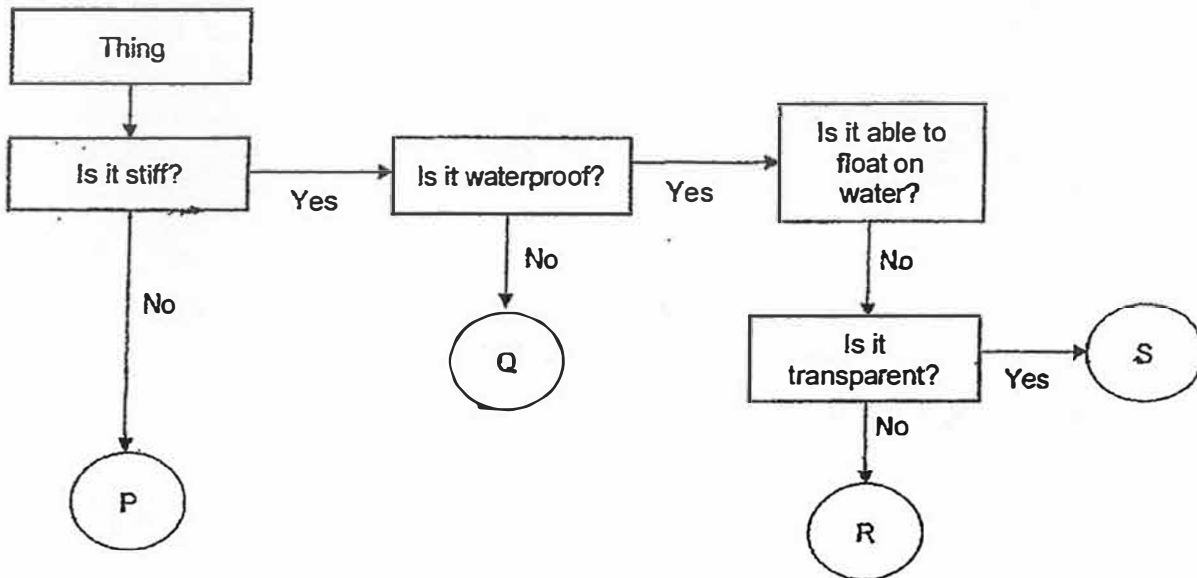
Which of the plates most likely had the slices of bread which were toasted and sprinkled with water?

	Plate with toasted bread	Plate with bread sprinkled with water
(1)	A	B
(2)	A	C
(3)	B	C
(4)	C	B

2. Which of the following parts are matched to the systems correctly?

	Digestive System	Respiratory System	Skeletal System
(1)	Mouth	Heart	Skull
(2)	Stomach	Blood Vessels	Muscles
(3)	Lungs	Nose	Backbone
(4)	Small intestine	Windpipe	Rib

3. Study the flowchart below.



Based on the flowchart, which could most likely be a glass cup?

- (1) P
- (2) Q
- (3) R
- (4) S

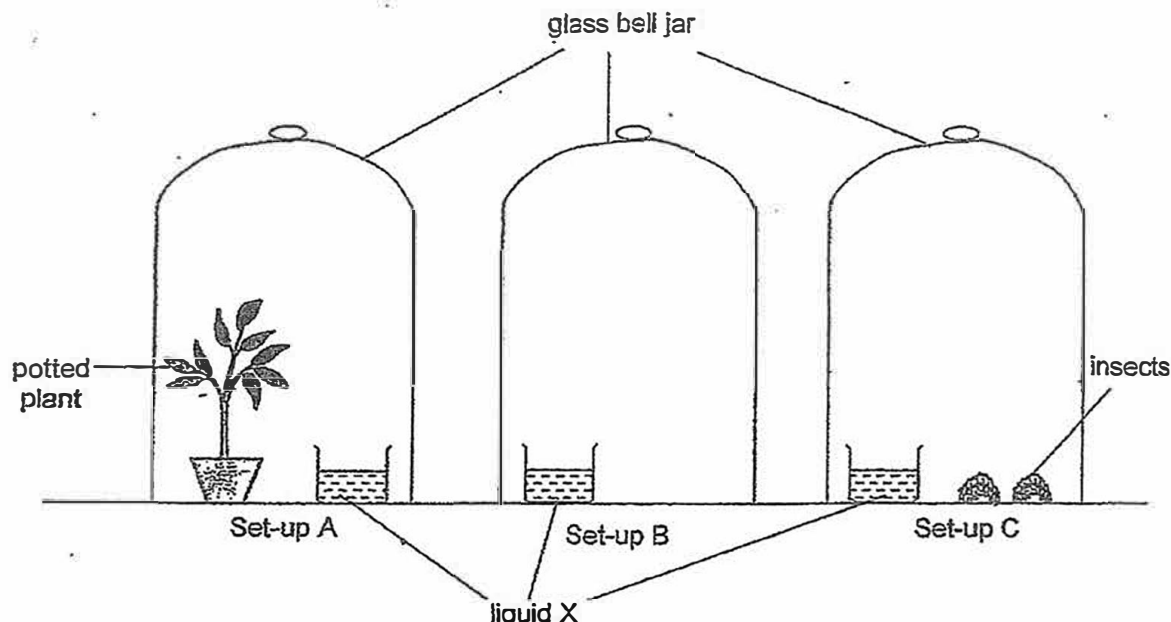
4. Cayden carried out an experiment. He cut out a ring of a plant's stem, as shown below. He placed the plant in his garden and continued to water the plant daily.



Cayden observed the leaves turning yellow and dropping off after a few days. Which of the following statements best explains his observations?

- (1) The leaves could not take in oxygen to make food
- (2) The leaves could not take in carbon dioxide to make food
- (3) Food could not be transported to the leaves as the food-carrying tubes were removed
- (4) Water could not be transported to the leaves to make food as the water-carrying tubes were removed

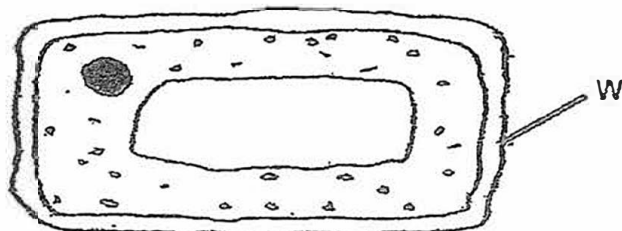
5. Daniel used three identical glass bell jars to conduct an experiment using set-ups A, B and C, as shown below. They were placed next to each other in the school field from 12 pm to 2 pm. He placed an equal amount of liquid X that was clear in colour at the start of the experiment into each set-up. Liquid X changes from clear to milky white in colour when exposed to increased amount of carbon dioxide.



What will be the colour of Liquid X in each set-up after 2 hours?

	A	B	C
(1)	clear	milky white	clear
(2)	clear	clear	milky white
(3)	milky white	milky white	milky white
(4)	milky white	clear	milky white

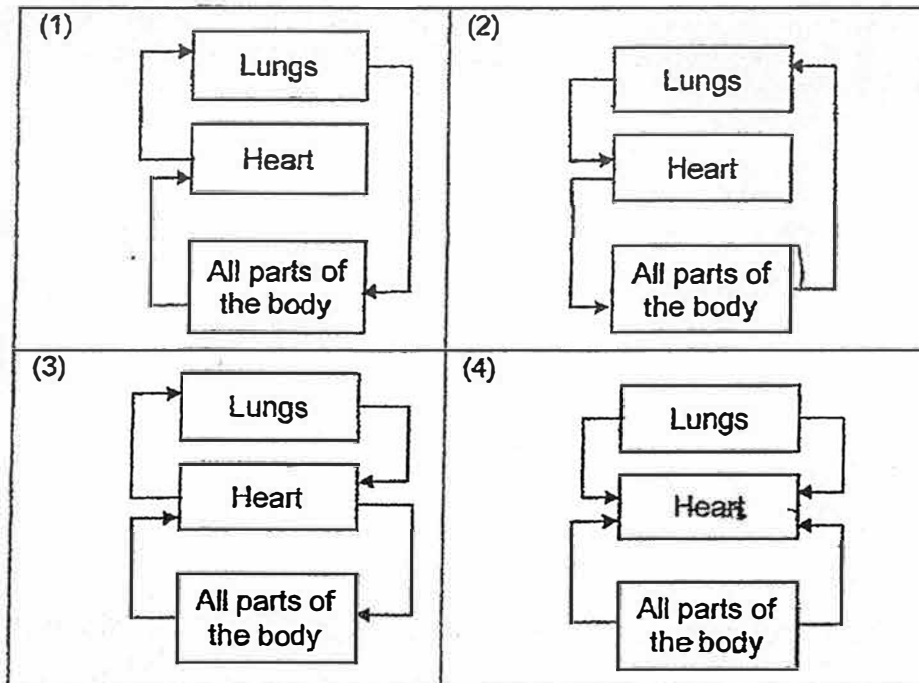
6. The diagram below shows a cell of an organism.



