PRIMARY 4 END-OF-YEAR EXAMINATION 2014

Name : _____ ( ) Date: 27 October 2014

Class : Primary 4 ( ) Time: 8.00 a.m. - 9.15 a.m.

Duration : 1h 15 min

Parent's Signature : _____ Marks: _____ / 50

SCIENCE
BOOKLET A

INSTRUCTIONS TO CANDIDATES

Write your name, class and register number.

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Section A (25 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. Which of the following gives out light?

(1)

dragonfly

(2)

star

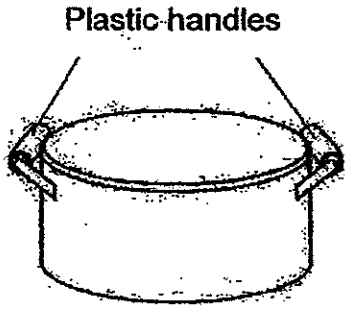
(3)

Moon

(4)

leaf

2. Henry boils some water in the pot below.



Why is he able to hold the pot of boiling water using the plastic handles?

(1) Plastic is a light material.
(2) Plastic is a non-magnetic material.
(3) Plastic is a softer material than steel.
(4) Plastic is a material which does not conduct heat well.

3. Which of the following is the best conductor of heat?

(1) A paper plate
(2) A metal plate
(3) A ceramic plate
(4) A wooden plate

4. Which of the following is true of both air and eraser?

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

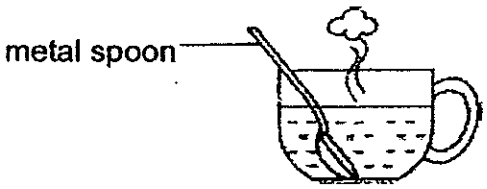
5. Mary filled four similar cups with the same amount of hot tea. Each cup is made of a different material. She measured the temperature of the tea at the start and end of 20 minutes and recorded them in the table below.

	Temperature of tea (^{0}C)	
Cup	**At the start**	**End of 20 minutes**
A	70	50
B	70	60
C	70	35
D	70	55

Based on the table above, which cup, **A, B, C or D**, is most suitable for keeping tea warm for at least an hour?

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

6. Pamela places a metal spoon in a cup of hot coffee.

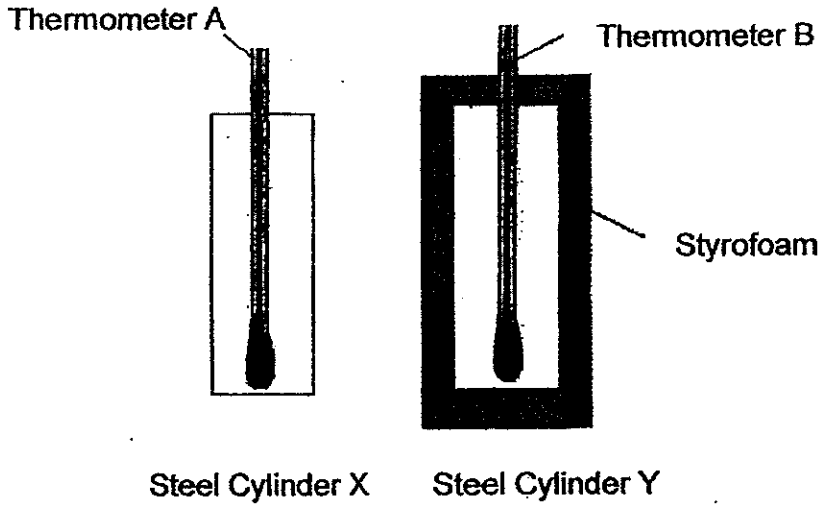


a cup of hot coffee

The spoon becomes hotter after a while.
Which one of the following explains this?

(1) The cup loses heat to the hot coffee.
(2) The spoon loses heat to the hot coffee.
(3) The hot coffee gains heat from the spoon.
(4) The spoon gains heat from the hot coffee.

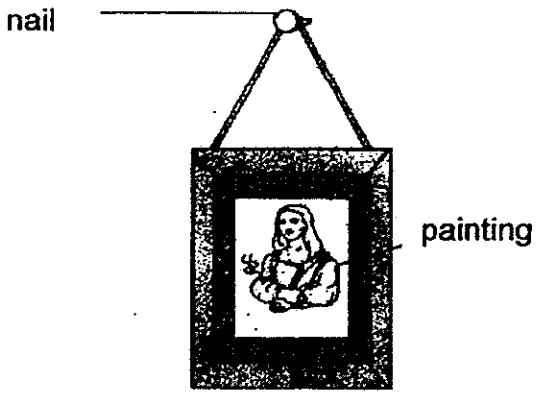
7. Two identical thermometers, A and B, were placed in steel cylinder X and steel cylinder Y respectively. Steel cylinder Y is wrapped with styrofoam. They were left on a table in an enclosed room with a constant temperature of 20^0C as shown in the diagram below.



Which of the following represents the temperatures recorded by the thermometers, **A** and **B**, after 1 hour (h)?

	Temperature (°C)			
	Thermometer A		**Thermometer B**	
	At the start	End of 1h	At the start	End of 1h
(1)	30	0	30	35
(2)	30	10	30	30
(3)	30	20	30	25
(4)	30	30	30	20

8. The diagram shows a painting hanging on a wall.

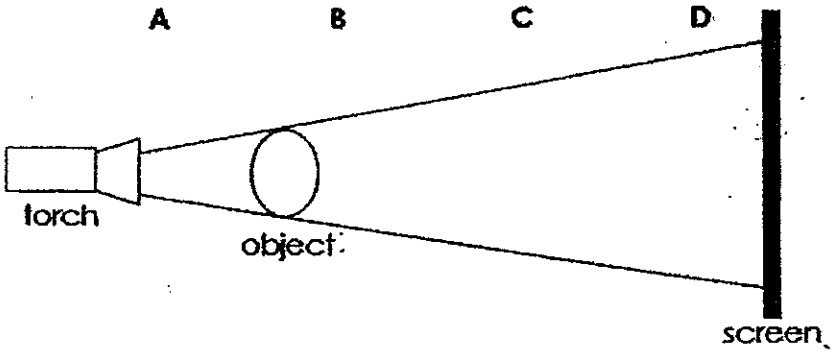


Why is the nail made of steel?

(1) Steel is shiny.
(2) Steel is strong.
(3) Steel sinks in water.
(4) Steel conducts heat well.

