Name: _____ ( )

Class: Primary 4 SY / C / G / SE / P

23 October 2024

SINGAPORE CHINESE GIRLS' SCHOOL
END-OF-YEAR EXAMINATION 2024

PRIMARY 4
SCIENCE

BOOKLET A

Total Time for Booklets A and B: 1h 45 min

INSTRUCTIONS TO CANDIDATES

1. Write your Index No. in the boxes at the top right-hand corner.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a 2B pencil to shade your answers on the Optical Answer Sheet (OAS).

This booklet consists of **20** printed pages.

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) and shade your answer on the Optical Answer Sheet.

(56 marks)

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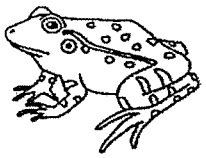
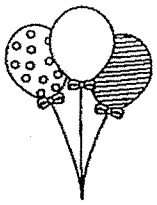
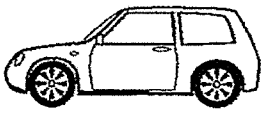
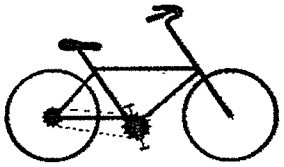
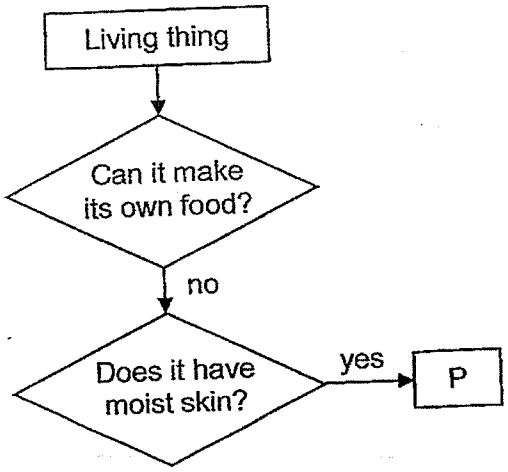
1 Which pair of things is **not** classified correctly?

	Living thing	Non-living thing
(1)		
(2)		
(3)		
(4)		

2 Which animal has pupa as a stage in its life cycle?

(1) frog
(2) chicken
(3) mosquito
(4) grasshopper

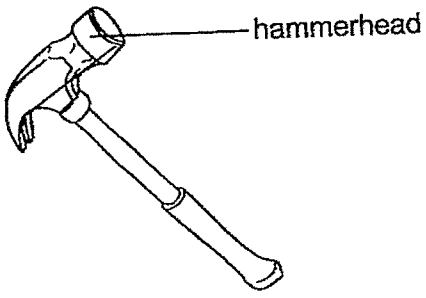
3 Study the diagram below.



What could P be?

(1) bird
(2) plant
(3) mammal
(4) amphibian

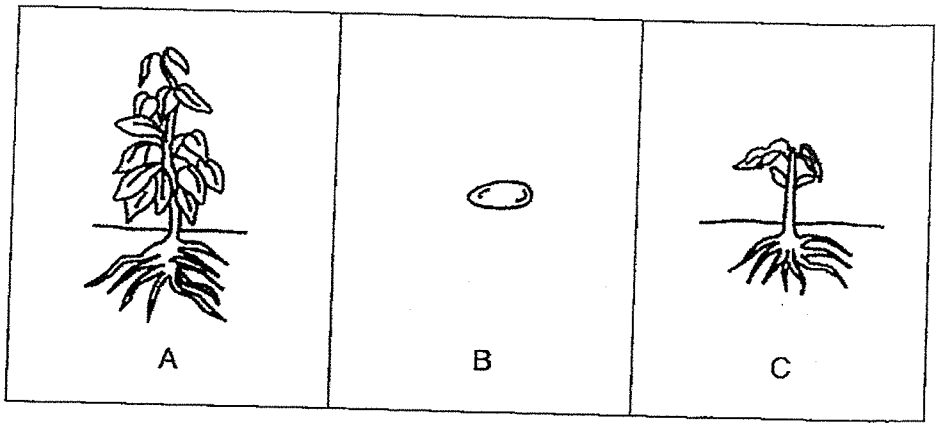
4 The diagram below shows a hammer.



Metal is used to make the hammerhead because metal _____.

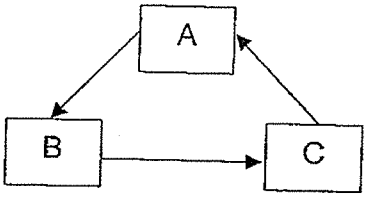
(1) sinks in water
(2) does not break easily
(3) can bend without breaking
(4) does not allow light to pass through

5 A, B and C are stages in the life cycle of a plant.



Which of the following correctly shows the correct life cycle of the plant?

(1)



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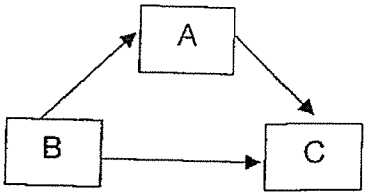

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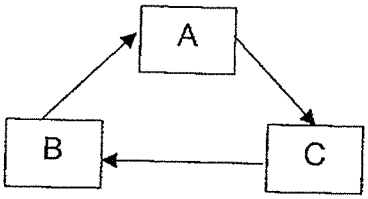

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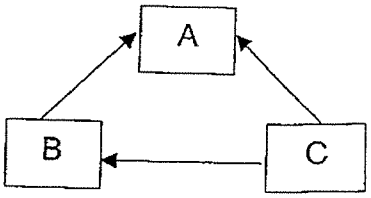
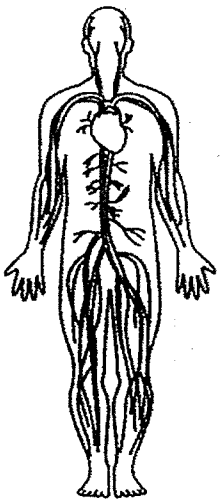


6 Which organ system is shown in the diagram below?

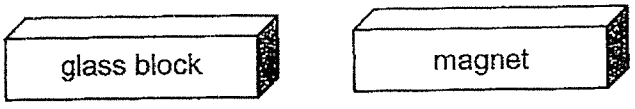


(1) skeletal system
(2) muscular system
(3) respiratory system
(4) circulatory system

7 Which one of the following is not a source of heat?

(1) The Sun
(2) A candle flame
(3) A woollen shirt
(4) A lighted bulb

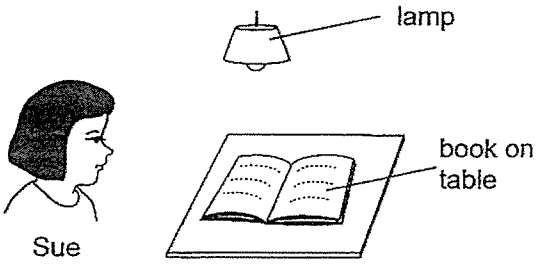
8 The diagram shows a magnet brought near a glass block.



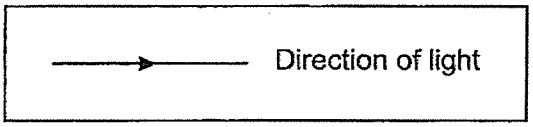
What will happen to the glass block?

(1) It will not move.
(2) It will move up.
(3) It will move to the left.
(4) It will move to the right.

