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SA2

ST JOSEPH'S INSTITUTION JUNIOR

END-OF-YEAR EXAMINATION
2024
PRIMARY 4 SCIENCE

BOOKLET A

NAME : _____ ( )

CLASS: PR 4 ( )

28 Questions

56 Marks

Parent's / Guardian's Signature

This booklet consists of 29 printed pages

Instructions to candidates

- Follow all instructions carefully.
- Answer all questions.
- Shade the answers in the Optical Answer Sheet (OAS) provided.
- You are allowed **1h 45 min** to answer all the questions in both Booklets A and B.

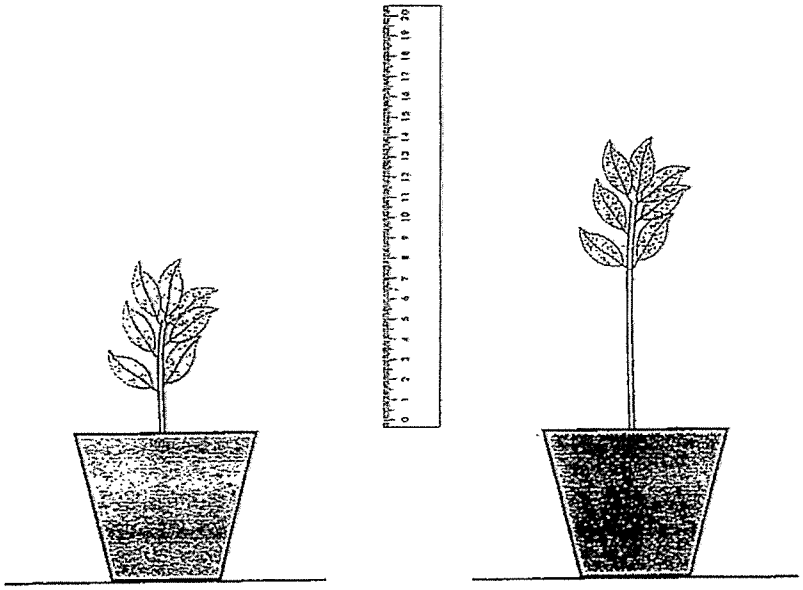
BOOKLET	MARKS	
	POSSIBLE	ACTUAL
A	56	
B	44	
TOTAL	100	

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Section A [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) and shade your answer in the Optical Answer Sheet (OAS).

1 Peter found a plant in the garden and measured its height.



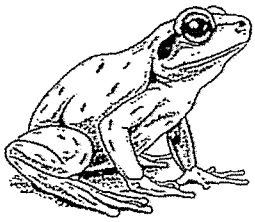
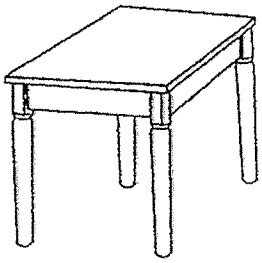
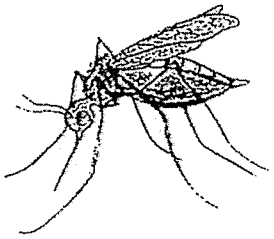
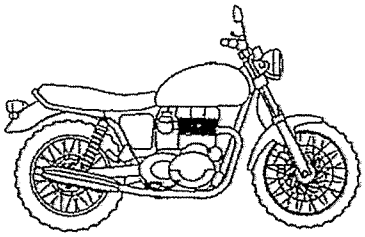
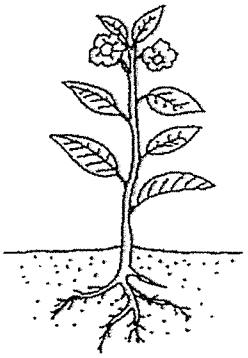
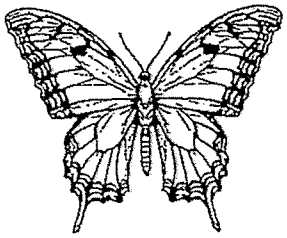
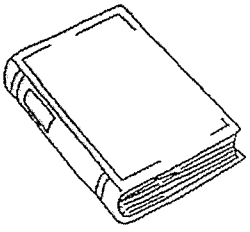
At the start

At two weeks

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

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

2 Which pair of living things is not classified correctly?

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

3 Sam made the following observations on the life cycle of an animal.

- There are four stages in the life cycle.
- The young does not look like the adult.

Which animal was Sam observing?

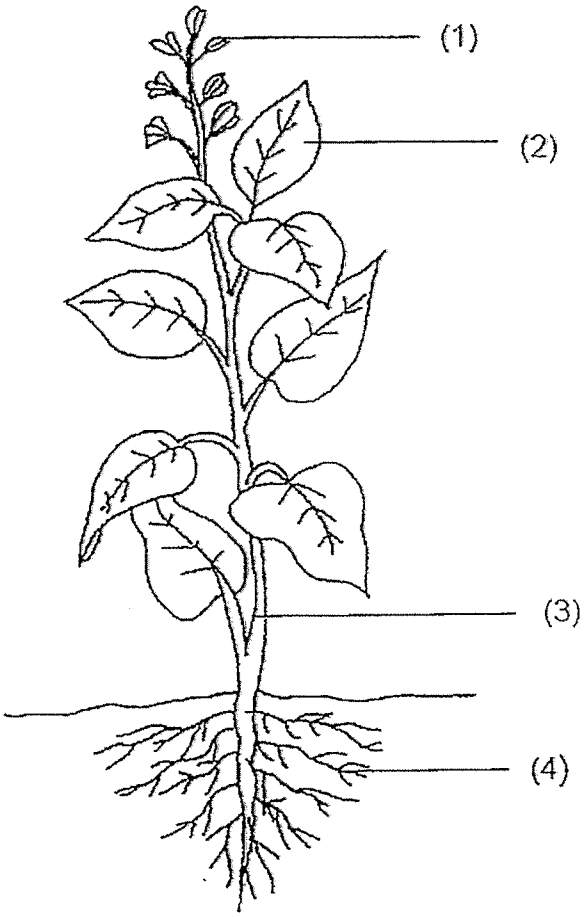
(1) frog

(2) cockroach

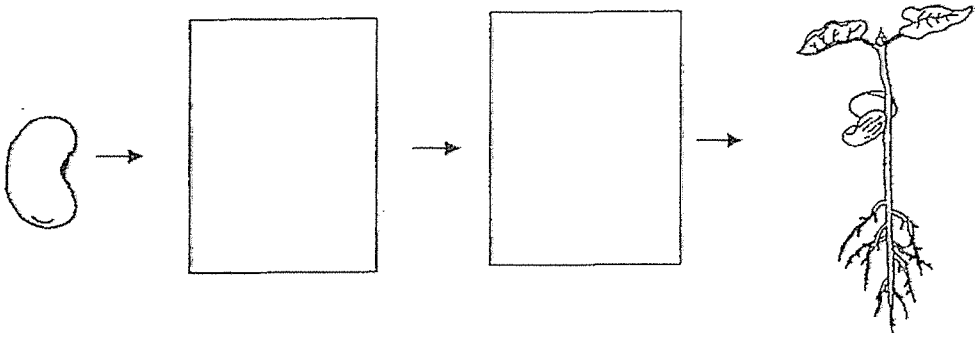
(3) grasshopper

(4) mosquito

4 Study the diagram carefully. Which part (1), (2), (3) or (4), supports the plant?



5 The diagram below shows the growth of a young plant with two missing stages P and Q.

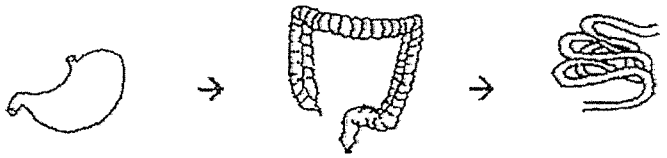


P Q

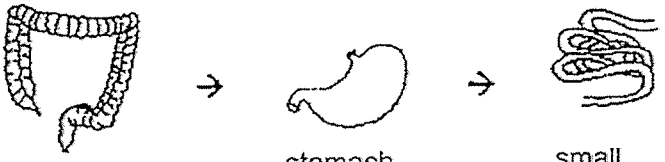
Which one of the following shows the correct stages for P and Q?

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

6 Which one of the following shows the correct order when food moves through some parts of the human digestive system?

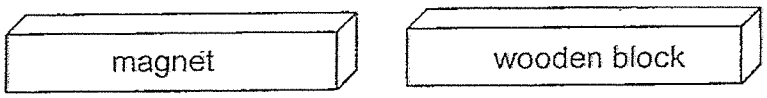
(1) 

(2) 

(3) 

(4) 

7 The diagram shows a magnet brought near a wooden block.



What will happen to the wooden block?

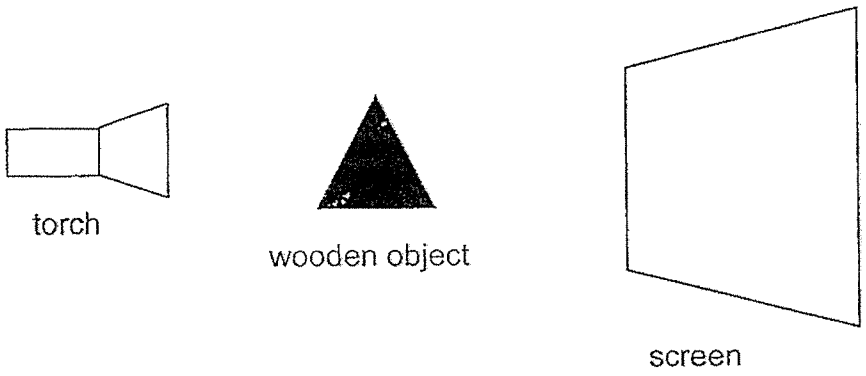
(1) It will not move.

