



RED SWASTIKA SCHOOL

SCIENCE 2018 PRELIMINARY EXAMINATION PRIMARY 6

Name : _____ ()

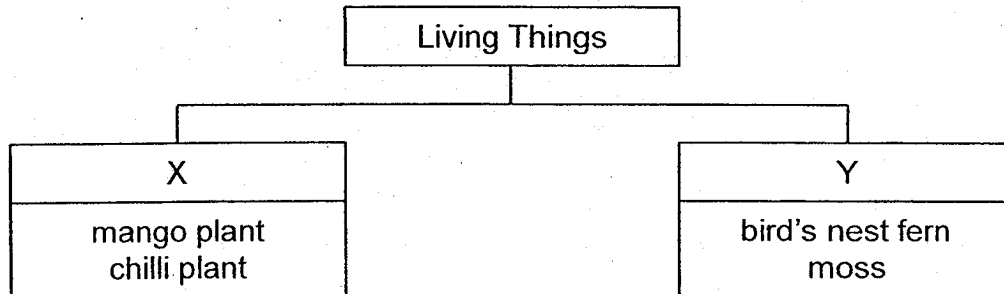
Class : Primary 6/ _____

Date :

BOOKLET A

For Questions 1 to 28, choose the most suitable answer and shade its number in the OAS provided.

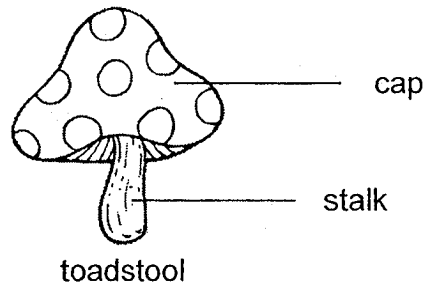
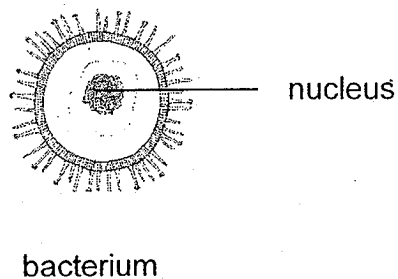
1. The chart below shows how some of the living things can be grouped.



Which of the following correctly shows the characteristics of X and Y?

	X	Y
(1)	grow on land	grow in water
(2)	make their own food	do not make their own food
(3)	reproduce by seeds	reproduce by spores
(4)	have fruits with seeds	have fruits without seeds

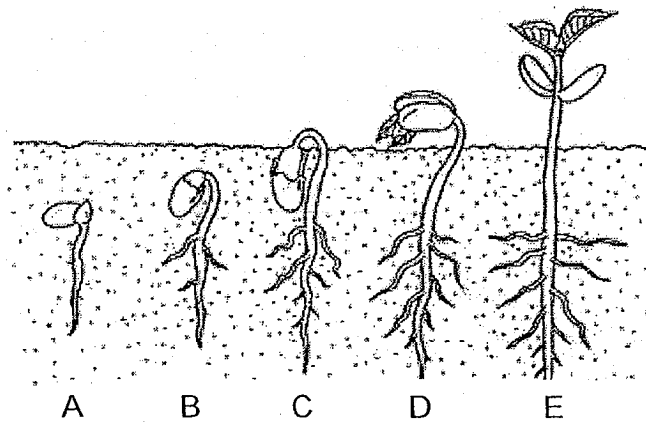
2. Study the organisms below.



Which one of the following statements is false?

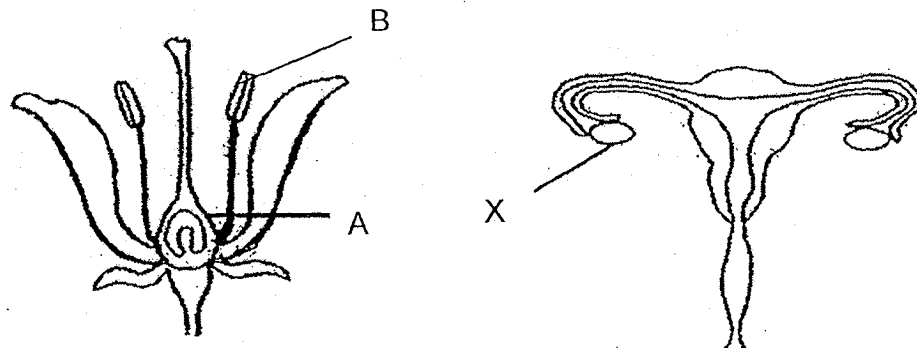
- (1) Both are living things.
- (2) Both are microorganisms.
- (3) Both do not make their own food.
- (4) Both can pass on genetic information to their offspring.

3. The diagram below shows the different stages of the growth of a seed into a young plant.



At which stages can the young plant make its own food?

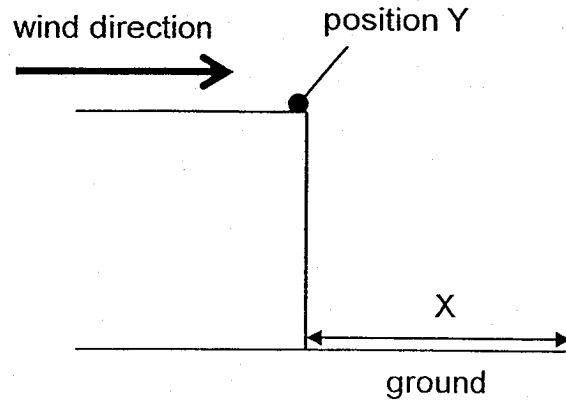
- (1) D and E only
 - (2) B and C only
 - (3) A and B only
 - (4) C, D and E only
4. Study the reproductive parts below.



Identify which part, A or B, is similar in function to part X and the correct reason.

	Part	Reason
(1)	A	has the male reproductive cells
(2)	A	has the female reproductive cells
(3)	B	has the male reproductive cells
(4)	B	has the female reproductive cells

5. Elsa had four different types of seeds P, Q, R and S. She released them from position Y at the same height and time as shown in the diagram below.

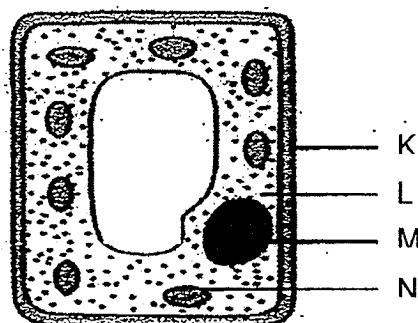


She recorded the distance (X) each seed travelled before reaching the ground in the table below.

Type of seed	P	Q	R	S
X (m)	5	25	15	6

Based on the information given above, which of the following is most likely true?

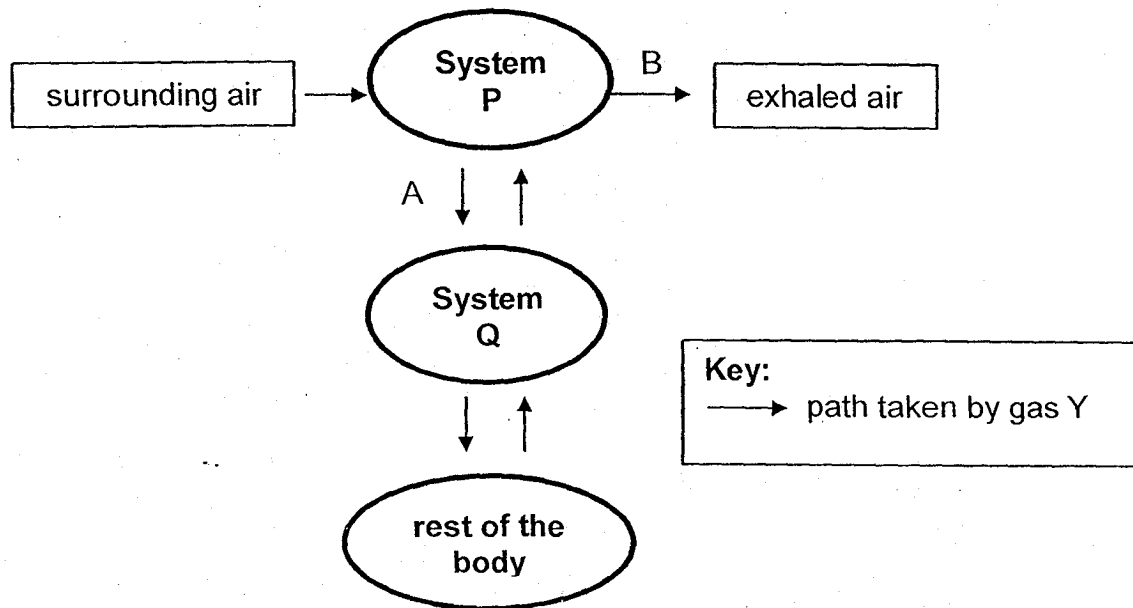
- (1) Seed Q is dispersed by wind.
 - (2) Seed S reaches the ground the fastest.
 - (3) Seed R reaches the ground the slowest.
 - (4) Seeds P, R and S are dispersed by water.
6. Study the plant cell below.



Which two parts are not found in an animal cell?

- (1) K and L
- (2) K and N
- (3) L and M
- (4) M and N

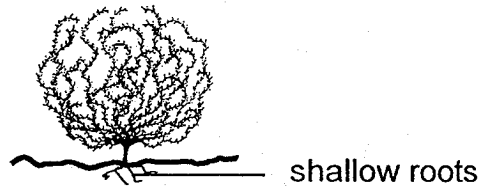
7. The diagram below shows how gas Y is transported around two human systems. The amount of gas Y at point A is more than that at point B.



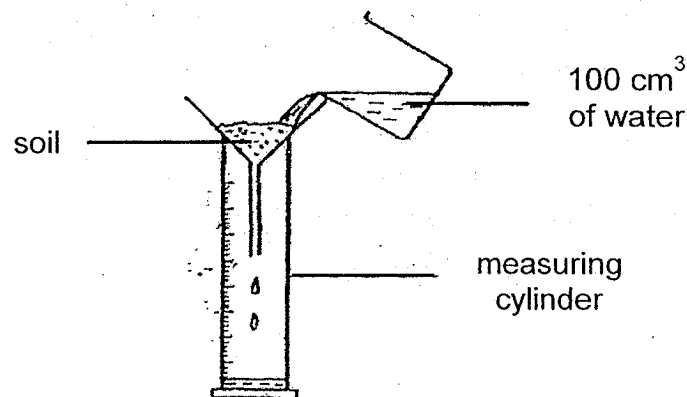
Which human systems do P and Q represent and what is gas Y?

	System P	System Q	Gas Y
(1)	circulatory	respiratory	carbon dioxide
(2)	respiratory	circulatory	carbon dioxide
(3)	circulatory	respiratory	oxygen
(4)	respiratory	circulatory	oxygen

8. The picture shows plant X which has shallow roots that cannot grow deep into the ground.



Susan wanted to investigate about soil P, Q, R and S as shown below. She poured 100 ml of water into soil P and measured the amount of water collected in the measuring cylinder after the same period of time. She repeated the same procedures for soil Q, R and S.