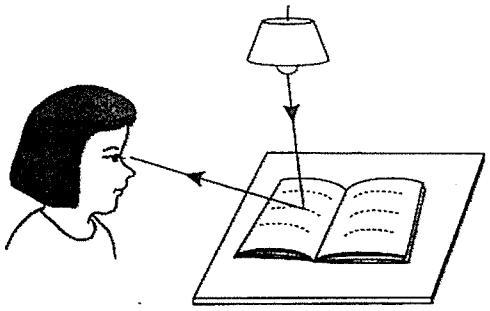
9 Look at the picture below.



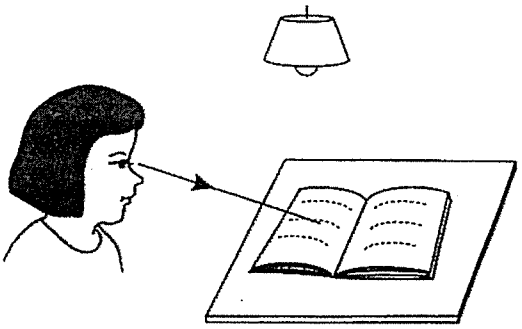
Which one of the following explains why Sue can see the book on the table?



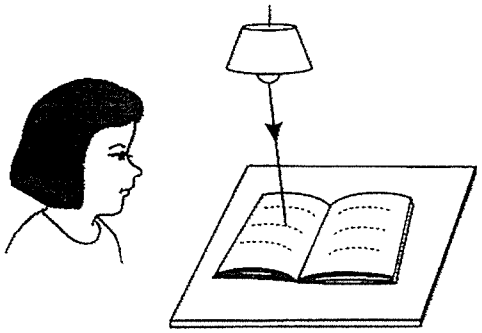
(1)



(2)



(3)



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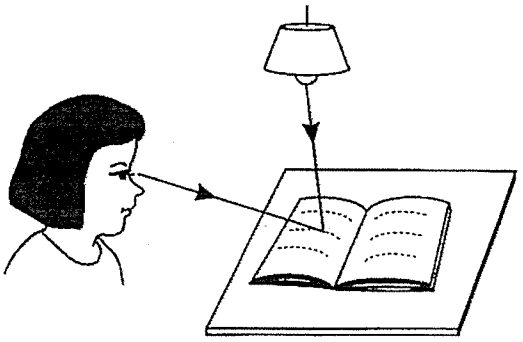
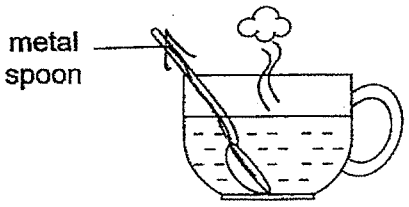


10 Rina places a metal spoon in a cup of hot tea.



a cup of hot tea

The spoon becomes hotter after a while. Which one of the following explains this?

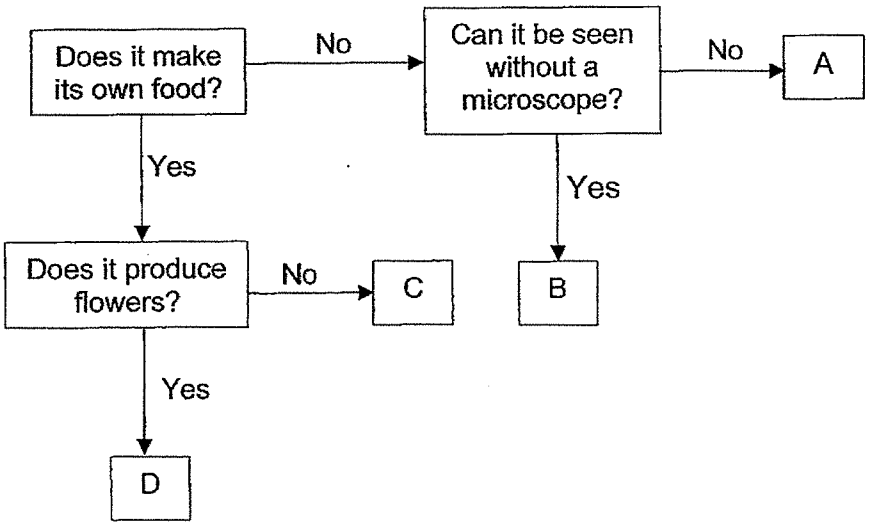
(1) The cup loses heat to the hot tea.

(2) The spoon loses heat to the hot tea.

(3) The spoon gains heat from the hot tea.

(4) The hot tea gains heat from the spoon.

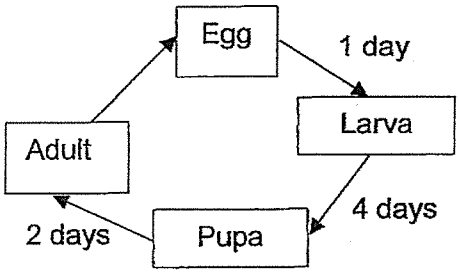
11 Study the flowchart below.



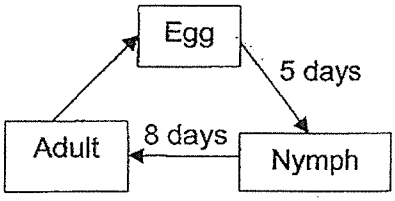
Which of the following correctly represents A, B, C and D?

	A	B	C	D
(1)	cat	bacteria	fern	durian tree
(2)	bacteria	cat	mushroom	apple tree
(3)	bacteria	monkey	fern	durian tree
(4)	cat	mushroom	apple tree	bacteria

12 Study the life cycles of animals E and F.



Animal E



Animal F

Based on the above life cycles, which of the statements about animals E and F is correct?

(1) F lives longer than E.

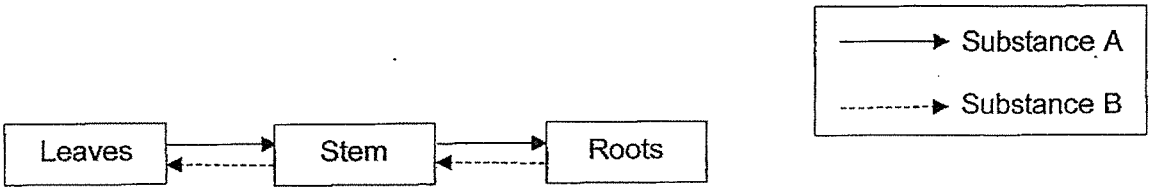
(2) F lays more eggs than E.

(3) The larva of E moults but the nymph of F does not.

(4) F took more days than E to become an adult after the eggs are laid.

13 The diagram shows two substances which are transported in the stem of a plant.

The arrows show the movement of the substances in the stem.



Which of the following correctly shows the two substances?

