Nan Hua Primary School
Primary 4 Science 2021
Term 4 Practice – Section A

Marks	
Section A:	/56
Section B:	/44
Total:	**/100**

Name: _____ ( )

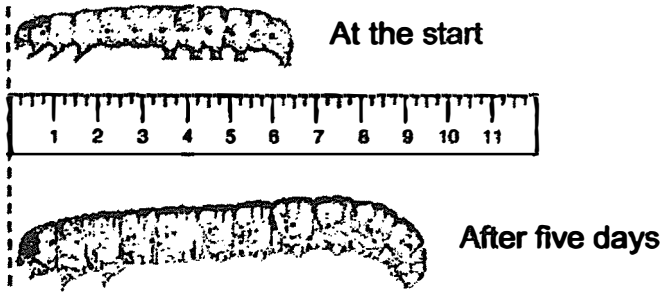
Class: Primary 4/_____

Date: _____

Answer <u>all</u> questions.

<u>Section A:</u> (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.

1 Marcus kept an animal in a container and measured its length.
After five days, he measured its length again.



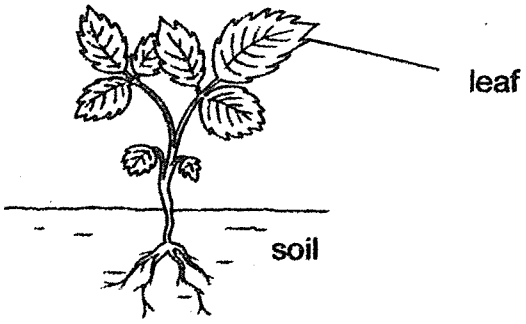
From his observation, Marcus concluded that the animal is a living thing because it can _____ .

(1) grow
(2) breathe
(3) respond
(4) reproduce

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2 The diagram below shows a plant.



The leaf helps the plant to _____ .

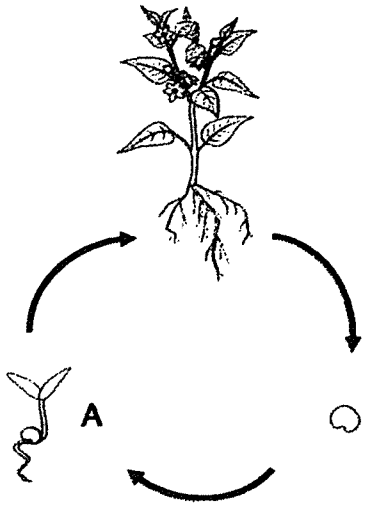
(1) make food
(2) grow upright
(3) absorb water
(4) absorb nutrient

3 In which part of the digestive system is water absorbed into the bloodstream?

(1) gullet
(2) mouth
(3) stomach
(4) large intestine

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4 The diagram below shows the life cycle of a plant.



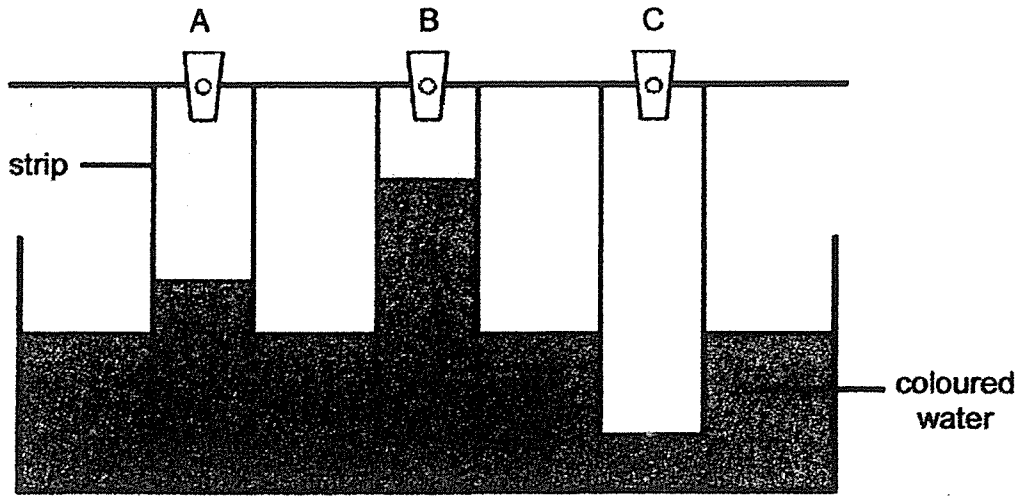
What is the stage marked A?

(1) egg
(2) seed
(3) adult plant
(4) young plant

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5 Bala conducted an experiment with three similar strips made of different materials, A, B and C. He lowered the strips into a basin of coloured water for 20 minutes.

The diagram below shows the results of the experiment.



The aim of Bala's experiment was to find out which one of the materials _____.

(1) is strong
(2) is waterproof
(3) floats on water
(4) allows light to pass through

6 The diagram below shows a magnet being brought near a plastic block.



What will happen to the plastic block?

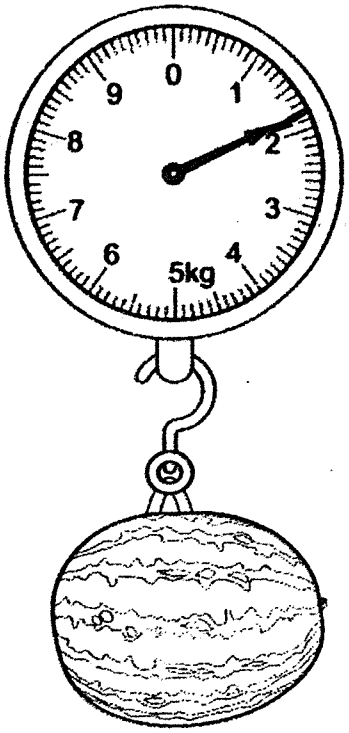
(1) It will move up.
(2) It will not move.
(3) It will move towards the magnet.
(4) It will move away from the magnet.

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7 Matter is anything that has mass and occupies space.
Which one of the following is **NOT** matter?

(1) air
(2) sand
(3) water
(4) sound

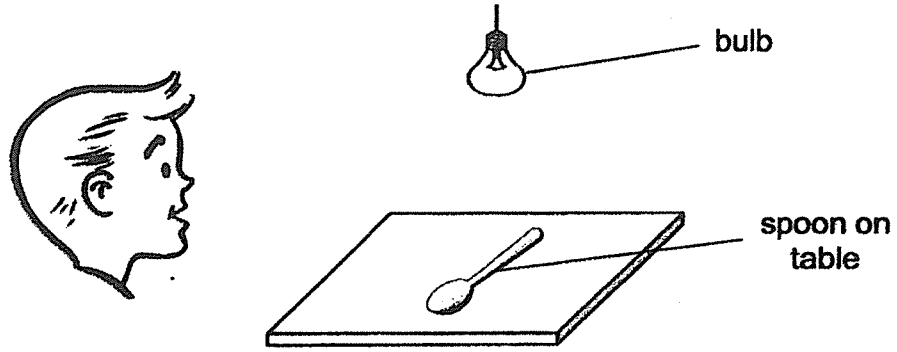
8 The reading on the weighing scale shows that the mass of the melon is _____ kg.



(1) 2.8
(2) 2.2
(3) 1.8
(4) 1.6

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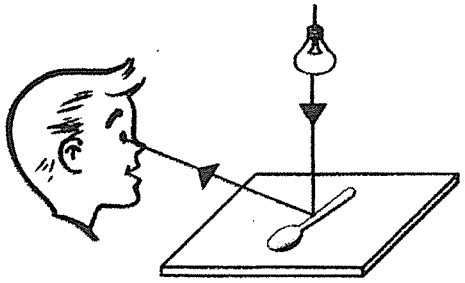
9 Look at the picture below.



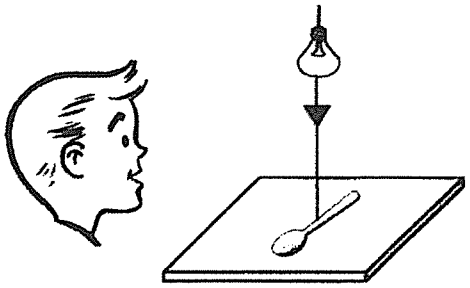
Which one of the following explains why Karl can see the spoon on the table?



