RED SWASTIKA SCHOOL

SCIENCE
2020 SEMESTRAL EXAMINATION 2
PRIMARY 4

Name : _____ ( )

Class : Primary 4/ _____

Date : 2 November 2020

BOOKLET A

Total time for Booklets A & B: 1h 30 min

Booklet A: 28 questions (56 marks)

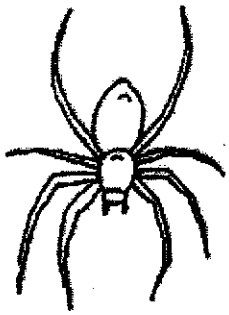
Note:

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 22
   b. Questions 1 to 28

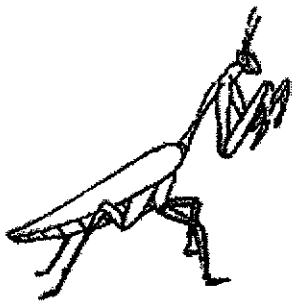
For Questions 1 to 28, choose the most suitable answer and shade its number in the OAS provided.

1. Which one of the animals shown below is **NOT** an insect?

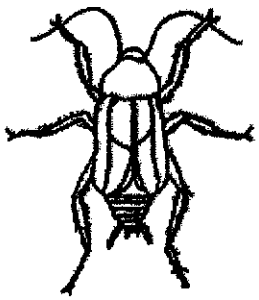
(1)



(2)

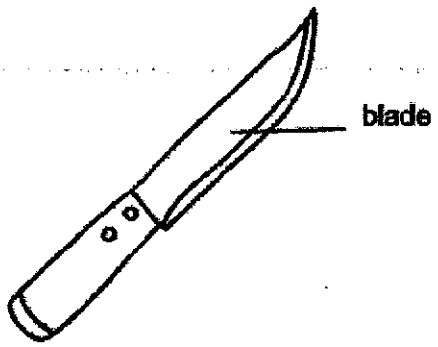


(3)



(4)

2. The diagram shows a knife.



Metal is used to make the blade of the knife because metal _____.

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

3. Which one of the following is the function of a leaf on a plant?

(1) makes food
(2) takes in water
(3) holds plant upright
(4) takes in mineral salts

4. In which part of the digestive system is food absorbed into the blood?

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

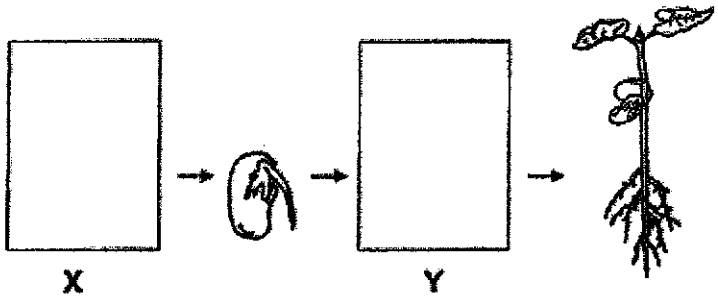
5. Jonathan made the following observations on the life cycle of an animal.

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

Which animal was Jonathan observing?

(1) dog
(2) chicken
(3) butterfly
(4) cockroach

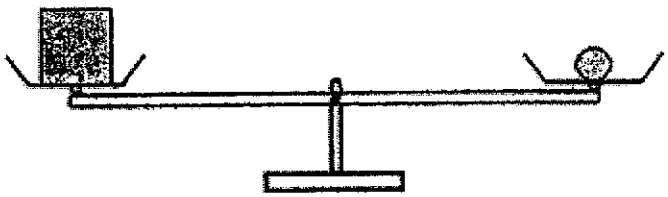
6. The diagram below shows the growth of a young plant with two missing stages X and Y.



Which one of the following shows the correct stages for X and Y?

	X	Y
(1)		
(2)		
(3)		
(4)		

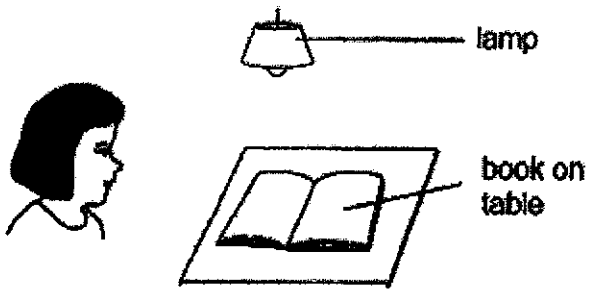
7. Study the diagram below.



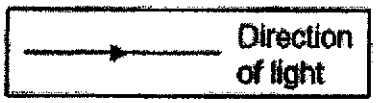
Which of the following statements is true?

(1) Both objects have the same size.
(2) Both objects have the same mass.
(3) Both objects have the same shape.
(4) Both objects have the same volume.

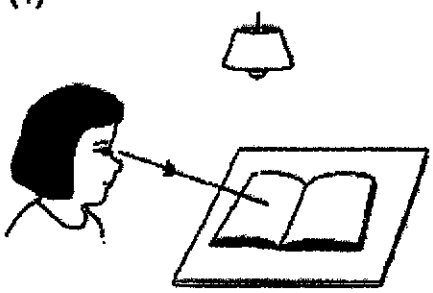
8. Look at the picture below.



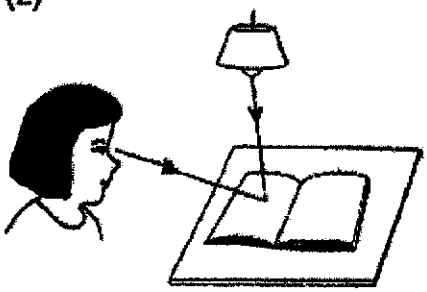
Which one of the following explains why Sue can see the book on the table?



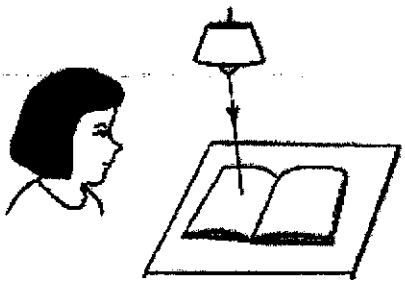
(1)



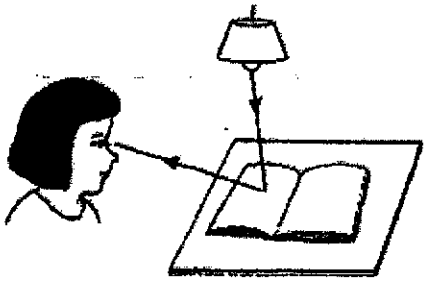
(2)



(3)



(4)

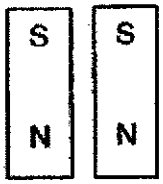


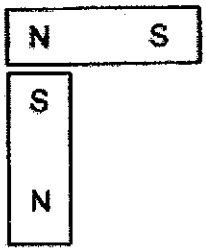
9. Which one of the following is the best conductor of heat?

