

Name: _____ ()

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 6
CONTINUAL ASSESSMENT 2018
SCIENCE
BOOKLET A
1 March 2018

Total Time for Booklets A and B: 1 hour 45 minutes

28 questions
56 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This booklet consists of 23 printed pages.

Section A (28 x 2 marks = 56 marks)

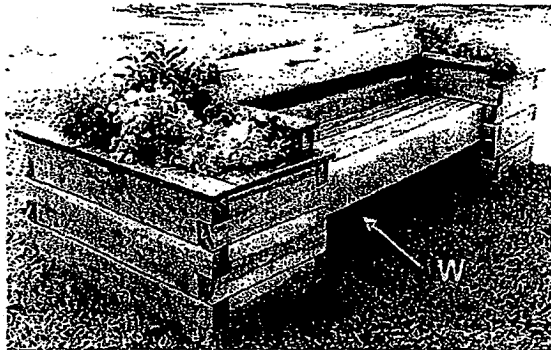
For each question from 1 to 28, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.

1. Which of the following statements about fungi are incorrect?

- A Fungi contain chlorophyll.
- B Fungi are non-flowering plants.
- C Fungi rely on other organisms for food.
- D Fungi do not need sunlight, air and water to grow.

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

2. Halim placed his new wooden bench on an empty patch of grass in his garden. After a few weeks, he noted that the grass under the bench in area W was not growing well.



Which one of the following best explains why the grass was not growing well?

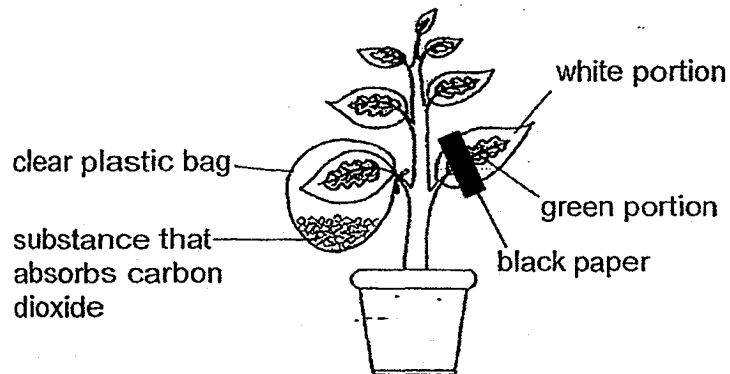
- (1) The grass patch did not receive enough water.
- (2) The grass patch did not receive enough oxygen.
- (3) The grass patch did not receive enough sunlight.
- (4) The grass patch did not receive enough carbon dioxide.

3. Kyle wanted to find out if light was needed for seeds to germinate. Which of the following variables should he keep constant for the experiment?

- A The height of the seedlings.
- B The temperature of the surroundings.
- C The amount of water given to the seeds.
- D The amount of oxygen given to the seeds.
- E The amount of light used in the experiment.
- F The number of seeds used in the experiment.

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

4. Camellia used the set-up below to investigate the conditions needed for photosynthesis to take place. The set-up was placed in a sunny garden. The white portion of the leaf does not have any traces of chlorophyll.

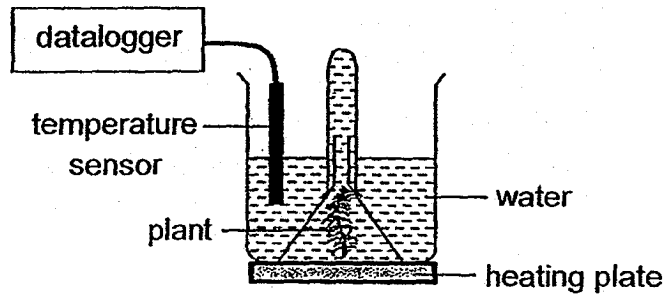


Which of the following could be possible aims of the experiment?

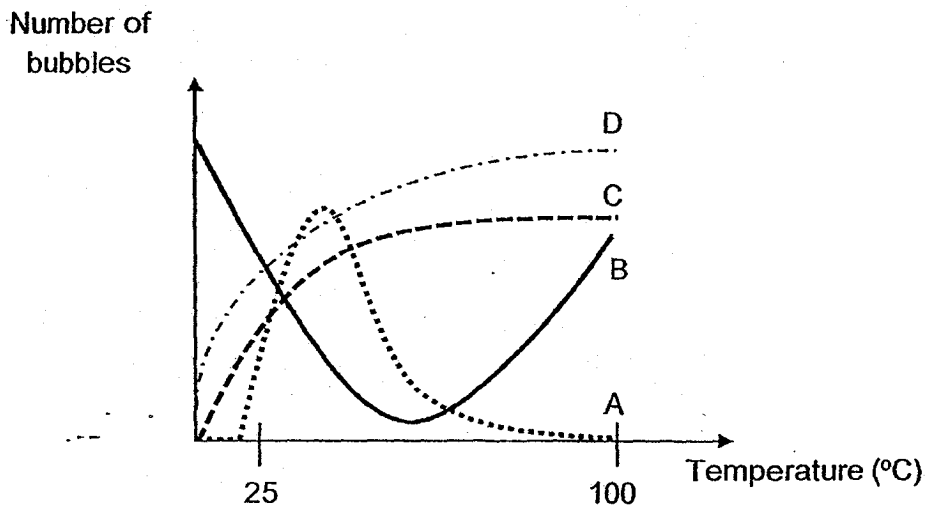
- A Whether oxygen is needed for photosynthesis to take place.
- B Whether sunlight is needed for photosynthesis to take place.
- C Whether chlorophyll is needed for photosynthesis to take place.
- D Whether carbon dioxide is needed for photosynthesis to take place.

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

5. Roshini set up an experiment as shown below. She recorded the number of bubbles produced by the plant when the temperature of the water was increased.

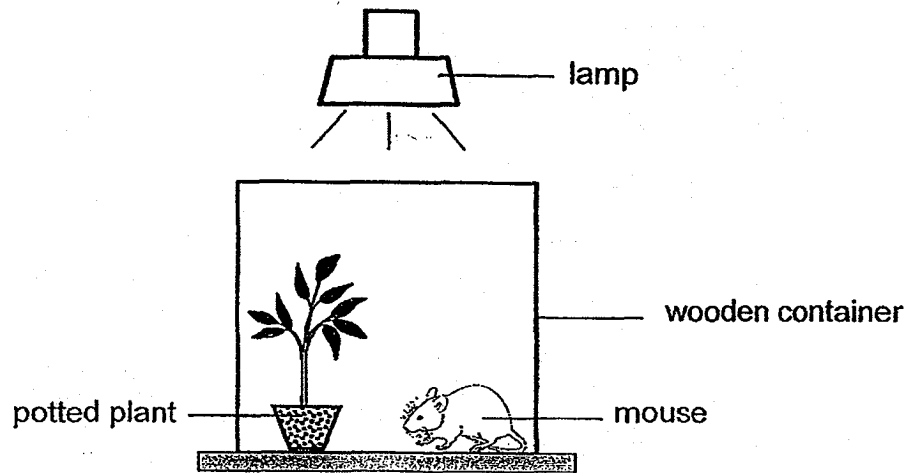


Which one of the following graphs A, B, C, D shows how the number of bubbles observed by Roshini change with temperature?



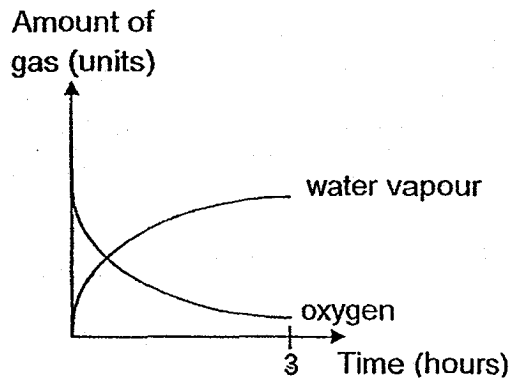
- (1) A
- (2) B
- (3) C
- (4) D

6. Study the diagram below.

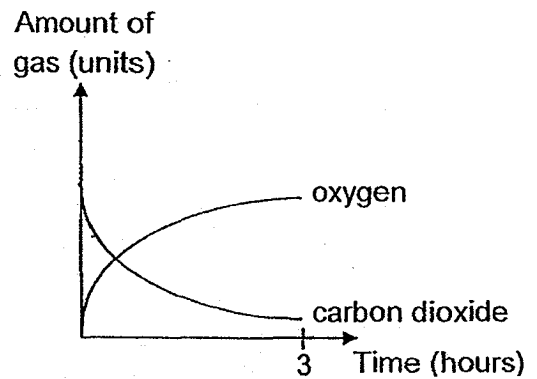


Which one of the following graphs shows the most likely changes in the amount of gases in the container over three hours?

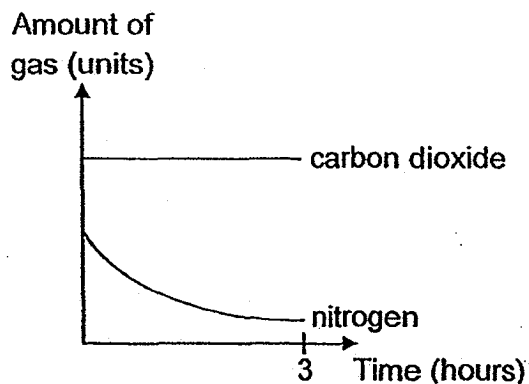
(1)



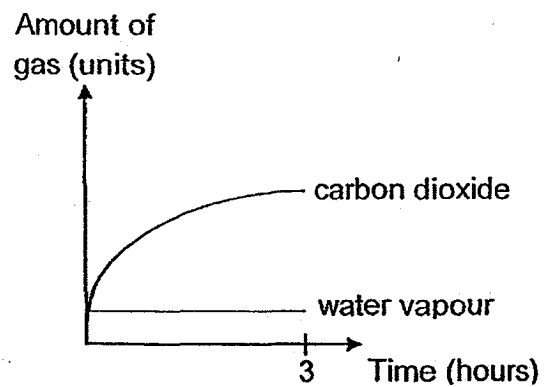
(2)



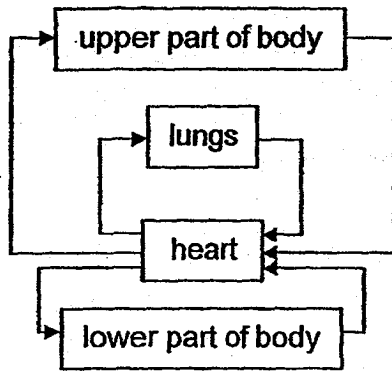
(3)



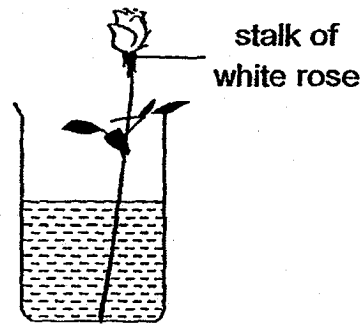
(4)



7. Study the diagram below.



human circulatory system



container of water
with blue dye

Three students made the following comments about the diagram above.

