



### PRIMARY 4 MID-YEAR EXAMINATION 2014

Name : \_\_\_\_\_ (    )      Date: 19 May 2014  
Class : Primary 4 (    )      Time: 8.00 a.m – 9.30 a.m.  
Duration: 1h 30min  
Parent's Signature : \_\_\_\_\_      Marks: \_\_\_\_\_ / 60

## **SCIENCE BOOKLET A**

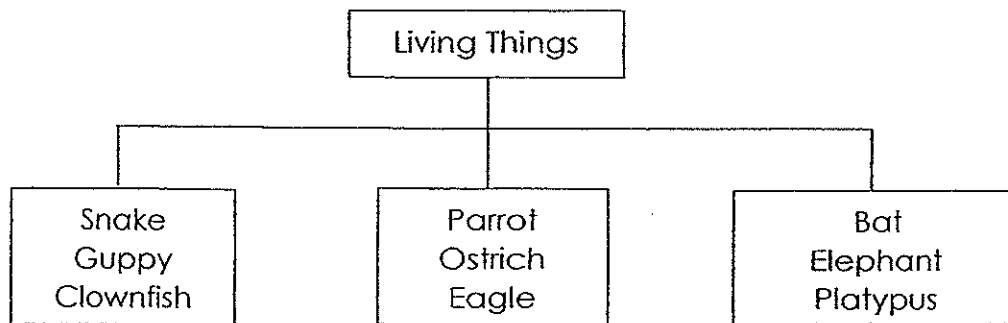
### INSTRUCTIONS TO CANDIDATES

- Write your name, register number and class.
- Do not turn over this page until you are told to do so.
- Follow all instructions carefully.
- Answer all questions.

Section A (30 x 2 marks)

For each question, choose the most suitable answer and shade its corresponding oval (1, 2, 3 or 4) on the optical answer sheet.

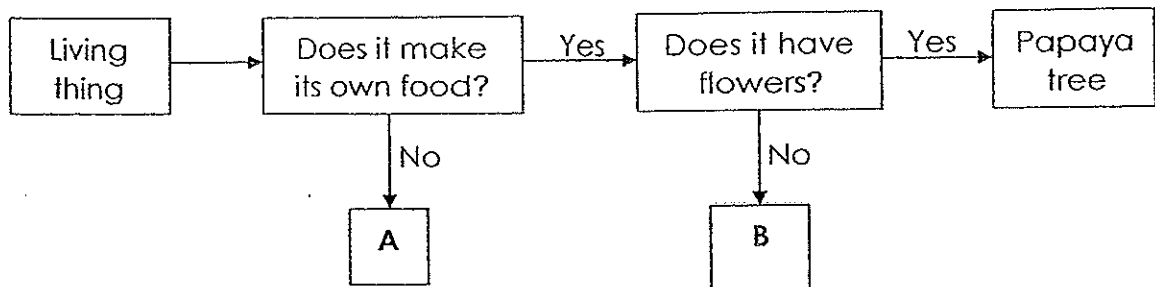
1. Study the classification chart below.



How are the animals above classified?

- (1) The way they move.
- (2) Their outer covering.
- (3) How they reproduce.
- (4) The number of legs they have.

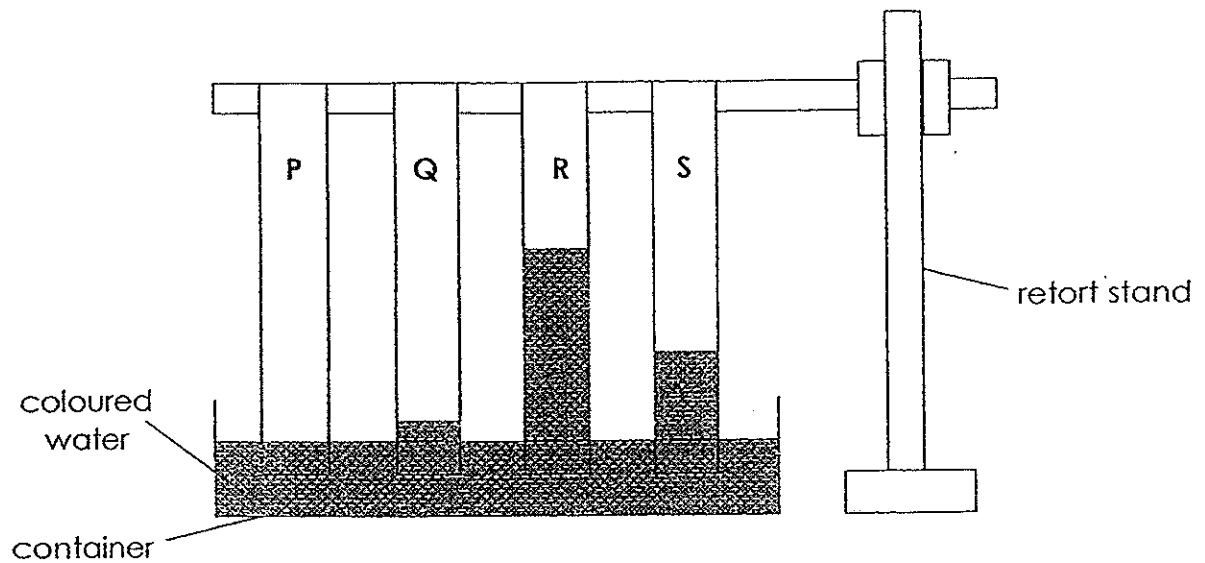
2. Study the flow chart below.



Based on the flow chart, what can A and B represent?

	A	B
(1)	Rose	Yeast
(2)	Mushroom	Bird's Nest Fern
(3)	Bird's Nest Fern	Mushroom
(4)	Yeast	Rose

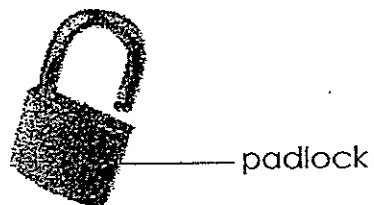
3. Mr. Tan carried out an experiment to find out how well a material could absorb water. He used 4 different materials labelled P, Q, R and S, which were of the same length and thickness.



Which material is most suitable for making a raincoat?

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

4. A padlock is made of metal because metal is \_\_\_\_\_.



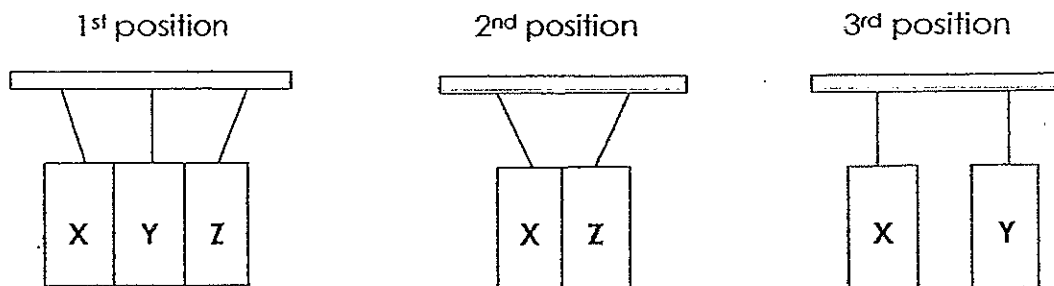
- (1) strong
- (2) heavy
- (3) flexible
- (4) waterproof

5. Diana had 4 paperclips labelled A, B, C and D which were made of different metals. She found that only paper clip D could **not** be attracted to a magnet. What metal could paper clip D be made of?

- (1) Iron
- (2) Steel
- (3) Cobalt
- (4) Copper

6. Chandra was given 3 objects labelled X, Y and Z, which were wrapped with black paper. He was told that the objects were a magnet, a magnetic object and a non-magnetic object.

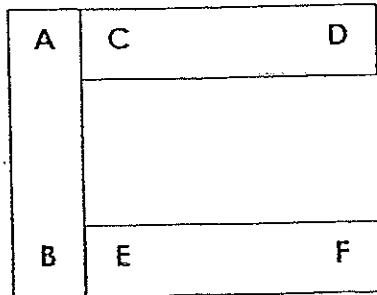
He hung the objects on a bar using strings and placed them in different positions.



Based on the observation above, which is a possible conclusion?

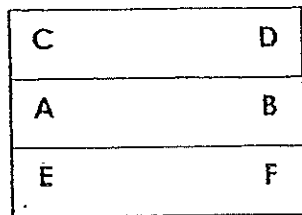
	Magnet	Magnetic object	Non-magnetic object
(1)	X	Y	Z
(2)	X	Z	Y
(3)	Z	Y	X
(4)	Y	Z	X

7. The diagram below shows 3 bar magnets that are attracted to one another. The poles of each magnet are represented by A, B, C, D, E and F.

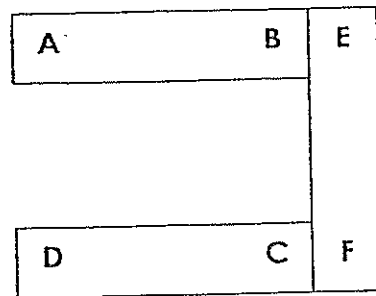


Which of the following diagrams shows a possible arrangement of the magnets?

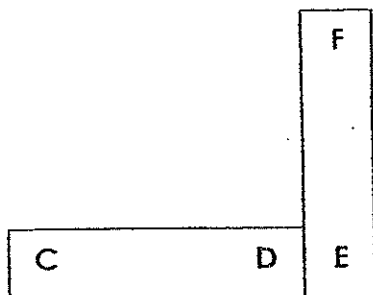
(1)



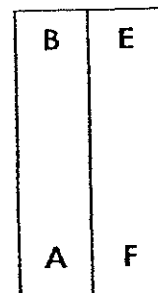
(2)



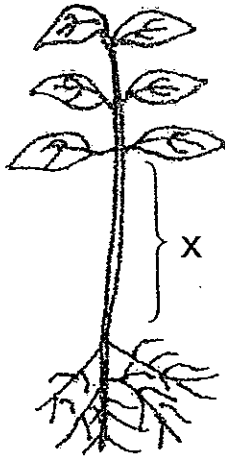
(3)



(4)



8. Study the diagram of a plant below.



What is/are the function(s) of plant part X?

