Index No. [ ][ ][ ][ ] – [ ]

PEI CHUN PUBLIC SCHOOL

PRELIMINARY EXAMINATION 2019

SCIENCE

SECTION A

Time: 1 h 45 min

Name: _____ ( )

Class: Primary 6 /( ) _____

Date: 20 August 2019

Science Teacher: _____

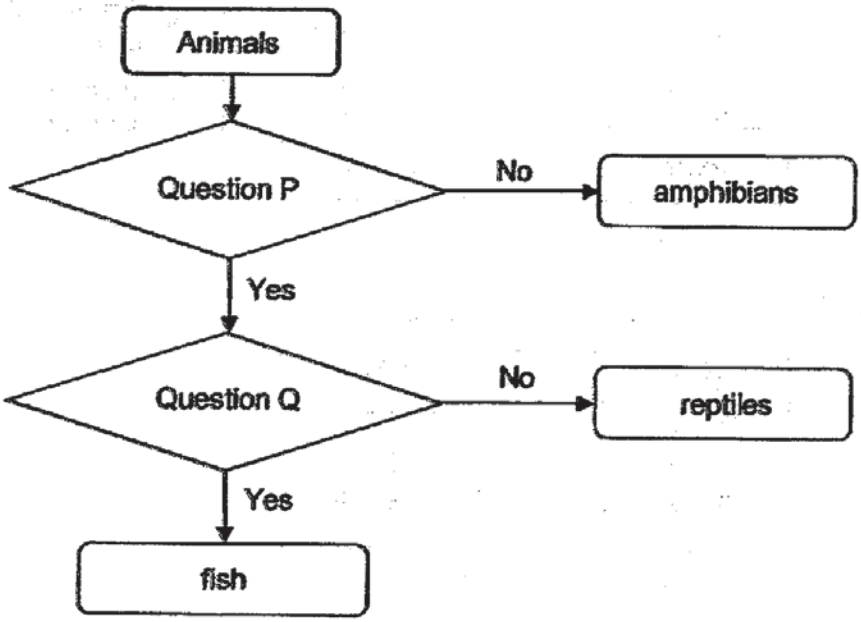
INSTRUCTIONS TO CANDIDATES

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.
ANSWER ALL QUESTIONS.
SHADE YOUR ANSWERS ON THE OPTICAL ANSWER SHEET (OAS) PROVIDED.

www.TestPapersFree.com

Section A (28 × 2 marks)
For questions 1 to 28, choose the most suitable answer and shade its number (1, 2, 3 or 4) on the Optical Answer Sheet (OAS) provided.

1 Three groups of animals are classified in the flowchart shown below.



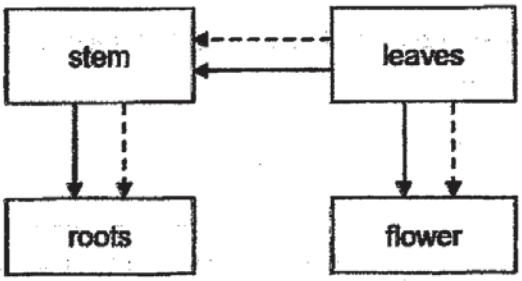
What are questions P and Q?

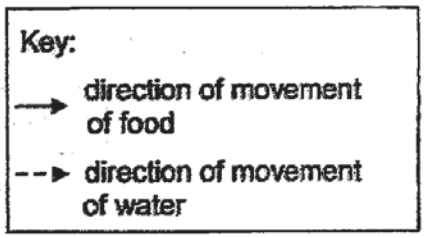
	Question P	Question Q
(1)	Does the adult have gills?	Does it have fins?
(2)	Does the adult have gills?	Does it have scales?
(3)	Does it have fins?	Does it have scales?
(4)	Does it have scales?	Does the adult have gills?

www.TestPapersFree.com

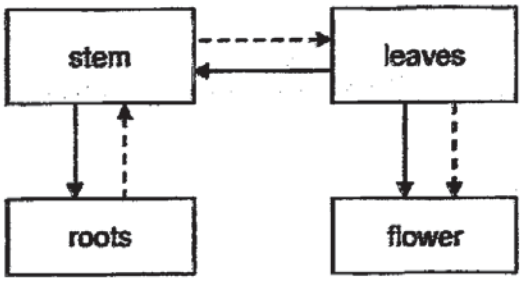
2 Which of the following diagrams correctly shows the direction of movement of food and water in a plant?

(1)

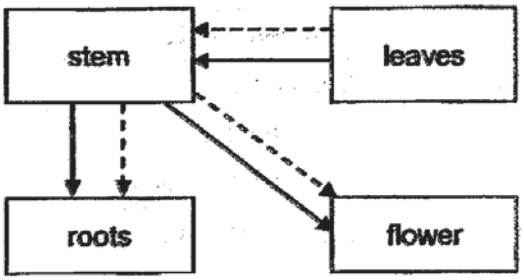




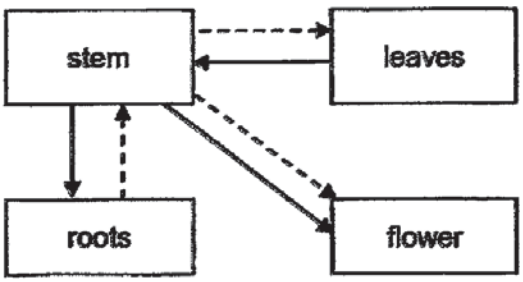
(2)



(3)

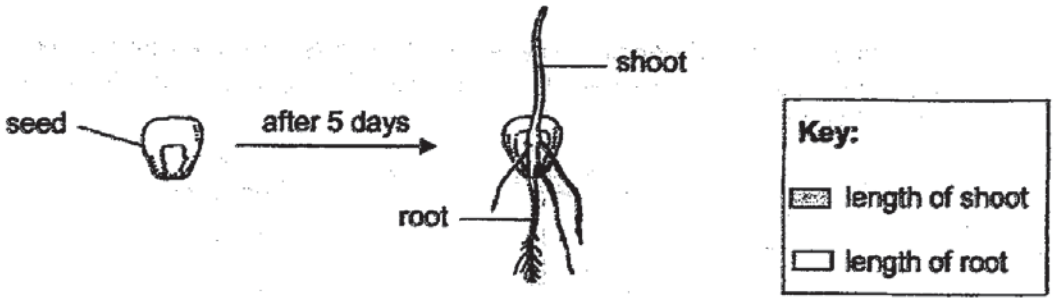


(4)



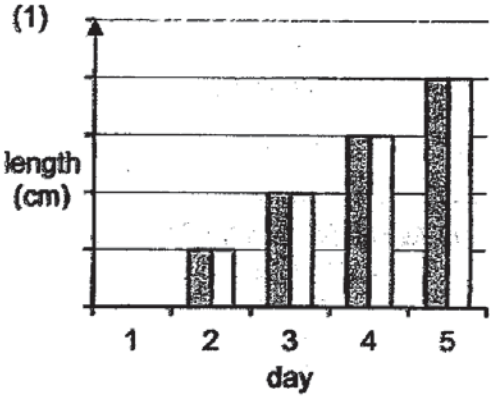
www.TestPapersFree.com

3 Huihui observed a seed germinating as shown below.

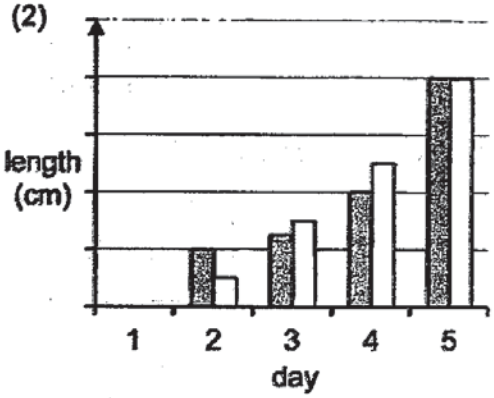


She measured the lengths of the shoot and root of the seedling every day.
Which of the graphs correctly shows the results of her experiment?

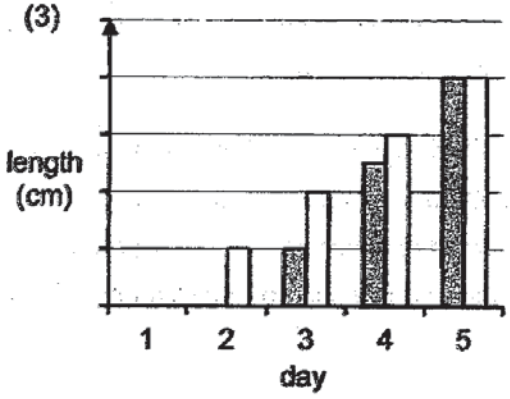
(1)



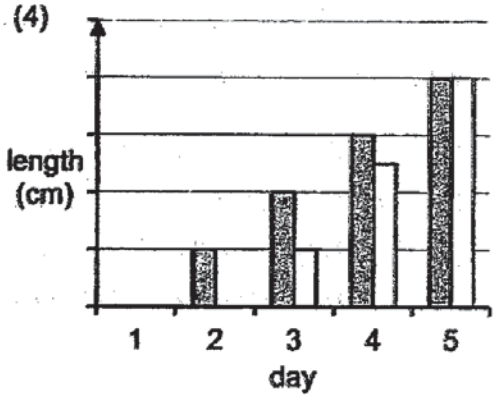
(2)



(3)



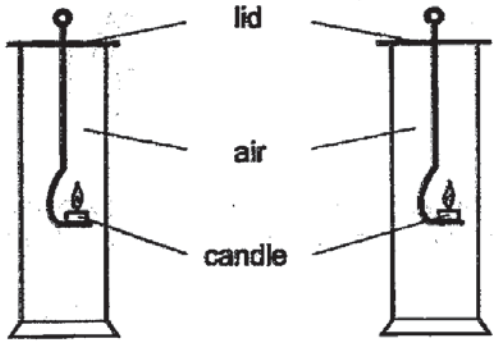
(4)



www.TestPapersFree.com

4 Gopal prepared two gas jars. One of the jars was filled with air that he breathed in and the other was filled with air that he breathed out.

He placed a lighted candle inside each of the jars as shown below. As the candles burn, they use up the oxygen in the jars. He measured the time taken for the candle flame to go out.



His results are shown below.

Gas jar	Time taken for candle flame to go out (s)
G	8
H	17

Which of following best explains the result of his experiment?

(1) Jar G contained air that Gopal breathed in which had less oxygen.