Nelly: Blood circulates around the body just like how the blue dye moves in the plant.

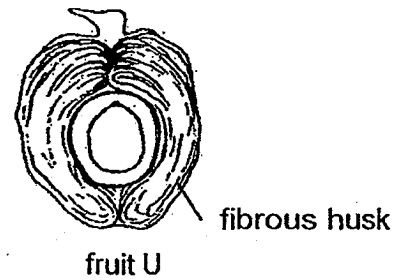
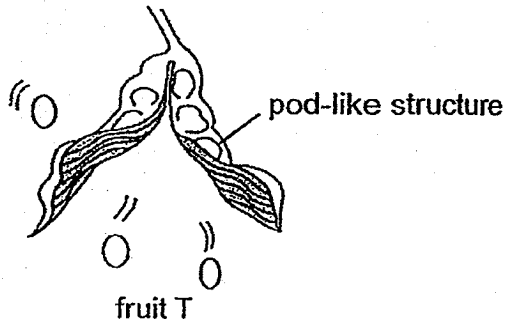
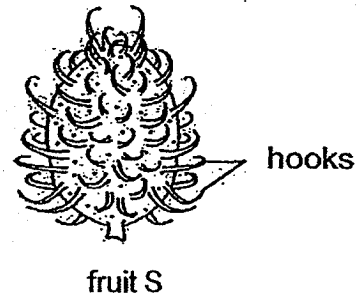
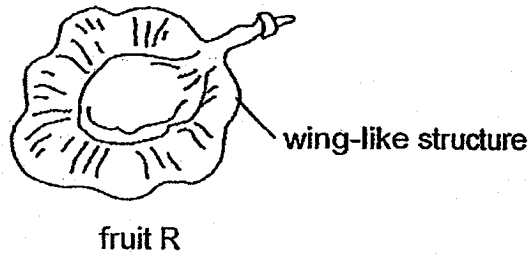
Carol: Blood circulates around the body as there is a heart to pump the blood around.

Yvonne: Blood circulates around the body but the blue dye in the beaker only moves upwards to the leaves and flower through the stem.

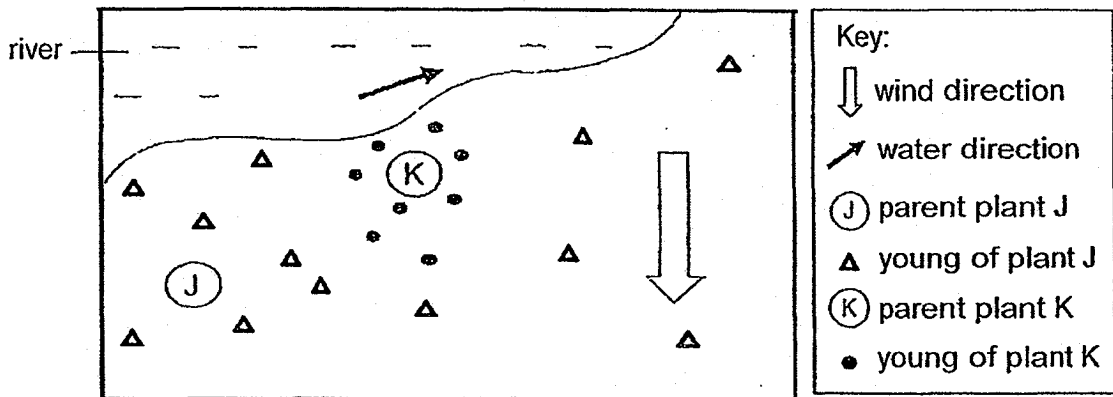
Which of the following student(s) has/have made the correct statement(s)?

- (1) Carol only
- (2) Nelly and Yvonne only
- (3) Carol and Yvonne only
- (4) Nelly, Carol and Yvonne

8. The diagram below show some fruits.



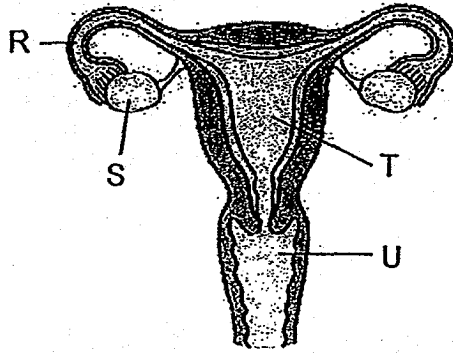
Study the dispersal patterns of plants J and K below.



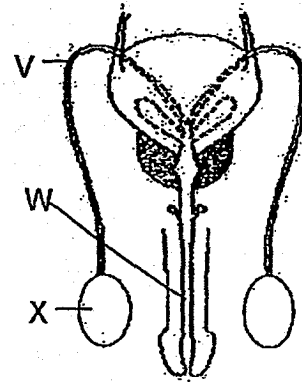
Based on the dispersal pattern above, which of the fruits belong to parent plants J and K?

	Parent plant J	Parent plant K
(1)	Fruit R	Fruit U
(2)	Fruit S	Fruit T
(3)	Fruit T	Fruit S
(4)	Fruit U	Fruit T

9. The diagram below shows the human male and female reproductive systems.



female reproductive system



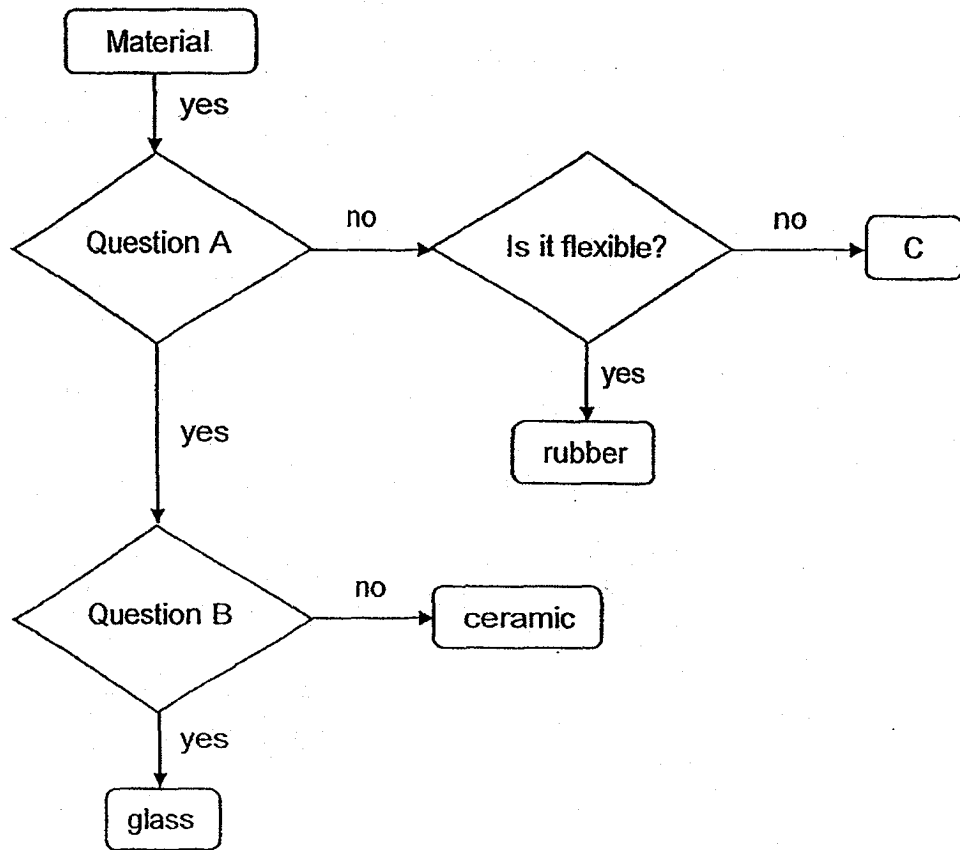
male reproductive system

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

- A Part X stores the eggs.
- B Sperms are produced by part S.
- C The fertilised egg develops in part T.
- D The sperm usually swims up to fertilise the egg at part R.

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

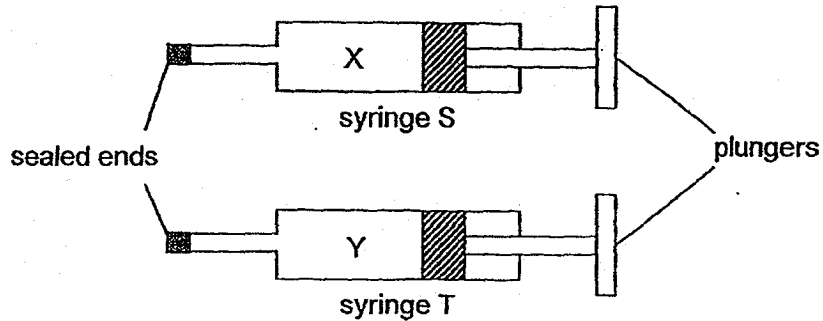
10. Study the chart below.



