RED SWASTIKA SCHOOL

SCIENCE
2024 END YEAR EXAMINATION
PRIMARY 4

Name : _____( )

Class : Primary 4/ _____

Date : 21 October 2024

BOOKLET A

Total time for Booklets A & B: 1h 45 min

Booklet A: 28 questions (56 marks)

Note:

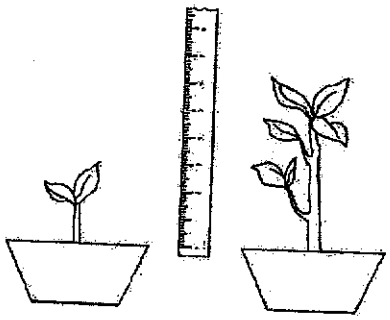
1. Do not open the booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the booklet.
3. Do not waste time. If the question is too difficult for you, go on to the next question.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
   a. Page 1 to Page 16
   b. Questions 1 to 28

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For Questions 1 to 28, choose the most suitable answer and shade its number in the OAS provided.

1. Jemma found a plant in her school garden and measured its height. After three weeks, she measured its height again.



At the start After three weeks

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

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

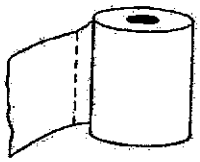
2. Which of the following objects is **not** made of a waterproof material?

(1)



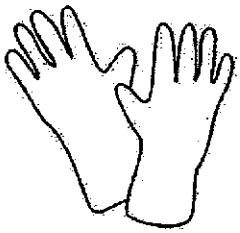
plastic umbrella

(2)



toilet paper

(3)



rubber gloves

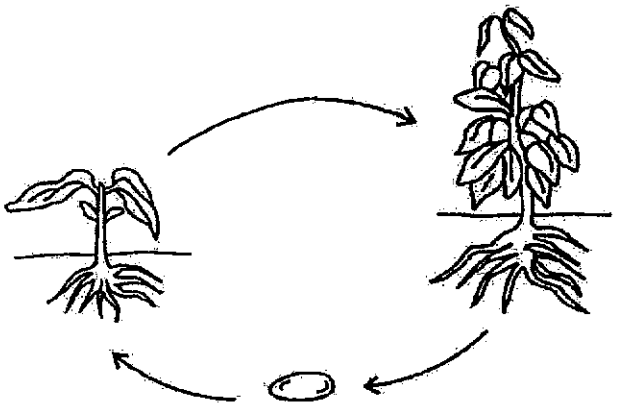
(4)



metal fork

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



Z

What is the stage marked Z?

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

4. Jill made the following observations on the life cycle of animal P.

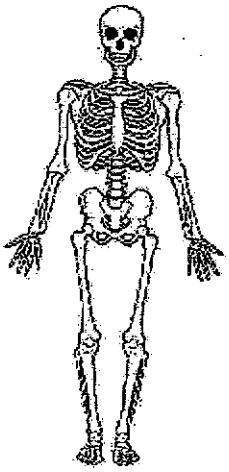
- Has four stages in its life cycle.
- The young does not look like the adult.

What could animal P be?

(1) beetle
(2) chicken
(3) cockroach
(4) grasshopper

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5. Which human system is shown in the diagram?

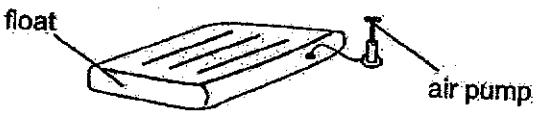


(1) skeletal system
(2) muscular system
(3) circulatory system
(4) respiratory system

6. Which of the following is a correct function of the root?

(1) keeps the plant upright
(2) takes in air for the plant
(3) makes food for the plant
(4) holds plant firmly to the soil

7. Razi pumped air into the float shown in the diagram below.

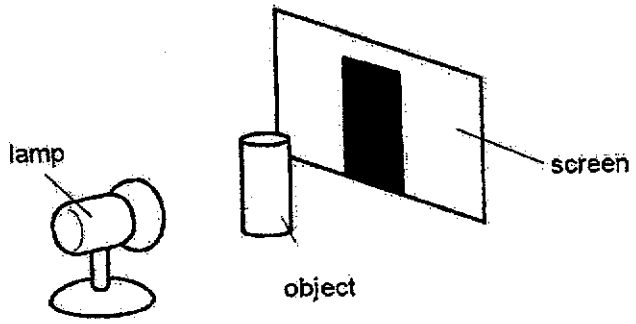


More air can be pumped into the float even though it is already filled with air. This is because air _____.

(1) is matter
(2) has a fixed shape
(3) does not have a fixed mass
(4) does not have a fixed volume

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8. John placed an object between the lamp and screen. Then, he turned on the lamp and observed that a shadow was formed on the screen.



The shadow of the object was formed on the screen because _____.

(1) the object blocks light
(2) the object reflects light
(3) the object gives off light
(4) the screen absorbs light

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

(1) the Sun
(2) lighted bulb
(3) candle flame
(4) wool blanket

10. The diagram shows a magnet brought near to a wooden block.

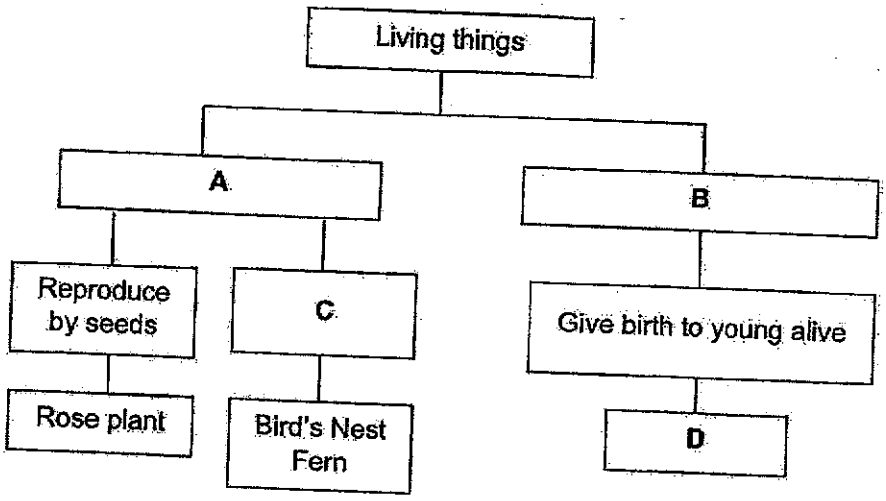


What will happen to the wooden block?

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

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11. Study the chart below.



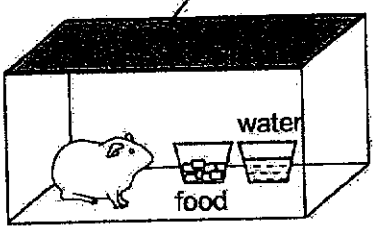
Which of the following correctly represents A, B, C and D?