2

9. Osman shone light on an opaque object and a shadow was cast on a screen as shown below.



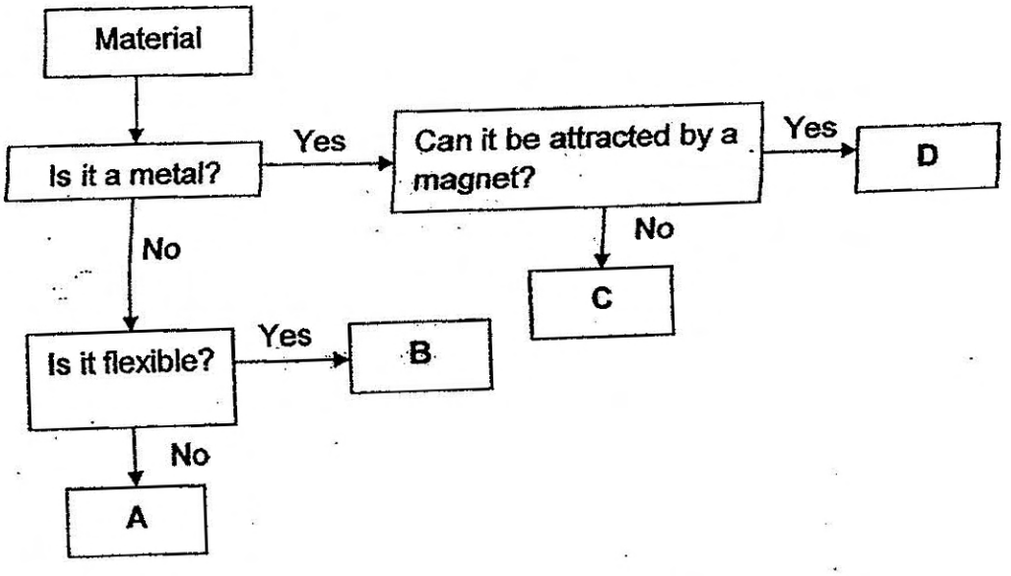
If Osman wanted the biggest shadow to be cast on the screen, which position of the torch and position of the object would produce the biggest shadow?

	Position of torchlight	Position of object
(1)	A	C
(2)	A	D
(3)	B	C
(4)	B	D

10. What is the function of the skeletal system?

(1) It gives the body shape.
(2) It allows the limbs to move freely.
(3) It brings oxygen around the body.
(4) It removes digested food from the body.

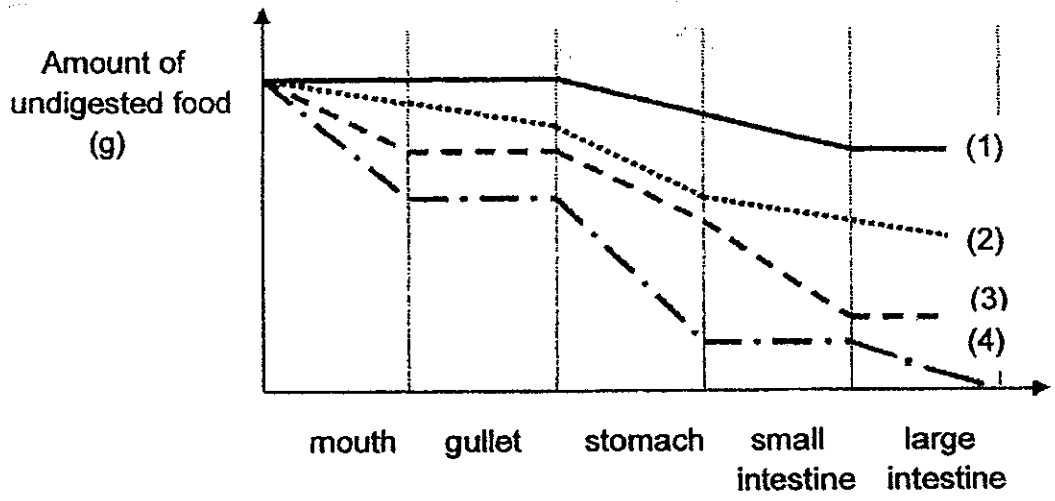
11. Study the flow chart below.



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

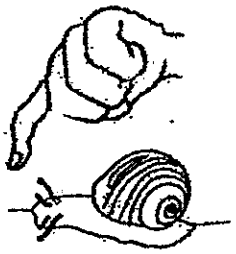
	A	B	C	D
(1)	Wood ✓	Cotton ✓	Nickel ✗	Copper ✗
(2)	Glass ✓	Wool ✓	Copper ✓	Nickel ✓
(3)	Wool ✗	Glass ✗	Steel ✗	Copper ✗
(4)	Wood ✓	Steel ✗	Iron ✗	Nickel ✓

12. Study the graph below.



Which line shows the amount of undigested food as it passes through the human digestive system?

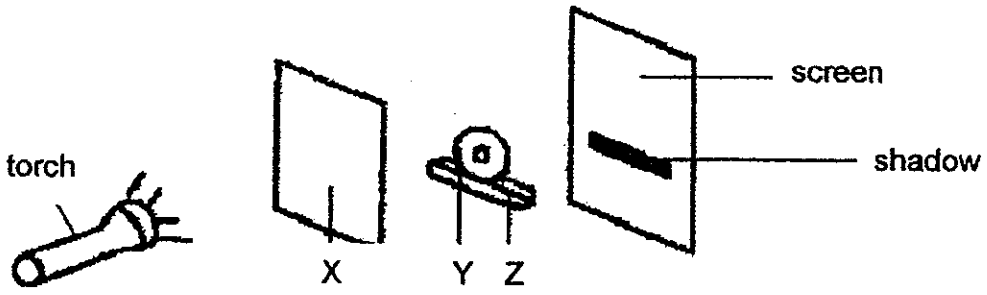
13. A snail hides in its shell when it is touched.



How does it show that the snail is a living thing?

(1) It can grow.
(2) It can breathe.
(3) It can reproduce.
(4) It can respond to changes.

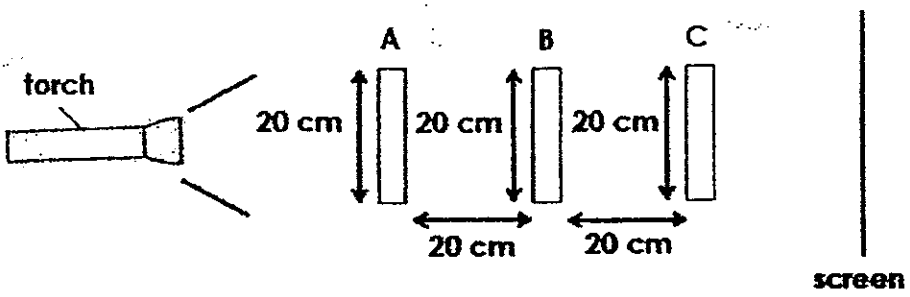
14. Michelle shines a torch at the objects, X, Y and Z. She observes a shadow on the screen as shown below.



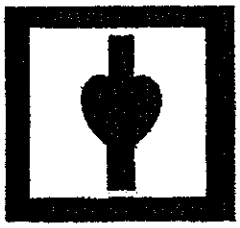
Which property matches the above objects?

	X	Y	Z
(1)	Allows most light to pass through	Allows most light to pass through	Does not allow any light to pass through
(2)	Allows some light to pass through	Allows some light to pass through	Allows most light to pass through
(3)	Allows most light to pass through	Does not allow any light to pass through	Allows some light to pass through
(4)	Does not allow any light to pass through	Allows most light to pass through	Allows some light to pass through

15. 3 objects, A, B and C, made of similar materials, are arranged in a straight line as shown below. (Note : The diagram below is not drawn to scale.)



The diagram below shows the shadow formed on the screen.