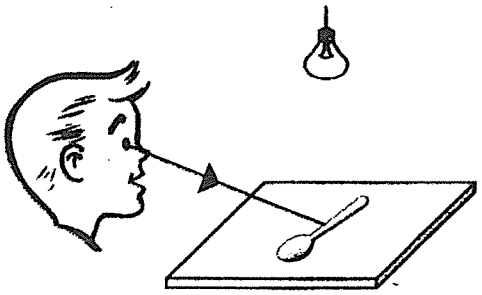
(1)



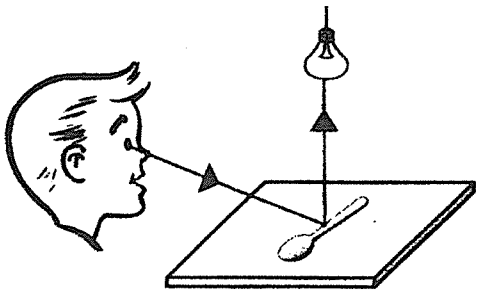
(2)



(3)



(4)

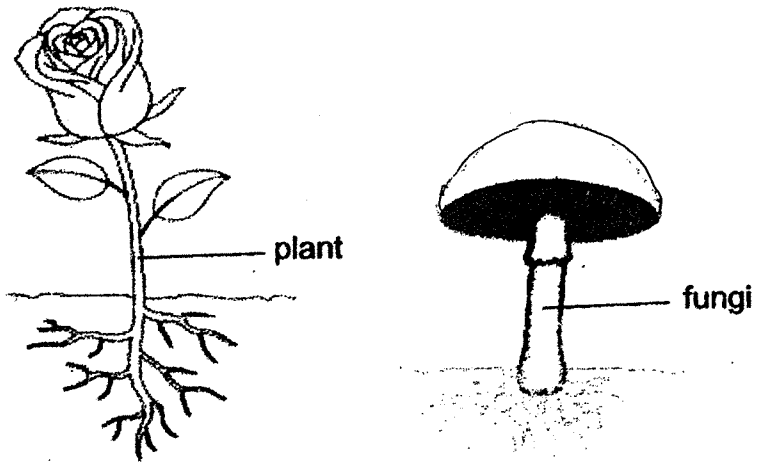


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10 Which one of the following is a source of heat?

(1) A sweater
(2) An ice pack
(3) A frying pan
(4) A candle flame

11 Study the living things below.

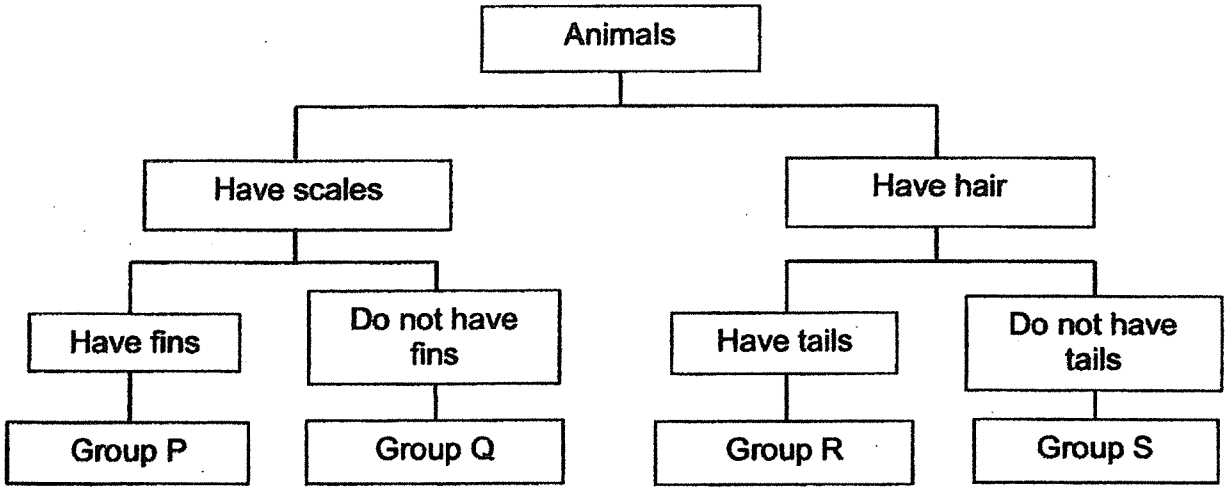


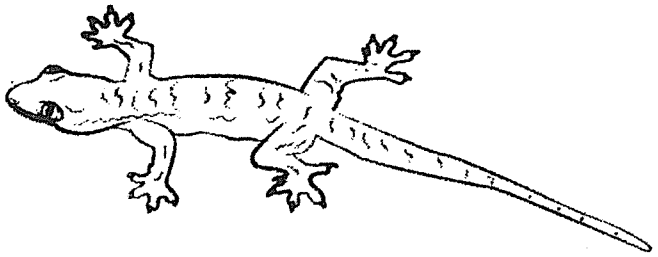
Which of the following correctly states the difference between the plant and the fungi?

	Plant	Fungi
(1)	make its own food	does not make its own food
(2)	does not make its own food	make its own food
(3)	reproduces by spores	reproduces by seeds
(4)	reproduces by flowers	reproduces by spores

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12 Study the chart below.



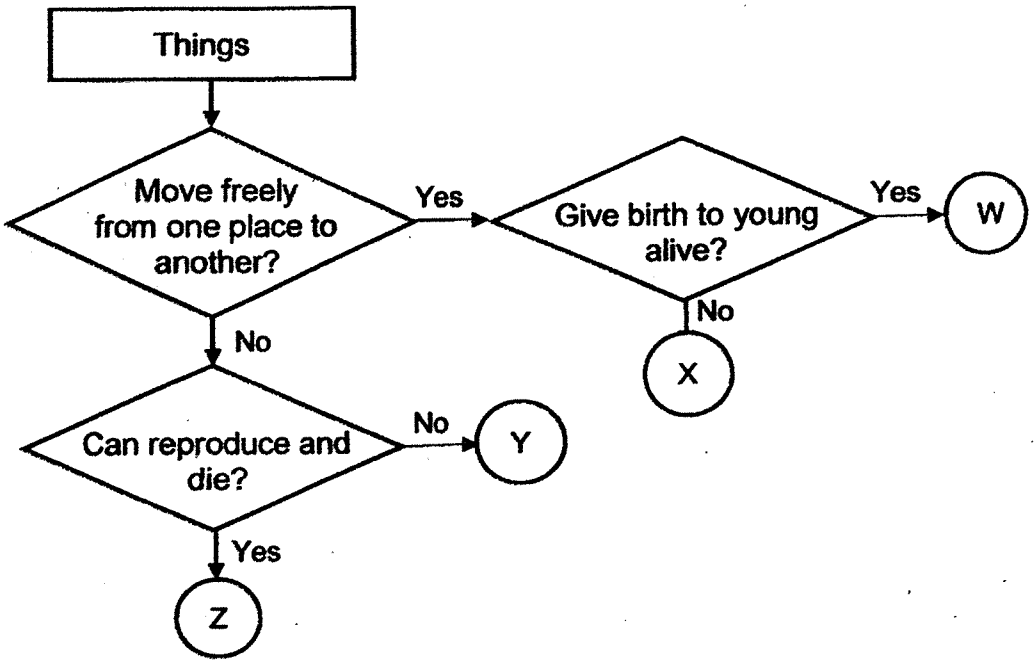


Which group, P, Q, R or S, does the animal shown above belong to?

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

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13 Study the flowchart below.

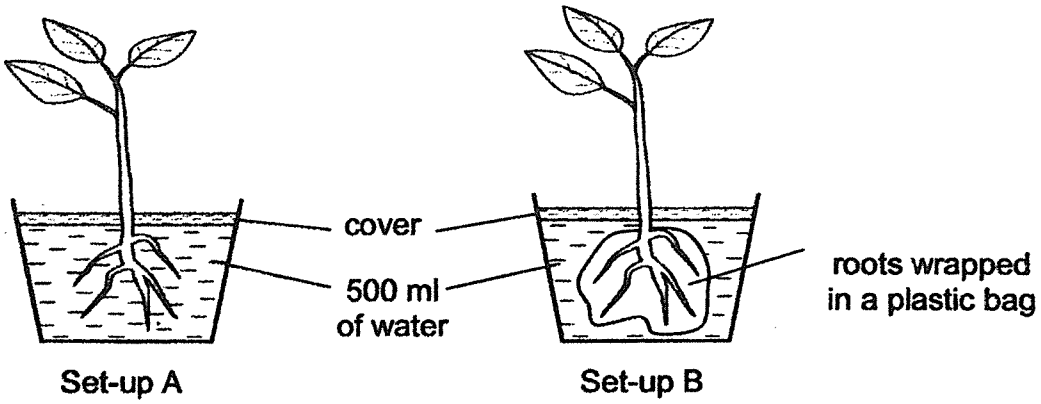


Which of the following correctly states what W, X, Y and Z most likely represent?