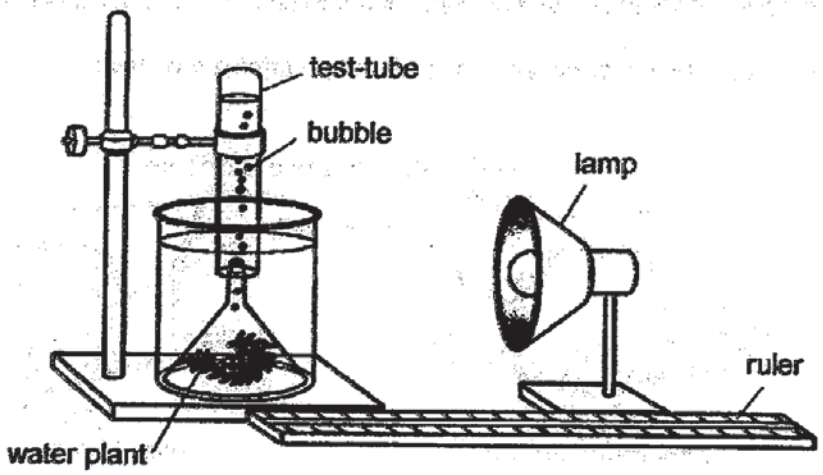
(2) Jar G contained air that Gopal breathed out which had less oxygen.

(3) Jar H contained air that Gopal breathed in which had more carbon dioxide.

(4) Jar H contained air that Gopal breathed out which had more carbon dioxide.

www.TestPapersFree.com

5 Aini conducted an experiment in a dark room using the set-up shown below.



She switched on the lamp and counted the number of bubbles the water plants produced in one minute.

Aini repeated the experiment with different masses of water plants and placed the lamp at different distances from the water plants.

Her results are shown below.

Set-up	Distance between the water plants and lamp (cm)	Number of bubbles produced by the water plants in one minute
A	20	18
B	30	18
C	40	18

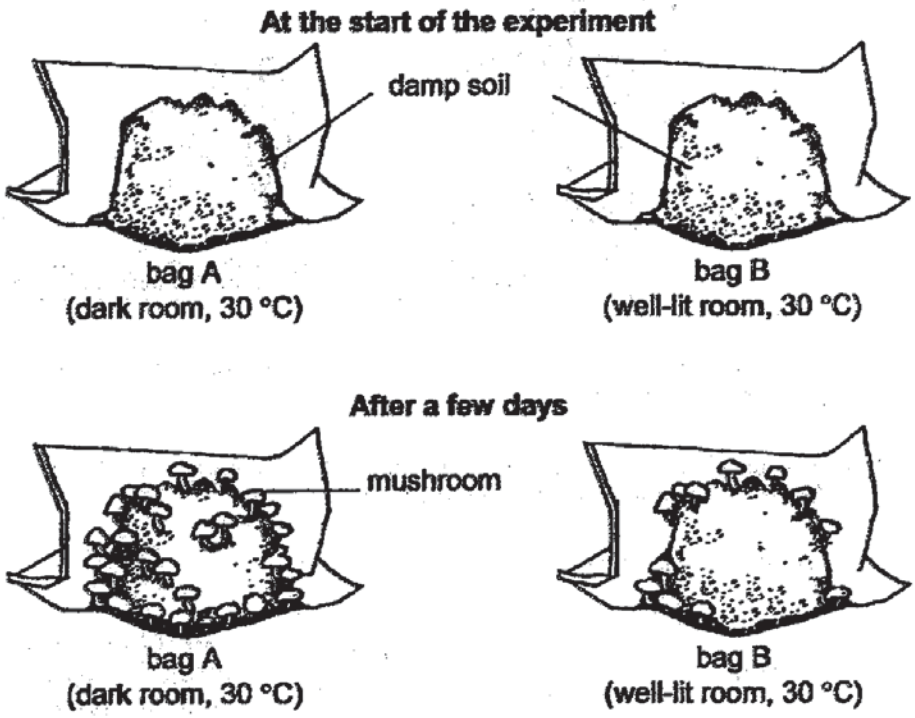
Which of the following most likely shows the mass of water plants in each of the set-ups?

	Set-up A	Set-up B	Set-up C
(1)	10 g	15 g	20 g
(2)	10 g	20 g	15 g
(3)	20 g	10 g	15 g
(4)	20 g	15 g	10 g

www.TestPapersFree.com

6 Judy carried out an experiment as shown below. She placed the same amount of mushroom spores in two sealed bags of damp soil and left the bags in different places.

The diagrams below show what she observed after a few days.



Which of the following could Judy conclude from her experiment?

(1) Mushrooms need light to grow.

(2) Mushrooms do not need light to grow.

(3) Mushrooms need warmth and light to grow.

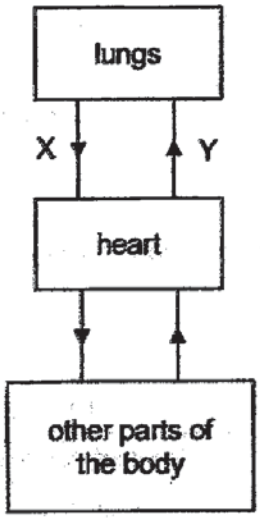
(4) Mushrooms need warmth but do not need light to grow.

www.TestPapersFree.com

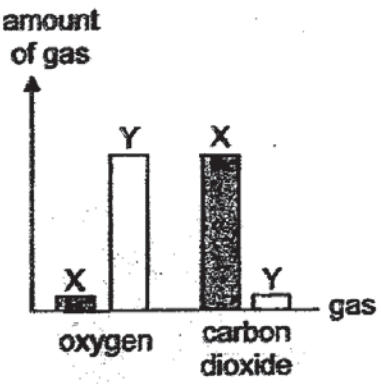
7 Which of the following correctly shows where digestion starts and end in the human digestive system?

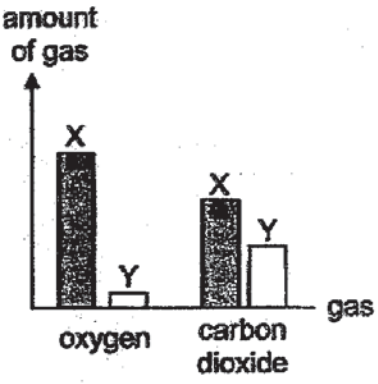
	Digestion starts	Digestion Ends
(1)	mouth	large intestine
(2)	mouth	small intestine
(3)	stomach	large intestine
(4)	stomach	small intestine

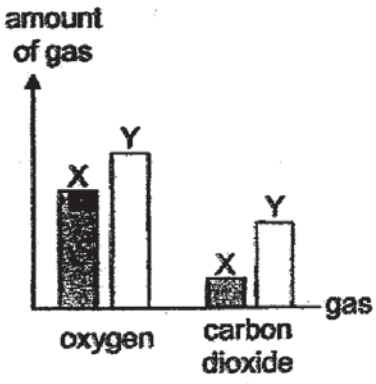
8 The diagram shows the direction of blood flow in some parts of the body.

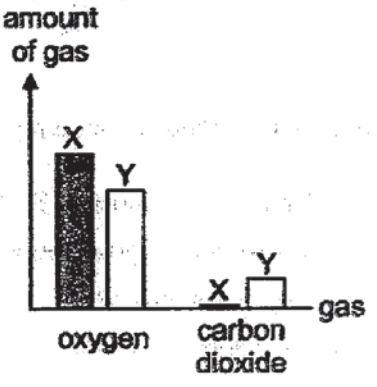


Which of the following shows the correct comparison of the amount of oxygen and carbon dioxide at X and Y?

(1)


(2)


(3)


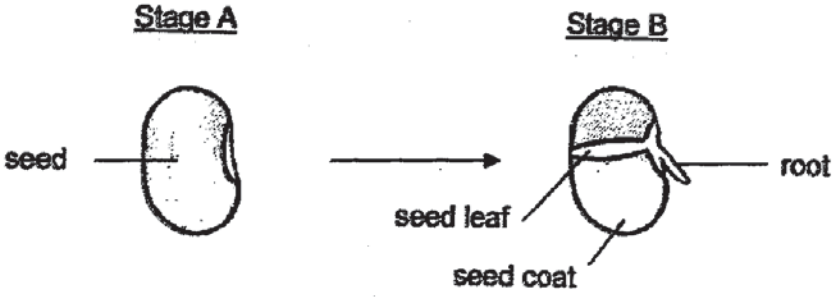
(4)


www.TestPapersFree.com

9 Which of the following statements about cells is correct?

(1) All plant cells contain chloroplasts.
(2) All animal cells do not have cell walls.
(3) Cell walls control the movement of substances into and out of a cell.
(4) All the cells within an organism look alike and perform similar functions.

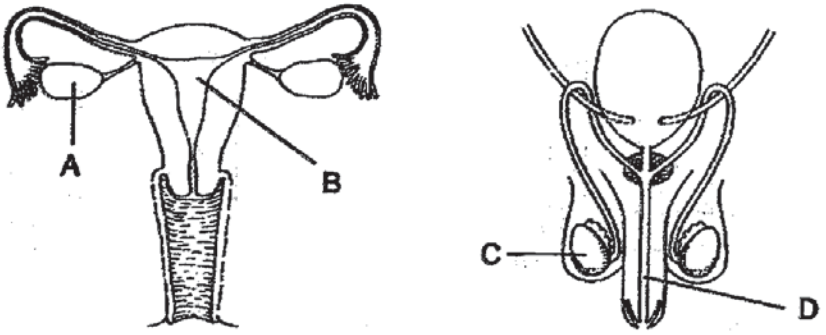
10 The diagram shows the germinating process of a seed.



How would the mass of seed change from stage A to stage B and what was the reason for the change in mass?

	Mass of seed	Reason
(1)	decrease	The seed coat broke apart.
(2)	decrease	The root had less mass than the seed leaf.
(3)	increase	The germinating seed absorbed water.
(4)	increase	The germinating seed made its own food.

11 Study the two human reproductive systems as shown below.



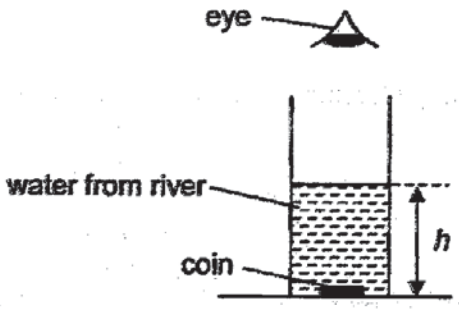
Which of the following is correct?

(1) Fertilisation occurs in B and D.
(2) The fertilised egg is found in A.
(3) Only one sperm will be released through D.
(4) Reproductive cells are produced in A and C.

www.TestPapersFree.com

12 Mary conducted an experiment using muddy water from different parts of a river, W, X, Y and Z.

She placed a coin at the bottom of a container and poured water taken from W until the coin could no longer be seen as shown in the set-up below. Then she recorded the height *h* of the water.



She repeated the experiment with water taken from X, Y and Z. The results are shown below.

Part of river	*h* (cm)
W	30
X	60
Y	10
Z	80

Based on her results, which of the following statements is most likely to be correct?

(1) More floating plants can be found at part W than part X.