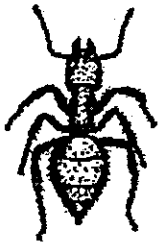


What are the shapes of **A, B and C**?

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

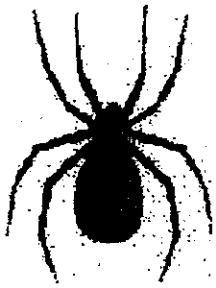
16. Four animals, A, B, C and D, and a classification chart are shown below.

A

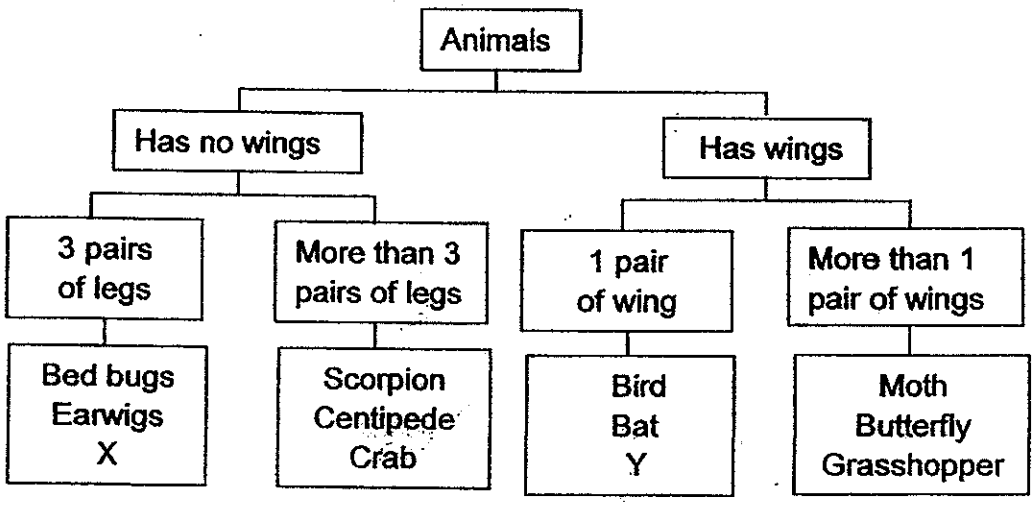


B

C



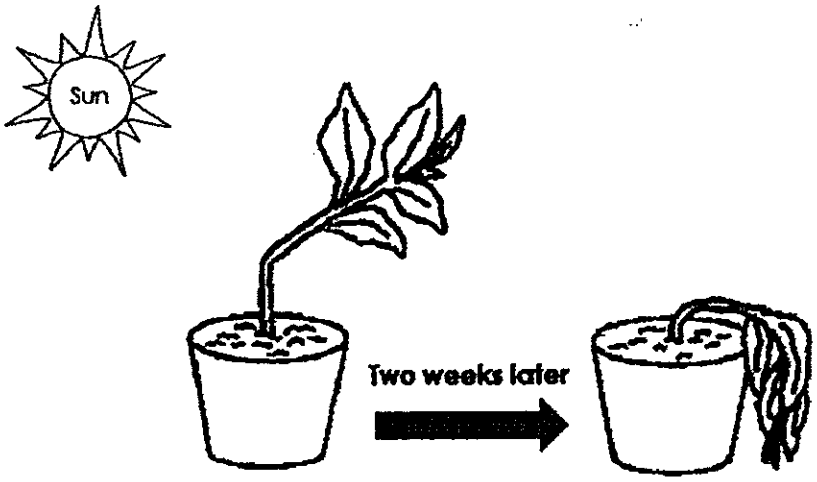
D



Which animals, A, B, C or D, can X and Y be?

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

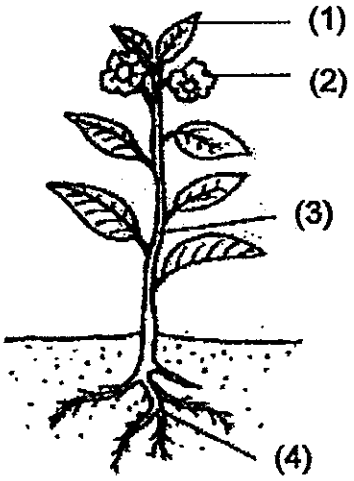
17. Jodie wanted to find out if a plant with a broken stem can still grow. She placed a plant with a broken stem in her garden and watered it daily.



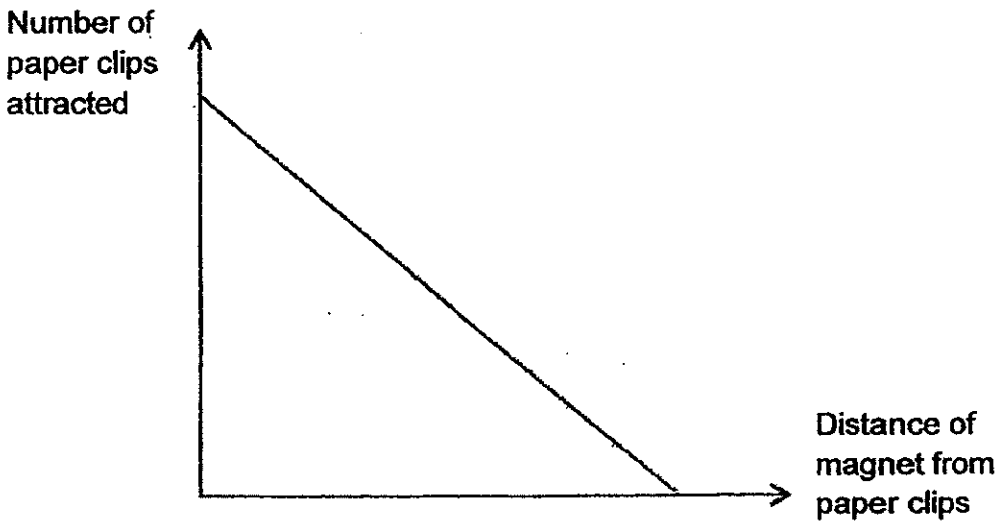
Two weeks later, the plant died. Why?

(1) The plant did not receive sunlight.
(2) The plant did not receive carbon dioxide.
(3) Oxygen could not be taken in by the leaves.
(4) Water could not be transported to the leaves.

18. Which part of the plant takes in mineral salts?

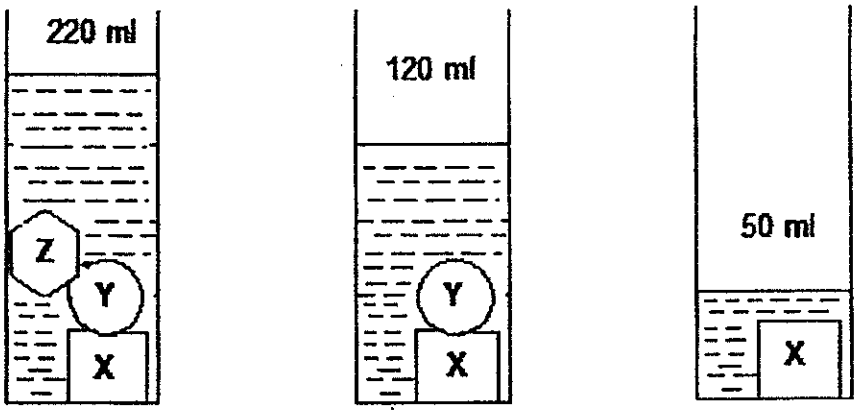


19. Dave uses a magnet, some paper clips and a ruler to find out the number of paper clips attracted by the magnet from a distance. What can Dave conclude from his observations?
The graph below shows the results of his experiment.