	Substance A	Substance B
(1)	water	air
(2)	food	air
(3)	water	food
(4)	food	water

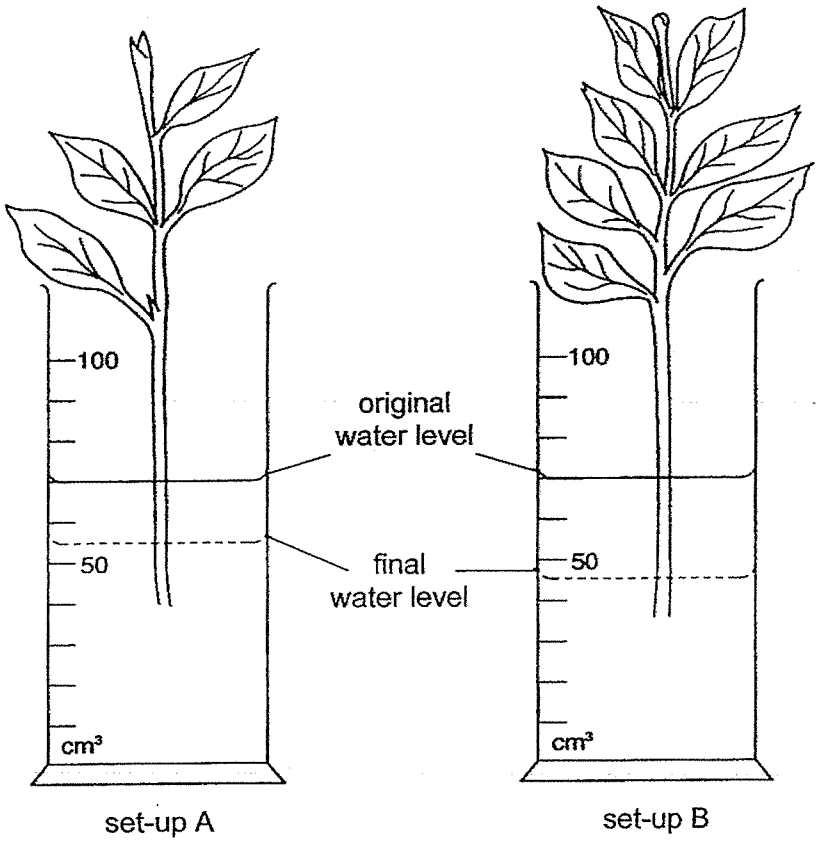
14 Tina made some observations about plants W, X, and Y. Each of these plants has a missing plant part.

Plant	Observation
W	The plant is not able to bear fruit.
X	The plant is not able to make food.
Y	The plant is not able to be held firmly to the ground.

Which of the following shows the missing part of each plant?

	W	X	Y
(1)	flowers	leaves	roots
(2)	flowers	roots	leaves
(3)	leaves	flowers	roots
(4)	roots	flowers	leaves

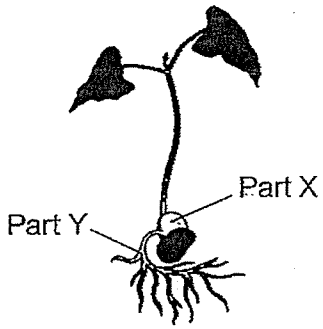
15 Shanti conducted an experiment using two set-ups, A and B, as shown below. The two set-ups were placed near a window at the same location. After three days, she recorded the amount of water left in the measuring cylinders.



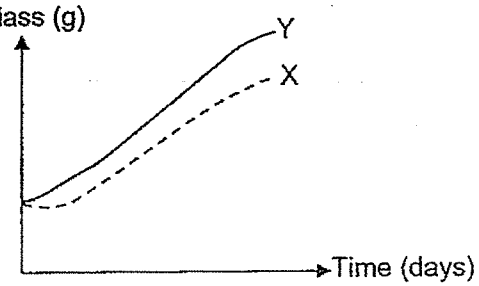
Based on the set-ups shown, Shanti was trying to find out _____.

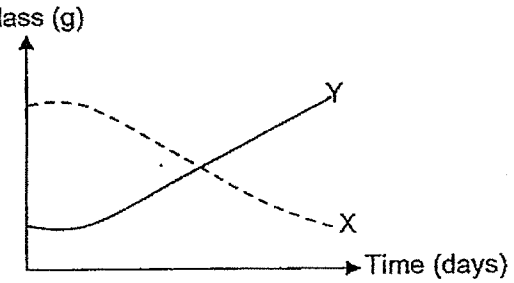
(1) the stem of a plant takes in water
(2) plants need roots to absorb water
(3) water is required for the leaves to make food
(4) the number of leaves affects how fast a plant absorbs water

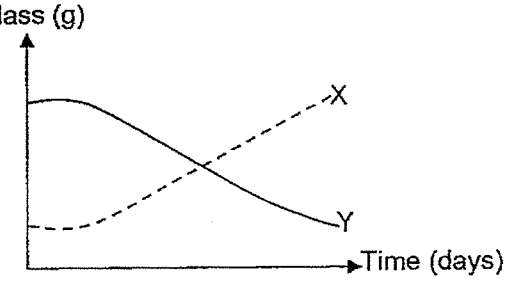
16 The diagram below shows a developing seedling.

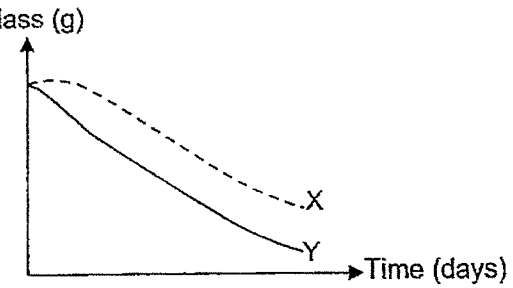


Which of the graphs correctly shows how the mass of part X and Y changes with time?

(1)


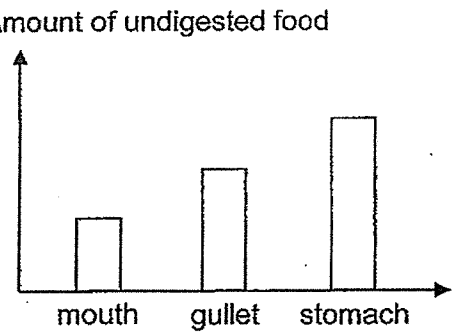
(2)


(3)


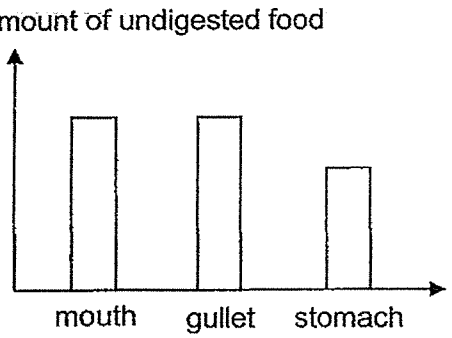
(4)


17 Which of the following graphs correctly shows the amount of undigested food leaving the mouth, gullet and stomach?

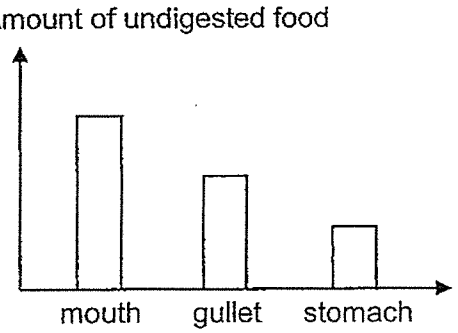
(1)



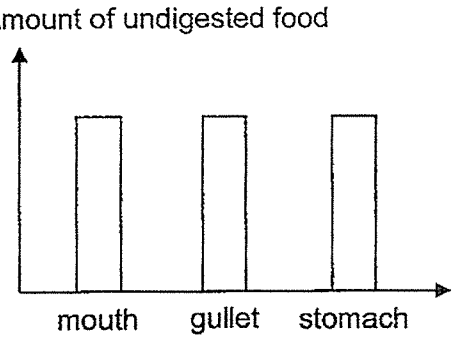
(2)