	W	X	Y	Z
(1)	bird	rock	mammal	plant
(2)	mammal	plant	bird	rock
(3)	mammal	bird	rock	plant
(4)	plant	rock	bird	mammal

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14 Jiawei conducted an experiment using two similar plants in set-ups A and B as shown below. Each set-up was given 500 ml of water at the start.



She measured the volume of water left in each set-up after one week.

Which of the following shows the likely amount of water left in each set-up after one week?

	Water left in set-up A	Water left in set-up B
(1)	300 ml	200 ml
(2)	300 ml	500 ml
(3)	200 ml	200 ml
(4)	500 ml	500 ml

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15 Some of the functions of 3 body systems, P, Q and R, are stated below.

P Takes in and removes air from the body
Q Protects the important organs in the body
R Carries digested food, water and oxygen in the blood to all parts of the body

Which of the following correctly matches body systems, P, Q and R?

	P	Q	R
(1)	respiratory system	skeletal system	circulatory system
(2)	circulatory system	skeletal system	digestive system
(3)	respiratory system	muscular system	circulatory system
(4)	circulatory system	muscular system	digestive system

16 Ron conducted an experiment to find out if the amount of digestive juices would affect the time taken for a piece of bread to be digested.

The table below shows four possible set-ups he could use.

Dish	Amount of digestive juices (ml)	Temperature of bread (°C)	Amount of bread (g)	Duration of the experiment (min)
A	30	27	10	20
B	30	27	5	30
C	20	24	10	30
D	20	27	5	30

Which two set-ups should Ron use for his experiment?

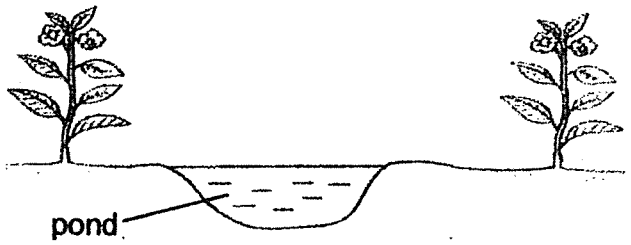
(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

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17 Which one of the following statements is true about life cycles?

(1) All organisms have 3-stage life cycles.
(2) The life cycle of a plant begins with a seed.
(3) The young of some organisms do not look like the adults.
(4) The young of all animals will go through the process of moulting.

18 Ellie built a small pond in her garden on Day 1 as shown below.



On Day 2, she spotted butterfly eggs, frog eggs and mosquito eggs in the garden.

The number of days needed for the eggs of the three types of organisms to hatch is shown below.

Characteristic	butterfly	frog	mosquito
Number of days needed for eggs to hatch	3	21	1

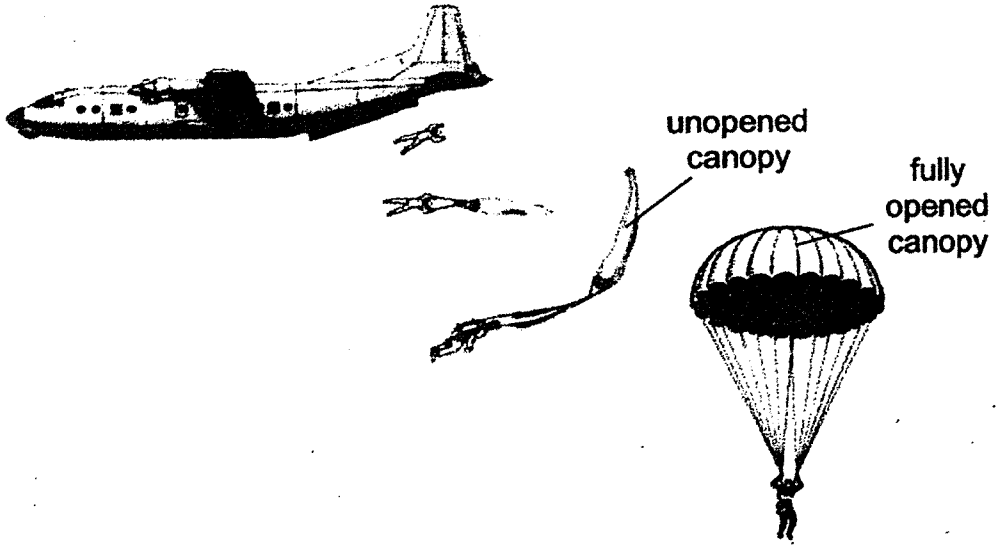
On Day 5, what would Ellie most likely find in the pond?

(1) Mosquito larvae and tadpoles
(2) Butterfly larvae and frog eggs
(3) Frog eggs and mosquito larvae
(4) Butterfly larvae and mosquito larvae

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19 The diagram below shows a person using a parachute.

A parachute has a light but strong canopy. The canopy is folded and stored in a parachute bag. When the bag opens, the canopy opens too which allows the person to stay in the air for some time.



The table below shows the properties of four materials, E, F, G and H.
A tick (✓) shows that the material has the property and a cross (×) shows that the material does not have the property.

Material	Flexible?	Tears easily?	Allows most light to pass through?
E	✓	✓	×
F	×	✓	✓
G	×	×	✓
H	✓	×	×

Based on the information above, which material, E, F, G or H, is most suitable to make the canopy of a parachute?

(1) E

(2) F

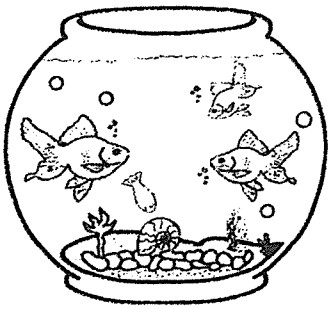
(3) G

(4) H

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20 Elva has an aquarium at home.

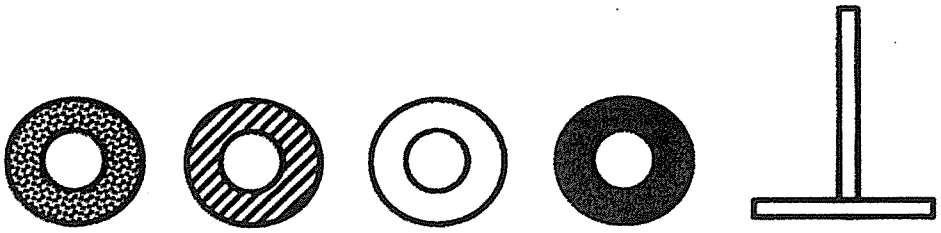
The diagram below shows her fish tank, that is made of glass.



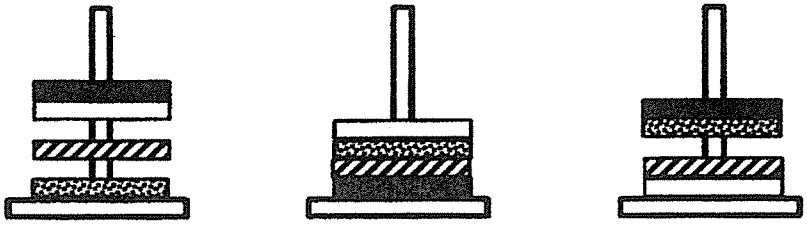
Glass is suitable to make the fish tank because it _____ .

(1) is flexible
(2) absorbs water
(3) does not break easily
(4) allows most light to pass through

21 The diagram below shows four different rings and a plastic stand.



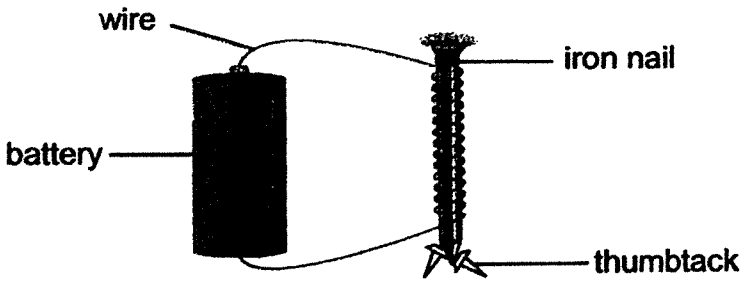
Which of the following are possible observations when all four rings are placed through the plastic stand?



