SINGAPORE CHINESE GIRLS' SCHOOL
SECOND SEMESTRAL ASSESSMENT 2010
PRIMARY 4 SCIENCE

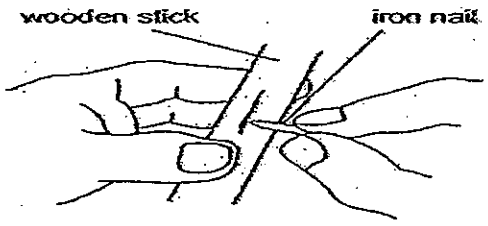
Name:_____ Date:_____

Class: Primary 4

Part I (30 x 2 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. Fatimah can easily scratch a wooden stick with an iron nail.



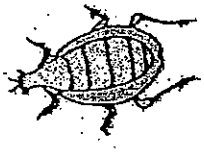
This shows that the iron nail is _____ than the wooden stick.

1) harder
2) heavier
3) stronger
4) more flexible

2) Which one of the animals below is not an insect?

(1)

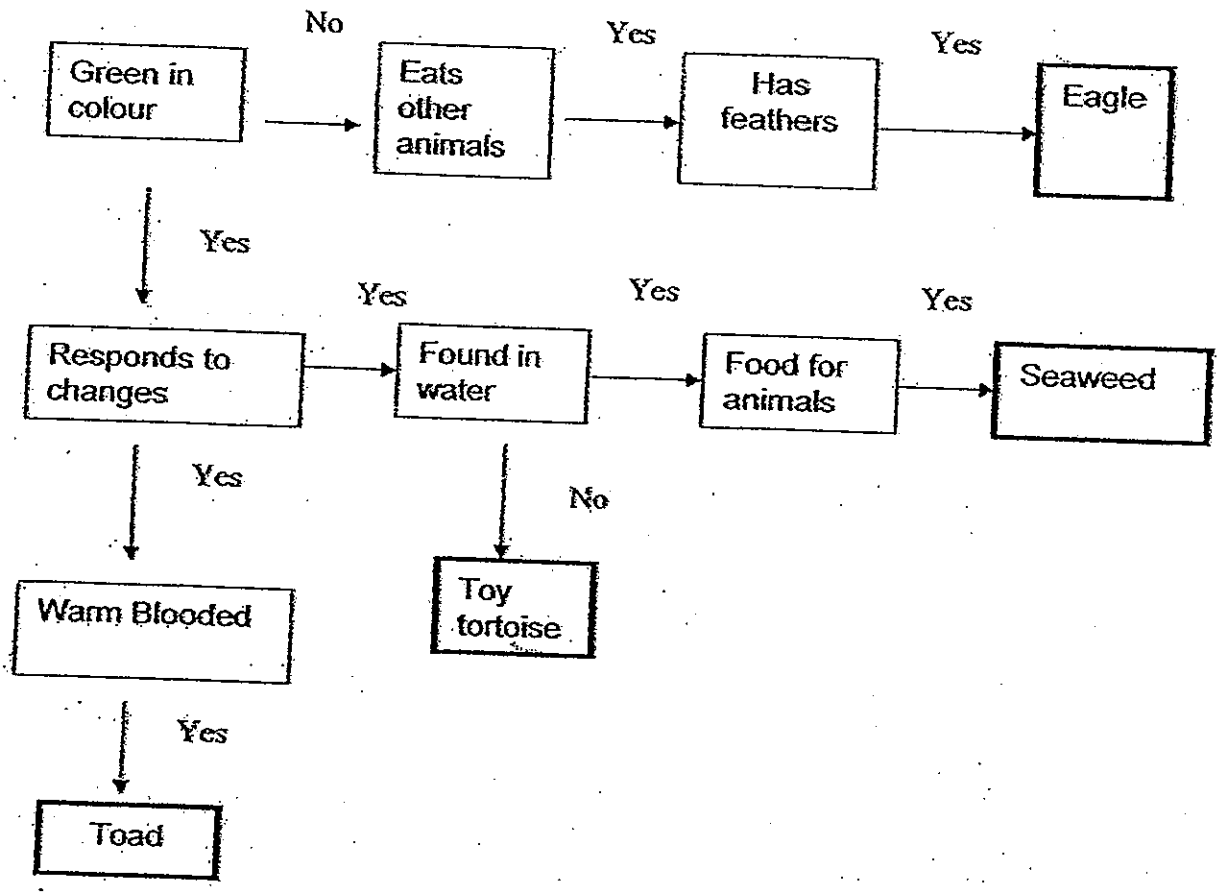
(3)



(2)

(4)

3) Study the diagram below.



Which one of the following is classified incorrectly?

a) toad
b) eagle
c) seaweed
d) toy tortoise

1) a only
2) d only
3) a and d
4) a, b and c

4) What is the main function of the large intestine?

1) It absorbs water from undigested food.
2) It absorbs digested food from the body.
3) It removes digested food from the body.
4) It removes undigested food from the body.

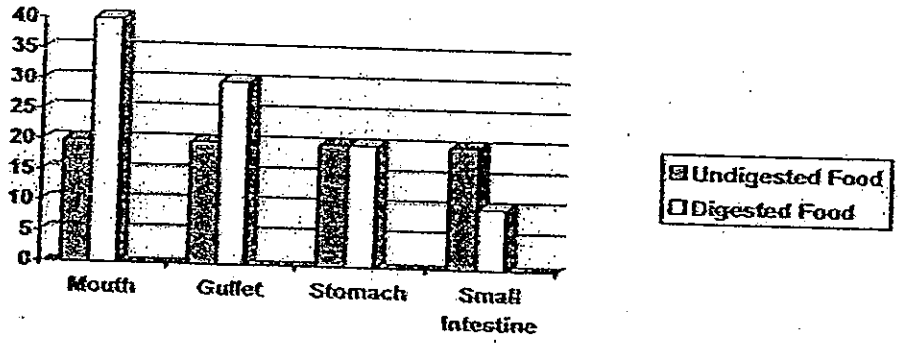
5) Study the diagram below.

What is part X?

1) stem
2) root
3) leaf
4) flower

6) Which one of the following graphs would show the level of digested and undigested food in the human body?