	A	B	C	D
(1)	Can make its own food	Cannot make its own food	Reproduce by spores	Snake
(2)	Cannot make its own food	Can make its own food	Lays eggs	Cat
(3)	Cannot make its own food	Can make its own food	Lays eggs	Snake
(4)	Can make its own food	Cannot make its own food	Reproduce by spores	Cat

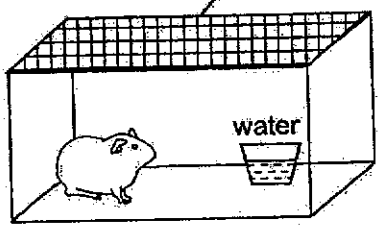
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12. Mikael wants to keep a pet hamster at home. In which set-up should he keep his pet hamster so that it will survive for the longest time?

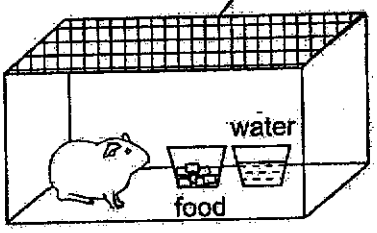
(1)



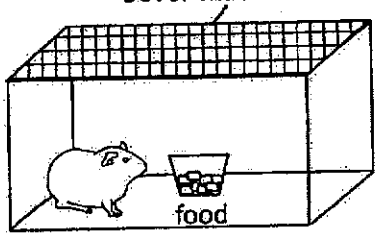
(2)



(3)



(4)



13. Carl wants to find out if the amount of water affects the number of days taken for a plant to grow. He prepared four set-ups, A, B, C and D as seen below.

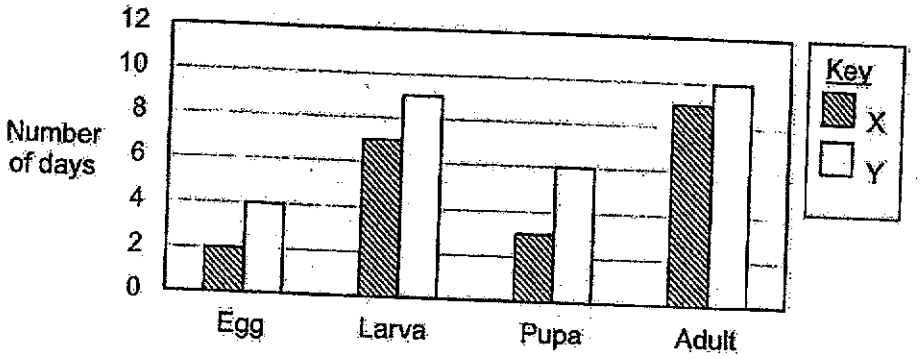
	A	B	C	D
Location	In the garden	In a cupboard	In the garden	In a cupboard
Type of seed	Green bean	Green bean	Green bean	Red bean
Amount of water given per day (ml)	50	50	100	100

Which two set-ups should he use to conduct a fair test?

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

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14. The graph below shows the length of time taken in each stage of the life cycle of organisms X and Y.



Which statement is correct?

(1) X was at the larva stage for 7 days.
(2) Y took 19 days to complete a life cycle.
(3) Y spent the shortest time in the pupa stage in its life cycle.
(4) X took a longer time to become an adult as compared to Y.

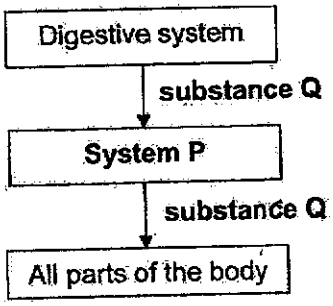
15. Sze Xuan removed the roots of a plant. A week later, she noticed that the plant had wilted and died.

Which of the following explains why removing the roots caused the plant to die?

(1) It was not able to absorb food.
(2) It was not able to hold the plant upright.
(3) It was not able to make food for the plant.
(4) It was not able to absorb water and mineral salts.

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16. The diagram below shows part of the human system.



Which of the following correctly matches system P and substance Q?

	Substance Q	System P
(1)	Oxygen	Respiratory
(2)	Oxygen	Circulatory
(3)	Digested food	Circulatory
(4)	Digested food	Respiratory

17. Glenda wrote a few statements about the digestive system in her notebook.

A: Our teeth help to break down food into smaller pieces.

B: Digestive juices can only be found in the mouth and stomach.

C: In the small intestine, digested food is absorbed into the blood.

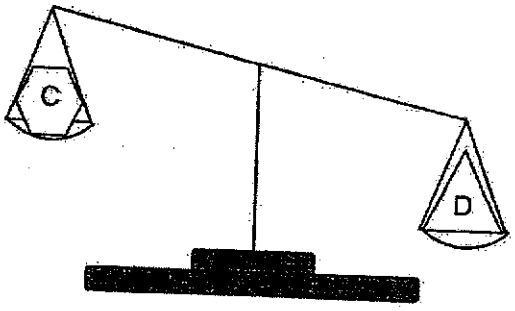
D: Water is absorbed from the undigested food in the small intestine.

Which of the above statements made are correct?

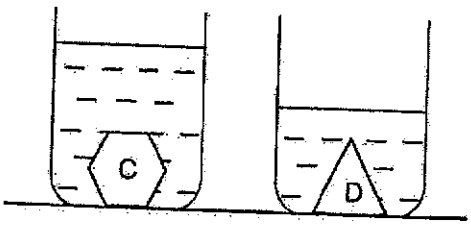
(1) A and B
(2) A and C
(3) B and C
(4) C and D

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18. Objects C and D were placed on a balancing scale as shown below.



The two objects were then placed in identical containers that contained the same amount of water.

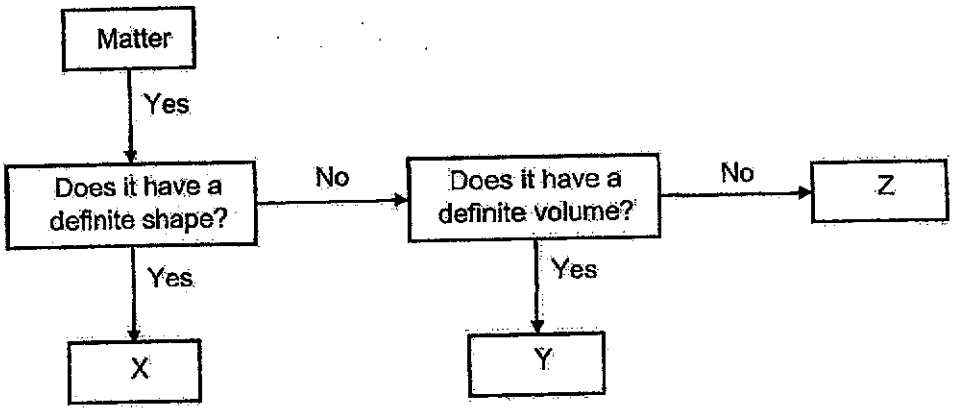


Based on the observations above, which of the following statements about objects C and D are true?