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

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22 Devi made an electromagnet as shown below.



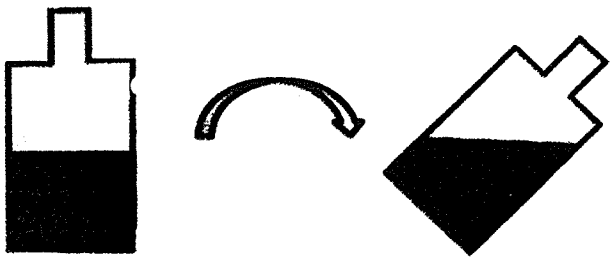
She used it to pick up some thumbtacks.

Which of the following actions will allow the electromagnet to pick up more thumbtacks?

A Use a longer wire.
B Add two more batteries to the set-up.
C Decrease the number of coils of wire around the iron nail.
D Add one more battery and add more coils of wire around the iron nail.

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

23 Mrs Lee tilted a bottle of water as shown below.



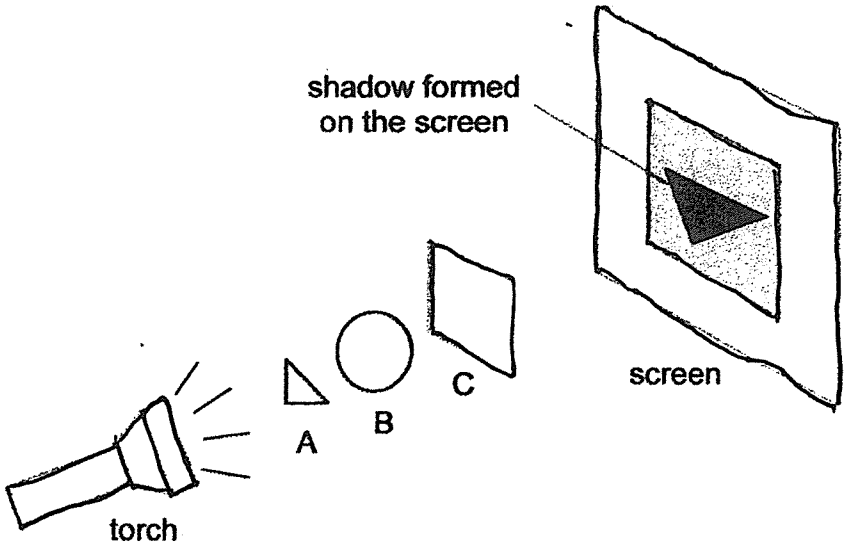
bottle of water

Which of the following about the bottle of water is correct?

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

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24 Janice placed three objects, A, B and C in a straight row between a torch and a screen as shown below.

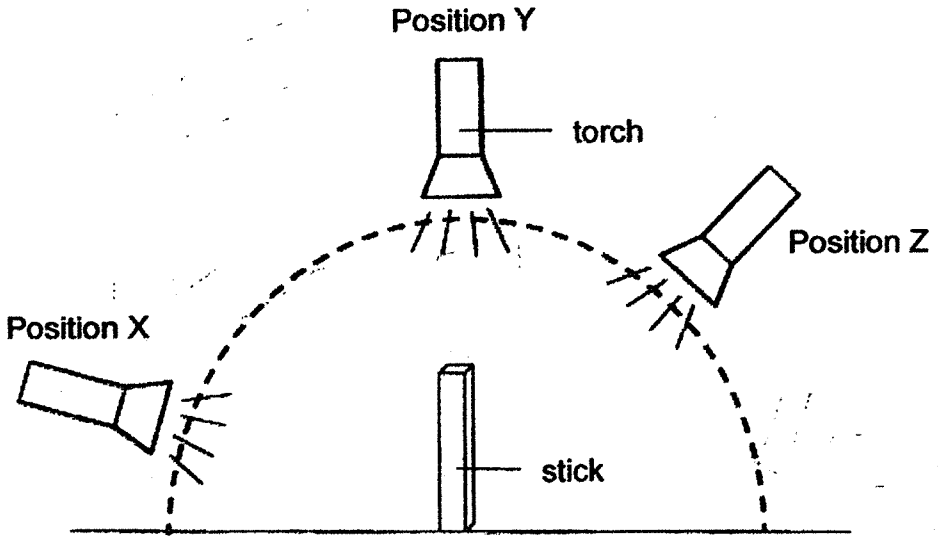


Which of the following best describes materials A, B and C?

	Allows most light to pass through	Allows some light to pass through	Allows no light to pass through
(1)	A	B	C
(2)	B	A	C
(3)	B	C	A
(4)	C	B	A

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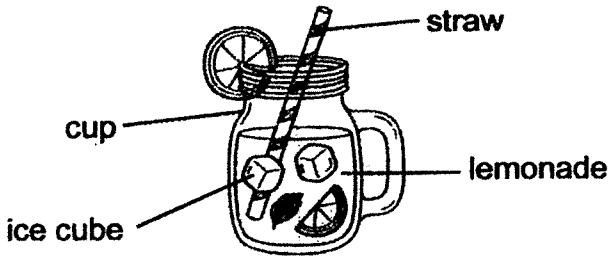
25 Liming shone a torchlight from three different positions, X, Y and Z, at a wooden stick as shown below.



Which of the following correctly arranges the length of shadows formed by the stick at positions X, Y and Z from the shortest to the longest?

	Shortest shadow ——> Longest shadow		
(1)	X	Y	Z
(2)	Y	Z	X
(3)	Y	X	Z
(4)	X	Z	Y

26 Ben had a cup of lemonade at room temperature. He added some ice cubes to make it colder.

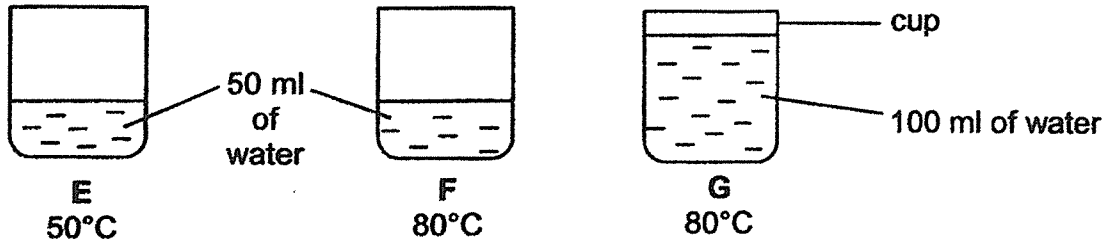


Which of the following statements explains why the lemonade became colder?

(1) The ice cubes lost heat to the straw.
(2) The lemonade lost heat to the ice cubes.
(3) The ice cubes lost heat to the lemonade.
(4) The lemonade gained heat from the ice cubes.

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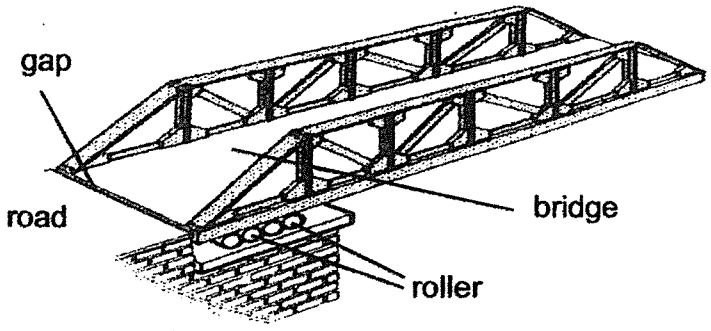
27 The diagram below shows three cups with water.



Arrange the cups in order from the cup containing water with the least amount of heat to the cup containing water with the most amount of heat.

	Cup of water with least amount of heat ——————>		Cup of water with most amount of heat
(1)	G	F	E
(2)	E	F	G
(3)	F	E	G
(4)	E	G	F

28 Abel noticed that a gap was purposely created at one end of a bridge as shown in the diagram below.



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

The purpose of the gap is to _____.