1)



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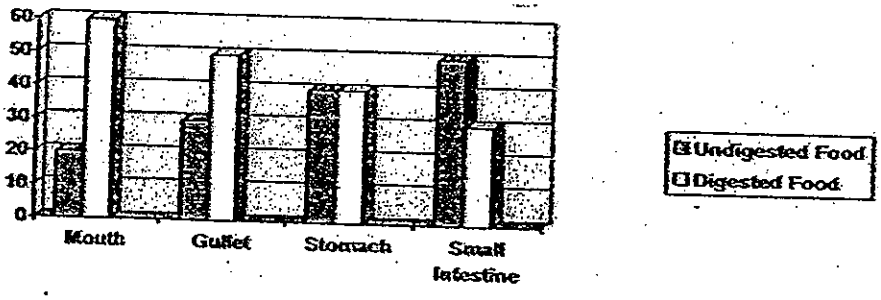
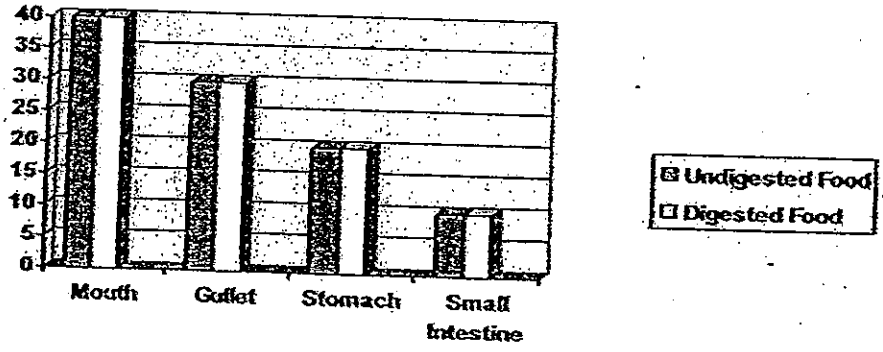
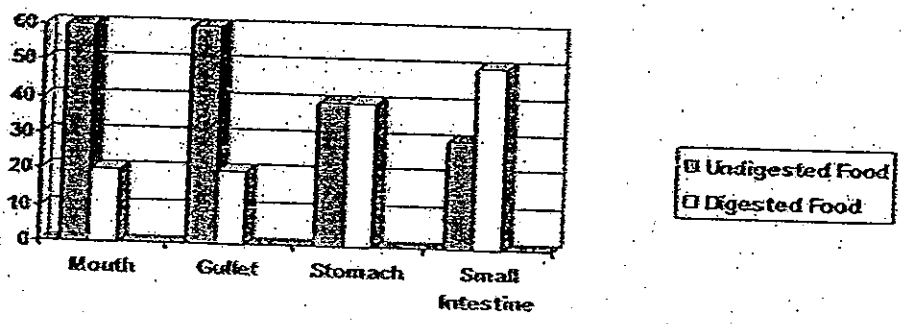


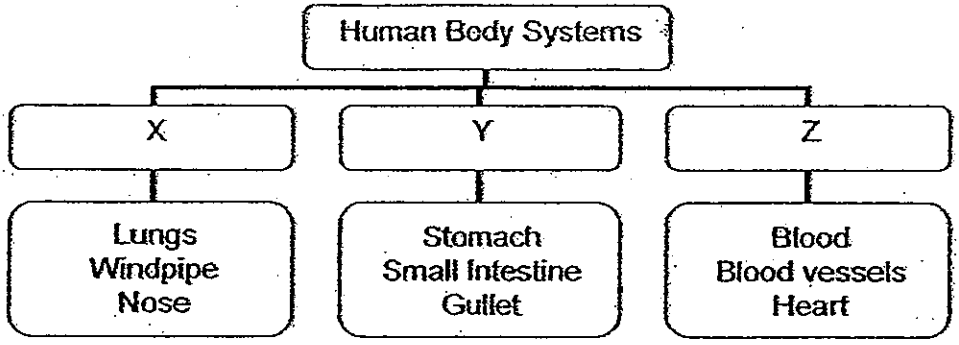
3)



4)



7) Study the classification table below.



Which of the following would be a suitable heading for X, Y and Z?

	X	Y	Z
1	Digestive	Respiratory	Circulatory
2	Circulatory	Digestive	Respiratory
3	Respiratory	Circulatory	Digestive
4	Respiratory	Digestive	Circulatory

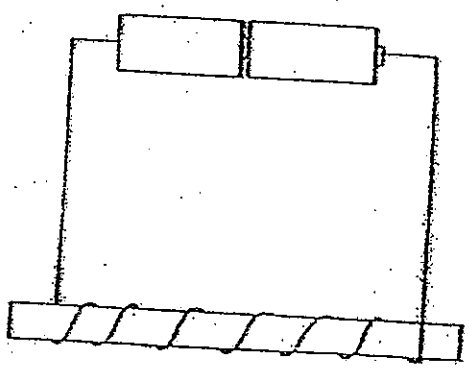
8) The table below shows the number of paper clips attracted by 8 different magnets of the same size.

Magnet	A	B	C	D	E	F	G	H
Number of paperclips attracted	2	4	3	1	5	3	1	6

Which of the following magnet/s is/are stronger than only 2 other magnets in the group?

1) A only
2) B only
3) D and G
4) C and F

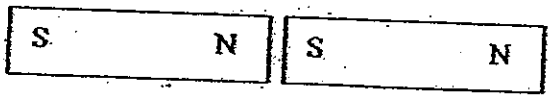
9) Choon Ming set up an electromagnet as shown in the diagram below but later discovered that the electromagnet could not work. Which of the following could be possible reasons why his electromagnet failed?

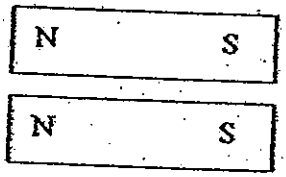


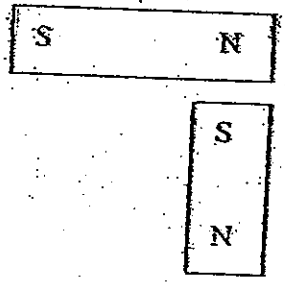
A) the rod was made from steel
B) the batteries had run out of power
C) the wires were not thick enough
D) the wires were not coiled tightly enough
E) the batteries used were placed in the wrong direction

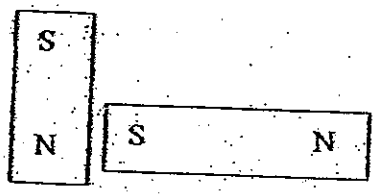
1) B and D
2) B, C and E
3) A, C and D
4) all of the above

10) Which one of the following pair of magnets will repel each other?