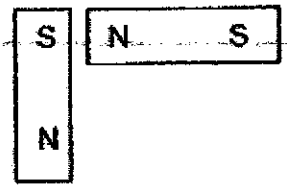
(1) A paper cup
(2) A metal cup
(3) A plastic cup
(4) A wooden cup

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

(1) 

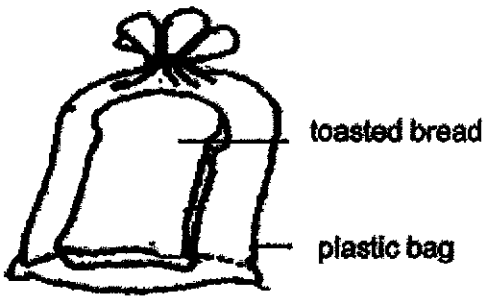
(2) 

(3) 

(4) 

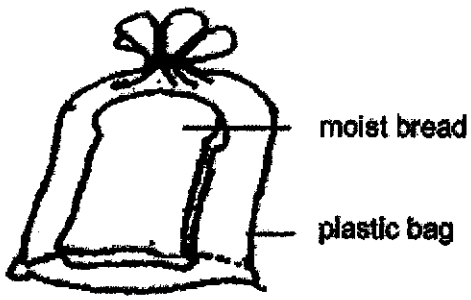
11. Mary set up an experiment as shown below. The toasted bread was allowed to cool down before it was placed into the plastic bag.

Set-up A



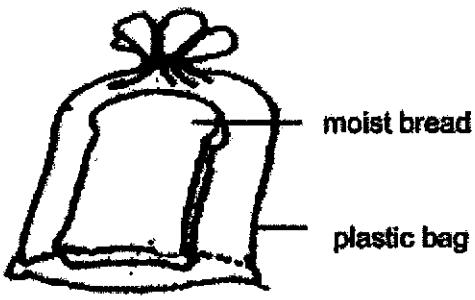
placed in the cupboard

Set-up B



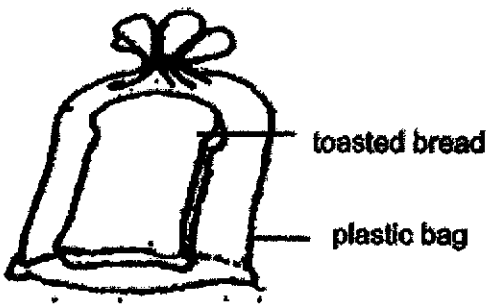
placed near the window

Set-up C



placed in the freezer

Set-up D

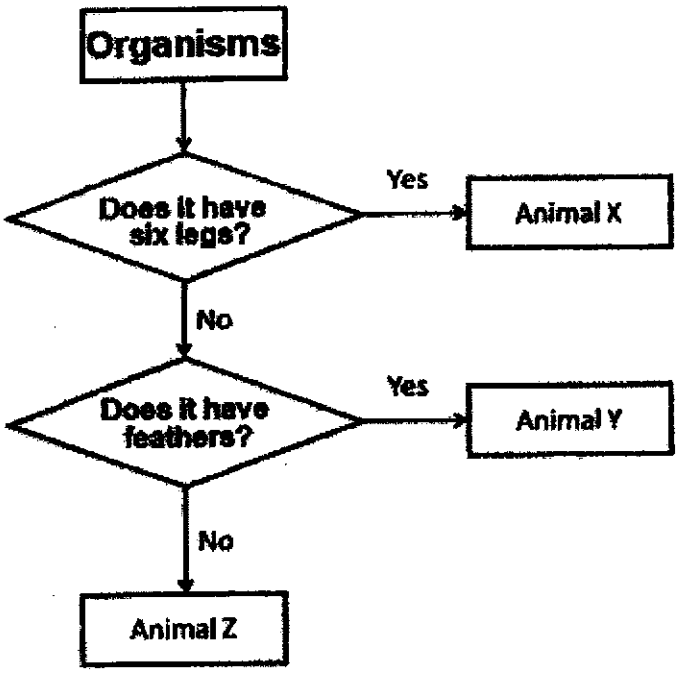


placed near the window

In which set-up would mould most likely grow first on the bread?

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

12. Study the flow chart below about Animals X, Y and Z carefully.



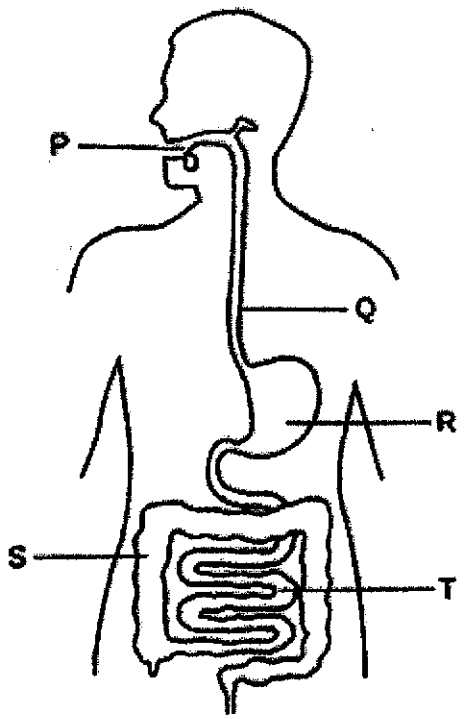
What could Animal X, Y and Z be?

	Animal X	Animal Y	Animal Z
(1)	mammal	insect	bird
(2)	insect	bird	mammal
(3)	insect	mammal	bird
(4)	bird	mammal	insect

13. Which of the following incorrectly matches the organ to the system?

	System	Organ
(1)	skeletal	large intestine
(2)	respiratory	windpipe
(3)	circulatory	heart
(4)	digestive	stomach

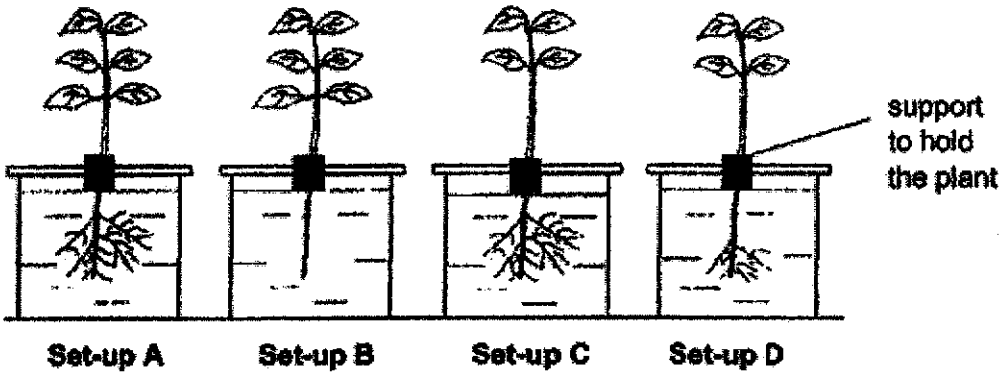
14. Study the human body system below.



Which two parts of the human body system do not produce digestive juices?

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

15. Robert wanted to conduct an experiment to find out if the number of leaves affects the amount of water taken in by the plant.