A allow for expansion of the bridge on hot days
B reduce the amount of materials required to build the bridge
C allow for better air flow through the bridge when cars are travelling on it

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

End of Booklet A

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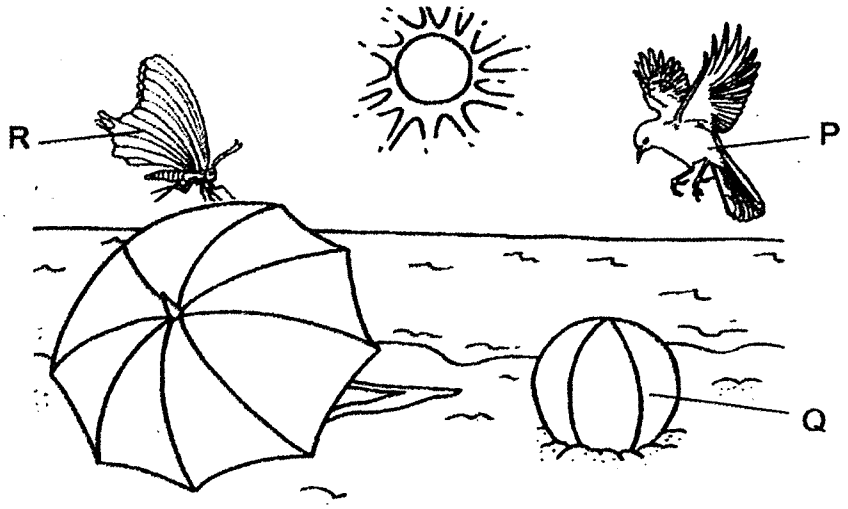
Nan Hua Primary School
Primary 4 Science 2021
Term 4 Practice – Section B

Name: _____ ( ) **Class:** Primary 4/_____

Date: _____

Section B: (44 marks)
Write your answers to questions 29 to 41.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

29 Jim saw some living and non-living things at a beach.



State if P and Q are living or non-living things.

(a) P is a _____ [1]

(b) Q is a _____ [1]

(c) State two characteristics of R that classify it as an insect. [2]

Characteristic 1: _____

_____

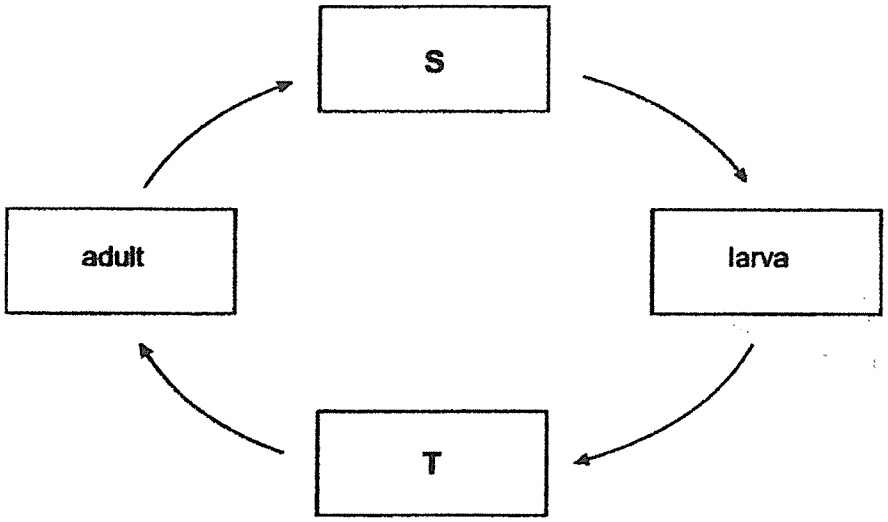
Characteristic 2: _____

_____

Score	/ 4

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30 The diagram below shows the stages in the life cycle of a mosquito.



Choose the correct words from the box to answer part **(a)** of the question below.

seed	pupa	egg	nymph

(a) Name the two stages **S** and **T**. [2]

S : _____

T : _____

(b) Fill in the blank.

The mosquito **does not** live in the water at the _____ stage. [1]

Score	
	3

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31 When end A of object K is brought near a magnet as shown, the magnet moves away.



Fill in the blanks.

(a) This shows that object K is a _____ . [1]

(b) When end B is brought near to the magnet, it _____ the magnet. [1]

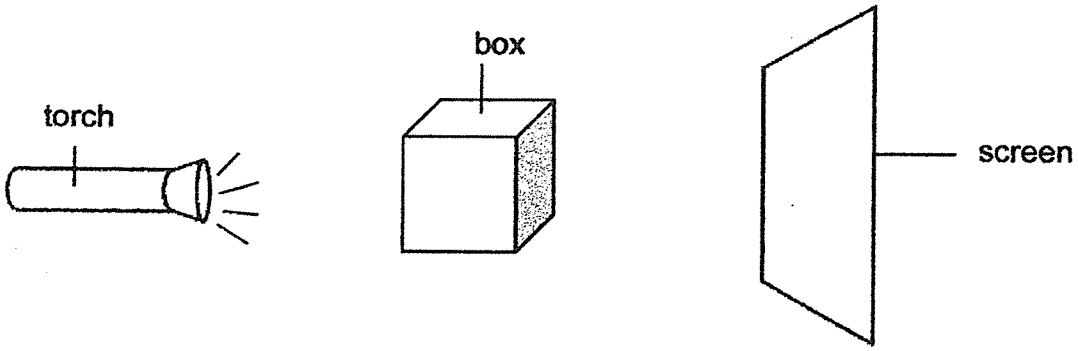
(c) What material can be used to make a magnet? [1]

_____

Score	3

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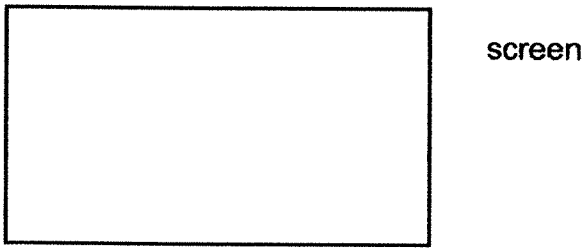
32 Colin shines a torch on a box and a shadow is formed on a screen.



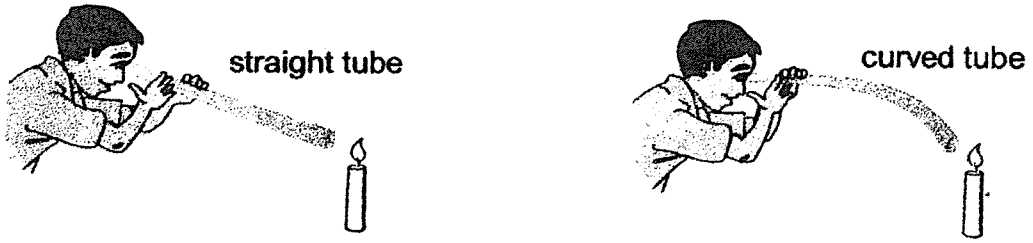
(a) Fill in the blank.

A shadow is formed when light is _____ by an object. [1]

(b) Draw the shadow of the box that is formed on the screen. [1]



In another experiment, Colin looked through a straight hollow tube and a curved hollow tube but he could only see the candle's flame using the straight tube.



(c) Explain why the curved tube did not allow Colin to see the flame. [2]

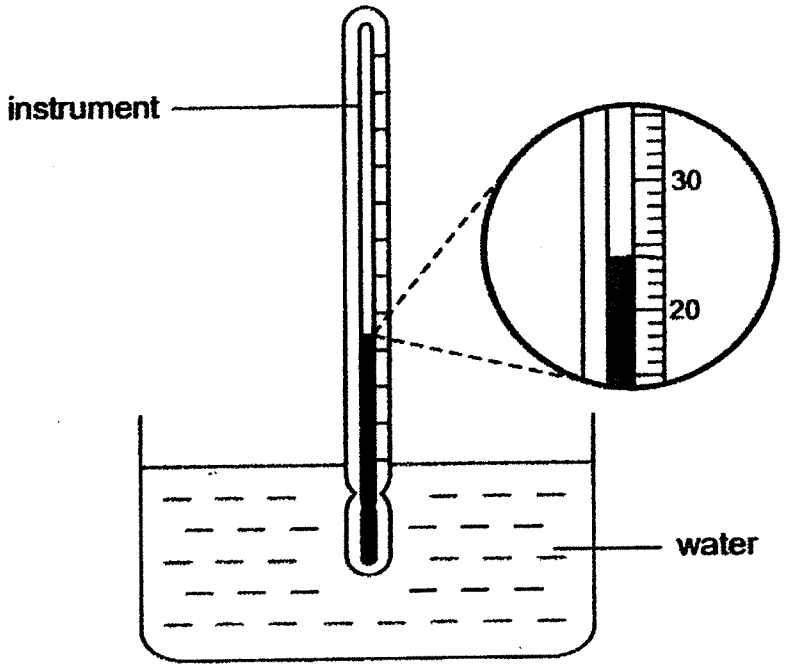
_____

_____

Score	/ 4

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33 Steve used an instrument to measure the temperature of water in a beaker as shown below.