	Mass	Volume
(1)	C has a larger mass than D.	C has a larger volume than D.
(2)	C has a larger mass than D.	C has a smaller volume than D.
(3)	C has a smaller mass than D.	C has a larger volume than D.
(4)	C has a smaller mass than D.	C has a smaller volume than D.

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19. The flow chart below classifies substances X, Y and Z.



The table below shows the properties of substances P and Q. A tick (✓) represents the characteristic the substance has.

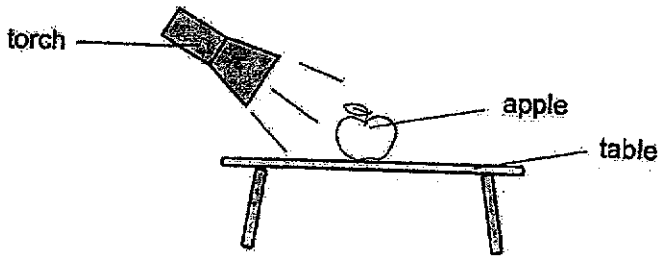
Characteristic	Substance	
	P	Q
Can be compressed		
Occupies space		
Does not take the shape of a container		

Based on the flow chart and the table above, which substances, X, Y or Z, have similar characteristics as substances P and Q?

	Substance P	Substance Q
(1)	X	Y
(2)	Y	X
(3)	Z	X
(4)	Z	Y

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20. Shan switches on a torch in a dark room and sees an apple on the table.

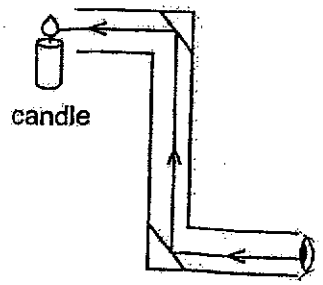


Which of the following shows the source of light and the object that reflects light to help him see the apple?

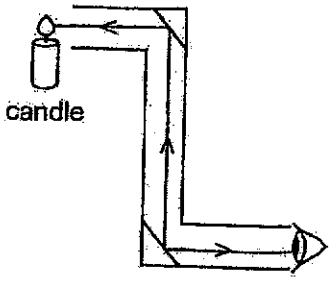
	source of light	object that reflects light
(1)	torch	apple
(2)	table	torch
(3)	torch	table
(4)	table	apple

21. Which diagram correctly shows how the candle flame can be seen with the use of mirrors?

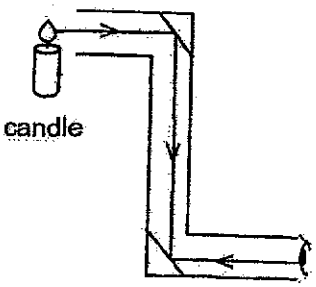
(1)



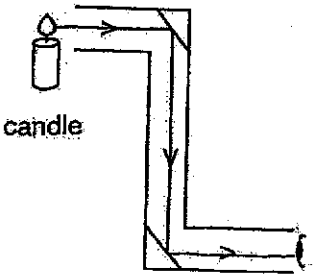
(2)



(3)

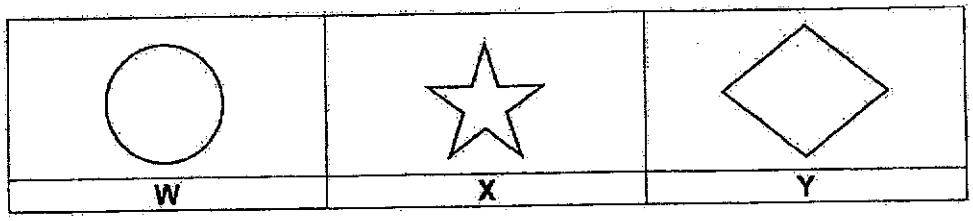


(4)

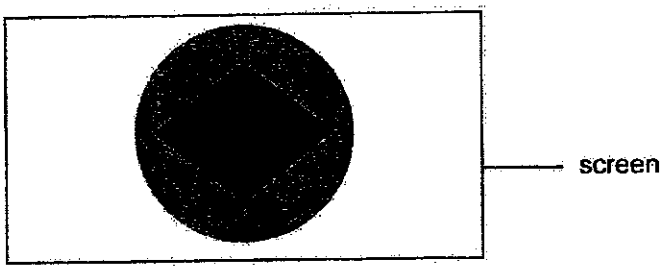


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22. Colin had three different shapes made from different materials, as shown below.



He hung all three shapes between a light source and a screen, and observed the following shadow shown on the screen.



Which of the following best describes materials W, X and Y?

	W	X	Y
(1)	Translucent	Opaque	Translucent
(2)	Translucent	Transparent	Opaque
(3)	Transparent	Translucent	Opaque
(4)	Opaque	Transparent	Translucent

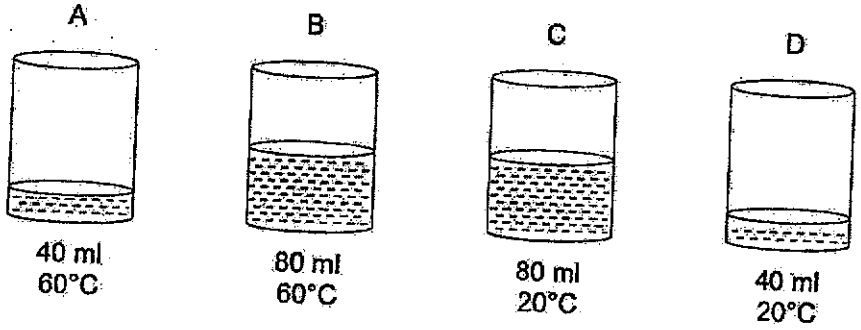
23. Sahara places a cardboard box with a small hole in a dark room. She placed a red pen in the box. When she looks through the hole in the box, she is not able to see anything.

What should Sahara do to see the red pen through the hole in the box?

(1) Place a lighted torch in the box.
(2) Make the hole in the box smaller.
(3) Move the red pen closer to the hole.
(4) Make another hole on the top of the box.

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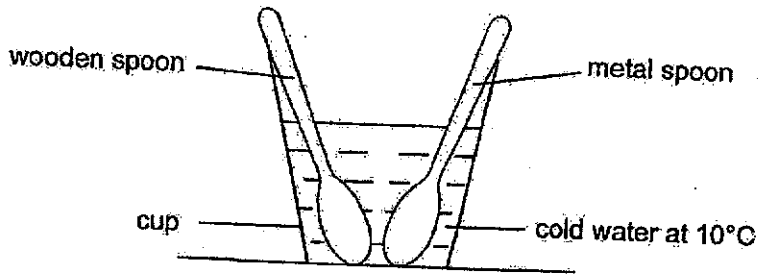
24. Containers A, B, C, and D have different volumes of water which are at different temperatures as shown below.



Which container of water has the least amount of heat?