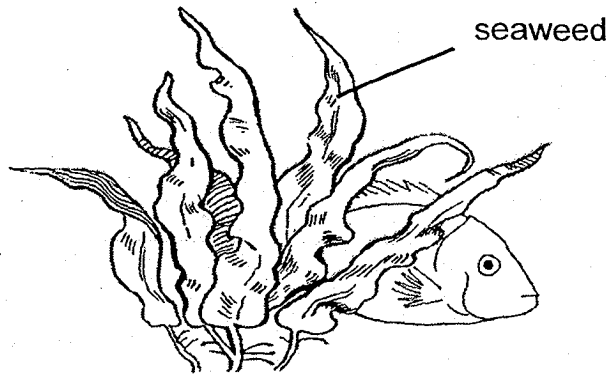
The table below shows the result of her experiment.

Type of soil	P	Q	R	S
Amount of water in measuring cylinder (ml)	97	50	10	70

Which soil will plant X be most adapted to grow in?

- (1) P
 - (2) Q
 - (3) R
 - (4) S
9. Deforestation is harmful to our environment. Which of the following is least likely caused by deforestation?
- (1) more carbon dioxide in the air
 - (2) decrease in population size of animals
 - (3) landslide caused by the rain washing away soil
 - (4) decrease in the temperature of the surrounding air

10. The diagram below shows a fish in a habitat.



Which of the following is a behavioural adaptation that will help the fish to hide from its predators?

- (1) glows in the dark
 - (2) has streamlined body
 - (3) has similar colour as the seaweed
 - (4) moves around the seaweed
11. The table below shows the characteristics of four different habitats, A, B, C and D.

Factors in the habitat	Habitat			
	A	B	C	D
Temperature changes from the day to night	fluctuates widely	fluctuates widely	little change	little change
Light intensity	high	low	high	low
Amount of rainfall	low	high	high	low

Ismail found an organism with the following characteristics in one of the habitats.

- stores water for a long period of time
- makes its own food
- has tiny leaves with few stomata
- stores air in the leaves

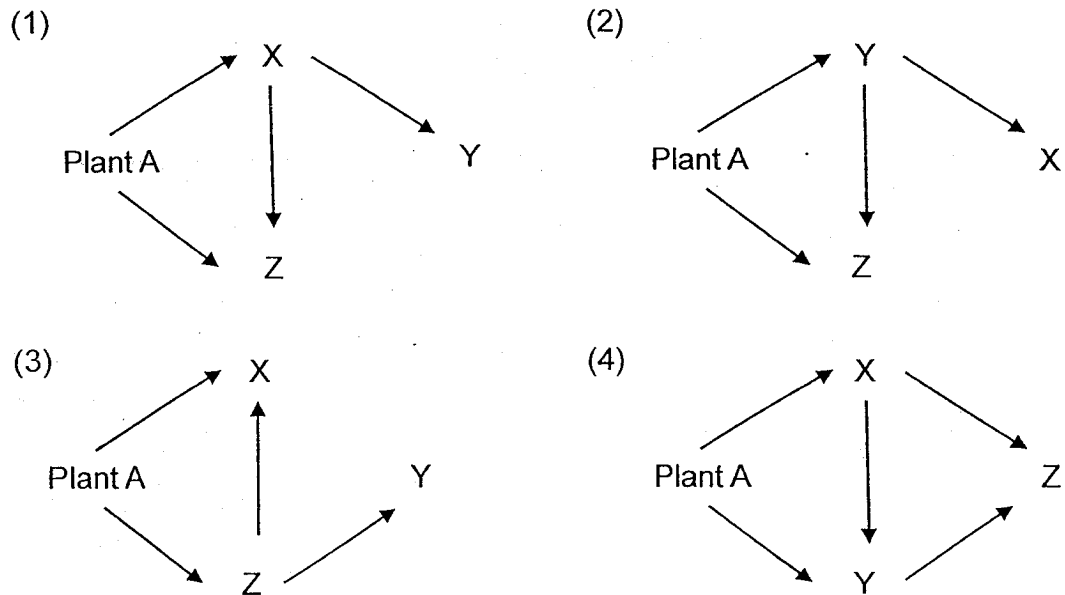
In which habitat did Ismail most likely find the organism from?

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

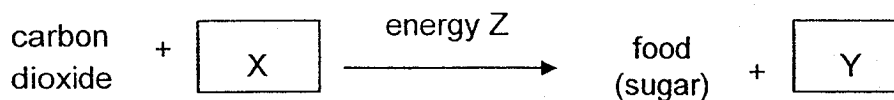
12. Three animals, X, Y and Z, were found in the same habitat. Some scientists conducted an experiment by placing each of them into three similar cages. Each of the cage contains 400g of plant A and 400g of some meat parts. The table below shows the amount of food left at the end of the experiment.

Animal	Amount left at the end of experiment (g)	
	Plant A	Meat parts
X	300	250
Y	400	150
Z	250	400

Based on the experiment above, which of the following shows a possible food relationship among the four organisms?



13. Devi wrote the following summary about the process of photosynthesis.

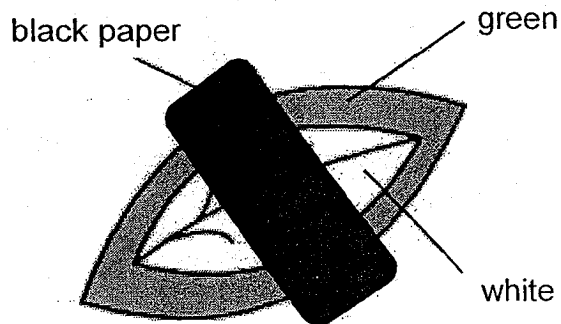


Identify X, Y and energy Z.

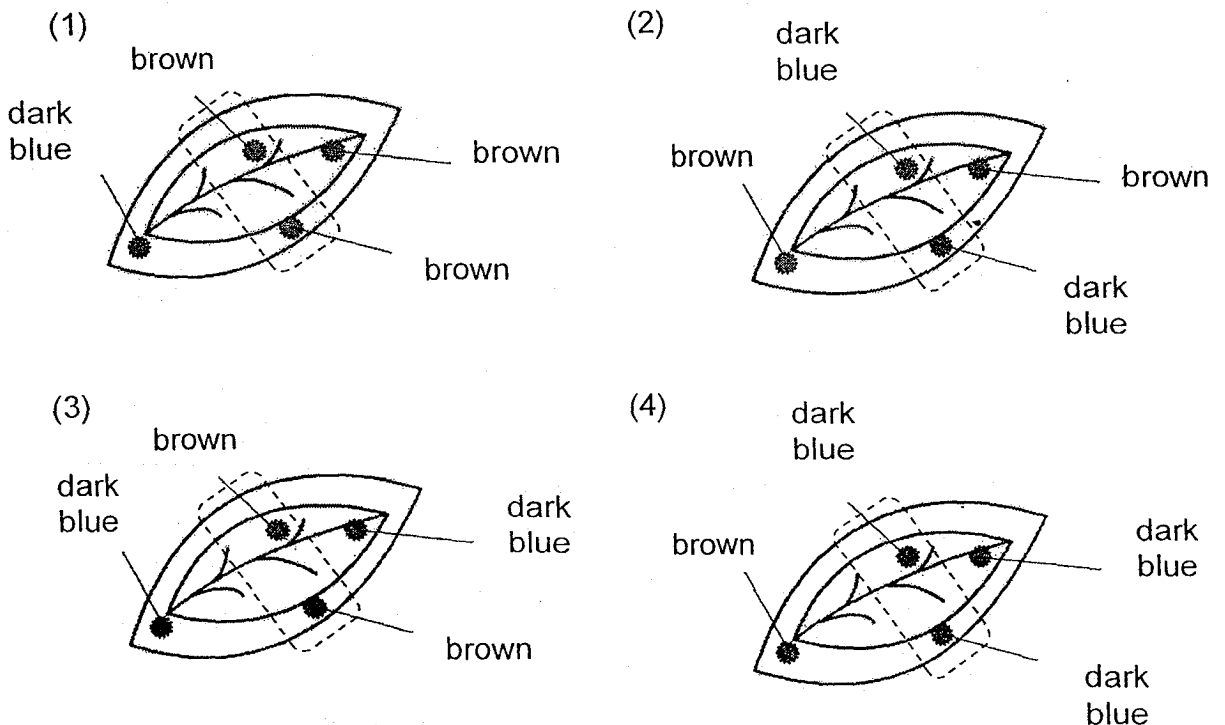
	X	Y	energy Z
(1)	oxygen	water	light
(2)	water	oxygen	light
(3)	oxygen	water	heat
(4)	water	oxygen	heat

14. Kim conducted an experiment with the use of a plant. It is known that not all parts of the leaf of this plant contain chlorophyll.

The plant was left in the cupboard for two days. At the end of two days, a leaf from the plant was covered partially with black paper and the plant was left in the sun. After several hours, the leaf was plucked off and different parts of the leaf were tested for starch using iodine solution.



Which one of the diagrams below shows the correct results of the iodine solution test?



15. Mr Tan works as a life guard at a swimming pool. He is always exposed to the sun. He puts on spectacles A all the time. At a recent eye check, his doctor advised him to put on spectacles B whenever he is at work.

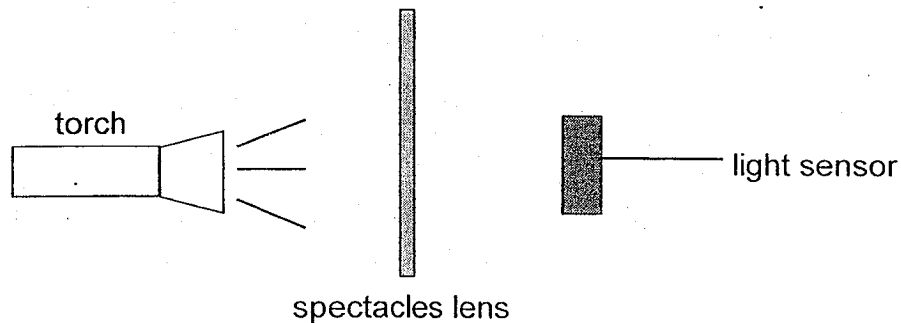


spectacles A

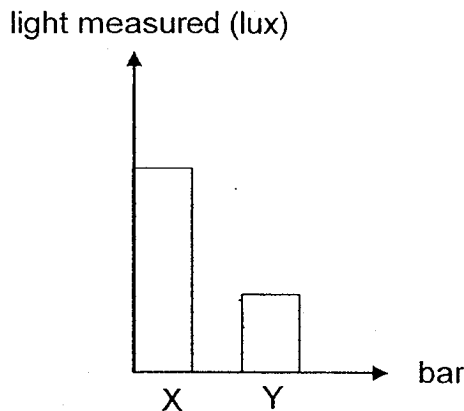


spectacles B

Mr Tan created the set-up shown to use a light sensor to measure the amount of light that passed through when the lenses of spectacles A and B were separately tested.



He recorded his findings in the graph below.