(1) The magnet is made of copper.
(2) The paper clips are made of steel.
(3) The magnet is able to attract the paper clips at any distance.
(4) The further the magnet is from the paper clips, the weaker its magnetism.

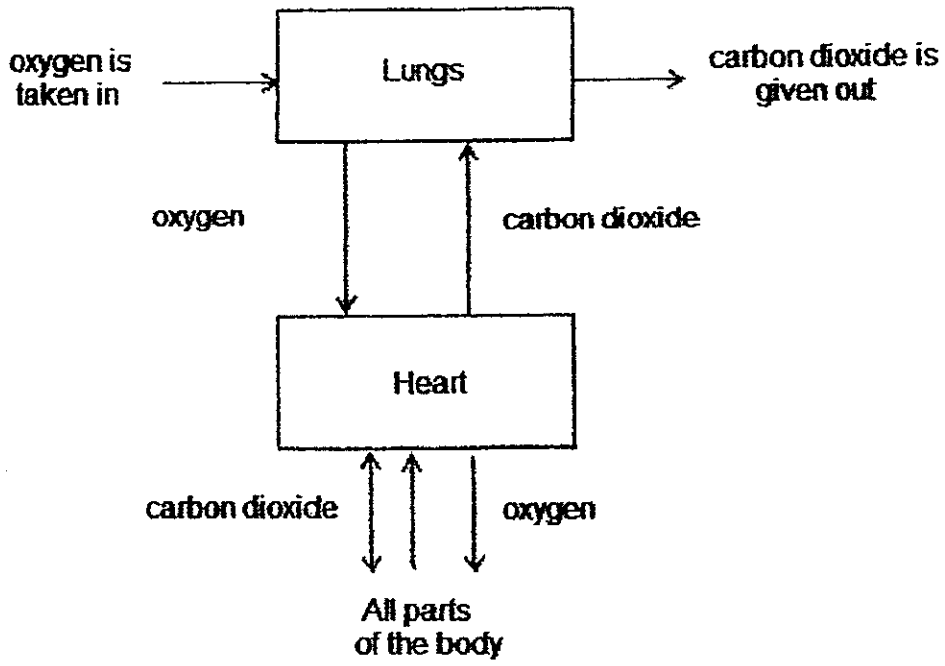
20. Clancy filled a measuring cylinder with water and three objects, X, Y and Z. He removed the objects, one by one, and recorded the water level in the measuring cylinder after each object was removed as shown below.



Based on the above, which of the following is **false**?

(1) X has the smallest volume.
(2) X has a smaller volume than Y.
(3) Y and Z have the same volume.
(4) The volume of water is less than 50 ml.

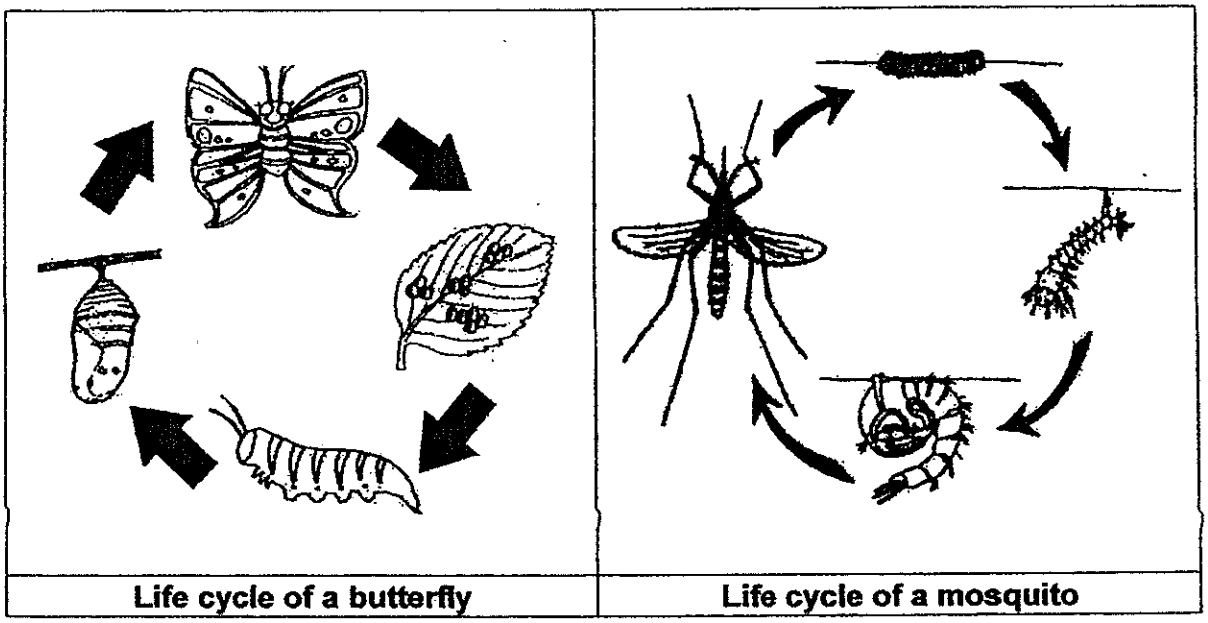
21. The diagram below shows how two of our body systems, A and B, work closely together to help our body function properly.



What are the body systems, **A** and **B**?

(1)	Respiratory System	Circulatory System
(2)	Circulatory System	Digestive System
(3)	Respiratory System	Muscular System
(4)	Muscular System	Digestive System