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

25. A wooden spoon and a metal spoon of the same size had the original temperature of 30°C. They were then placed into a cup of cold water at the same time.

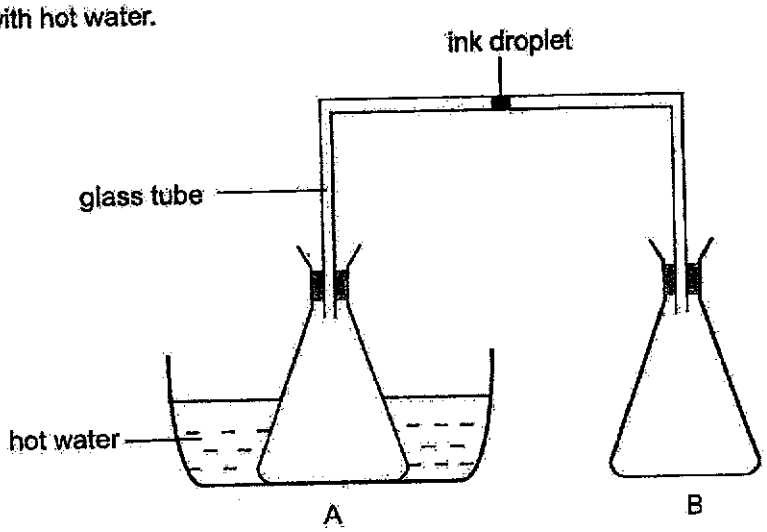


Which of the following would most likely be the temperature of the wooden spoon and metal spoon after 10 minutes?

	Temperature (°C)	
	Wooden spoon	Metal spoon
(1)	18	9
(2)	15	18
(3)	25	15
(4)	35	20

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26. The diagram below shows two identical bottles, A and B, connected with a glass tube that contains an ink droplet inside. Bottle A was placed inside a basin filled with hot water.

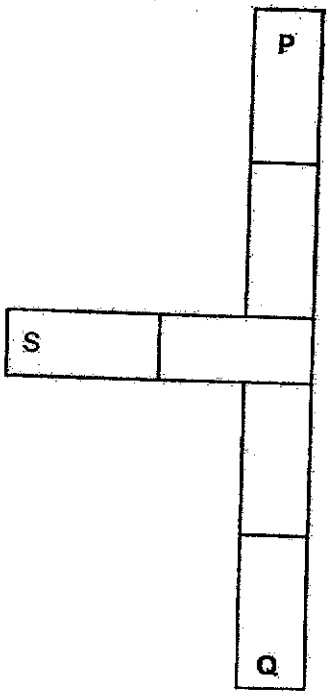


Which of the following can be observed about the ink droplet and why?

	Observation	Explanation
(1)	Moves towards bottle A	The air in bottle A lost heat and contracted.
(2)	Moves towards bottle A	The air in bottle A gained heat and expanded.
(3)	Moves towards bottle B	The air in bottle A gained heat and expanded.
(4)	Moves towards bottle B	The air in bottle B lost heat and contracted.

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27. Observe the diagram below carefully. S represents the South pole and N represents the North pole.

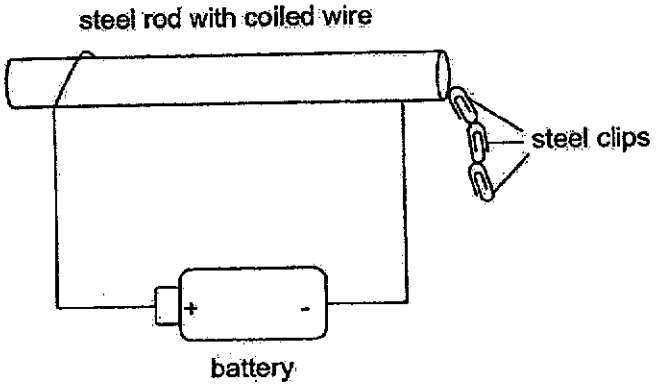


What poles of the magnet could P and Q be?

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

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28. Jia Jie created an electromagnet by coiling wire around a steel rod. He tested it by placing steel clips near it and observed that the electromagnet attracted the steel clips.



What changes can Jia Jie make in order for the electromagnet to attract more steel clips?

A: Increase the number of batteries in the set-up.
B: Decrease the number of batteries in the set-up.
C: Increase the number of coils of wire around the steel rod.
D: Decrease the number of coils of wire around the steel rod.

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

END OF BOOKLET A

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RED SWASTIKA SCHOOL

SCIENCE
2024 END YEAR EXAMINATION
PRIMARY 4

Name : _____ ( )

Class : Primary 4/ _____

Date : 21 October 2024

BOOKLET B

12 Questions
44 Marks

In this booklet, you should have the following:
a. Page 17 to Page 31
b. Questions 29 to 40

	MARKS OBTAINED	POSSIBLE
BOOKLET A		56
BOOKLET B		44
TOTAL		100

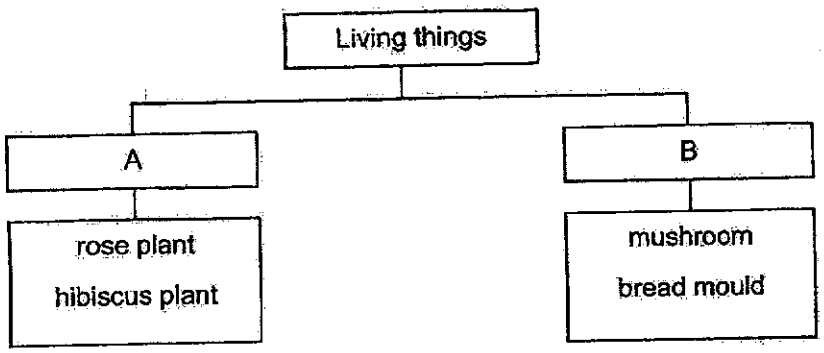
Parent's Signature: _____

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Answer all the questions in the spaces provided.

29. Study the classification chart below.



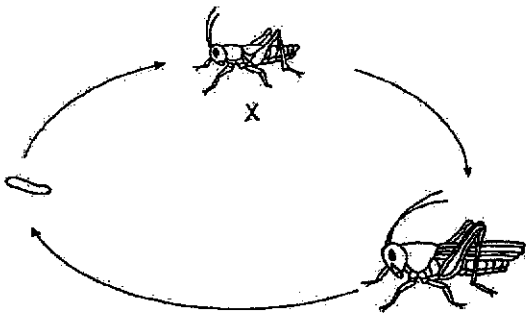
Choose the correct words from the box to give suitable headings for A and B. (2m)

fungi	bacteria	flowering plants	non-flowering plants

A: _____

B: _____

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



(a) Name stage X. (1m)

_____

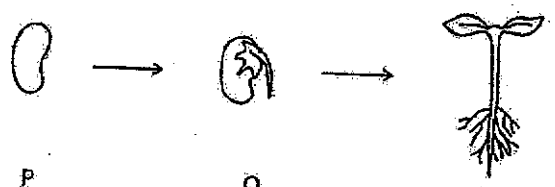
(b) State one other animal that has a similar life cycle as a grasshopper. (1m)

_____

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31. The diagram below shows the different stages P, Q and R of a plant.



