Name : _____ ( )

Class : Primary _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

STEADFAST IN DUTY

德 純 文 學

Primary 4

Continual Assessment 2 – 2008

SCIENCE

BOOKLET A

21st August 2008

Total Time for Booklets A and B: 1 hour 30 minutes

25 questions
50 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Section A : (25 x 2 MARKS)

For each question from 1 to 25, 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.

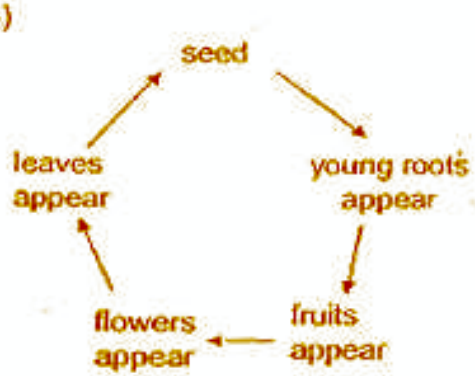
1. Which diagram below shows the correct sequence of growth in a green bean plant?

(1)

(2)

(3)

(4)



2. A group of pupils designed an investigation to determine the effects of temperature on the rate of seed germination. They placed moist cotton wool in each of the four petri dishes. Ten bean seeds were placed on the moist cotton wool in each dish. The four dishes, A, B, C and D, were then placed in the dark at different temperatures as follows:

Dish A: 10°C, Dish B: 15°C, Dish C: 20°C, Dish D: 25°C.

The total number of germinated seeds in each petri dish was counted each day for two weeks.

Which data table below is best for recording the results of this investigation?

(1)

Petri Dish	Day	Temperature	Amount of Light
A			
B			
C			
D			

(2)

Petri Dish	Amount of Water	Number of Germinated Seeds	Amount of Light
A			
B			
C			
D			

(3)

Day	Temperature			
	Dish A	Dish B	Dish C	Dish D

(4)

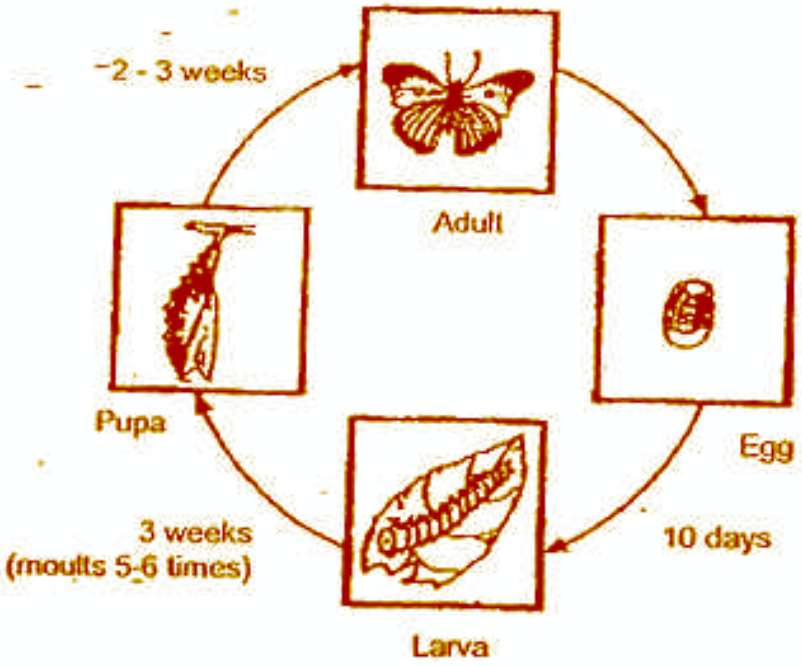
Day	Number of Germinated Seeds			
	10°C	15°C	20°C	25°C

3. The diagram below shows the cross-section of a chicken's egg.

Which part of the egg provide(s) food for the developing chick?