A: To hold the plant upright

B: To anchor the plant to the ground

C: To transport food and water to all parts of the plant

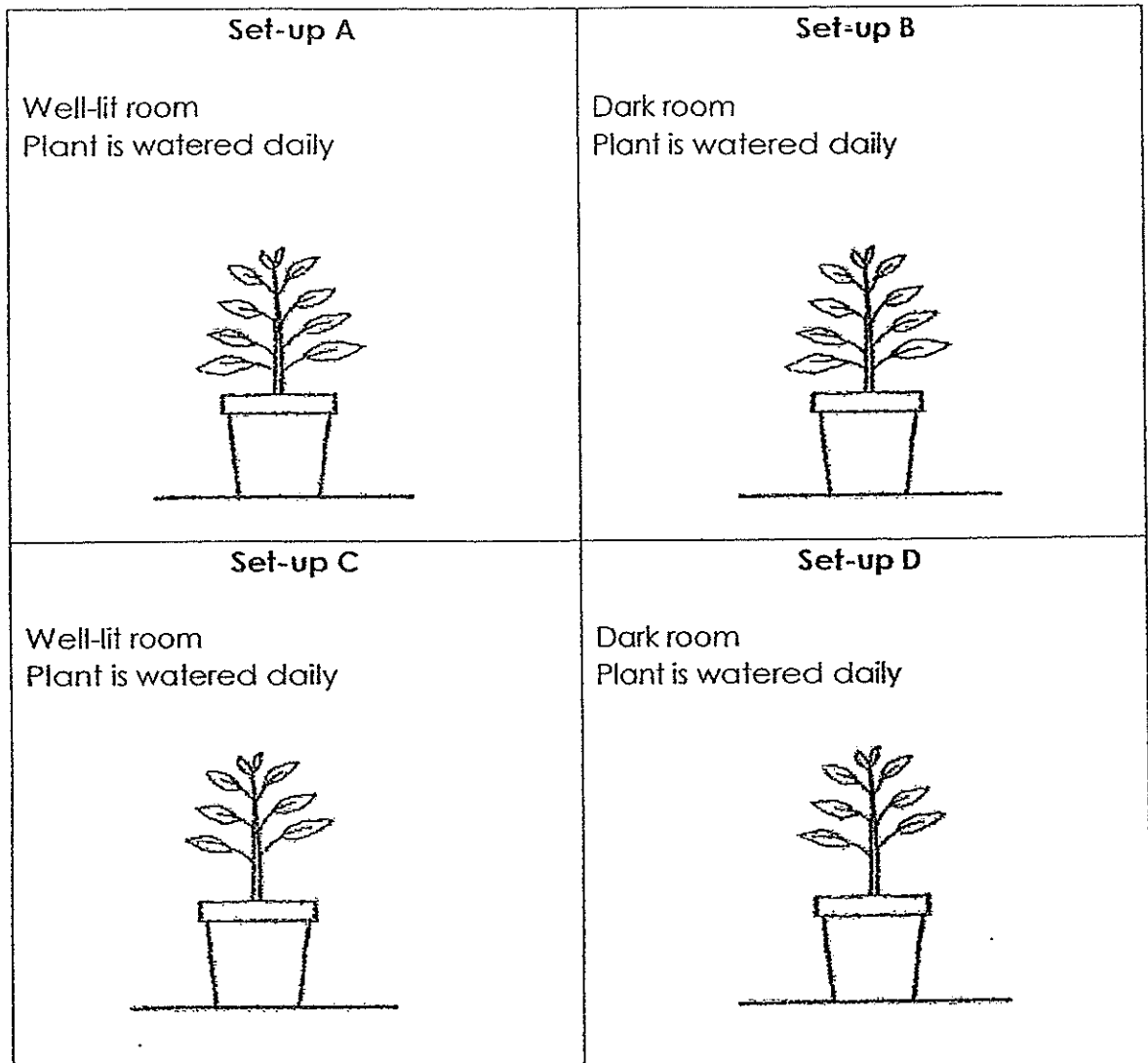
(1) A only

(2) B only

(3) A and B only

(4) A and C only

9. Ahmad wants to find out whether the presence of light will affect the growth of a plant. He has 4 set-ups as shown below.

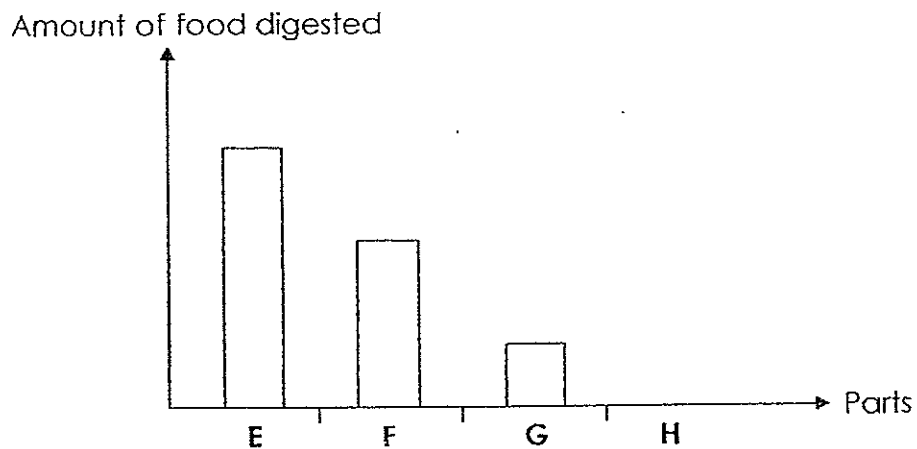


Which two set-ups should Ahmad choose to conduct his experiment?

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

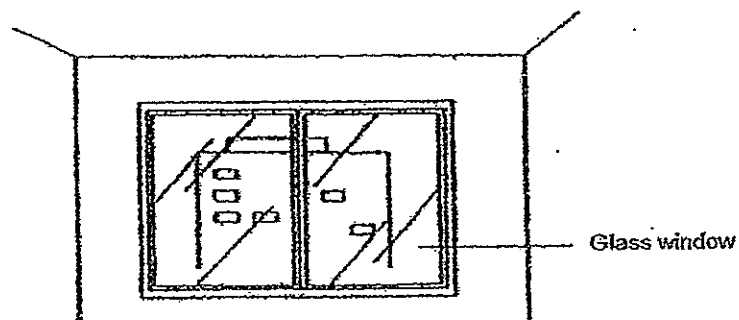


10. The bar graph below shows the amount of food digested at different parts, E, F, G and H of the human digestive system. Which part of the human digestive system most likely represents the mouth?



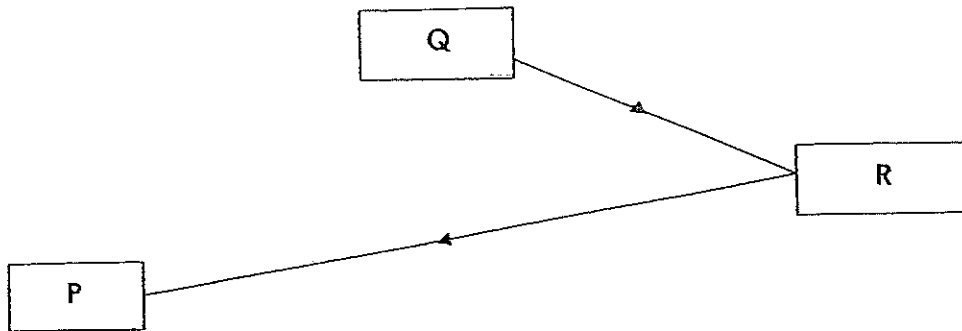
- (1) E
- (2) F
- (3) G
- (4) H

11. Why are we still able to see objects outside the window even though the glass window is closed?



- (1) The glass reflects light.
- (2) The glass allows light to pass through.
- (3) The light from our eyes is reflected by the objects.
- (4) The light from the objects are reflected by our eyes.

12. The diagram below shows the path of light that enabled Alexander to see the ball while playing soccer at the field.



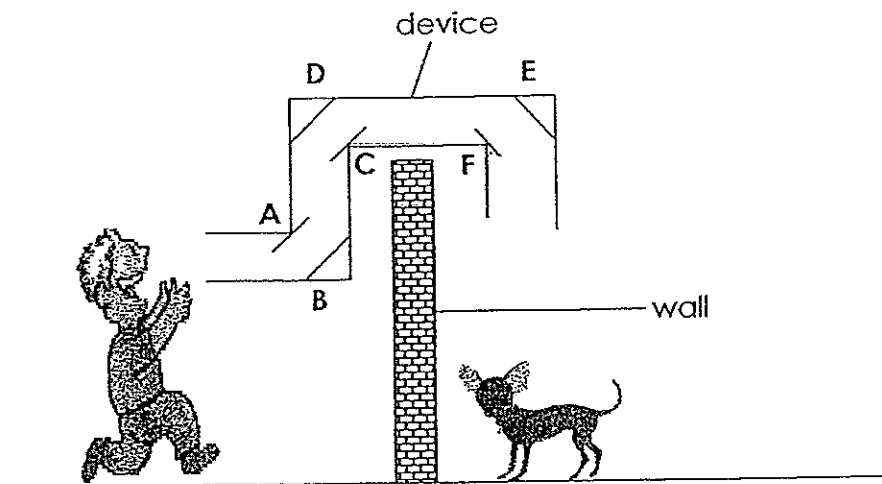
What could P, Q and R be?

	P	Q	R
(1)	Ball	Sun	Alexander
(2)	Alexander	Ball	Sun
(3)	Sun	Alexander	Ball
(4)	Alexander	Sun	Ball

13. Which one of the following is **not** a source of light?

- (1) Sun
- (2) Stars
- (3) Firefly
- (4) Moon

14. Wei Ming can hear a dog barking in his neighbour's garden. He wants to look at the dog but is blocked by a wall. He made a device to help him see the dog. A, B, C, D, E and F are mirrors.



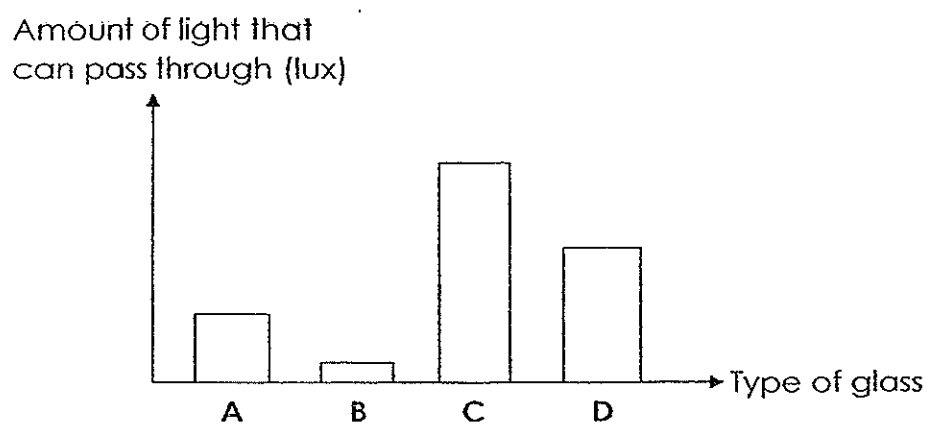
Which mirrors will enable him to see the dog?

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

15. Sam placed both his hands into two containers of water at the same time. His right hand that was placed into container A felt warm. His left hand that was placed into container B felt cold. What were the temperatures of the water in the containers?