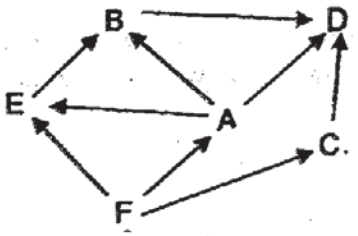
(2) The most number of floating plants can be found at part Z.

(3) More plants can be found in the water at part X than part W.

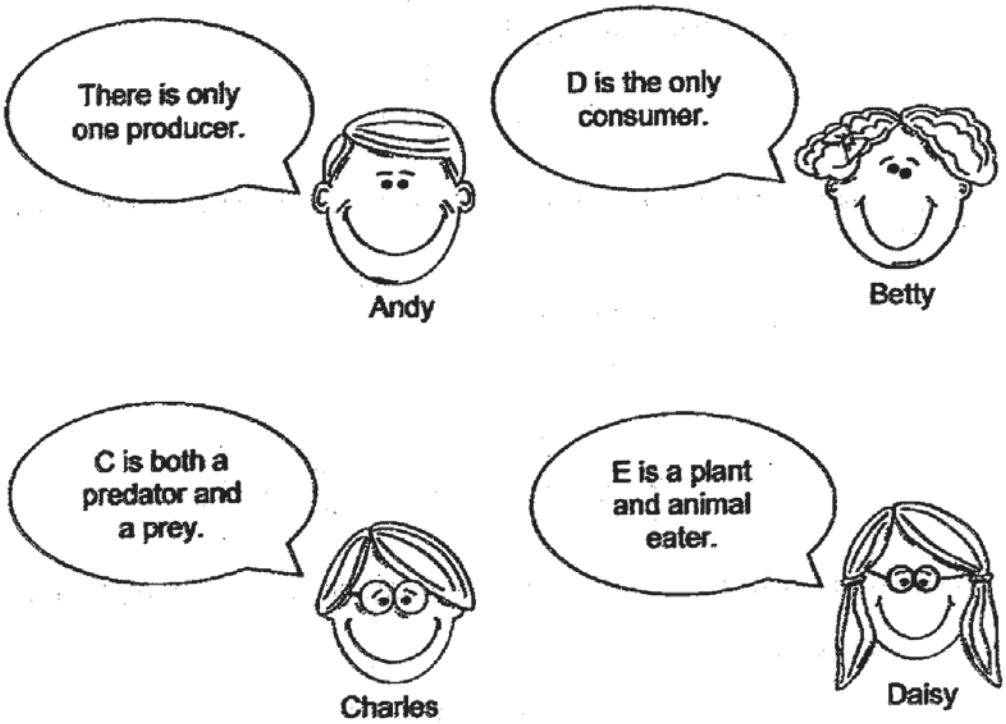
(4) The most number of plants can be found in the water at part Y.

www.TestPapersFree.com

13 Study the food web below.



Four pupils made the following statements about the food web.

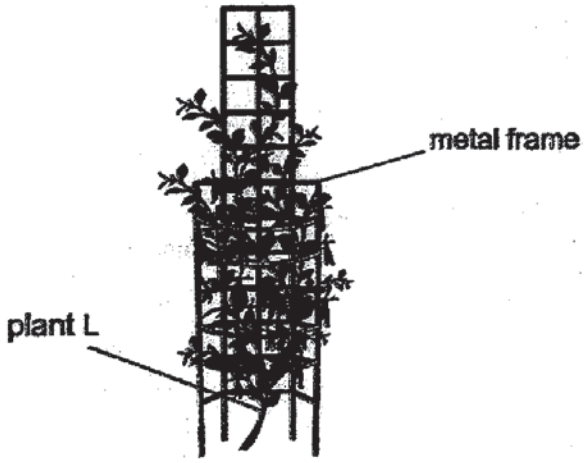


Which pupils were correct?

(1) Andy and Charles only
(2) Andy and Daisy only
(3) Betty and Charles only
(4) Betty and Daisy only

www.TestPapersFree.com

14 Plant L climbs around a metal frame as shown below.



What is the advantage of plant L climbing onto the metal frame?

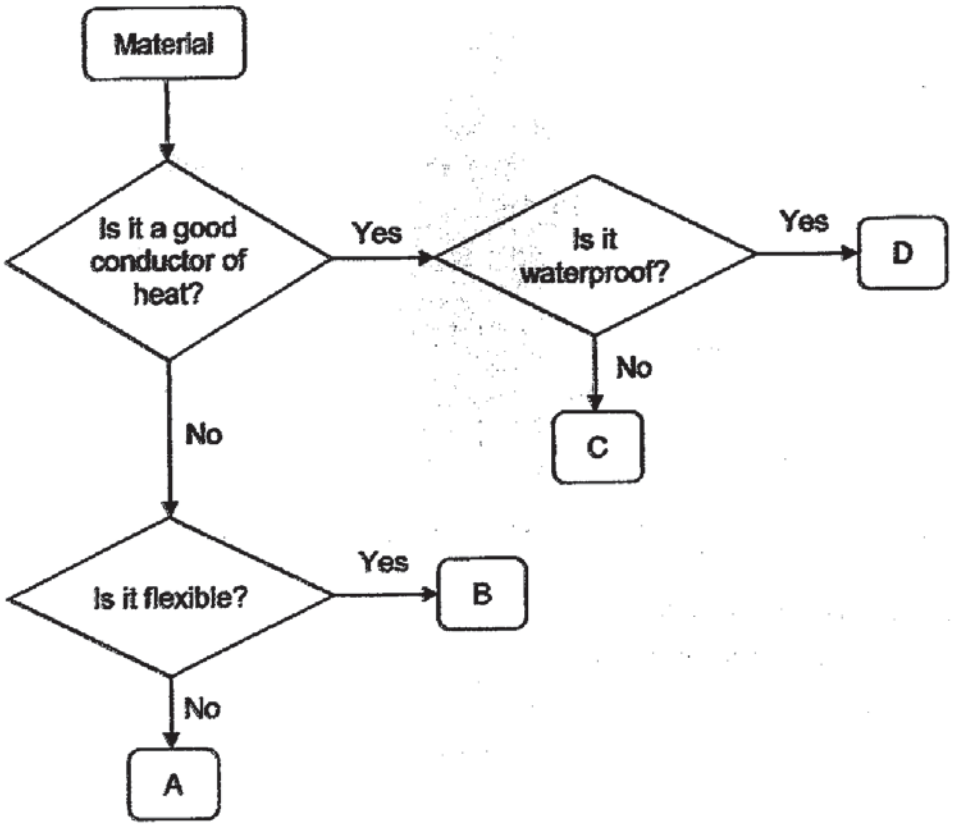
(1) It can get more sunlight.
(2) It can keep animals away.
(3) It can store water in the leaves.
(4) It can increase the chance of pollination.

15 Which of the following actions have a positive impact on the environment?

(1) cutting down trees to clear land to build houses
(2) taking public transport instead of private car to school
(3) building more incineration plants to burn more rubbish
(4) switching on the air-conditioner to cool the surroundings

www.TestPapersFree.com

16 Study the diagram below.



All buildings need to have special fire doors as a safety feature. The fire door ensures that fire does not spread easily from one place to another.

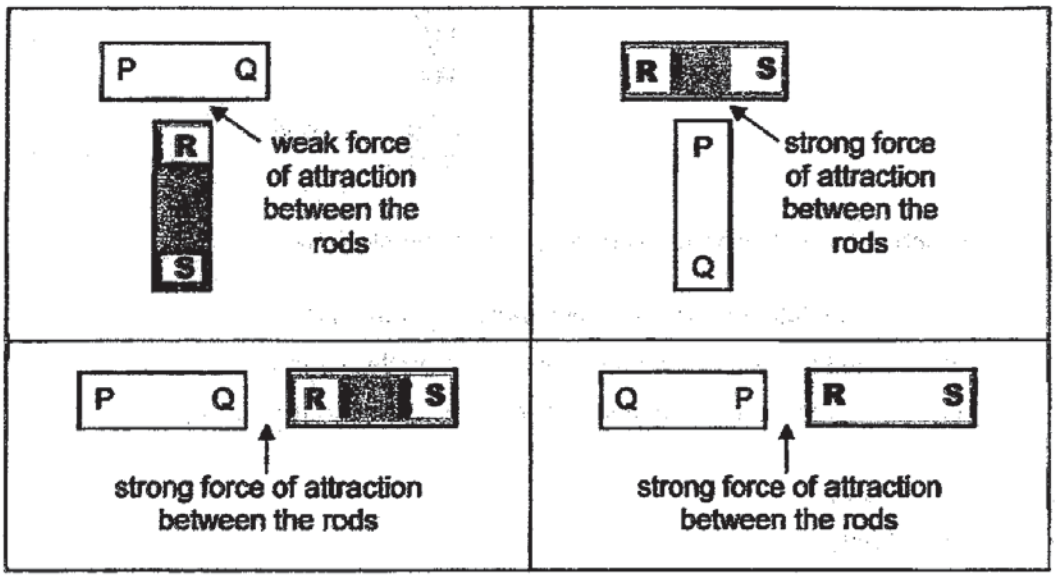
Based on the diagram above, which material is most suitable for making the fire door?

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

www.TestPapersFree.com

17 Matthew had two similar metal rods PQ and RS.

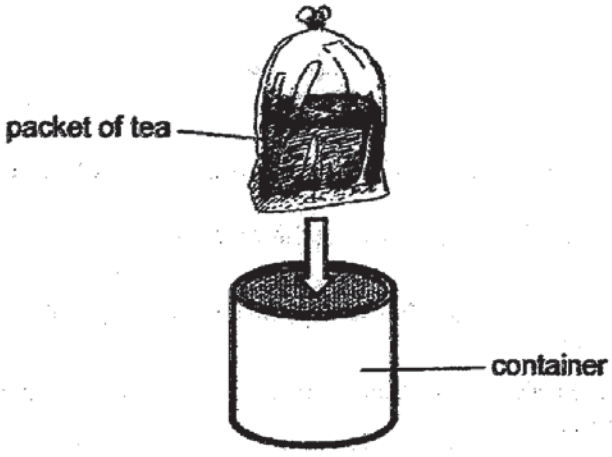
He arranged the two rods in four ways and the diagrams below show what he observed.



Which of the following best describes the two rods?

(1) PQ was a magnet and RS was a magnetic material.
(2) PQ was a magnetic material and RS was a magnet.
(3) PQ was a strong magnet and RS was a weak magnet.
(4) PQ was a weak magnet and RS was a strong magnet.

18 Carmen placed a packet of tea into a container without overflowing as shown below.

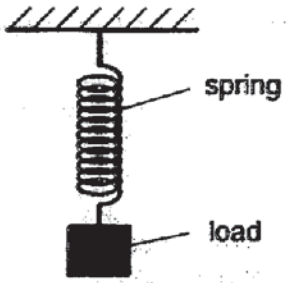


Which of the following about the packet of tea is correct?