(a) The instrument is called a _____. [1]

(b) The temperature of the water in the beaker is _____°C. [1]

(c) What is temperature? [1]

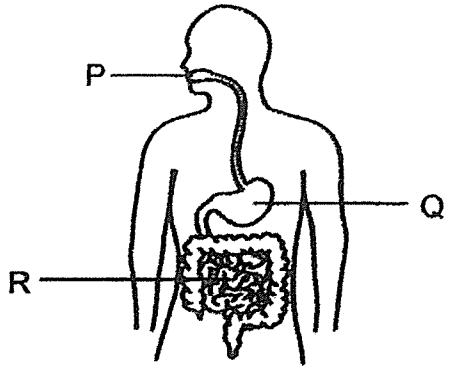
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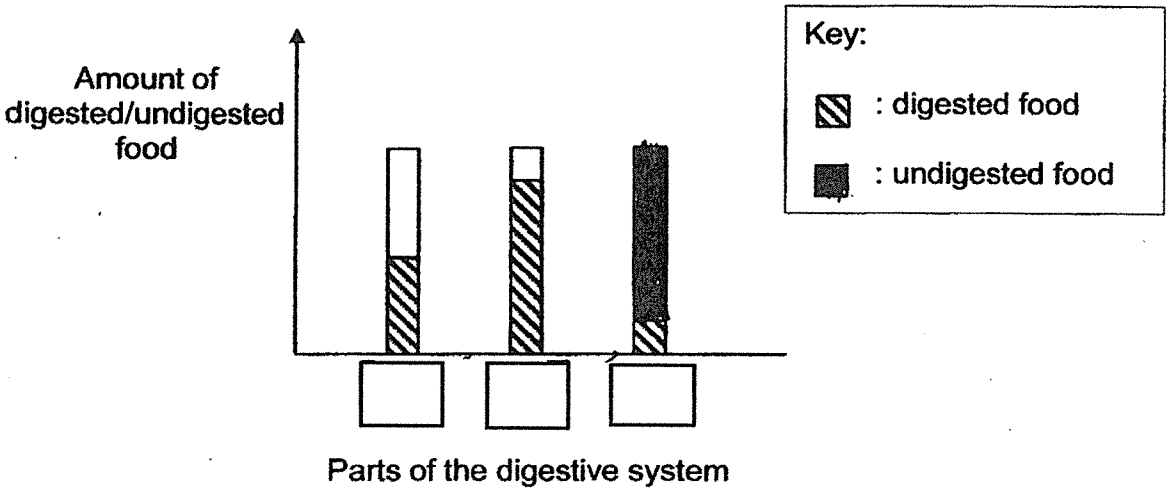
Score	
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34 The diagram below shows a human digestive system.



The graph below shows the amount of digested and undigested food in parts P, Q and R of the digestive system.



(a) In the graph above, write the letters, P, Q and R in the correct boxes. [1]

(b) What happened to the digested food in the small intestine? [1]

_____

_____

(c) Peter was reminded by his mother to chew his food well. How would chewing the food into smaller pieces help in the digestion of the food? [2]

_____

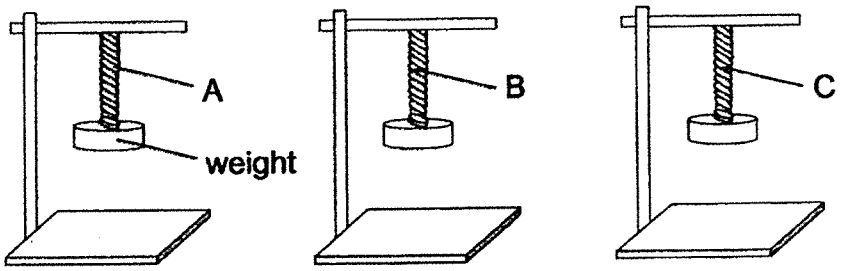
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Score	
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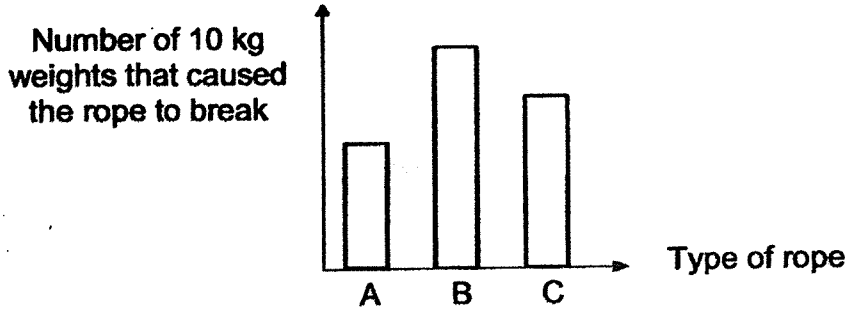
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35 Sundari set up an experiment using three different ropes, A, B and C, as shown below.



She added 10 kg weights to each rope one at a time until it breaks.

The graph below shows the results of her experiment.



(a) What is the dependent (measured) variable in this experiment? [1]

_____



The diagram above shows a man using a rope to support his body weight during mountain climbing.

(b) Which rope, A, B or C, is most suitable for use during mountain climbing? Explain your choice. [2]

_____

_____

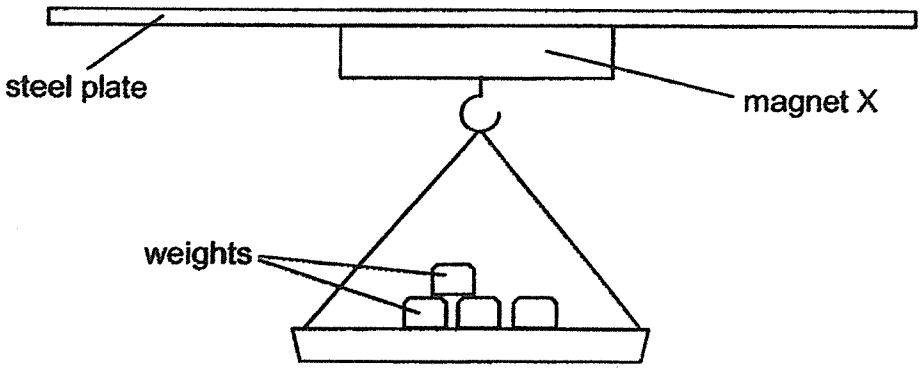
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36 Fred prepared the following set-up to compare the strength of 3 magnets, X, Y and Z.



He hung weights on magnet X until it could no longer attract the steel plate and fall off. Fred then recorded the total mass of the weights needed to make the magnet fall in the table below. He repeated the experiment with magnets Y and Z.

Magnet	X	Y	Z
Total mass of weights (kg)	3.5	5	1.5

(a) State one variable of the magnet that must be kept the same in order for the test to be a fair one. [1]

_____

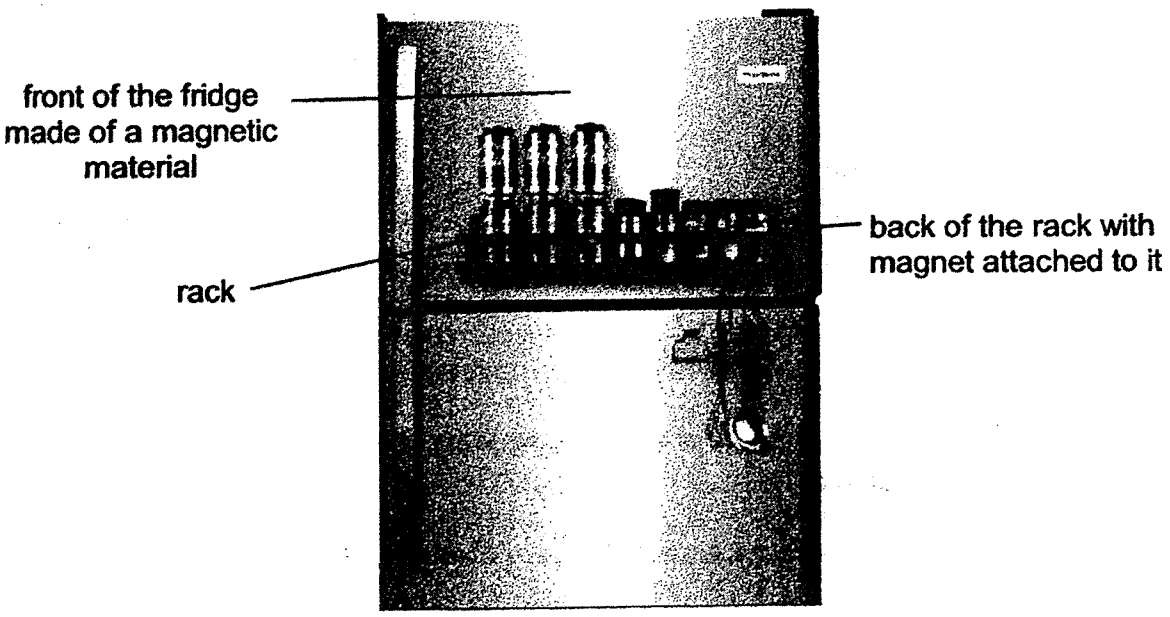
(b) What should Fred do if he wants to ensure the reliability of his results? [1]