	Temperature of the water in container A ( $^{\circ}\text{C}$ )	Temperature of the water in container B ( $^{\circ}\text{C}$ )
(1)	25	15
(2)	45	40
(3)	15	40
(4)	40	15

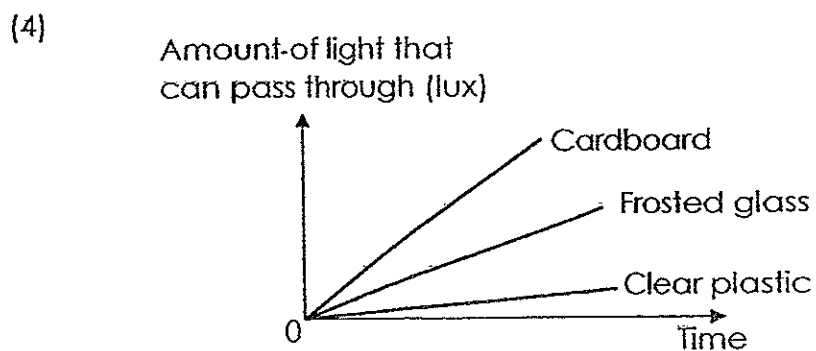
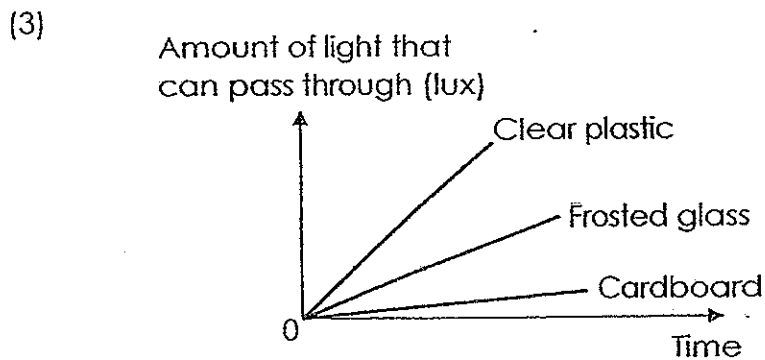
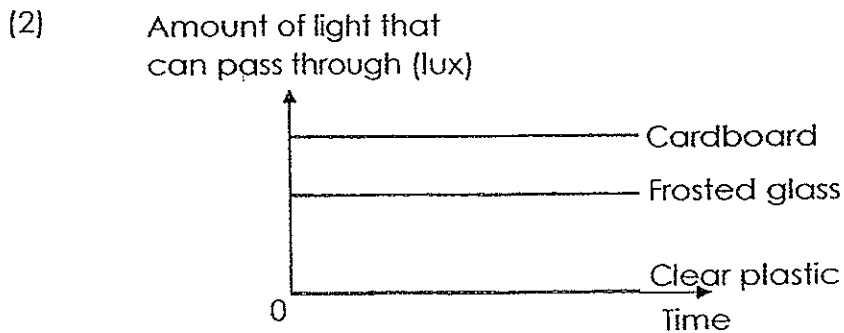
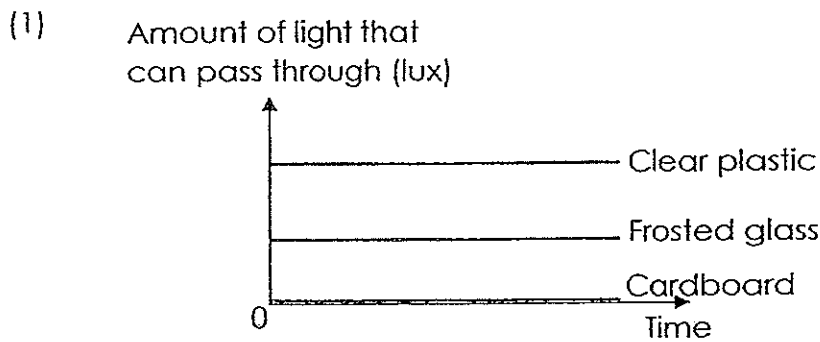
16. Mrs Tay is going to build a display window for her shop. She wants her customers to be able to see clearly into her shop. The graph below shows the amount of light that can pass through each type of glass, A, B, C and D.



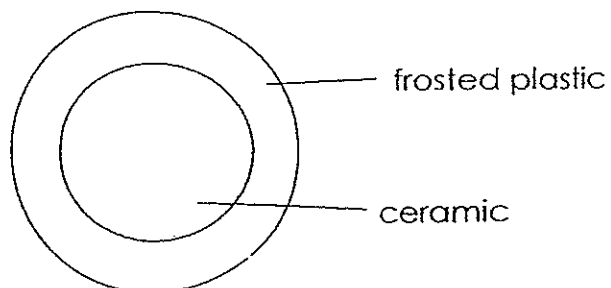
Which type of glass should Mrs Tay choose to build her window?

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

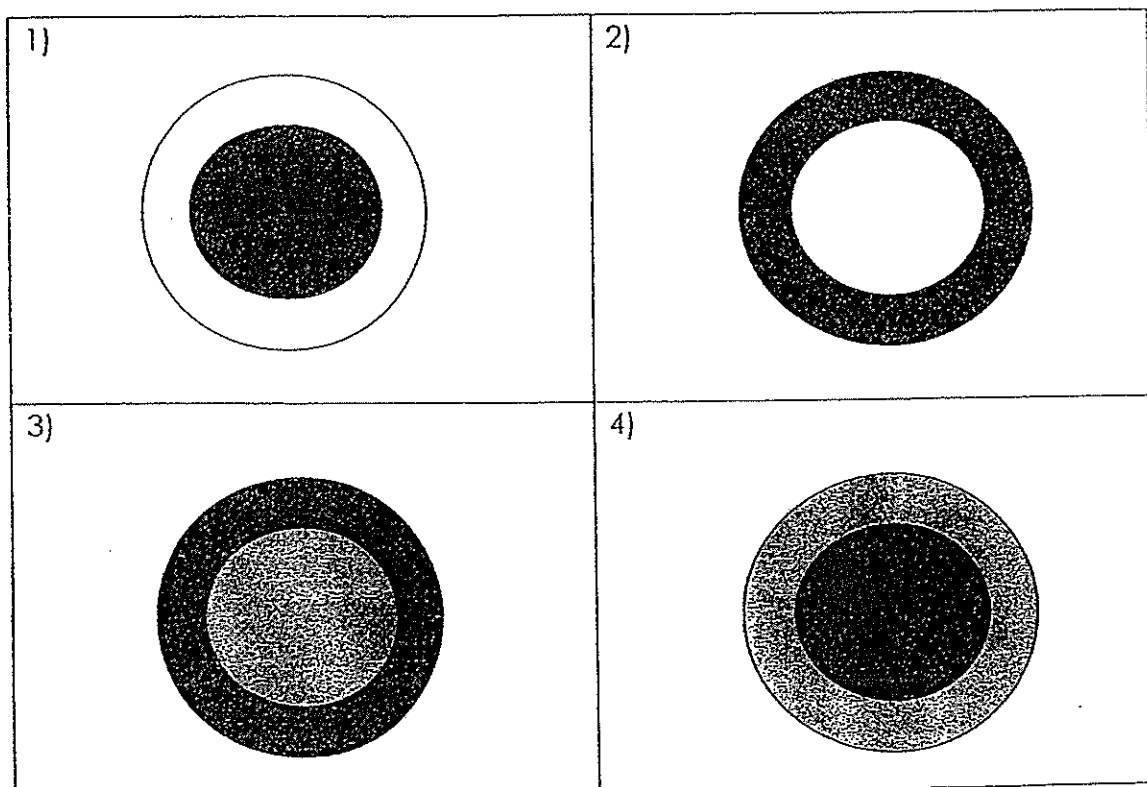
17. Anita had three different materials, namely frosted glass, clear plastic and cardboard, of the same thickness. She shone a torch at each of the three materials and used a light sensor connected to a data logger to record the amount of light that passed through each material. She recorded her readings on a graph. Which one of the following graphs is the one recorded by Anita?



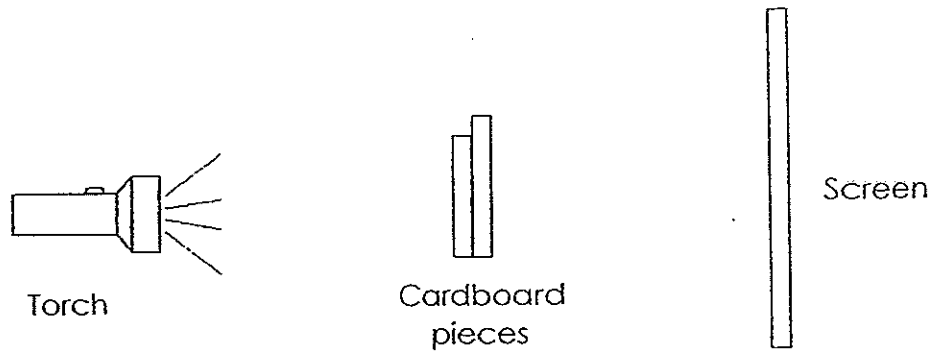
18. Annabel has a plate made from frosted plastic and ceramic as shown below.



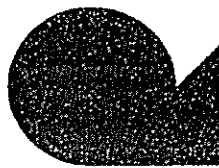
What is the possible shadow that will be formed when Annabel shines a torch at the plate?



19. Two pieces of cardboard were placed in front of a light source as shown below.



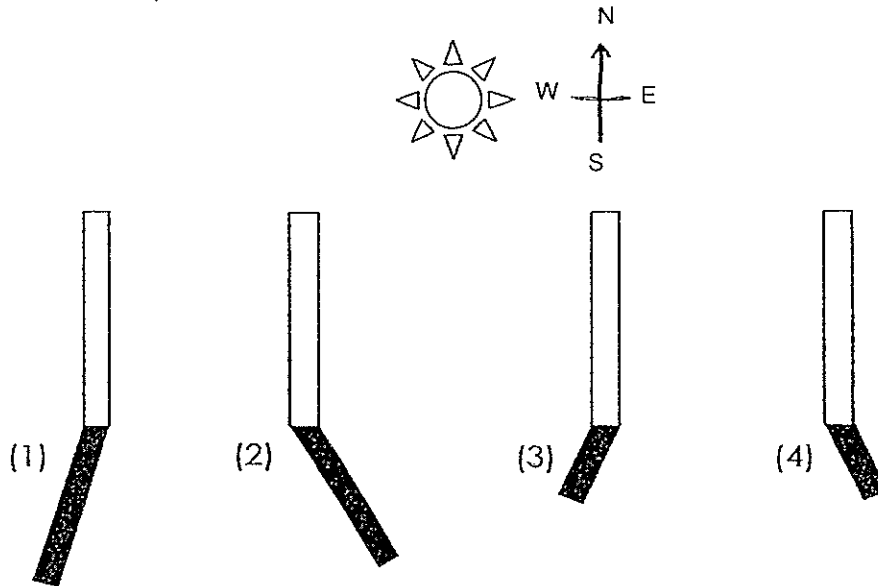
The shadow formed on the screen is shown below.



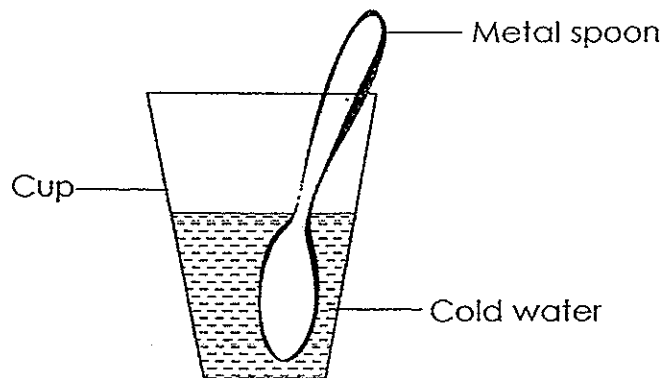
One of the pieces of cardboard is a round shape. What could be the shape of the other piece of cardboard?