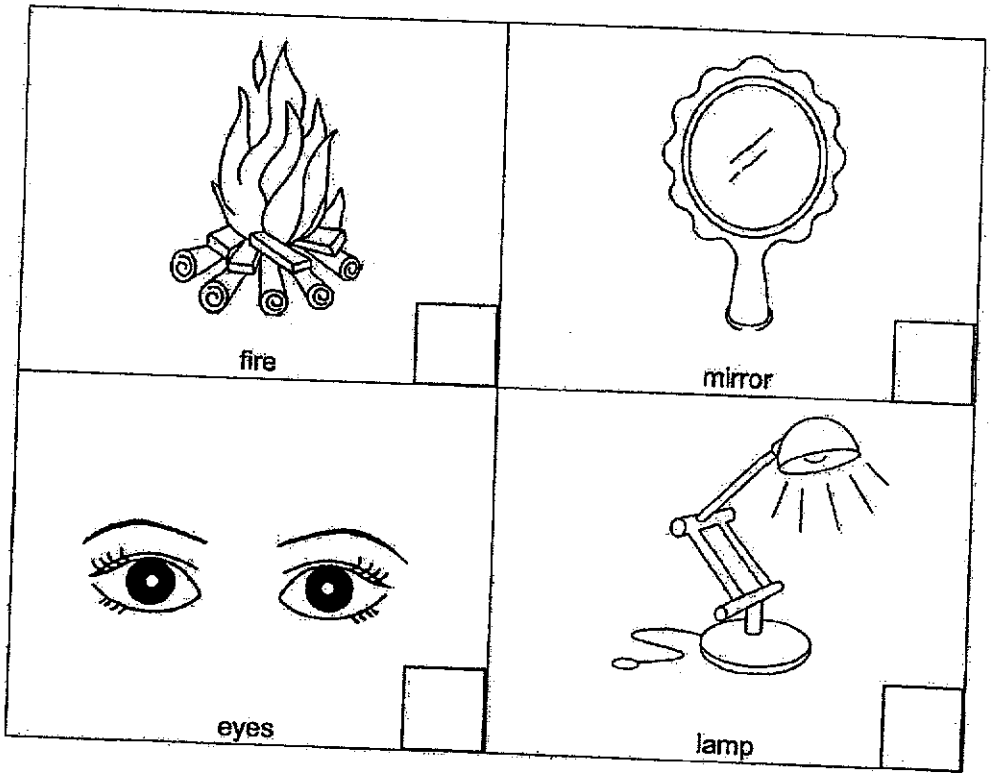
P Q R

Fill in the blanks using the correct words in the box. (2m)

P	Q	R	roots	stem	leaves

The plant can make its own food at stage _____ because it has _____ present.

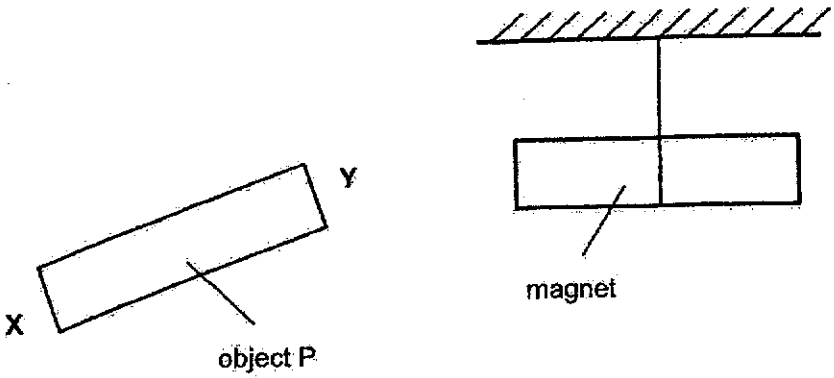
32. Look at the pictures below. Tick (✓) the sources of light in the boxes provided. (2m)



4

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33. Object P was brought near to a magnet. When end Y was brought near a pole of the magnet as shown below, the magnet moves away.



(a) Based on the diagram above, what can object P be? (1m)

_____

(b) When end X is brought near the same pole of the magnet, it will _____ the magnet. (1m)

2

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34. The diagram below shows how some animals are grouped.

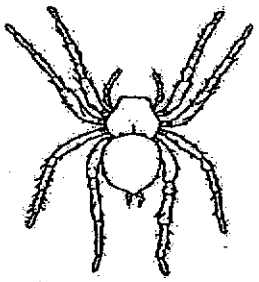
A	B
bat lion elephant	beetle mosquito cockroach

(a) Which group of living things do A and B represent? (2m)

A: _____

B: _____

Pamela wanted to classify the organism shown below in group B. Her friends said that she was wrong.



(b) Using the characteristics that the living things in group B has, give 2 reasons why Pamela cannot classify the organism in group B. (2m)

_____

_____

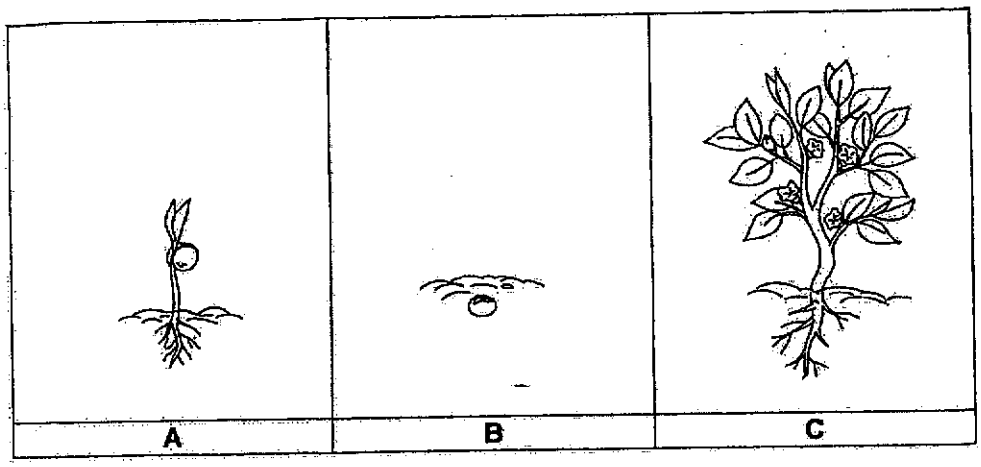
(c) Name one other living thing that can be classified in group A. (1m)

_____

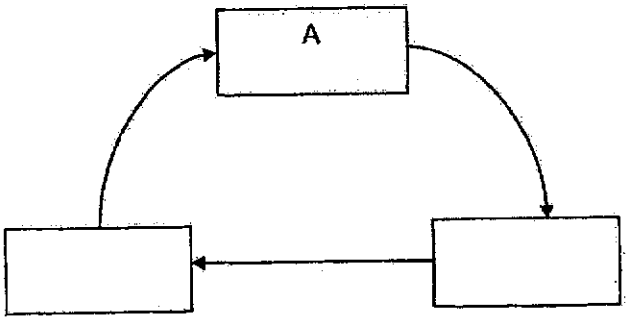
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35. The diagram below shows the stages in the life cycle of a papaya plant.