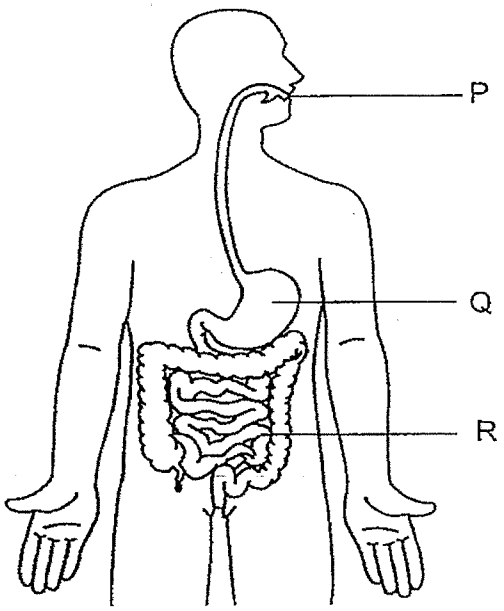
(3)



(4)



18 The diagram below shows the human digestive system.

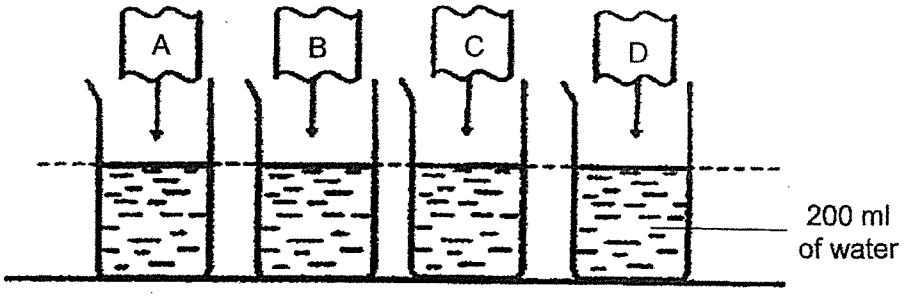


Which of the following statements about P, Q and R is/are correct?

A Food is mixed with digestive juices in Q.
B There are no digestive juices present in P.
C Undigested food is absorbed into the blood at R.

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

19 Candy placed four materials A, B, C and D each into a beaker filled with 200 ml of water as shown below. Each material is of equal size and thickness.



After five minutes, she removed all the materials from the four beakers. She then recorded the amount of water left in each beaker as shown in the table below.

Beaker containing material	Amount of water left in beaker (ml)
A	195
B	65
C	8
D	155

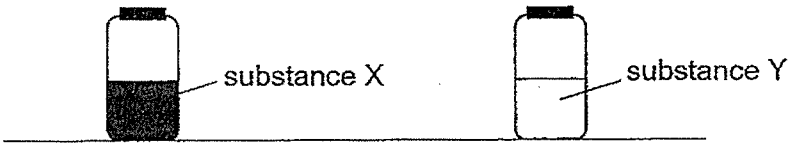
Which of the material should she use to wipe a table fully dry?

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

20 Which of the following materials can be separated from paper and glass when a magnet is used?

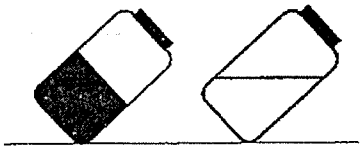
(1) steel
(2) copper
(3) plastic
(4) aluminium

21 The diagram below shows two bottles containing substance X and Y. Substance X is in the solid state and substance Y is in the liquid state.

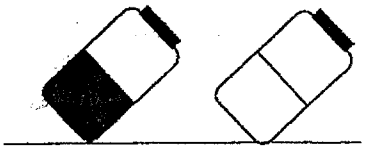


Which of the following shows the correct observation when the two bottles are tilted?

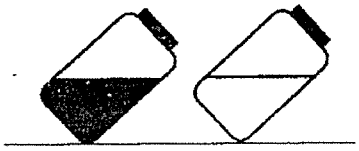
(1)



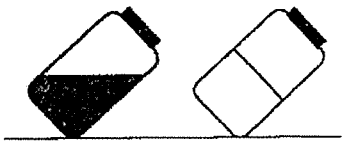
(2)



(3)



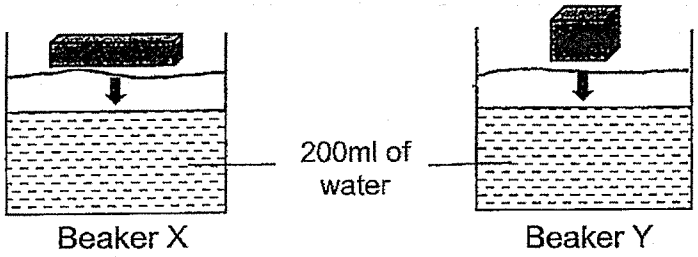
(4)



22 Elly has two different objects A and B as shown in the table below.

Object		Mass of object (g)	Volume of object (cm^3)
A		400	250
B		350	250

She placed object A into Beaker X and object B into beaker Y. Both beakers contain 200 ml of water.



Which of the following statements is correct after she has placed both objects into the beakers?

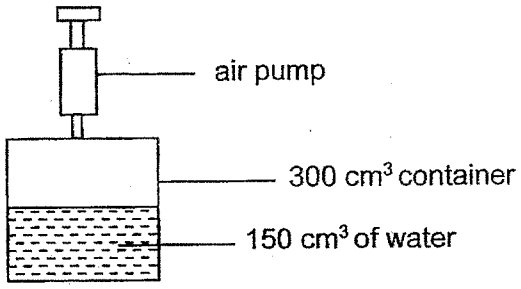
(1) The total mass of the object and water in both beakers X and Y is the same.

(2) The total volume of the object and water in both beakers X and Y is the same.

(3) The total mass of the object and water in beaker X is more than that in Beaker Y.

(4) The total volume of the object and water in Beaker Y is more than that in Beaker X.

23 Faye has a container with volume of 300 cm^3. The container is filled with 150 cm^3 of water as shown.

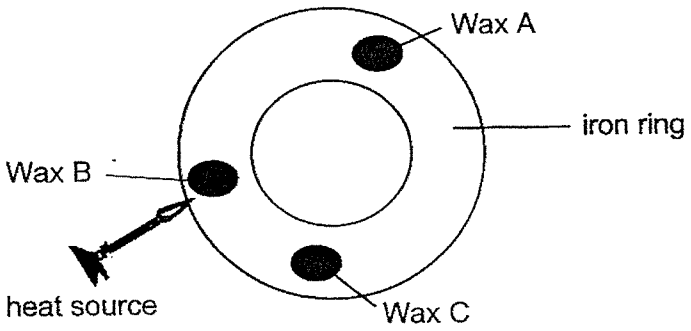


Next, she uses an air pump and pumps five times into the container.

Which of the following correctly shows the change in the volume and mass of air in the container?

	Volume of air	**Mass of air**
(1)	No change	Increase
(2)	Increase	Decrease
(3)	Decrease	Increase
(4)	No change	No change

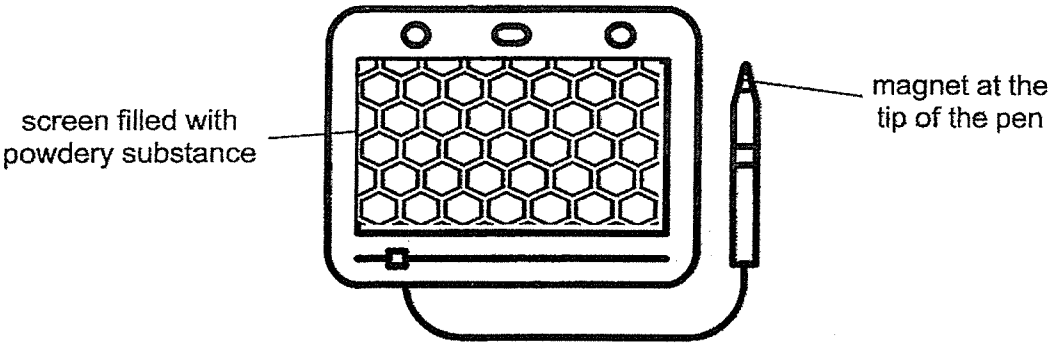
24 Three pieces of wax are stuck to different parts of an iron ring as shown below. A heat source is placed near the iron ring.