Which one of the following is correct?---

	Question A	Question B	C
(1)	Is it magnetic?	Does it conduct electricity?	wood
(2)	Is it fragile?	Does it allow light to pass through?	wood
(3)	Does it allow light to pass through?	Is it magnetic?	metal
(4)	Does it conduct electricity?	Is it fragile?	metal

11. Two syringes S and T contain substances X and Y respectively. One end of each syringe is sealed as shown below.



The plunger in syringe T could be pushed in slightly while the plunger in syringe S could not be pushed in at all.

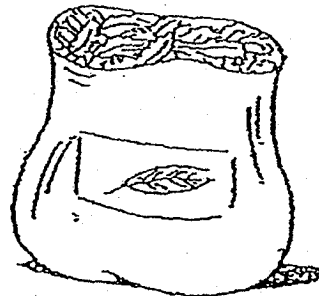
Which of the following substances are most likely to be X and Y?

	Substance X	Substance Y
(1)	Air	Milk
(2)	Milk	Water
(3)	Milk	Sand
(4)	Sand	Milk

12. The diagram below shows a bag of leaves and a bag of flour.



1 kg of flour

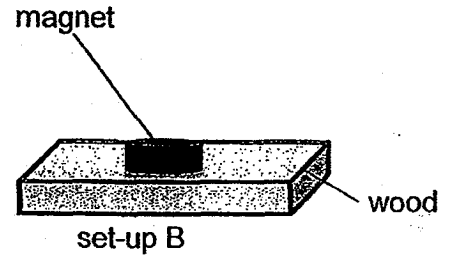
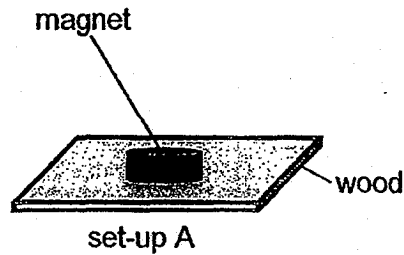


1 kg of leaves

Which of the following statement(s) about the above objects is/are true?

- A The bag of leaves has a greater mass than the bag of flour.
 B The bag of flour has the same volume as the bag of leaves.
 C The bag of flour and the bag of leaves have the same mass.
 D The bag of leaves takes up less space than the bag of flour.
- (1) B only
 (2) C only
 (3) A and B only
 (4) C and D only

13. Su Ann placed a magnet on two planks of wood of different thickness as shown below.



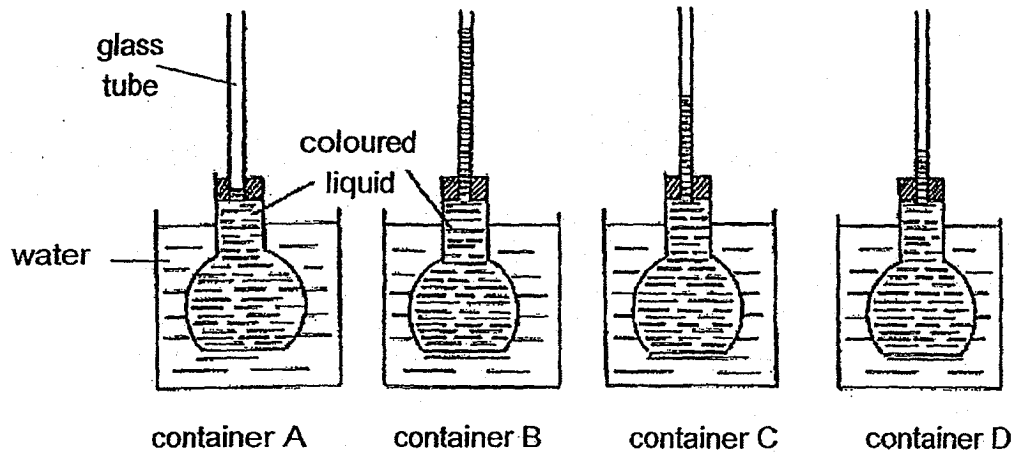
She placed the set-ups above some paper clips and made the following observations.

<p>set-up A</p>	<p>set-up B</p>
<p>Observation: paper clips moved towards the wood.</p>	<p>Observation: paper clips did not move.</p>

What conclusion could Su Ann draw from the observations made?

- (1) Magnetic force can only pass through wood.
- (2) Wood can be used to test if paper clips are magnetic objects.
- (3) The paper clips are made of steel which is a magnetic material.
- (4) Magnetic force can only pass through wood of a certain thickness.

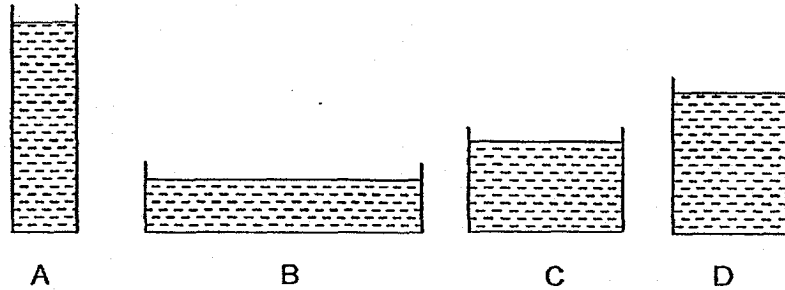
14. Four identical flasks containing the same amount of coloured liquid are placed into four identical containers of water for the same period of time. The diagram below shows the heights of the coloured liquids in the glass tubes after some time.



Based on the results above, which container of water is the hottest?

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

15. 1000 ml of water was poured into each container A, B, C and D as shown below.



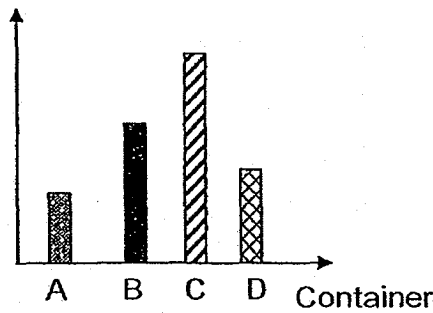
All four containers were placed under a fan for a day. At the end of the day, the amount of water left in each container was measured and recorded in a bar graph.

Which one of the following graphs shows the results?

(1)

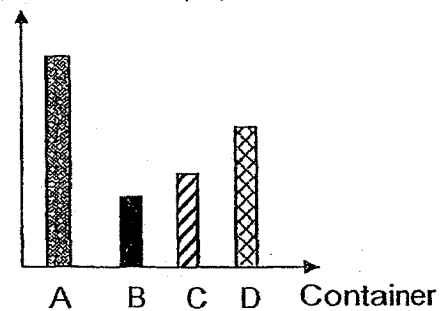
(2)

Amount of water left in containers (ml)



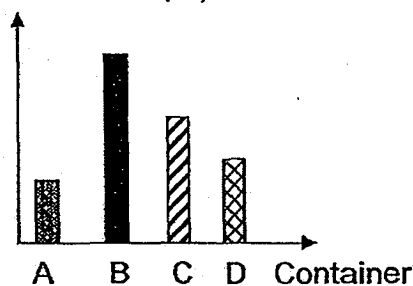
(3)

Amount of water left in containers (ml)

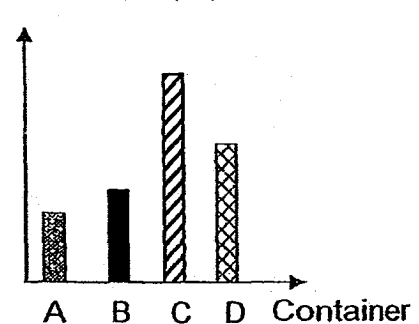


(4)

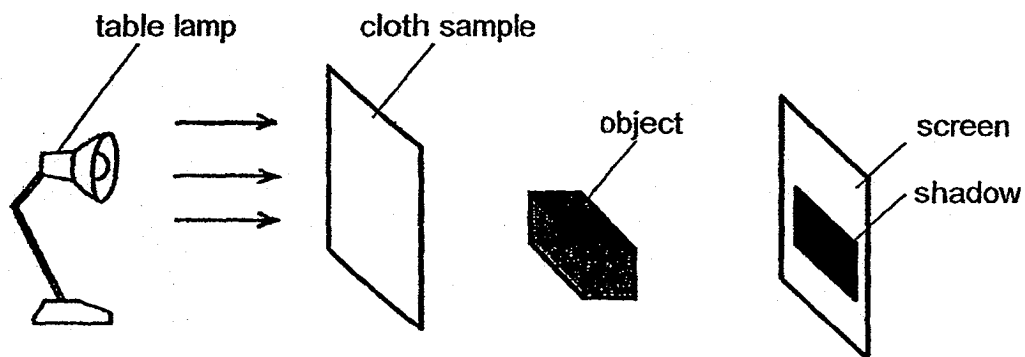
Amount of water left in containers (ml)



Amount of water left in containers (ml)



16. Study the set-up below.



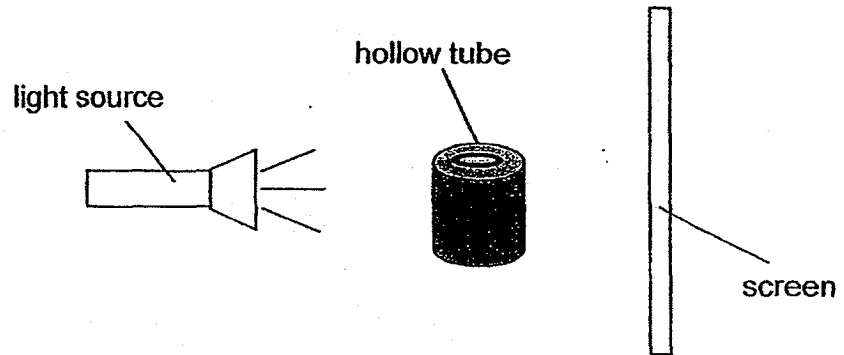
Different samples of cloths A, B, C and D were placed in front of the lamp one at a time. The shadows observed on the screen were recorded in the table below.