20. Huimin drew the shadow of a pole in a field at 1 p.m. Which shadow did she draw at 1 p.m.?



21. Sharifah placed a metal spoon into a cup of cold water as shown below.

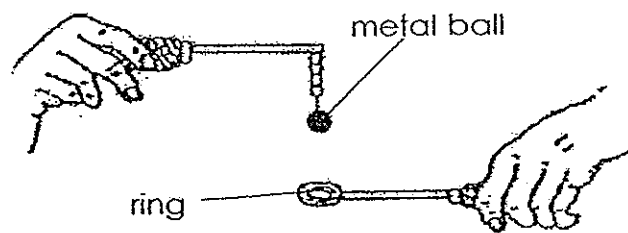


Which one of the following statements is true?

- (1) The cup lost heat to the cold water.
- (2) The cold water lost heat to the cup.
- (3) The spoon gained coldness from the cup.
- (4) The spoon gained coldness from the cold water.



22. A metal ball was able to pass through a ring before it was heated. After heating the ball over a flame for 10 minutes, the ball could not pass through the ring.



Why was the ball unable to pass through the ring after it was heated?

- (1) The ball had expanded.
- (2) The ring had expanded.
- (3) The ball had contracted.
- (4) The ring had contracted.

23. The diagram below shows a pot that is used for cooking.



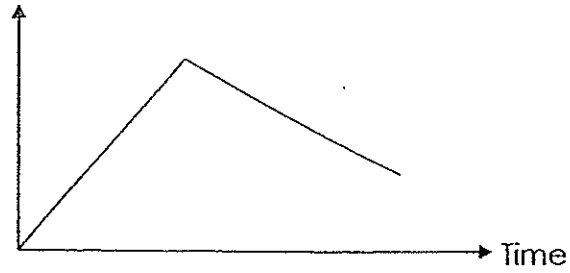
What would be the most suitable material to make part X?

- (1) Iron
- (2) Glass
- (3) Plastic
- (4) Styrofoam

24. A beaker of water at room temperature was heated for 1 minute and then left to cool. Which of the following graphs below shows the change in the temperature of the water as it was heated and then left to cool?

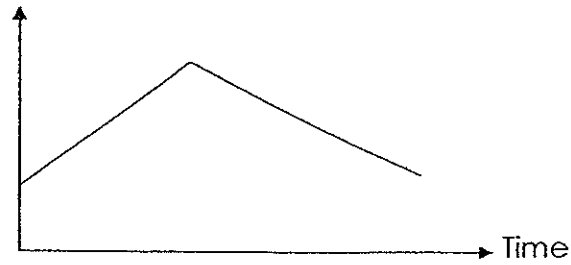
(1)

Temperature ( $^{\circ}\text{C}$ )



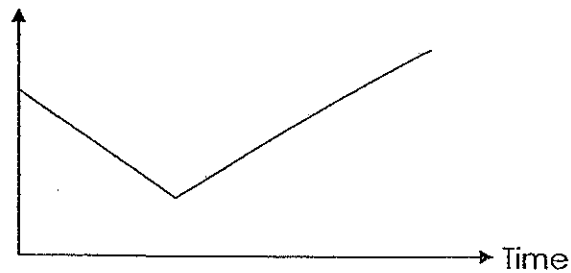
(2)

Temperature ( $^{\circ}\text{C}$ )



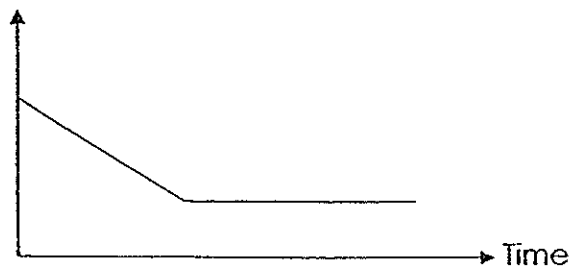
(3)

Temperature ( $^{\circ}\text{C}$ )

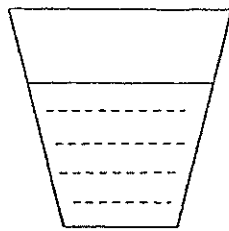


(4)

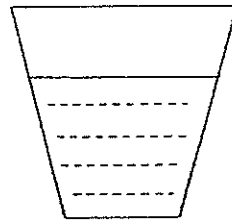
Temperature ( $^{\circ}\text{C}$ )



25. Raj had two cups of water as shown below.

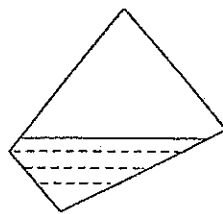


**Cup A**  
200ml  
20 °C

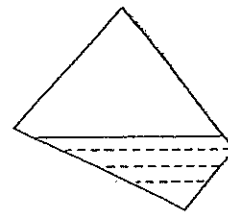


**Cup B**  
200ml  
80 °C

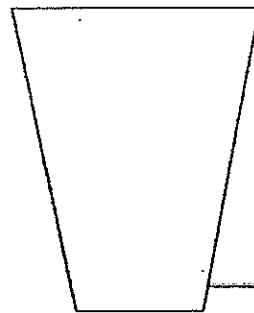
He poured half the amount of water in cup A and all of the water in cup B into a large container. He then measured the volume and temperature of the water in the large container immediately.



**Cup A**



**Cup B**



Large container

What could be the readings that Raj obtained?

	Volume (ml)	Temperature (°C)
(1)	400	30
(2)	400	60
(3)	300	25
(4)	300	65

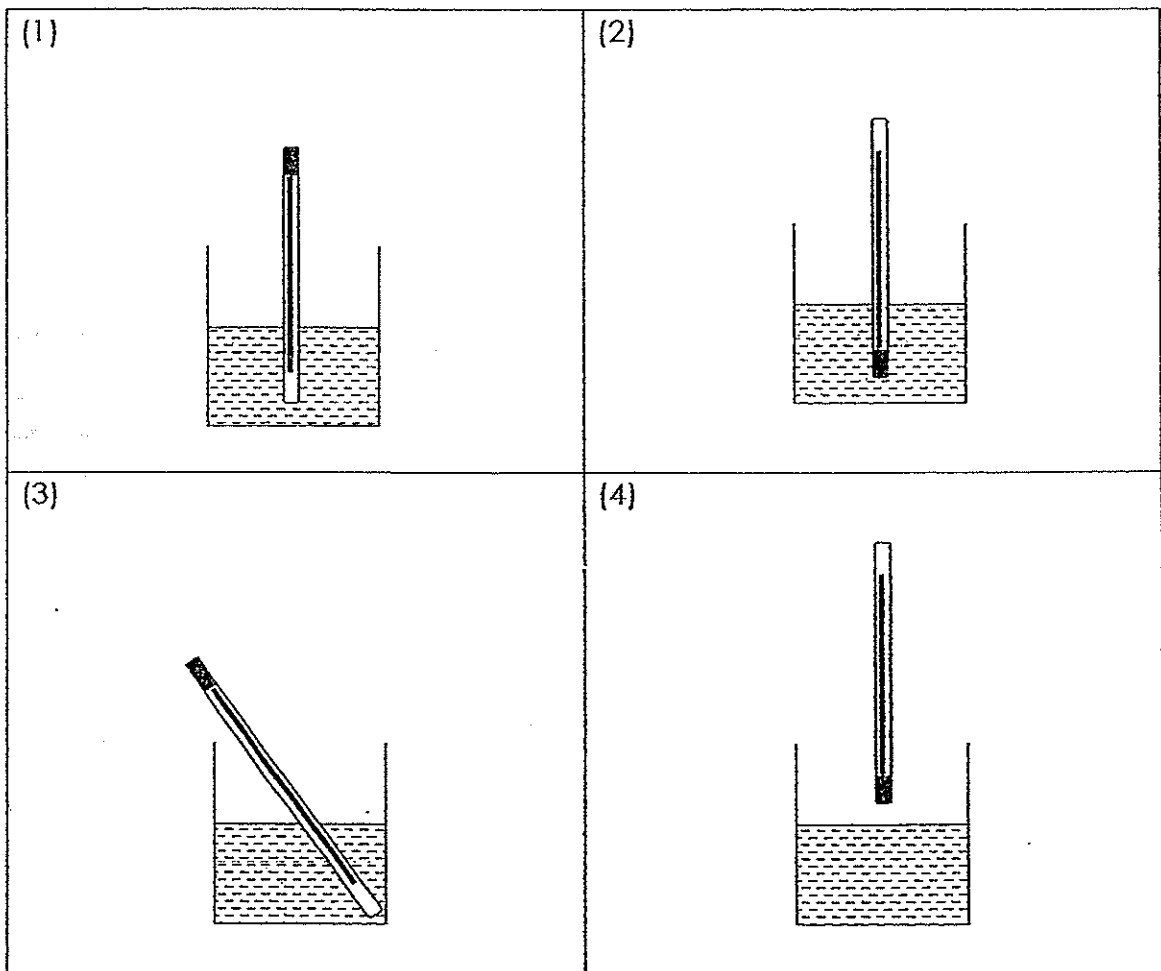
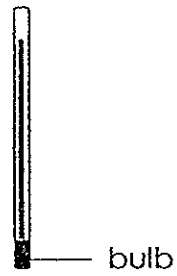
26. Four different metal rods labelled P, Q, R and S were heated. The diagrams below show how the metal rods expanded when they were heated.