Which of the following shows the correct order in which the pieces of wax melted?

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

25 Peili has a magnetic whiteboard as shown below. She uses the tip of the pen to draw on the screen.

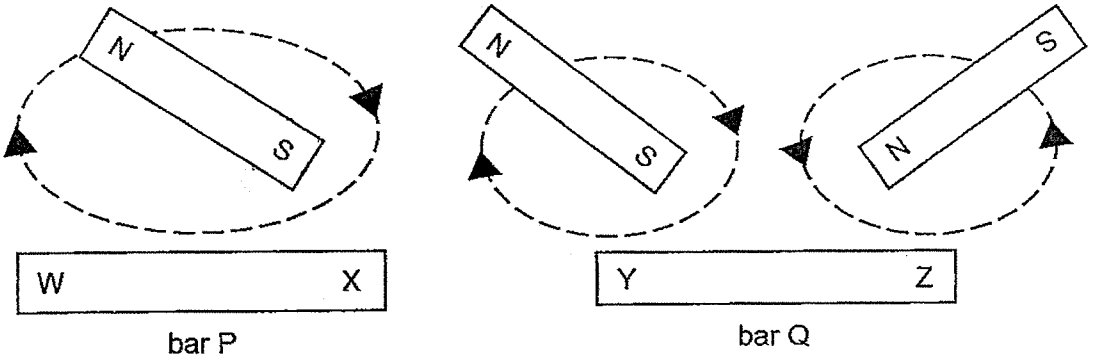


Which of the following statements explain how the magnetic whiteboard works?

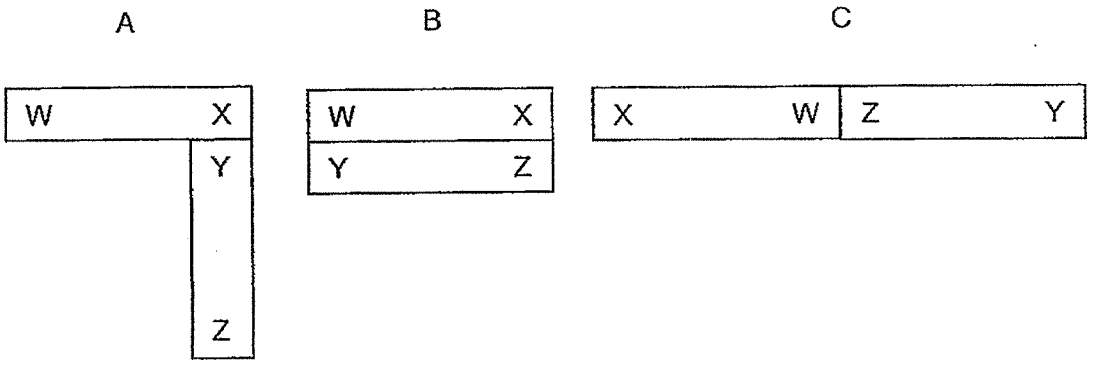
A The powdery substance is a magnetic material.
B The magnet at the tip of the pen repels the powdery substance.
C The magnet at the tip of the pen attracts the powdery substance.

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

26 Magnets are used to stroke two identical steel bars, P and Q, so that they become temporary magnets. The directions of stroking are shown in the diagram below.



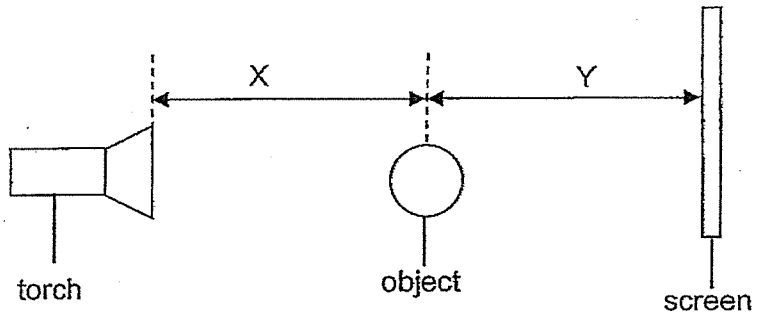
Based on the above diagrams, which of the following arrangements is/are possible?



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

27 Gillian wanted to find out how the distance between the light source and the object affects the size of the shadows.

She set-up the experiment as shown below and only moved the object while keeping the torch and screen at the same position.



Gillian recorded her results in the table below.

Distance X (cm)	Distance Y (cm)	Shadow
8	12	A
14	6	B
10	10	C

Arrange the size of the shadows from the smallest to the largest.

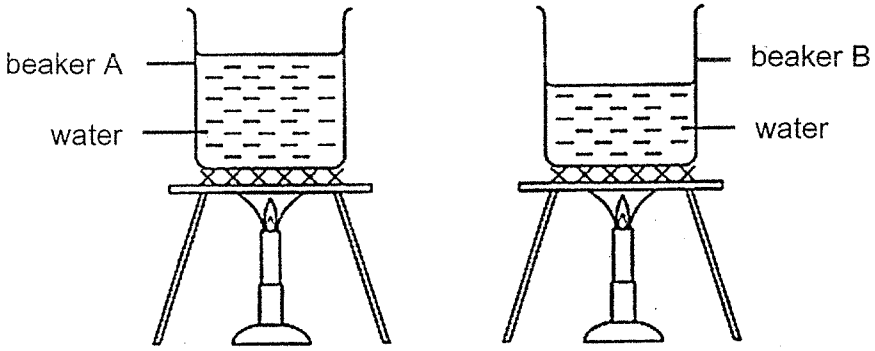
(1) A, C, B

(2) B, C, A

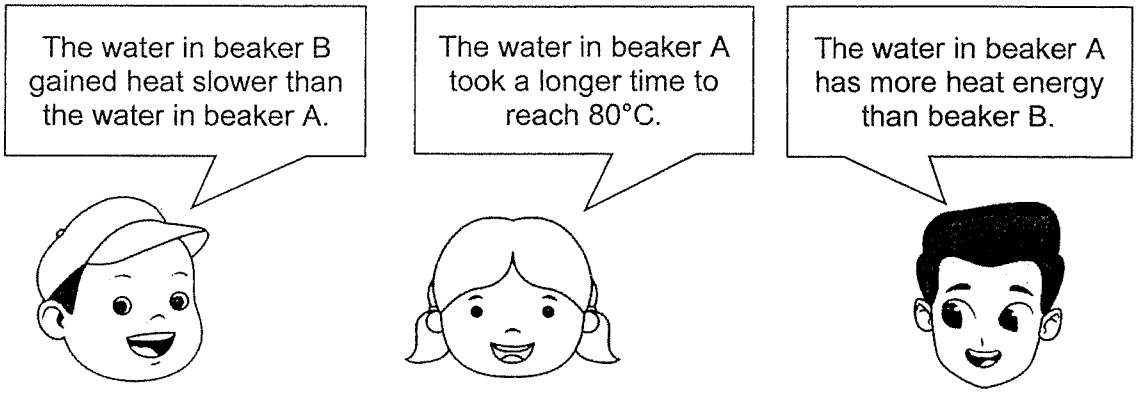
(3) B, A, C

(4) C, A, B

28 Alan, Betty and Caleb conducted an experiment using two beakers, A and B, containing different volumes of water as shown below. Both beakers were initially at room temperature. They were then heated until both reached 80°C.