(2) It will move upwards.

(3) It will move towards the magnet.

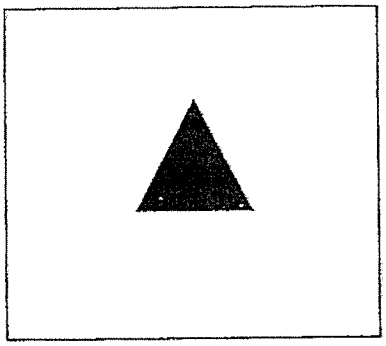
(4) It will move away from the magnet.

8 The set-up below shows light shining on a wooden object.

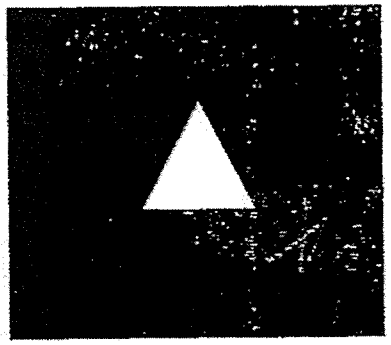


Which one of the following would likely be seen on the screen?

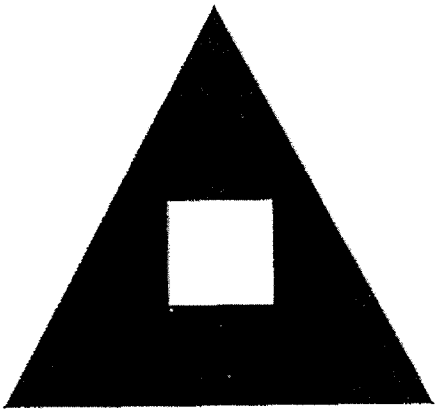
(1)



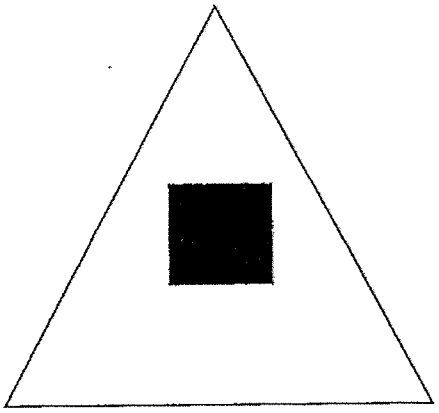
(2)



(3)



(4)



9 Which one of the following is **not** a source of heat?

(1) The Sun

(2) A woollen cap

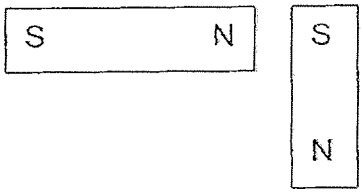
(3) A lighted bulb

(4) A candle flame

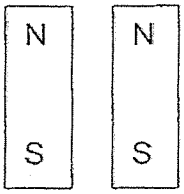
10 In which one of the following will the two magnets push each other away?

(1)

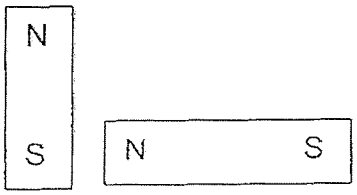
(2)



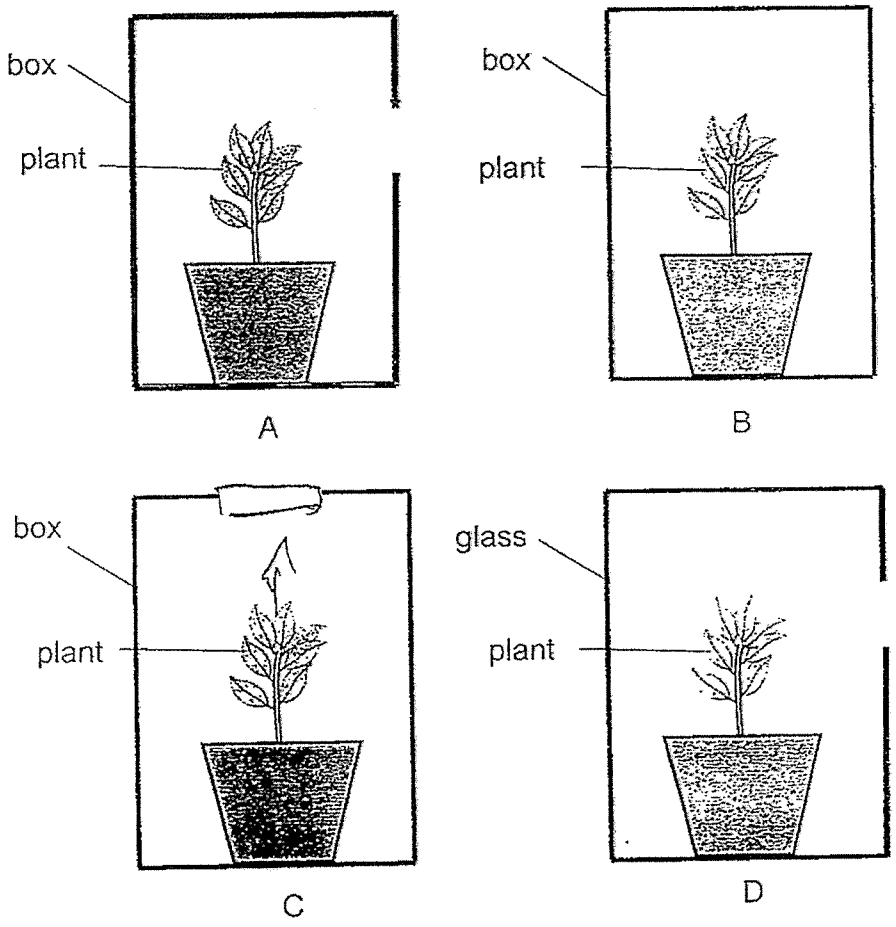
(3)



(4)



11 Xun Yuan wanted to conduct an experiment to find out if living things respond to changes.



Which two set-ups, A, B, C or D, should he choose to carry out a fair test?

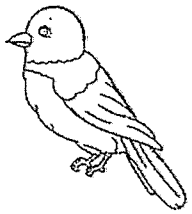
(1) A and B only

(2) B and C only

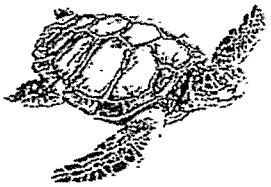
(3) A and C only

(4) B and D only

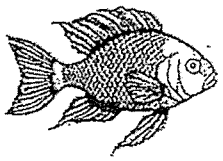
12 Study the classification chart and the three animals, A, B and C.



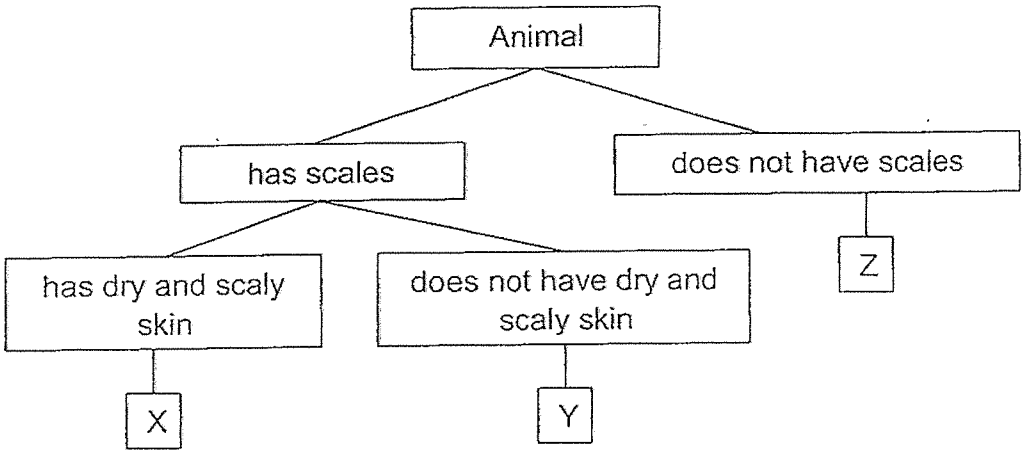
A



B



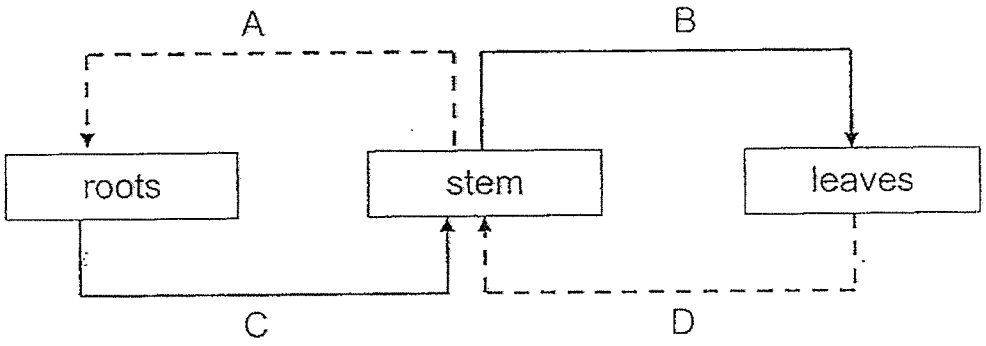
C



Which of the following animals A, B and C are best represented by X, Y and Z?