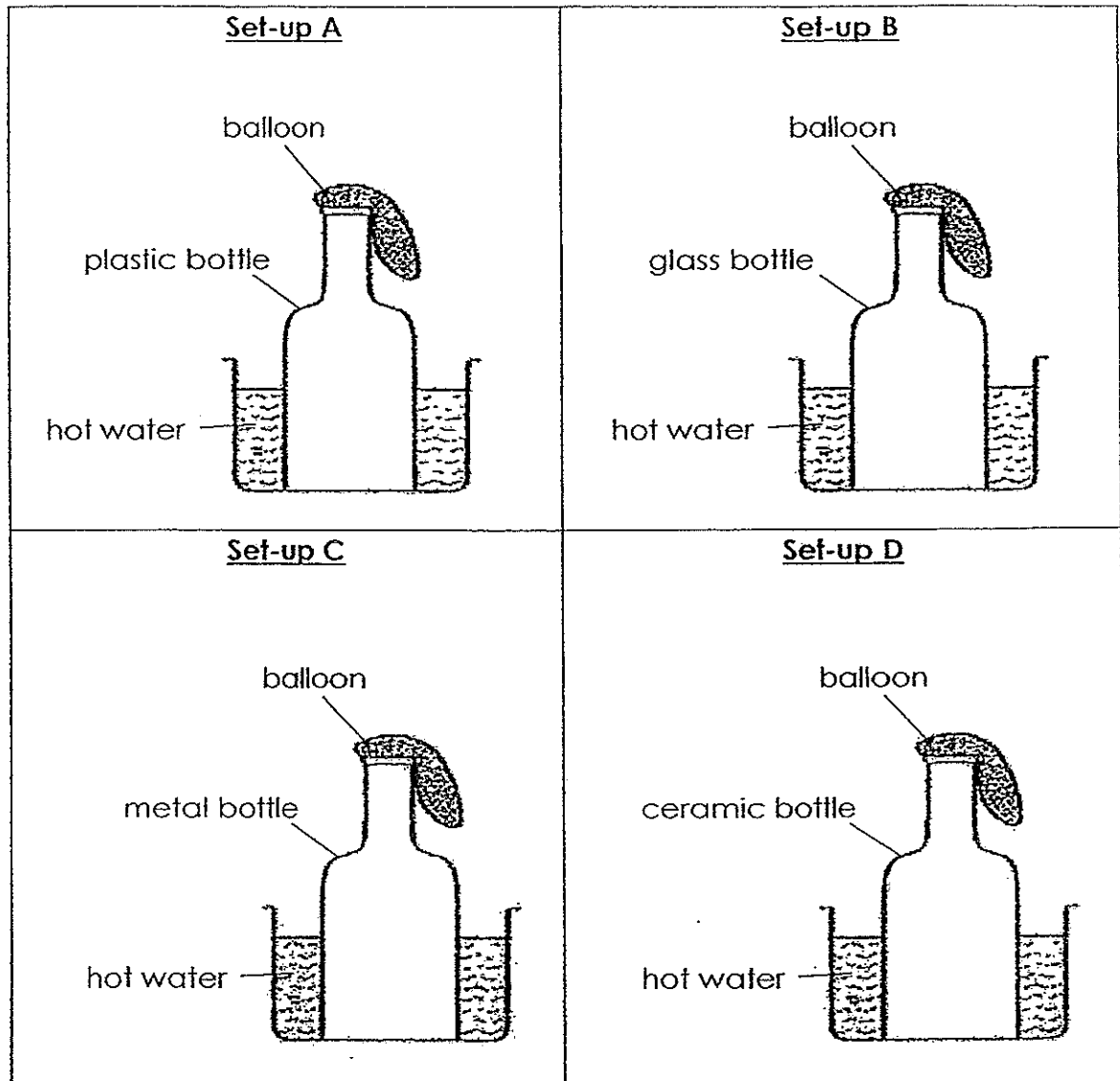
Which of the following show the expansion of the metal rods P, Q, R and S?

	Expands least $\longrightarrow$			Expands most
(1)	R	Q	P	S
(2)	Q	R	S	P
(3)	S	P	Q	R
(4)	R	P	Q	S

27. Shawn wants to measure the temperature of water in a beaker. How should the thermometer be placed to give the most accurate reading?



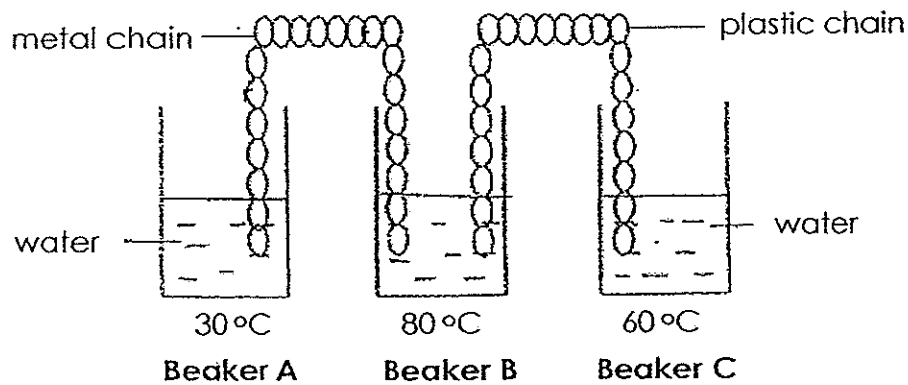
28. Sifi has 4 set-ups as shown below.



From which set-up will the balloon inflate first?

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

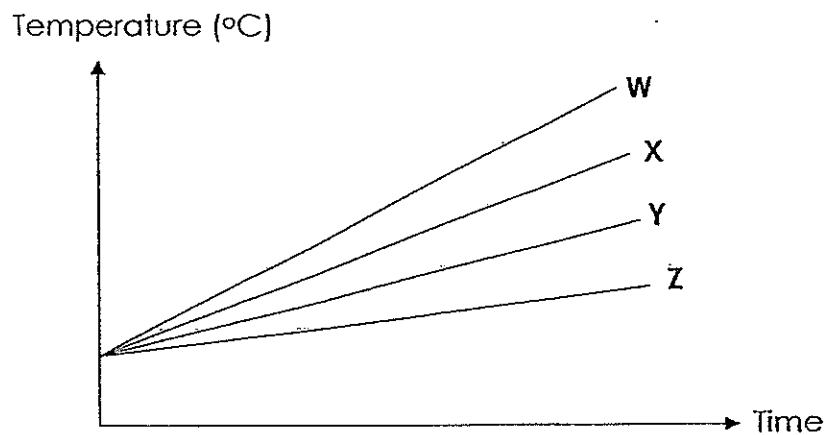
29. The diagram below shows 3 beakers, A, B and C, containing the same amount of water. The temperatures of the water in the beakers are shown below. The ends of a metal chain and a plastic chain are dipped into the water.



Which of the following most likely shows the temperatures of the water in the three beakers, A, B and C, after 5 minutes?

	Temperature of water in beaker A (°C)	Temperature of water in beaker B (°C)	Temperature of water in beaker C (°C)
(1)	40	70	70
(2)	50	40	60
(3)	30	60	65
(4)	45	60	55

30. Celine conducted an experiment to find out how cups made of different materials affect the temperature of water in the cups. She heated the water in a cup made of material W for 20 minutes. She repeated the experiment using cups made of materials X, Y and Z, and recorded the change in the temperature of the water on a graph as shown below.



Which material is most suitable for making the handle of a frying pan?

- (1) W
- (2) X
- (3) Y
- (4) Z

End of Booklet A





### PRIMARY 4 MID-YEAR EXAMINATION 2014

Name . \_\_\_\_\_ (    )      Date: 19 May 2014  
Class : Primary 4 (    )      Time: 8.00 a.m – 9.30 a.m.  
Duration: 1h 30min  
Parent's Signature : \_\_\_\_\_      Marks: \_\_\_\_\_ / 40

## **SCIENCE BOOKLET B**

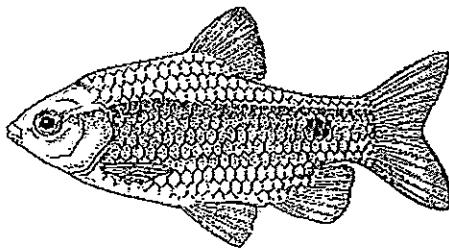
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- Follow all instructions carefully.
- Answer all questions.

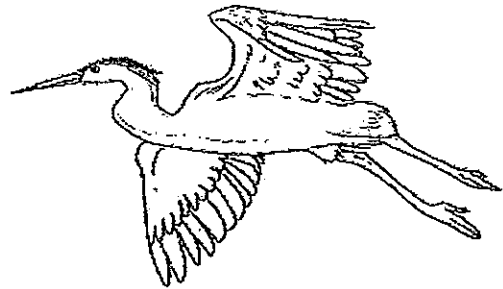
**Section B (40 marks)**

**Write your answers in the spaces provided.**

31. Study Animal X and Animal Y below.



**Animal X**



**Animal Y**

a) State one similarity between Animal X and Animal Y. (Do not mention their colour and size.) (1m)

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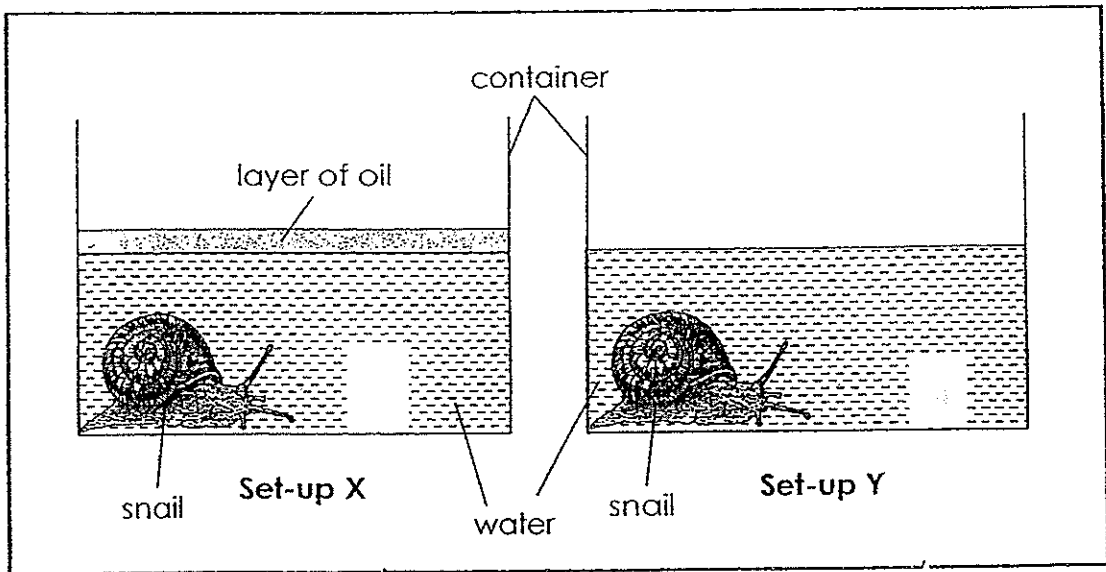
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b) State one difference between Animal X and Animal Y. (Do not mention their colour and size.) (1m)

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32. John conducted an experiment using the two set-ups below.

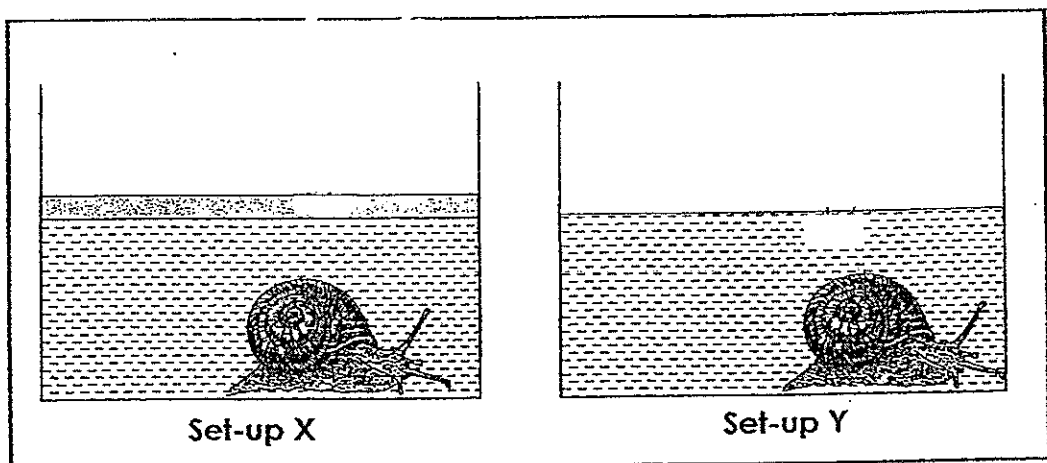


a) What was the aim of his experiment? (1m)