The three students each made a statement at the end of the experiment.



Whose statement(s) is/are correct?

(1) Alan only
(2) Betty only
(3) Alan and Caleb only
(4) Betty and Caleb only

END OF BOOKLET A

Name: _____ ( )

Class: Primary 4 SY / C / G / SE / P

23 October 2024

SINGAPORE CHINESE GIRLS' SCHOOL
PRELIMINARY EXAMINATION 2024

PRIMARY 4
SCIENCE

BOOKLET B

Total Time for Booklets A and B: 1h 45 min

INSTRUCTIONS TO CANDIDATES

1. Write your Index No. in the boxes at the top right-hand corner.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.

This booklet consists of 13 printed pages.

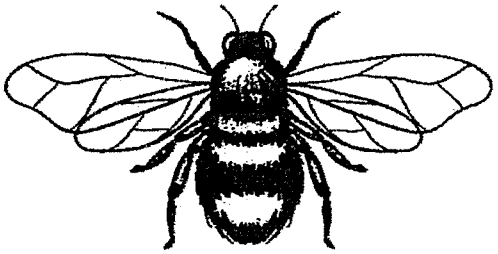
For questions 29 to 42, write your answers in this booklet.

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

(44 marks)

---

29 The diagram below shows an animal. [2]

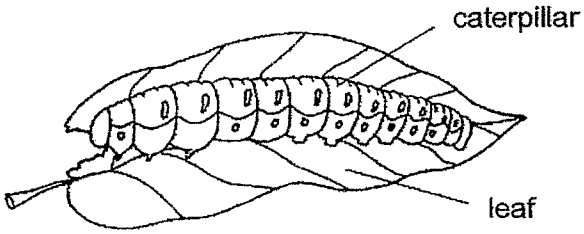


Tick (✓) two correct boxes.

This animal is an insect because it _____.

- ☐ can fly
- ☐ has wings
- ☐ has 6 legs
- ☐ has 3 body parts

30 The diagram below shows a caterpillar.



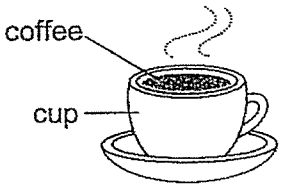
Fill in each blank with a suitable word. [2]

(a) The caterpillar needs food, water and _____ to stay alive.

(b) The caterpillar eats leaves and becomes longer after some time. This shows that it can _____.

SCORE	4

31 The picture below shows a cup of hot coffee.

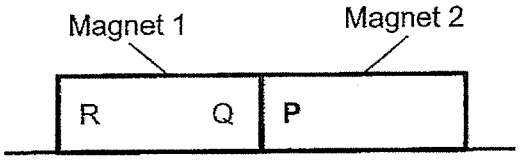


Circle the correct state for the following things.

(a) Coffee: Solid / liquid / gas [1]

(b) Cup: Solid / liquid / gas [1]

32 Two magnets are placed together as shown below.



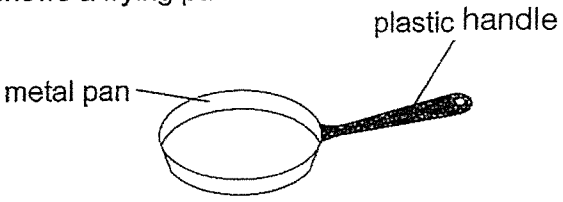
The north pole of magnet 2 is labelled **P**.

Name the poles labelled R and Q of magnet 1. [2]

R: _____

Q: _____

33 The diagram below shows a frying pan.

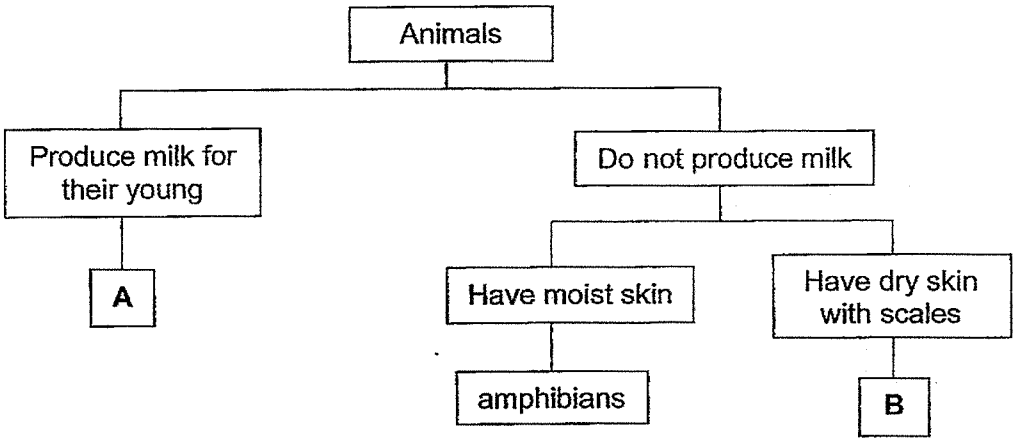


(a) The handle is made of plastic because it is a _____ conductor of heat. [1]

(b) The pan is made of metal because it is a _____ conductor of heat. [1]

SCORE	/ 6

34 Study the flowchart below.

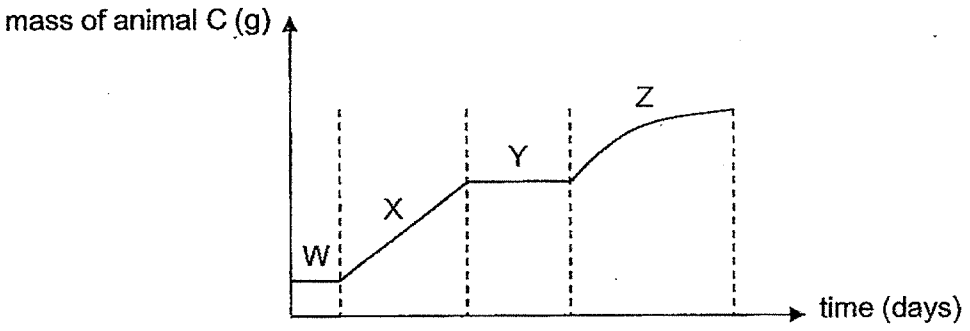


(a) Which animal groups do A and B represent? [1]

A : _____

B : _____

Animal C is an insect that has a four-stage life cycle. The graph below shows the mass of animal C during the different stages of its life cycle.