	X	Y	Z
(1)	B	C	A
(2)	A	B	C
(3)	B	A	C
(4)	C	B	A

13 The diagram below shows three parts of a plant.



Which of the following pairs of arrows show the correct direction of movement of water?

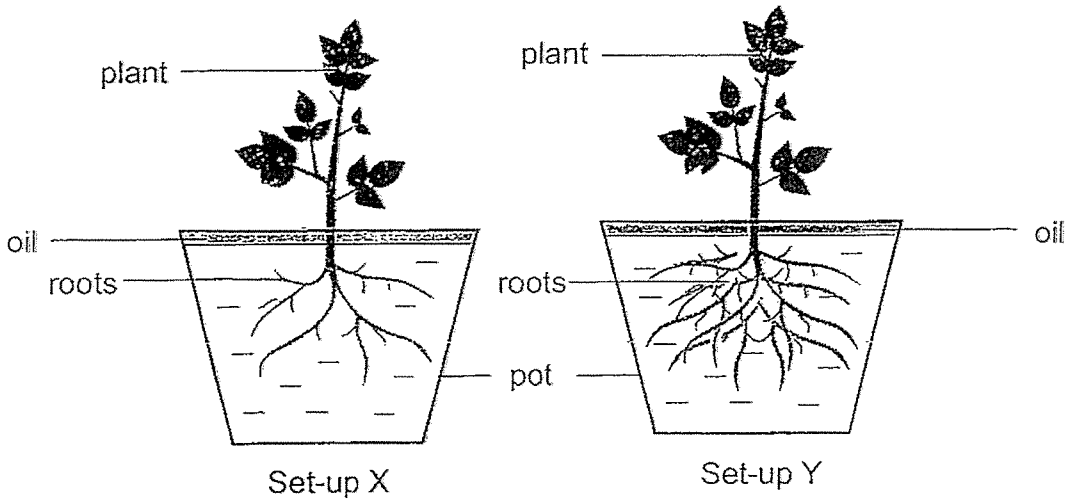
(1) A and B

(2) B and C

(3) A and D

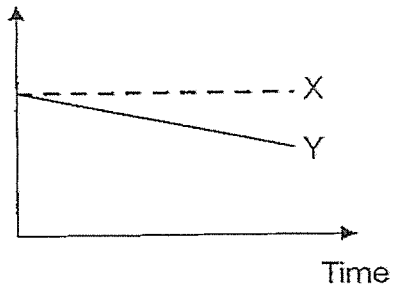
(4) C and D

14 Thomas prepared two set-ups, X and Y, as shown in the diagram. He used the same amount of water and placed them in the sun for one day.

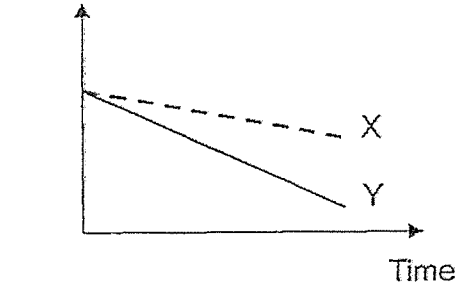


Which of the following correctly shows the amount of water left in the pot after one day?

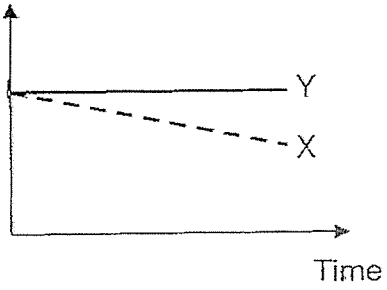
(1)



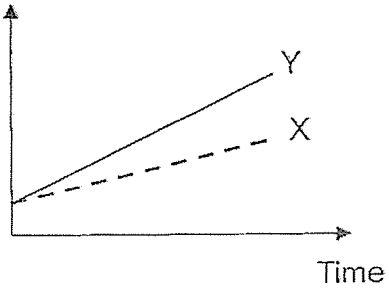
(2)



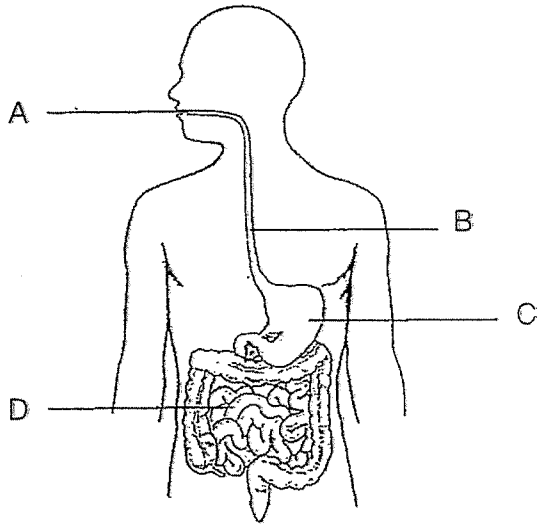
(3)



(4)

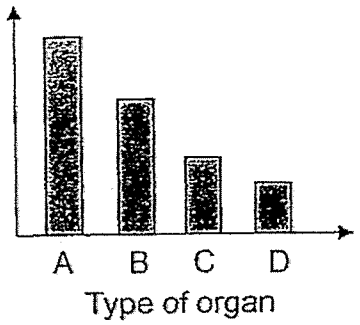


15 The diagram below shows the human digestive system.

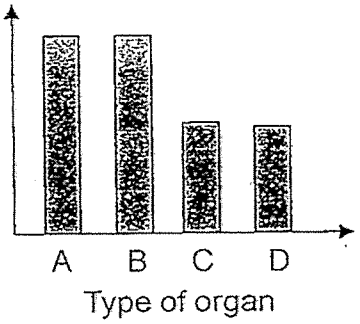


Which one of the following graphs shows the amount of undigested food leaving organ A, B, C and D after he consumed a burger?

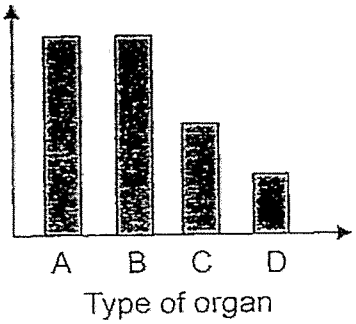
(1)



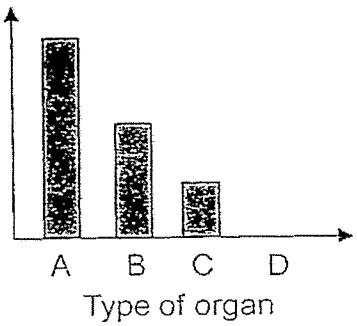
(2)



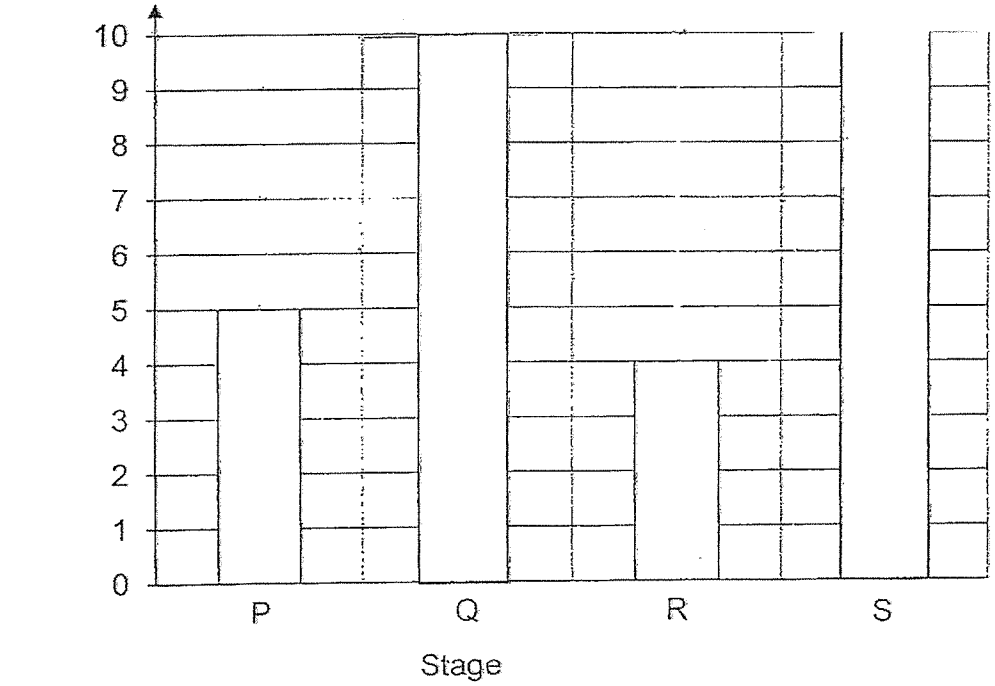
(3)



(4)



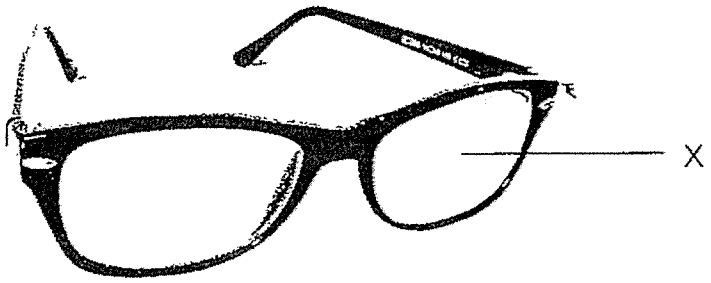
16 Tanay kept four insects of the same species but at different stages of its life cycle, P, Q, R and S in four containers. He placed 10 g of food in each container and recorded the amount of food left in each container after three days. The bar graph shows the results of his experiment.