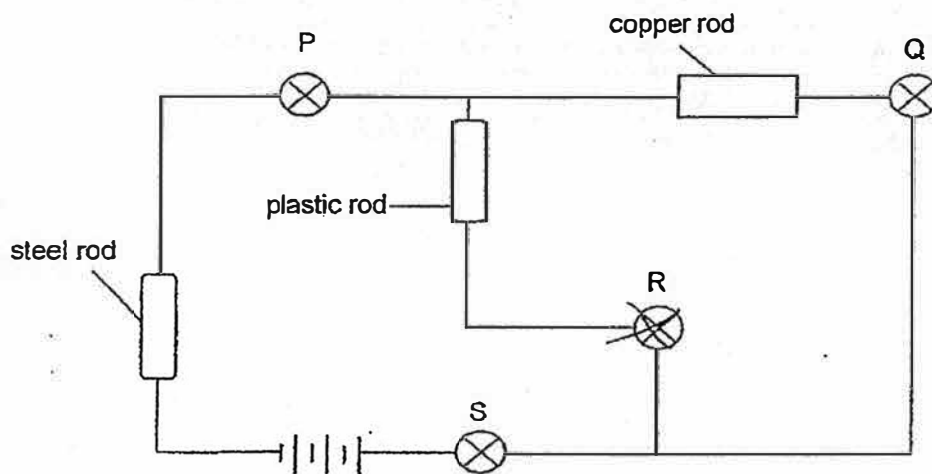
What is the function of part W in the cell?

- (1) Gives the cell its shape
- (2) Controls all activities in the cell
- (3) Contains chlorophyll that traps light
- (4) Controls the movement of substances in and out of the cell

7. Which one of the following shows the correct flow of blood in a human circulatory system?



8. Study the electric circuit below. New batteries and bulbs were used.



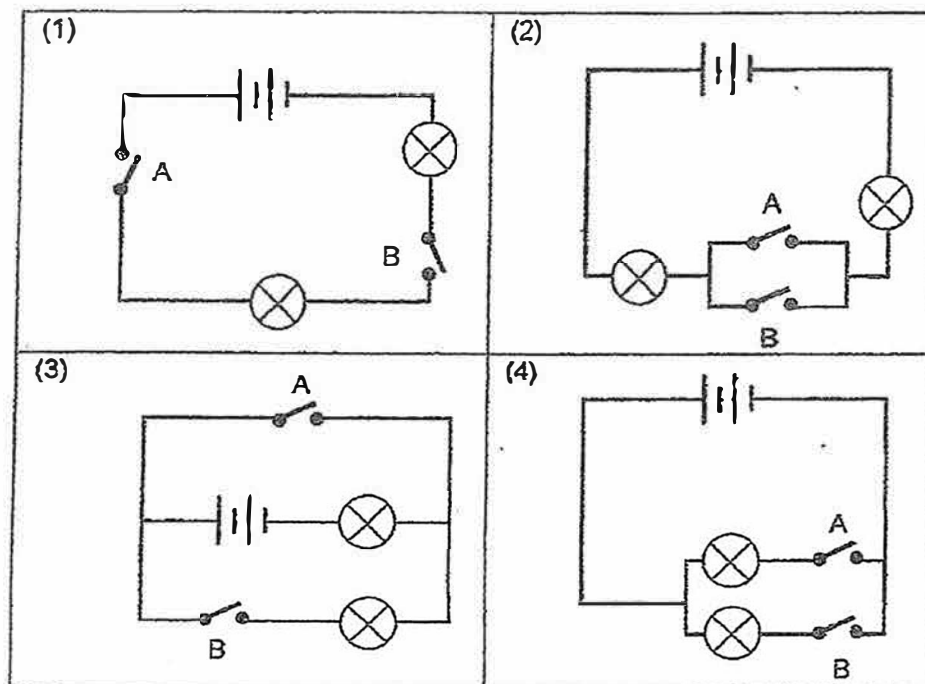
Which bulbs would light up?

- (1) R and Q only
- (2) P, Q and S only
- (3) P, R and S only
- (4) P, Q, R and S

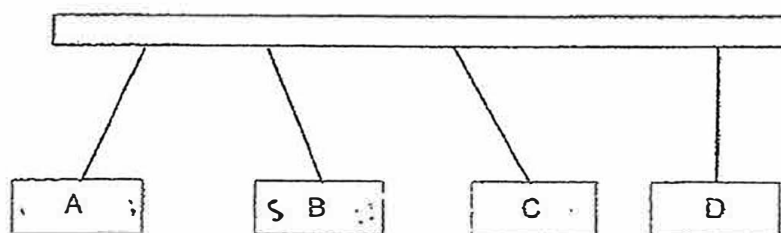
9. Jarius conducted an experiment with an electrical circuit. He opened and/or closed each of the 2 switches in different combinations and observed the number of bulbs that lit up and recorded his results in the table below.

Switch A	Switch B	Number of bulbs lit
Open	Open	0
Open	Close	2
Close	Open	1
Close	Close	2

Which of the following circuits did Jarius use to obtain the results above?



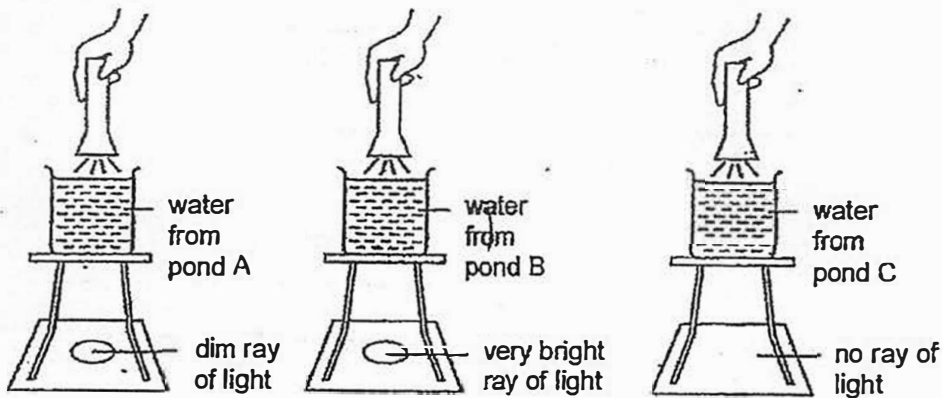
10. James hung four rods on a wooden pole with strings and observed the rods moved as shown below.



Which of the rod(s) is/are definitely a magnet?

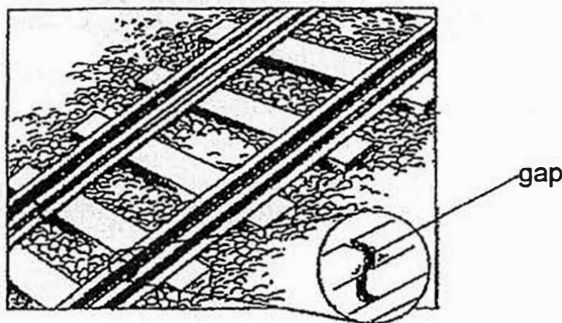
- (1) C only
- (2) A and B only
- (3) A, B and C only
- (4) A, B, C and D

11. Charlie collected 200 ml of pond water from 3 ponds, A, B and C and placed them in three identical beakers. He then placed each beaker on identical tripod stands and shined the same torch through each of them as shown below.



Based on the above observations, in which pond(s) would fully submerged plants most likely be found?

- (1) Pond A only
 - (2) Pond C only
 - (3) Ponds A and B only
 - (4) Ponds A, B and C
12. The diagram below shows a railway track in Singapore that is completely made of metal and is exposed to the sun.

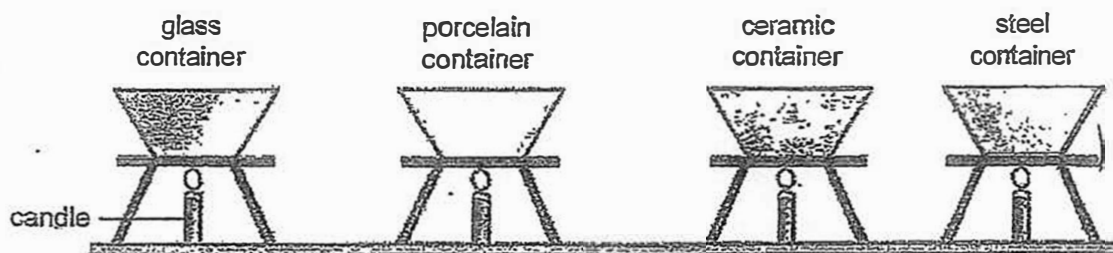


A railway track engineer measured the size of the gap at different times of the day and recorded a measurement of 2 cm and 2.5 cm.