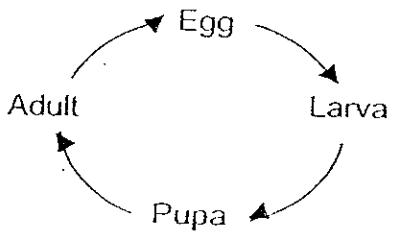
(1) A only
(2) C only
(3) A and B only
(4) B and D only

4. According to the life-cycle given below, when does the young of a butterfly stop feeding completely?

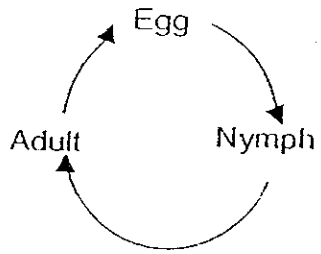


(1) About 10 days after the egg is laid.
(2) About 21 days after the egg is laid.
(3) About 31 days after the egg is laid.
(4) About 45 days after the egg is laid.

5. Study the life cycle of Animal Y and Z below.



Animal Y



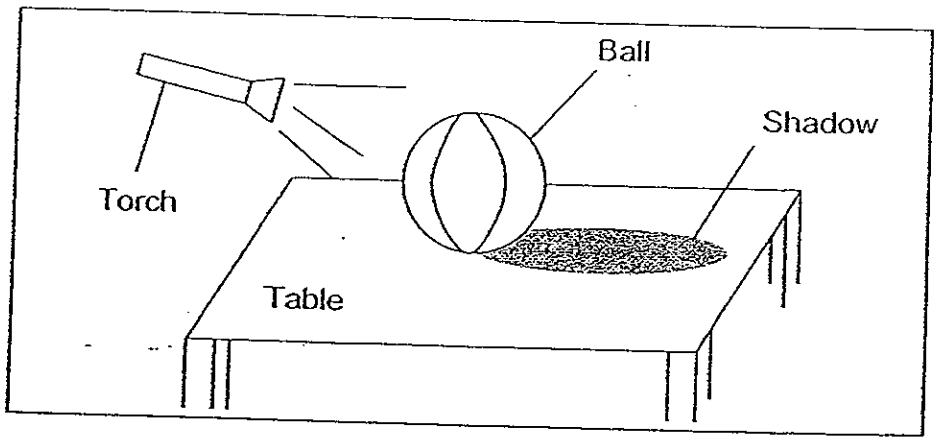
Animal Z

Based on the life cycles of Animal Y and Z, it can be inferred that _____.

A : Animal Z has 3 stages in its life cycle but Animal Y has 4.
B : Animal Y lays eggs in water but Animal Z lay eggs on land.
C : the young of Animal Y looks like the adult but the young of the Animal Z does not.
D : Animal Y takes a longer time than Animal Z to develop from an egg to an adult.

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

6. Look at the picture below.



Which one of the following is <u>not</u> a matter?

(1) Ball
(2) Shadow
(3) Table
(4) Torch

7. Matter can be different in terms of _____.

A: colour
B: shape
C: states
D: space it occupies

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

8. Hassan filled Bottle X with coloured water. He taped the mouth of an empty Bottle Y to that of Bottle X as shown in Figure 1.