What stages of the life cycle of the insect are P, Q, R and S?

	Egg	Larva	Pupa	Adult
(1)	P	Q	R	S
(2)	S	Q	R	P
(3)	P	S	Q	R
(4)	Q	R	S	P

17 The diagram below shows a pair of spectacles.



Which one of the following shows the property for part X?

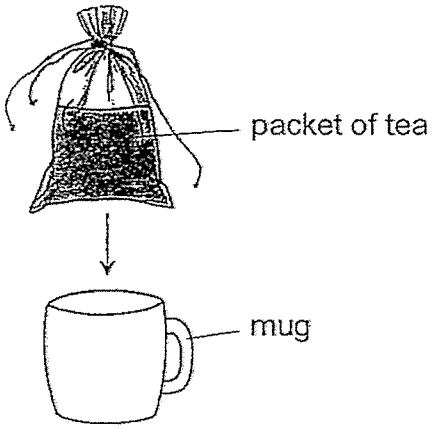
(1) flexibility

(2) waterproof

(3) transparency

(4) ability to float

18 Jenny placed a packet of tea into a mug. None of the tea overflowed the mug.



Which of the following is correct?

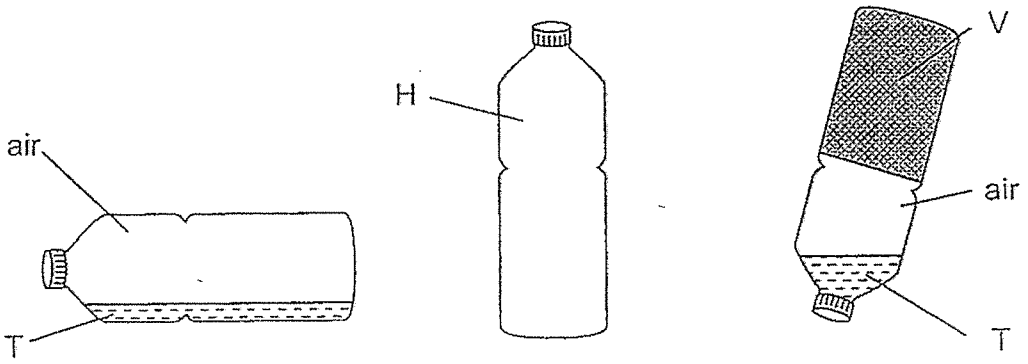
(1) The shape and the volume of the tea changed.

(2) The shape and the volume of the tea remained the same.

(3) The volume of the tea changed but the shape remained the same.

(4) The shape of the tea changed but the volume remained the same.

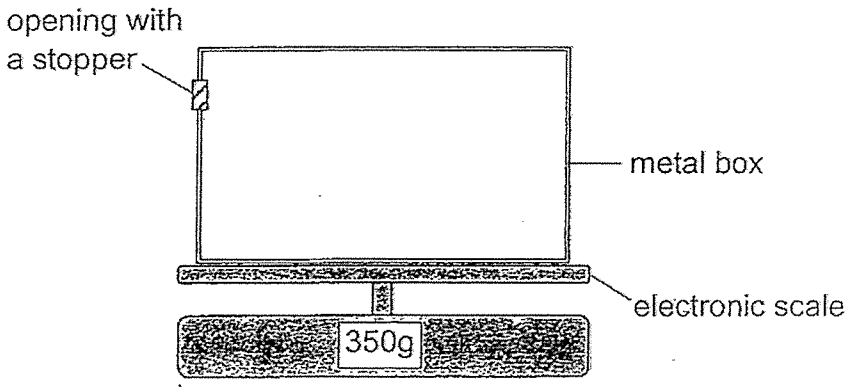
19 The diagram below shows three substances, T, H and V. They were placed in three identical bottles.



Based on the diagrams, which of the following is definitely correct?

(1) H has a definite shape and volume.
(2) T is a solid and takes the shape of its container.
(3) V has a definite volume and cannot be compressed.
(4) V has the largest volume among the three substances.

20 A metal box containing 500cm^3 of air was placed on an electronic scale as shown in the diagram below.

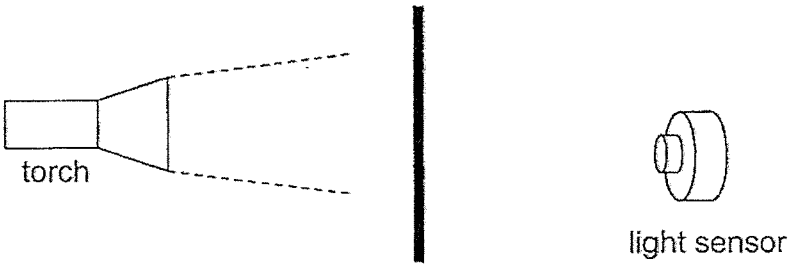


Another 150cm^3 of air was pumped into the tank through the opening.

Which of the following correctly shows the changes in the mass and volume of air in the tank?

	Volume of air (cm^3)	Mass of air (g)
(1)	increase	remain the same
(2)	increase	increase
(3)	remain the same	remain the same
(4)	remain the same	increase

21 The set-up below was placed in a dark room.



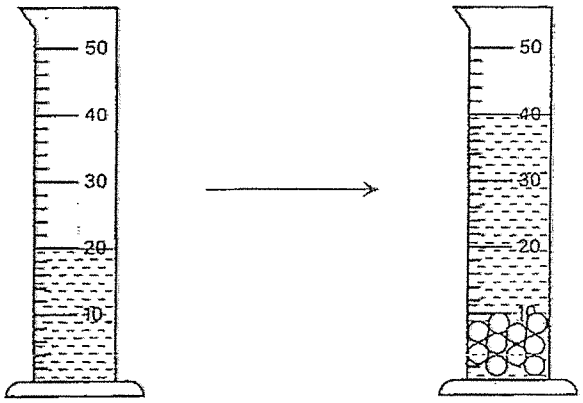
Eric placed materials J, K and L, one at a time, between the torch and the light sensor. The amount of light detected by the light sensor is shown below.

Material	Amount of light detected (units)
None	100
J	45
K	0
L	100

Which of the following is correct?

	Light is unable to pass through	Light is able to pass through
(1)	J and L	K
(2)	J and K	L
(3)	L	J and K
(4)	K	J and L

22 Tony prepared the set-up below to find the volume of some marbles. He poured some water into a measuring cylinder and placed 10 identical marbles into the measuring cylinder.



Based on Tony's experiment, which of the following is correct?

A Marbles occupy space.

B Water has no definite volume.

C The volume of each marble is $2cm^3$.

(1) A only

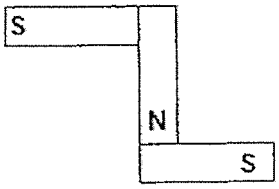
(2) B only

(3) A and C only

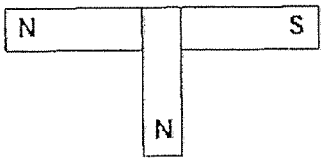
(4) A, B and C

23 Study the diagrams below. Each set-up is made up of a few magnets.

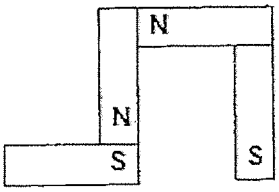
(A)



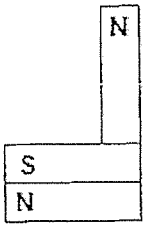
(B)



(C)



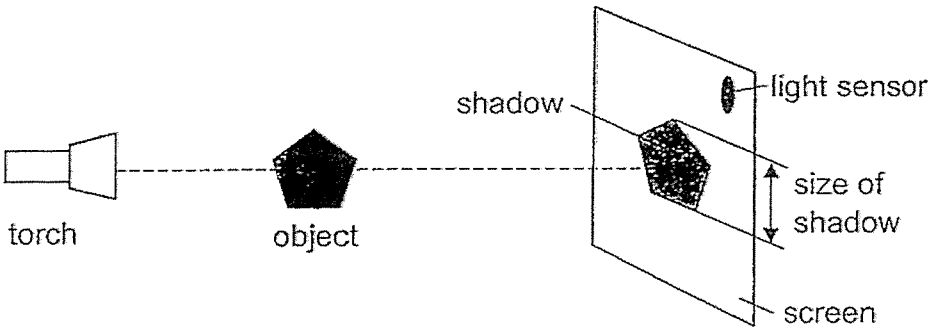
(D)



Which of the following diagrams show possible arrangements of bar magnets?

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

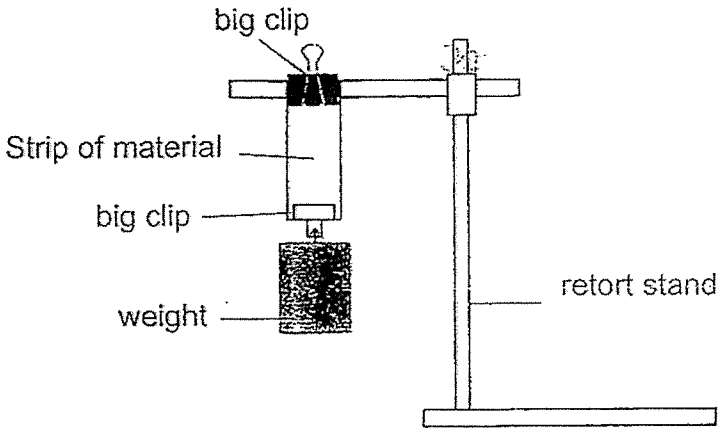
24 Ridwan set up the following experiment in a dark room. A light sensor was attached to the screen and recorded a reading of 100 units.