Which of the following shows the correct time of the day that the measurements were taken?

	Gap of 2 cm	Gap of 2.5 cm
(1)	6 am	1 pm
(2)	1 am	6 pm
(3)	1 pm	1 am
(4)	6 pm	1 pm

13. Zach conducted an experiment with four containers of the same size but made of different materials. He placed five ice cubes in each container and heated the containers using lighted candles of the same type as shown below.

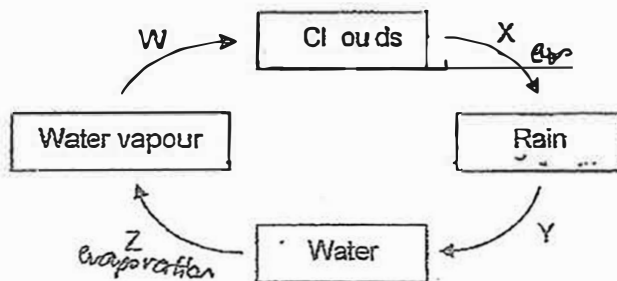


The results of the experiment were recorded in the table below.

Material	Time taken for all the ice cubes to melt completely (min)
glass	3
porcelain	4
ceramic	6
steel	2

From the results of the experiment, which material is the best conductor of heat?

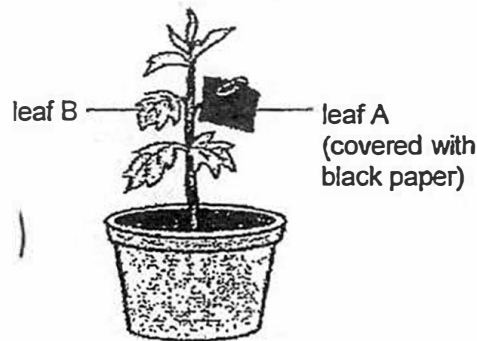
- (1) steel
 - (2) glass
 - (3) ceramic
 - (4) porcelain
14. The diagram below shows the water cycle.



At which point, W, X, Y or Z, in the water cycle will there be heat loss for a change of state to take place?

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

15. Sam covered one of the leaves on a plant with black paper as shown in the diagram below. The plant was exposed to the Sun for two days.

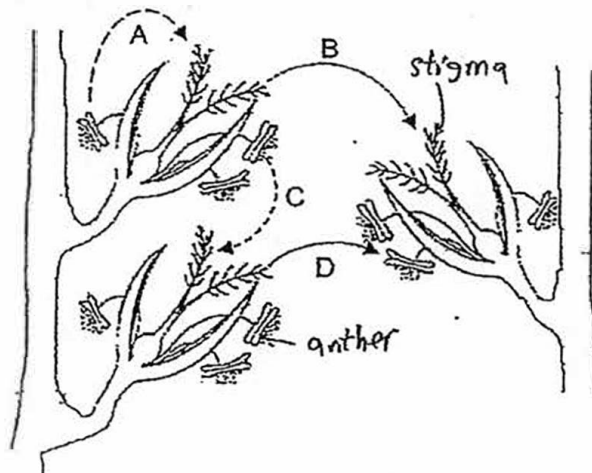


After two days, Sam tested both leaves A and B for starch. He added 3 drops of iodine solution to each leaf. The iodine solution remains brown if no starch is present and turns blue-black if starch is present.

Which of the following conclusions is correct based on Sam's test?

	Colour of iodine solution on Leaf A	Colour of iodine solution on Leaf B
(1)	blue-black	blue-black
(2)	blue-black	brown
(3)	brown	blue-black
(4)	brown	brown

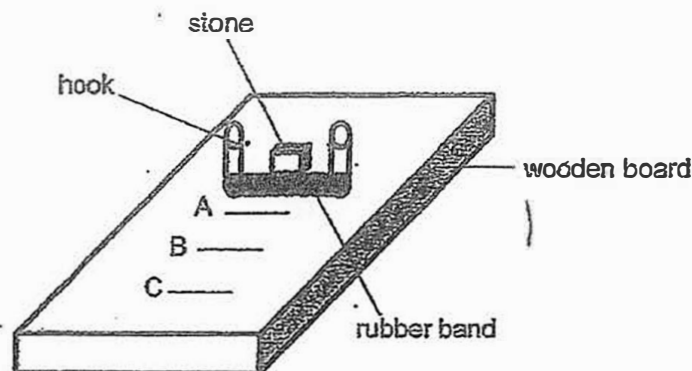
16. The diagram shows the flowers of two plants.



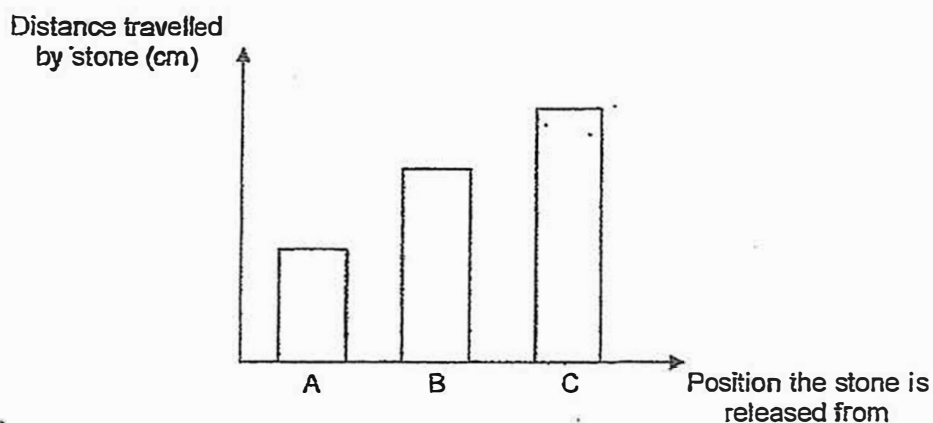
Which of the arrows, A, B, C or D, represent pollination taking place?

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

17. Joe carried out an experiment to find out how the length of a stretched rubber band affects the distance travelled by a stone. He used the set-up as shown below.



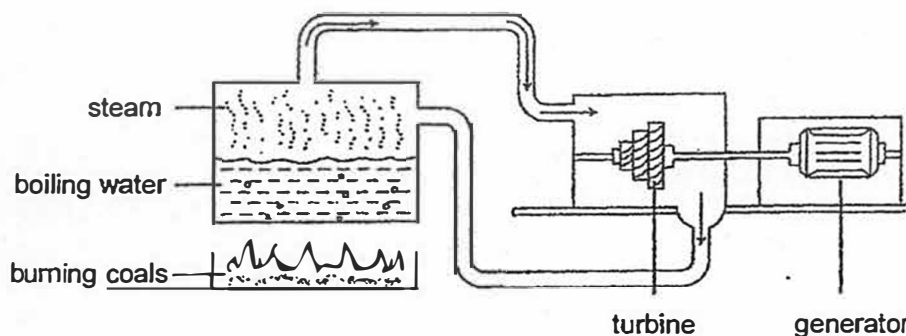
Joe presented his results in the bar graph as shown below.



Which of the following can be inferred from the graph?

- (1) As the distance travelled by the stone decreases, the elasticity of the rubber band decreases
- (2) The more the rubber band is stretched, the further the distance travelled by the stone
- (3) The length of the stretched rubber band does not affect the distance travelled by the stone
- (4) The position the stone is released from is greater when the distance travelled by the stone is smaller

18. The diagram below shows a method of generating electricity.



Which of the following shows the correct energy conversion in the diagram above?