_____

Score	/ 2

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Fred then wanted to make a magnetic rack like the one shown below. The front of the fridge is made of a magnetic material.



(c) Which magnet, X, Y or Z, should he choose to make the back of the rack if he wants the rack to hold as many things as possible without falling off from the fridge? Explain your answer. [2]

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37 Tina placed a metal ball into a container as shown in diagram 1. Next, she placed the ball on an electronic balance as shown in diagram 2.

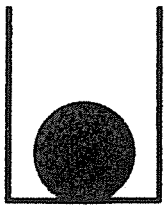


Diagram 1

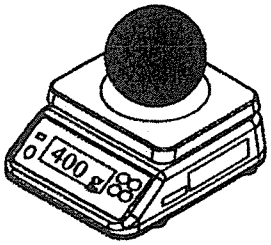


Diagram 2

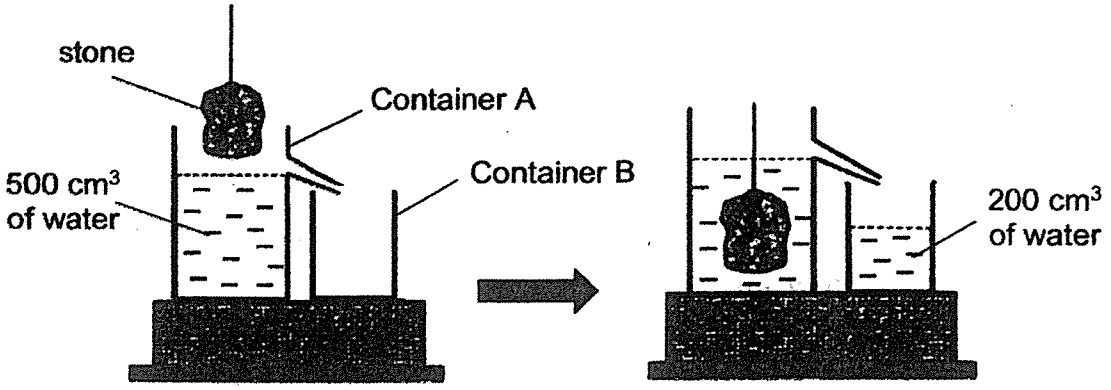
She observed that the metal ball did not take up the shape of the container as shown in diagram 1. She also observed that the ball has a mass of 400g as shown in diagram 2.

(a) Based on the observations above, state two properties of solids as demonstrated by the metal ball. [1]

_____

_____

In another experiment, Tina wanted to find out the volume of a stone as shown below.



At the start In the end

(b) What is the volume of the stone? [1]

_____

(c) Would Tina be able to find the volume of the whole stone if she had only lowered part of the stone into the water? Give a reason for your answer. [1]

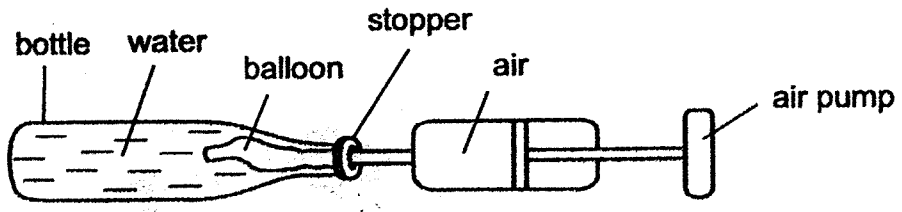
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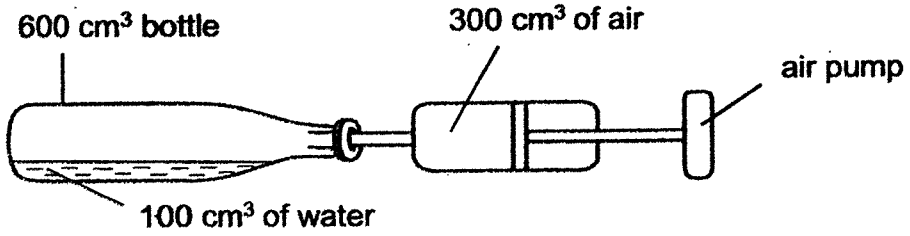
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38 Amiru placed a flat balloon inside a bottle, which was filled with water, as shown below.



(a) He tried to fill the balloon with air using the air pump, but was unable to do so. Explain why this was so. [2]

Amiru then made some changes to his set-up as shown below.



All 300 cm^3 of air in the pump entered the bottle.

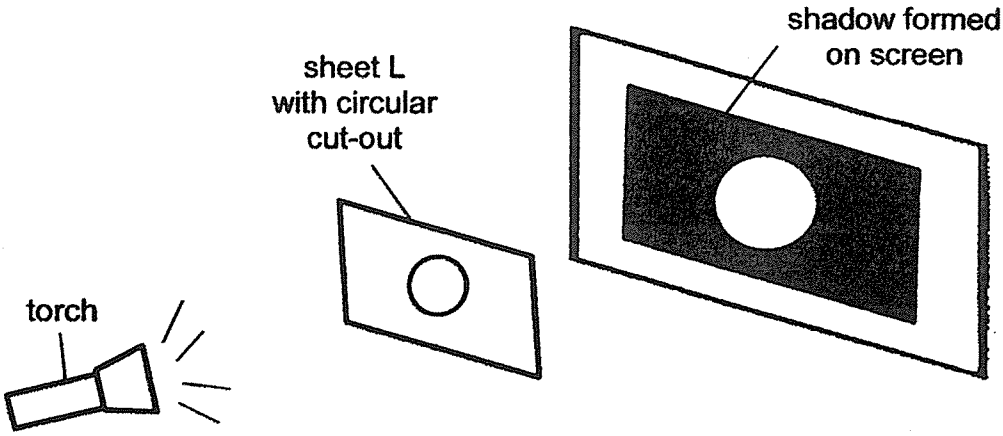
(b) What is the final volume of air in the bottle? [1]

(c) Would the mass of the air in the bottle increase after 300 cm^3 of air entered it? Why? [1]

Score	4

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39 Kelly has a metal sheet L with a circular cut-out. She set up an experiment below with sheet L.



(a) If Kelly wanted a bigger shadow on the screen, how should she move the screen? [1]

_____

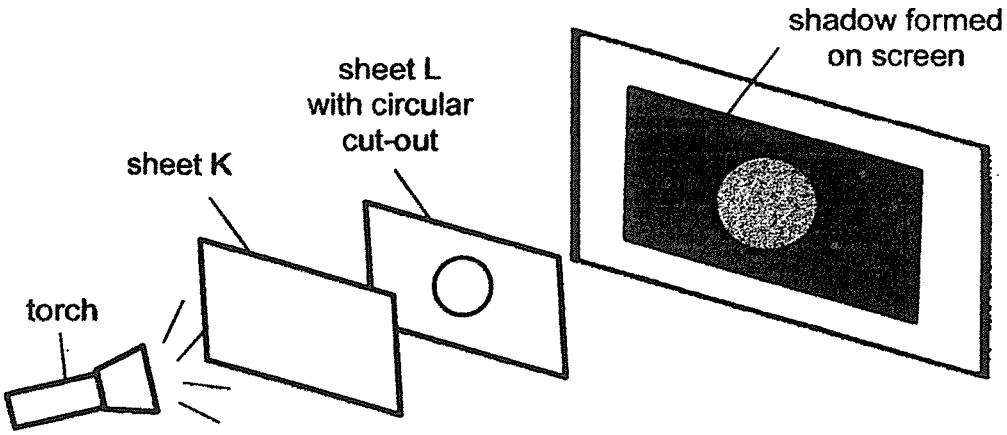
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(b) State the relationship between the distance of sheet L to the torch and the size of the shadow formed on the screen. [1]

_____

_____

Kelly then placed sheet K in front of sheet L as shown below.