What should Ridwan do to get the smallest possible shadow, and what would the reading on the light sensor be?

	Action	Light Sensor Reading (units)
(1)	Move the torch closer to the object	150
(2)	Move the torch away from the object	50
(3)	Move the screen closer to the object	50
(4)	Move the screen away from the object	150

25 Mr. Tan conducted an experiment to test the strength of four different materials, P, Q, R and S. The strips are of the same thickness and length.



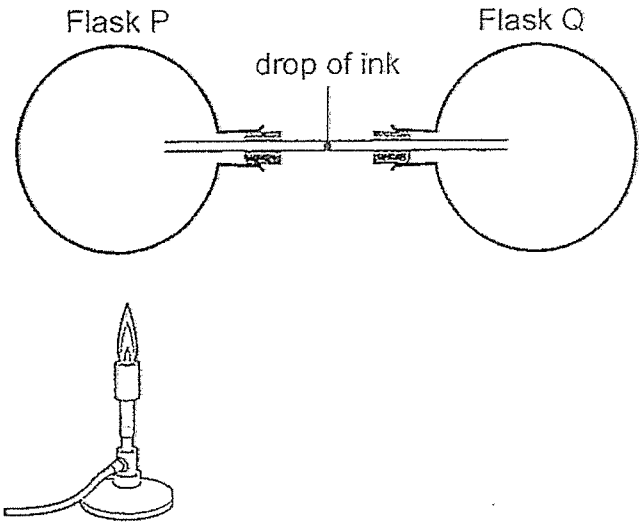
Mr. Tan increased the number of weights until each strip broke. His results are shown below.

	Number of weights taken for the strip of material to break		
Strip of Material	1st trial	2nd trial	3rd trial
P	10	8	9
Q	15	17	18
R	4	6	5
S	8	6	7

Arrange the materials from the strongest to the weakest.

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

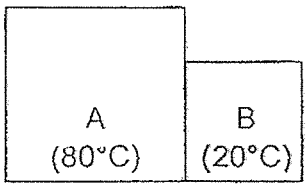
26 The diagram below shows two flasks connected by a glass tube containing a drop of ink.



Which of the following shows the correct observation after 5 minutes?

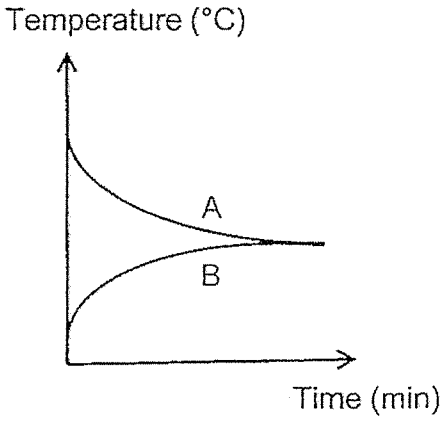
	Movement of the drop of ink	Direction of heat transfer
(1)	towards flask P	from the surrounding air to the ink
(2)	towards flask P	from the flame to the air in flask Q
(3)	towards flask Q	from the surrounding air to the ink
(4)	towards flask Q	from the flame to the air in flask P

27 Kelly placed two metal blocks, A and B, next to each other. The diagram below shows the temperature of the two blocks at the start of the experiment.

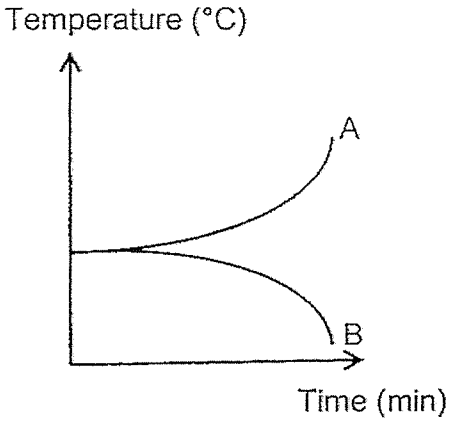


Which of the following graphs correctly shows the change in the temperature of blocks A and B after some time?

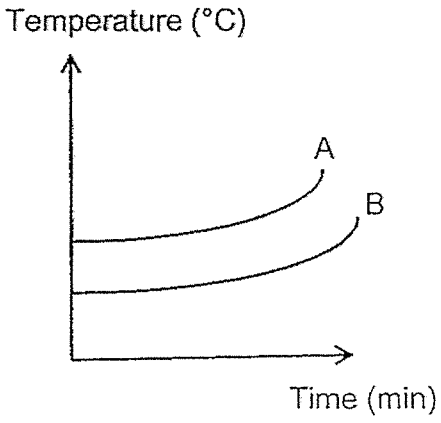
(1)



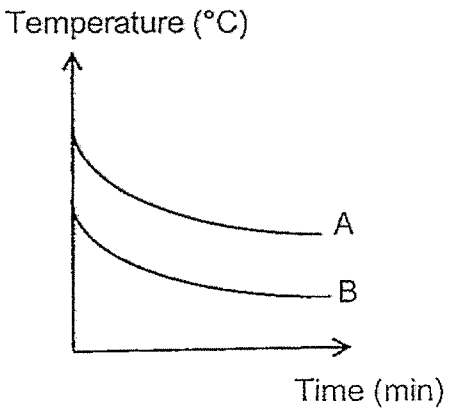
(2)



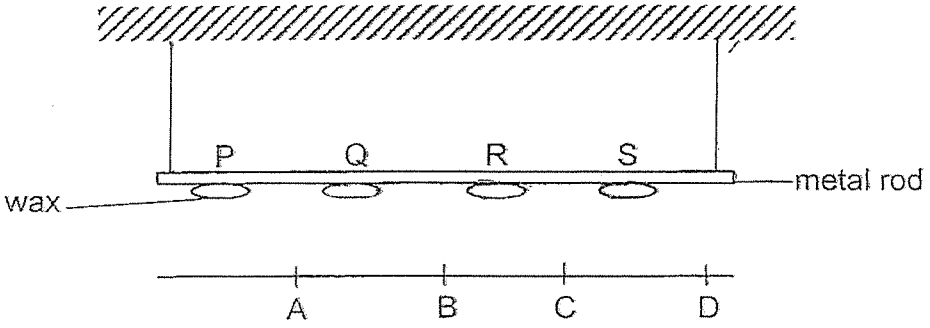
(3)



(4)



28 The diagram below shows a metal rod hung from the top. Four similar pieces of wax, P, Q, R and S, were attached on the metal rod.



A flame was placed under the metal rod and the wax pieces started melting. The time taken for each piece of wax to completely melt is shown in the table below.

Wax	Time taken to completely melt (s)
P	35
Q	13
R	10
S	26

Based on the above information, at which position, A, B, C or D, was the flame placed?

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

End of Booklet A

ST JOSEPH'S INSTITUTION JUNIOR
END-OF-YEAR EXAMINATION
2024
PRIMARY 4 SCIENCE

BOOKLET B

NAME: _____ ( )

CLASS: PR 4 ( )

13 Questions

44 Marks

Parent's / Guardian's Signature

This booklet consists of 20 printed pages

Instructions to candidates

- Follow all instructions carefully.
- Answer all questions.
- Write your answers in this booklet.
- You are allowed **1 h 45 min** to answer all the questions in both **Booklets A and B.**

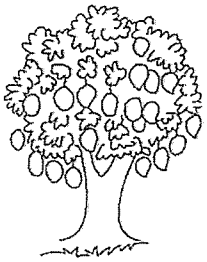
BOOKLET	MARKS	
	POSSIBLE	ACTUAL
A	56	
B	44	
TOTAL	100	

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Section B [44 marks]

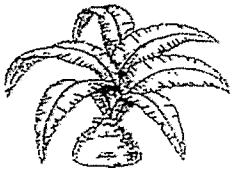
Write your answers to Questions 29 to 41 in the spaces provided

29 Classify the following living things into animals and plants. [2]



mango tree

dog



fern

penguin

Animals	Plants

(Go on to the next page)

SCORE	/ 2

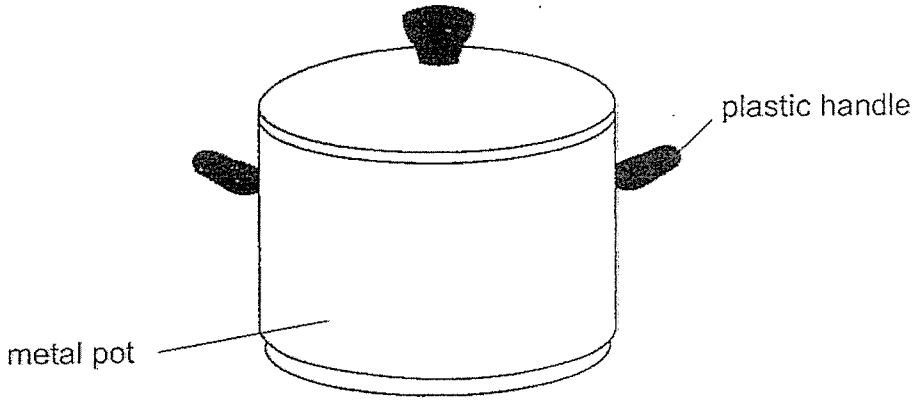
30 Draw a line to match each part of the digestive system to its function. [3]