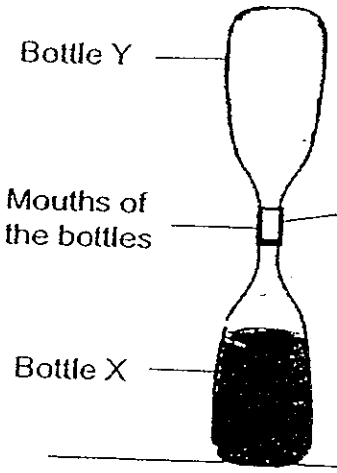


Figure 1

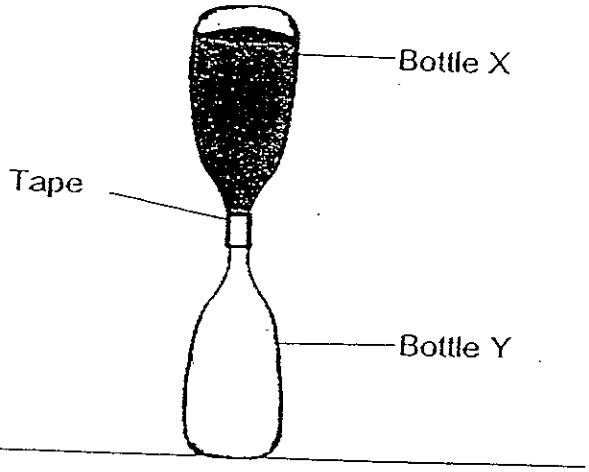


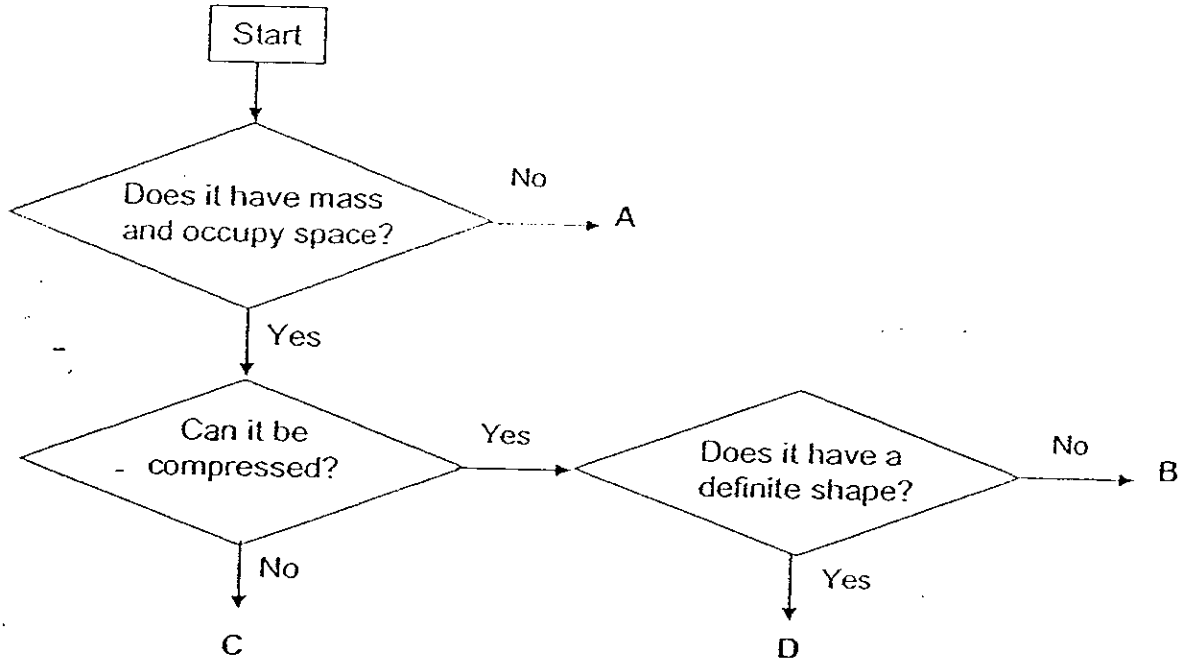
Figure 2

He then turned Bottle X upside down as shown in Figure 2. A trickle of water was seen flowing into Bottle Y for a short while and then it stopped. He found that the water in Bottle X did not flow into Bottle Y completely.

What could be the possible reason?

(1) The mouths of the bottles were too small.
(2) The coloured water was too thick, hence could not flow.
(3) The air in Bottle Y prevented the water in Bottle X from flowing in.
(4) The tape prevented the coloured water in Bottle X from flowing into Bottle Y.

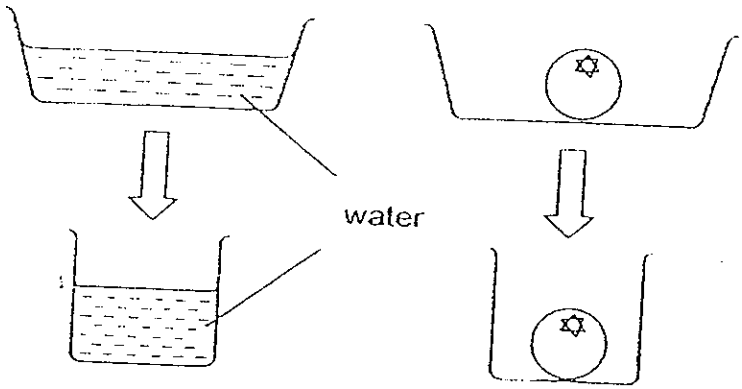
9. Study the flow chart given below.