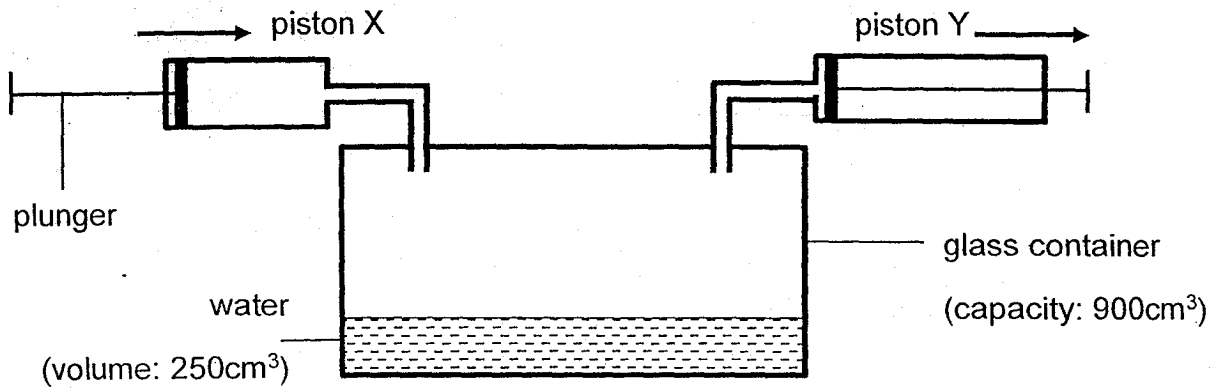


Which of the following is a correct match for spectacles B?

	bar	doctor's reason
(1)	X	It allows the most light to pass through and helps him to see better.
(2)	X	It allows the most light to be blocked and protects his eyes.
(3)	Y	It allows the most light to pass through and helps him to see better.

(4)	Y	It allows the most light to be blocked and protects his eyes.
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16. Study the diagram below carefully.

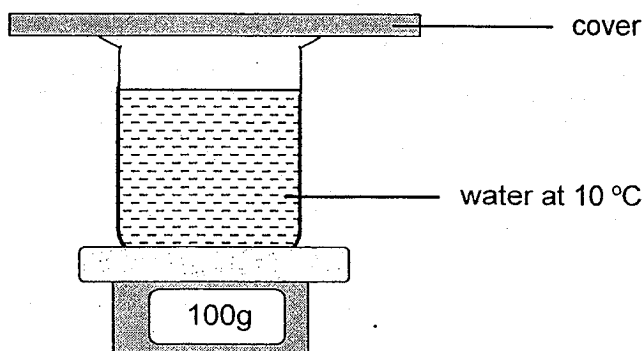


When piston X is pushed in completely, 50 cm^3 of air is forced into the glass container. When piston Y is pulled out completely, 80 cm^3 of air is removed.

What is the volume of air in the glass container when piston X is pushed in once and piston Y is pulled out once?

- (1) 620 cm^3
- (2) 650 cm^3
- (3) 780 cm^3
- (4) 900 cm^3

17. Raja has a beaker of cold water. He placed the beaker of cold water as shown. The set-up was placed in the Science room.



He recorded the temperature of water and mass of the set-up at first. He monitored the change in the temperature and mass and recorded them in a table.

Which of the following represents the most likely measurements at the end of 20 minutes?

	temperature of water (°C)	mass of set-up (g)
(1)	13	98
(2)	13	100
(3)	28	100
(4)	28	102

18. In a recycling plant, substances are melted and recycled for other uses.

The table below shows the melting and boiling points of substances W, X, Y and Z.

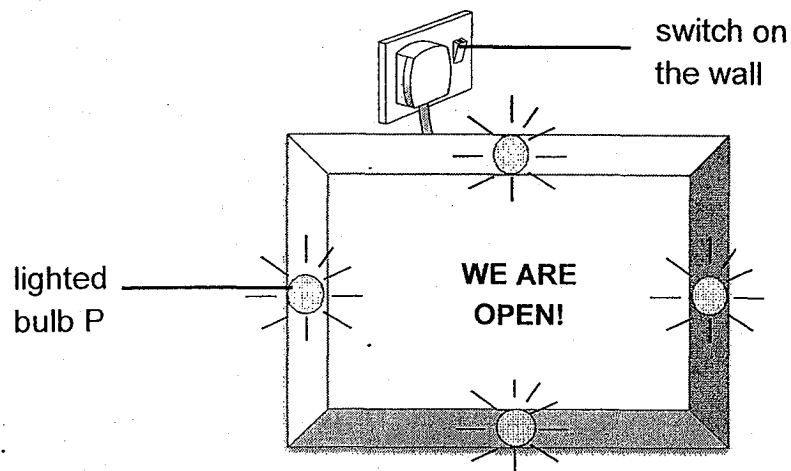
substance	melting point (°C)	boiling point (°C)
W	80	150
X	10	90
Y	60	200
Z	40	75

The substances can only be recycled when they are in the liquid state.

Which substance(s) can be recycled at 100 °C?

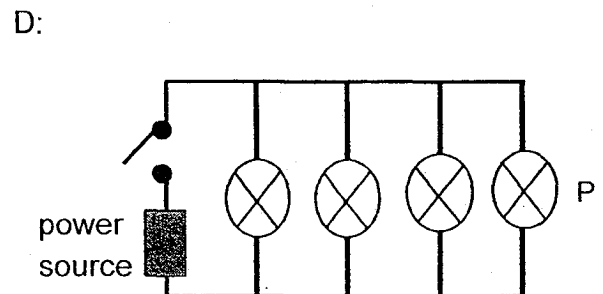
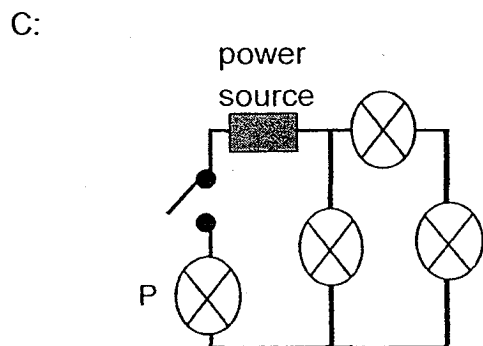
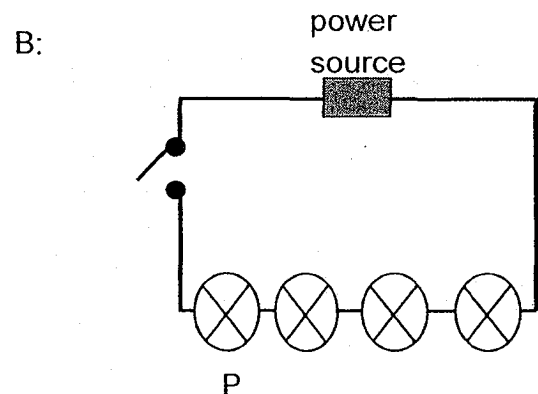
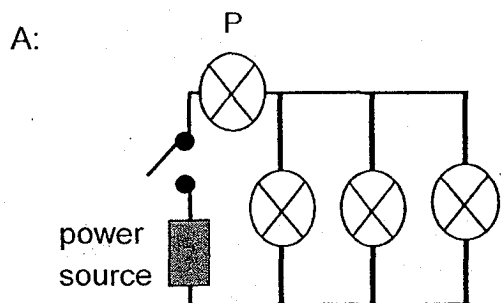
- (1) W only
- (2) X and Z only
- (3) W and Y only
- (4) X, Y and Z only

19. Min Yi studied a lighted signboard at a shop.



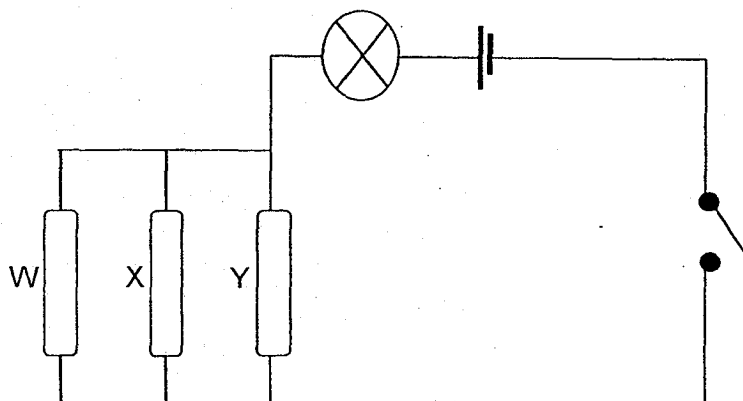
The shop owner said that the signboard is connected to a switch and when bulb P is fused, the rest of the bulbs will not light up.

Which of the following options would most probably be the circuit diagram of the signboard shown above?



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

20. Doris wanted to investigate the properties of three rods, W, X and Y. She created the circuit shown below.



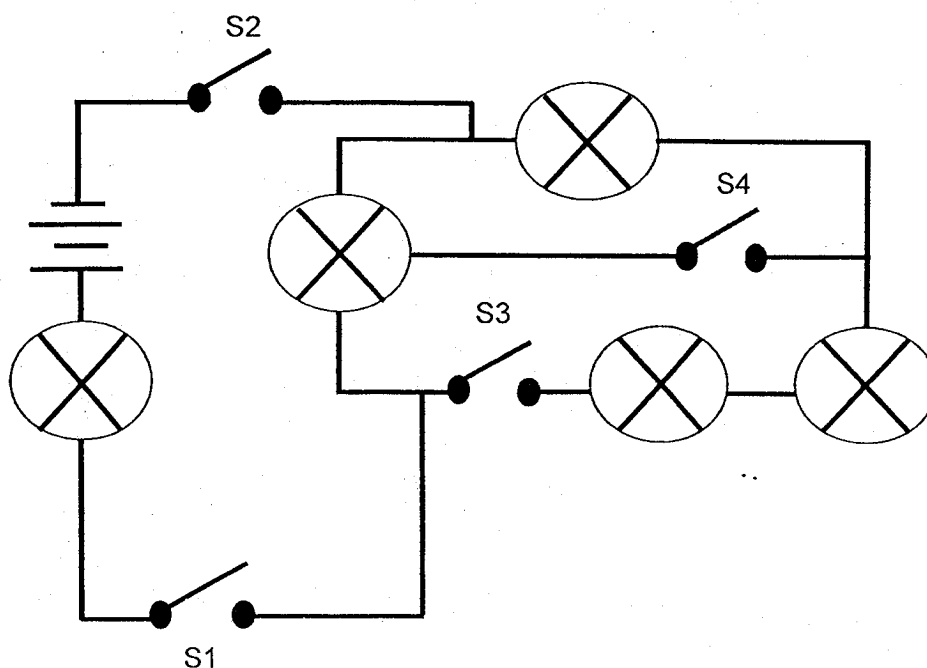
The table below shows what happened when the switch was closed and certain rod(s) were removed.

rod(s) removed from the circuit	Did the bulb light up?
W	yes
X and Y	yes
W and X	no

Which of the following correctly represents the properties of the rods?

	W	X	Y
(1)	insulator	conductor	conductor
(2)	conductor	insulator	insulator
(3)	insulator	insulator	conductor
(4)	conductor	conductor	insulator

21. The circuit shown below is found in a toy.

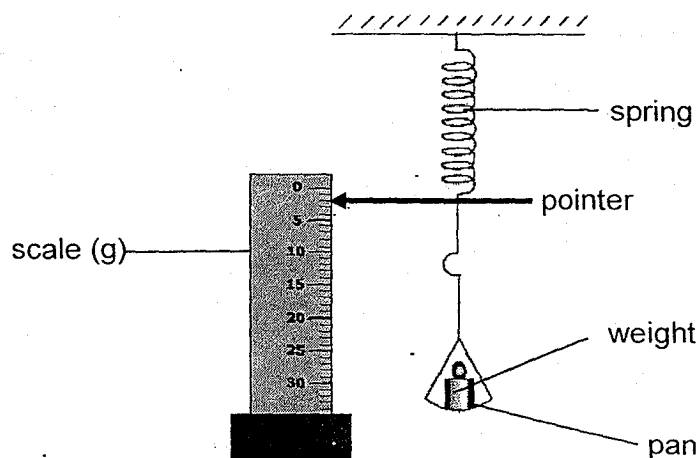


Jane closed selected switch(es) and observed the bulb(s) that lit up.