- (1) potential energy (boiling water) → kinetic energy (moving steam) → kinetic energy (moving turbine) → potential energy (generator)
- (2) heat energy (boiling water) → kinetic energy (moving steam) → kinetic energy (moving turbine) → electrical energy (generator)
- (3) potential energy (boiling water) → heat energy (moving steam) → kinetic energy (moving turbine) → potential energy (generator)
- (4) heat energy (boiling water) → heat energy (moving steam) → kinetic energy (moving turbine) → electrical energy (generator)

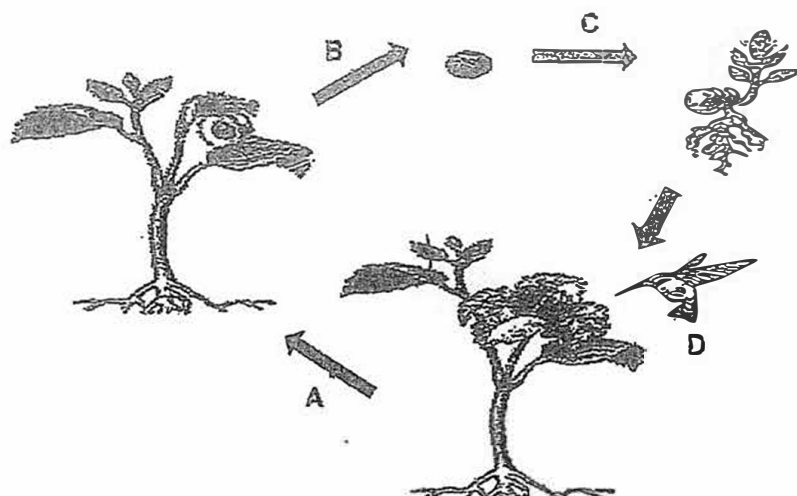
19. The table below shows the boiling and freezing points of three substances, X, Y and Z.

Substances	X	Y	Z
Boiling Point (°C)	16	135	72
Freezing Point (°C)	5	38	13

What is the state of the substances, X, Y and Z at room temperature of 26°C?

	X	Y	Z
(1)	gas	liquid	solid
(2)	liquid	solid	gas
(3)	gas	solid	liquid
(4)	solid	gas	liquid

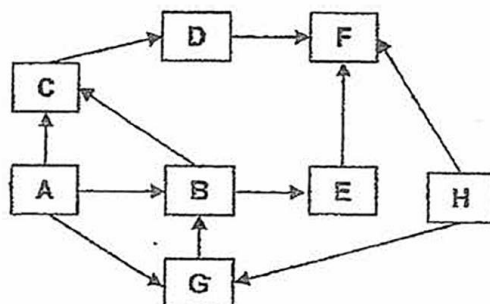
20. Study the diagram of the life cycle of a flowering plant.



Which of the following shows the correct order of processes starting from point A to D?

	A	B	C	D
(1)	pollination	fertilisation	dispersal	germination
(2)	fertilisation	dispersal	germination	pollination
(3)	dispersal	germination	pollination	fertilisation
(4)	germination	pollination	fertilisation	dispersal

21. Study the food web of a community shown below.



Which of the following correctly matches the organisms to their diet?

	Herbivore	Carnivore	Omnivore
(1)	C, G	B, D	E, F
(2)	C, B, G	D, F	D, E
(3)	G	B, D	E, F
(4)	G	D, E	B, F, C

22. The diagrams below show the beaks and feet of four birds A, B, C and D and their feet, W, X, Y and Z.



Bird A



Bird B



Bird C



Bird D



Feet W



Feet X



Feet Y

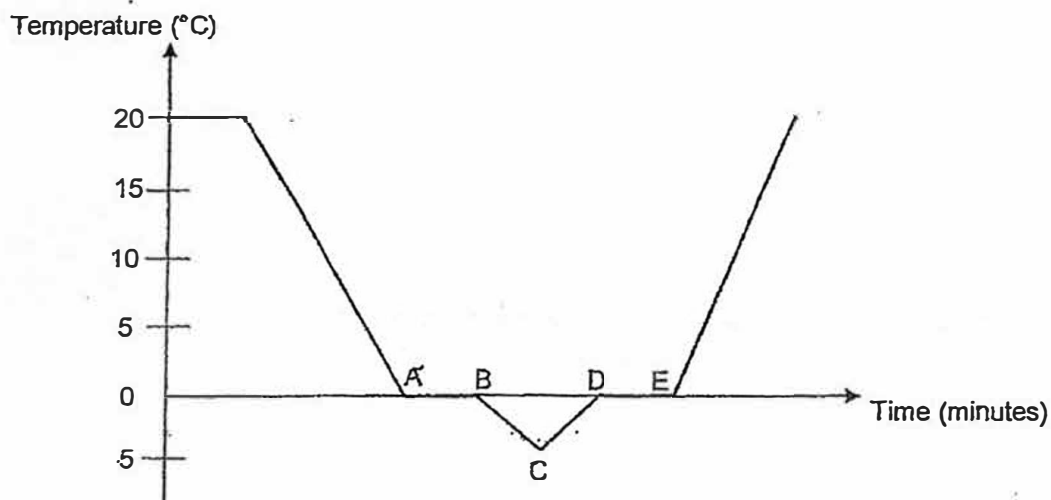


Feet Z

Which of the following correctly matches the birds to their feet?

	Bird A	Bird B	Bird C	Bird D
(1)	Y	Z	X	W
(2)	X	W	Z	Y
(3)	Y	W	Z	X
(4)	X	Z	Y	W

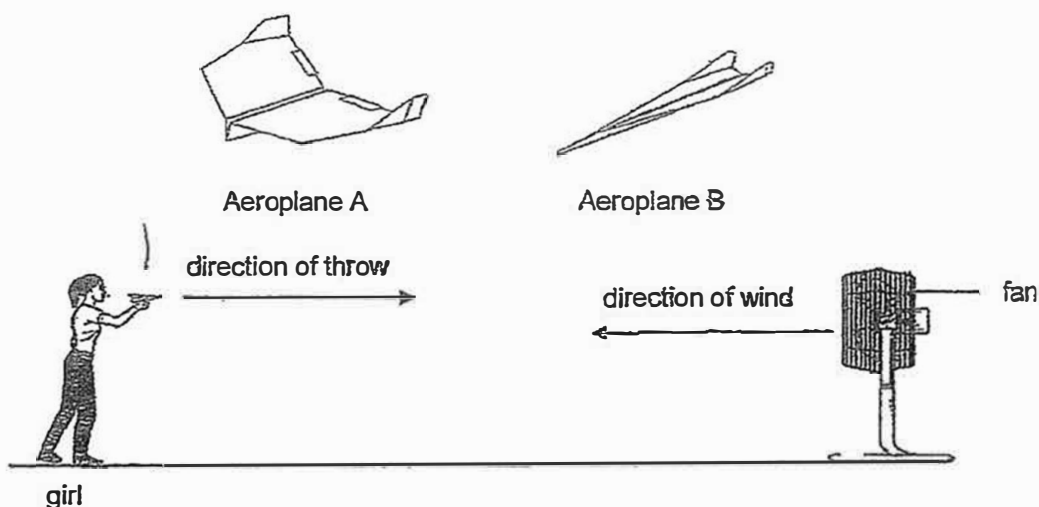
23. The graph below shows how the temperature of a glass of water changes with time.



Between which points on the graph is the glass of water at solid state only?

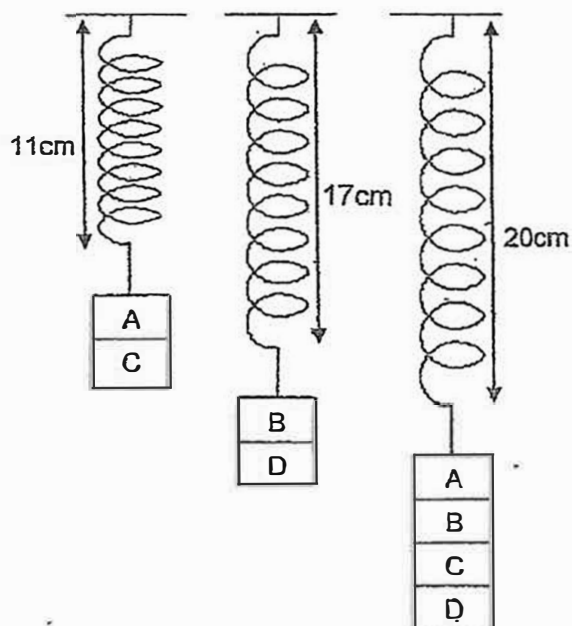
- (1) A to C only
- (2) C to E only
- (3) A to E only
- (4) B to D only

24. Megan threw two different models of paper aeroplanes, A and B, made from identical pieces of paper against a blowing fan.



She threw each paper aeroplane from the same position and with the same amount of force. Which paper aeroplane will fly the furthest distance from the girl to the fan?