22. The diagram below shows the life cycle of a butterfly and a mosquito.



Life cycle of a butterfly	Life cycle of a mosquito

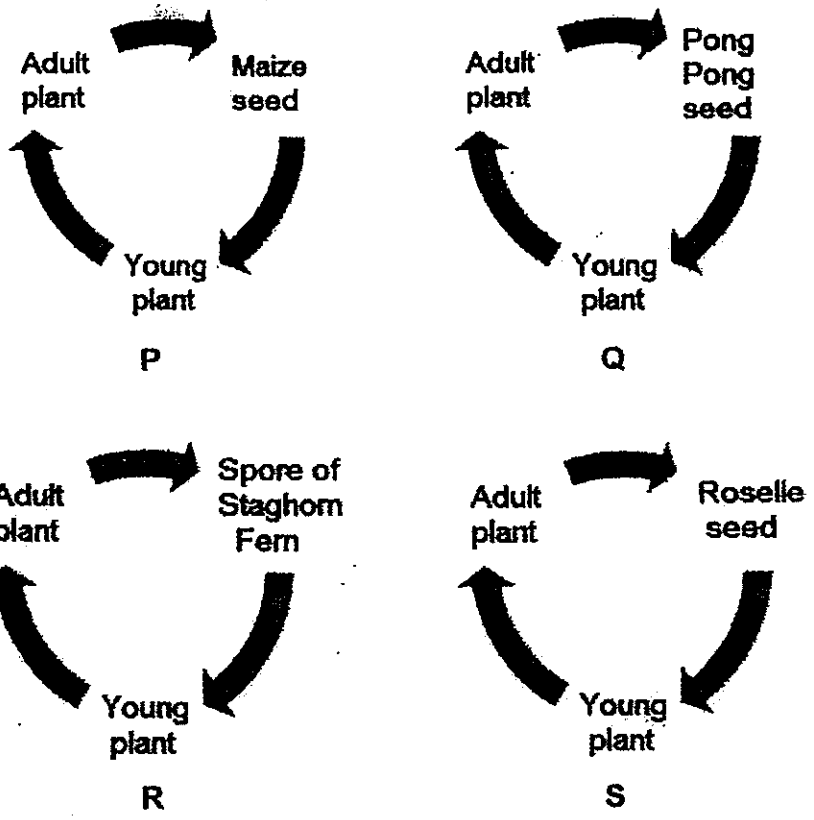
Which of the following is correct?

(1) Both the butterfly and mosquito look like their larva and pupa.
(2) Both the larva of the butterfly and the mosquito go through moulting.
(3) The butterfly stops feeding during one stage but the mosquito does not.
(4) The mosquito spends most of its life cycle in the water but the butterfly does not.

23. The following table shows some characteristics of two plants, **A** and **B**.

	Plant A	Plant B
Is it edible?	No	No
Does it bear flowers?	No	Yes

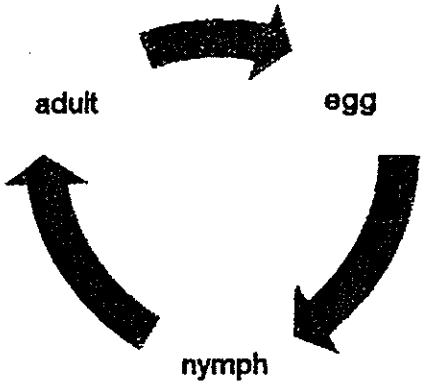
The following diagrams show the life cycles of four plants, A, B, C and D.



Which life cycles, P, Q, R and S, do **Plants A and B** belong to?

	Plant A	Plant B
(1)	R ✗	Q ✗
(2)	Q ✓	R ✓
(3)	S ✗	P ✗
(4)	R ✗	P ✓

24. The diagram below shows the life cycle of an animal.



Which of the following has the life cycle above?

(1) Frog
(2) Beetle
(3) Chicken
(4) Grasshopper

PRIMARY 4 END-OF-YEAR EXAMINATION 2014

Name : _____ ( ) Date: 27 October 2014

Class : Primary 4 ( ) Time: 8.00 a.m. - 9.15 a.m.

Duration : 1h 15 min

Parent's Signature : _____ Marks: _____ / 30

SCIENCE
BOOKLET B

INSTRUCTIONS TO CANDIDATES

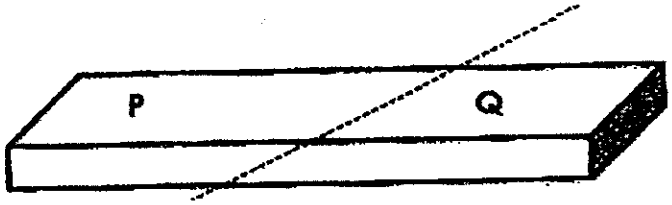
Write your name, class and register number.

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

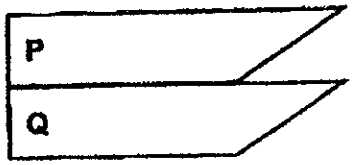
Answer all questions.

25. The poles of a bar magnet were labelled **P** and **Q**. The magnet was then cut diagonally as shown in the diagram below.

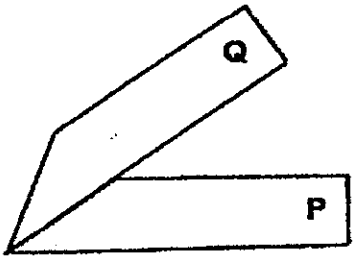


Which of the following would **not** be possible when P and Q were brought together?

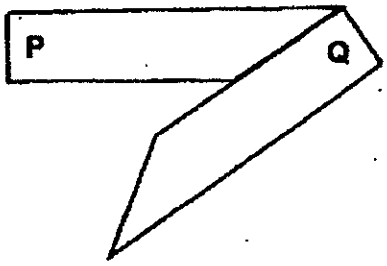
(1)



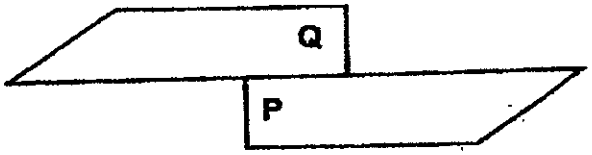
(2)



(3)



(4)

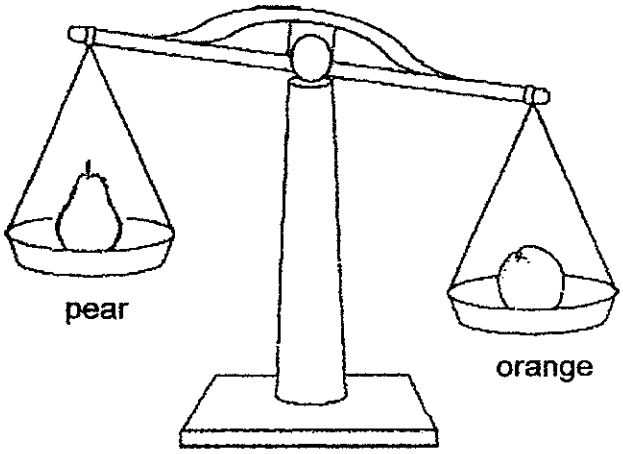


End of Booklet A

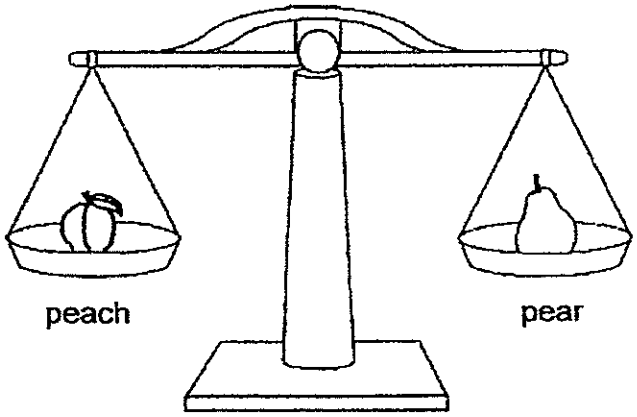
Section B (30 marks)

Write your answers in the spaces provided.