Which of the following options is the correct observation?

	switch(es) that is/are closed	number of bulb(s) that lit
(1)	S1 only	one
(2)	S1 and S2 only	two
(3)	S3 and S4 only	four
(4)	S2, S3 and S4 only	five

22. Sarah created a weighing scale as shown below. She added identical weights to the pan and measured its mass on the scale.



Sarah recorded the value pointed on the scale each time she added weights to the pan.

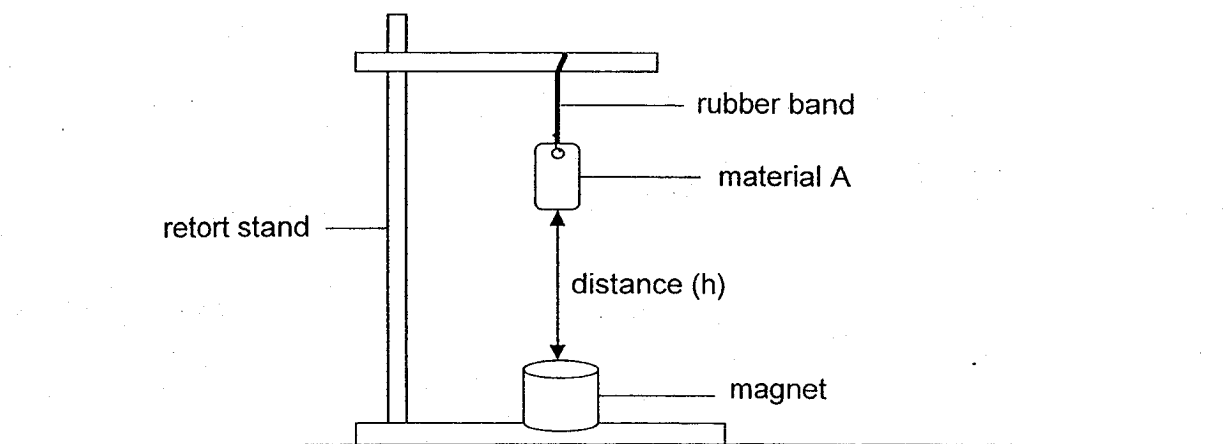
number of weights	0	2	4	6	8
pointer position (g)	0	4	8	12	16

Based on the table, which of the following statements is/are true?

- A: When there are no weights on the pan, the pointer will point at zero.
 B: Each weight has a mass of 4g.
 C: The spring exerts more elastic spring force when more weights are placed on the pan.

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

23. Su Li created a set-up comprising a magnet and four materials, A, B, C and D, which have the same length and mass. She hung material A, which is made of wood, and measured the distance (h). She repeated the experiment for the other three materials.



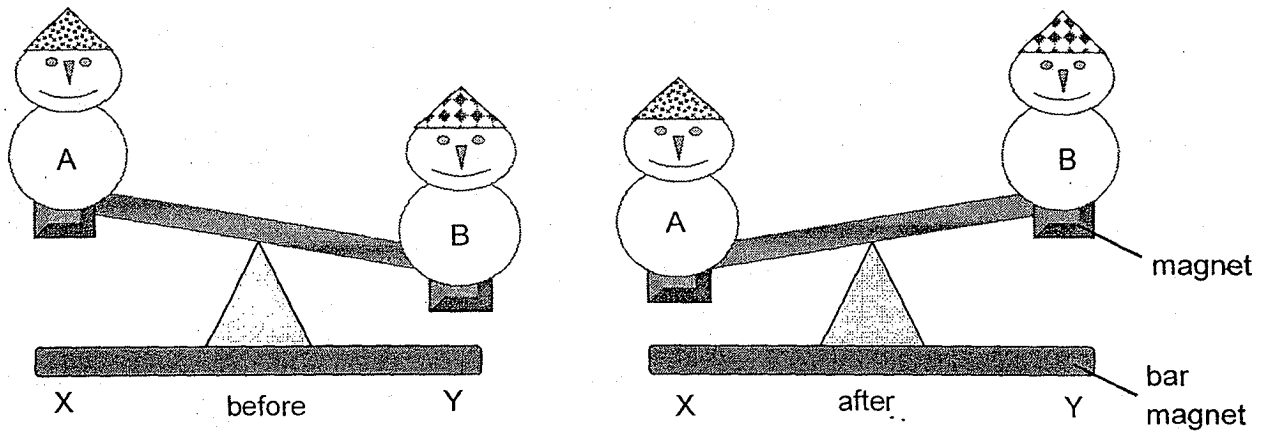
She recorded the readings in the table below.

material	distance (h)
A	5cm
B	7cm
C	3cm
D	6cm

Which one of the statements below can be concluded from the above experiment?

- (1) Material C is a magnet.
- (2) Materials B and D are magnets.
- (3) Material C has less magnetism than material B.
- (4) It is not possible to conclude which materials are magnets.

24. Muthu has a toy which does not require any batteries to function as shown.



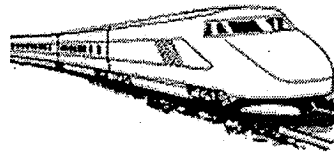
When one snowman tilts downwards, it will soon move back up. This process keeps repeating, resulting in both snowmen moving up and down.

Which of the following options correctly shows the poles of the magnets?

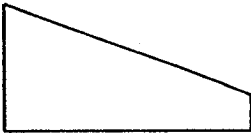
	snowman A	snowman B	X	Y
(1)	North	South	North	South
(2)	South	North	South	South
(3)	North	South	South	North
(4)	South	South	North	North

25. Bullet trains travel at a super-fast speed using electricity.

The shape of the nose of two bullet trains of similar mass and the amount of electricity required to move it at a particular speed are shown in the table below.



nose of the bullet train

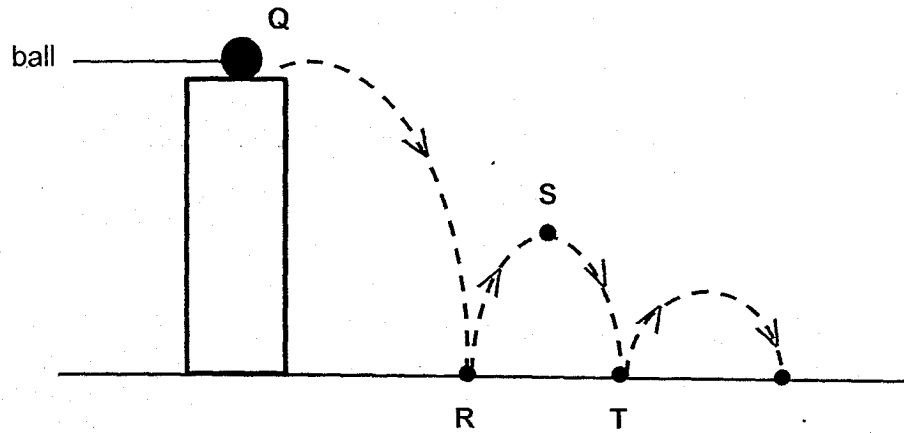
type of nose	shape of nose	amount of electricity required to move at 270km/hr
X		2051 units
Y		1856 units

Which of the following conclusions is/are correct?

- A: The train with nose Y has less frictional force with air when it moves.
- B: The shape of the nose does not affect the amount of electricity needed to move the train.
- C: The train with nose X has more air resistance when it moves.

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

26. Li En created a set-up and observed the height a ball bounced when it hit the ground. The ball bounced continuously until it stopped moving.

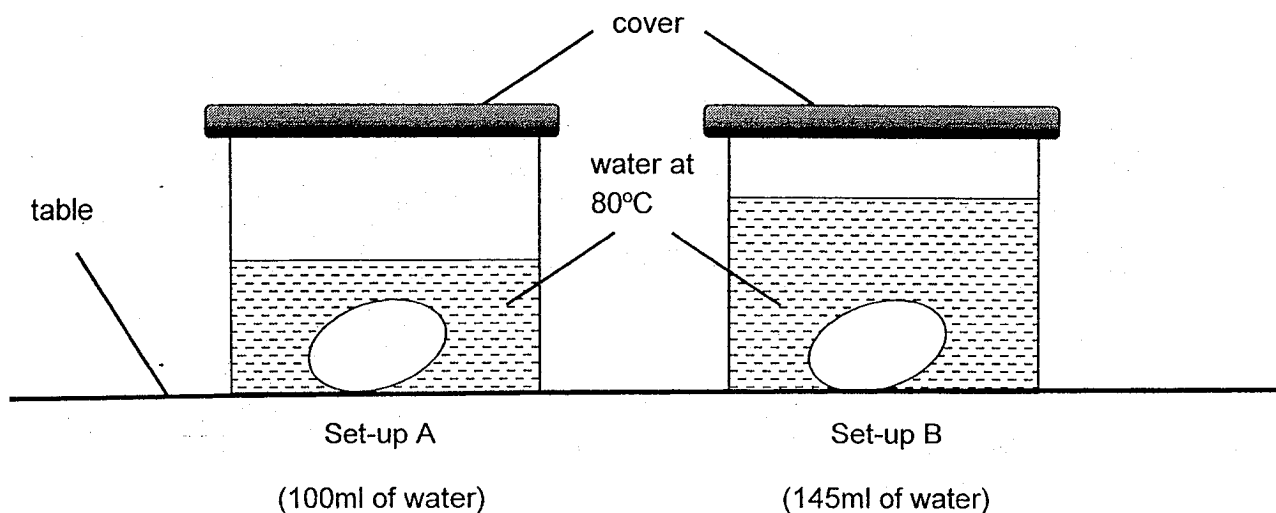


Which of the following statements is/are true?

- A: The gravitational potential energy of the ball remained the same from Q to S.
B: Some potential energy has been converted to heat energy at R.
C: There is less kinetic energy at S than at T.

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

27. Ben would like to make hard-boiled eggs and he created two set-ups as shown below.



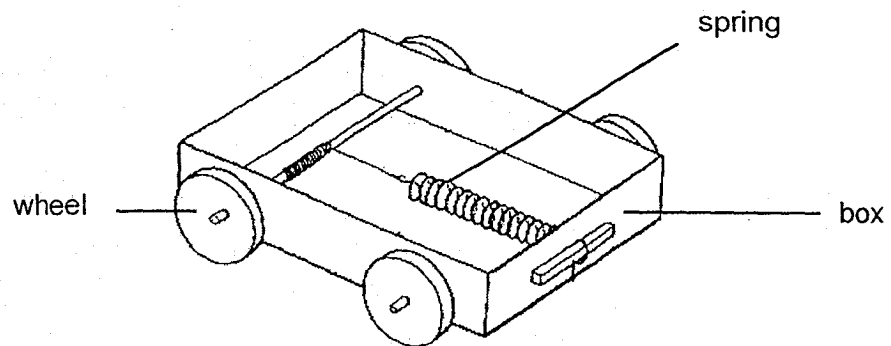
He placed two similar eggs in identical containers. He poured different amounts of water which have the same temperature.

He left the eggs in the container for eight minutes.