1) 

3) 

2) 

4) 

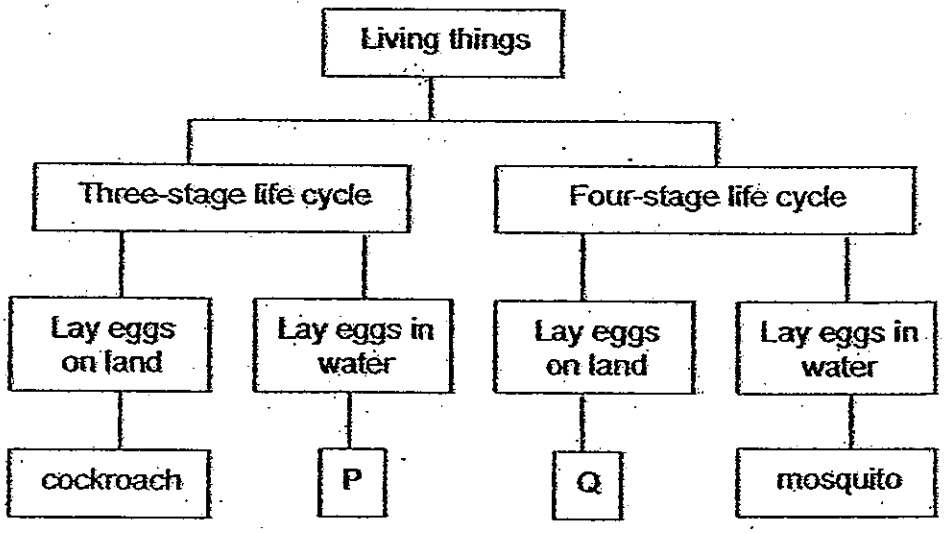
11.

	Cockroach	Butterfly
A:	It has a 3-stage life cycle.	It has a 4-stage life cycle.
B:	The young moults.	The young does not moult.
C:	It lays eggs on land.	It lay eggs in water.
D:	The young resembles the adult.	The young does not resemble the adult.

Which of the descriptions about the life cycle of the cockroach and butterfly is/are correct?

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

12. Study the classification chart below.



What living things are P and Q likely to be?

	P	Q
1)	frog	butterfly
2)	duck	grasshopper
3)	tortoise	chicken
4)	dragonfly	platypus

13. Daniel found a plant in his garden and when he observed its leaves, he found spore bags on the underside. Which of the following would most likely be the plant that he found?

1) balsam
2) mushroom
3) staghorn fern
4) green bean plant

14. Lai Keng wanted to conduct an experiment to find out if plants can take in water without roots.

Which of the following variables should she **keep constant** in order for the experiment to be fair one?

A: Type of plant
B: Amount of water
C: Number of leaves
D: Presence of roots

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

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

1) air
2) soil
3) water
4) shadow

16. Which one of the following properties is true for both air and a book?

1) They can be seen.
2) They take up space.
3) They have fixed shapes.
4) They have fixed volume.

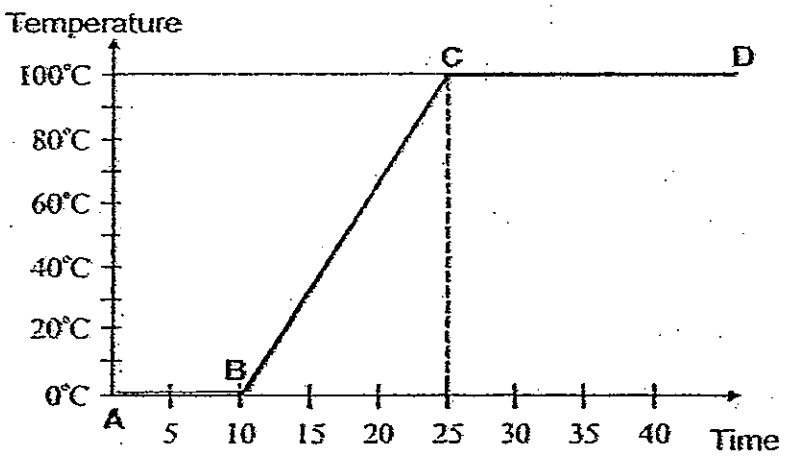
17. The table below shows the results of an experiment on three substances, A, B and C.

Properties	A	B	C
Has a definite mass	✓	✓	✓
Has a definite shape		✓	
Cannot be compressed	✓	✓	

Which of the following substances above is/are solid(s)?

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

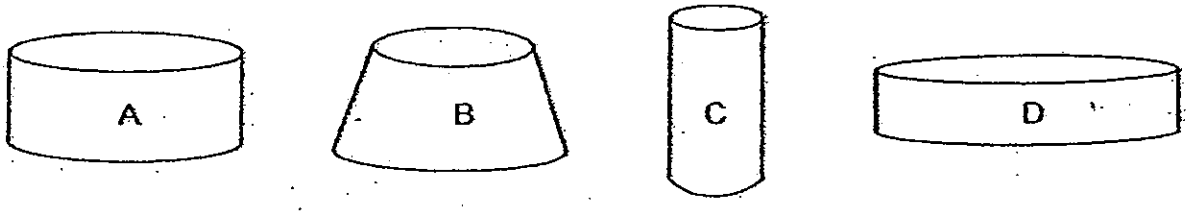
18. Substance X is heated over a flame and a graph is plotted to record the process.



Which of the following statements is correct?