Part	Function
mouth	pushes food down from the mouth to the stomach
large intestine	absorbs digested food into the blood
small intestine	absorbs water from the undigested food
	chews the food into smaller pieces and mixes with the saliva

(Go on to the next page)

SCORE	3

31 The diagram below shows a pot.



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

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

(Go on to the next page)

SCORE	/2

32 P and Q are stages in the life cycle of a butterfly.

P

Q

Choose the correct words from the box to answer the questions below.

eats	pupa	larva	reproduces

(a) Name stages P and Q. [2]

P: _____

Q: _____

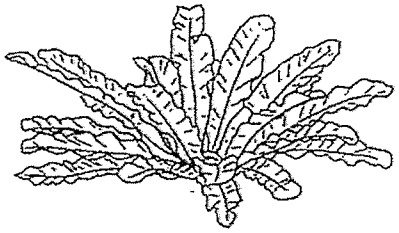
(b) At stage Q, it _____ a lot. [1]

(Go on to the next page)

SCORE	/ 3

33 Study the following plants, X and Y, as shown below.

Plant X



Plant Y

(a) Based on the observable characteristics, state one difference between plant X and Y. [1]

_____

_____

(b) State how plants X and Y reproduce. [1]

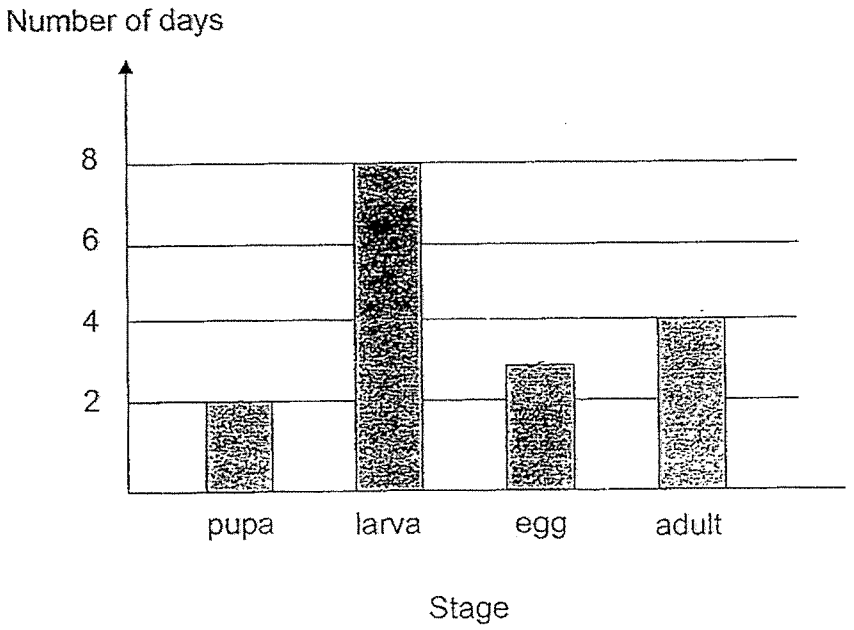
_____

_____

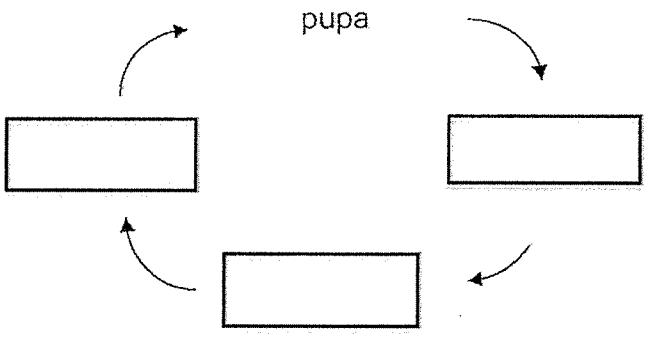
(Go on to the next page)

SCORE	/ 2

34 Tate observed the life cycle of mosquito. The number of days for each stage was recorded. The stages are not arranged in order and he drew a graph as shown below.



(a) Write the stages of the life cycle of a mosquito in the correct order. [2]



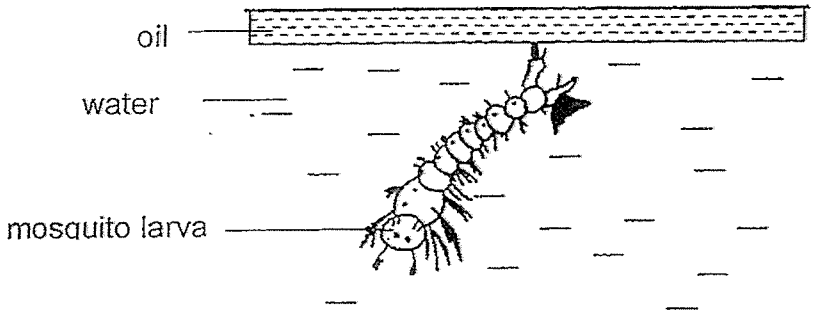
(b) Based on the information from the above graph, how many days does it take for the mosquito to become an adult after the egg was hatched? [1]

_____ days

(Go on to the next page)

SCORE	/ 3

(c) Tate sprayed some oil on the water where he found some mosquito larvae in a pail of water.



State another way that Tate can do to stop the mosquito from breeding.

[1]

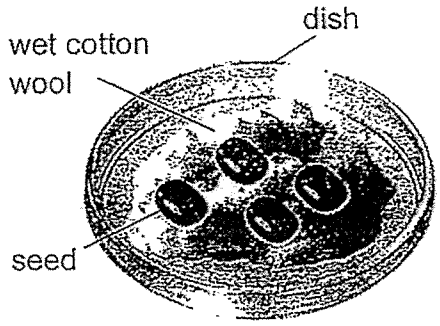
_____

_____

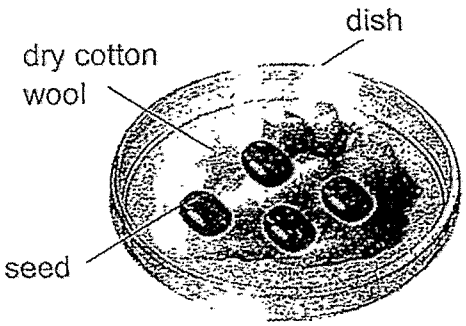
(Go on to the next page)

SCORE	
	1

35 Aniq set up an experiment as shown in the diagram.



set-up A



set-up B

(a) In which set-up, A or B, will the seeds grow? [1]

_____

_____

(b) What was Aniq trying to find out from his experiment? [1]

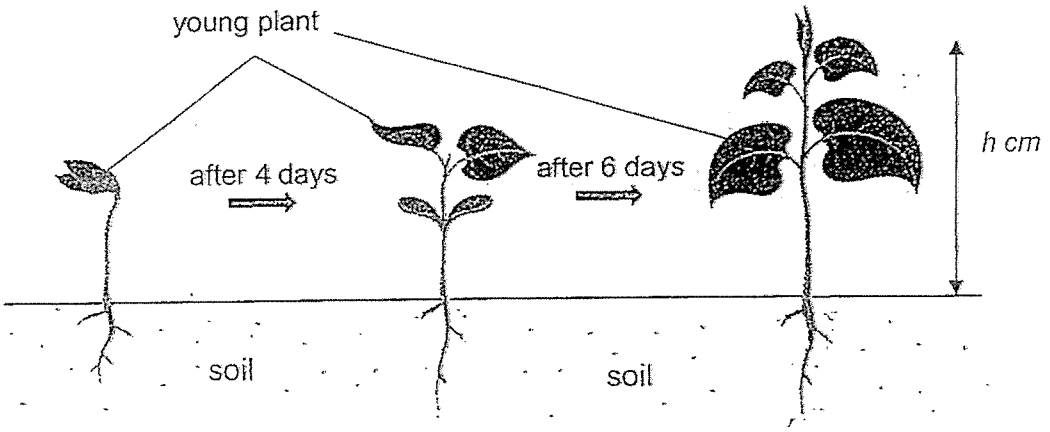
_____

_____

(Go on to the next page)

SCORE	/ 2

After the seeds had grown into young plants, Aniq planted the young plants in the soil. He then measured the height, *h* cm, of the young plant as shown below over a period of time.



The table below shows the changes in the height of the young plant.