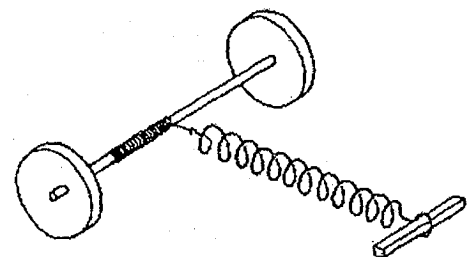
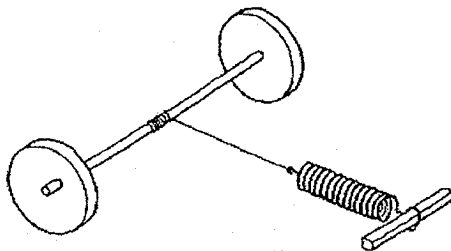
Based on the above information, which of the following is most correct at the end of the experiment?

	observation	reason
(1)	Both eggs are equally cooked.	Both set-ups have the same amount of heat to cook the eggs.
(2)	Both eggs are equally cooked.	Both set-ups have the same amount of temperature to cook the eggs.
(3)	The egg in set-up B is less cooked than the egg in set-up A.	The temperature in set-up B is spread throughout more water so there is less heat in it.
(4)	The egg in set-up A is less cooked than the egg in set-up B.	Set-up A has less heat than set-up B to cook the egg.

28. Haziq made a toy car using items that he found in his house.



To make the toy move forward, he rolled the wheels of the toy backwards a few times. When he released the toy, it then moved forward for a distance.



What could Haziq do to increase the speed of the car?

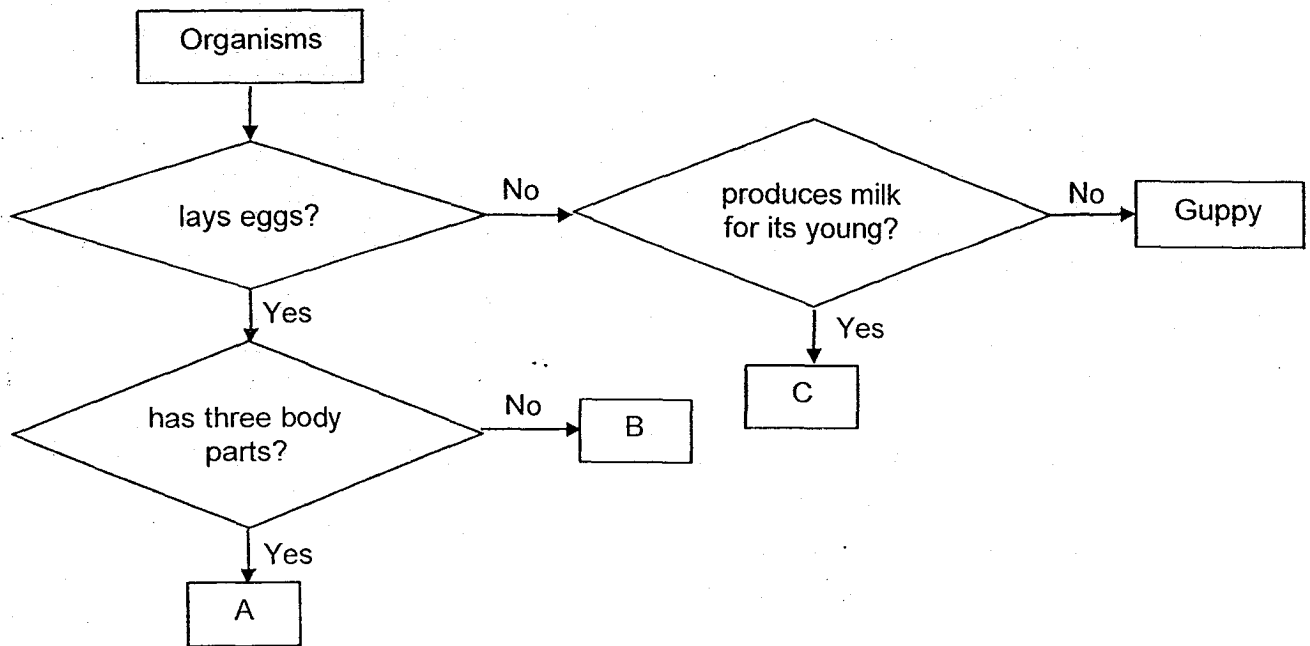
- A: Roll the car backwards more than once.
- B: Roll the car backwards and forward.
- C: Apply oil on all the surfaces of the wheel.

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

END OF BOOKLET A

Answer all the questions in the spaces provided.

29. Study the flow chart below.

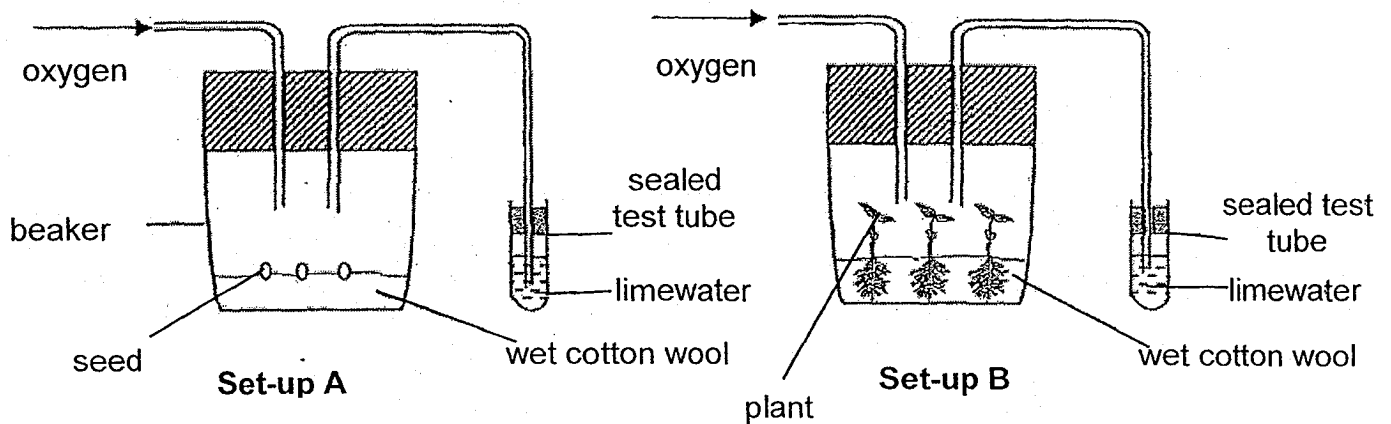


(a) Based on the flow chart, read the statements below and tick in the correct boxes given. (1m)

	Statement	True	False	Not possible to tell
(i)	Organism B produces milk for its young.			
(ii)	Organism A does not lay eggs.			

(b) State the group of animal that organism C belongs to. (1m)

29. Melissa conducted an experiment as shown below. She placed both set-ups in a dark cupboard.



The following are some key concepts which she knows about the experiment:

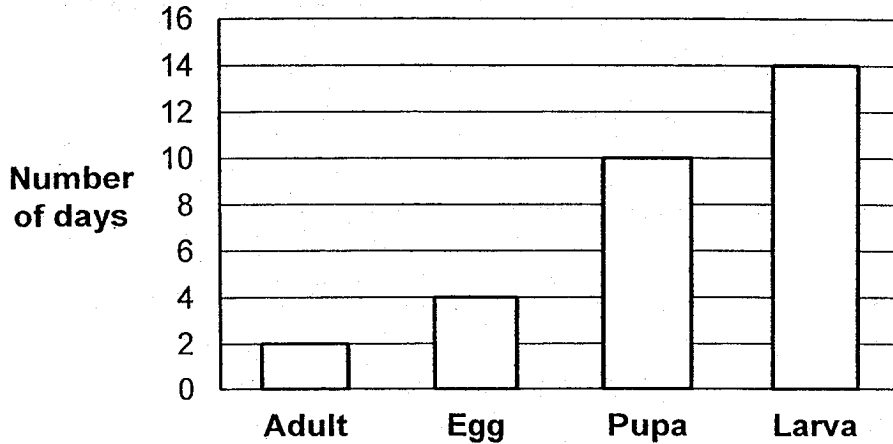
- limewater turns chalky in the presence of carbon dioxide
- seeds produce carbon dioxide during germination
- seeds start germinating within an hour

- (c) Suggest why it is important to seal the test tube. (1m)

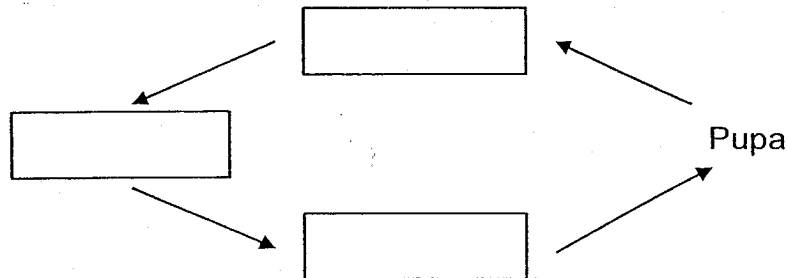
- (d) After two hours, the limewater in set-up B turns chalky but the limewater in set-up A remains clear.

Suggest a reason for her observation in set-up A. (1m)

30. Shayanne studied the life cycle of insect J. She recorded the number of days for each stage of its life cycle in the graph below.



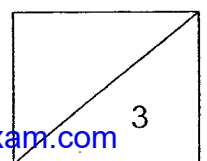
- (a) Write down the stages of the life cycle in the correct order. (1m)



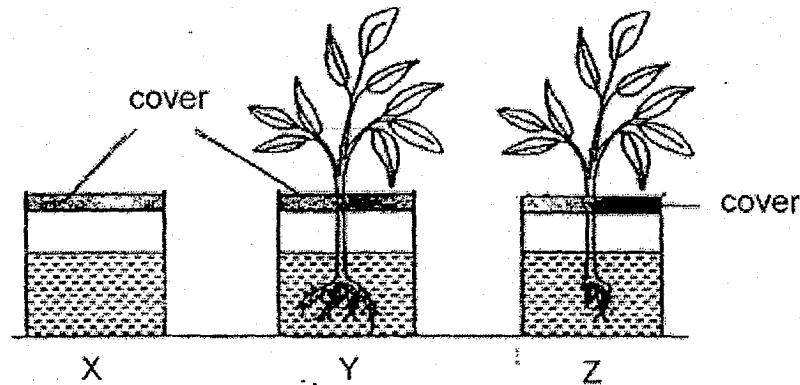
- (b) Based on Shayanne's results, how many days does it take for insect J to become an adult after the egg has hatched? (1m)

Due to global warming, the temperature of the water that insect J lives in increases which caused many insect J to die. Shayanne discovered that the amount of dissolved carbon dioxide in the water increased as well.

- (c) Explain what might have caused the increase in the amount of carbon dioxide in the water. (1m)

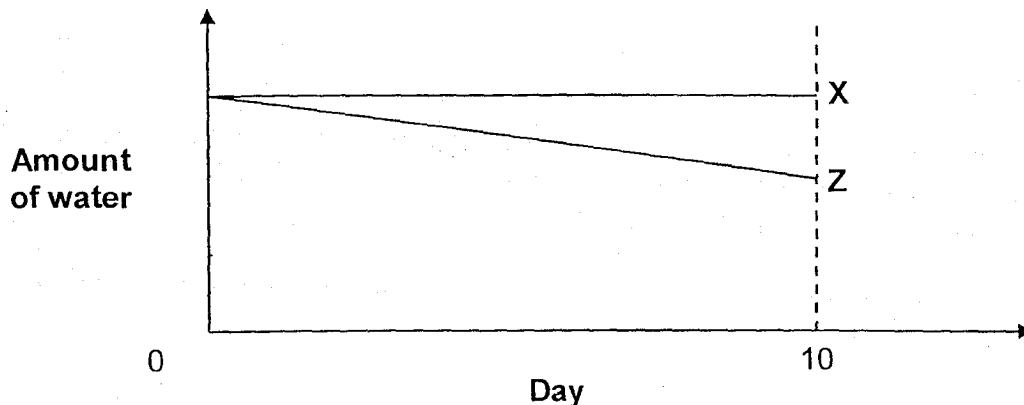


31. Hawa conducted an experiment to find out if the amount of roots affects the transportation of water in plants. She filled identical containers X, Y and Z with the same amount of water. She puts a plant in Y and a similar plant with some roots cut off in Z. Each of the container was covered tightly as shown in the diagram.