26. Muthu compares the mass of three fruits.
Study the diagrams below and **circle** the correct comparison.

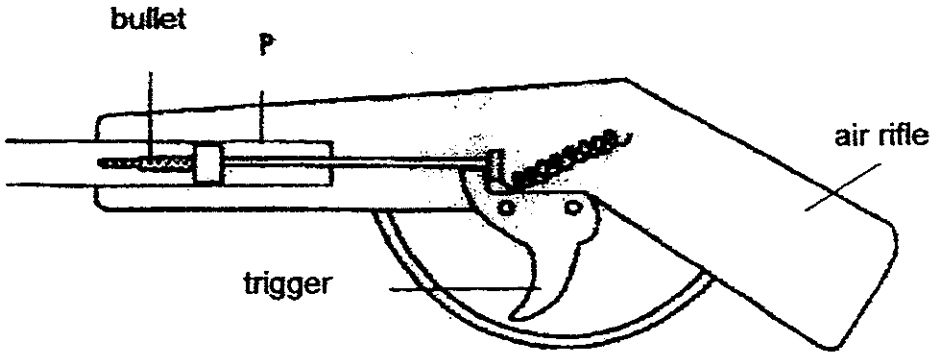


a) The pear 'is heavier than'/ has the same mass as'/ is lighter than the orange. [1]

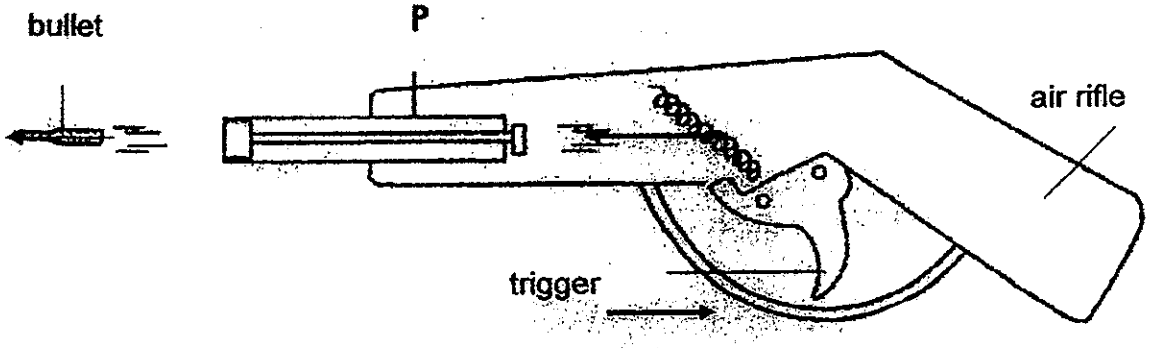


b) The peach 'is heavier than'/ has the same mass as'\' is lighter than the pear. [1]

27. The diagrams below show the position of a bullet from an air rifle before and after the trigger is pulled.



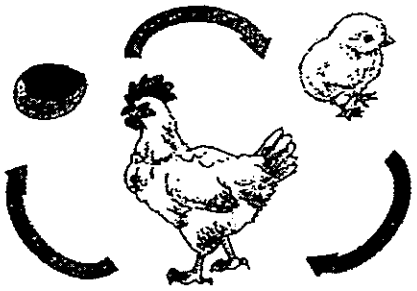
Before the trigger is pulled



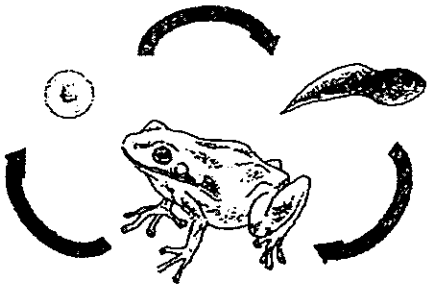
After the trigger is pulled

Identify the best state of matter to fill the part labelled P. Explain your answer. [2]

28. The diagrams below show the life cycles of a chicken and a frog.



Chicken



Frog

a) Based on the diagrams, state one similarity between the life cycles of the chicken and the frog. [1]

_____

_____

b) Based on the diagrams above, state one difference between the life cycles of the chicken and the frog. [1]

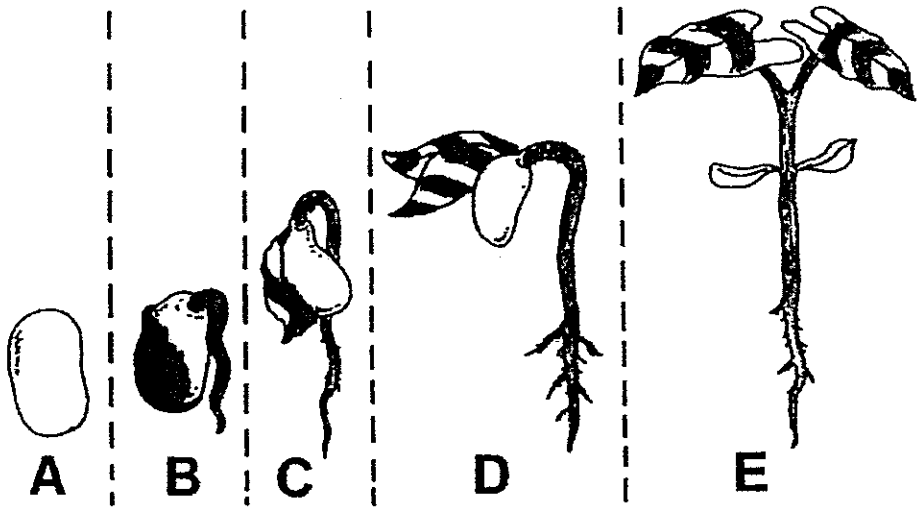
_____

_____

29. Name the correct parts of a plant in the table below.

Functions of plant part	Plant part
It holds the plant upright.	[1]
It makes food for the plant.	[1]

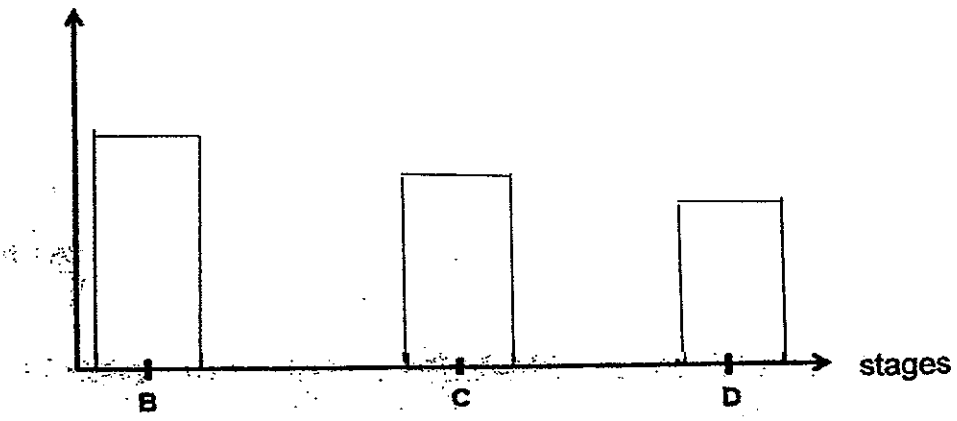
30. The diagram below shows the stages, A, B, C, D and E, of a germinating seed.



a) Which stage, **A, B, C, D or E**, shows that the seed has just germinated? [1]

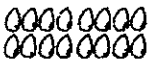
b) At stage E, the seedling no longer requires the food stored in the seed leaves to grow. Explain why. [1]

c) Complete the bar graph below to show how the mass of the seed leaves changes as the seedling grows from stage B to stage D. [1]



31. Meng wanted to show that the roots of a plant exert force when they grow. The diagram below shows the materials which might be useful for his experiment.