(a) Fill in the boxes below with the letters B and C to show the life cycle of the plant. Stage A has already been included in the life cycle as seen below. (1m)



(b) In which stage, A, B or C, will the plant be able to bear fruits? (1m)

_____

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35. The characteristics of animal P, Q and R can be seen in the table below. A tick (✓) indicates that the characteristic is present.

Characteristic	P	Q	R
Lay eggs in water	✓		✓
Young looks like the adult.		✓	
Has three stages in its life cycle		✓	✓

(c) Based on the table above, state one difference between animal Q and R. (1m)

_____

_____

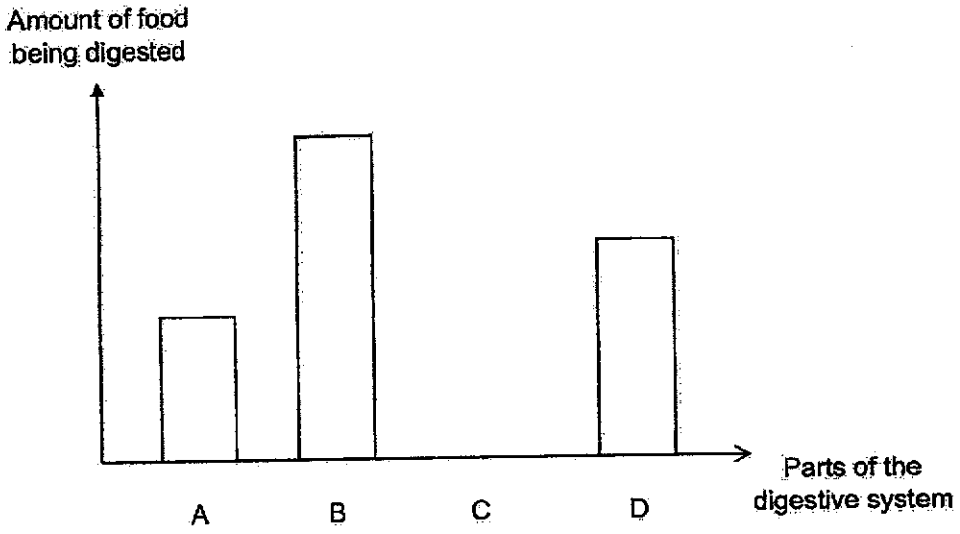
(d) What letter, P, Q or R, best represents a mosquito? (1m)

_____

2

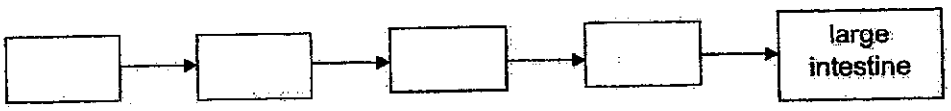
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36. Mei Yan drew a bar graph to show the amount of food being digested in different parts of the digestive system labeled A, B, C and D, before it reaches the large intestine. The parts are not arranged in the correct order.



(a) Which part of the digestive system could C be? Explain your answer. (2m)

(b) Using the parts A, B, C and D, arrange the parts of the digestive system in the correct order. (1m)



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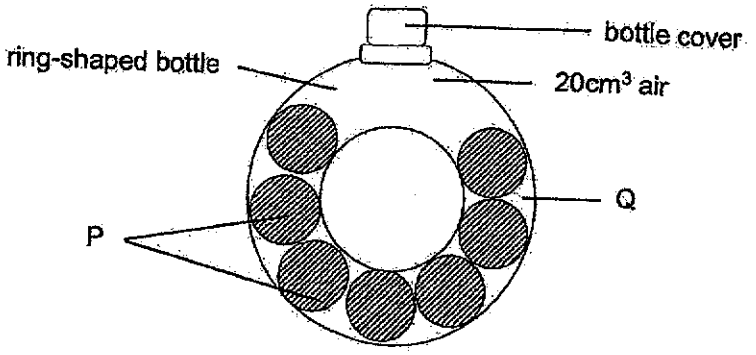
37. The table below shows the properties of A, B and C.

	A	B	C
Has mass	Yes	Yes	No
Occupies space	Yes	Yes	No
Has a definite shape	No	Yes	No

(a) Which of the above, A, B or C is not matter? (1m)

_____

(b) Gareth placed substances P and Q into a ring-shaped bottle. There was 20cm^3 of air left in the bottle as shown in the diagram below.



(i) Which substance, P or Q, is a liquid? (1m)

_____

(ii) Explain your answer in b(i). (1m)

_____

(c) Gareth added 30cm^3 of air into the container. What will the final volume of air in the container be? Explain your answer. (2m)

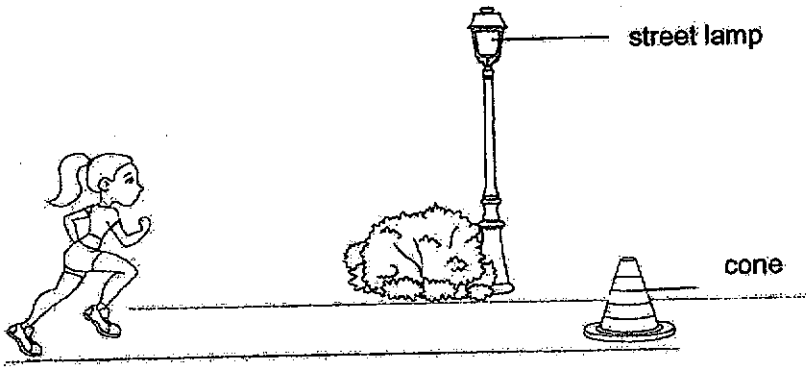
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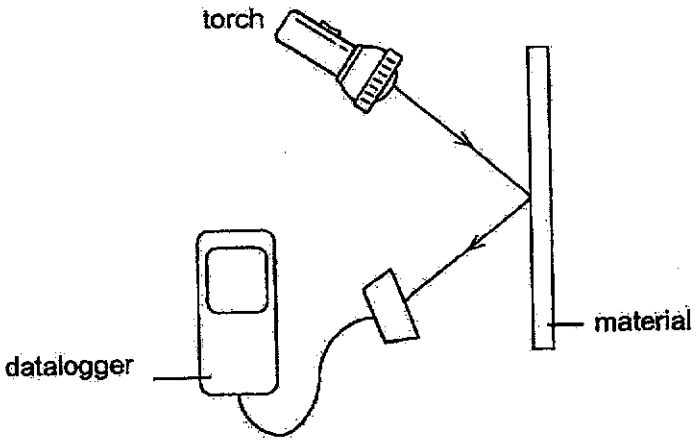
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38. Jie Ling ran through a park at night. She saw a cone on the path and avoided it.