(b) Which part of the graph, W, X, Y or Z, represents the pupa stage of the life cycle? Explain your answer. [2]

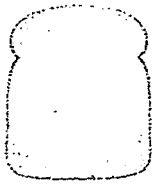
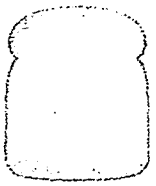
_____

_____

_____

SCORE	3

35 Paul has four pieces of bread W, X, Y and Z as shown below.

Bread	W	X	Y	Z
Size of bread				
Amount of water added	Added 5 ml of water	Toasted	Added 5 ml of water	Toasted
Temperature of surrounding	2 °C	30 °C	30 °C	2 °C

(a) On which piece of bread would Paul observe the least amount of mould growing on it? Explain why. [2]

_____

_____

(b) Which two pieces of bread should he compare if he wants to find out if temperature affects the amount of mould growth? [1]

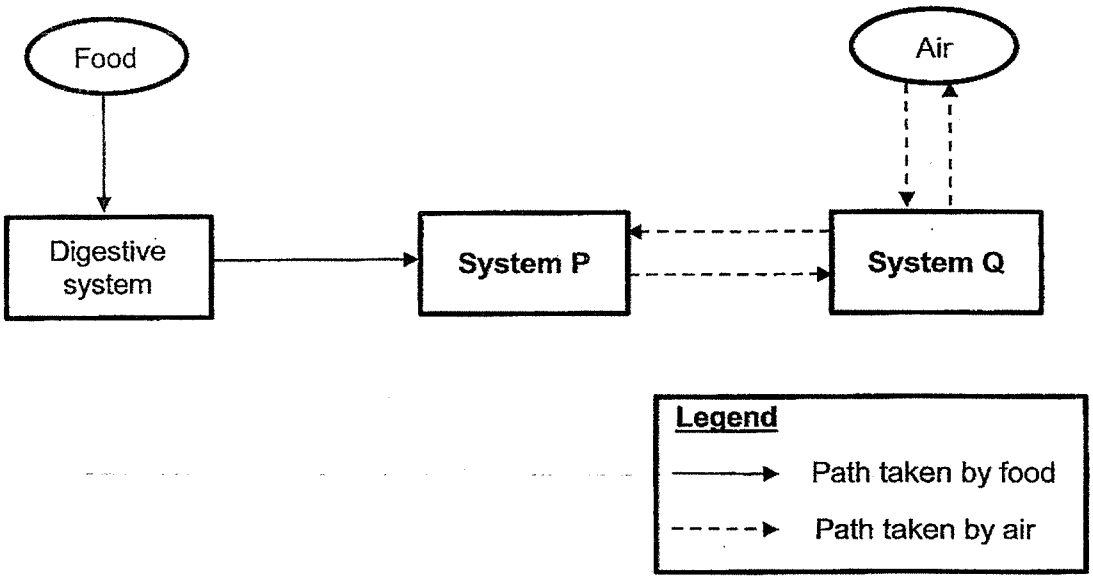
Bread _____ and Bread _____

(c) Name another living thing which belongs to the same group as bread mould. [1]

_____

SCORE	/ 4

36 The diagram below shows how three different organ systems in the human body work together.



(a) Identify systems P and Q. [1]

System P : _____

System Q : _____

(b) According to the diagram above, explain how the digestive system and system P work together to provide the body with energy? [2]

_____

_____

_____

SCORE	3

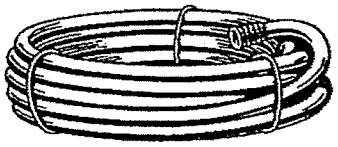
37 The table below shows the properties of materials P, Q and R. A tick (✓) shows that the material has the property.

Material	Does it break easily when dropped?	Is it waterproof?	Does it float on water?	Is it flexible?
P			✓	✓
Q		✓		
R	✓	✓		

(a) Describe material P. [1]

(b) State the difference between materials Q and R. [1]

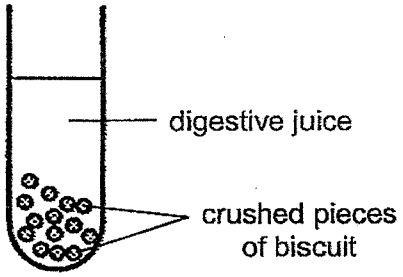
The diagram below shows a water hose.



(c) Based on the information in the table, explain why material Q cannot be used to make a water hose as shown above. [1]

SCORE	/ 3

38 Indra wanted to find out if the number of times he crushed a piece of biscuit affects the time taken for the biscuit to be digested. He crushed a biscuit five times and placed it in some digestive juice as shown below. He measured the time for the biscuit to be digested.



Indra repeated the experiment with two other similar pieces of biscuit. Each biscuit was crushed a different number of times. He recorded the time taken for the biscuits to be digested in the table below.

Number of times biscuit was crushed	Time taken for the biscuit to be digested (seconds)
5	56
10	42
15	28

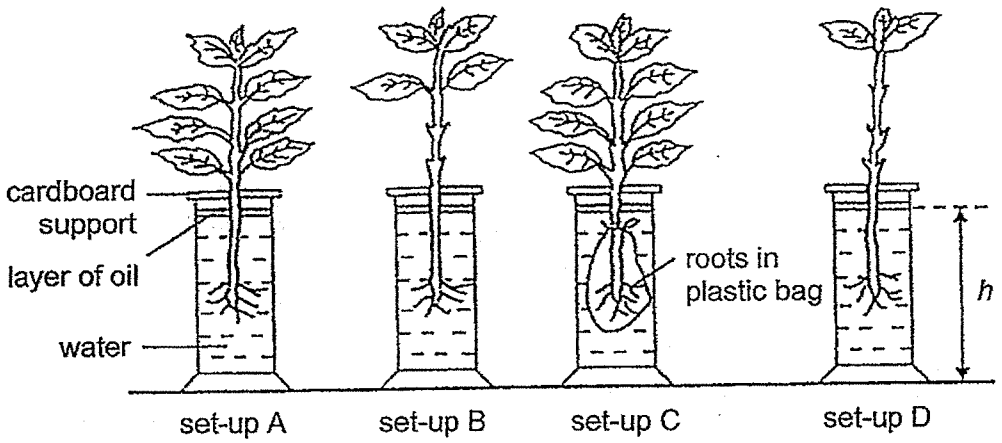
(a) Based on his results, what is the relationship between the number of times the biscuit was crushed and the time taken for the biscuit to be digested? [1]

(b) State two variables that Indra should keep constant in his experiment to ensure a fair test. [1]

(c) From the result of Indra's experiment, explain how chewing our food before swallowing helps in digestion. [2]

SCORE	/ 4

39 Devi placed four plants in identical jars, A, B, C and D, containing the same amount of water as shown below. She then placed the four set-ups next to the window for one day.



(a) After one day, Devi measured the height of water, *h*, in each jar.
Her measurements were 15 cm, 17 cm, 19 cm and 20 cm.

In which set-up, A, B, C or D, was the water level 15 cm? Give a reason for your answer. [2]

_____

_____

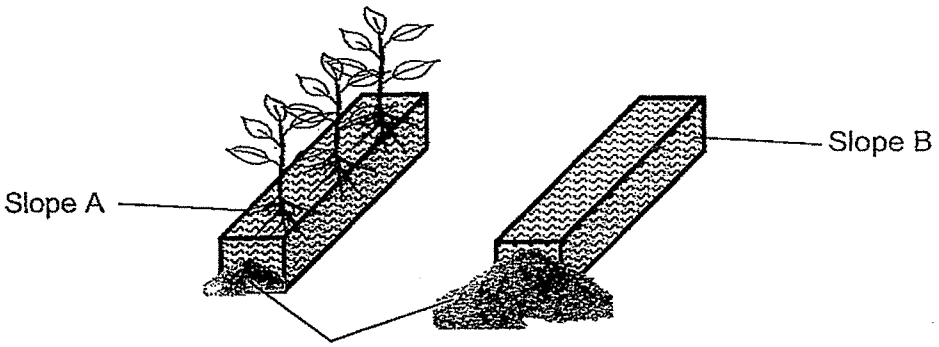
_____

(b) Which two set-ups should Devi compare to show that roots of the plant take in water? [1]

Set up _____ and set-up _____

(*Question 39 continues the next page.*)

Devi conducted an experiment on two similar slopes, A and B. She grew some plants on slope A.