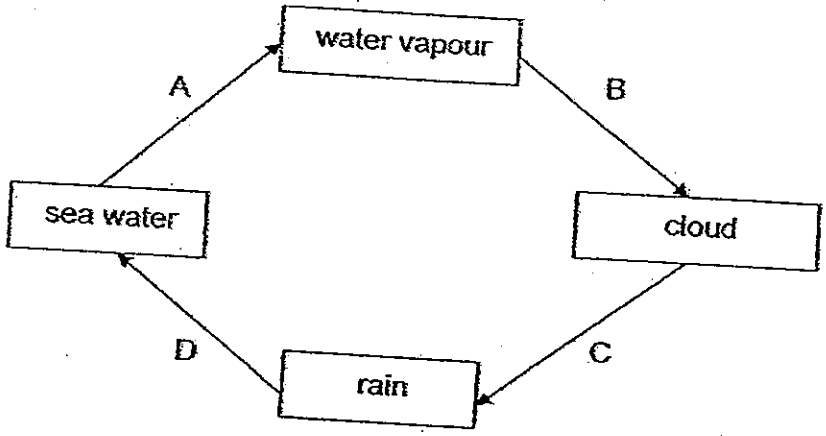
1) Substance X is a gas from Point C to D.
2) Substance X is a solid from Point A to B.
3) Substance X is a liquid from Point B to C.
4) Substance X is a liquid from Point C to D.

19. Each of the following plastic containers contains the same amount of water. They are then placed in an open field with direct sunlight. In which one of the following will water evaporate at the highest rate? Rank them in ascending order.



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

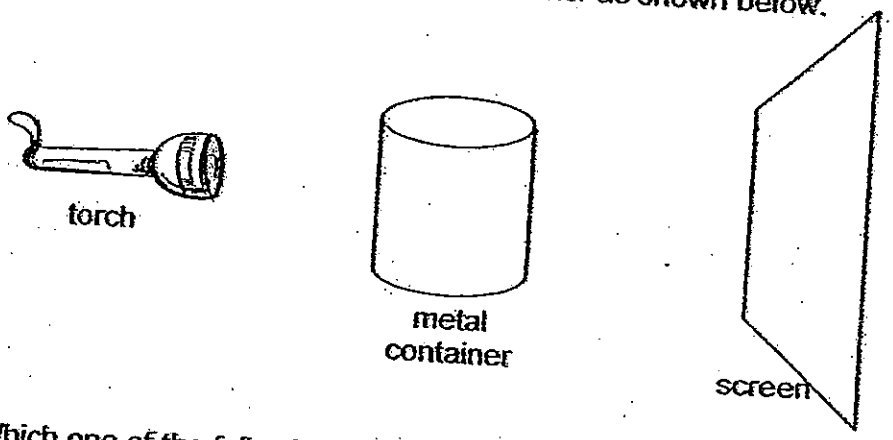
20. The diagram below shows the water cycle. A, B, C and D are processes occurring in the water cycle.



In which processes would a change of state of water occur?

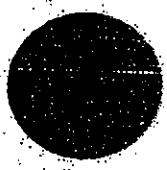
1) A and B only
2) C and D only
3) A, B and C only
4) A, C and D only

21. Peter shines a torch on the metal container as shown below.



Which one of the following shows the shadow of the metal container on the screen?

1)



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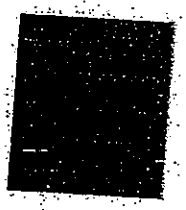

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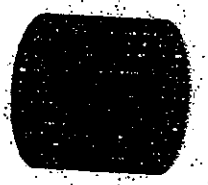
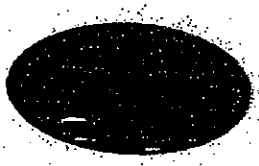


4)

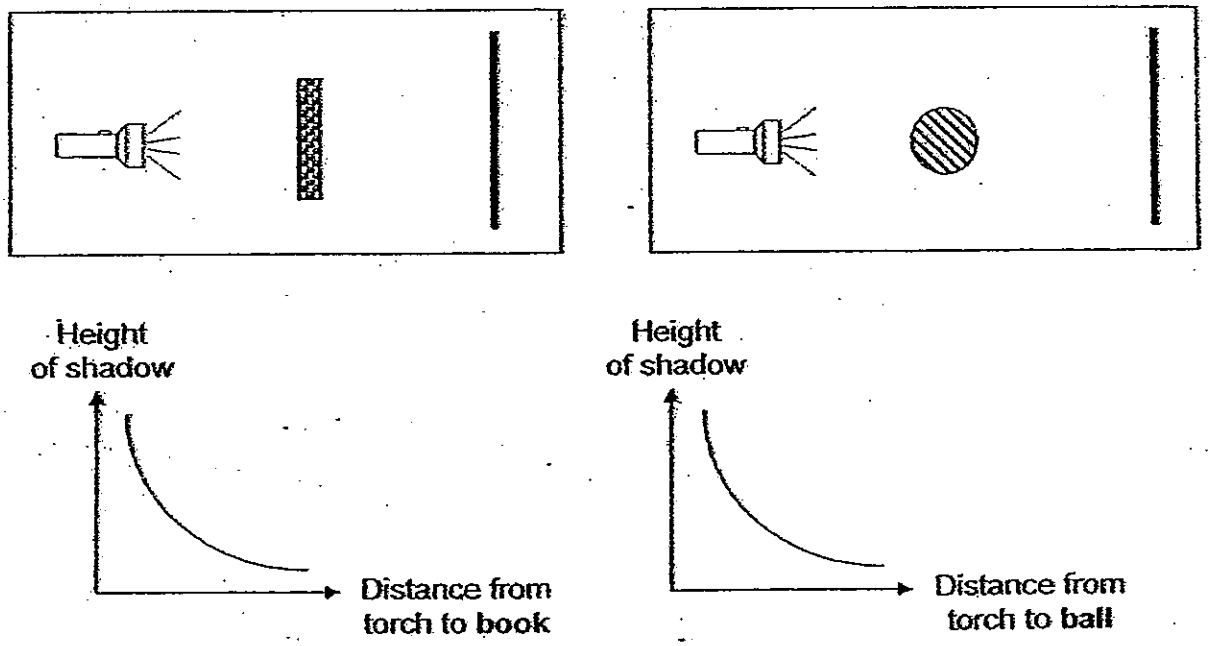


22. Which of the following ways can we obtain a bigger shadow?

A: Move the object nearer the light source.
B: Move the screen further from the object.
C: Move the object nearer to the screen.
D: Shine the light source from the side of the object.

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

23. Jimmy conducted an experiment. He first placed a book between a torch and the wall of his room. He then moved the book between the torch and the wall. He repeated the experiment with a ball.