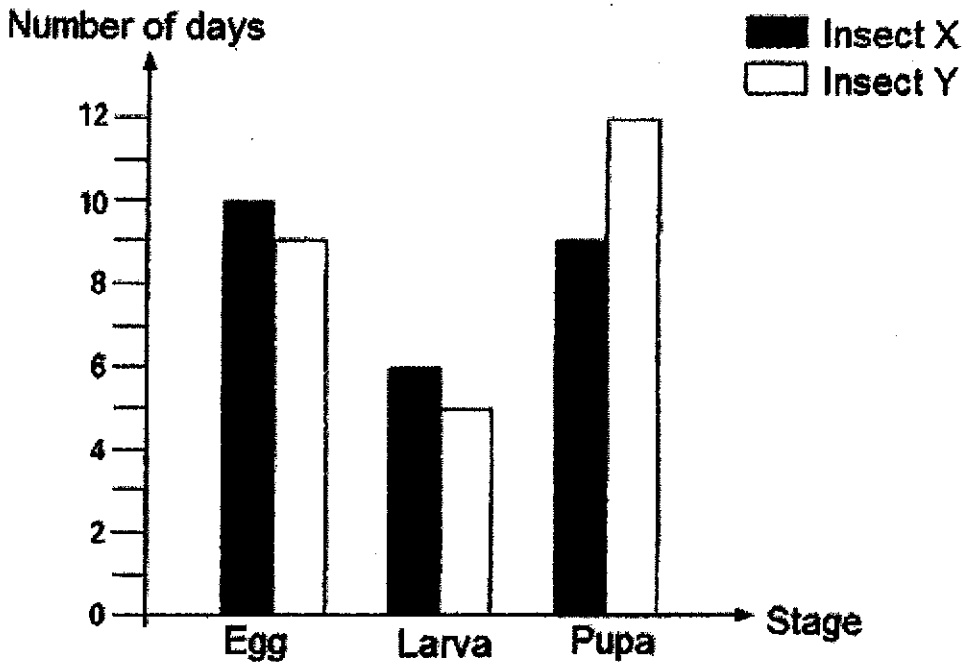


Each set-up had the same amount of water at the start of the experiment.

Which of the two set-ups above should he choose to conduct a fair test?

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

16. The graph below shows how long each stage in the life cycle of Insect X and Insect Y lasts.



Based on the graph above, at which stage will Insect X and Insect Y be on the 15th day after the eggs are laid?

	Insect X	Insect Y
(1)	Larva	Pupa
(2)	Pupa	Larva
(3)	Larva	Larva
(4)	Pupa	Pupa

17. Devi placed four similar seeds under the following conditions as shown below. A tick (√) represents the presence of the condition.

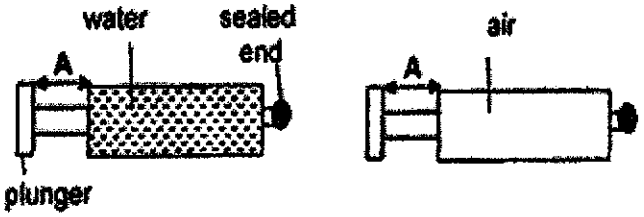
Set-up	Condition			
	Air	Light	Water	Temperature (°C)
P		√		30
Q	√		√	30
R	√	√		3
S			√	3

In which set-up will the seed germinate first?

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

18. Kok Wei has two identical syringes, X and Y, each filled with a different matter as shown in the diagram below.

The distance, **A**, for each syringe before he pushed the plunger was 6 cm. He then pushed in each plunger as hard as he could and measured distance **A** again.



syringe X **syringe Y**

Which of the following could likely be the measurements of **A** after the plungers were pushed in?

	Syringe X	Syringe Y
(1)	4 cm	4 cm
(2)	4 cm	6 cm
(3)	6 cm	4 cm
(4)	6 cm	6 cm

19. Alex carried out an experiment as shown below. After he lowered the metal ball carefully into the container shown in Diagram 1, some water flowed out. The water was collected in the measuring cylinder as shown in Diagram 2.

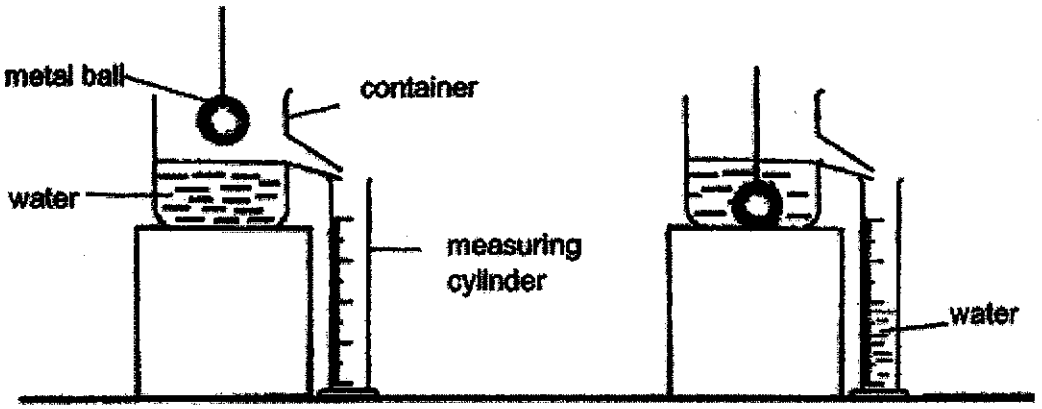
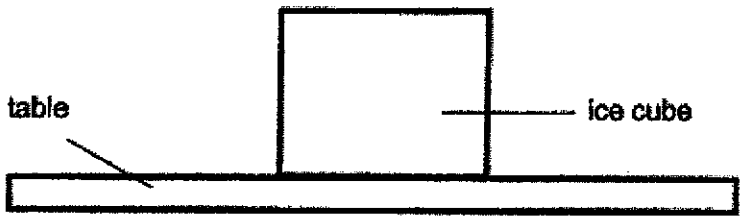


Diagram 1 Diagram 2

The result of the experiment shows that the _____.

(1) water has mass
(2) metal ball has mass
(3) metal ball has a definite volume
(4) metal ball has a definite shape

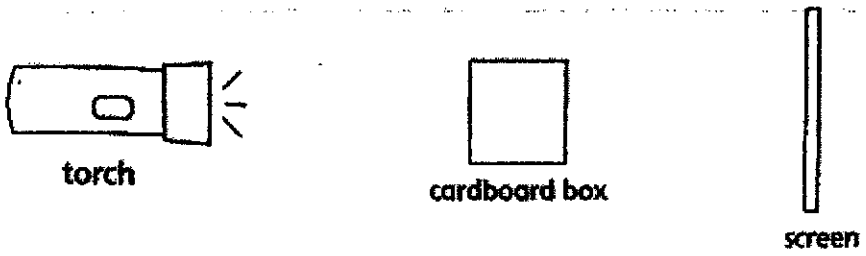
20. An ice cube has been left on a table as shown below.



Which of the following correctly shows the change in the ice cube in the next 10 minutes?