Cloth	Shadow observed on the screen
A	
B	
C	
D	

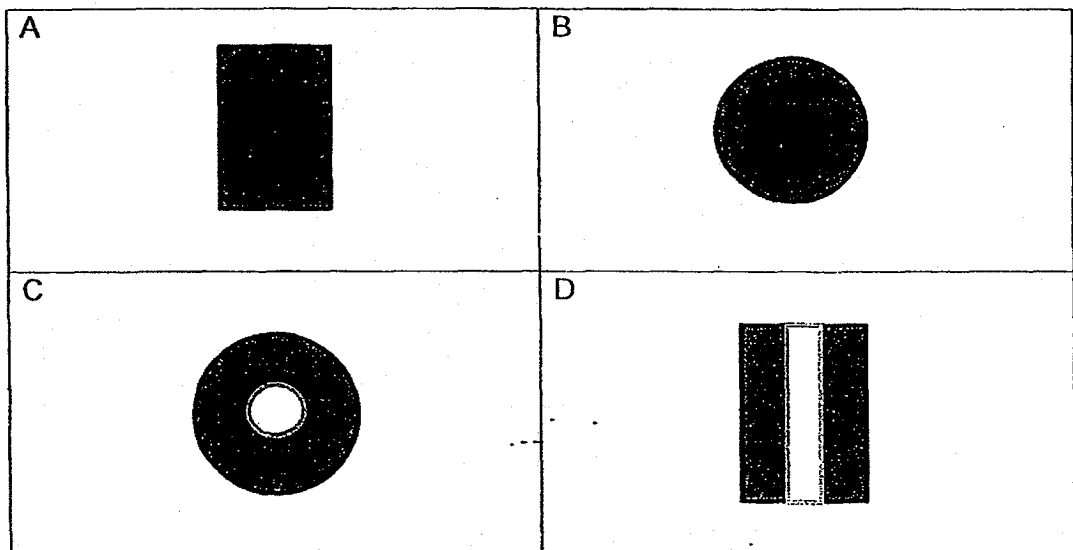
Which of the above cloth is most suitable for making curtains to block out all sunlight?

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

17. Study the set-up below. The hollow tube was rotated in different positions to cast different shadows on the screen.

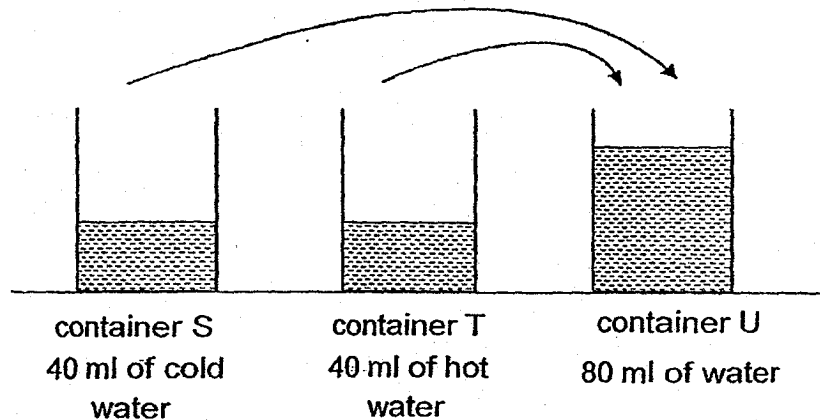


Which of the following shadow(s) is/are not possible to be cast on the screen?



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

18. Study the set-up below. The water in containers S and T were poured into container U as shown. The temperature of water in container U was then recorded.



What is the likely temperature of the water in container S, T and U?

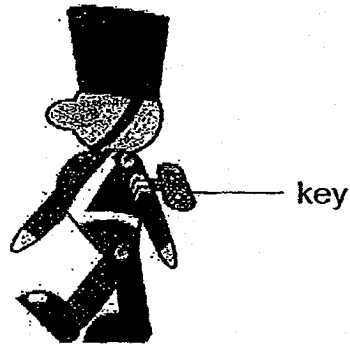
Temperature of water ($^{\circ}\text{C}$)			
	Container S	Container T	Container U
(1)	5	80	85
(2)	15	100	70
(3)	15	75	20
(4)	80	20	60

19. A bottle of cold juice was wrapped with several layers of cloth. After an hour, the cloth was removed and the juice was still cold. Which of the following are possible reasons for such an observation?

- A The cloth is a poor conductor of heat.
- B The juice lost heat slowly to the surrounding.
- C The juice gained heat from the surrounding slowly.
- D The cloth trapped many layers of air, and less heat from the surrounding is able to reach the juice.

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

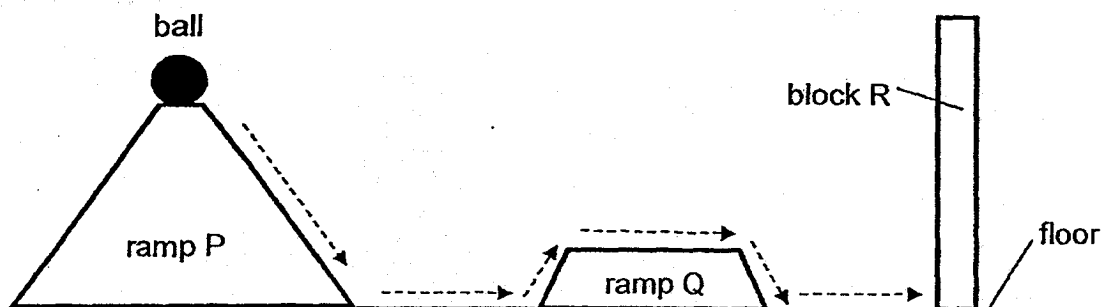
20. Jaydan conducted an experiment with a wound-up toy soldier as shown below. After a few turns, he released it on the floor and measured the distance travelled by the toy soldier.



Which of the following are possible aims of his experiment?

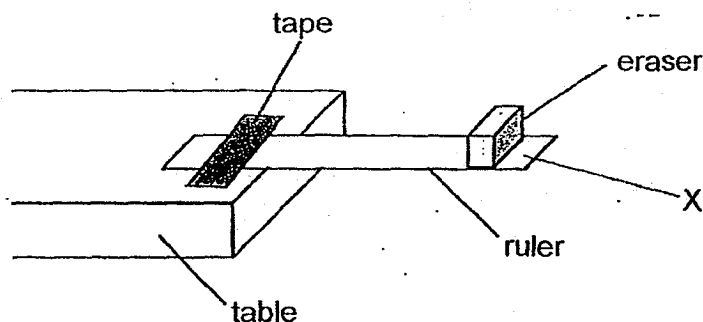
- A To find out if the mass of the toy soldier affects the distance moved by it.
 - B To find out if the surface the toy soldier travels on affects the distance travelled by it.
 - C To find out if the number of turns of the key affects the distance travelled by the toy soldier.
 - D To find out if the number of turns of the key affects the amount of potential energy of the toy soldier.
- (1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

21. A ball was released from the highest point of ramp P. The arrow shows the path of the ball before it was stopped by block R.



Based on the path travelled by the ball, which one of the following statements is true?

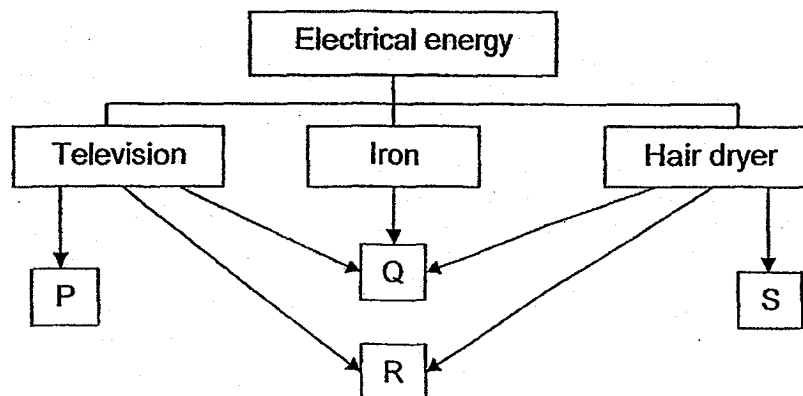
- (1) All the kinetic energy would be used up when the ball hit block R.
 - (2) When the ball was released from ramp P, it gained potential energy.
 - (3) The ball had the most kinetic energy when it is at the highest point of ramp P.
 - (4) Kinetic energy was converted to potential energy when the ball travelled up ramp Q.
22. Mica placed a ruler at the edge of the table and held it down firmly with a tape as shown below. She then placed an eraser near the edge of the ruler and pressed the ruler down at X before letting it go. She observed that the eraser was thrown off the ruler.



The eraser was thrown off as it had obtained its energy from the _____.

- (1) bent ruler
- (2) edge of the table
- (3) Mica's hand placed at position X
- (4) compressed air around the eraser

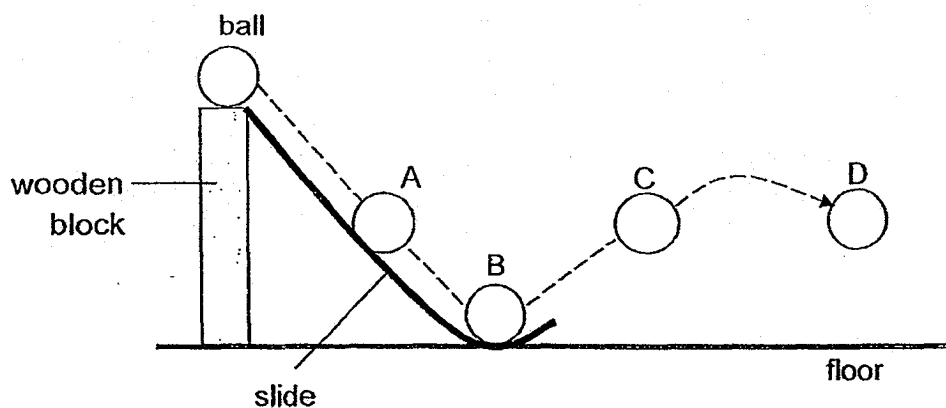
23. The table below shows how some electrical appliances convert electrical energy to other forms of energy.