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

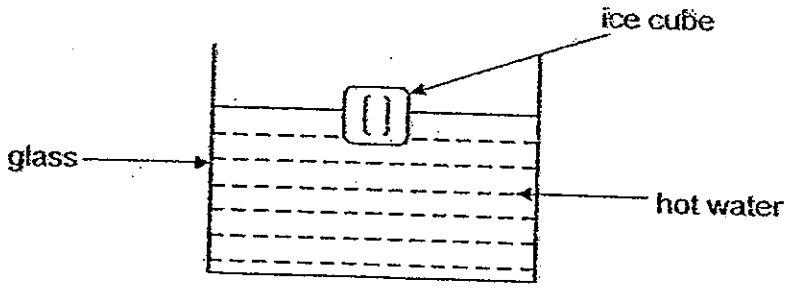
A: The further the book is from the torch, the larger the shadow.
B: The nearer the book is from the torch, the larger the shadow.
C: The further the ball is from the torch, the shorter the shadow.
D: The nearer the ball is from the torch, the shorter the shadow.

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

24. Which one of the following is NOT a source of heat?

1) The Sun
2) A woollen cap
3) A lighted bulb
4) A candle flame

25. Crystal places an ice cube into a glass of hot water.



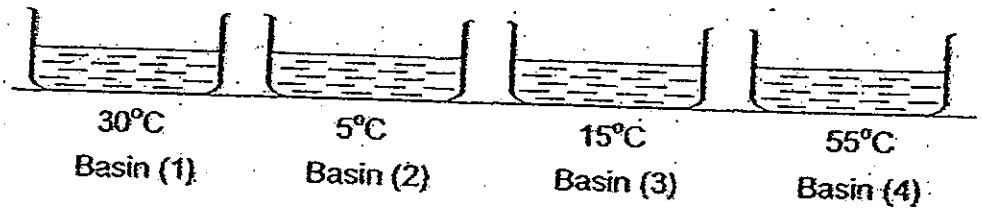
Which of the following is correct?

1) The ice cube does not gain or lose heat.
2) The ice cube loses heat to the hot water.
3) The hot water loses heat to the ice cube.
4) The hot water gains heat from the ice cube.

26. Logan has a fever and his mother placed a towel soaked in cold water on his forehead. What could be the reason for her doing so?

1) Logan's warm forehead loses heat to the cool towel and cools him.
2) The cool towel gains heat from his forehead and makes Logan cool.
3) The cool towel is a good conductor of heat and conducts heat from Logan's forehead.
4) The cool towel is a poor conductor of heat and prevents heat from reaching Logan's forehead.

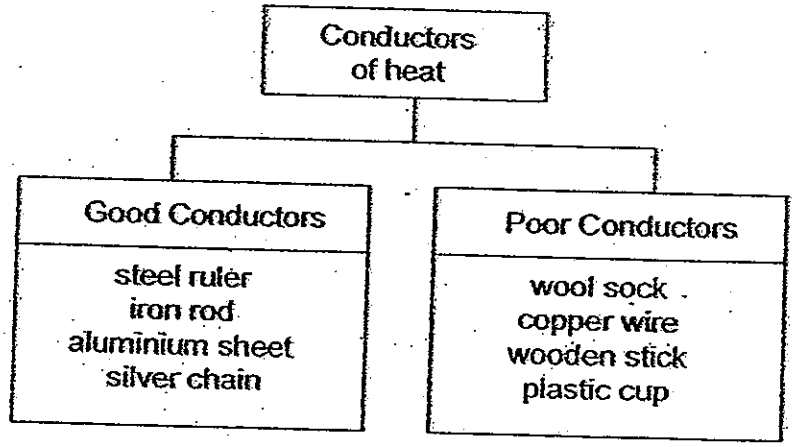
27. The diagram below shows 4 basins of water at different temperatures. When Lily puts her hand into one of the basins and then under running tap water at room temperature, her hand felt cold. Which basin did she put her hand in?



28. Kimmie heated a beaker containing 85ml of water until it reached its boiling point of 100°C. Which of the following shows the possible volume and temperature of the water in the beaker if it was left boiling for another 5 mins?

	Temperature (°C)	Volume (ml)
1)	100	75
2)	100	85
3)	115	75
4)	115	85

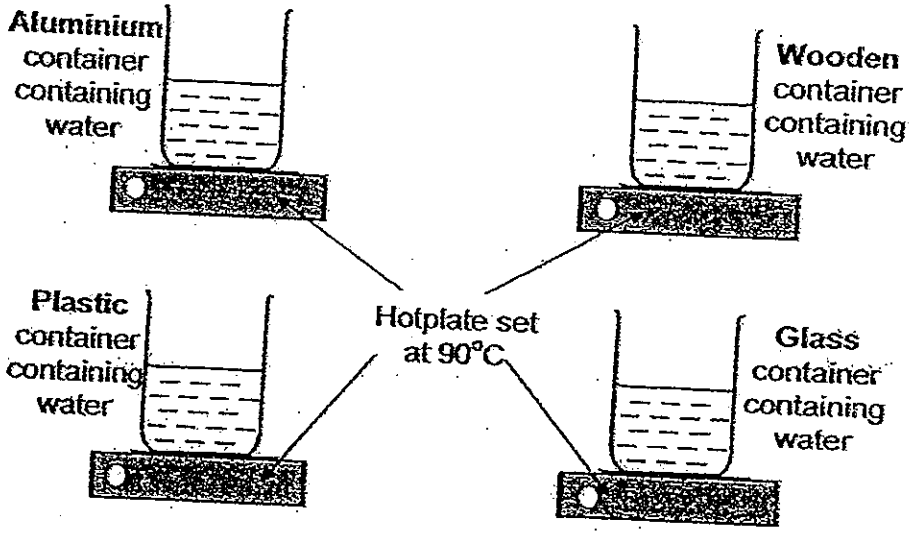
29. Study the chart below.



Which of the following is classified wrongly?

1) plastic cup
2) silver chain
3) copper wire
4) aluminium sheet

30. Four containers made of different materials were filled with water and placed on hotplates set at 90°C. After 15 minutes, which container will be holding water with the highest temperature?