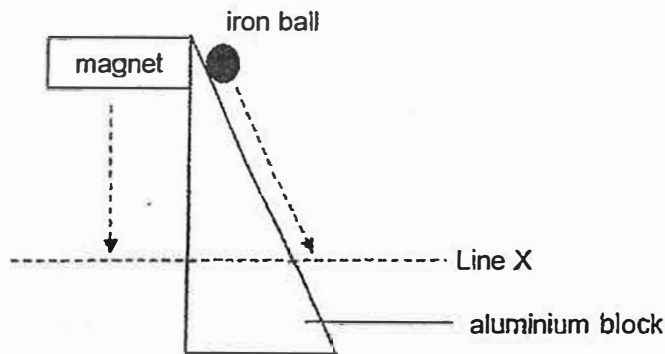
- (1) Aeroplane B because it is longer than A
 - (2) Aeroplane A because it has the wider wings
 - (3) Aeroplane A because it has less air resistance
 - (4) Aeroplane B because it has a more streamlined body
25. The diagram below shows the same spring with different amount of weights hanging from it.



Based on the diagram, what is the original length of the spring?

- (1) 3 cm
- (2) 6 cm
- (3) 8 cm
- (4) 9 cm

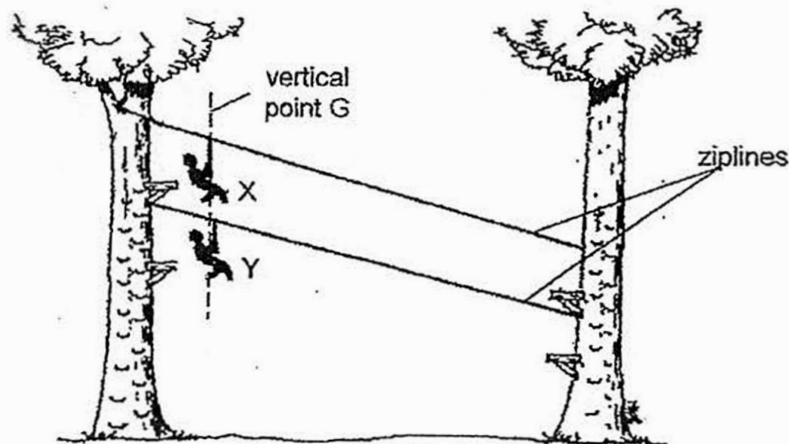
26. An iron ball was held near the top of a triangular aluminium block by a magnet as shown in the diagram below.



When the magnet is moved downwards, the iron ball moves downwards along with the magnet. However, once the magnet and iron ball reach Line X, the iron ball rolls downwards to the floor.

Which of the following statement best explains why the iron ball rolls down after Line X?

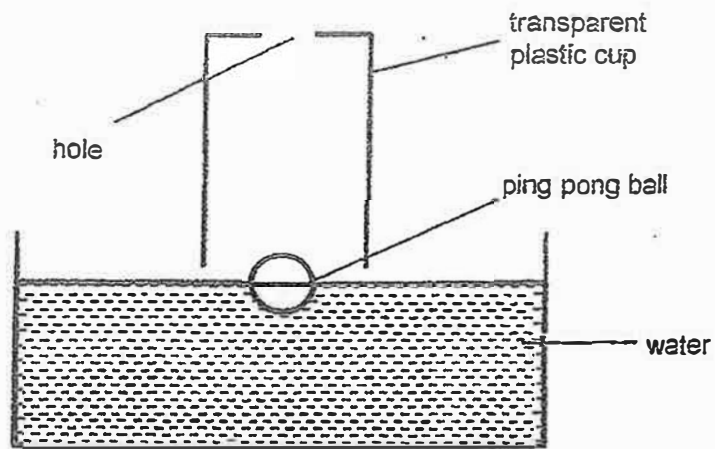
- (1) Magnetism cannot pass through aluminium
 - (2) The aluminium block is a non-magnetic material
 - (3) The increased distance between the magnet and iron ball will decrease the magnetic force on the iron ball
 - (4) The magnet loses its magnetic force to the aluminium block as the distance between the magnet and iron ball increase
27. The diagram below shows 2 boys of the same mass, X and Y, sliding down ziplines at different heights.



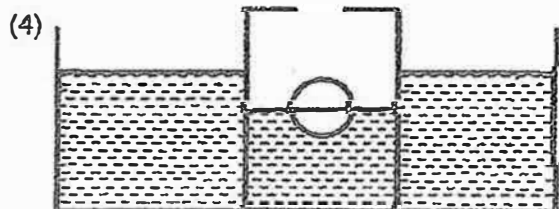
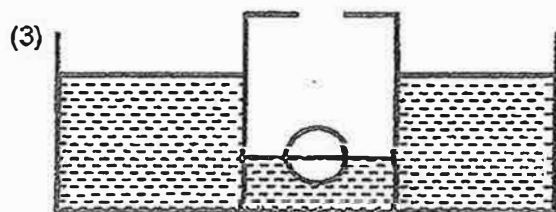
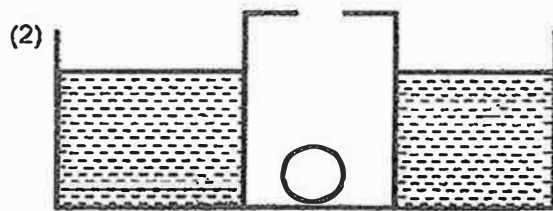
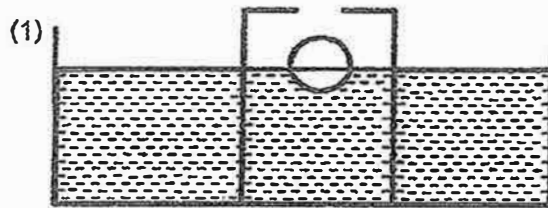
Which of the statement best describes the gravitational force that is acting on the 2 boys at vertical point G?

- (1) No gravitational force is acting on the 2 boys
- (2) Same amount of gravitational force is acting on both boys
- (3) There is more gravitational force acting on Boy X than Boy Y
- (4) Gravitational force acting on the boys decreases as the height of the ziplines decrease

28. Ken conducted an experiment using the set-up below.



Ken then pushed the cup down into the water. Which of the following shows the results of his experiment?



End of Booklet A

SEMESTRAL ASSESSMENT 1 (2017)
PRIMARY 6
SCIENCE
BOOKLET B

Wednesday

17 MAY 2017

1 hour 45 minutes

Name: _____ () Class: 6.() Parent's Signature: _____

INSTRUCTIONS TO PUPILS

- 1 Do not turn over the pages until you are told to do so.
- 2 Follow all instructions carefully.
- 3 There are 13 questions in this booklet.
- 4 Answer ALL questions.
- 5 The marks are given in the brackets [] at the end of each question or part question.

Booklet	Possible Marks	Marks Obtained
A	56	
B	44	
Total	100	

This question paper consists of 15 printed pages (inclusive of cover page).

Booklet B (44 marks)

For questions 29 to 41, write your answers in this booklet.

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

- 29 Russell placed 3 similar plants in the same area in the garden. He watered them with the same amount of water each. All the leaves of each plant were treated as follows:

Plant	Treatment
A	Upper side of leaves were coated with a layer of black paint
B	Under side of leaves were coated with a layer of black paint
C	Leaves were not coated with any paint

- (a) Russell wants to investigate the loss of water through the leaves of plants. He uses plant C and another plant to conduct his experiment. Which other plant, A or B, should Russell use to achieve the aim of his experiment? Explain your answer. [1]

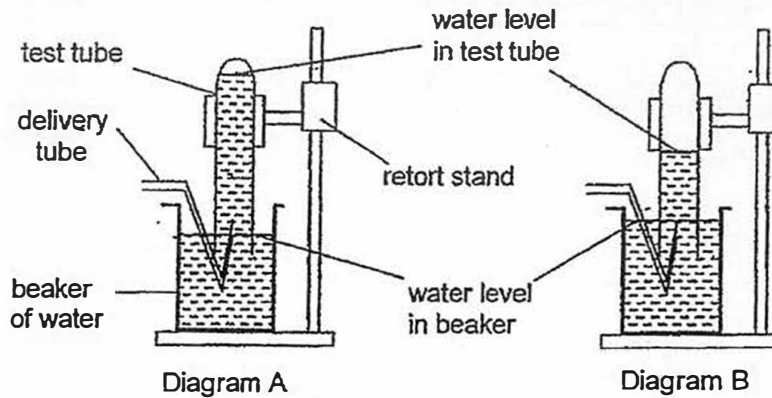
- (b) Explain why Russell used plant C in his experiment. [1]

- (c) Predict what would happen to plant A after a week. Explain your prediction. [1]

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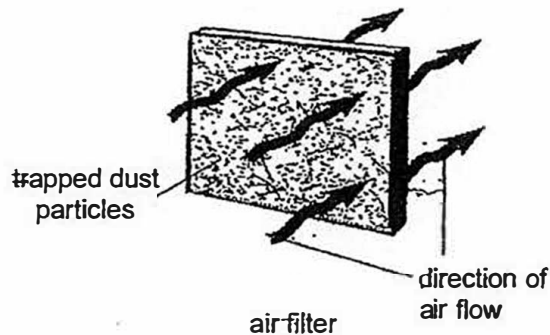
SCORE	3
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- 30 Sam conducted an experiment to measure the amount of air he exhales. Diagram A shows the set-up at the start of the experiment. Diagram B shows the results of the experiment after he blew through the delivery tube for 10 seconds continuously.