	Change in state of matter of the ice cube	Heat gain by the ice cube
(1)	No	Yes
(2)	No	No
(3)	Yes	No
(4)	Yes	Yes

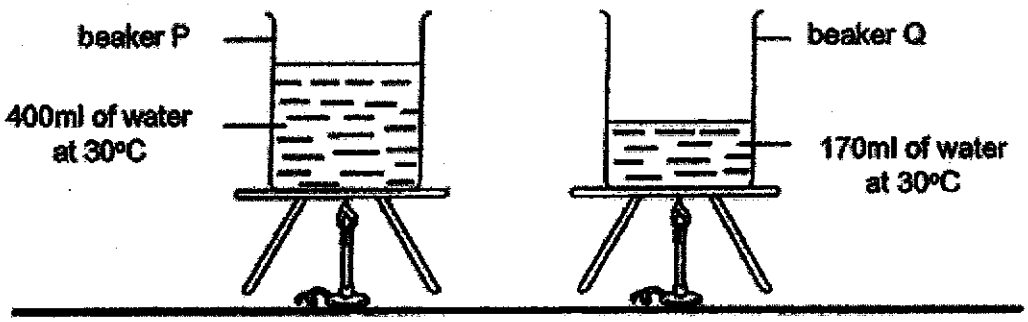
21. When the light from the torch shines on the cardboard box, a shadow is cast on the screen.



To make the shadow bigger, you should move the _____.

(1) cardboard box nearer to the torch
(2) screen nearer to the cardboard box
(3) cardboard box further away from the torch
(4) torch further away from the cardboard box

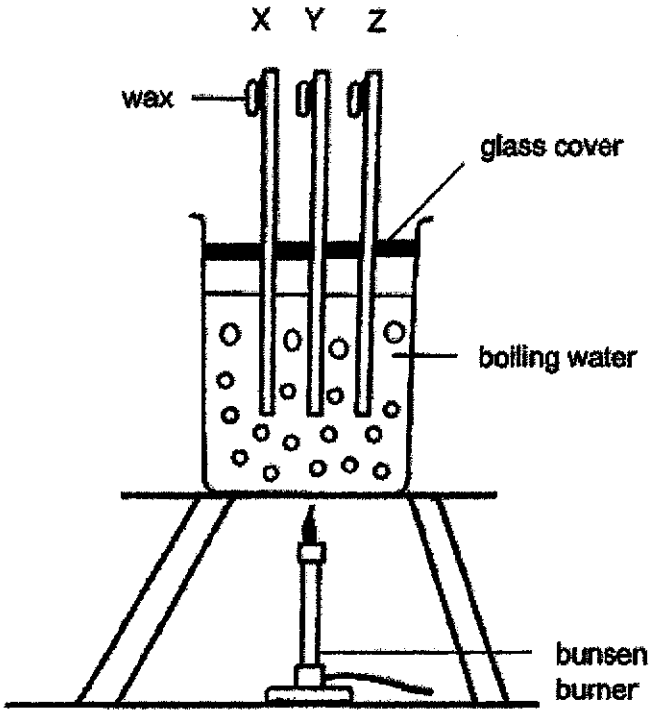
22. Study the following set-ups.



Which of the statements about the two beakers of water is true?

(1) The water in beaker Q would boil first.
(2) The water in both beakers would boil at the same time.
(3) The water in beaker P had a higher temperature when it boils.
(4) The water in both beakers have different temperature when they boil.

23. Kumar coated the same amount of wax on the ends of three rods made of three different materials, X, Y and Z. He conducted the experiment as shown in the diagram.



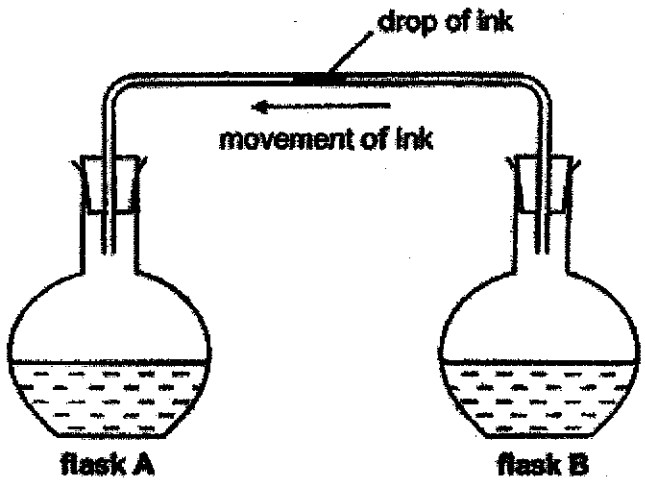
He recorded the time taken for the wax to melt completely in the table below.

Material	Time taken for wax to melt completely (min)
X	7
Y	16
Z	2

Based on the results above, which of the statements is true?

(1) Material Y is the best conductor of heat.
(2) Material Z conducts heat better than Material X.
(3) Material Z is the poorest conductor of heat .
(4) Material X is a poorer conductor of heat than material Y.

24. A drop of ink was placed in the middle of a glass tube connecting flask A and flask B as shown in the diagram below. Both flasks contained the same amount of water.

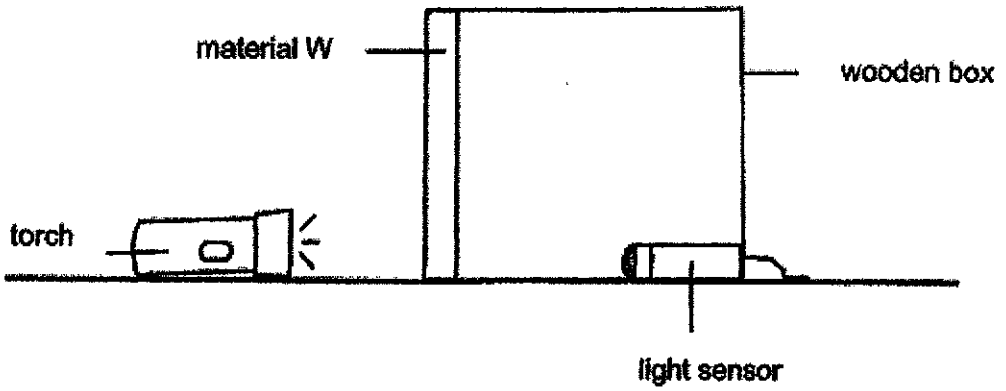


Marcus noticed that the drop of ink moved towards flask A after some time.

Based on his observation, which of the following shows the possible temperature of the water in flask A and B?

	A	B
(1)	10°C	10°C
(2)	90°C	90°C
(3)	90°C	10°C
(4)	10°C	90°C

25. Sammi set up an experiment in a dark room as shown below. She placed material W at the opening of the wooden box.



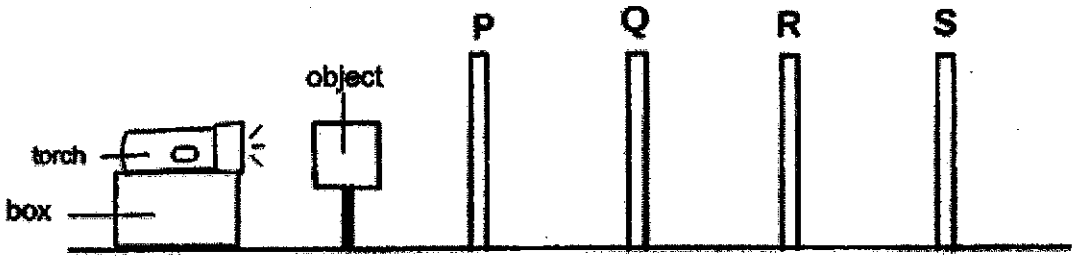
She recorded the amount of light that passed through material W using a light sensor placed in the box. She repeated the experiment using materials X, Y and Z. The table below shows the results.