(1) Both the shape and volume of the tea changed.
(2) The shape of the tea changed but the volume did not.
(3) The volume of the tea changed but the shape did not.
(4) Both the shape and the volume of the tea did not change.

www.TestPapersFree.com

19 A spring is stretched by hanging a load from it.

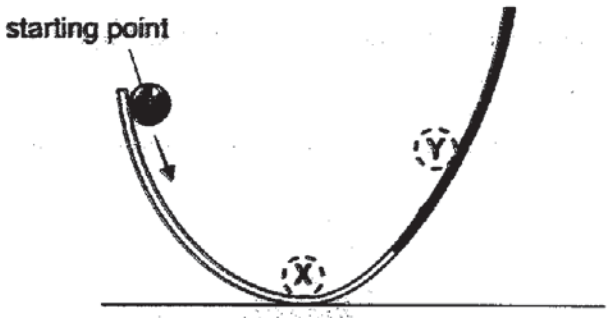


Which of the following caused the spring to be stretched?

A : gravitational force that was acting on the load
B : elastic spring force that was acting on the spring
C : friction that was acting between the load and the spring

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

20 A marble was held at rest on one side of a curved track.



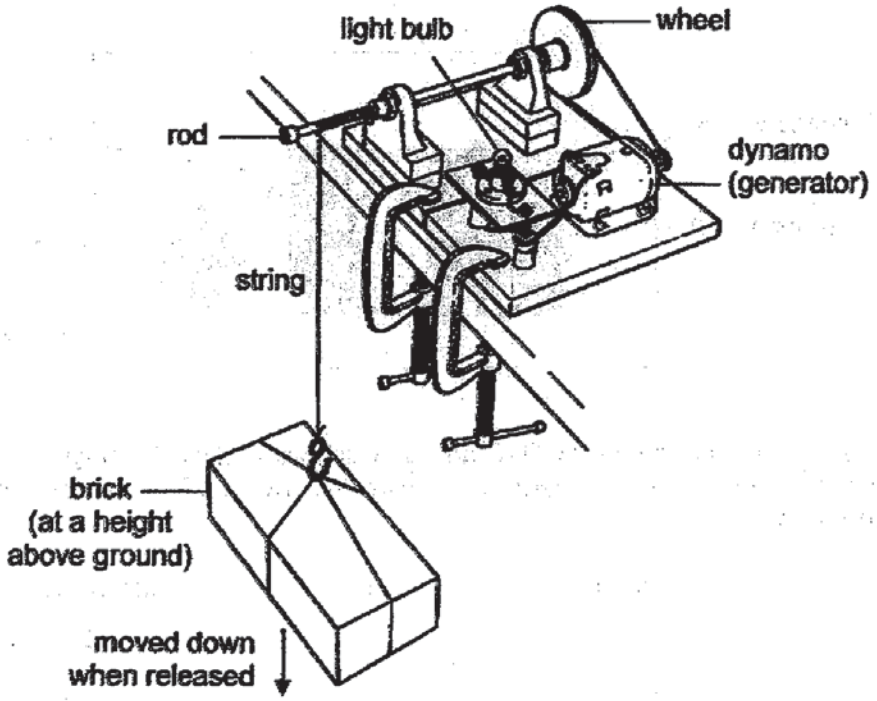
When the marble was released, it rolled to X, then to Y, before rolling back to X.

Which of the following statements about the marble is correct?

(1) As the marble rolled up from X to Y, the amount of friction between it and the track increased.
(2) As the marble rolled down from Y to X, the amount of friction between it and the track increased.
(3) The gravitational force acting on the marble at Y is greater than the gravitational force acting on it at X.
(4) The gravitational force acting on the marble at Y is the same as the gravitational force acting on it at X.

www.TestPapersFree.com

21 Julie constructed the system shown below to light up a bulb. The system was placed on a table and the brick was raised to a height above the ground.



When the brick was released, it moved down, turning the rod and wheel that was attached to the rod. The dynamo was turned and the bulb lit up.

Which of the following shows the energy changes that occurred?

(1) kinetic energy → potential energy → heat energy → light energy

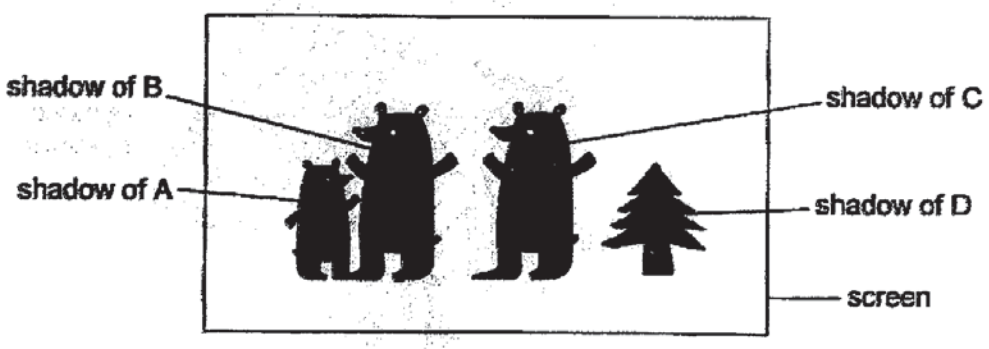
(2) potential energy → kinetic energy → heat energy → light energy

(3) kinetic energy → potential energy → electrical energy → heat energy + light energy

(4) potential energy → kinetic energy → electrical energy → heat energy + light energy

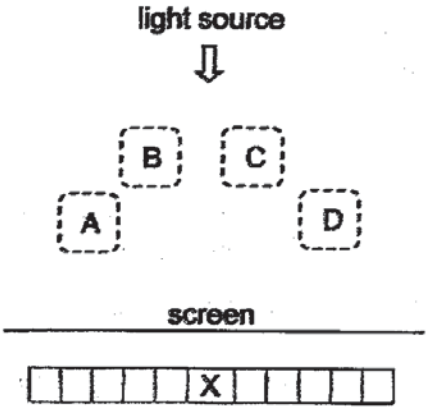
www.TestPapersFree.com

22 Xavier who was seated at X saw four shadows on a screen during a shadow performance as shown below.

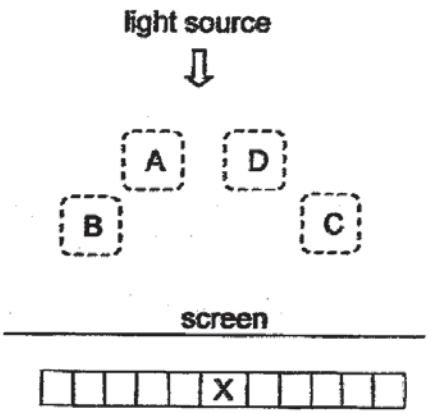


There were four objects, A, B, C and D, which were of similar height.
Which of the following diagrams shows the layout of the stage for this shadow performance?

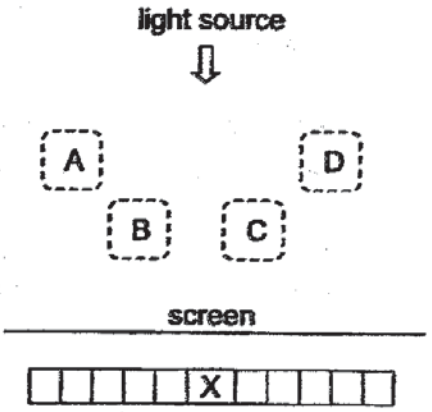
(1)



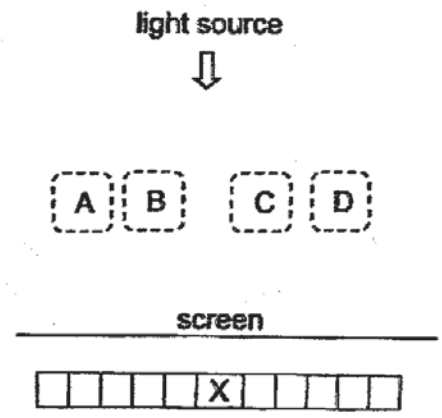
(2)



(3)

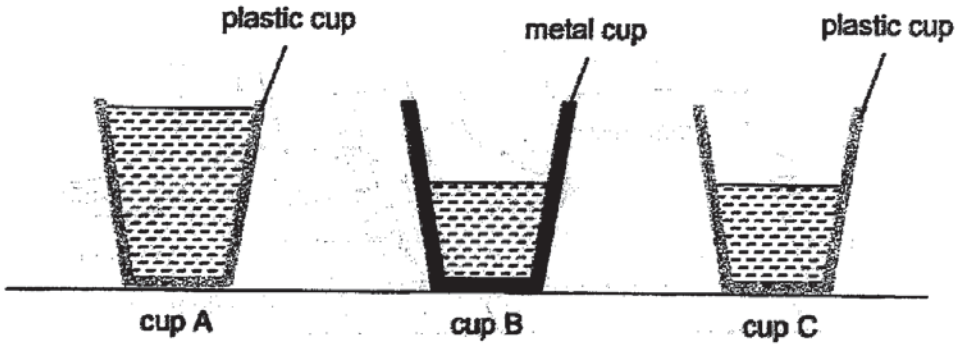


(4)



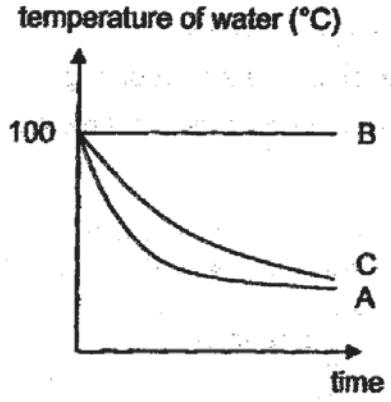
www.TestPapersFree.com

23 Three cups, A, B and C, were filled with water at 100 °C and left on a table as shown below. The cups are of the same size and thickness.

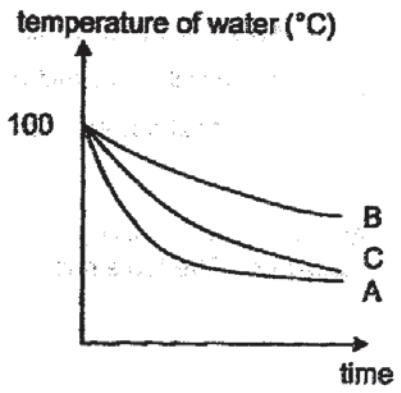


Which graph correctly shows the temperature of water in the three cups over a period of time?