Which one of the following correctly identifies P, Q, R and S?

	P	Q	R	S
(1)	Sound energy	Light energy	Heat energy	Sound energy
(2)	Sound energy	Heat energy	Light energy	Kinetic energy
(3)	Heat energy	Sound energy	Light energy	Heat energy
(4)	Light energy	Heat energy	Sound energy	Kinetic energy

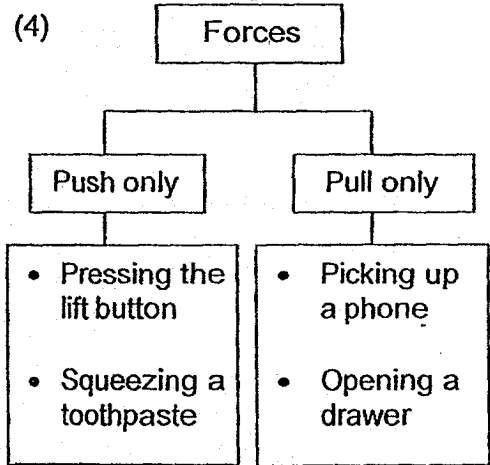
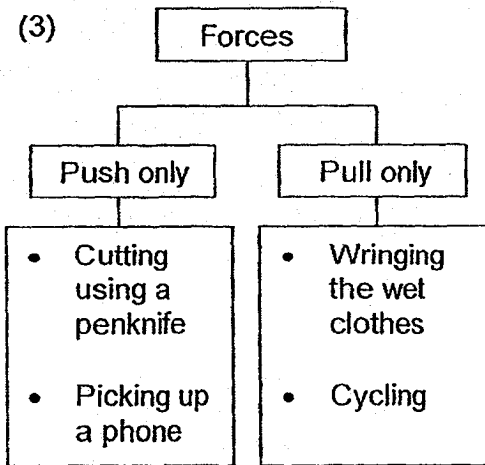
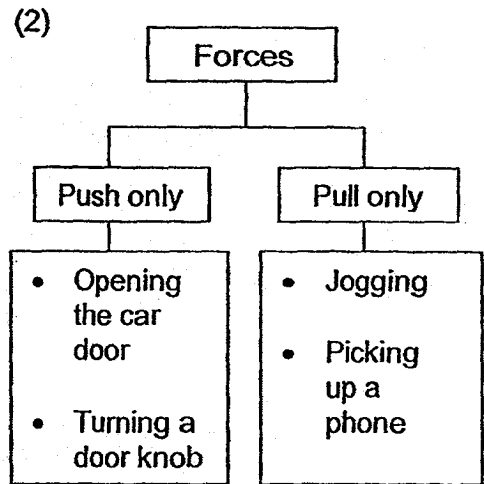
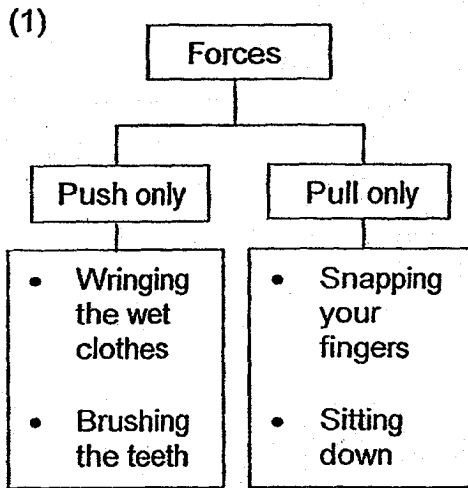
24. The diagram below shows the movement of a ball rolling down a slide.



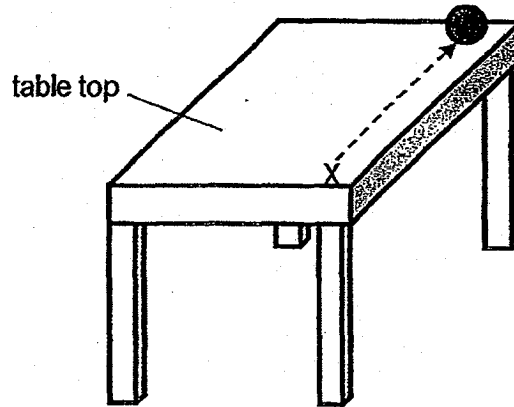
At which point(s) is gravitational force acting on the ball?

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

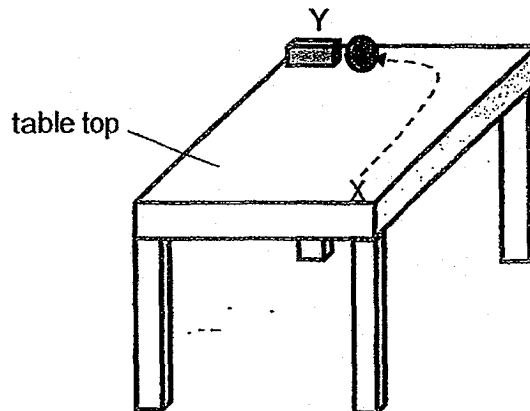
25. Which of the following actions are correctly classified?



26. When a steel ball was pushed at X on a flat table top, it moved along a straight line shown by the arrow in the diagram below.



The experiment was repeated with an object placed at position Y. The steel ball then travelled along a curved path as shown by the arrow below.

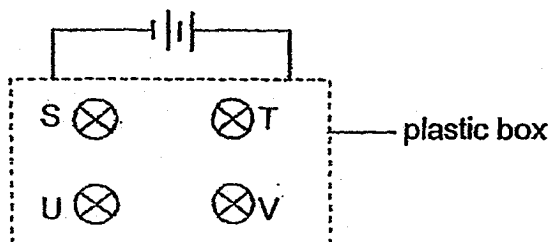


Which of the following statement(s) is/are explanation(s) for his observations above?

- A Gravitational force causes the steel ball to change direction.
- B Frictional force acts on the steel ball and causes the ball to change its direction.
- C The object at position Y is a magnet and it exerts a magnetic force on the steel ball.

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

27. Bulbs S, T, U and V were connected in a hidden circuit of a plastic box as shown below. All the light bulbs lit up when the circuit was closed.

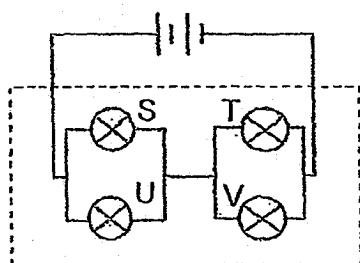


The table below shows what was observed when one light bulb was removed from the circuit.

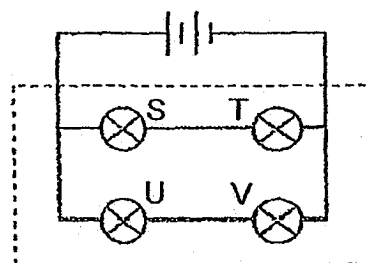
Bulb removed	Bulb(s) lit
S	T, U and V
T	none
U	S, T and V
V	none

Which one of the following correctly shows how the bulbs are connected in the plastic box?

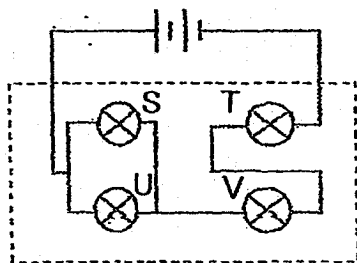
(1)



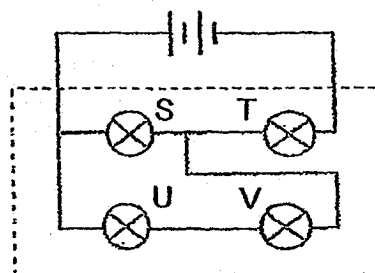
(2)



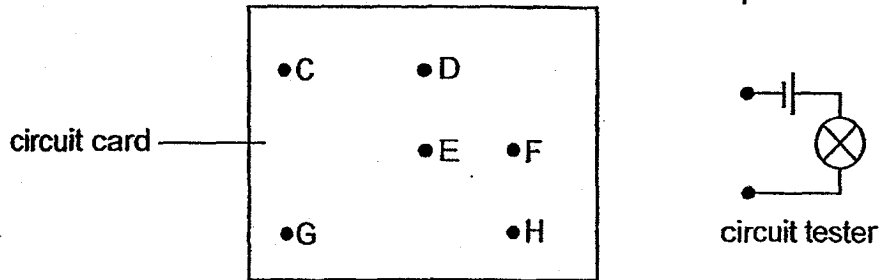
(3)



(4)



28. Pema connected a circuit card to a circuit tester in her experiment.

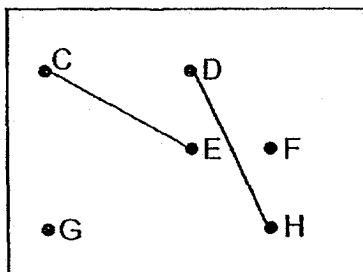


She recorded the results as shown in the table below.

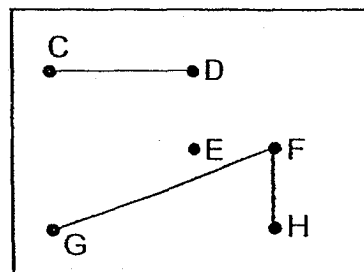
Points joined to the circuit tester	Did the bulb light up?
C and D	No
D and H	Yes
C and E	Yes
G and F	No

Based on the results in the table above, which one of the circuit cards shows the connection of wires correctly?