Number of days	2	4	6	8	10
Height of the young plant, *h* cm	1	3	4	5	7

(c) What is the relationship between the height of the young plant and the number of days? [1]

_____

_____

(d) What characteristic of living things does the young plant above show?[1]

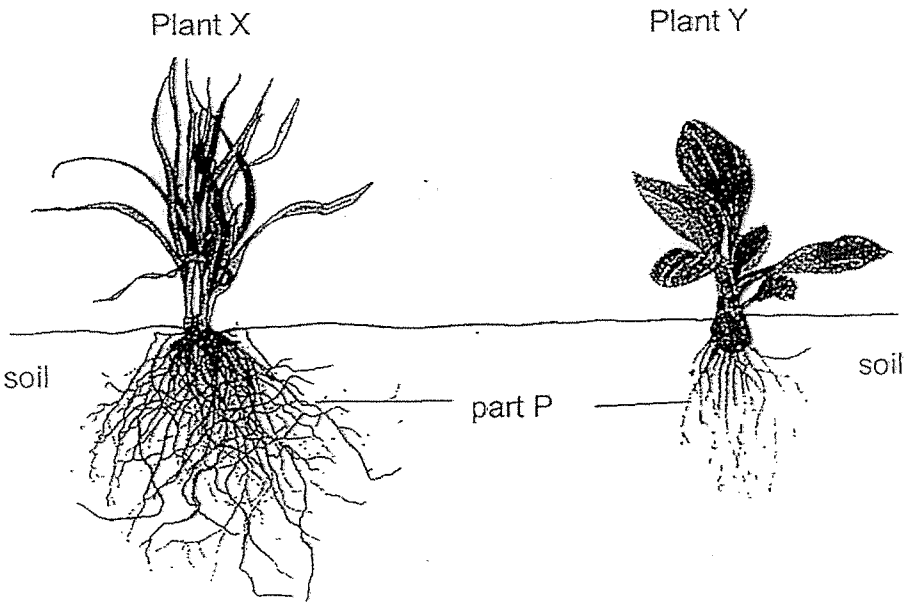
_____

_____

(Go on to the next page)

SCORE	/ 2

36 Mei Fong planted plants, X and Y, in similar soil as shown below.



(a) State one function of part P. [1]

_____

_____

(b) Mei Fong decided to change the location of the plant. She found that plant X was more difficult to pull out of the ground compared to plant Y. Explain her observation. [2]

_____

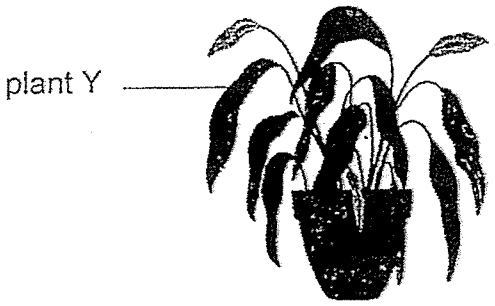
_____

_____

(Go on to the next page)

SCORE	/ 3

(c) Mei Fong planted plant Y in a pot and watered it daily. After some time, she observed that the leaves turned yellow as shown below.



She found many insects eating the roots of plant and after some time, plant Y died. Explain why. [1]

_____

_____

(Go on to the next page)

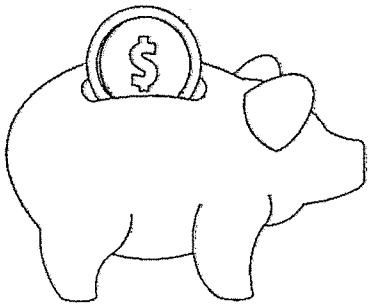
SCORE	
	1

37 (a) State what is matter. [1]

_____

_____

Matthew had some one-dollar coins. He placed the coins into a piggy bank, as shown below, until no more coins could go into the piggy bank.



Matthew said that there was no more space left in the piggy bank.

(b) Do you agree with Matthew? Explain your answer. [1]

_____

_____

Matthew was given some water.

(c) Using the water, describe one way to find the volume inside the piggy bank. [2]

_____

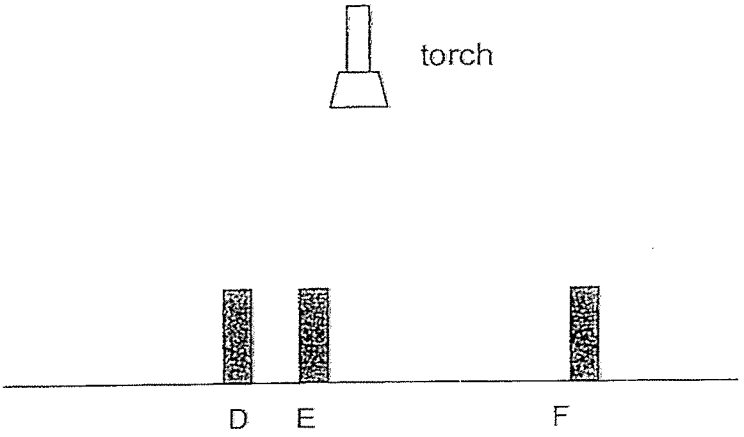
_____

_____

(Go on to the next page)

SCORE	/ 4

38 The diagram below shows a set-up using a torch and three similar wooden sticks, D, E and F. When the torch was turned on, the length of the shadow cast by each stick was measured.

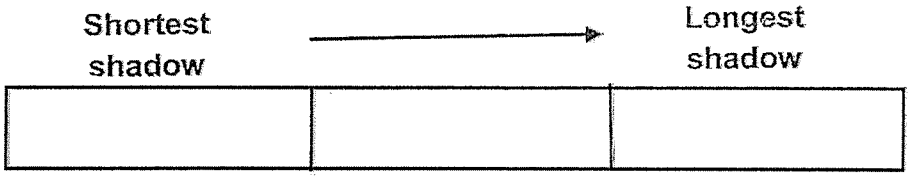


(a) State two properties of light that enable shadows to be formed. [2]

(i) _____

(ii) _____

(b) In the boxes below, arrange the lengths of the shadow cast by the three sticks, D, E and F, starting with the shortest. [1]



(c) Without changing the position of stick D, suggest one way to increase the length of the shadow cast by it. [1]

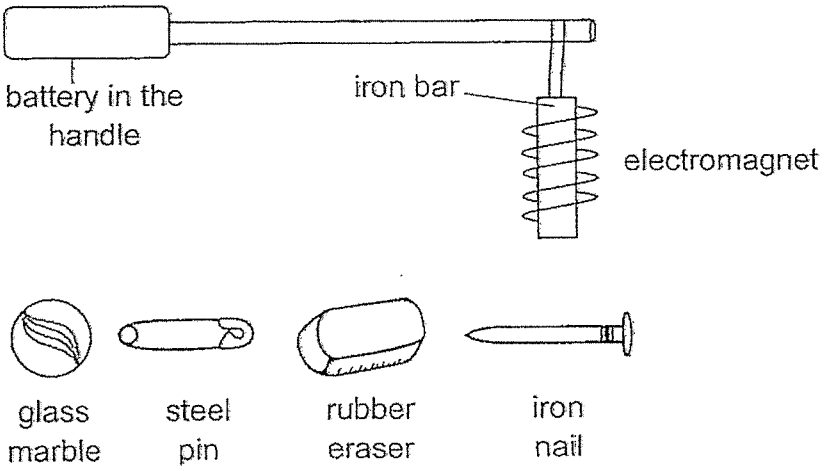
_____

_____

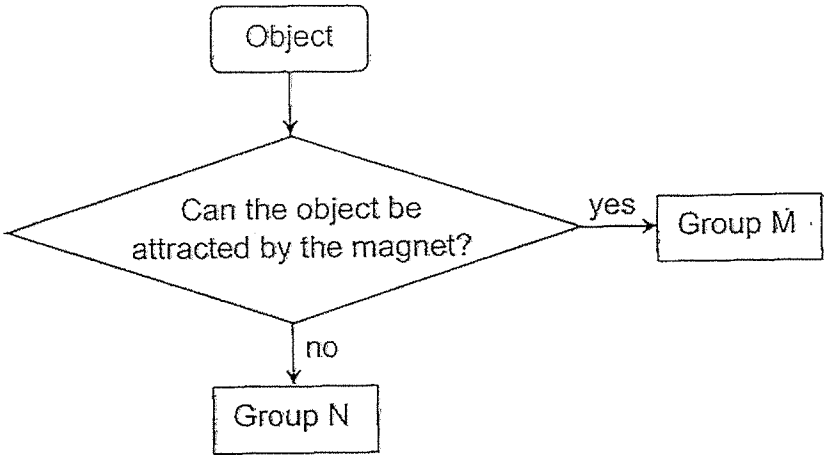
(Go on to the next page)

SCORE	4

39 Geraldine made a toy using a stick with an electromagnet attached to the end. When the electromagnet was switched on, she moved the magnet over several objects and noticed that some of them were attracted by the magnet.



She grouped the objects into two groups as shown in the diagram below.



(a) Fill in the table below by: [2]

(i) giving a suitable heading for Groups M and N

(ii) classifying the objects into their respective groups

Group M: (i)	Group N: (i)
(ii)	(ii)

(Go on to the next page)

SCORE 2

(b) Geraldine wanted to be able to attract the objects from a further distance. State one change to her toy to allow her to do so. [1]

_____

_____

(c) Would the toy work if the iron bar was replaced with a plastic bar? Explain your answer. [1]

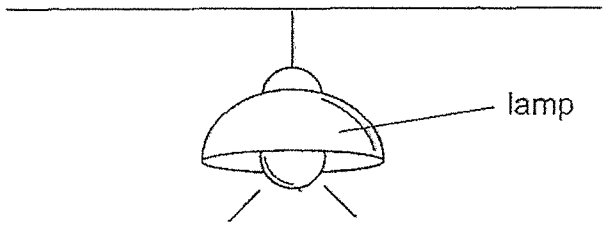
_____

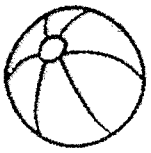
_____

(Go on to the next page)