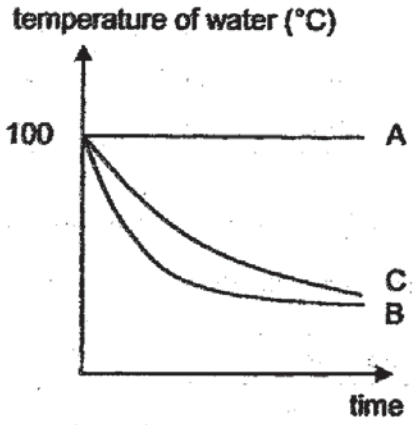
(1)



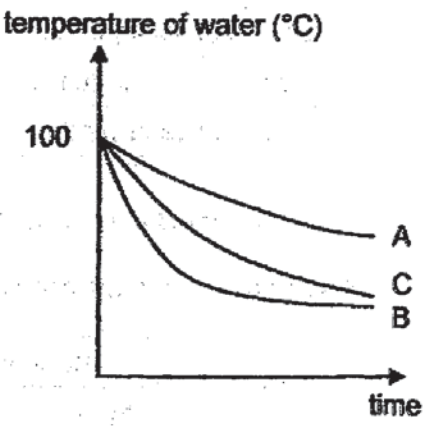
(2)



(3)

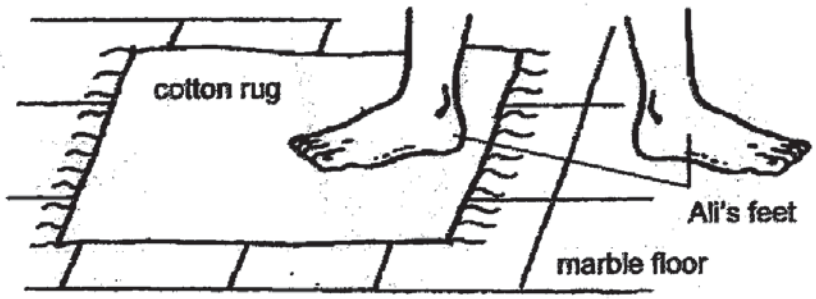


(4)



www.TestPapersFree.com

24 Ali's foot touched the marble floor of his room and his other foot touched the cotton rug on the floor. The floor and the rug were of the same temperature.



Which of the following best explains why his foot felt cooler on the marble floor compared to the cotton rug?

(1) The cotton rug was hotter than the marble floor.

(2) Marble is a poor conductor of heat compared to cotton.

(3) The marble floor had a greater surface area than the cotton rug.

(4) More heat flowed from Ali's foot to the marble floor than to the cotton rug.

25 Ah Seng set up four experiments, P, Q, R and S, using water in four identical containers. The table shows the different conditions at the start of each experiment.

	Experiment			
	P	Q	R	S
room temperature (°C)	25	31	25	25
duration of sunlight (hour)	6	6	0	0
volume of water (cm^3)	500	400	500	500
presence of wind	no	yes	no	yes

Ah Seng wanted to investigate if light or wind is necessary for evaporation to occur.

Which pairs of set-ups should he use in his investigation?

	Rate of evaporation depends on	
	light	wind
(1)	P and R	Q and S
(2)	R and S	P and Q
(3)	Q and S	P and R
(4)	P and R	R and S

www.TestPapersFree.com

26 A glass beaker containing boiling water was left on a table.

Which of the following action(s) would help to cool the boiling water faster?

A Turn on the fan above the glass beaker.

B Cover the top of the beaker with a wooden lid.

C Wrap the beaker with a wet cloth that was rinsed with tap water.

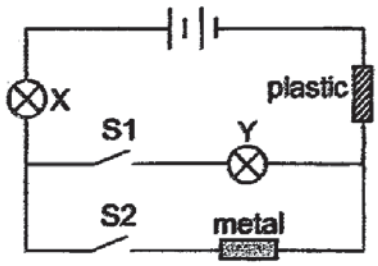
(1) A only
(2) B only
(3) A and C only
(4) B and C only

27 Xiaoli set up a circuit with a metal rod, a plastic rod and two bulbs, X and Y, placed at different parts of the circuit. S1 and S2 are switches and all the bulbs and batteries are working. She recorded her results in the table below.

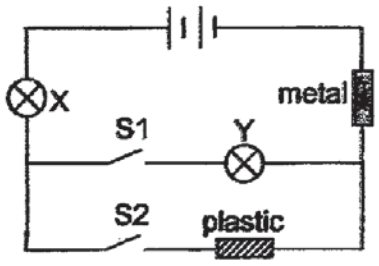
S1	S2	Bulb(s) lighted up
open	open	none
open	close	none
close	open	X and Y
close	close	X and Y

Which of the following correctly shows her circuit?

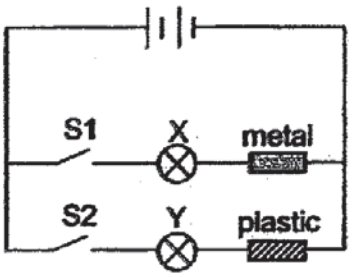
(1)



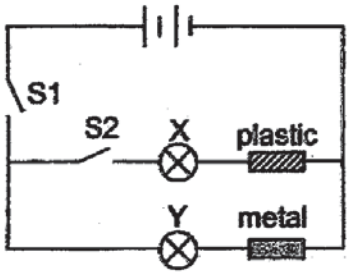
(2)



(3)

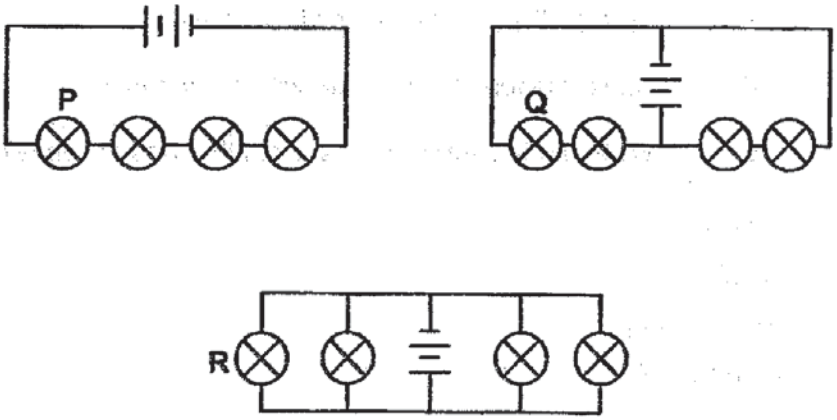


(4)



www.TestPapersFree.com

28 Raju set up three electric circuits, using identical batteries and bulbs. All the bulbs and batteries are working.



Which of the following statements about the circuits is correct?

(1) Bulb P is the brightest.

(2) Bulb Q is the brightest.

(3) Bulb R is the brightest.

(4) Bulbs P, Q and R have the same brightness.

End of Section A

www.TestPapersFree.com

Index No. | | | | | | – | |

PEI CHUN PUBLIC SCHOOL

PRELIMINARY EXAMINATION 2019

SCIENCE

SECTION B

Time: 1 h 45 min

SECTION A	/56
SECTION B	/44
TOTAL	/100

Name: _____ ( )

Class: Primary 6 /( )_____

Date: 20 August 2019

Science Teacher: _____

Parent's Signature: _____

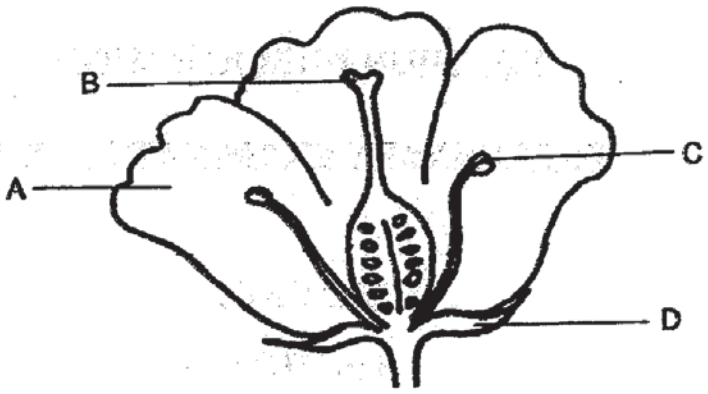
INSTRUCTIONS TO CANDIDATES

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.
ANSWER ALL QUESTIONS.
WRITE YOUR ANSWERS IN THIS BOOKLET.

www.TestPapersFree.com

Section B (44 marks)
For questions 29 to 40, write your answers in the spaces provided.

29 The diagram below shows a flower of plant W.



(a) A part of the flower has been removed before pollination could occur. The flower did not produce any seeds after that.

Which part of the flower, A, B, C or D, was removed? Name this part. [1]

_____

(b) Describe the process of fertilisation in flowering plants. [1]

_____

_____

(c) The fruit of plant W is juicy and it contains seeds that are hard and stone-like.

Suggest how the seeds of this plant can be dispersed over a wide area. [1]

_____

_____

SCORE	

www.TestPapersFree.com

(d) Nora studied the effect of surrounding temperature on the growth of the fruit. Her findings are shown below.

Temperature (°C)	Number of days for fruit to ripen
20	17
25	10
30	20
35	24

From Nora's findings, how would temperature affect the time taken for the fruit to ripen?

[1]

_____

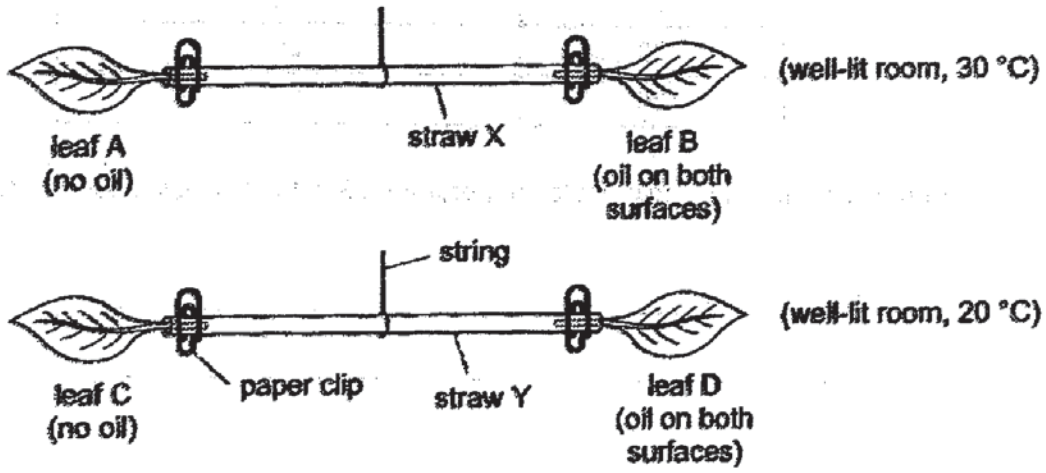
_____

SCORE	

www.TestPapersFree.com

39 Sunil set up an experiment with four similar leaves, A, B, C and D, to find out how the surrounding temperature affects the rate of water lost from the leaves.

He coated both surfaces of leaves B and D with clear oil that did not drip. Then, he balanced the leaves on two identical straws, as shown below, in two different locations.



He recorded the time taken for the straws to be tilted. His results are shown in the table below.