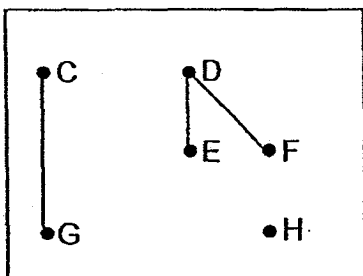
(1)



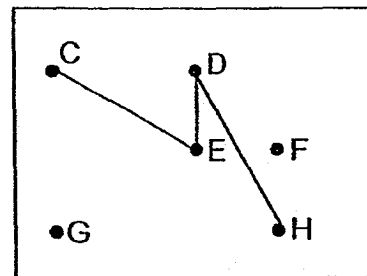
(2)



(3)



(4)

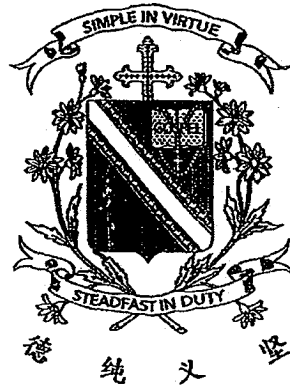


End of booklet A

Name: _____ ()

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 6

CONTINUAL ASSESSMENT 2018

SCIENCE

BOOKLET B

1 March 2018

Total Time for Booklets A and B: 1 hour 45 minutes

13 questions
44 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This paper consists of 16 printed pages.

Booklet A	56
Booklet B	44
Total	100

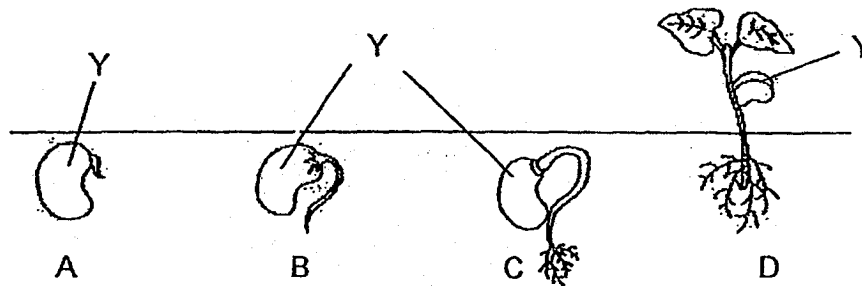
Parent's Signature/Date

Section B (44 marks)

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

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

29. The diagram below shows the different stages of growth of organism P.

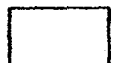


(a) Identify part Y in the diagram above and state its function. [1]

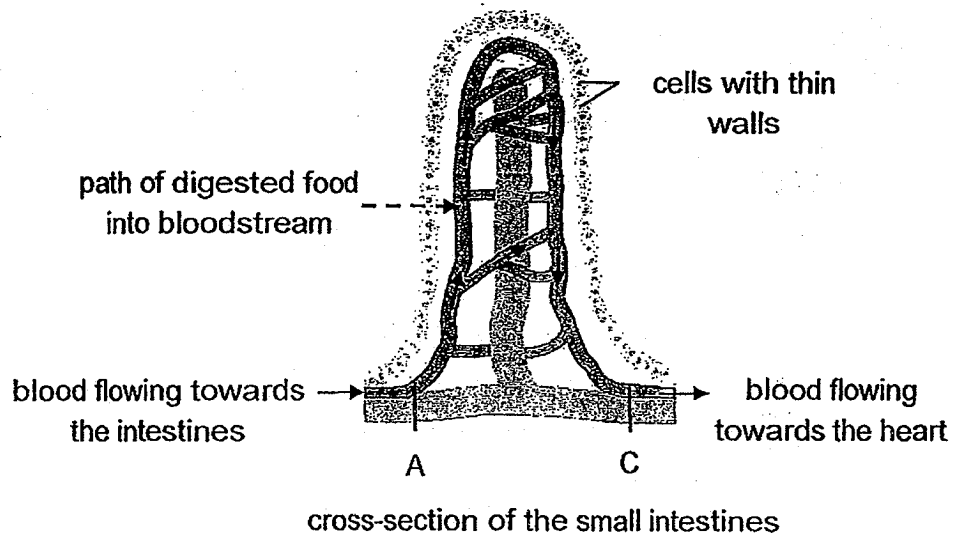
(b) Mariam measured and recorded the mass of part Y as the seedling goes through the stages A to D above. Match the stages to the corresponding mass by writing the stage letters A, B, C or D in the table below. [1]

Stage	Mass of part Y (units)
	2.3
	1.6
	2.1
	1.2

(c) What would happen to part Y in stage D after some time? Explain why. [1]



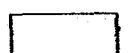
30. The diagram below shows the blood flow in one section of the small intestines.



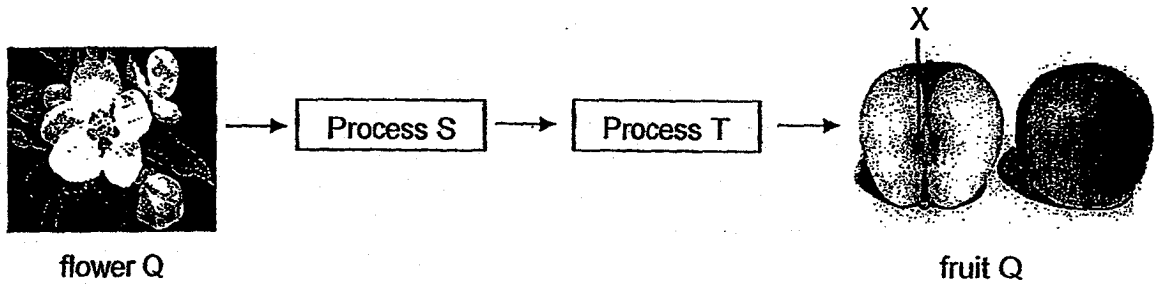
- (a) State the difference between the amount of oxygen present in the blood vessels at A and C. [1]

- (b) Give a reason why it is important for the walls of the small intestines to be made up cells with very thin walls. [1]

- (c) Other than transporting oxygen and food to other parts of the body, state another function of the circulatory system. [1]



31. The diagram below shows how a fruit is formed from the flower Q. The fruit has been cut open.



(a) State processes S and T.

[1]

Process S: _____

Process T: _____

The picture shows an organism B, interacting with flower Q.

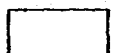


(b) Describe how organism B helps in process S.

[1]

(c) State the part of the flower that X developed from.

[1]

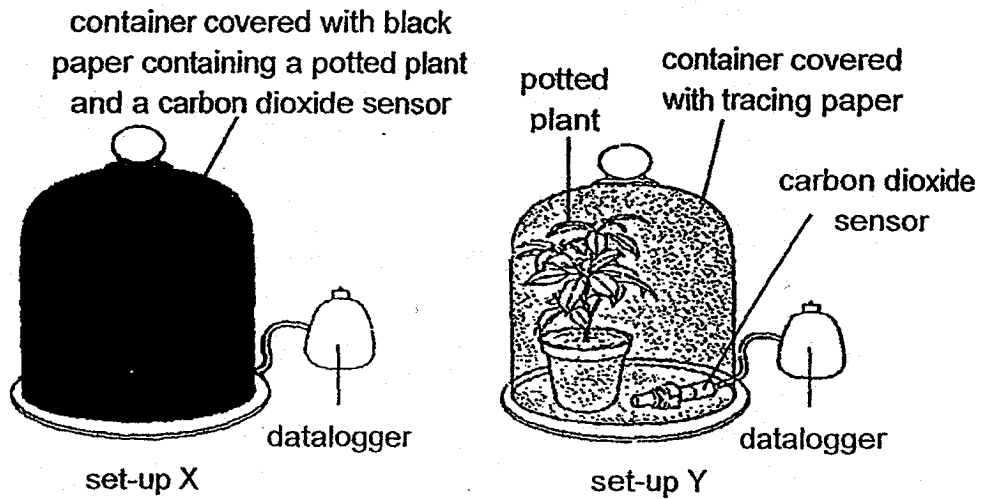


- (d) Fruit Q tastes sweet. Explain why new plants grown from part X will also bear sweet tasting fruits. [1]

- (e) Process T also takes place in animals. Describe what happens during process T in animals. [1]



32. Hua Yong set up an experiment shown below.

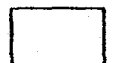


(a) Describe the control set-up needed for his experiment. [1]

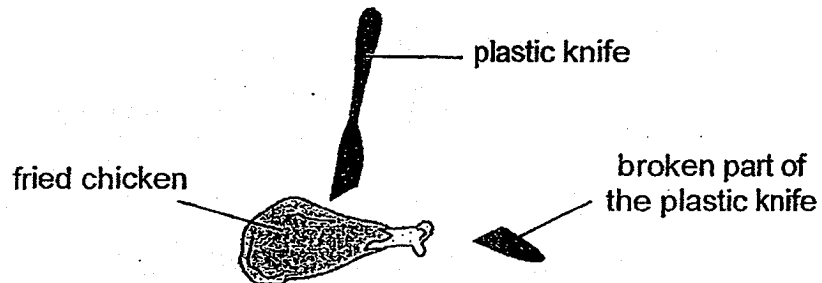
(b) What could be a possible hypothesis for his experiment? [1]

(c) Explain how Hua Yong can use the set-ups above to measure the rate of photosynthesis. [1]

(d) Which variable(s) did he change? [1]



33. Jia Ling tried to cut a piece of fried chicken using a plastic knife. As she was cutting the chicken, the knife broke.



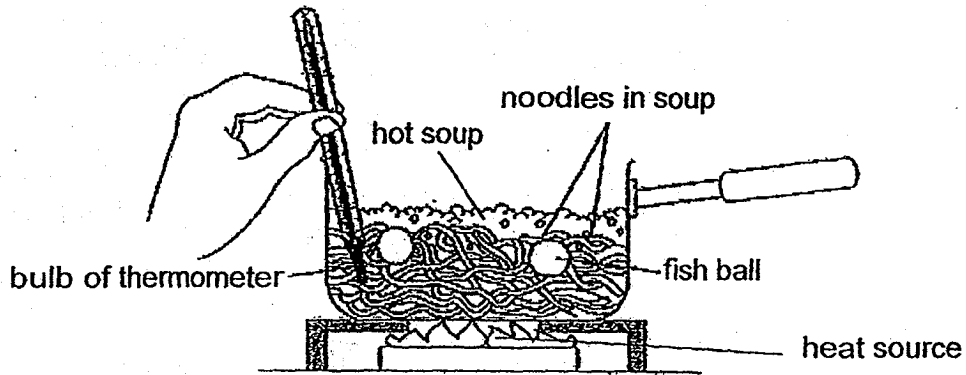
Jia Ling then used a knife made from material B. This time, the knife did not break.