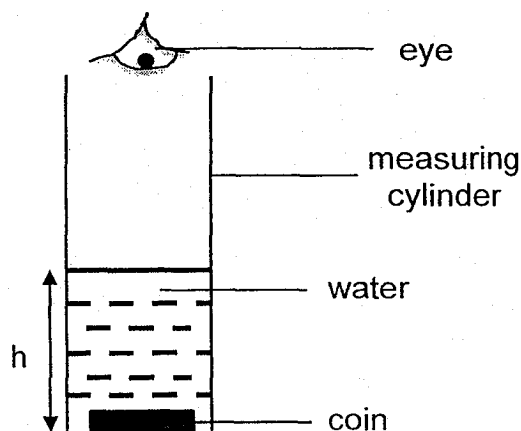
- (a) Describe what Hawa must measure and calculate to fulfil the aim of her experiment. (2m)

- (b) Draw and label another straight line in the graph below to show the change in the amount of water for set-up Y from day 0 to 10. (1m)



- (c) Explain what the purpose of set-up X is. (1m)

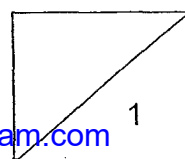
33. Amirah conducted an experiment using muddy water from different parts of a river, P, Q, and R. She placed a coin at the bottom of a container and poured in water taken from P until the coin could no longer be seen as shown in the set-up below. Next, she recorded the height h .



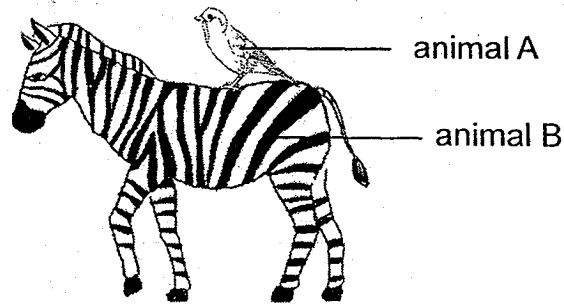
She repeated the experiment with water taken from Q and R. The results are shown in the table below.

Part of river	height h (cm)
P	15
Q	4
R	25

- (a) State the part of the river, P, Q or R, which has the muddiest water. (1m)



32. Animals A and B depend on each other in a habitat.



Some information about the habitat are given below:

- ticks are insects that feed on the blood of animal B which they live on
- animal A eats ticks
- animal B is a plant-eater

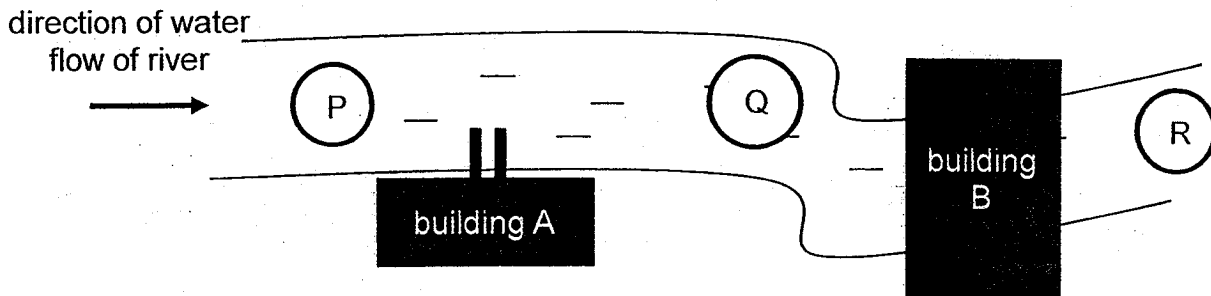
(a) How do animal A and animal B benefit from the relationship above? (2m)

(i) Benefit for animal A: _____

(ii) Benefit for animal B: _____

(b) What could possibly happen to the population of animal A if the population of ticks starts to decrease? (1m)

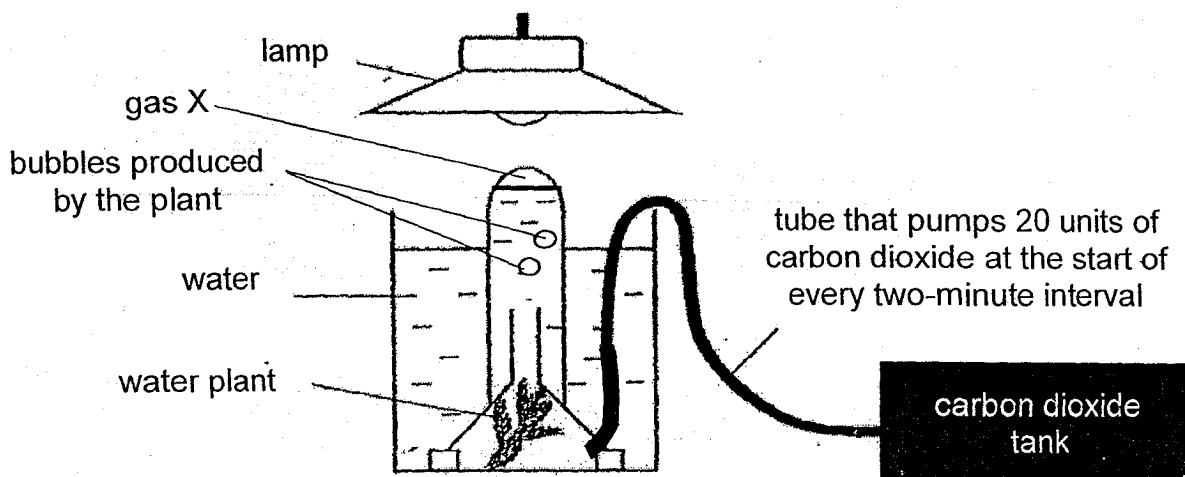
33. The diagram below shows the different parts of a river where the water was collected and two different buildings that were built along the path of the river.



- (b) Based on the experiment conducted by Amirah, suggest a possible purpose of building B that affected the muddiness of the water and explain why. (2m)

- (c) Amirah found out that fully-submerged hydrilla plants grew best in part R of the river. Explain why. (2m)

34. Daryll placed a water plant in a container of water. He placed the set-up under a lighted lamp in a dark room. At the start of every two-minute interval, he added carbon dioxide into the water using the set-up below.



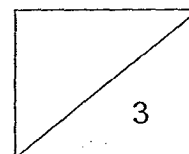
Daryll recorded his findings in the table below.

Duration (min)	0	2	4	6	8	10
Amount of carbon dioxide in water at the end of the duration (unit)	5	10	18	24	45	66
Number of gas bubbles	2	3	5	7	0	0

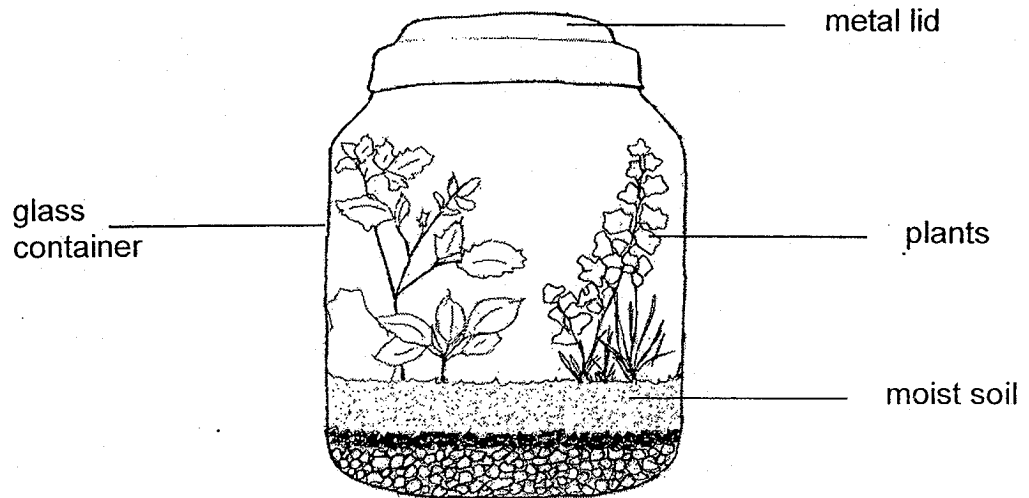
- (a) Identify the gas contained in the bubbles produced by the plant. (1m)
- _____
- (b) Without the addition or removal of any of the apparatus in the set-up, Daryll made a change to the set-up at the end of the sixth minute interval. Identify the change Daryll made to the set-up and explain why. (2m)

Change made: _____

Explanation: _____



35. Gabriel created a terrarium as shown below. He used a glass container and placed moist soil in it. After he had planted a few small plants in the soil, he closed the container securely with a metal lid, preventing things from entering or leaving the container.