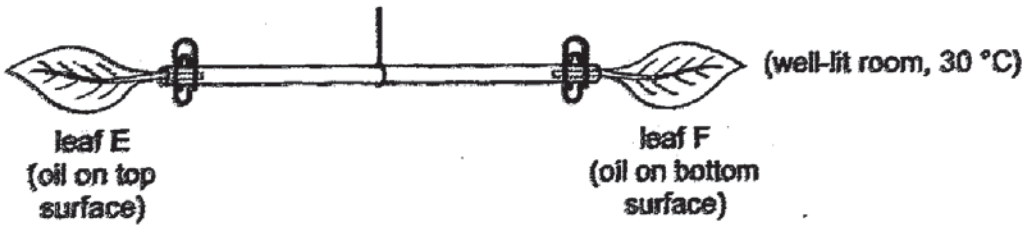
Straw	Temperature (°C)	Time taken for straw to be tilted (min)	Side that tilted downwards
X	30	4	leaf B
Y	20	12	leaf D

(a) Based on his experiment, how would the surrounding temperature affect the rate of water lost from the leaves? [1]

_____

_____

(b) Sunil set up another experiment with two similar leaves, E and F. He coated only one surface of each leaf with clear oil that did not drip.



What observation would show that the leaves have more stomata on the bottom surfaces than on the top surfaces? [1]

_____

_____

SCORE	

www.TestPapersFree.com

(c) The diagram below shows grass M.

The leaves of grass M have more stomata on the bottom surfaces than on the top surfaces. On a cool day, the leaves of grass M are flat as shown in diagram 1. On a hot day, the leaves of grass M are rolled up as shown in diagram 2.

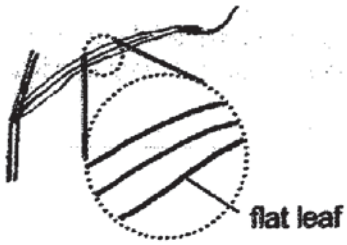


diagram 1 (cool day)

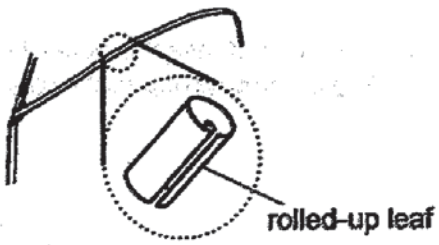


diagram 2 (hot day)

Based on Sunil's experiments, explain how rolling its leaves on a hot day will benefit grass M. [2]

_____

_____

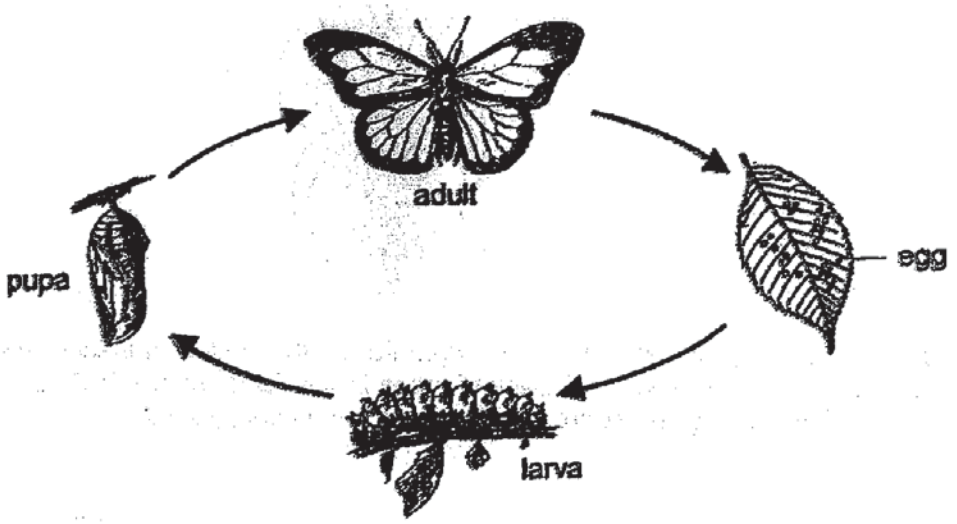
_____

_____

SCORE	

www.TestPapersFree.com

31 The diagram below shows the life cycle of insect D.



(a) The adult of insect D usually lays many eggs at a time on the leaves of plant C. Explain how laying many eggs each time helps insect D in its survival. [1]

_____

_____

(b) The larva of insect D only feeds on the leaves of plant C while the adult only feeds on nectar of its flowers. State the advantage for the larva and the adult to feed on different types of food. [1]

_____

_____

(c) Daniel carried out an experiment with some larvae of insect D and three tanks placed in rooms of different temperatures. He kept 20 larvae in each tank with a well-watered leafy plant C. He recorded the number of days each larva took to change from pupa to adult. His results are shown below.

Tank	Temperature (°C)	Number of pupae that have changed to adult in					
		4 days	5 days	6 days	7 days	8 days	9 days
X	24	0	0	1	3	5	7
Y	29	0	0	2	3	6	9
Z	34	0	3	6	8	3	0

Based on Daniel's results, suggest why the number of insect D may increase due to global warming. [1]

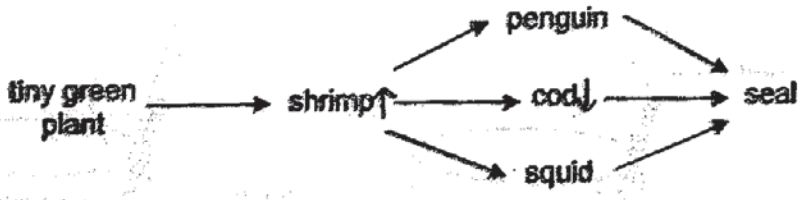
_____

_____

SCORE	

www.TestPapersFree.com

32 The diagram shows a food web in an ocean.



There is a large decrease in the number of cod due to overfishing.

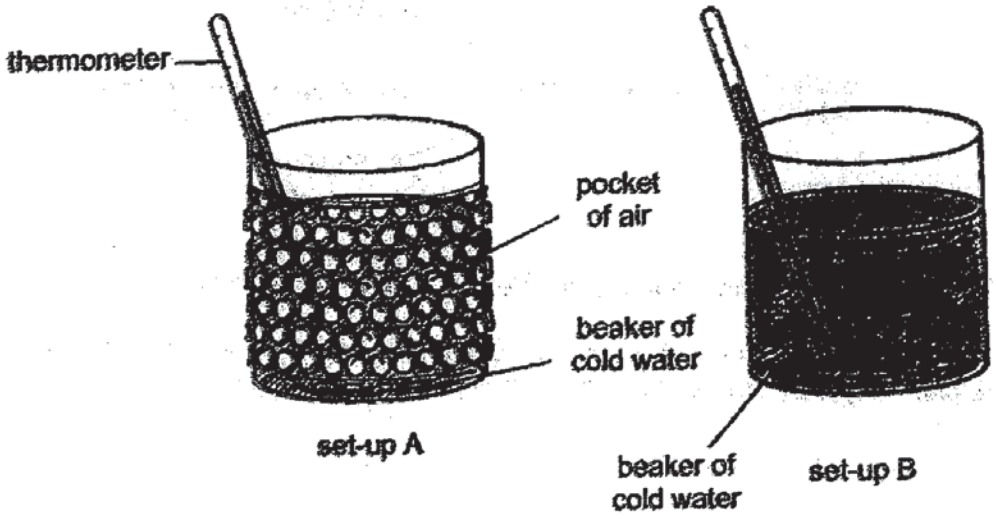
(a) Some students think that this can lead to a decrease in the number of squid and penguin. Explain why the number of squid and penguin may decrease. [1]

(b) Other students think that the number of squid and penguin will remain the same. Explain why the number of squid and penguin may remain the same. [2]

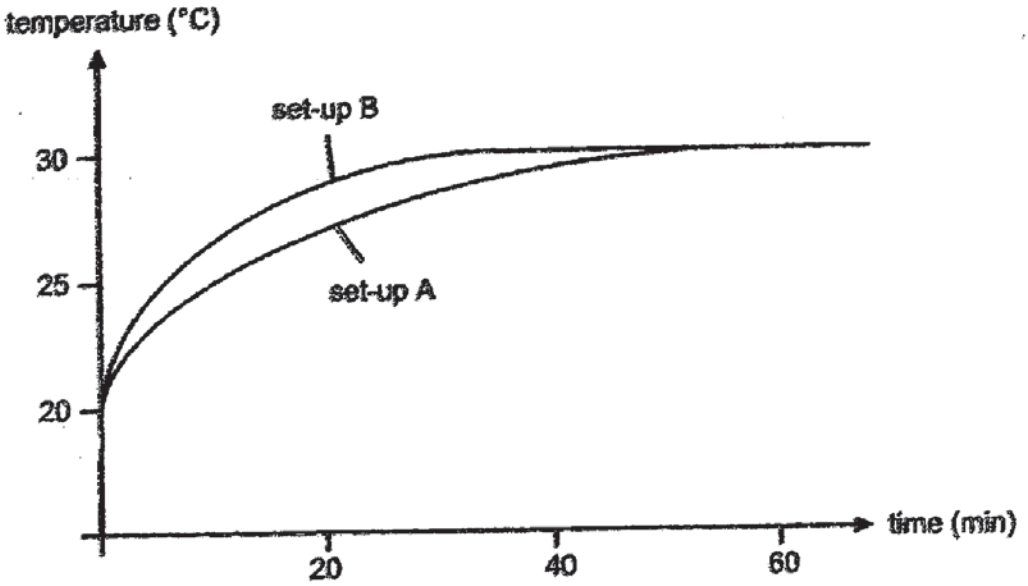
SCORE

www.TestPapersFree.com

33 Xiaoming conducted an experiment using the set-ups as shown. The two beakers were identical and contained cold water at the same temperature.



Xiaoming recorded the readings of the thermometer over time. His results are shown below.



(a) Based on Xiaoming's results, what can he conclude about the pockets of air? Explain your answer. [1]

_____

_____

(b) Bird X has a thick layer of feathers. There are air pockets among the feathers.