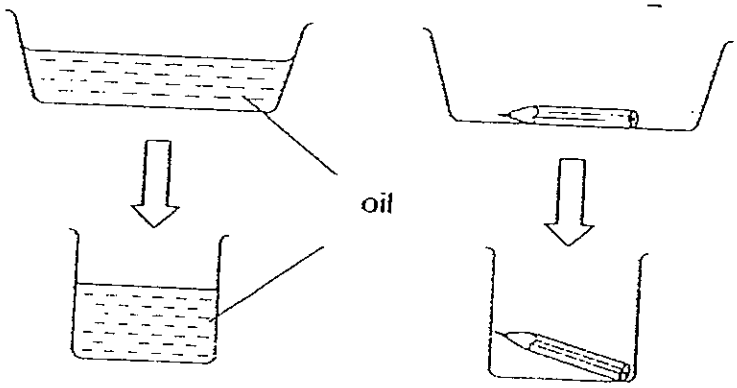
Using the information provided in the flow chart, identify which letter represents 'oxygen'.

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

10. Michael poured some water into a container and placed an orange into another similar container. He then poured the water into a beaker and placed the orange into a similar beaker as shown in the diagram below.



He repeated the experiment with oil and a pencil as shown below.



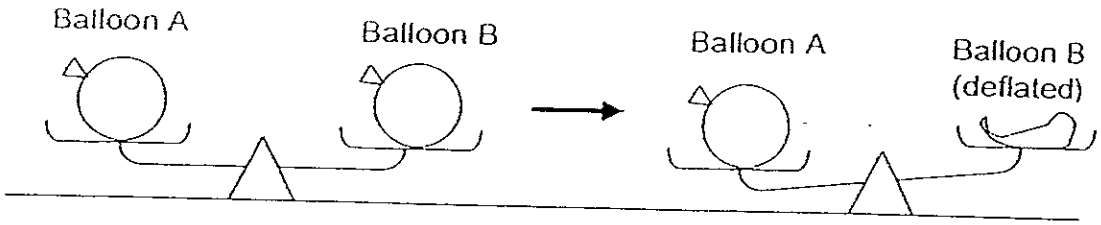
Which conclusion could he draw based on the above examples?

(1) Both the liquid and solid have mass.
(2) A liquid takes up more space than a solid.
(3) A liquid takes the shape of the container that it is in but a solid does not.
(4) A liquid does not have a definite volume while a solid has a definite volume.

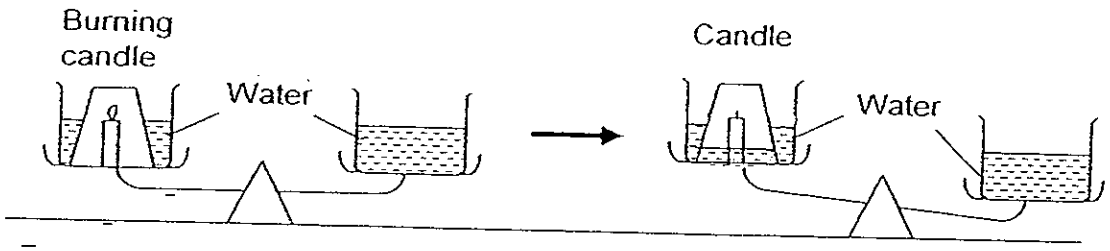
11. Sulaiman wanted to show that air has mass. He conducted his experiment as shown below.

Which one of the following 4 set-ups could <u>not</u> be used to show that air has mass?

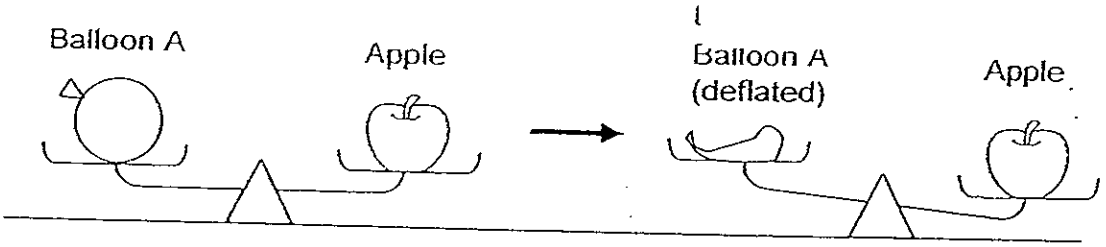
(1)