1) aluminium
2) plastic
3) wood
4) glass

SINGAPORE CHINESE GIRLS' SCHOOL
SECOND SEMESTRAL ASSESSMENT 2010
PRIMARY 4 SCIENCE

Name:_____ Date:_____

Class: Primary 4

Components	Marks Obtained
Part I	/60
Part II	/40
Total	/100

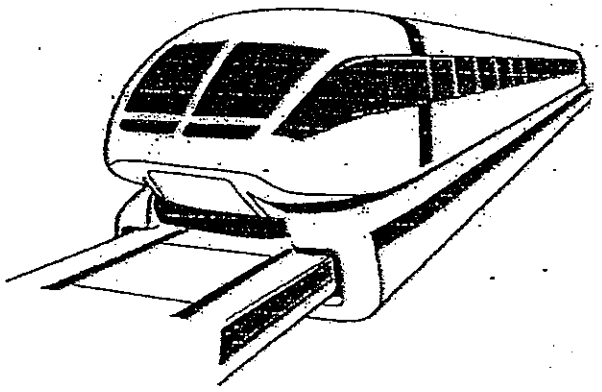
Parent's Signature:

_____

Part II (40 marks)

Answer all the following questions.

31.



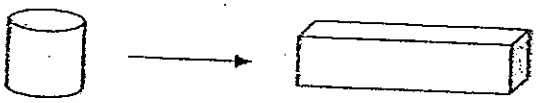
A magnetic levitation train operates without wheels and is able to float above the tracks. Using your knowledge of magnets, explain how this is possible? (2m)

_____

_____

/2

32. Explain why the steel can moves towards the magnet.

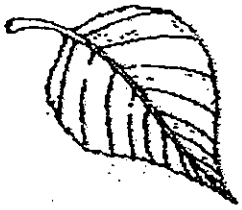


Steel Can Magnet

a) The magnet exerts a _____ on the steel can. (1m)

b) This shows that steel is a _____ material. (1m)

33. The diagram below shows two leaves.



Leaf A

Leaf B

a) What is one difference between the two leaves?

They both are different in _____. (1m)

b) The leaves are responsible for _____ in the light. (1m)

4

34. Ghani wanted to see if seeds would germinate in different temperatures and placed 4 containers in different locations.

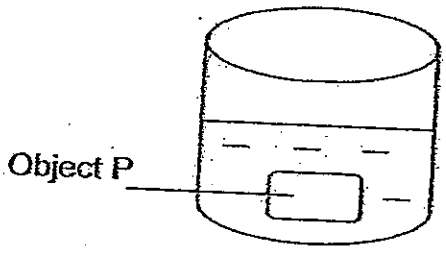
Container	Place	Cotton wool	Number of seeds
C	Freezer	Dry	10
D	Fridge	Dry	10
E	Cupboard	Moist	12
F	Near an open window	Moist	14

His teacher told him that his test was not planned well. State 2 things that Ghani should do to improve his experiment. (2m)

_____

_____

35. James placed an object P into a beaker filled with water as shown in the diagram below. He later placed a magnet at position X and found that the object moved away from the magnet.



a) Explain why object P moved away from the magnet. (1m)

_____

b) James later placed a 5cm thick piece of wood in between the magnet and beaker. He observed that object P remained stationary when the magnet was placed at position X. Explain why the object did not move like before. (1m)

_____

4

36. The diagram below shows a cooking pot.

a) Part X is made of plastic because it is a _____ of heat. (1m)

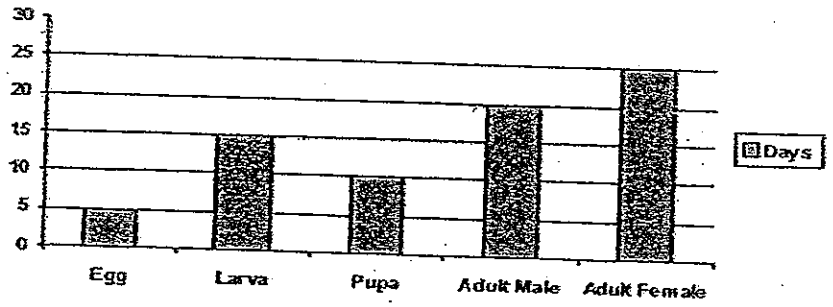
b) Part Y is made of _____ because it will allow food to be cooked quickly. (1m)

37. For each question, tick true or false (~~1m~~ 2m each)

Question		True	False
a	Fungi and bacteria are not plants because they do not make their own food and reproduce by spores.		
b	Only birds and mammals are warm blooded animals.		
c	Plants that do not have flowers cannot reproduce.		
d	Plants will only photosynthesize when there is only light.		

8 4

38. The graph below shows the number of days each stage in the life cycle of an insect lasts.

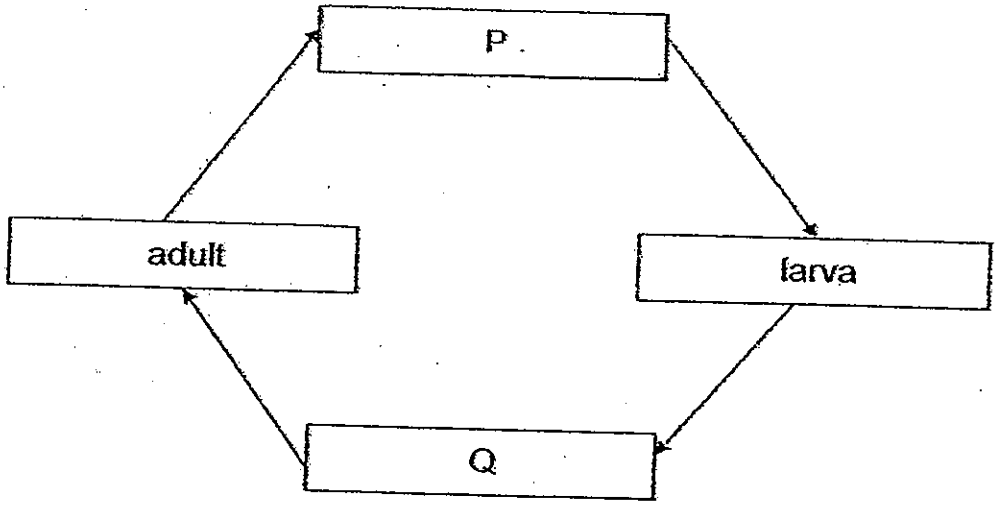


Based on the graph, put a tick (✓) in the appropriate boxes to indicate whether the statements are 'True', 'False' or 'Not Possible to Tell'. (2m)

	Statement	True	False	Not Possible to Tell
a)	There are four stages in the life cycle of this insect.			
b)	The insect takes 20 days to develop from an egg to a pupa.			
c)	The male insect dies after the eggs hatches.			
d)	The female adult insect lives longer than the male adult insect.			