Based on the results of Xiaoming's experiment, explain how puffing up the feathers keep Bird X warm in cold air. [1]

_____

_____

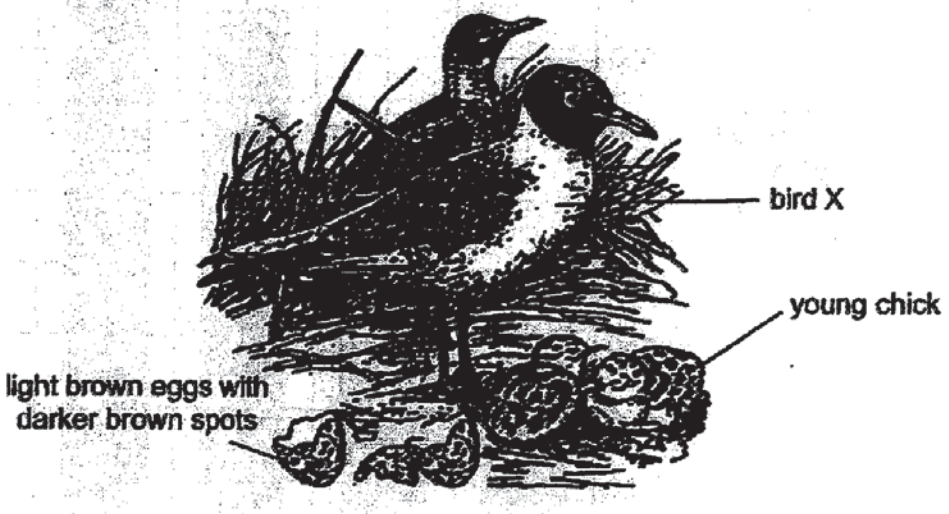
SCORE	

www.TestPapersFree.com

(c) In winter, bird X migrates to warmer areas. Other than to avoid the low temperature, suggest a reason for the migration. [1]

_____

(d) After bird X migrates to a new habitat, it starts to build nests of brown twigs on the ground. It lays eggs that are light brown and covered with darker brown spots.



(i) Suggest a disadvantage of bird X building its nest on the ground. [1]

_____

_____

(ii) Explain how the appearance of the eggs increases the chances of survival of bird X. [1]

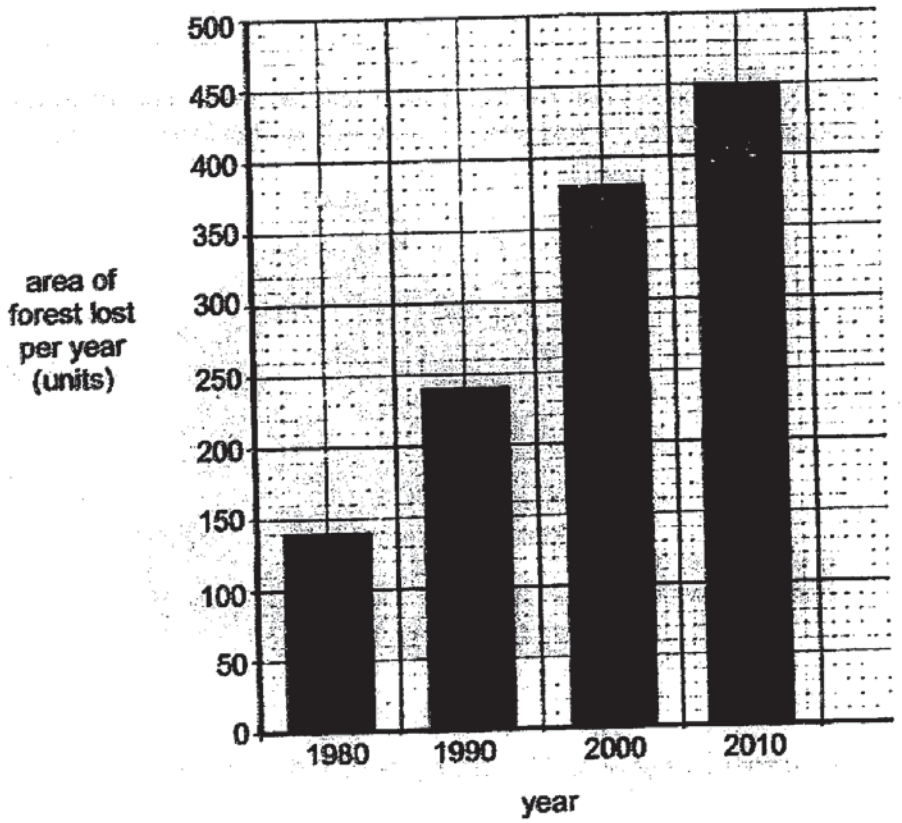
_____

_____

SCORE

www.TestPapersFree.com

34 The diagram shows the area of forest lost globally from 1980 to 2010.



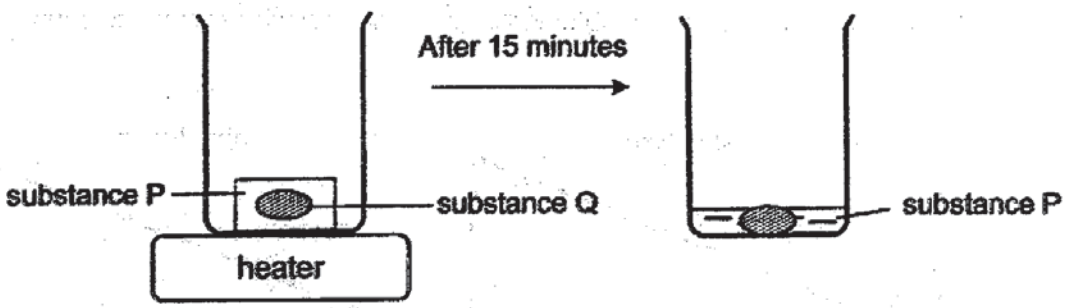
It was found that the average global temperature increased from 1980 to 2010.

Explain how the increase in the area of forest lost has an impact on the increase in the average global temperature. [2]

SCORE

www.TestPapersFree.com

35 Dingyao placed a solid made of substances P and Q in the set-up as shown below. Substance P had a lower melting point than substance Q.



(a) Explain how he could use the set-up to obtain a liquid made of substance P. [1]

(b) In order to ensure that the liquid does not contain substance Q, at what temperature should he set the heater? [1]

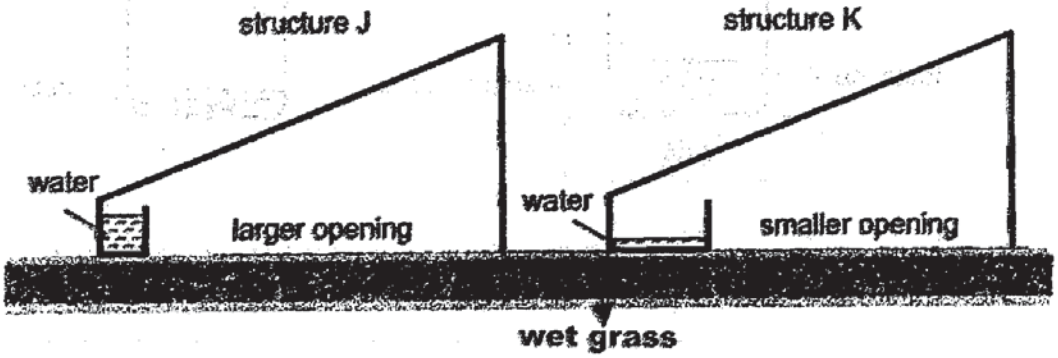
(c) Based on the given information, would you be able to tell the state of substance P at 100 °C? Explain your answer. [1]

SCORE	

www.TestPapersFree.com

36 On a sunny day, Aisha placed two plastic structures, J and K, on wet grass. Structures J and K were similar but J had a larger opening at the base than K.

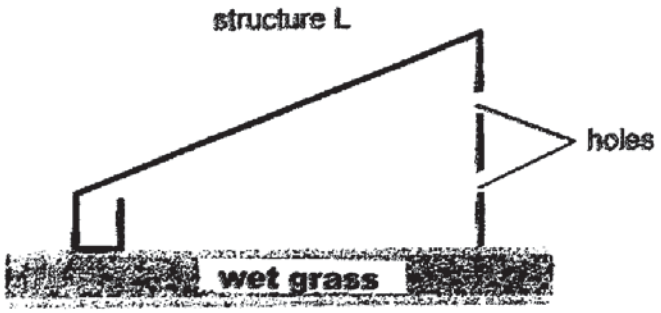
After a few hours, water was obtained at the base of each structure as shown.



(a) Describe how water was obtained at the base of the structures. [2]

(b) Less water was obtained in structure K than in structure J at the end of the few hours. Explain why. [1]

(c) Aisha used structure L that is similar to structure J, but structure L had some holes on its side.

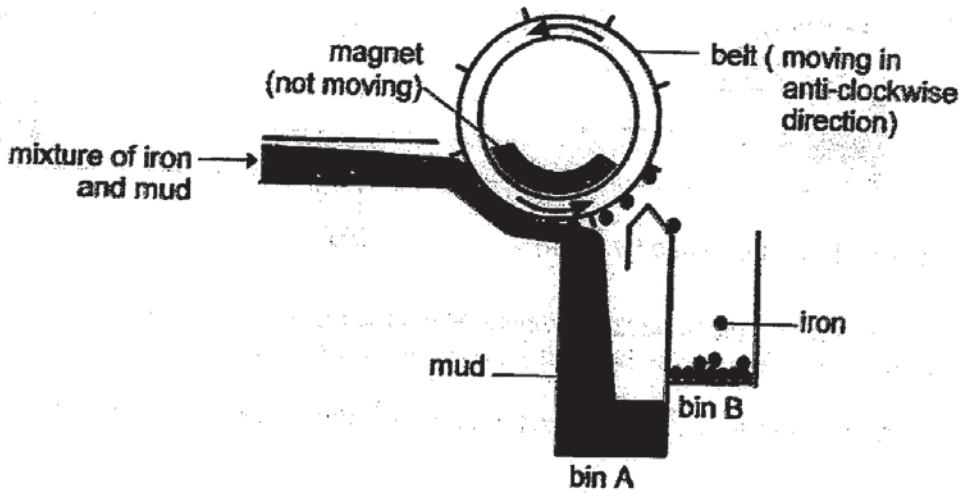


Would the amount of water obtained after one day be more or less than that obtained for structure J? Explain your answer. [1]

SCORE	

www.TestPapersFree.com

37 The diagram below shows a machine used to separate iron from mud.
A mixture of the iron pieces and mud was poured into the machine.



(a) The iron pieces in the mud were picked up by the moving belt.
Give a reason for this.

[1]

(b) When the iron pieces on the moving belt moved away from bin A, the iron pieces dropped and were collected in bin B. Explain why this happened.

[2]

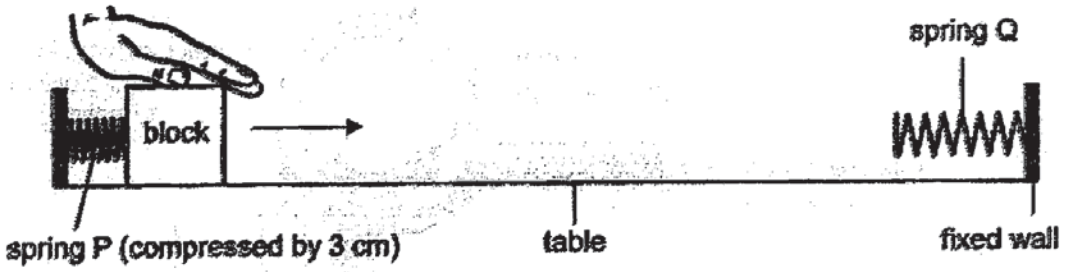
(c) One way to fill bin B faster is to pour more mixture into the machine.
Suggest another way to fill bin B faster.