	Material W	Material X	Material Y	Material Z
Amount of light detected by the light sensor (units)	400	1100	150	800

Which material should Sammi choose to make curtains that will reduce the most amount of light entering her room during the day?

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

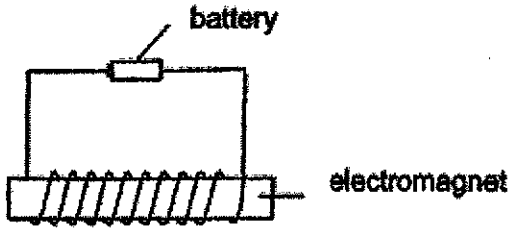
26. The experiment shown below was carried out in a dark room. Sheet P, Q, R and S were arranged in a straight line. An object was placed in front of sheet P.



When the torch was switched on, a shadow of the object was formed on sheet R only. Which of the following correctly describes the properties of the materials of sheet P, Q, R and S?

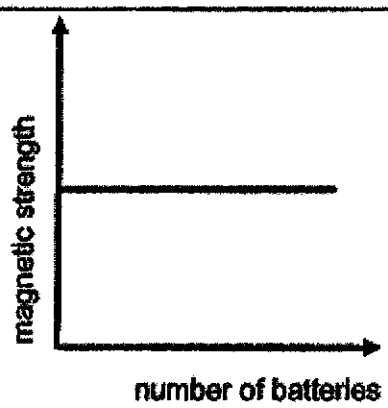
	Allows most light to pass through	Does not allow light to pass through	Not possible to tell
(1)	P and Q	R	S
(2)	P	Q and R	S
(3)	P	Q	R and S
(4)	P and Q	S	R

27. Randy used the set-up below to find out if the number of batteries affects the strength of an electromagnet.

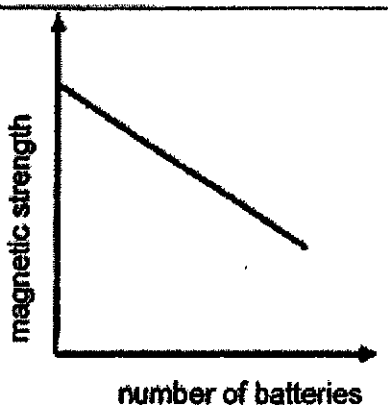


Which one of the following graphs would show the correct result of the experiment?

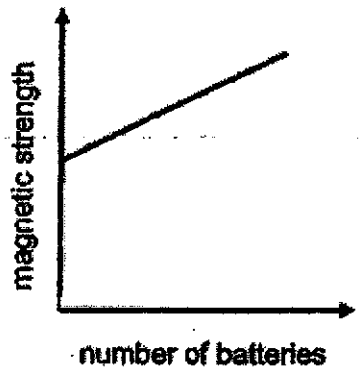
(1)



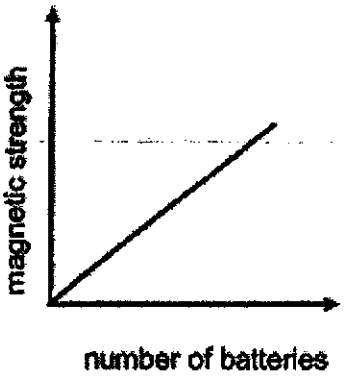
(2)



(3)

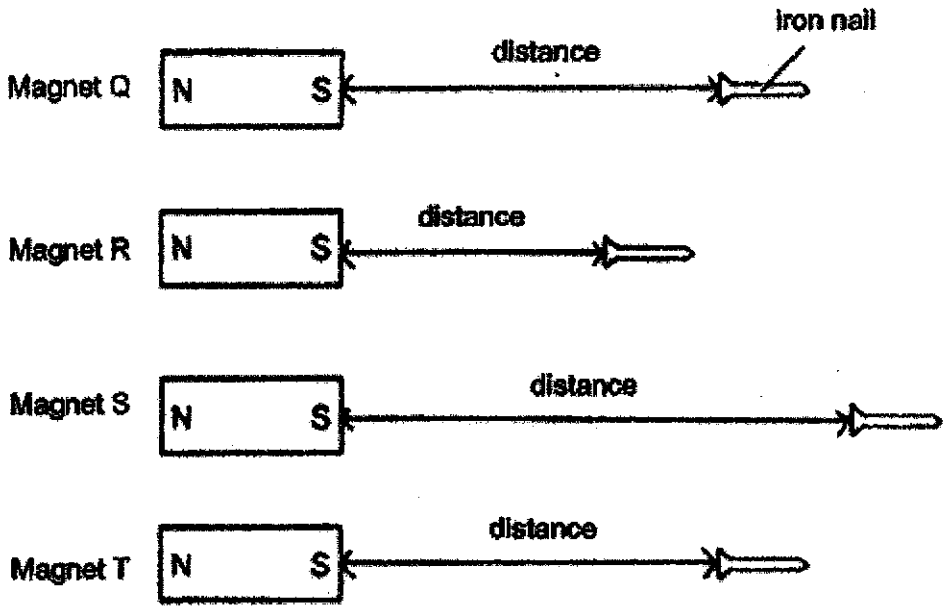


(4)



28. Joel wanted to find out the strength of four different magnets, Q, R, S and T, using an iron nail.

He moved the iron nail slowly towards Magnet Q until the nail was just attracted by the magnet. He then observed the distance between the nail and the magnet. He repeated this with the other three magnets. The results are shown in the diagram below.



Based on the results shown above, which of the following is correct?

	Strongest magnet	Weakest magnet
(1)	R	S
(2)	R	T
(3)	S	Q
(4)	S	R

End of Booklet A

RED SWASTIKA SCHOOL

SCIENCE
2020 SEMESTRAL EXAMINATION 2
PRIMARY 4

Name : _____ ( )

Class : Primary 4/ _____

Date : 2 November 2020

BOOKLET B

13 Questions
44 Marks

In this booklet, you should have the following:
a. Page 23 to Page 35
b. Questions 29 to 41

	MARKS OBTAINED	POSSIBLE
BOOKLET A		56
BOOKLET B		44
TOTAL		100

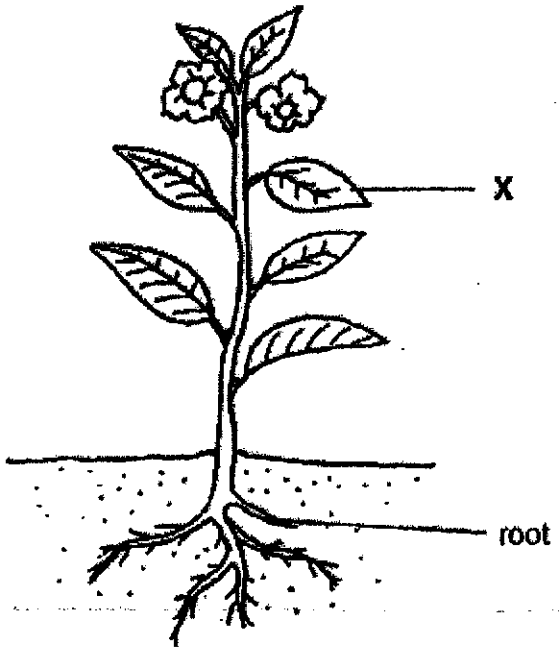
Parent's Signature: _____

Answer all the questions in the spaces provided.