2

39. The diagram below shows the stages in the life cycle of a butterfly.



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

caterpillar	egg	pupa	seed

a) Name the two stages P and Q. (2m)

P _____

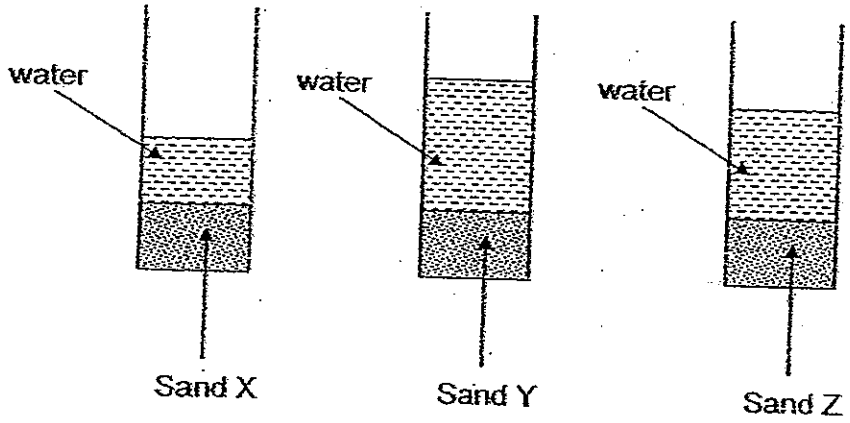
Q _____

b) Name another animal that has a similar life cycle as the butterfly. (1m)

_____

3

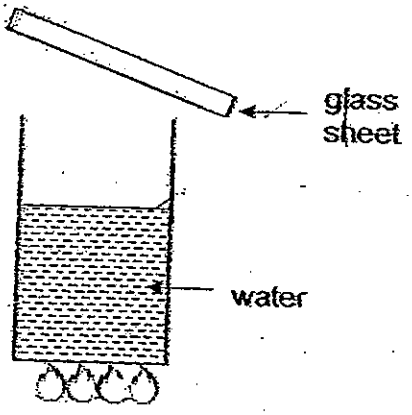
40. Ali wanted to find out which type of sand, X, Y or Z has the greatest amount of air spaces in between. He poured 300g of sand into three containers as shown below. He then poured 400ml of water into each container. The diagram below shows the results 30 minutes after the water was poured in.



a) Arrange the sand in order starting from the sand with the least amount of air spaces. (2m)

_____

41.



Betty boils some water in a beaker and she holds a cold sheet of glass above the beaker as shown above.

a) Draw in the diagram what she will observe on the glass sheet. (1m)

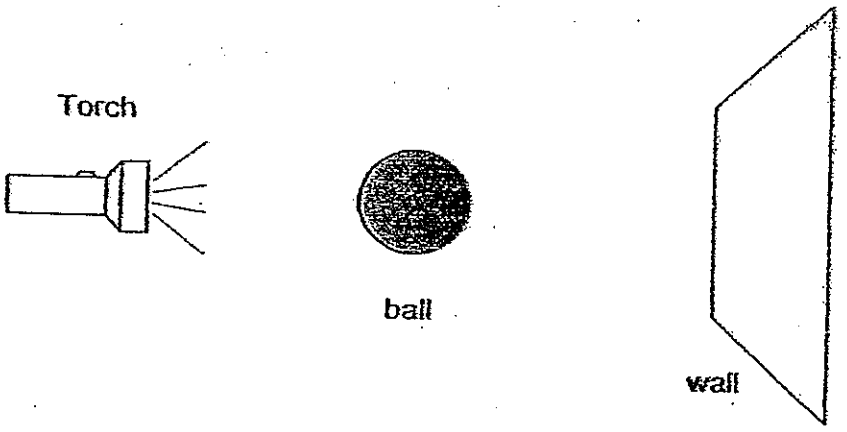
b) Explain why a hot sheet of glass will not have the same result. (2m)

_____

_____

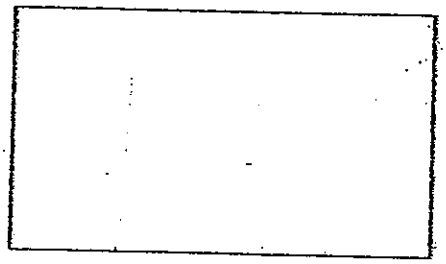
5

42. Luke shines a torch on a ball and a shadow is formed on a smooth wall.

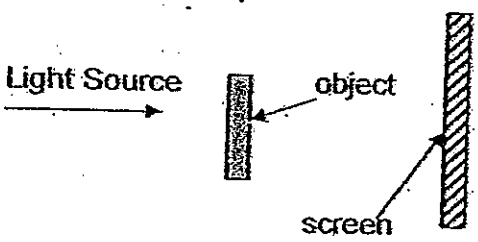


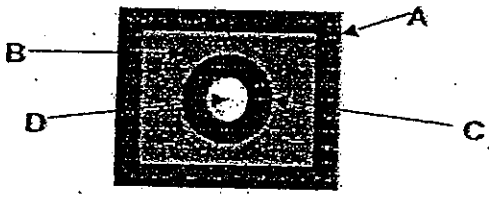
a) A shadow is formed when light is _____ by an object. (1m)

b) Draw the shadow of the ball that is formed on the wall. (1m)



43. Joan was experimenting with the set up shown below to find out about shadows and the properties of light.





Shadow formed on the screen

a) State the **degree of transparency** of the material used for each part of the object. (2m)

A: _____ C: _____

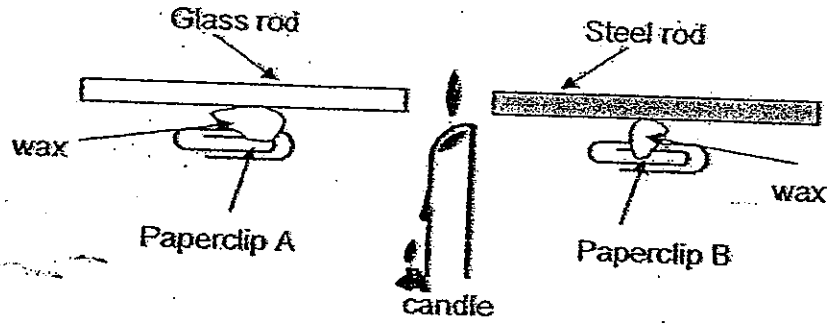
B: _____ D: _____

b) Give an example of the <u>materials</u> that are described in A and B. (2m)

A: _____ B: _____

6

44. Peter set up an experiment as shown below. He placed two identical rods made of different materials equal distance from a candle flame. He also attached a paper clip with some wax to each of the rods.