[1]

SCORE

www.TestPapersFree.com

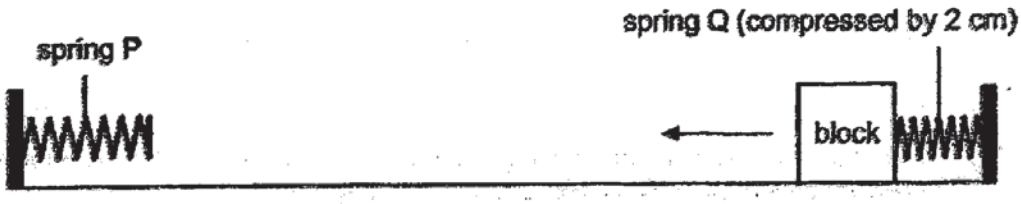
38 Hema conducted an experiment using the set-up shown below.
Springs P and Q are identical.



She pulled the block back and spring P was compressed by 3 cm.
When she released the block, it moved towards spring Q.

(a) State the energy change that occurred when Hema released the block. [1]

(b) The block moved towards spring Q and compressed it before moving back towards spring P.



Hema observed that spring Q was only compressed by 2 cm by the moving block.
Explain her observation in terms of energy changes. [2]

(c) Hema repeated her experiment with a heavier block.
Would the compression of spring Q by heavier block be more than or less than 2 cm?
Explain your answer. [1]

(d) The block moved back and forth between springs P and Q for a few times.
Explain why the block stopped moving after some time. [1]

SCORE	

www.TestPapersFree.com

39 Matthew pasted a film on a glass window to reduce the amount of sunlight coming into the room. Gaps with air were observed where some air bubbles were trapped under the plastic film as shown in Diagram 1.

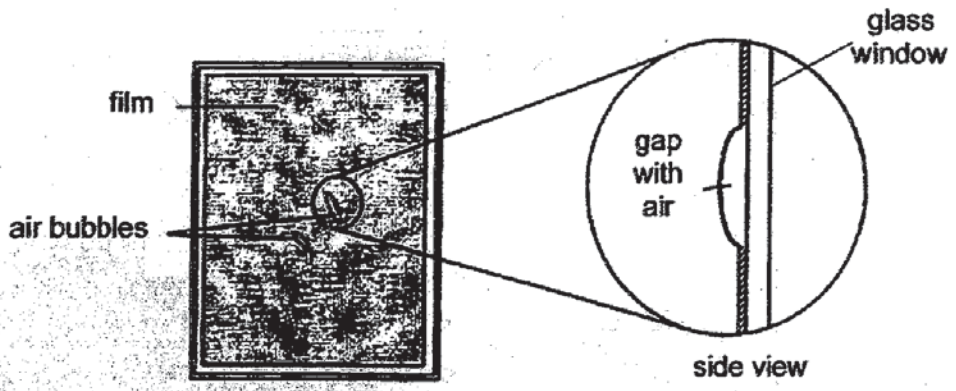


Diagram 1

(a) Matthew tried to press on the air bubbles to remove the gap but the gap remained. Which property of matter explains why Matthew could not remove the gap by pressing on it? [1]

_____

_____

(b) Matthew then switched on the air-conditioner inside his bedroom and left it on for a day. At the end of the day, he observed that the air bubbles that were trapped under the plastic film had become smaller as shown in Diagram 2.

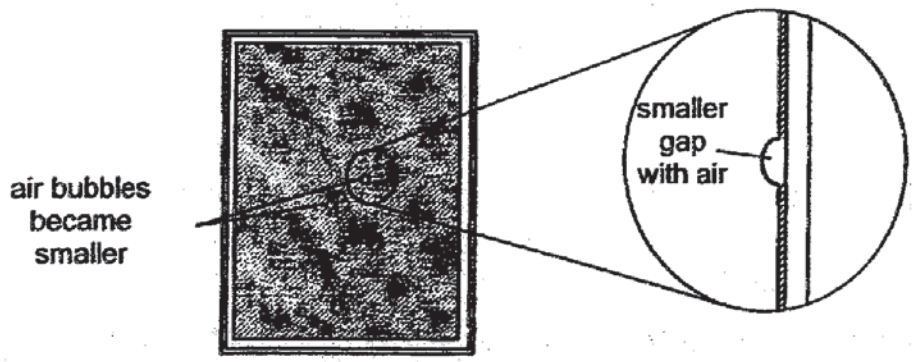


Diagram 2

Explain why the gap with air became smaller in Diagram 2. [2]

_____

_____

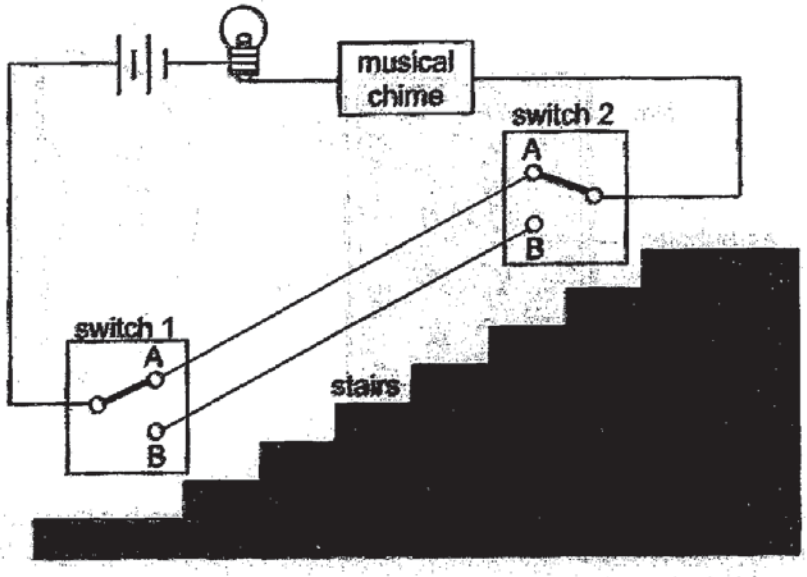
_____

_____

SCORE	

www.TestPapersFree.com

40 Mr Ong made an electric circuit using two special switches at the top and bottom of the stairs in a doll house as shown below. Each switch can be turned to position A or B so that the bulb and the musical chime can be turned on and off at the same time. The batteries, bulb and musical chime are all working properly.



(a) Fill in the table below with a tick (✓) if the bulb lights up and musical chime rings and a cross (×) if it does not ring for each of the following positions of the switches. [2]

Position of Switch		
Switch 1	**Switch 2**	**Bulb lights up and musical chime rings**
A	A	
A	B	
B	A	
B	B	

(b) Using the same set-up, Mr Ong changed the connection of the wires to the bulb. He set the switches to a position that the musical chime rings, but the bulb did not light up.

Suggest how Mr Ong could have connected the wires to the bulb. Explain why the musical chime can still ring. [2]

_____

_____

_____

End of Section B

SCORE	

www.TestPapersFree.com

www.TestPapersFree.com

ANSWER KEY

YEAR : 2019
LEVEL : PRIMARY 6
SCHOOL : PEI CHUN PUBLIC SCHOOL
SUBJECT : SCIENCE
TERM : PRELIMINARY

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

Q29.

a) Part B, stigma

b) Fertilisation occurs when the male reproductive cell fuses with the egg cell in the ovary.

c) An animal eats the fruit and spits out the seeds OR
An animal eats the fruit, swallows the seeds and passes out the seed in its droppings as it move about.

d) The time taken for the fruit to ripen decreases as the temperature increases to 25°C. AND
The time taken for the fruit to ripen increases as the temperature increases from 25°C To 35°C.

Q30.

a) As the surrounding temperature increases the rate of water lost from the leaves increases.

b) After some time, the side of the straw with leaf F would tilt downwards.

c) By rolling up the leaves on a hot day , fewer stomata will be [illegible] the leaves will lose less water.

Q31

[illegible] higher chance that at least some of the [illegible] survive.

[illegible] do not need to compete with one another for food.

d) With higher temperature, the pupa takes a shorter time to become an adult, so insect D will reproduce earlier.

Q32 a) The seal have fewer cods to feed on , so it will feed on more penguins and squids.

b) There are fewer cods to feed on the shrimps, therefore there is more food/shrimp for the squid and penguin. There is an increase in squid and penguin and it is about the same as the extra eaten by the seals.

www.TestPapersFree.com

Q33 a) Air is a poor conductor of heat . The temperature of water in the beaker in set-up A increased slower than the temperature of water in set-up B.
OR The water in set-up A gained heat more slowly from the surroundings.

b) The puffed up feathers traps more air, so bird X loses less body heat to the cold air.

c) To enable bird X to find food/reproduce/lay eggs.

d)i) The predator of the bird X can eat the eggs easily./ the eggs in the nest may be trampled on.

ii) The eggs would be able to camouflage with the surrounding, so they will not be easily spotted by predators.

Q34 a) There will be less trees to use carbon dioxide for photosynthesis. Hence ,there will be more carbon dioxide in the atmosphere, more heat is trapped as carbon dioxide is a greenhouse gas.

Q35 a) Heat the solid to melt P.

b) Above the melting point of P and below the melting point of Q.

c) No, the boiling point and/or the melting point of P is not given.

Q36 a) Water evaporated from the wet grass to form water vapour. The warm water vapour touched the cooler inner surface of the structure, loss heat and condensed to form water droplets. These water droplet slid down due to gravity and is collected at the bottom of the cone.

b) The wet grass under structure K had a smaller exposed surface area than structure J so the water evaporated slower from the wet grass under structure K.

c) Water in the grass evaporated to form water vapour. The water vapour could escape through the holes in structure L but not structure J so less water vapour will condense to form water droplets and be collected in structure L.

Q37 a) I[illegible]

[illegible]raction became weaker as the iron pieces moved

[illegible]e iron piece dropped off the belt/into the bin due

[illegible]ue belt move faster.

Q38 a) Potential energy of the compressed spring is converted to kinetic energy of the block.

b) As the block moved from Spring P to Q, some of the block's kinetic energy was converted to heat energy due to friction between the block and the table. Thus, the block had less kinetic energy to be converted to potential energy in spring Q.

c) Less than 2cm. There would be more friction between the block and the table, so more of the block's kinetic energy would be converted to heat energy.

d) All of its kinetic energy was converted to heat energy.

www.TestPapersFree.com

Q39 a) Air/Matter occupies space.

b) Air bubbles under the plastic film lost heat to the glass window/air inside the bedroom which was cooler. As air lost heat, it contracted and caused the size of the air bubbles to be smaller.

Q40 a)

Position of Switch		
Switch 1	Switch 2	Bulb lights up and musical chime rings
A	A	
A	B	
B	A	
B	B	

b) Both the wires are connected to the metal tip/casing of the bulb. The bulb tip/casing is a conductor of electricity, the circuit is closed.

THE END

www.TestPapersFree.com

www.TestPapersFree.com