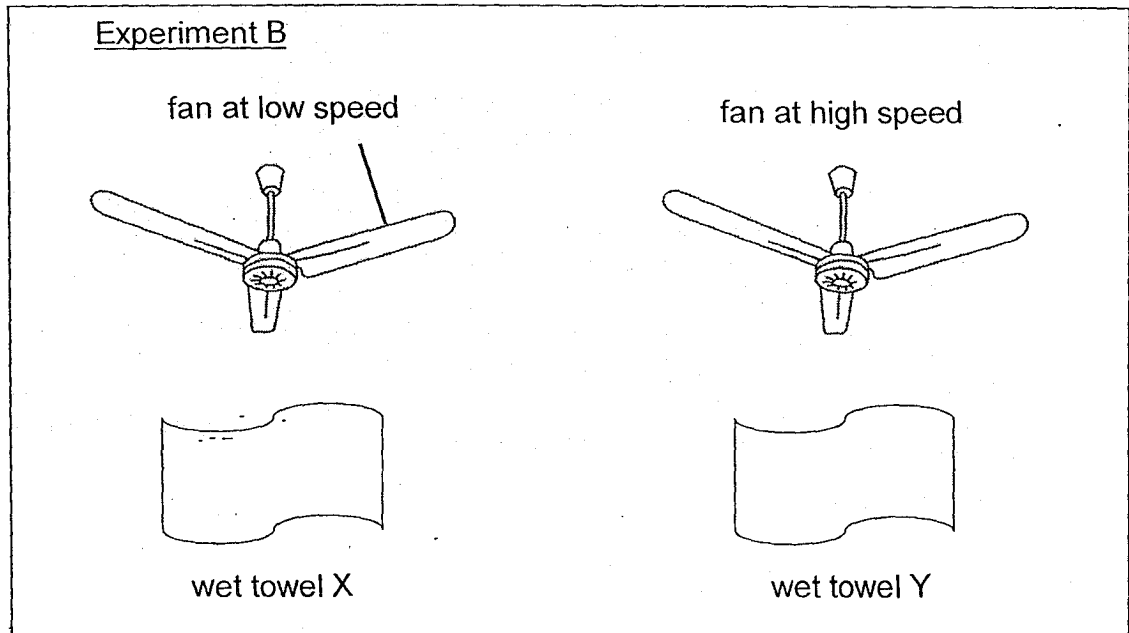
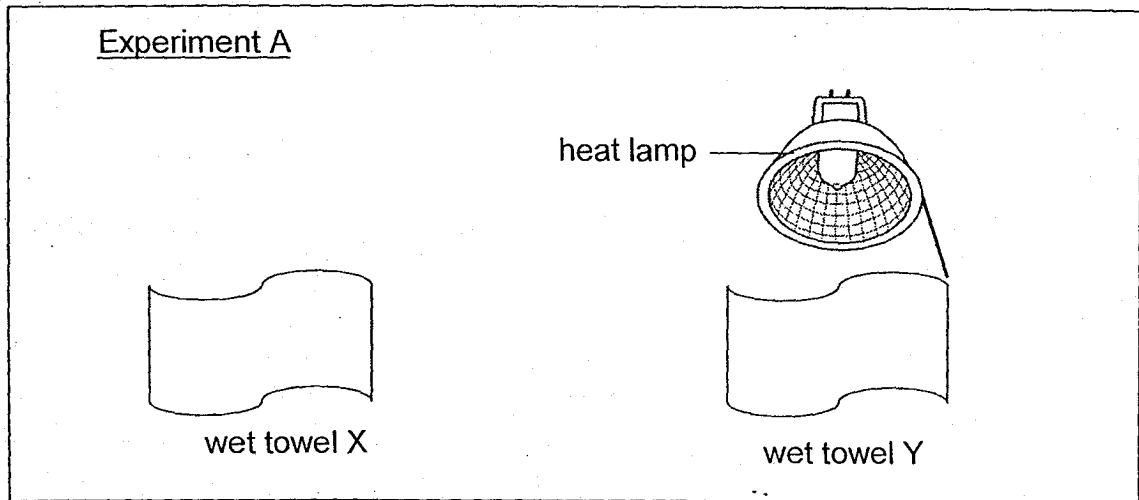


The terrarium was placed next to an opened window for a month. He learnt in his Science lesson that plants lose water through their stomata.

At the end of the experiment, Gabriel was surprised that the plant was still surviving well even though he did not water it at all.

- (a) Explain why the plants were able to survive after a month even though they were not watered. (2m)

35. Gabriel carried out two other experiments as shown below.

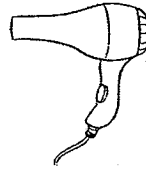


- (b) In both experiments, he used the same set of wet towels, X and Y, and placed them at the same distances from the lamp and fans. Which towel, X or Y, dried faster in each experiment? (1m)

Experiment A: _____

Experiment B: _____

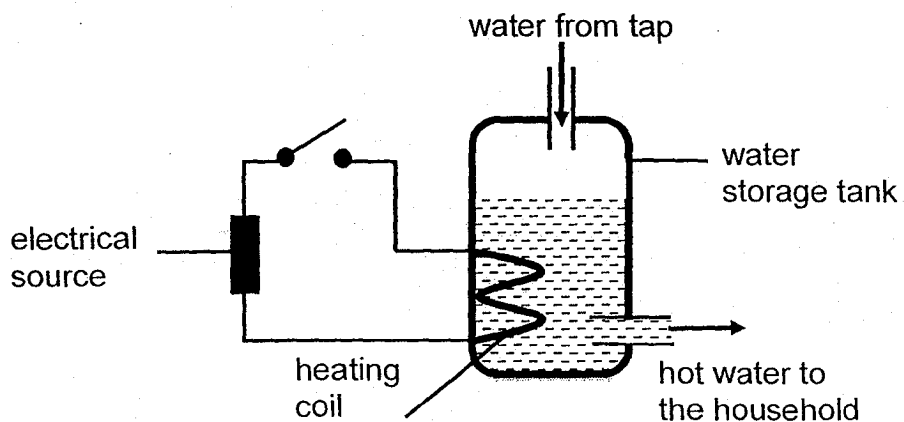
35. Gabriel has a hair dryer. It produces hot air and he uses it to dry his hair after a shower.



hair dryer

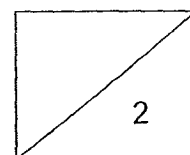
- (c) Based on experiments A and B, explain why using a hair dryer would help Gabriel to dry his hair faster. (2m)

36. A water heater system is found in Ravi's house. The water storage tank is able to maintain the temperature of hot water for a long time.

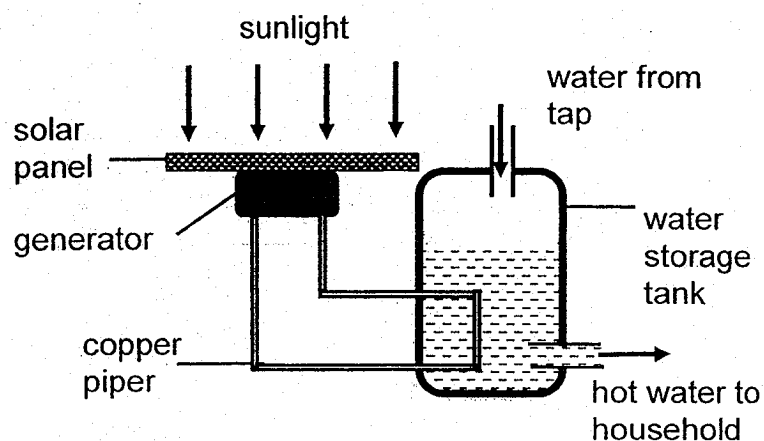


- (a) Explain why the water in the tank becomes hot when the switch is closed. (1m)

- (b) State the property of the water storage tank that makes it suitable for keeping water hot even though the switch is opened. (1m)

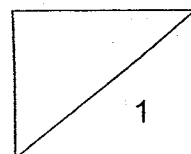


36. Ravi replaced his water heater system with a new one as shown below.

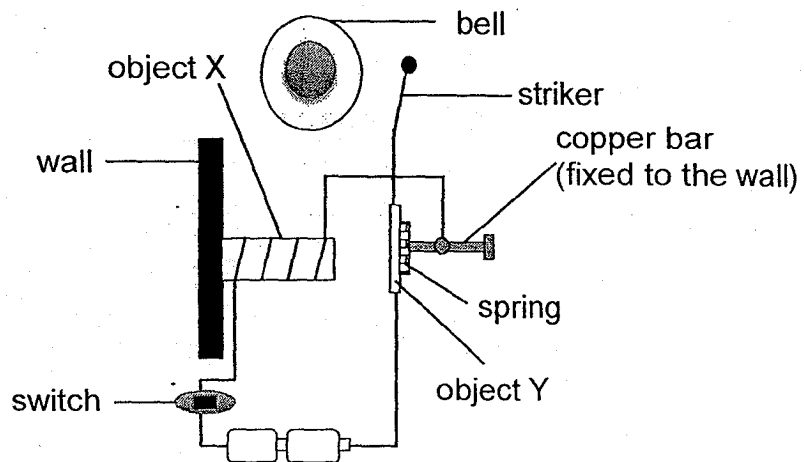


The new heater system uses a solar panel. The solar panel traps energy from the sun and converts it to electrical energy in the generator.

- (c) His mother said that although the new system is a better option, it may not be the best option to be used at night. Give a reason why. (1m)



37. The diagram below shows the system in a door bell.



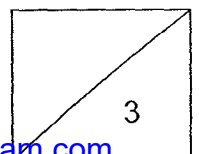
The bell will ring when the switch is pressed once. Object Y will return to the copper bar whenever the circuit is open.

- (a) State the properties of object Y and the copper bar that enable the above system to function. (1m)

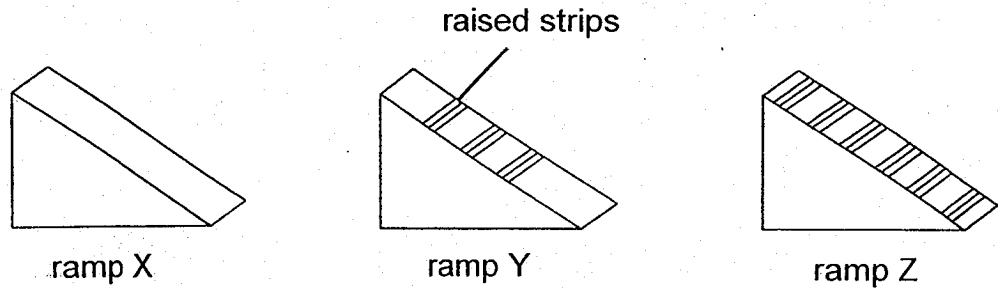
Object Y: _____

Copper bar: _____

- (b) Describe how the circuit works for the striker to hit the bell once. (2m)



38. Joe created three ramps as shown.



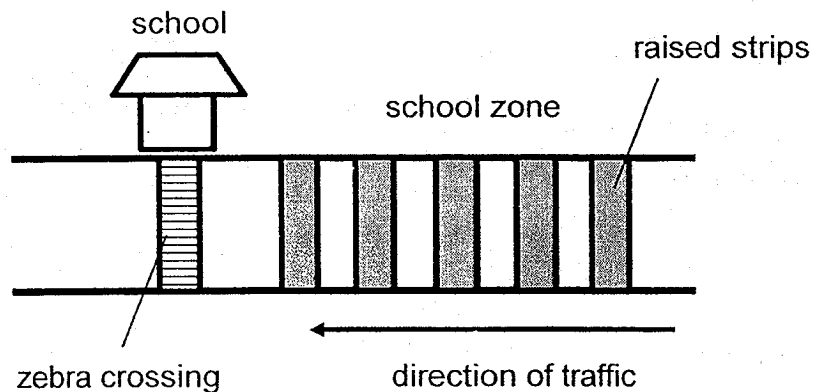
He recorded the time a toy car took to move from the top to the bottom of the ramp.

	ramp X (seconds)	ramp Y (seconds)	ramp Z (seconds)
1 st try	5	6	10
2 nd try	4	6	9
3 rd try	4	7	11

- (a) State the effect of the number of raised strips on the time that the car takes to move from the top to the bottom of the ramp. (1m)

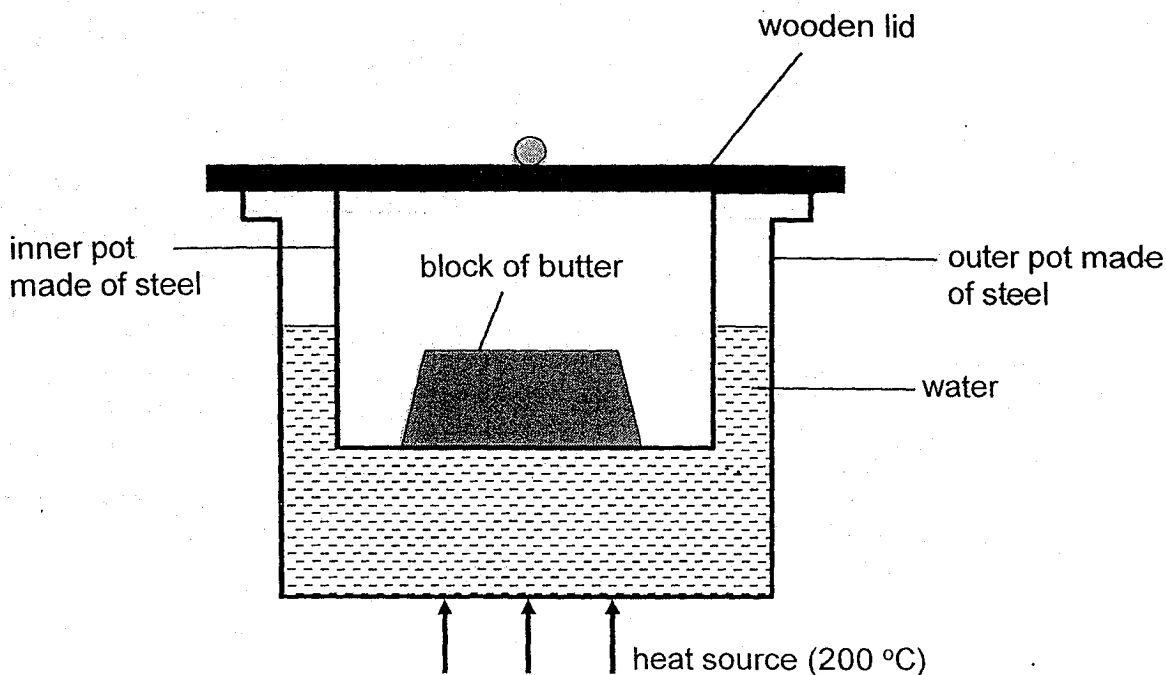
- (b) Explain why ramp Z has the longest timings for all three tries. (1m)

The road outside Joe's school has similar raised strips as shown below.