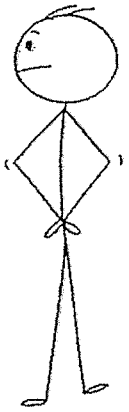
SCORE	/ 2

40 The diagram shows Twiggie seeing an object.





object



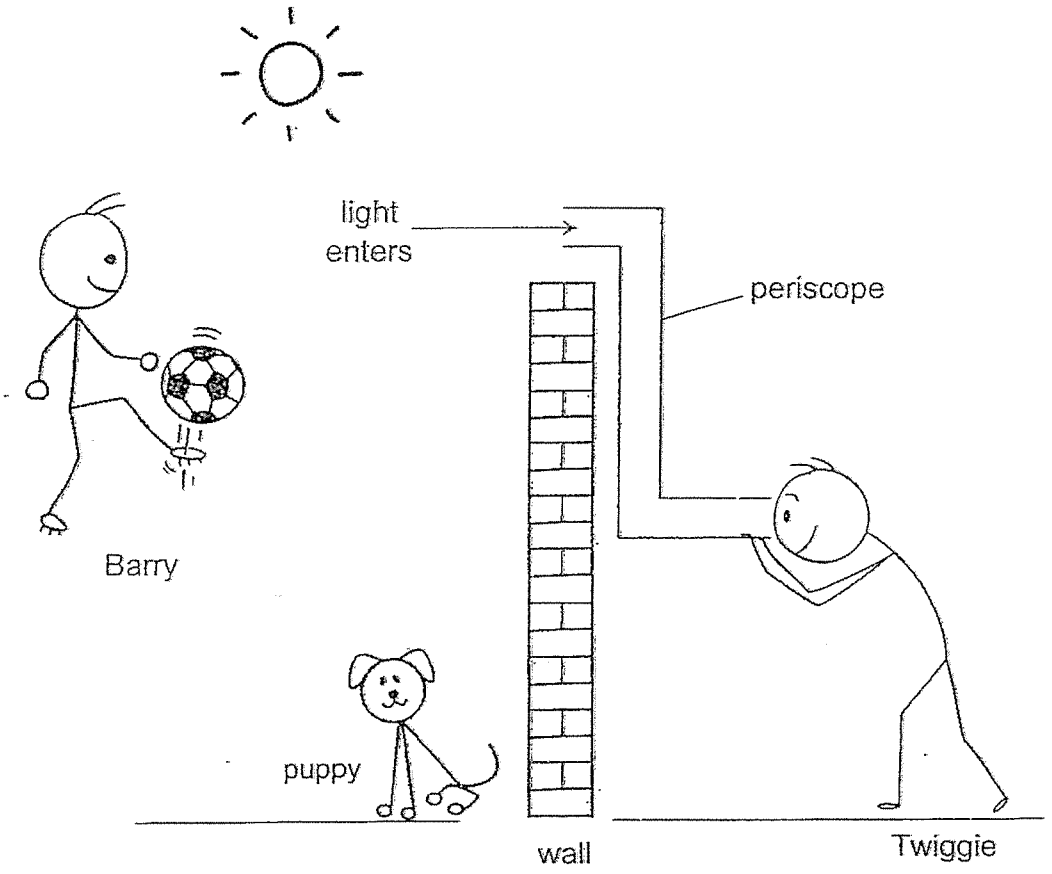
Twiggie

(a) **In the diagram above**, use pencil to draw light rays to show how Twiggie can see the object. [2]

(Go on to the next page)

SCORE	/ 2

Twiggie was unable to see over a high wall. He used a periscope which allowed him to see Barry on the other side of the wall. Light enters one end of the periscope. Two mirrors inside the periscope help to reflect the light into Twiggie's eyes.



(b) **In the diagram above**, draw two crosses (X) to indicate the positions of the two mirrors in the periscope. [1]

(c) Would Twiggie be able to see the puppy behind the wall? Give a reason for your answer. [1]

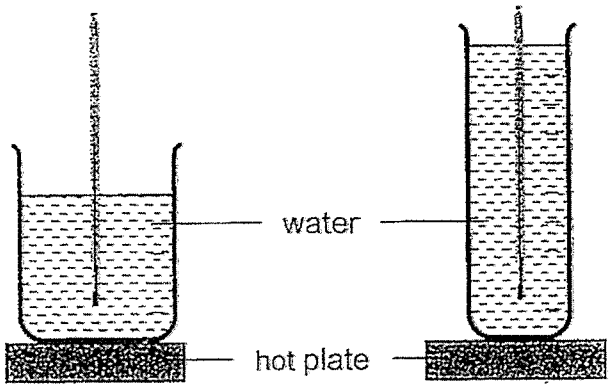
_____

_____

(Go on to the next page)

SCORE	/ 2

41 Jimin wanted to find out if the size of the beaker affects the time taken for water to boil. He set-up his experiment as shown below. The volume of water in both beakers is the same.



(a) In the list of variables below, put a tick (✓) in the correct boxes to ensure a fair test. [2]

	Variable to be changed	Variable to be measured	Variable that does not change
Temperature of the water at the start			
Temperature of the hot plate			
Time taken for the water to boil			
Size of the beakers			

(b) In which setup, X or Y, would the water boil first? Explain your answer. [2]

_____

_____

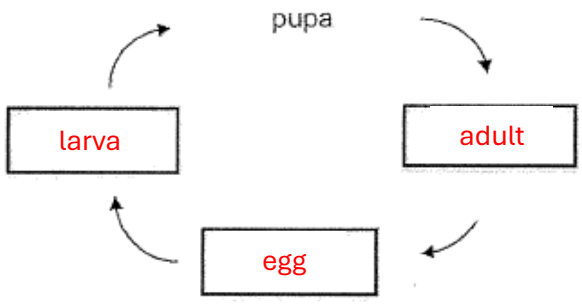
_____

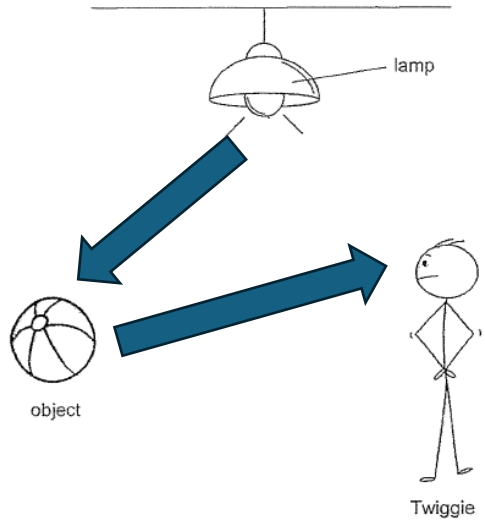
END OF PAPER

SCORE	/ 4

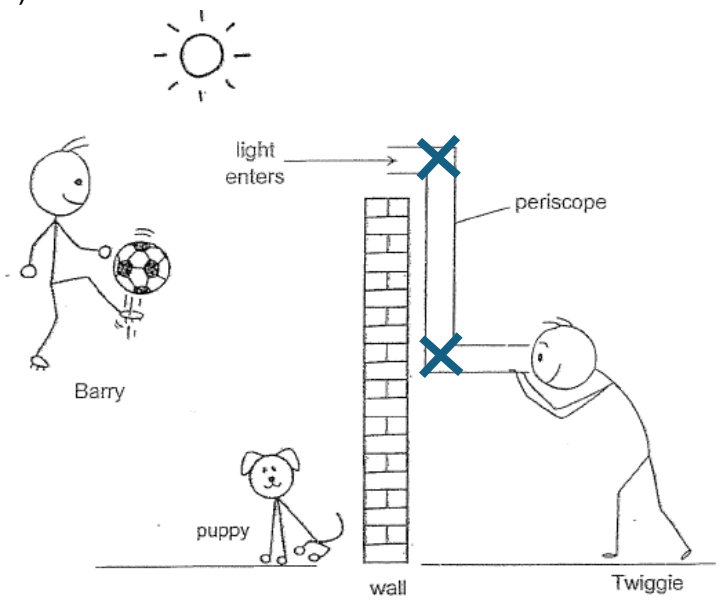
SCHOOL : ST JOSEPH'S INSTITUTION JUNIOR
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2024 END OF YEAR EXAMINATION

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

29	Dog Mango tree Penguin Fern
30	Mouth: chews the food into smaller pieces and mixes it with the saliva Large intestine: absorbs water from the undigested food Small intestine: absorbs digested food into the blood
31	good poor
32	a) P: pupa Q: larva b) eats
33	a) Plant X has flowers, but plant Y does not have flowers. b) Plant X reproduces by seeds and plant Y reproduces by spores.
34	a)  b) 10 c) Get rid of stagnant water
35	a) set-up A b) Aniq was trying to find out if seeds need water to germinate. c) As the number of days increases, the height of the young plant increases.

	d) living things can grow
36	a) Absorbs water and mineral salts b) plant X has more roots than plant Y and roots anchor the plant firmly on the ground so if the plant has more roots, Mei feng has to apply more pressure. Thus, it will be more difficult to pull out plant X. c) The roots absorb water and mineral salts and without it the plant will have no more water, it will die.
37	a) Matter is something that occupies space and has mass. b) No. Some air was still in the piggy bank, occupying space. c) Pour water into the piggy bank to the brim, pour the water in the piggy bank into a measuring cylinder without spilling to measure the amount of water.
38	a) (i) If light travels in a straight line (ii) light cannot be blocked by an opaque object. b) E, D, F c) Move the torch further away from stick D.
39	a) (i) Group M: magnetic material Group N: non-magnetic material a) (ii) steel pin rubber eraser iron nail glass marble b) add more batteries c) It would not work. Plastic is a non-magnetic material and cannot become an electromagnet.
40	a) 

b)



c) No. The light reflects off the puppy cannot enter Twiggie's eyes.

41 a)

	Variable to be changed	Variable to be measured	Variable that does not change
Temperature of the water at the start			✓
Temperature of the hot plate			✓
Time taken for the water to boil		✓	
Size of the beakers	✓		

b) X. The surface area of the beaker in contact with the hotplate was greater.