- (a) Explain why the water level in the test tube decreased while the water level in the beaker increased after Sam blew air into it for 10 seconds. [2]

The diagram below shows an air filter. It filters out small dust particles. .

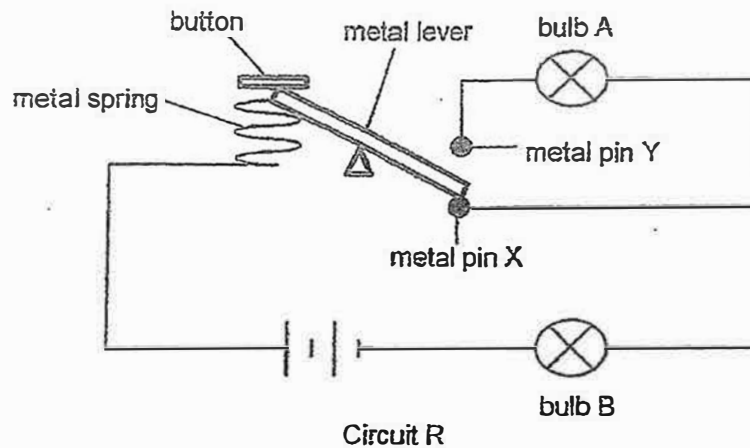


- (b) Which part of the human respiratory system is similar to the air filter shown above? Explain your answer. [1]

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SCORE	
	3

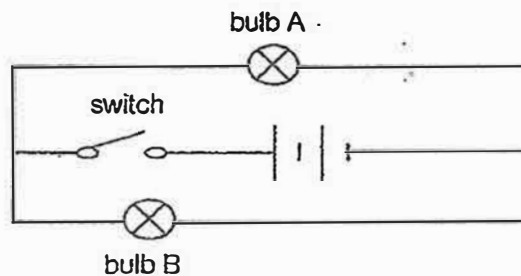
- 31 Penny set up circuit R as shown below. She used identical batteries and bulbs. At first, bulb B was lit. When the button is pressed and held down, both bulbs lit up.



- (a) Explain how both bulbs lit up when the button is pressed and held down. [2]

- (b) What will happen to the brightness of bulb B when the button is pressed and held down? Explain your answer. [1]

Penny modified circuit R by replacing the button, spring and lever with a switch as shown below.

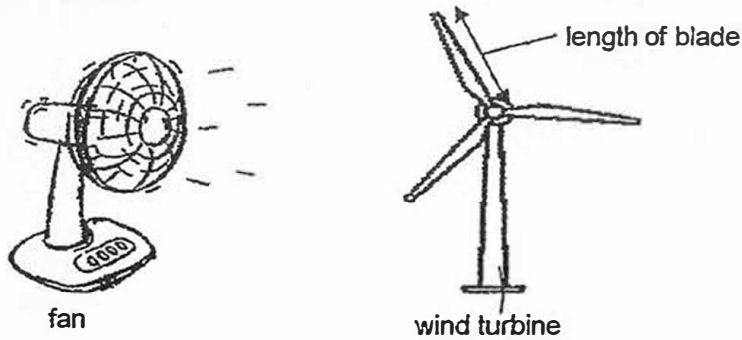


- (c) State an advantage of circuit S to that of circuit R. [1]

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SCORE	
	4

- 32 Gabriel wants to find out if the length of the blade of a wind turbine affects the amount of energy it can generate.



Gabriel carried out the experiment in the Science Laboratory by blowing some wind, from a fan, towards the model wind turbine which has a generator to produce energy and records the amount of energy it generates. He repeats his experiment with different lengths of blades and records the results in the table below.

Length of blade (cm)	Amount of energy generated (units)
5	200
10	400
15	600
20	800

- (a) From the above results, what is the relationship between the length of the blades of the wind turbine and the amount of energy it generated? [1]

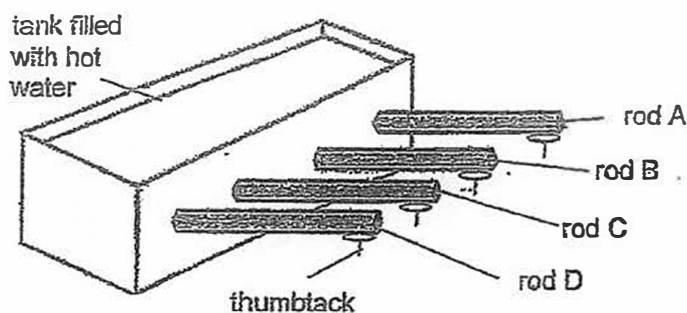
- (b) Predict the results when a stronger wind source is used on the wind turbine with the 10 cm blade. Explain your prediction. [2]

- (c) State another variable that has to be kept the same to ensure a fair test. [1]

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SCORE	4
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- 33 Four rods, A, B, C and D, of the same length but made of different materials are attached to a tank filled with hot water as shown below.



Four identical thumbtacks are held on the ends of the four rods with the same amount of wax. The time taken for the thumbtacks to fall off are recorded in the table below.

Rod	Time taken for thumbtacks to fall off (seconds)
A	120
B	90
C	75
D	150

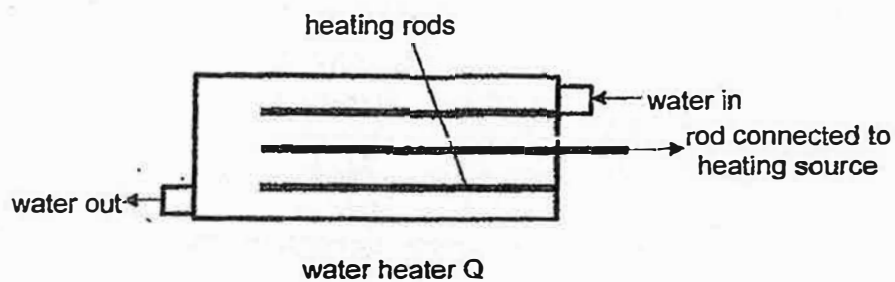
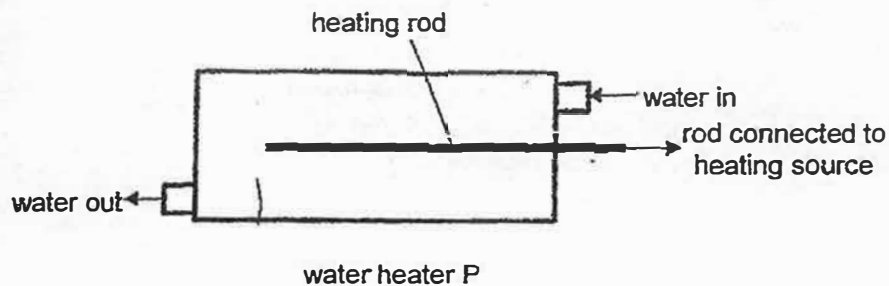
- (a) From the results, which rod is the worst conductor of heat? Explain your answer. [1]

- (b) Explain why the length of the rods, A, B, C and D, should be the same size to ensure a fair test. [1]

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SCORE	
	2

The diagrams below show two water heaters with different number of heating rods. Each of the heating rods of both water heaters were made of the same material and were of the same size.