29. Fill in the blanks in the table with names of broad groups of living things. (2m)

Group	Characteristics
	Body covered with hair
	Dry skin with scales

30. The diagram shows a plant.



(a) Name plant part X. (1m)

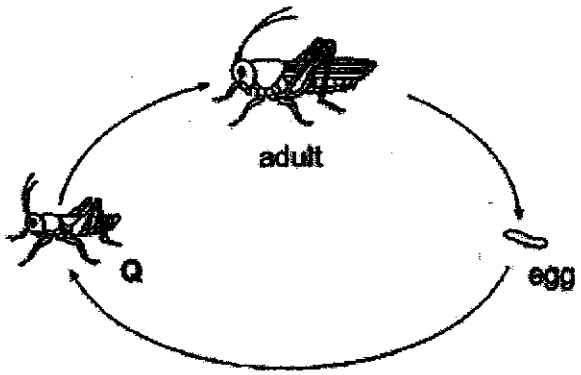
X: _____

(b) One substance that the roots of plant take in from the soil is

_____. (1m)

4

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



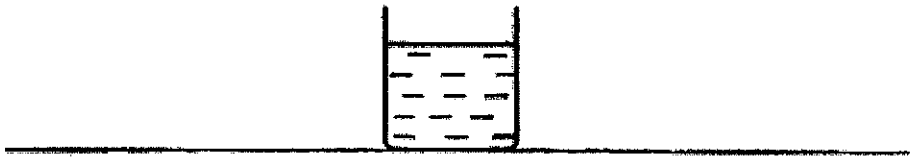
(a) Name stage Q. (1m)

_____

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

_____

32. The diagram shows a beaker of water.



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

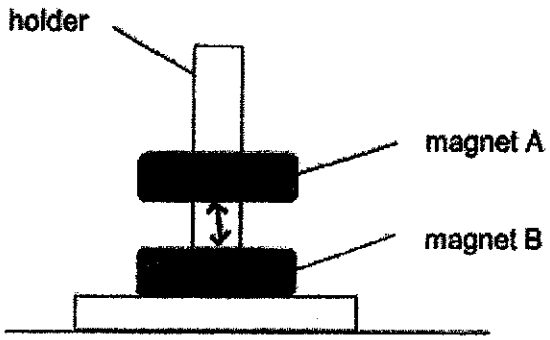
gas	decreases	solid
remains unchanged		increases

(a) When heat is removed from the water, its temperature _____

(b) The beaker of water is put in the freezer. After some time, the water will change its state to become _____

4

33. Alice placed two ring magnets, A and B, through a holder as shown below.



(a) The holder was made of wood and did not attract the magnets. (1m)

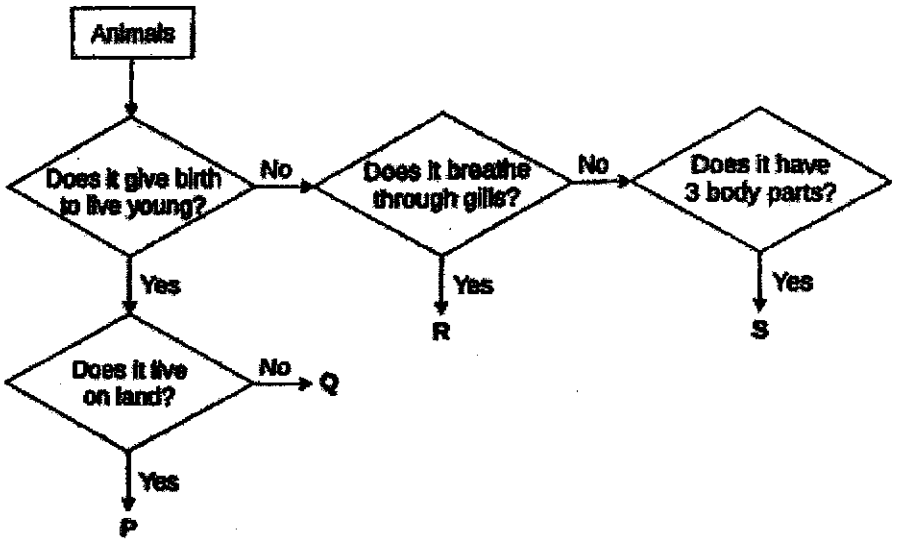
Wood is a _____ material.

(b) Why was magnet A floating above magnet B? (1m)

Magnet B was _____ magnet A.

2

34. Study the flow chart below.



(a) Based on the flow chart, state a difference between animals R and S. (1m)

_____

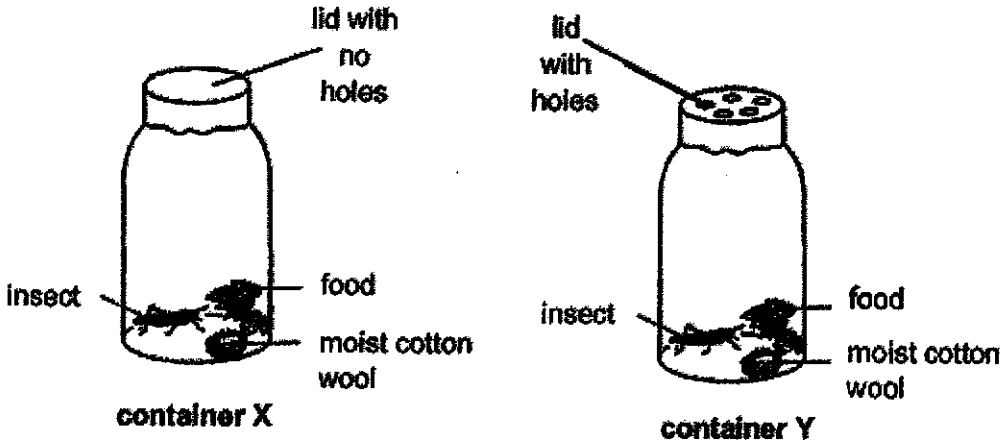
_____

(b) Classify these organisms according to the flow chart. Fill in the blanks with the letters P, Q, R or S. (2m)

Animal	Letter (P, Q, R or S)
Goldfish	
Dog	

3

34. Gopal carried out an experiment as shown below.



(d) Which insect in container X or Y will likely to die first? (1m)

_____

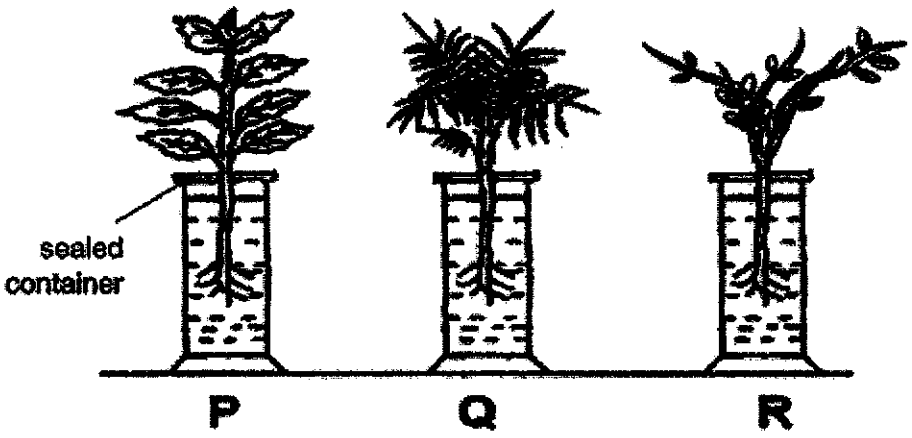
(e) Give a reason for the answer in part (d). (1m)

_____

_____

2

35. Luke placed different types of plants in three identical sealed containers of water, P, Q and R. One of the plants was made of plastic.