- (c) Explain, in term of forces, how the raised strips can help to improve road safety for the students. (2m)

39. Karen has a special pot which contains water in it. She uses it for cooking her food daily. Both the inner and outer pots are made of steel.

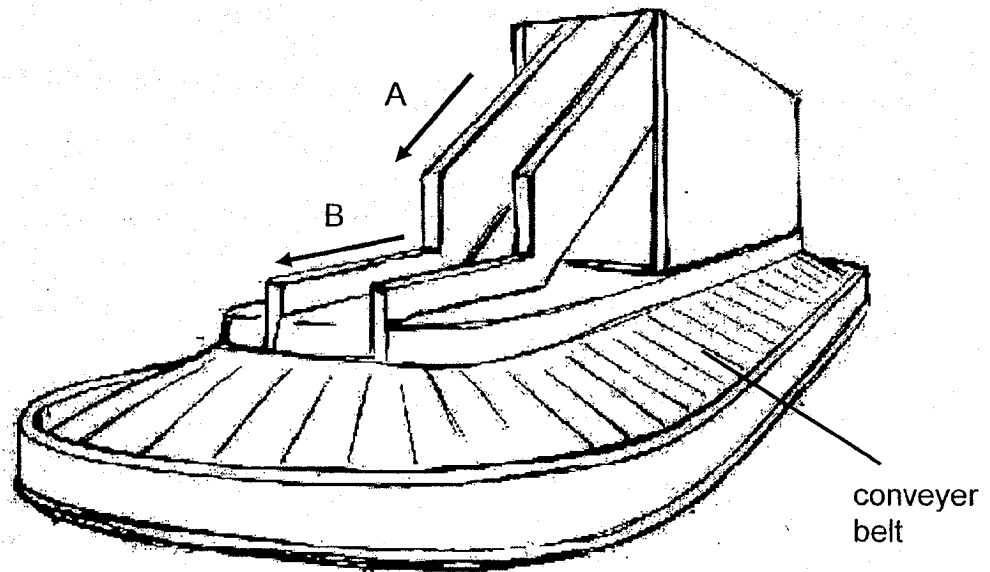


The table below shows the change in temperature of the water in the pot when it is heated with constant heat.

Time (min)	2	4	6	8	10
Temperature (°C)	40	60	80	100	?

- (a) What is the temperature of the water at the 10th minute? (1m)
- _____
- (b) Karen noticed that the block of butter started to melt at the 4th minute. Describe the process that took place in order for the butter to melt. (1m)
- _____
- _____
- (c) Butter burns at 177 °C. How does having the water in the pot ensure that the butter will not burn? (1m)
- _____
- _____

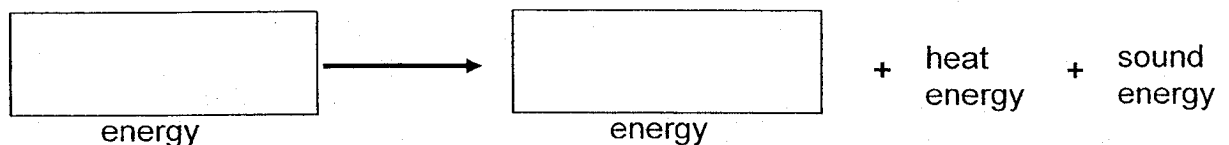
40. Mike was at an airport and was waiting for his luggage. He observed a machine that allowed luggage to be returned to the passengers.



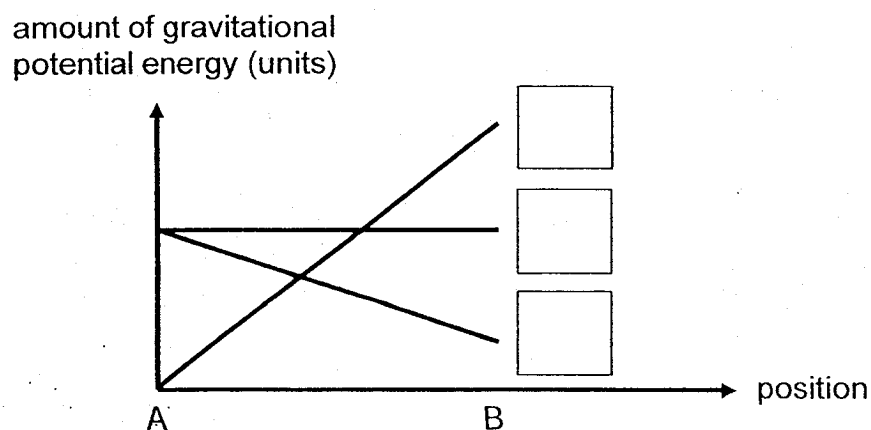
The luggage slid down the slope at A and passed through B before landing on the conveyer belt.

The conveyer belt would rotate continuously. This allowed the passenger to collect his/her luggage from any position when standing next to the conveyer belt.

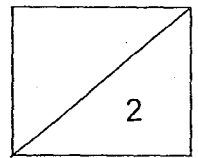
- (a) State the energy conversion that allowed the conveyer belt to move. (1m)



- (b) Which line in the graph below represents the amount of gravitational potential energy of the luggage when it moved from A to B? Tick (✓) only one of the boxes. (1m)



40. Mike noticed that some luggage would get stuck at B as there were no conveyer belts there. When a luggage got stuck, it would remain there until another bigger sized luggage pushed it from behind.
- (c) Explain, in terms of energy changes, how the bigger sized luggage was able to push another luggage in front of it. (2m)



END OF BOOKLET B
PLEASE CHECK YOUR WORK

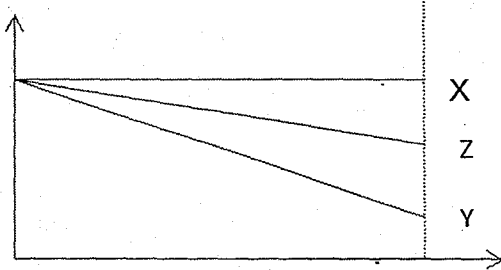
SCHOOL : RED SWASTIKA PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : SCIENCE
TERM : 2018 Prelim

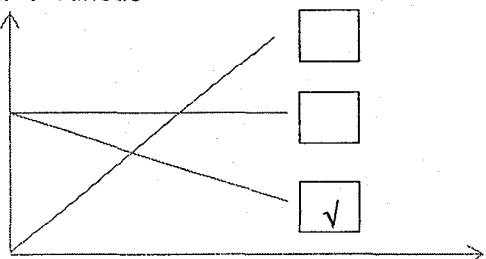
SECTION A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	2	1	2	1	2	4	3	4	3
Q 11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1	3	2	1	4	2	3	3	4	4
Q 21	Q22	Q23	Q24	Q25	Q26	Q27	Q28		
2	3	4	1	3	3	4	3		

SECTION B

Q29)	a) (i) Not possible to tell (ii) False b) Mammal c) So as to confirm that the presence of carbon dioxide is coming from the beaker and not from the surrounding. d) Carbon dioxide is present in Set-up B but not in Set-up A as seeds do not produce carbon dioxide during germination.
Q30)	a) <pre> graph TD adult[adult] --> egg[egg] adult --> Pupa[Pupa] egg --> larva[larva] larva --> Pupa Pupa --> adult </pre> b) 24 c) When many insect J die, more decomposition will occur and decomposition breaks down dead matter into simpler substances like carbon dioxide, water and mineral salts. Thus amount of carbon dioxide increases in the water.

Q31)	a) She must mark the water level of the 3 containers at the start of the experiment and at the end of it to calculate the amount of water left in the container/amount of water absorbed by the plant. b)  c) Set-up X acts as a control to conclude that the amount of roots affect the amount of water in the containers.
Q32)	a) (i) Benefit for Animal A : Animal A gets food from B by eating the ticks on Animal B (ii) Benefit for Animal B : Animal B does not have ticks that feed on its blood anymore since A eats ticks. b) Population of A will decrease.
Q33)	a) Q b) Building B blocked the waste from Q and thus R has the clearest water. c) Since R was the clearest, most amount of sunlight was able to pass through the water and reach the fully submerged hydrillas to make the most amount of food as light is needed for photosynthesis.
Q34)	a) Oxygen. b) Change made : He turned off the lamp. Explanation : Since no bubbles were produced, it means the water plant did not photosynthesise and could only respire.
Q35)	a) When the water from moist soil gained heat and evaporated to become water vapour, the water vapour was taken in through the stomata and thus the plant will survive. b) Y, Y c) Hair dryer gives out hot air and the blowing is like presence of wind. So the rate of evaporate will increase and thus will help to dry Gabriel's hair faster.

Q36)	a) When the switch is closed, electricity flows through the closed circuit. The heating coil will be hot and water in the water storage tank will gain heat from the heating coil and become hot. b) Poor conductor of heat c) There is no light at night so the solar panel is not able to absorb light and the generator will not be able to convert the energy to electrical energy.
Q37)	a) Y : magnetic Copper Bar : Non-magnetic b) When the circuit is closed, Object X will be magnetised and become an electromagnet when electricity flows through. And object Y will be attracted by Object X. The striker will hit the bell once when object Y moves towards object X. Object Y will then be detached from copper bar, causing an open circuit and object X will lose its magnetism when no electricity passes through the circuit.
Q38)	a) When the number of raised strips is increased, the time the car takes to move increases. b) Ramp Z has the most number of raised strips, thus the friction between the ramp and the car is the greatest. So the car takes the longest timing to reach the bottom. c) More friction between raised strips and car and thus the car will move slower and will improve road safety for the students.
Q39)	a) 100°C b) Melting c) Water boils at 100°C. The water will maintain boiling at 100°C and thus prevent the temperature from reaching the butter. So the butter will not burn.
Q40)	a) Electrical $\rightarrow$ Kinetic b)  c) The bigger sized luggage had greater gravitational potential energy and thus more energy is converted kinetic energy and able to push another luggage in front of it.