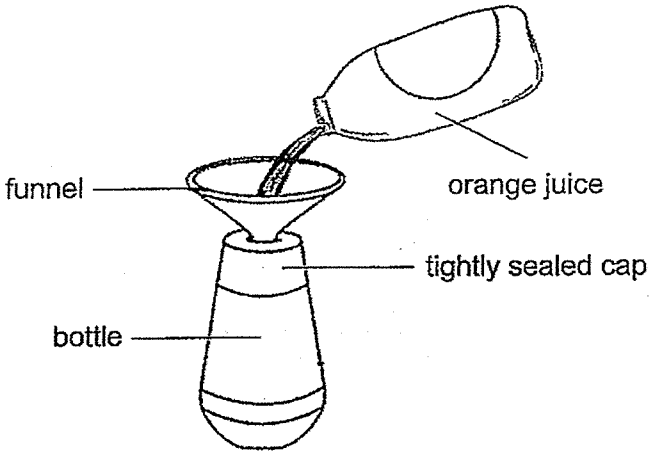
(c) After a heavy rain, there was less soil collected at the end of slope A than B. Explain why. [2]

_____

_____

SCORE	5

40 Zaharah wanted to fill up an empty bottle with orange juice using a funnel, as shown below.



(a) After some time, Zaharah noticed that the juice stopped flowing into the bottle through the funnel even though the bottle was not completely filled.

Give a reason why the juice stopped flowing. [1]

_____

(b) Without changing the set-up, what can Zaharah do to allow the juice to flow through the funnel into the bottle faster? [1]

_____

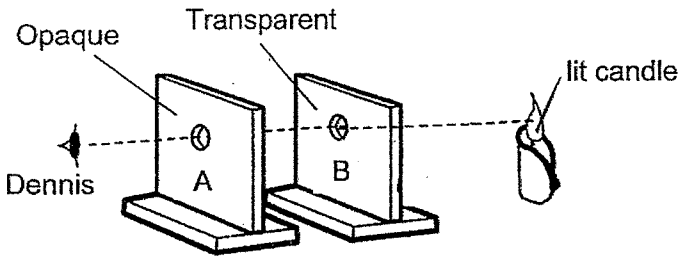
(c) Explain your answer in part **(b)**. [2]

_____

_____

SCORE	/ 4

41 Dennis wanted to find out if light travels in a straight line. He conducted the experiment in a completely dark room. Objects A and B are made of different materials and have a hole of the same size.



(a) Dennis lit a candle in a dark room. Why is he able to see the candle flame? [1]

_____

_____

(b) Dennis shifted B to the right such that the holes do not align anymore. Will he be able to see the light from the lit candle? Give a reason for your answer. [1]

_____

_____

(c) Describe what Dennis should do to correctly demonstrate that light travels in a straight line? [2]

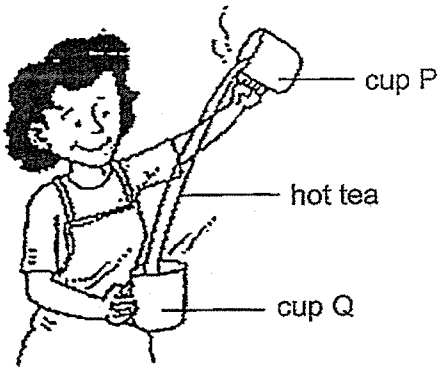
_____

_____

_____

SCORE	/ 4

42 Mrs Tan made some hot tea. She poured the tea continuously back and forth from cup P to cup Q, as shown below.



The temperature of the tea in cup P after each pour was measured and recorded.

(a) State what is meant by temperature. [1]

_____

_____

(b) Explain how the pouring action resulted in the change in the temperature of the tea. [2]

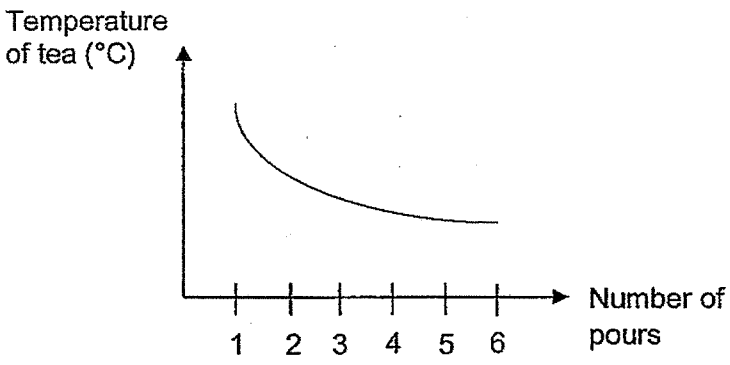
_____

_____

_____

(*Question 42 continues the next page.*)

(c) The change in temperature of the tea in cup P after six pours is shown in the graph below.



Based on the graph, state the relationship between the number of pours and the temperature of the tea. [1]

END OF PAPER

SCORE	/ 4

SCHOOL : SINGAPORE CHINESE GIRLS' SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2024 END OF YEAR EXAMINATION

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

29	has 6 legs has 3 body parts
30	a) air b) grow
31	a) Coffee – Liquid b) Cup – Solid
32	R: north pole Q: south pole
33	a) poor b) good
34	a) A: mammals B: reptiles b) Y. The mass/weight of animal C remained constant / did not change. The pupa does not feed.
35	a) Z. It has the no/least/less water moisture and the surrounding temperature is the lowest lower. b) Bread X and Z. c) Mushroom / Yeast / Toadstool / Puffball. (Fungi: wrong)
36	a) System P: circulatory system System Q: respiratory system b) Food is broken down into simpler substances / digested and absorbed into the blood to be transported to all parts of the body.
37	a) • does not break easily when dropped / strong. • is not waterproof/absorb water • floats on water • flexible b) Material Q does not break easily when dropped but Material R does. R breaks easily when dropped but Q does not. (Must have comparison) c) It is not flexible.
38	a) The greater the number of / more times the biscuit was crushed, the shorter / lesser the time taken for the biscuit to be digested. b) Mass of biscuit / type of biscuit / size of biscuit / amount of biscuit / Amount / volume of digestive juice / type of digestive juices.

	c) Chewing breaks up the food into smaller pieces, increasing/more the surface area of the food in contact with digestive juices, hence, increasing the rate of digestion.
39	a) Set-up A. The plant has the most number of leaves, thus most amount of water is taken in / absorbs most water by the roots to make food / for photosynthesis. OR Set-up A. The plant has the most number of leaves, thus most amount of water (vapour) is lost through the (tiny openings) in the leaves. b) Set-up A and C c) There were plants / more plants on slope A so the roots of the plant hold the plant firmly to the soil on slope A.
40	a) Air occupies space in the bottle. b) Lift the funnel from the bottle. c) Air can escape from the bottle. The juice can take up the space if the bottle previously occupies by all / the juice displace the air in the bottle and juice pushes the air out of the bottle.
41	a) The lit candle gives off light and light enters his eyes. b) Yes. Light from the candle can pass through transparent object B. c) Change object B to an opaque material (with the hole). Move/shift Object A / B to the left/right
42	a) Temperature is a measure/measurement how hot something is. b) The pouring action increases the exposed surface area of the tea, increasing the rate of heat loss from the hot tea to the surroundings. c) As the number of pours increases, the temperature of the tea decreases.

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