The three set-ups were left near the window for three days. The table below shows the amount of water left in each set-up at the start and end of the experiment.

Set-up	Amount of water left in the container (ml)	
	Day 1	Day 3
P	30	15
Q	30	30
R	30	20

(a) Which one of the set-ups, P, Q or R, contained the plant made of plastic? (1m)

_____

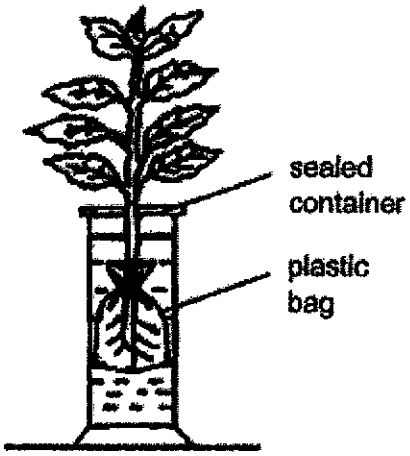
(b) Give a reason for your answer in part (a). (1m)

_____

_____

2

35. (c) Luke repeated the experiment using the plant in set-up P but he wrapped the roots of the plant with a plastic bag as shown below.



P

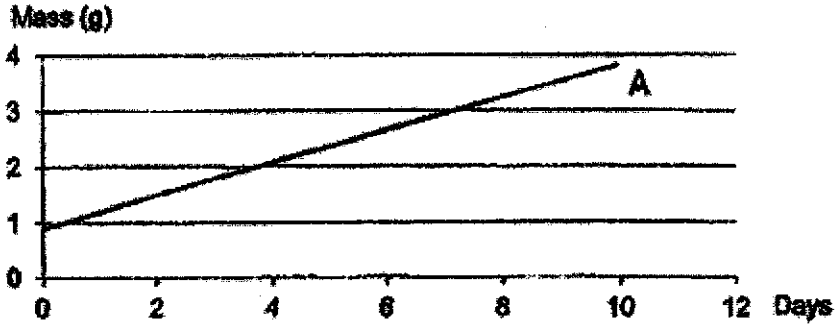
At the end of the experiment, would the amount of water left in set-up P be less than 15ml, remain the same at 15ml or greater than 15ml?

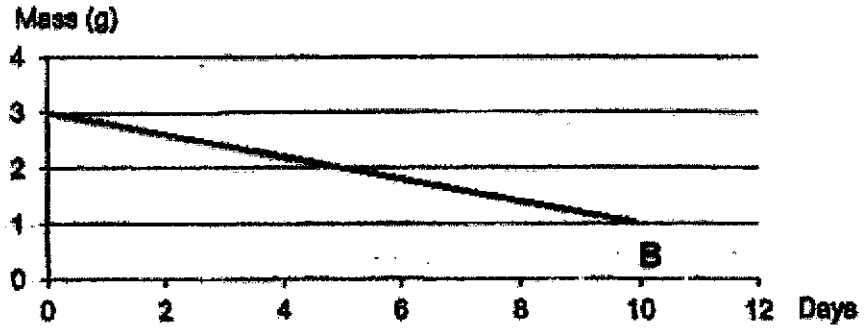
Put a tick (√) in the correct box. (1m)

less than 15ml	remain the same at 15ml	greater than 15ml

1

36. Dellang conducted an experiment to find out how the mass of the seed leaf changes as the seed germinates into a seedling. He plotted the graphs as shown below.





(a) After a seed germinates, which part of the seedling will grow out of the seed first? (1m)

_____

(b) Which graph, A or B, correctly shows the mass of the seed leaf as the seed germinates into a seedling? (1m)

_____

(c) Explain your answer in part (b). (2m)

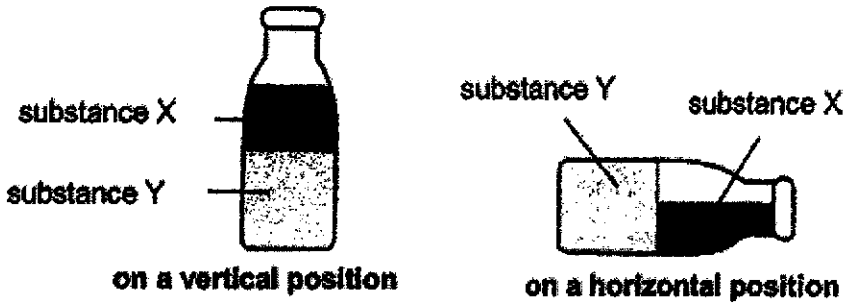
_____

_____

_____

4

37. Vinesh had a bottle containing substances X and Y. She observed the following when the bottle was placed in two different positions.

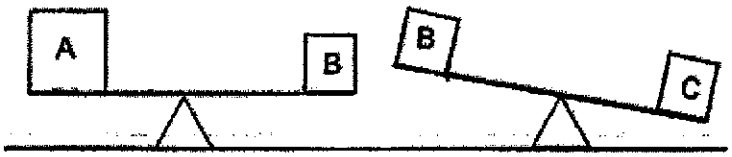


(a) What is the state of matter for substance X and substance Y? Write "X" or "Y" in the boxes below. (2m)

liquid ☐ solid ☐

(b) Based on the experiment, what is the property of substance X? (1m)

Vinesh wanted to compare the mass of 3 objects, A, B and C. She placed them on a balance beam as shown in the diagram below.



(c) Which object, A, B or C, has the largest mass? (1m)

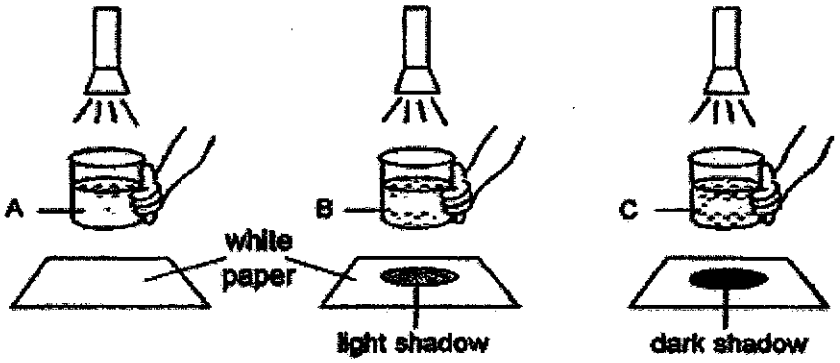
_____

(d) Which object, A, B or C, has the largest volume? (1m)

_____

5

38. Jamal wanted to find out how different types of liquid affect the amount of light that passes through the liquid. He shone light through three similar clear glass beakers. The beakers contain different types of liquid, A, B and C, as shown below.