(a) Describe how Jie Ling was able to see the cone at night. (2m)

Jie Ling conducted an experiment with three samples of different materials, C, D and E, as shown in the diagram below. She wanted to find out how much light each material reflected. She used a datalogger to record the amount of light reflected.



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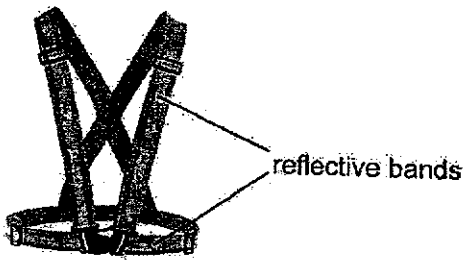
38. The results of her experiment are as shown in the table below.

Material	Amount of light recorded by datalogger (units)
C	73
D	0
E	15

(b) Based on the results of the experiment, which material allowed the most light to pass through? (1m)

_____

Jie Ling wears a running vest that has reflective bands so that she can be easily seen while running at night.



(c) Based on the results of the experiment, which material would be most suitable to make reflective bands? Explain your answer. (2m)

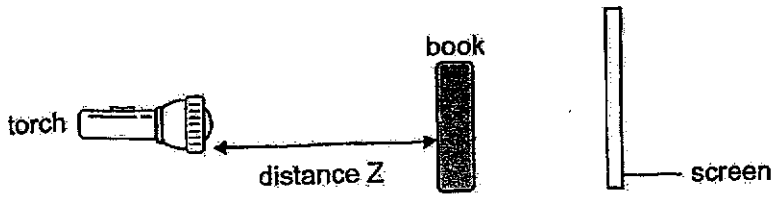
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39. Michael conducted an experiment using a torch, a book and a screen as shown in the diagram below.



He changed distance Z by moving the torch and measured the height of the shadow formed on the screen. He then recorded the results of the experiment in the table below.

Distance Z (cm)	Height of the shadow formed on the screen (cm)
4	20
8	17
12	14
16	11

(a) Based on the results of the experiment, state the relationship between distance Z and the height of the shadow formed on the screen. (1m)

_____

_____

(b) State one variable that must be kept constant in order for the experiment to be a fair test. (1m)

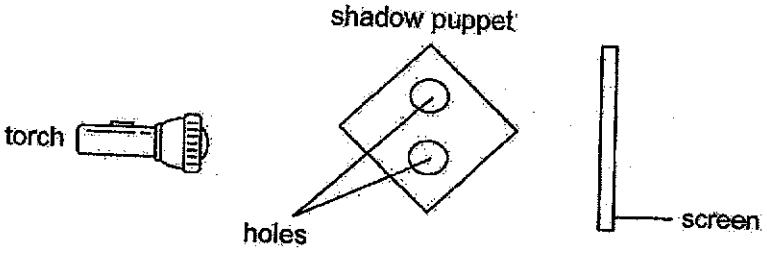
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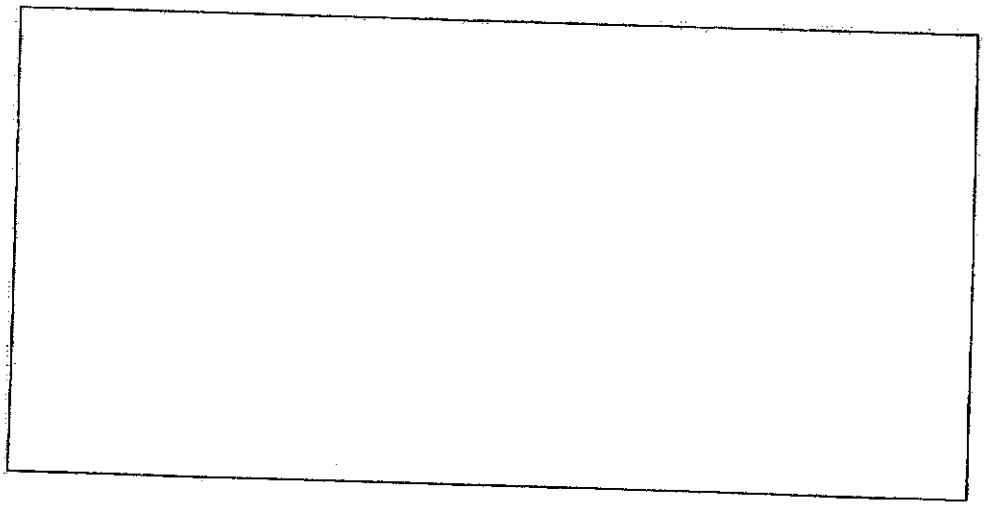
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39. Michael replaced the book with an object made of cardboard. He cut out two circles in the middle of the cardboard to make a shadow puppet. To test out the shadow puppet, he then placed the object between the torch and the screen as shown below.



(c) Draw and shade in the diagram below to show how the shadow would appear. An outline of the shadow has been provided for you. (1m)

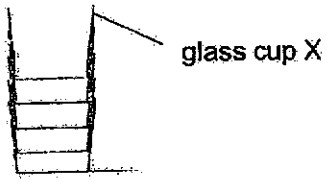


(d) State 2 ways in which Michael can make the shadow bigger without moving the torchlight. (2m)

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40. Wen Jie wanted to use glass cup X but he found that it had been stacked too tightly and could not be removed.

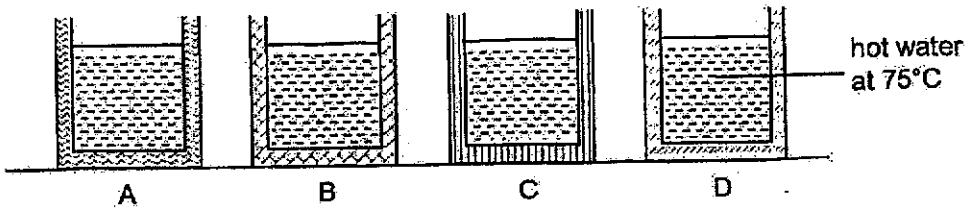


He decided to place some ice cubes in glass cup X. After two minutes, he found that it was now easier to remove glass X.

(a) State how placing ice in glass cup X allows it to be removed easily. (1m)

_____

Wen Jie wanted to find out which material could keep his food warm for the longest period of time. He tested four containers made of 4 different materials, A, B, C and D, that were of similar size and thickness. He filled each container with the same volume of hot water at 75°C and left the set-up on a table.



Wen Jie recorded the temperature of the water in each container after 15 minutes and compiled the results in the table below.