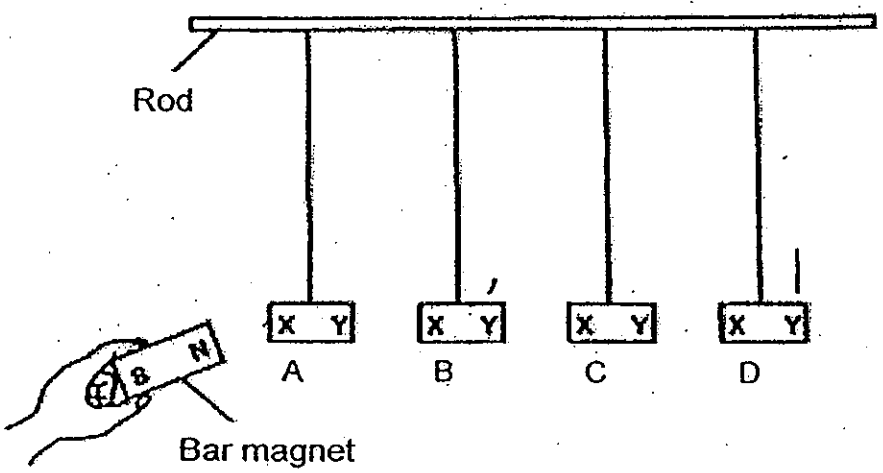
a) What was the aim of the experiment? (1m)

b) Which paper clip, A or B will fall first? Why? (2m)

c) Peter's teacher commented that his experiment was not a fair one. Explain. (1m)

4

45 Four metal bars A, B, C and D are hung from a rod as shown below. The north pole of a bar magnet is brought near X, and then Y, of each metal bar.



The table below shows the observations made during the experiment.

Metal Bar	Observations	
	N-Pole and X	S-Pole and Y
A	attracted	repelled
B	attracted	attracted
C	nothing happened	nothing happened
D	repelled	attracted

(a) Which of the metal bars are magnets? [1]

_____

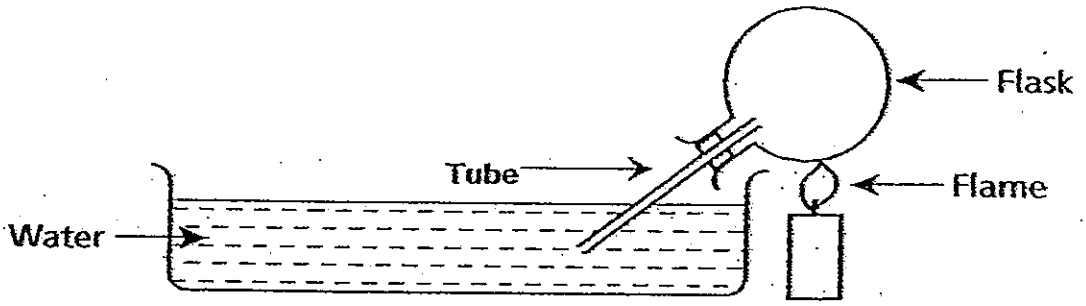
(b) Explain your choice in (a). [1]

_____

(c) Which one of the metal bars is not a magnet but made of steel? [1]

_____

46. Lisa placed an inverted flask into a trough filled with water. She then heated the flask as shown in the diagram below.



a) Explain why bubbles are seen in the water after 3 minutes. (2m)

b) What will happen to the water level in the tube when the candle flame is taken away? (1m)

~~ End of Paper ~~

3

Ans

EXAM PAPER 2010

SCHOOL : SCGS PRIMARY
SUBJECT : PRIMARY 4 SCIENCE

TERM : SA2

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
1	3	3	1	4	4	4	1	1	3	2	1	3	3	4	2	2

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	2	1	2	1	2	2	3	1	4	1	3	1

31)Under the train and track there are maybe some really strong magnets. When the like poles of the magnets under the train and tracks faces each other, the magnets will then repel, then the train will be able to float above the tracks.

32)a)magnetic force b)magnetic

33)a)shape b)making food.

34)Ghani should ensure that every cotton wool is moist and the number of seeds are the same.

35)a)Object P and the magnet at position X might be facing each other with like poles so, that's why object P repeled the magnet at position X and moved.
b)As the wood was thick ,the magnetic force from the magnet could not pass through the thick piece of wood and move object P like before.

36)a)insulator b)metal

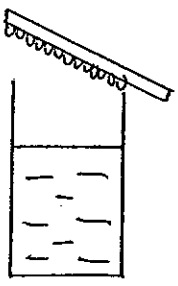
37)a)F b)T c)F d)F

38)a)T b)T c)Not d)T

39)a)P: Egg Q: Pupa b)Mosquito

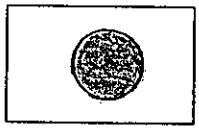
40)a)Sand Y, Sand Z, Sand X.

41)a)



41)b)When the hot water vapour touches the cold surface of the glass sheet, it condenses and become water droplets, but with the hot sheet of glass, the hot water vapour would not condense because the hot sheet is hot , not cold enough to let the hot water vapour to condense and become water droplets.

42)a)blocked

b) 

43)a)A: Opaque B: translucent C: opaque D: transparent

b)A: Metal B: tracing paper

44)a)To see which material, steel or glass, is a better conductor of heat.

b)Paperclip B will fall first, As steel is a metal ,which is a good conductor of heat, the steel rod will conduct the heat from the candle faster than the glass rod, therefore it will become hot and the wax would melt first.

c)Peter did not use the same amount of wax for each rod.

45)a)B and D are magnets.

b)As all the magnet attract and repel.

c)Metal bar B.

46)a)As the flame was below the flask, the air occupying the space in the flask would expand, and go down the tube, tube water then the bubbles would be seen because use of the air from the flask than has expanded.

b)The water level in the tube would rise when the candle flame is taken away.