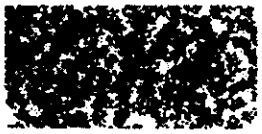
egg shell



seeds

water in gardening can

small plastic container



soil

spade

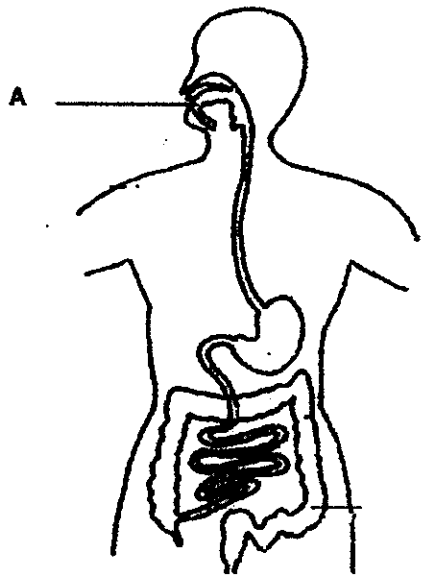
a) Which 4 materials should he choose for his experiment? [1]

b) State the steps, **1, 2 or 3, in the boxes** to show the sequence action to show that roots exert force when they grow. [1]

Step	Action
3	Water the seeds daily and observe them.
1	Put the soil into the egg shell.
2	Add some seeds on top of the soil.

c) What observation would help him show that roots exert force when they grow? [1]

32. The diagram below shows the human digestive system.

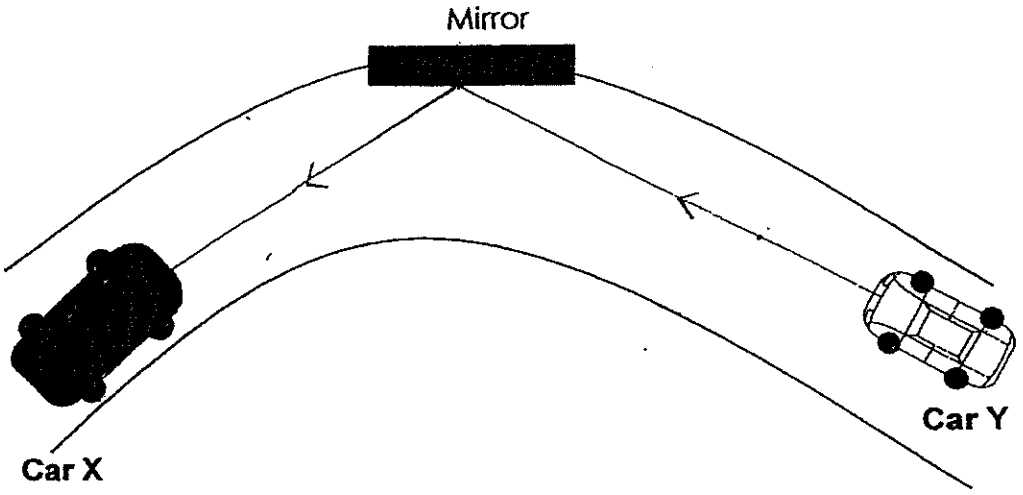


a) Explain how the part, **A**, helps in digestion. [1]

b) What will happen to the undigested food in the part, **C**?

c) What will happen to the undigested food if it passes through the part, **C**, too quickly? [1]

33. The diagram below shows a situation whereby the driver in Car X is able to see the approaching Car Y from a **mirror** when he is rounding a bend along a road.



a) In the diagram above, draw the path of light that enables the driver in **Car X** to see **Car Y**. [1]

b) What is the property of light that enables the driver in Car X to see the approaching **Car Y**? [1]

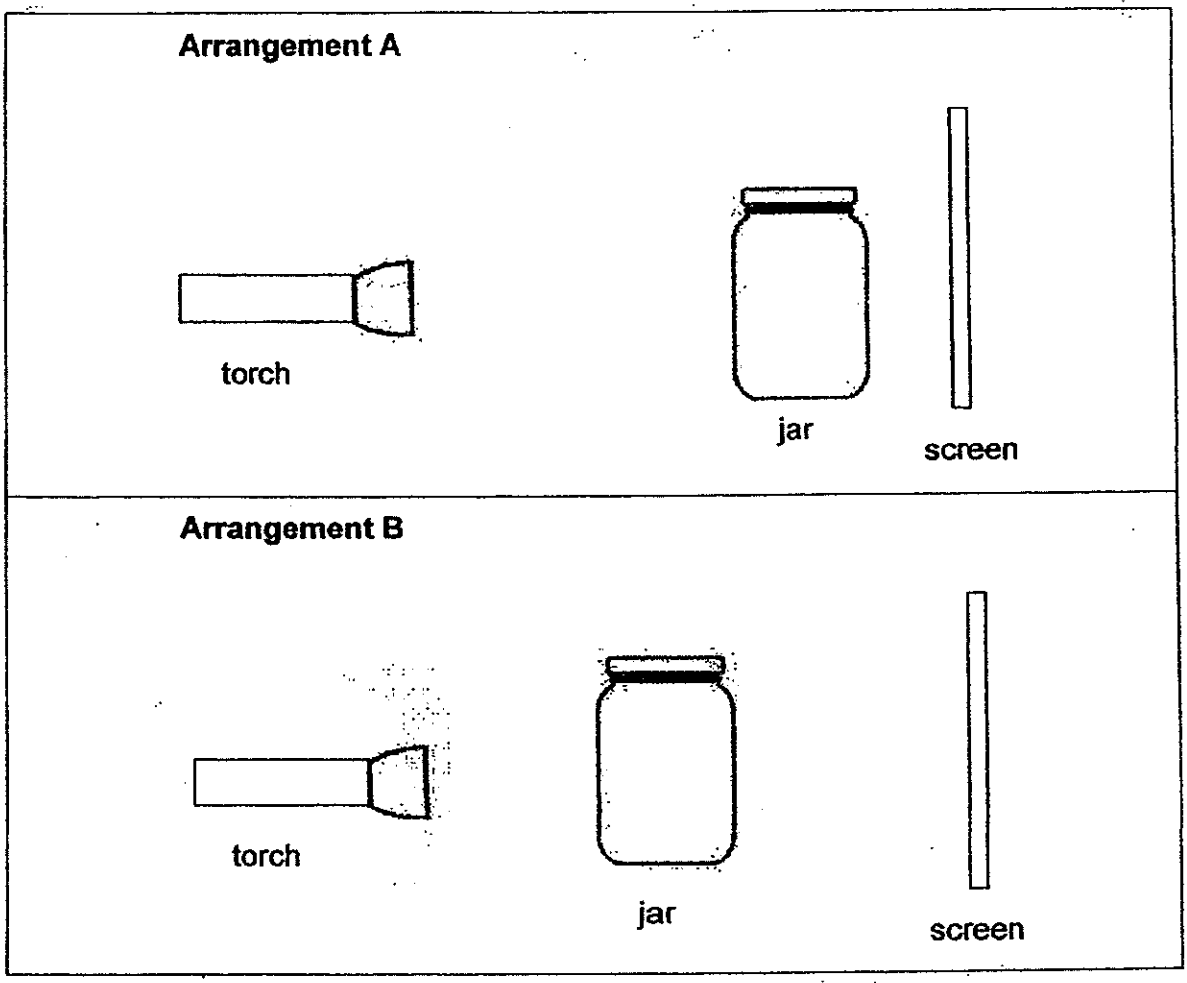
_____

c) Explain why a transparent material is used to make the windscreen of cars. [1]