(c) Based on the shadow formed on the screen, state a property of sheet K. [1]

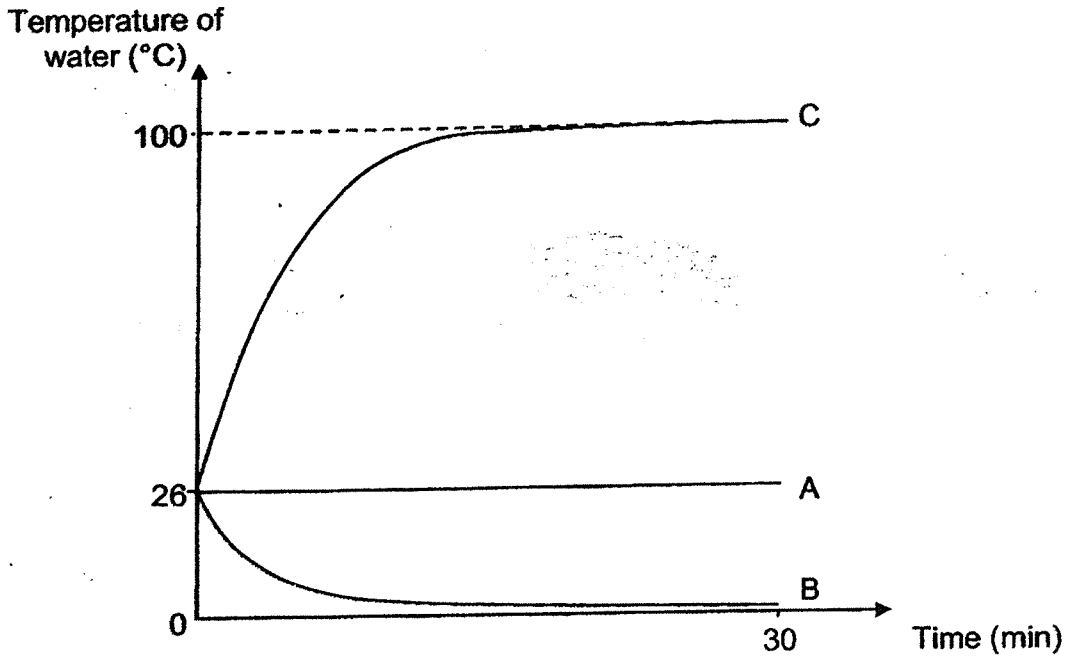
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Score	/ 3

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40 Elisha filled three identical bottles, A, B and C, with equal volume of water at room temperature and left them at three different locations in her home.

She then recorded how the temperature of the water changed over a period of 30 minutes and plotted the graph shown below.



(a) Based on the graph above, which bottle of water, A, B or C, has been left at room temperature in the kitchen? Give a reason for your choice. [1]

_____

_____

(b) Based on the graph above, which bottle could have been left in a fridge? Explain your answer in terms of heat transfer. [2]

_____

_____

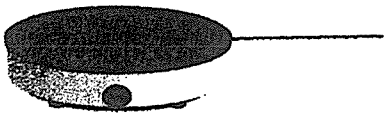
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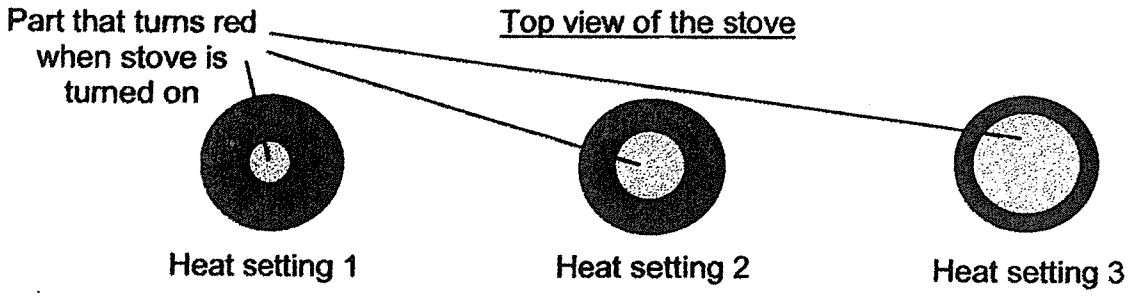
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41 The diagram below shows the new stove Davy bought.



It has three heat settings, 1, 2 and 3, that Davy can use to cook her food.

When the stove is turned on, the top part that produces heat will turn red as shown below in the top view of the stove.



The table below shows the time taken for Davy to boil 800 ml of water in a pot using the stove under the different heat settings.

Heat setting	1	2	3
Surface area of the part that turns red (cm^2)	9	25	50
Time taken to boil 800 ml of water (minutes)	12	9	4

(a) What is the relationship between the surface area of the red part and the time taken to boil 800 ml of water? [1]

_____

_____

(b) Explain why the time taken to boil 800 ml of water is the shortest when the heat setting is at 3. [2]

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End of Booklet B

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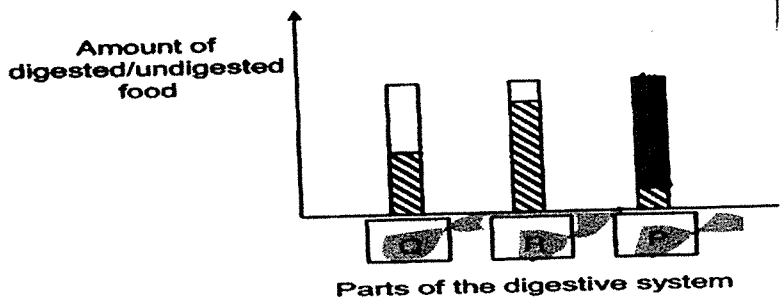
ANSWER KEY

YEAR : 2021
LEVEL : PRIMARY 4
SCHOOL : NAN HUA PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : TERM 4 PRACTICE

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

Q29	a)	P is a living thing
	b)	Q is a non-living thing
	c)	Characteristic 1: It has six legs
		Characteristic 2: It has three body parts
Q30	a)	S: egg
		T: pupa
	b)	adult
Q31	a)	magnet
	b)	attracts
	c)	Iron
Q32	a)	blocked
	b)	draw "■"
	c)	Light travels in straight lines, not curved lines. Thus, the light from the candle flame could not reach his eyes.

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Q33	a)	thermometer
	b)	24°C
	c)	It is a measurement of degree of hotness of an object
Q34		
	b)	The digested food gets absorbed into the bloodstream
	c)	Chewing helps to cut the food into smaller pieces, increasing the amount of exposed surface area in contact with the digestive juices, increasing the rate of digestion.
Q35	a)	The number of 10kg weight that caused the rope to break.
	b)	Rope B. It could hold the most 10kg weights before breaking, thus it is the strongest rope to support his body weight during mountain climbing.
Q36	a)	The size of the magnet
	b)	Repeat the experiment at least 3 times and calculate average mass of weight for each magnet.
	c)	Magnet Y. As it is the strongest magnet, and it's magnetic force is the strongest. The rest of the magnet has weaker magnetic force than Y.
Q37	a)	Solids have a definite shape and have mass
	b)	$200cm^3$
	c)	No. If only part of the stone was in the water, it would not displace less of water.

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Q38	a)	The water took up space in the bottle as water does not have a definite volume.
	b)	$500cm^3$
	c)	Yes. Air is a matter and matter have mass
Q39	a)	Move sheet L closer to the torch
	b)	As the distance between Sheet L and the torch decreases, the shadow formed on the screen increase.
	c)	It allows some light to pass through.
Q40	a)	Bottle A. the temperature did not change
	b)	Bottle B. As the fridge temperature is below room temperature, and it lose its heat to the fridge surroundings.
Q41	a)	As the surface area that turns red increase, the time taken to boil 800 ml of water decreases.
	b)	The surface area is bigger means more heat is able to transfer to it. Therefore, it will take lesser time to boil the water.

END

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