- (a) Based on the observation above, compare the strength of the two knives. [1]

- (b) Suggest a possible material for B. [1]



34. Sally put some frozen fish balls and some noodles at room temperature into a metal pot containing hot soup.



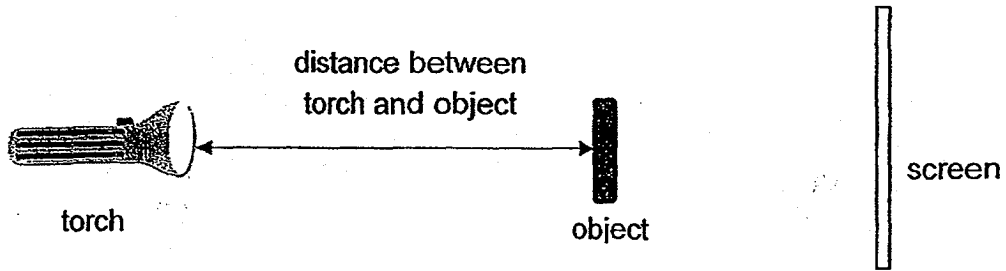
Three minutes later, Sally took out one fish ball and found that the temperature at the centre of the fish ball was lower than the soup.

- (a) Give a reason for the observation above. [1]

- (b) What could Sally do to ensure that the fish ball has the same temperature as the hot soup? Explain your answer. [2]

- (c) Sally was careful to ensure that the bulb of the thermometer did not touch the bottom of the pot while measuring the temperature of the soup. Give a reason for this. [1]

35. Kai Ling placed an object between a torch and a screen as shown below.



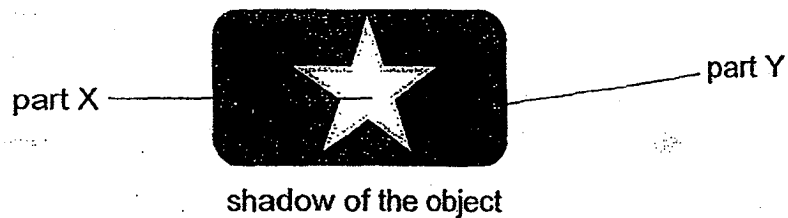
She moved the object nearer to the torch and recorded the length of the shadow on the screen in the table below.

Distance between torch and object (cm)	Length of shadow (cm)
30	11
20	17
10	20
5	24

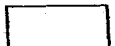
(a) From the results shown above, what is the relationship between the length of the shadow and the distance between torch and object? [1]

(b) Based on the results shown in the table, what is the length of the shadow if the object is 15 cm away from the torch? [1]

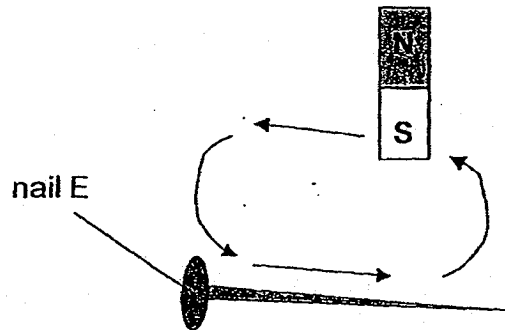
The diagram below shows a shadow cast on the screen.



(c) Explain why part X of the shadow is lighter than part Y of the shadow. [1]



36. Samuel had two nails E and F. He used a bar magnet and stroked nail E 50 times in the direction as shown below. He then repeated the process with nail F.



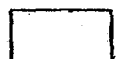
Samuel placed the nails near some iron pins and observed that nail F attracted 10 pins but no pins was attracted to nail E.

- (a) Give a possible reason why nail E was unable to attract any pins. [1]

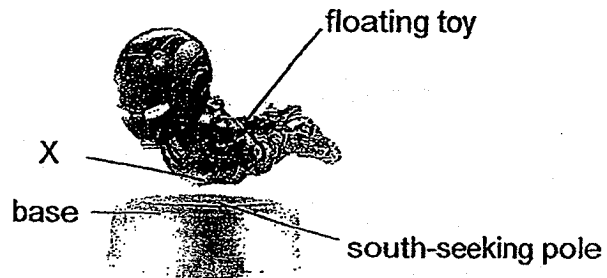
Samuel continued to stroke nail F with the same magnet and recorded the number of pins nail F can attract. The results are shown in the table below.

Number of strokes	Number of pins attracted
First 50	10
additional 10	6
additional 10	5

- (b) Based on the results, what could Samuel have done differently this time round? [1]



A 'floating' toy is shown below.



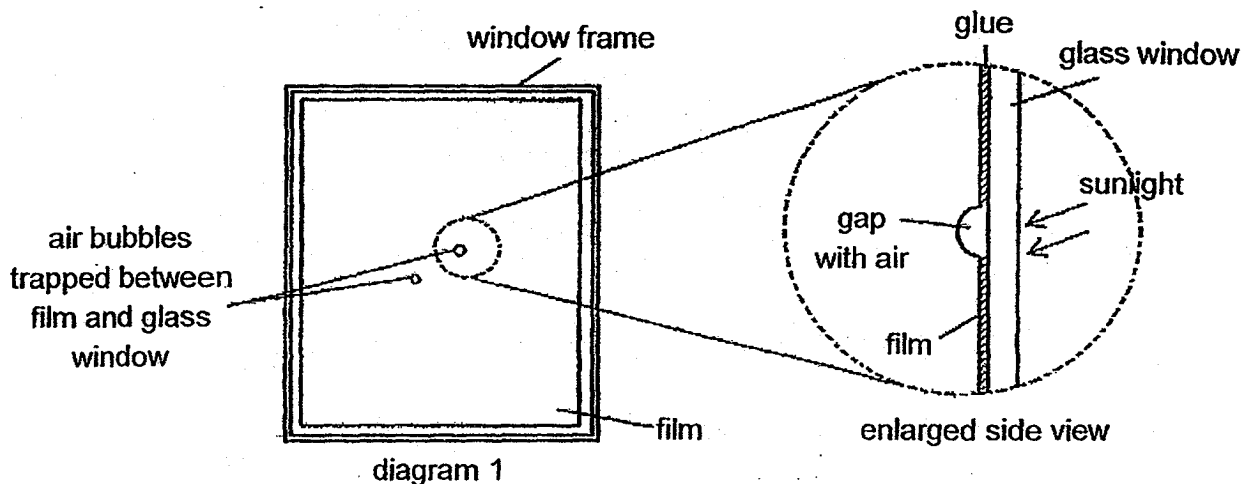
A magnet is attached at part X of the toy to enable it to 'float'.

(c) Based on the diagram above, what could be the pole at point X of the toy?[1]

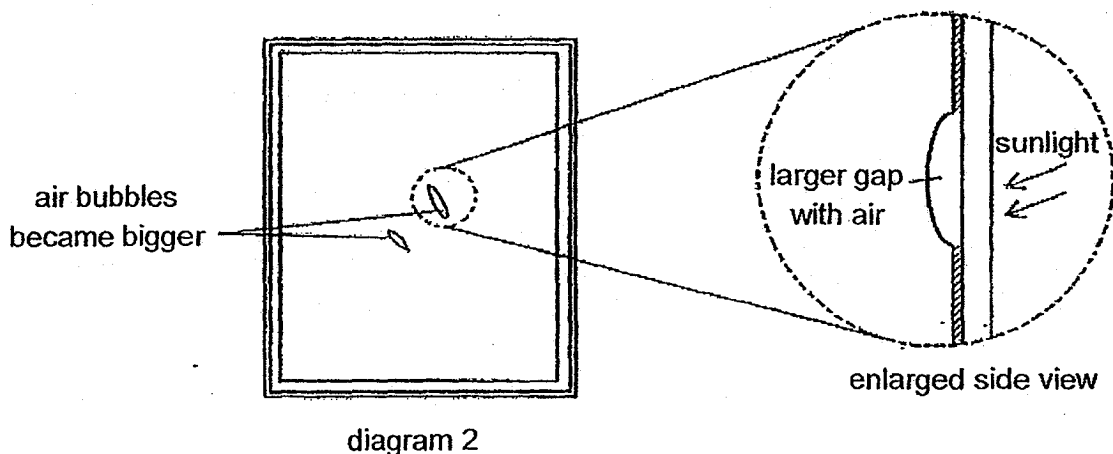
(d) What changes can we make to the toy if we want it to float higher? [1]



37. Joanna pasted a film onto a glass window to reduce the amount of sunlight entering a room. Diagram 1 shows some air bubbles trapped between the film and the glass window after pasting.



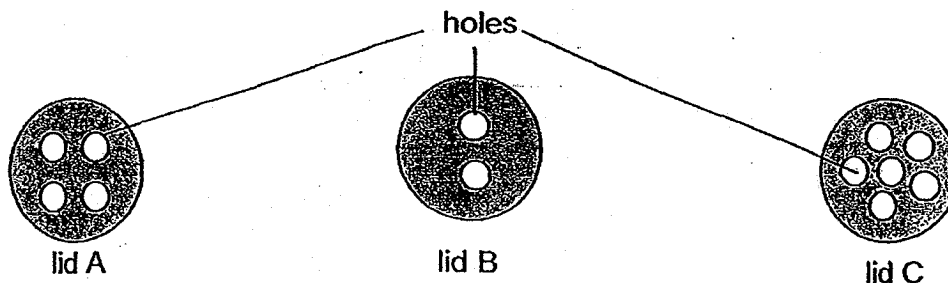
After some weeks, the air bubbles become larger as shown in Diagram 2.