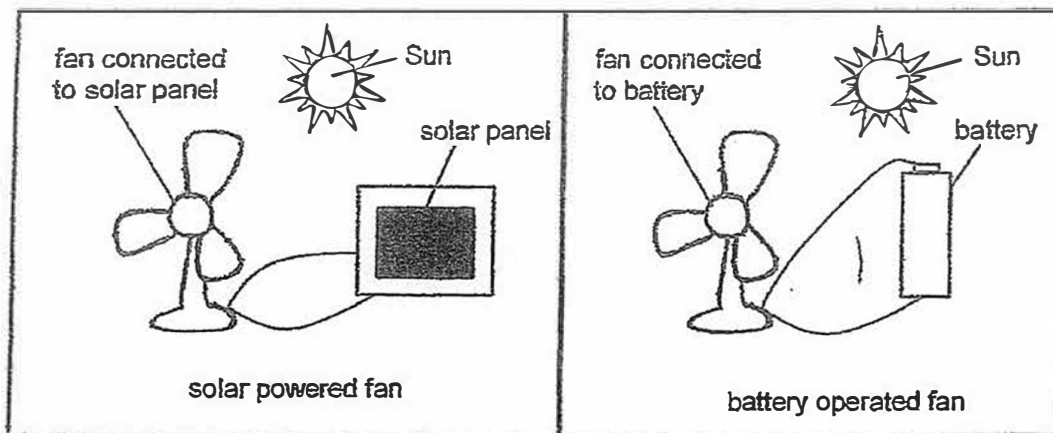
- (c) Which rod, A, B, C or D, from the experiment is most suitable to make the heating rod for the water heaters above? Explain your answer. [1]

- (d) The water in water heater Q heated up faster ^{then} ~~that~~ the water from water heater P. Explain why. [1]

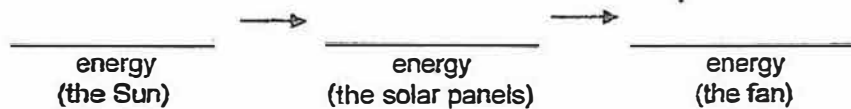
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SCORE	2
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- 34 The diagram below shows a solar powered fan and a battery operated fan.



- (a) Fill in the blanks to show the correct energy conversions that occur in the solar powered fan. [1]

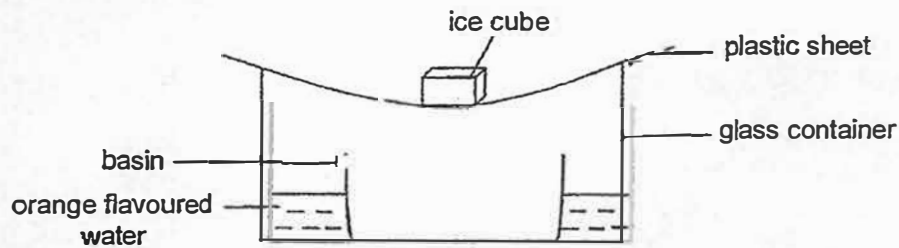


- (b) State one advantage of the solar powered fan to the battery operated fan. [1]

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SCORE	1
	2

35 Tom set up the experiment below on a sunny day.



- (a) Tom predicted that the liquid collected in the basin after two hours is orange juice. Do you agree with him? Explain your answer. [2]

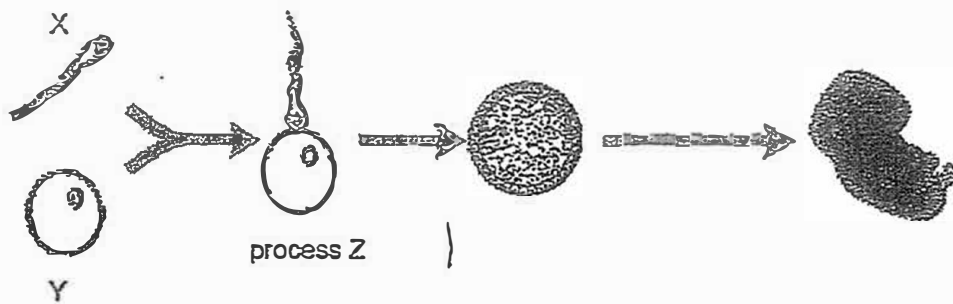
- (b) Tom repeated the experiment using a smaller basin in the glass container. Will the amount of liquid collected be more or less than the experiment above? Explain why. [1]

- (c) Besides the change in (b), what can Tom do to increase the rate of collection of the amount of liquid? [1]

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- 36 The diagram shows processes X and Y in human reproduction.



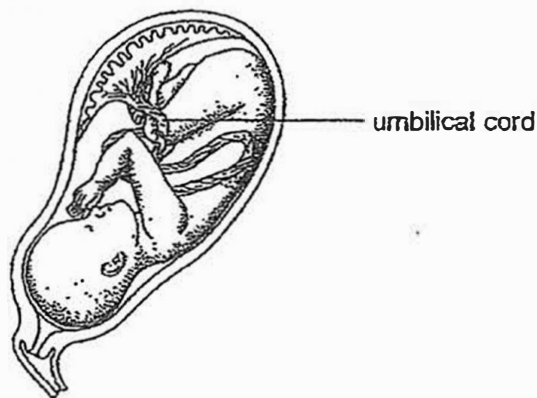
- (a) Name the human reproductive parts that produces X and Y. [1]

X : _____

Y : _____

- (b) State the name of process Z and describes what happens during process Z. [1]

- (c) Study the diagram below. [1]

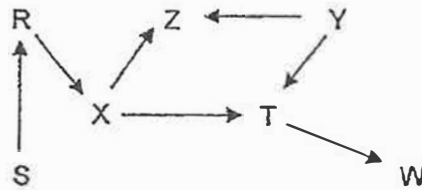


How does the umbilical cord help in the development of the baby while it is in the mother?

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SCORE	
	3

- 37 The diagram below shows a food web of a community.

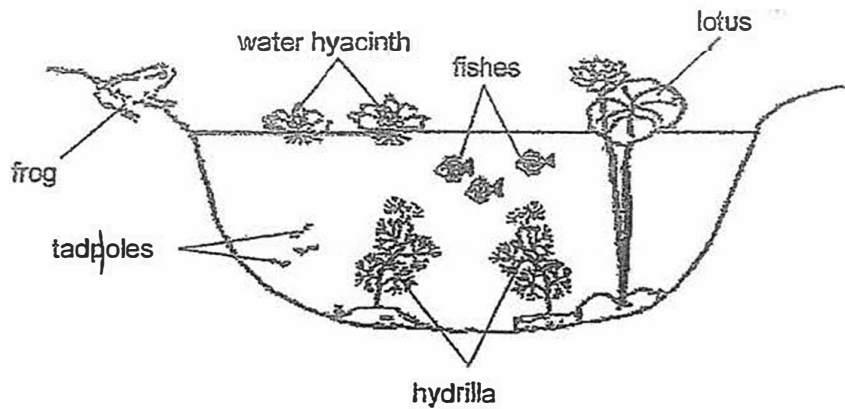


- (a) Based on the food web above, state the relationship between organism T and organism W. [1]
- _____
- (b) How many food chains are there in the food web? [1]
- _____
- (c) Jack said that organism Y is a prey of organism T. Do you agree with him? Explain your answer. [1]
- _____
- _____
- (d) A disease caused large numbers of organism Z to die. Explain how this would affect the population of organism T. [1]
- _____
- _____
- _____

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SCORE	4
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- 38 The diagram below shows a pond community.



- (a) State how the fish and the hydrilla are dependent on one another. [1]

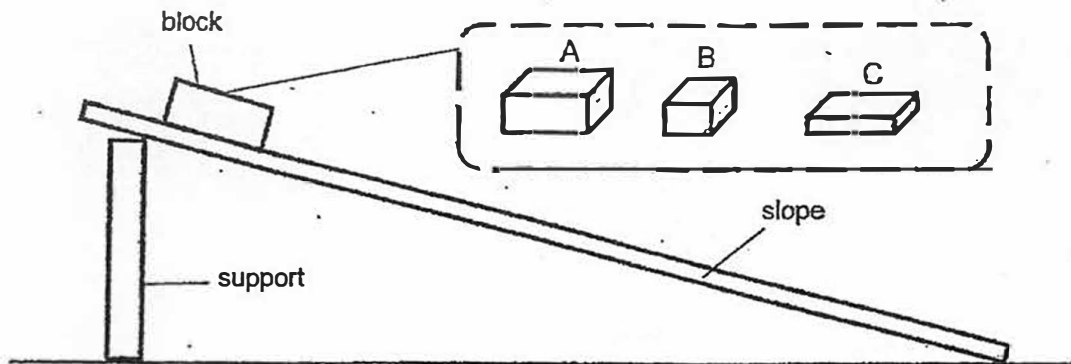
- (b) Explain how the population of hydrilla will be affected if the population of water hyacinth suddenly increases. [1]

- (c) If the water in the pond dries up, why would the frogs survive when all the other organisms in the community dies? [1]

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- 39 Nick carried out an experiment using three blocks made of the same material, but with various mass and area of contact with the surface. He release the blocks from the slope and measured the distance moved by each block until it stopped moving.



His results are shown in the table below.

Block	Mass (g)	Distance moved (cm)
A	300	50
B	200	40
C	100	30

- (a) State two variables that Nick has to keep constant for his experiment to be fair. [1].