(a) Base on the diagram, why did Jamal put a piece of white paper under each beaker? (1m)

_____

_____

(b) For the experiment to work, give a reason why the glass beakers cannot be replaced with wooden containers. (1m)

_____

_____

(c) From the diagram, what can be concluded about liquid C? (1m)

_____

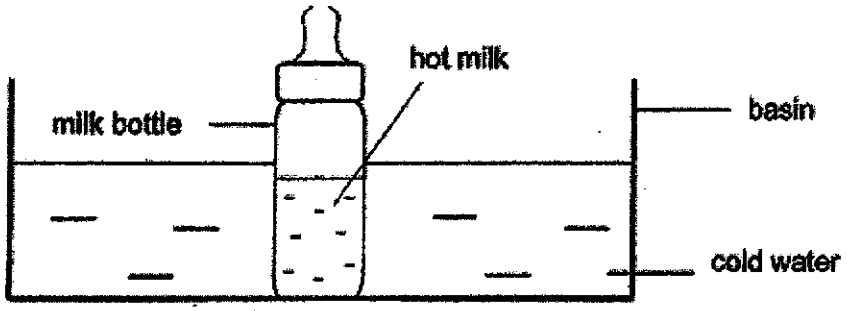
_____

(d) Tick (✓) the variables that Jamal kept the same to conduct a fair test. (2m)

	Variable	Kept the same
(i)	Brightness of the torch	
(ii)	Distance of the torch from the beakers	
(iii)	Types of liquid	
(iv)	Amount of liquid used	

5

39. Sharifah made some milk for her baby. However, the milk was too hot and she decided to put the milk bottle into a basin of cold water.



(a) What will happen to the temperature of the milk after two minutes? Explain why? (2m)

_____

_____

(b) What does this experiment tell us about the direction of heat flow? (1m)

_____

_____

(c) What will happen to the temperature of the milk and the cold water after an hour? (1m)

_____

_____

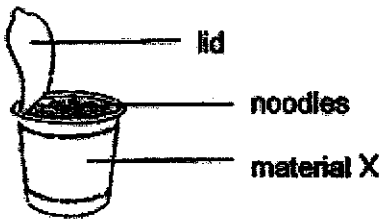
(d) What can Sharifah add to the cold water if she wants to cool down the milk faster? (1m)

_____

_____

5

40. Mr Eng poured hot water into a cup of instant noodles and kept it covered for five minutes. The cup is made of material X. When he removed the lid, he observed that the noodles had softened and the soup was still hot.



(a) To cook the noodles faster, should material X be a good or poor conductor of heat? Why? (2m)

_____

_____

(b) What property of material should material X have so that the soup will not leak out from the cup? (1m)

_____

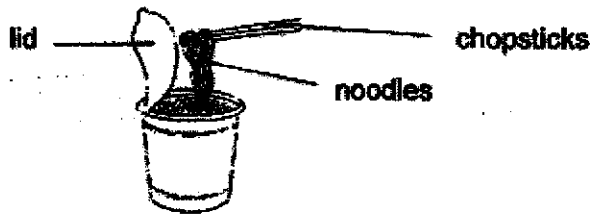
_____

(c) Explain how the lid covering the cup helped the noodles to be cooked faster. (1m)

_____

_____

Mr Eng used a pair of chopsticks to scoop the noodles.

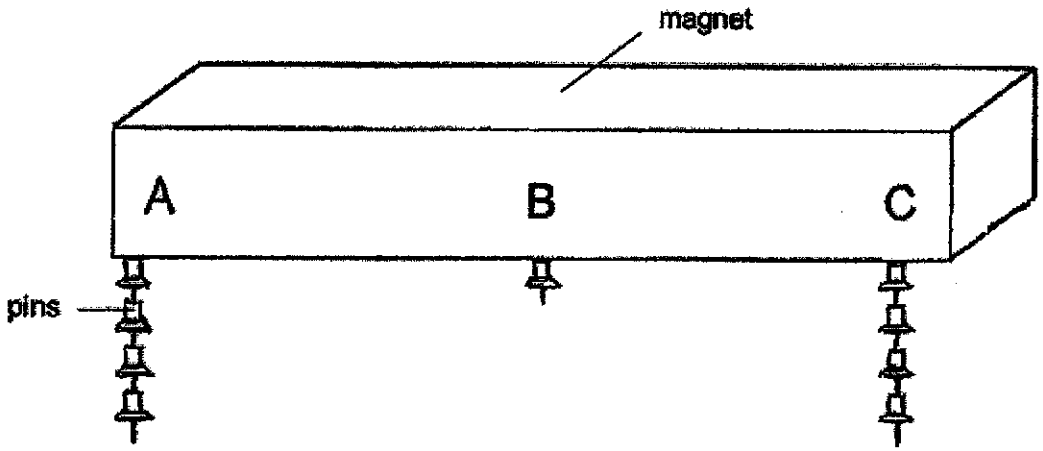


(d) Why did the chopsticks become hot after a while? (1m)

_____

5

41. Jia Wen placed a magnet into a box of pins. When she lifted up the magnet, she observed that the pins were attracted to the magnet as shown below.



(a) Based on her observation, what can she conclude about the magnetic strength of the magnet? (1m)

_____

_____

Jia Wen repeated the experiment by placing the magnet into a box of plastic clips.

(b) She observed that the magnet did not attract the plastic clips. Give a reason for her observation. (1m)

_____

_____

End of Booklet B

Please check your answer.

2

SCHOOL : RED SWASTIKA SCHOOL

LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2020 SA2

SECTION A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	2	1	3	3	3	2	4	2	2

Q 11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	2	1	4	3	1	2	3	3	4

Q 21	Q22	Q23	Q24	Q25	Q26	Q27	Q28
1	1	2	4	3	1	4	4

SECTION B

Q29)	Mammal Reptile
Q30)	(a) X: Leaves (b) Mineral salts
Q31)	(a) Nymph (b) Cockroach
Q32)	(a) Decreases (b) Solid
Q33)	(a) Non – magnetic (b) Repel
Q34)	(a) Animal R breathe through gill while S don't

	(b) R P (c) X (d) The insect needed air to breathe as it is a living thing.
Q35)	(a) Q (b) Plant in set – up B did not absorb any and plants need water to survive. (c) Remain the same at 15ml
Q36)	(a) Roots (b) B (c) As the seeding grow, the mass of the seed leave decreases, as the nutrients in the seed leave has been used up.
Q37)	(a) Liquid X Solid Y (b) Substance X do not have a definite shape (c) C (d) A
Q38)	(a) To be able to see the shadow clearly. (b) The wooden containers are opaque. (c) Liquid C does not alloy any light to pass through (d) (i), (ii), (iv)
Q39)	(a) It will decrease. The hot milk loss heat from the cold water. (b) Heart travels from a hotter region to a colder region. (c) Both will be room temperature. (d) She could add ice cubes.
Q40)	(a) Poor conductor of heat as it helps to slow down heat loos to the surroundings. (b) Waterproof (c) The lid traps the heats. (d) The chopsticks gain heat from the hot noodle.
Q41)	(a) The magnetic strength is strongest at its poles. (b) Plastic cups can't be attracted by a magnet.