Time (min)	Temperature of water in container (°C)			
	A	B	C	D
0	75	75	75	75
15	46	30	42	38

(b) Which material would be able to keep Wen Jie's food warm for the longest period of time? Explain your answer. (2m)

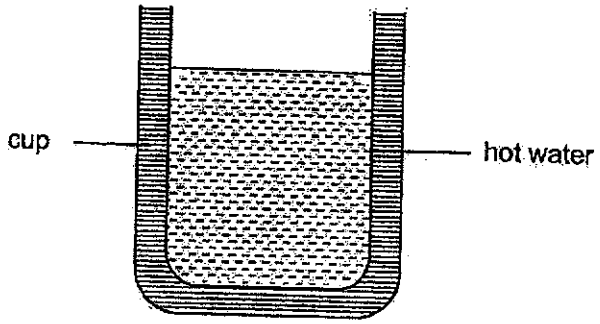
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40. Wen Jie now wants to create a cup that would allow the hot water inside to be cooled fastest when placed in a refrigerator.

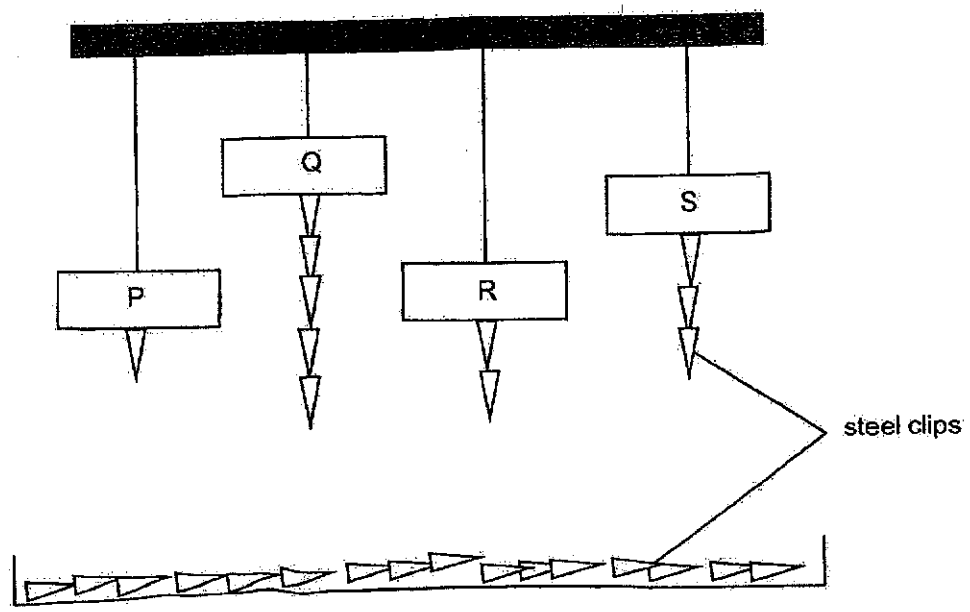


(c) Based on the results of his experiment earlier, which material would be most suitable to make the cup? Explain your answer. (2m)

2

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41. The diagram below shows 4 magnets P, Q, R and S. Peggy wanted to find out which of the magnets was the strongest. She suspended them freely above a tray of steel clips and observed how many clips were attracted. The results are as shown in the diagram below.



Which magnet is the strongest? Explain your answer. (2m)

_____

_____

END OF BOOKLET B

Please check your answers.

2

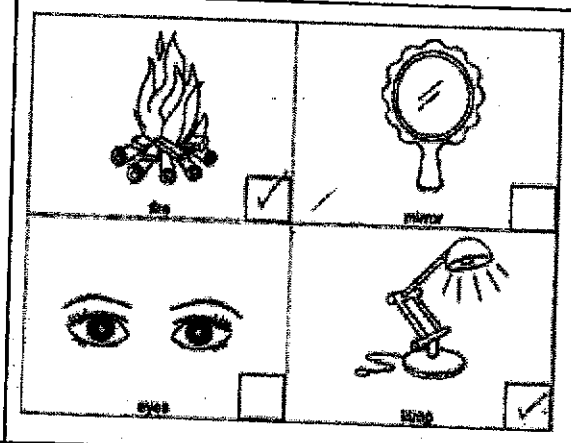
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SCHOOL : RED SWASTIKA SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : SA2

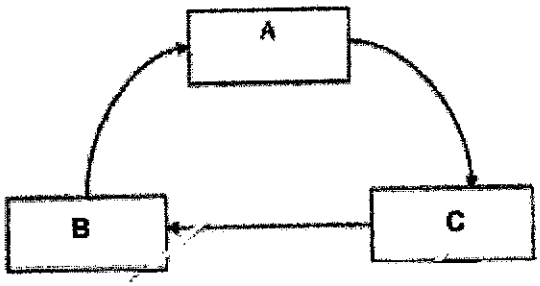
BOOKLET A

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

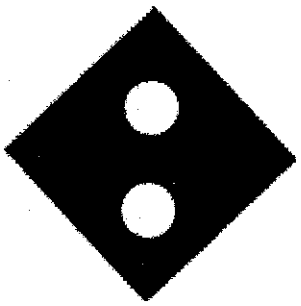
BOOKLET B

Q29	**A: Flowering plants** **B: Fungi**
Q30(a)	**Nymph**
Q30(b)	**Cockroach**
Q31	**R, leaves**
Q32	

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Q33(a)	**Magnet**
Q33(b)	**Attract**
Q34(a)	**A: Mammals** **B: Insects**
Q34(b)	**Group B represents Insects. The organism has 8 legs and its body has 2 segments, but an insect has 6 legs and 3 body segments.**
Q34(c)	**Humans**
Q35(a)	
Q35(b)	**C**
Q35(c)	**Animal R lays eggs in water while animal Q does not.**
Q35(d)	**P**
Q36(a)	**The gullet. It does not digest food.**
Q36(b)	**A → C → D → B**
Q37(a)	**C**
Q37(b)	**i) Q** **ii) Liquids do not have a fixed shape and will take the shape of the container it is put in.**
Q37(c)	**$20cm^3$. The amount of air inside the bottle will remain the same. Air can be compressed and has no definite volume.**
Q38(a)	**Light from the street lamp reflected against the cone and into her eyes, allowing her to see the cone.**
Q38(b)	**D**

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Q38(c)	**Material C. It can reflect the most amount of light and can be seen easily when it is dark, so it is the most suitable for making reflective bands.**
Q39(a)	**The longer the distance Z, the shorter the height of the shadow formed on the screen.**
Q39(b)	**The distance between the book and the screen.**
Q39(c)	
Q39(d)	**Move the shadow puppet closer to the torch. Move the screen further away from the shadow puppet.**
Q40(a)	**Glass cup X lost heat to the ice and contracted, allowing it to be removed.**
Q40(b)	**Material A. It has the highest temperature after 15 minutes, meaning that the heat from the hot water lost heat the slowest, hence material A is a poor conductor of heat and will keep the food warm longer.**
Q40(c)	**Material B. It has the lowest temperature after 15 minutes, it is the best conductor of heat, so it is the most suitable as it allows the most amount of heat to escape.**
Q41	**Magnet Q. Although it is the furthest away from the steel clips, it attracted the most amount of steel clips.**

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