_____

_____

34. A metal jar is arranged in two different positions as illustrated below.



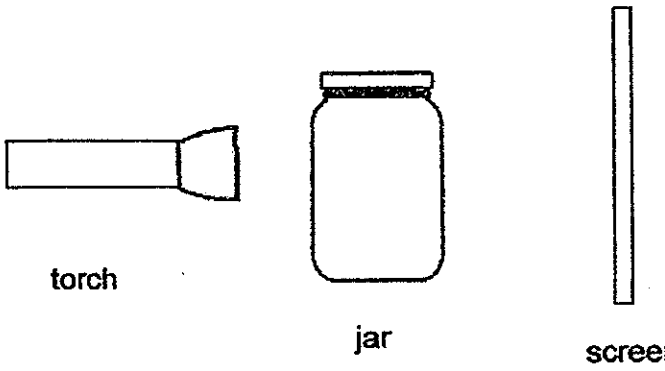
a) State a similarity between the shadows (Do not state colour) formed in Arrangement A and Arrangement B. [1]

_____

b)

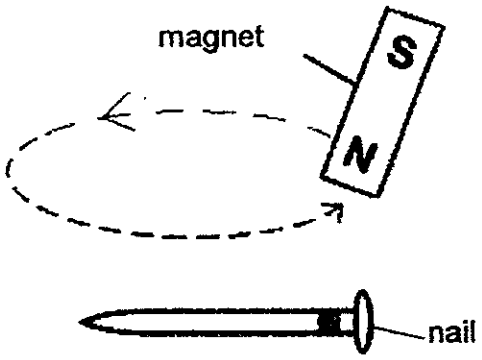
Arrangement C

Arrangement D



Arrangement C and Arrangement D are set up to investigate how the distance between the torch and the container affects the size of the shadow. Is Arrangement D correct? Explain your answer. [2]

35. Jason wanted to make a magnet by stroking a nail with a magnet in the direction as shown below.



a) Name a material that the nail should be made of so that it could be made into a magnet. [1]

_____

b) What could Jason do to test if the nail had become a magnet? [1]

_____

_____

36. Wendy grouped some things by their property in the table below.

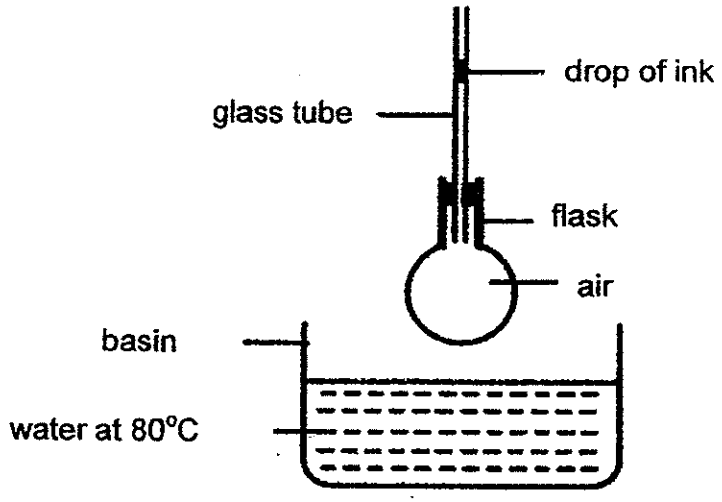
Heading F	Heading G
Tree	Pen
Bear	Cloth
Spider	Stone

What are Heading F and Heading G?

Heading F : _____ [1]

Heading G : _____ [1]

37. A flask, with a glass tube containing a drop of ink, is lowered into a basin of water as shown below.



a) From the above, identify the source of heat. [1]

_____

b) When the flask is lowered into the basin of water, the drop of ink in the glass tube rose. Explain why. [1]

_____

_____

c) John repeated the experiment by filling the basin with water at 90°C. Explain what would happen to the drop of ink in the glass tube. [1]

_____

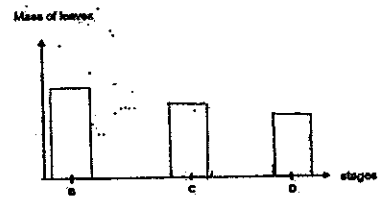
_____

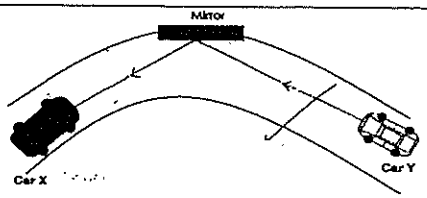
_____

End of Booklet B

EXAM PAPER 2014
LEVEL : PRIMARY 4
SCHOOL : TAO NAN SCHOOL
SUBJECT : SCIENCE
TERM : SA2

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

Q26	(a)	Is lighter than
	(b)	has the same mass as
Q27		Gaseous state. Since air can be compressed, the bullet would not be shoot out until the trigger is pulled.
Q28	(a)	Both animals have 3-staged life cycle.
	(b)	The young of the chicken has legs while the young of the frog does not have legs.
Q29		Stem Leaves
Q30	(a)	Stage B
	(b)	At stage E, the seedling no longer requires the food stored in the seed leaves to grow as it has the first leaves to photosynthesize and make food.
	(c)	
Q31	(a)	He should use the egg shell, seeds, soil and water in the gardening can.
	(b)	3,1,2
	(c)	He would see that the egg shell cracks.
Q32	(a)	Part A breaks the food into simple substances and able to break up the large pieces of food into smaller pieces.
	(b)	Part C will absorb water and mineral salts from the undigested food to the bloodstream.
	(c)	The undigested food will be very watery.

Q33	(a)	
	(b)	Light can be reflected.
	(c)	Transparent material let most light to pass through thus allowing the driver to see what is on the road.
Q34	(a)	The shadow will be the same shape.
	(b)	No. There are two changed variables in this experiment and the distance between the jar and the screen should be the same.
Q35	(a)	Steel
	(b)	He should put the nail into some iron filling.
Q36		Heading F : Living things Heading G : Non-living things
Q37	(a)	The water is 80°c.
	(b)	The glass tube gained heat from the water at 80°c and expanded first than the air in the flask expanded.
	(c)	It will rise faster than the previous experiment.