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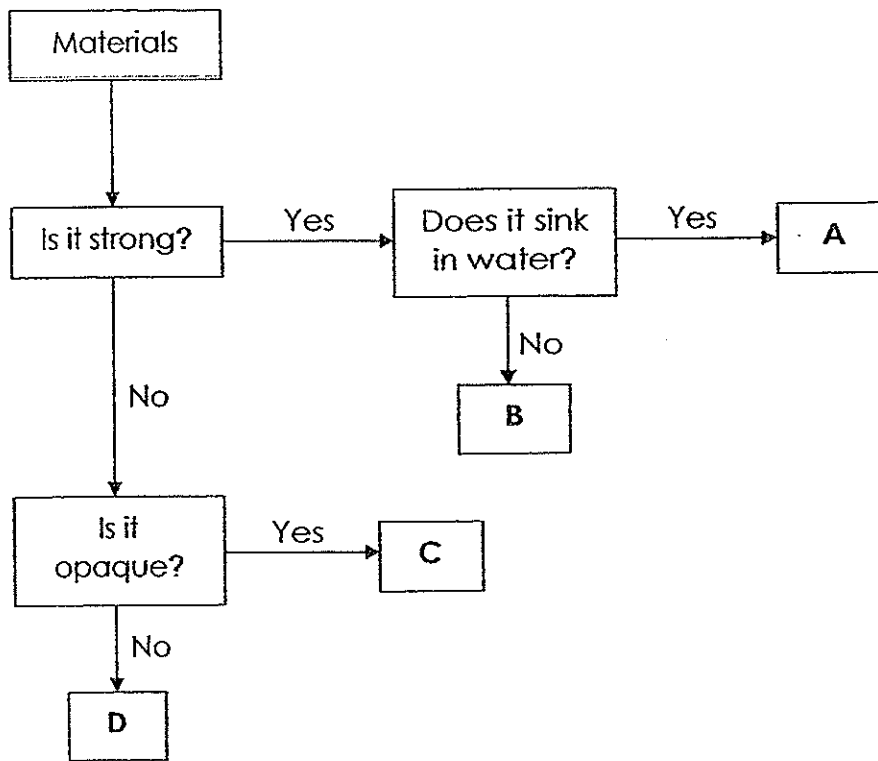
b) After 30 minutes, John took a photograph of the set-ups as shown below.



What characteristic of living things was shown by the snails? (1m)

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33. Study the flowchart below. A, B, C and D represent 4 different materials.



a) Describe the material, **B**. (1m)

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b) State a similarity between the materials, **C** and **D**. (1m)

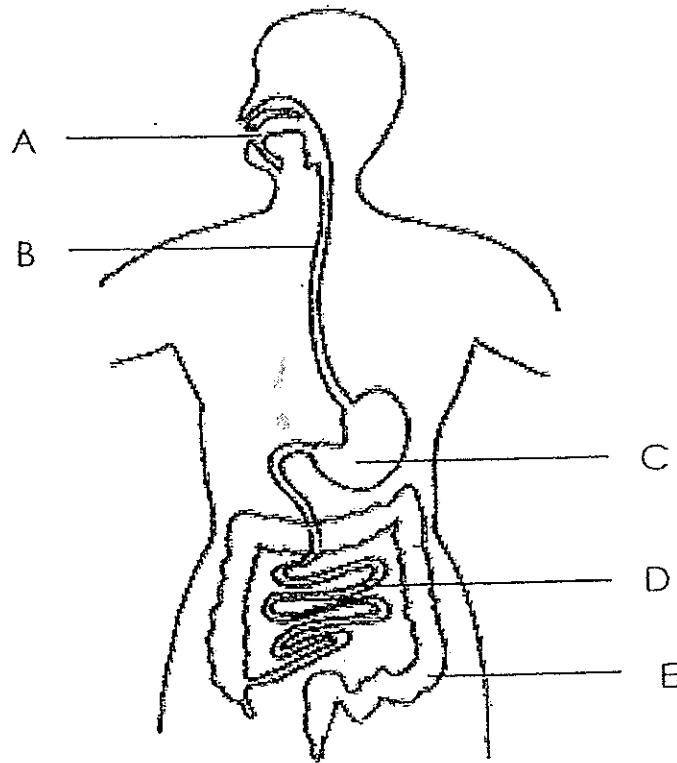
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c) What is the material, **A**? (1m)

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34. The diagram below shows the parts, A, B, C and D, of the human digestive system.



a) Identify the parts, B and E. (1m)

B: \_\_\_\_\_

E: \_\_\_\_\_

b) State the part (A, B, C, D or E) at which digestion of food ends. (1m)

\_\_\_\_\_

35. A, B, C, D and E represent processes that take place in the digestive system.

**A:** Excess water is removed from the undigested food.

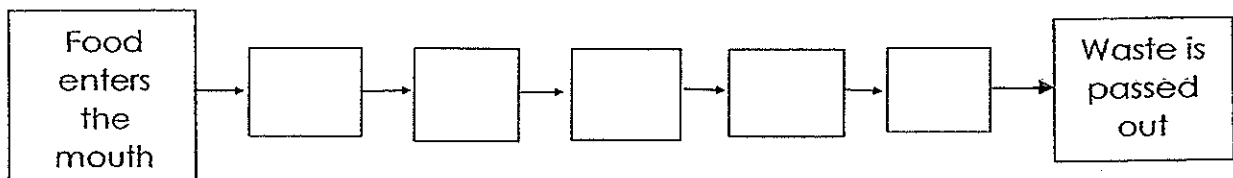
**B:** Partially digested food is passed through a long tube.

**C:** Food is ground into smaller pieces and mixed with saliva.

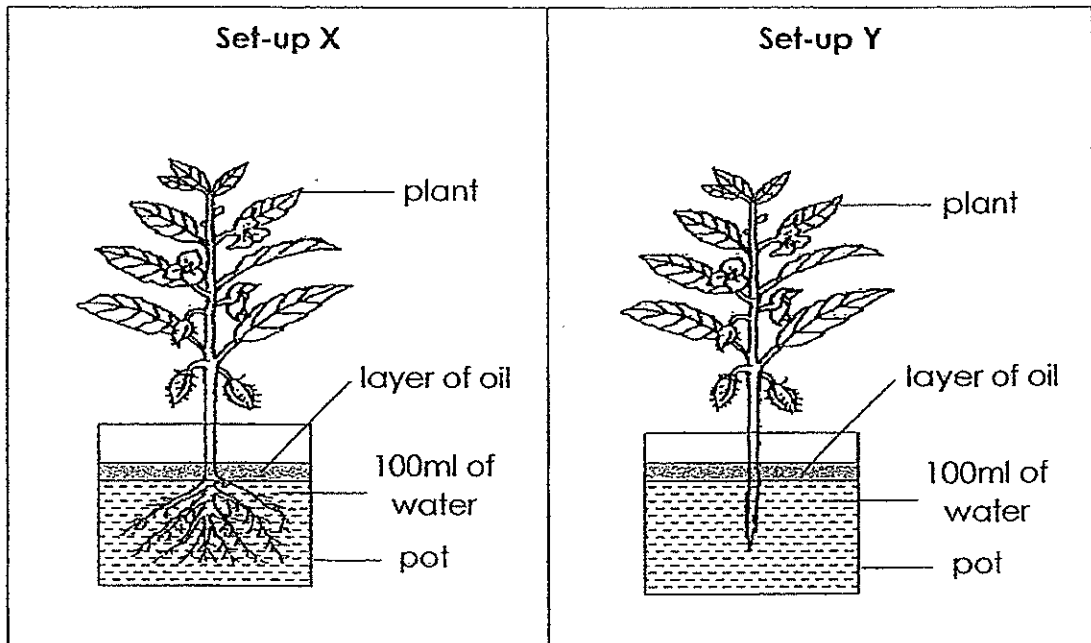
**D:** Digested food is absorbed into the bloodstream.

**E:** Food is mixed with digestive juices in a muscular organ.

Arrange the processes, **A, B, C, D** and **E**, in the correct order in the boxes below. (2m)



36. Guo Hao conducted an experiment. He prepared Set-up X and Set-up Y as shown below.



a) Identify the changed variable. (1m)

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b) After 3 hours, Guò Hao measured the volume of water left in both pots and recorded it in the table below.

Set-up	Volume of water left in the pot (ml)
X	80
Y	100

What was the aim of his experiment?

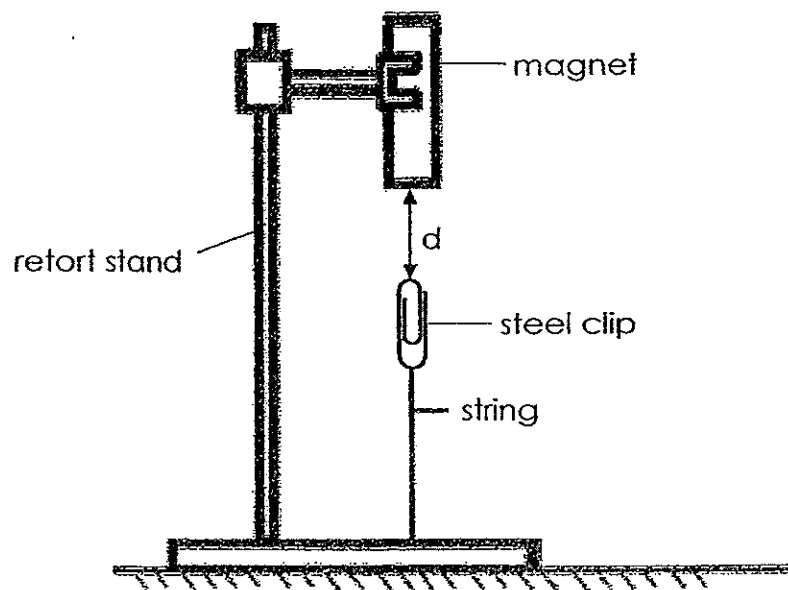
(1m)

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37. Muthu placed 3 different magnets, F, G and H, one at a time at a retort stand. 'd' is the maximum distance the steel clip could remain suspended in the air from the magnet. He recorded his findings in the table below.