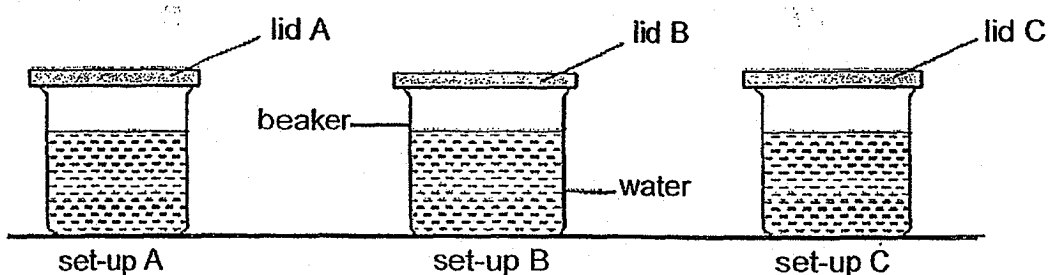
- (a) Explain why the air bubbles became bigger in diagram 2. [1]

- (b) Joanna used a small pin to poke a small hole on the film where the air bubble is. Suggest why this will help her to prevent the air bubble from getting bigger. [1]

38. Susan set up an experiment to study the rate of evaporation of water. She prepared 3 opaque plastic lids with different number of holes that were of the same size as shown below.



She then placed each plastic lid over a beaker of water as shown below. The set-ups were then left next to a window for three days.



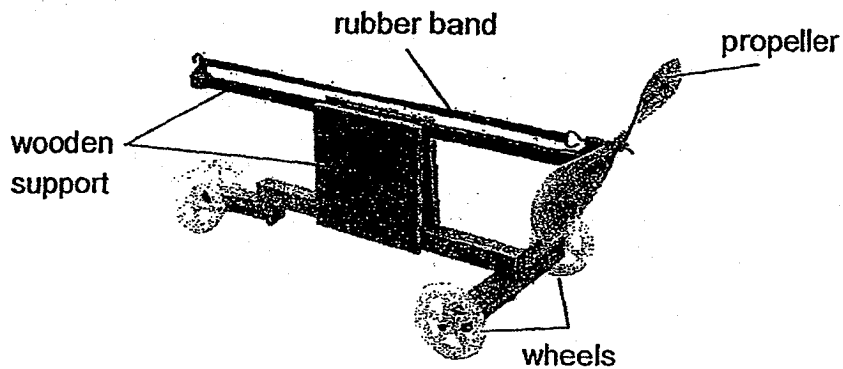
- (a) In which set-up would there be the least amount of water at the end of the experiment? Give a reason for your answer. [2]

Susan observed that there were water droplets formed on the inner surfaces of the lids.

- (b) On which lid would she observed the most amount of water droplets formed? Explain your answer. [1]

- (c) Explain how water droplets were formed on the inner surfaces of the lids. [2]

39. James made a toy car as shown below.

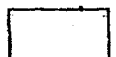


James turned the propeller a few times and released the toy on the floor. It moved across the floor before coming to a stop.

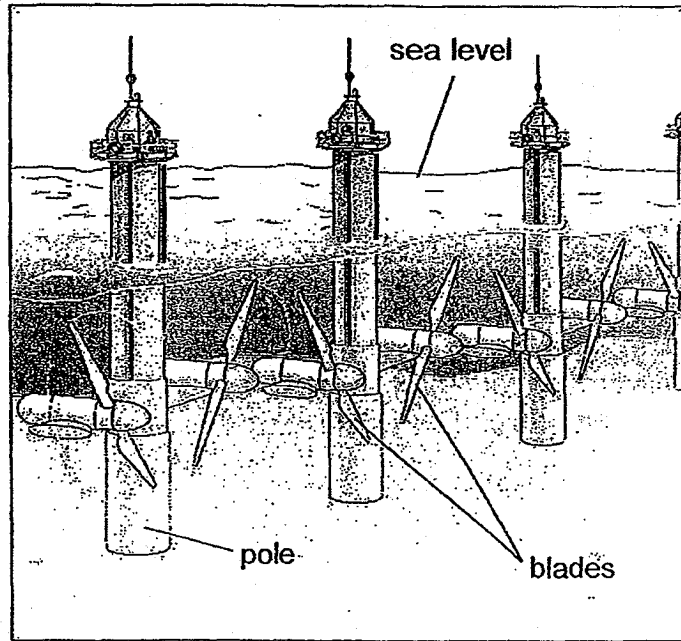
(a) What was the source of energy that enabled the toy to move? [1]

(b) Why did the toy eventually come to a stop? [1]

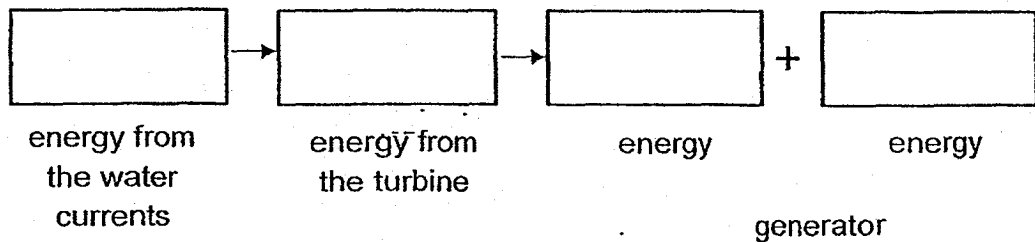
(c) Using the same set-up, what could James do to make the toy car move further? Explain your answer. [1]



40. The diagram below shows tidal turbine generators which use water currents in the sea to turn the blades of the turbines to generate electricity.

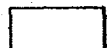


- (a) Write down the energy conversion which took place in a tidal turbine generator. [1]

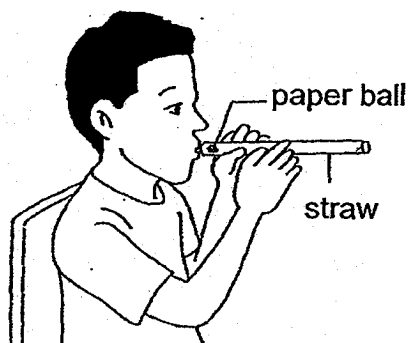


- (b) The blades of the tidal turbine generator is usually made of a lighter material. Explain how this will enable it to generate more electricity. [1]

- (c) State one advantage of using renewable energy sources to generate electricity. [1]



41. Chee Yong carried out an experiment with three similar straws X, Y and Z of different lengths. He put a paper ball into the straw and blew it while holding the straw horizontally. He then measured and recorded the distance moved by the paper ball after each try.



His results are shown below.

	Distance moved by paper ball (cm)		
	straw X (length = 30 cm)	straw Y (length = 20 cm)	straw Z (length = 10 cm)
1 st try	130	99	71
2 nd try	135	95	78
3 rd try	128	90	75

- (a) Based on the results above, what can you conclude about the distance moved by the paper ball and the length of the straw? [1]

- (b) What is/are the force(s) involved in the experiment above? [1]

- (c) Explain why the same paper ball must be used for the experiment. [1]



EXAM PAPER 2018(P6)

SCHOOL : CHIJ

SUBJECT : SCIENCE

TERM : CA1

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

29)a)Seed leaves. Seed leaves provide food for the seedling until it grows its first leaves.

b)A , C , B , D

c)The seed leaves will drop. The seedling does not need the seed leaves anymore as it can make its own food.

30)a)A has more oxygen while C has less oxygen.

b)So the digested food can go into the bloodstream easily.

c)The circulatory system also transports waste materials away from body parts for removal.

31)a)Process S : Pollination

Process T : Fertilisation

b)During pollination, organism B helps in the transfer of pollen grains from the anthers of the flowers to the stigma of the flowers of the same species.

c)Ovules.

d)The traits of fruit Q will be passed down to its generations.

e)During process T, the nucleus of the sperm will fuse with the nucleus of the egg.

32)a)A similar potted plant in a similar clear container, placed under the same conditions. There should also be a carbon dioxide sensor connected to a data-logger.

b)The lesser the amount of light given to the plant, the slower the rate of photosynthesis.

c)The carbon dioxide sensors will sense the amount of carbon dioxide in the containers.

d)The transparency of paper used to cover the container.

33)a)Material B was stronger than the plastic knife.

b)Steel.

34)a)It takes time for heat to be transferred from the hot soup to the centre of the fish ball.

b)Sally could put the fish balls at the bottom of the pot near the heat source. The fish balls will gain more heat from the heat source when the fish balls are nearer to the heat source.

c)To ensure that she is measuring the temperature of the soup and not the pot.

35)a)The further the distance between the torch and the object, the shorter the length of the shadow.

b)The shadow will be 19 cm.

35)c)Part X is cast by a translucent object and part Y by an opaque object.

36)a)Nail E is a non-magnetic material, therefore it will not be magnetised by the magnet.

b)He stroked the nail in different direction.

c)South-seeking pole.

d)Change the magnet on the toy to magnet with a stronger magnetic force.

37)a)The air bubbles in diagram 1 gained heat from the heat from the sunlight and the air bubbles expanded.

b)The air will escape through the small hole.

38)a)Set-up C. It has the most holes so the water has the greatest exposed surface area. Hence, the water in set-up C will evaporate the fastest.

b)Lid B. It has the least holes so less water vapour can escape and the biggest surface area for more condensation to take place.

c)Water from the beakers gained heat and evaporated into water vapour, came into contact with the cooler inner surface of the lids, lost heat and condensed into water vapour.

39)a)The twisted rubber band.

b)The kinetic energy was converted into heat and sound energy.

c)He can turn the propeller more times. The rubber band will have more elastic potential energy to be converted to kinetic energy to move the toy car further.

40)a)Kinetic \rightarrow Kinetic \rightarrow Electrical + Heat

b)When the blades are lighter, lesser energy is required to turn the blades and the blades are able to spin faster to turn the generator faster to produce more electricity.

c)The renewable energy sources will not run out of supply.

41)a)The longer the length of the straw, the further the distance moved by the paper ball.

b)Frictional and gravitational forces.

c)To ensure that the mass of the paper ball remains constant.