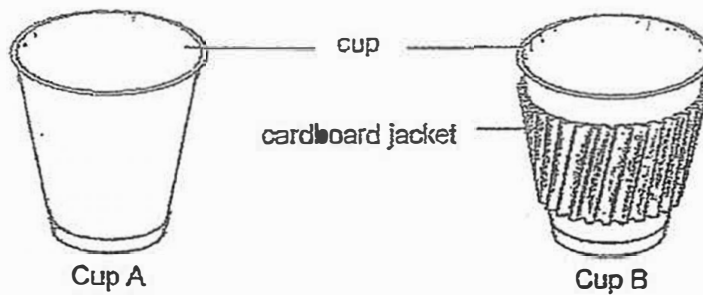
- (b) Based on the results, what is the relationship between the mass and distance moved by the block? [1]

- (c) If Nick carries out the experiment using block D of mass 350g, predict the distance that block D will move. Explain your answer. [2]

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SCORE	4
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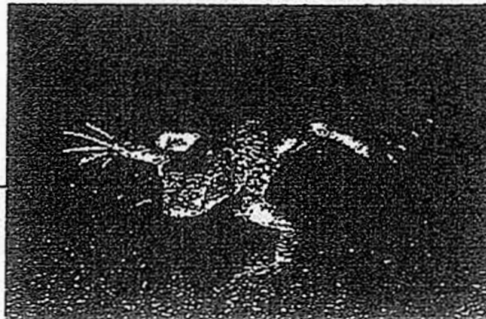
- 40 Ivan conducted an experiment using two identical paper cups containing the same amount of hot coffee.



- (a) After some time, Ivan found that he could hold on to Cup B longer than Cup A. Explain why. [2]

- (b) Animal Q lives in the desert. During the day the sand gets very hot and animal Q can be found moving across the sand by raising its tail and one of its front and back legs at the same time and then repeating it with the other two legs.

Animal Q

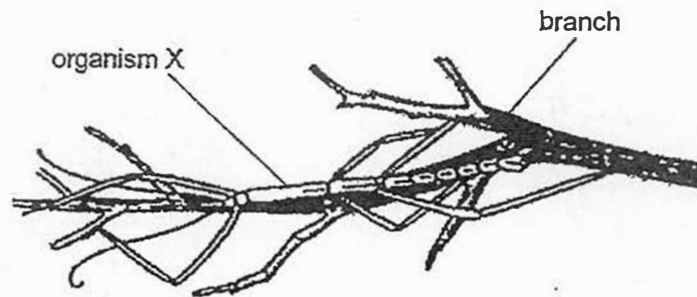


Based on the results of Ivan's experiment, explain how this behaviour helps animal Q to survive in the desert. [1]

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SCORE	
	3

- 41 The diagram below shows organism X on a branch.



When startled by its predators such as birds, organism X will stop moving and keep very still.

- (a) Explain how the above adaptations ensures that organism X has a better chance of survival. [1]

The diagram below shows a seed eaten by ants and an egg of organism X. The ants usually collect the seeds and store them underground. Organism X lays its eggs from a tree and drops them onto the ground. The eggs contain a small part called the capitulum, which is full of sugar. The ants will carry the eggs underground to their nest.



- (b) Based on the information given above, state how the ant's behaviour benefits itself and the egg of ~~the stick insect~~ Organism X [2]

End of Paper

SCORE	3
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YEAR : 2017
 LEVEL : PRIMARY 6
 SCHOOL : : ANGLO-CHINESE SCHOOL (JUNIOR)
 SUBJECT : : SCIENCE
 TERM : : SA1

Booklet A

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

Booklet B

- Q29 (a) B. All stomata are on the underside of the leaves, so all water will be lost through the stomata on the underside of the leaves and not the upper side so B should be used if Russel wants to investigate the loss of water through the leaves of plant.
- Q29 (b) C is used as a control set-up to show that water loss is due to the stomata of the leaves.
- Q29 (c) A would die. Leaves of A cannot absorb light for photosynthesis because the leaves were coated with black paint.
- Q30 (a) When Sam blew air into the delivery tube, air entered the test tube. As air takes up space, the air took up the space previously taken up by the water and so some of the water in the test tube had to move down the test tube and fill up the beaker, therefore the water level in the beaker increased.

- Q30 (b) The nose. When we breathe in, there are some dust particles in the air that we have taken in, so the nose hair traps the dust particles, just like the air filter.
- Q31 (a) When the button is pressed down and held down, one end of the metal lever is connected to the metal pin Y. As the button is made of a magnetic material, the circuit becomes a closed circuit. As electricity can flow through a closed circuit, electricity can flow through the circuit to light up both bulbs because metal pin Y is also made of a magnetic material and electricity can flow through magnetic materials.
- Q31 (b) The brightness of B will decrease. B is now in series together with A and as bulbs in series are dimmer than bulbs in parallel, the Electricity flowing out of the batteries now have to be shared between A and B instead of only B so B will be dimmer
- Q31 (c) When one bulb in S fuses, the other bulb can still light up but in R, When one bulb fuses. the other bulb cannot light up
- Q32 (a) The greater the length of the blade (cm), the greater the amount of energy generated.
- Q32 (b) The amount of energy generated would be more than 400 units, about 500 units. The stronger the wind source, the faster the wind turbine turns, so the wind turbine would generate more energy.
- Q32 (c) The distance between the fan and the wind turbine.
- Q33 (a) D. D is the worst conductor of heat as it took 150 seconds for the thumbtack on D to drop off, the longest among all rods, proving that the heat from the hot water took the longest amount of time to reach the thumbtack on D for the thumbtack to drop, so D is the worst conductor of heat.
- Q33 (b) This is to ensure that there is only one changed variable, the type of Material of rod, so only the type of material of rod and not the length of the rods will affect the time taken for the thumbtack to drop off.

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- Q33 (c) C. C is the best conductor of heat among all 4 rods as among all 4 rods, C took the shortest time for the heat to reach the thumbtack on C and make the thumbtack drop off. Therefore, as heating rods need to be the best conductor of heat, C is most suitable to make the water heater.
- Q33 (d) There were more heating rods in Q than P, so the water heater Q would take a faster time to heat up than the water heater P as more heat could be transferred from the heating rods to the water heater Q than the heating rod to the water heater P, so the water heater Q heated up water faster than water heater P.
- Q34 (a) Light $\rightarrow$ electrical $\rightarrow$ kinetic.
- Q34 (b) It uses renewable energy.
- Q35 (a) No. The water in the orange flavoured water gained heat and evaporated into warmer water vapour, which rose and touched the cooler underside of the plastic sheet which had been cooled by the cooler ice cube condensing into water droplets.
- Q35 (b) More. The orange flavoured has a greater exposed surface area, so more water can evaporated into more water vapour and more water vapour can condense into more water droplets.
- Q35 (c) Put more ice cubes on the top of the plastic sheet.
- Q36 (a) X : testes
Y : ovary
- Q36 (b) Fertilisation. The nuclei of the sperm cell fuses with the nuclei of the egg cell.
- Q36 (c) The umbilical cord provides digested food, oxygen and water for the baby to help in the baby's development.
- Q37 (a) Organism T is eaten by organism W.
- Q37 (b) 4
- Q37 (c) No. Organism Y is a food producer and organism T feeds on organism Y.

- Q37 (d) Organism T will increase. There are fewer Z to feed on X and Y, so there will be an increase in X and Y.
More X and Y for T to feed on will cause an increase in T.
- Q38 (a) The fish respire, producing carbon dioxide and the totally submerged take in the carbon dioxide given out by the fish to photosynthesise, producing oxygen. The fish then take in the oxygen given out by the hydrilla for respiration.
- Q38 (b) The population of hydrilla would decrease drastically as the floating water hyacinth would totally block the surface of the pond, leaving no light to enter the pond and to be trapped by the fully submerged hydrilla, so the hydrilla cannot photosynthesise and the population of hydrilla would decrease drastically.
- Q38 (c) The frogs can migrate to another pond to continue to survive.
- Q39 (a) The type of surface of the slope. The height of the support.
- Q39 (b) The smaller the mass of the block, the smaller the distance moved by the block.
- Q39 (c) 55cm. When the mass increases, the gravitational potential energy increases so this results in more kinetic energy of the block and increase in distance moved by D.
- Q40 (a) The cardboard is a poor conductor of heat and it reduces the contact surface area between B and the hand, there it will gain heat faster.
- Q40 (b) By raising its tail and with 2 legs in contact with the hot sand, there is less contact surface area between Q and the hot sand, therefore Q gains heat slower and will not burn itself.
- Q41 (a) This will reduce the chances of predators spotting it as X stay still, so the predators of X will have a harder time looking for it than when X is moving, so X has a better chance of survival.
- Q41 (b) The ant's behavior benefits itself as it receives sugar which the ant will eat. The eggs of organism X will be safer from its predators as the eggs of X are stored underground.

End