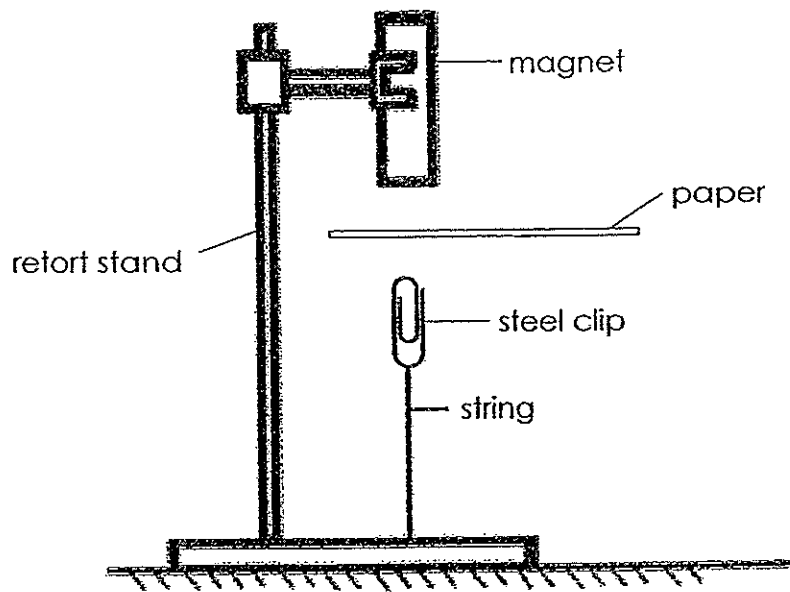
Magnet	Maximum distance between the magnet and the steel clip, d (cm)
F	3
G	2
H	4

Muthu then placed the magnets 1 cm from some steel clips and recorded the number of clips that were attracted to each magnet in the table below.

a) Complete the table by writing F, G and H in the boxes provided. (1m)

Magnet	Number of steel clips attracted
<input type="text"/>	8
<input type="text"/>	5
<input type="text"/>	3





b) What would Muthu observe if a sheet of paper was placed between the magnet and the steel clip? Explain your answer. (2m)

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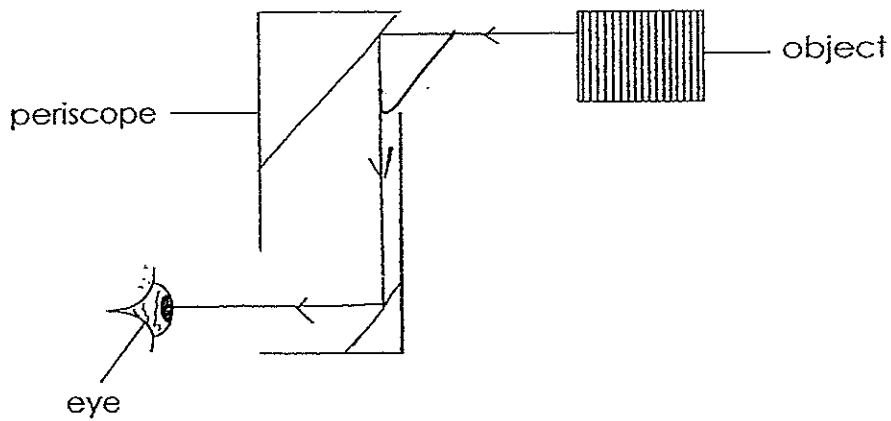
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c) What would Muthu observe if the steel clip was replaced with an aluminium clip? (1m)

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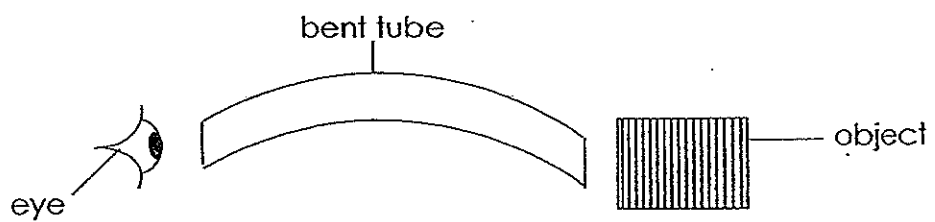
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38. Steven looked through a periscope and was able to see the object clearly.



a) In the periscope above, draw two mirrors and the path of light that enabled Steven to see the object. (2m)

b)



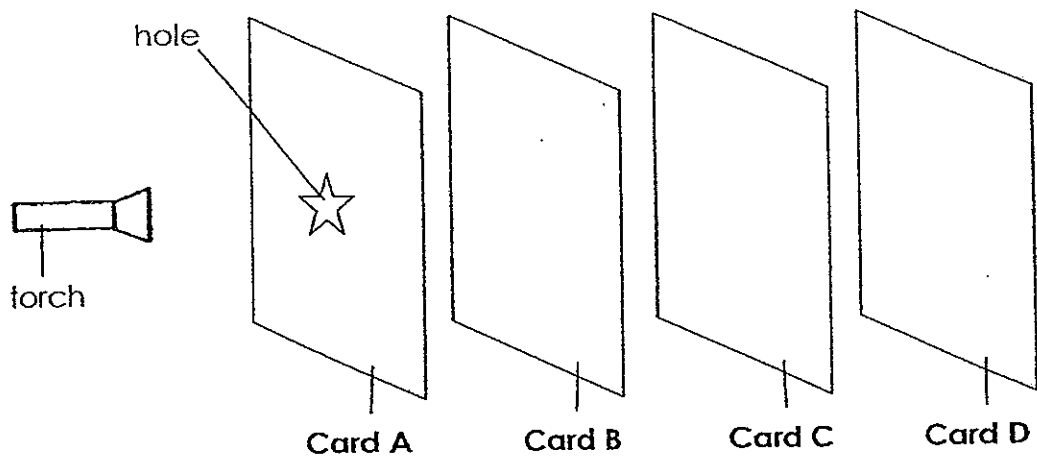
Can Steven see the object if he uses the tube above? Explain your answer. (2m)

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39. The experiment below is carried out in a dark room.

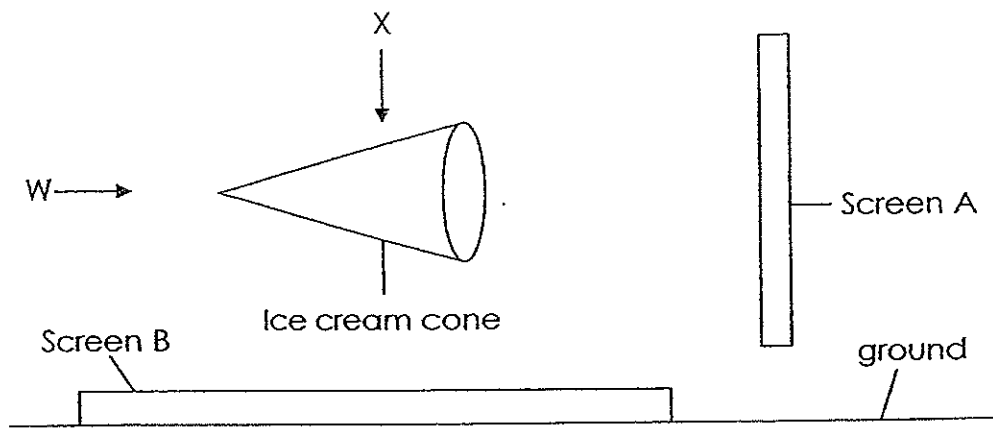


Card A, Card B, Card C and Card D are arranged in a straight line. When the torch is switched on, a bright star is seen on Card C only.

Study the statements below. Put a tick (✓) in the appropriate box. (2m)

	Statement	True	False	Not possible to tell
(a)	Card A allows light to pass through.			
(b)	Card B allows light to pass through.			
(c)	Card C does not allow light to pass through.			
(d)	Card D does not allow light to pass through.			

40. In a dark room, light was shone at an ice cream cone from the positions, W and X, as shown below.



(a) Draw the shadows cast on Screen A and Screen B in the boxes below. (2m)

Shadow on screen A	Shadow on screen B

b) The torch was moved down from position X. The length of the shadow that was cast on screen B was measured and recorded in the table below.

Distance of torch from cone (cm)	Length of the shadow (cm)
35	5
30	10
25	20

What is the relationship between the distance of the torch from the ice cream cone and the length of the shadow? (1m)

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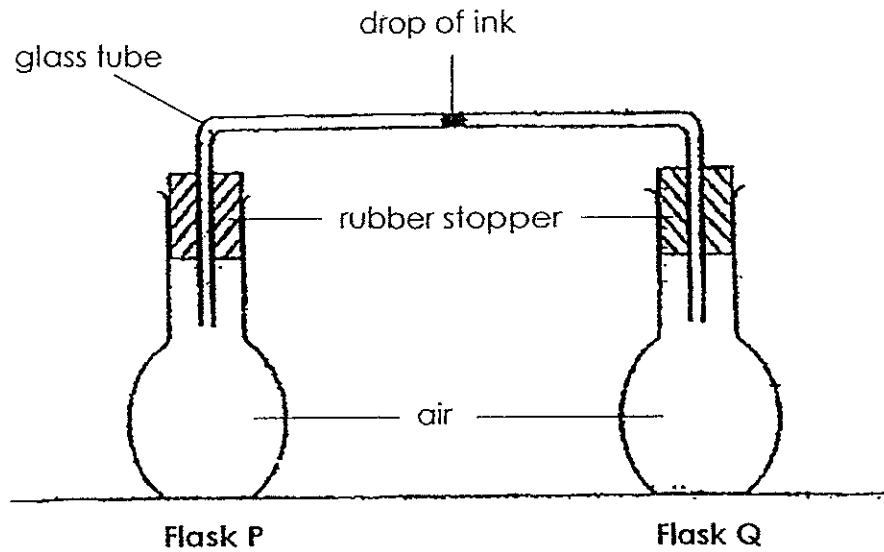


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c) What is the length of the shadow when the distance of the torch from the ice cream cone is 32 cm? (1m)

---

41. Study the set-up below.



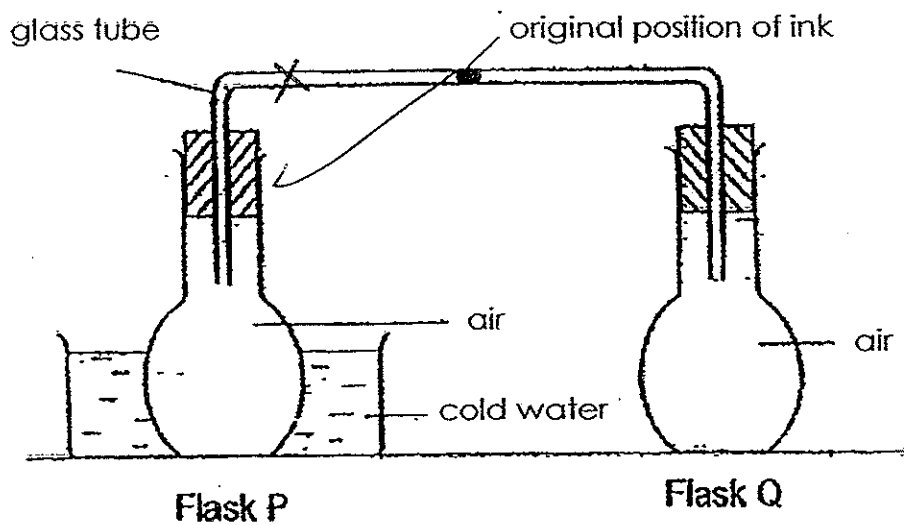
(a) What should be done to flask Q to move the drop of ink towards flask P? Explain your answer. (2m)

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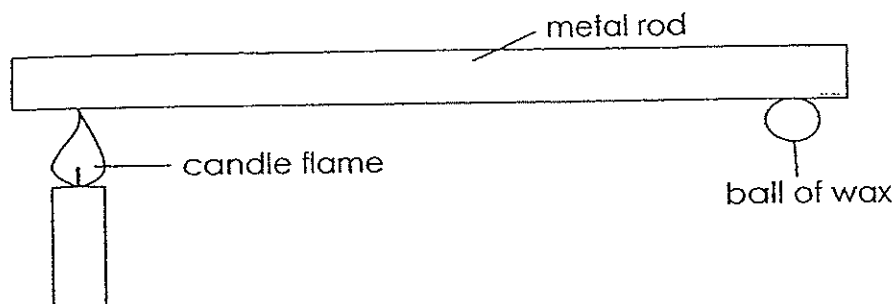


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(b) Mark an X on the glass tube below to show the position of the drop of ink when flask P is placed in cold water. (1m)



42. Jean has three rods, A, B and C, which are made of different metals of equal thickness but different lengths. She attaches a ball of wax to one end of each rod and heated the other end over a flame.



She recorded the time taken for the ball of wax to drop off the rod.

Rod	Length of the rod (cm)	Time taken for the wax to drop (s)
A	30	60
B	20	45
C	50	120

Sumitha commented that the experiment was not a fair test.

a) What should Jean do so that the experiment will be a fair test? (1m)

---

---

Jean conducted the experiment again after ensuring that the experiment was a fair test. She recorded her new findings in the table below.

Rod	Time taken for the wax to drop (s)
A	60
B	65
C	80

b) Which rod is the best conductor of heat? Explain your answer. (2m)

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c) Without adding or removing items from the set-ups, what should Jean do so that the wax balls on the rod will take a shorter time to drop? (1m)

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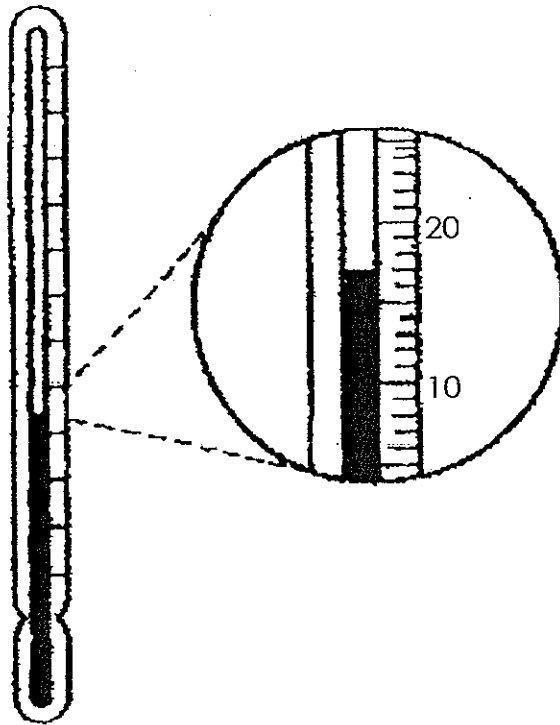
d) If the length of the rods were increased, would the time taken for the balls of wax to drop increase or decrease? Explain why. (1m)

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43. The diagram below shows a thermometer.



a) What is the reading on the thermometer? (1m)

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b) What would happen to the liquid level in the thermometer when the thermometer is placed in a cup of hot tea? Explain your answer. (2m)

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44) Jimmy placed an ice cube into a cup and heated the cup over a flame. He recorded the time taken for the ice cube to melt completely. He repeated the experiment using identical ice cubes and cups of different thickness. Jimmy's results were recorded in the table below.

Thickness of the cup (mm)	Time taken for the ice cube to melt (s)
3	40
5	60
7	90
10	120

a) What is the relationship between the thickness of the cup and the time taken for the ice cube to melt? (1m)

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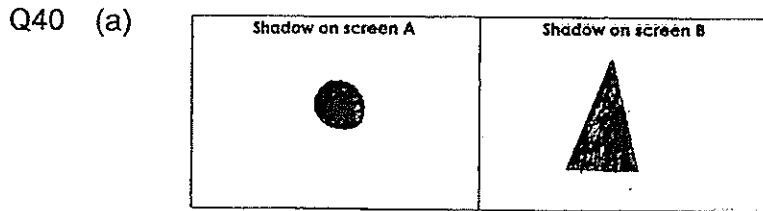
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b) What would be the time taken for the ice cube to melt when a cup of 8 mm thickness were to be used in the experiment? (1m)

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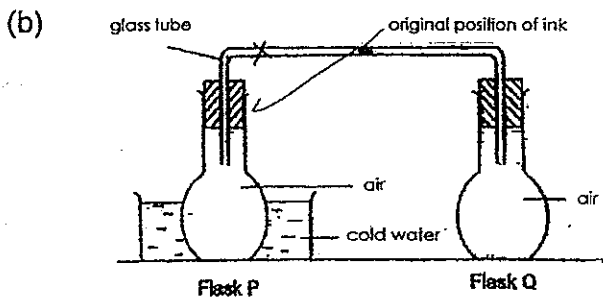
End of paper

- Q39 (a) False  
 (b) True  
 (c) True  
 (d) Not possible to tell



- (b) As the distance of the torch from the ice cream cone decreases, the length of the shadow increases.  
 (c) 7cm

- Q41 (a) Heat flask Q.  
 The air inside flask Q gains heat from the flame and expanded causing the drop of ink moving towards flask P.



- Q42 (a) Make the length of the rod the same.  
 (b) Rod A.  
 The time taken for the wax on rod A to melt is the shortest, thus Rod A is the best conductor of heat.  
 (c) Move the flame nearer to the wax balls.  
 (d) Increase.  
 Heat from the candle flame has to travel a longer distance.

- Q43 (a) 17°C  
 (b) It will increase.  
 The liquid gained heat from the hot tea and expanded.

- Q44 (a) As the thickness of the cup increases, the time taken for the ice cube to melt increases.  
 (b) 115 seconds

## Paper 2

- Q1 (a)  $8 \div 4 = 2$   
 $2 \times 5 = 10$   
Rani has \$10
- (b)  $10 + 2 = 12$   
They have \$12 altogether.
- Q2 (a)  $36 \div 3 = 12$   
Her son is 12 years old
- (b)  $48 + 4 = 52$   
Their total age will be 52 years.
- Q3  $78 \times 6 = 468$   
They had 468 stamps altogether.
- Q4 (a)  $180 \div 12 = 15$   
 $15 \times 10 = 150$   
She has 150 blue beads.
- (b)  $15 \times 3 = 45$   
She should buy 45 more red beads.
- Q5  $13 - 1 = 12$   
 $12 \times 3 = 36$   
The distance from the first tree to the last tree is 36m.
- Q6  $160 \div 10 = 16$   
 $16 \times 4 = 64$   
One shirt and one tie is \$64.
- Q7  $9 \times 9 = 81$   
 $81 \times 2 = 162$   
 $162 - 147 = 15$   
The area of the shaded part is  $15\text{cm}^2$ .
- Q8  $39 \times 4 = 156$   
 $156 - 122 = 34$   
 $4 - 2 = 2$   
 $34 \div 2 = 17$   
There are 17 bicycles.
- Q9  $6 \times 5 = 30$   
She bought 30 tarts.
- Q10 Huiling has 6 friends.

**EXAM PAPER 2014**

**LEVEL : PRIMARY 4**  
**SCHOOL : TAO NAN SCHOOL**  
**SUBJECT : ENGLISH**  
**TERM : SA1**

Q1	4	Q6	4	Q11	4
Q2	3	Q7	3	Q12	4
Q3	4	Q8	3	Q13	4
Q4	4	Q9	4	Q14	3
Q5	1	Q10	2	Q15	4

Q16 despised

Q17 TRUE

Q18 FALSE

Q19 2,1,3

Q20 wise

Q21 'They' refers to the moose's antlers.

Q22 His legs saved him from the hunting dogs.

Q23	C	Q25	A
Q24	F	Q26	E

Q27	believes	Q29	contribute
Q28	buy	Q30	is

Q31 Ali, who was my classmate in primary school, is now a famous national sailor.

Q32 John did not win the race even though he ran very fast.

Q33 Due to her laziness, Michelle did not do well for the mid-year examination.

Q34 Jane told her aunt that they had left the resort the previous day.

Q35 They wanted to have a better view of Queen Victoria's coronation procession.

Q36 It refers to the boy.

Q37 The writer ignored her and went near to the boy.

Q38 Old Sam, the supervisor at the match factory, got a belt out and whipped the boy that morning.

Q39 I want a better life for myself and find other work.



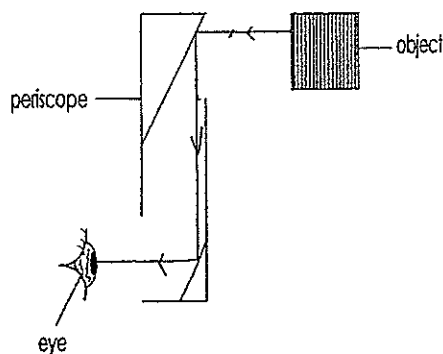
**EXAM PAPER 2014**

**LEVEL : PRIMARY 4**  
**SCHOOL : TAO NAN SCHOOL**  
**SUBJECT : SCIENCE**  
**TERM : SA1**

Q1	2	Q7	4	Q13	4	Q19	3	Q25	4
Q2	2	Q8	4	Q14	2	Q20	4	Q26	1
Q3	1	Q9	1	Q15	4	Q21	1	Q27	2
Q4	1	Q10	3	Q16	3	Q22	1	Q28	3
Q5	4	Q11	2	Q17	1	Q23	3	Q29	4
Q6	2	Q12	4	Q18	4	Q24	2	Q30	4

- Q31 (a) Both have a body  
(b) Animal Y has legs while animal X does not have legs.
- Q32 (a) To find out if living things need air to survive.  
(b) Living things respond to changes.
- Q33 (a) B is a material, it is strong and it does not sink in water.  
(b) Both are not strong  
(c) Iron
- Q34 (a) B: Gullet  
E: Large intestine  
(b) Part D
- Q35 C – B – E – D – A
- Q36 (a) The presence of roots  
(b) To find out if the absence of roots affects the amount of water absorbed.
- Q37 (a) H, F, G  
(b) The steel clip would remain suspended in the air from the magnet.  
The magnetic force of the magnet can pass through the paper.  
(c) The aluminium clip will drop.

Q38 (a)

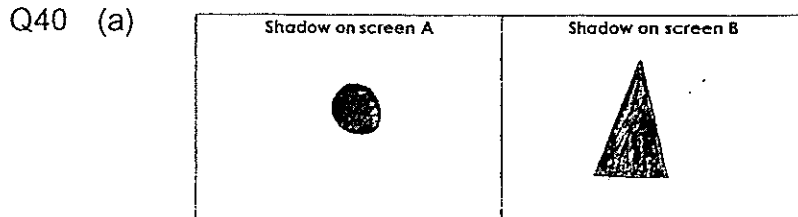


- (b) No. Light travels in a straight line but the tube is bent.



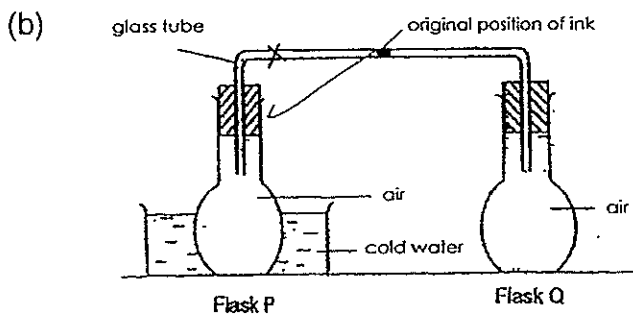


- Q39 (a) False  
 (b) True  
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 (b) 115 seconds