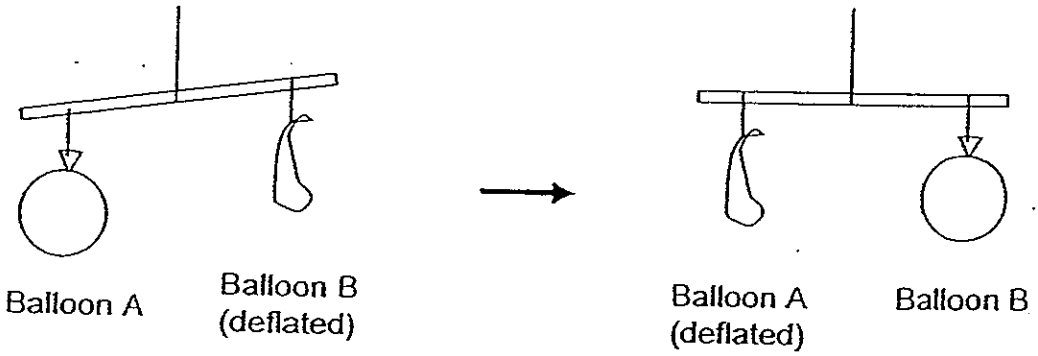
(2)



(3)



(4)

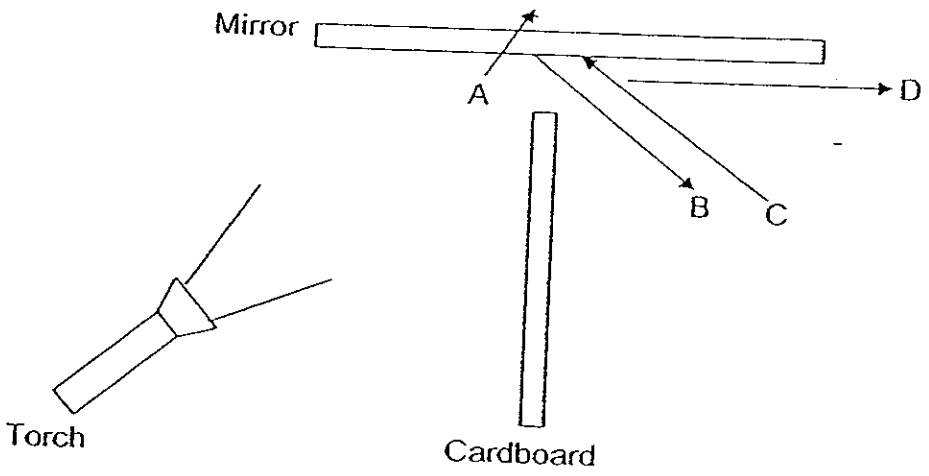


12. Mr Selvi always wears his brightly coloured jacket when he rides his bicycle at night.

Which one of the following could be the reason?

(1) Dark colours reflect light but not bright colours.
(2) Bright colours absorb light but not dark colours.
(3) Bright colours reflect more light than dark colours.
(4) Dark colours are easily seen in the dark but not bright colours.

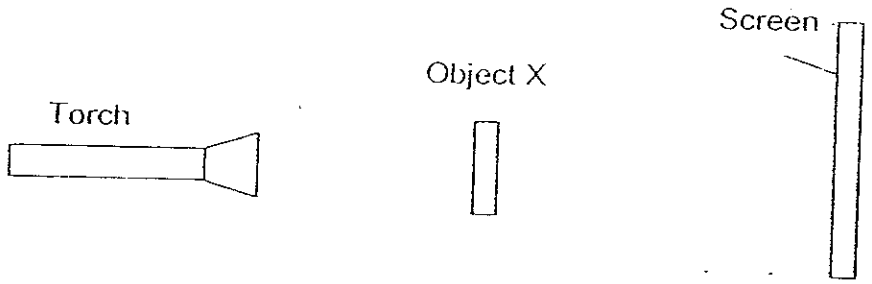
13. Look at the diagram below.



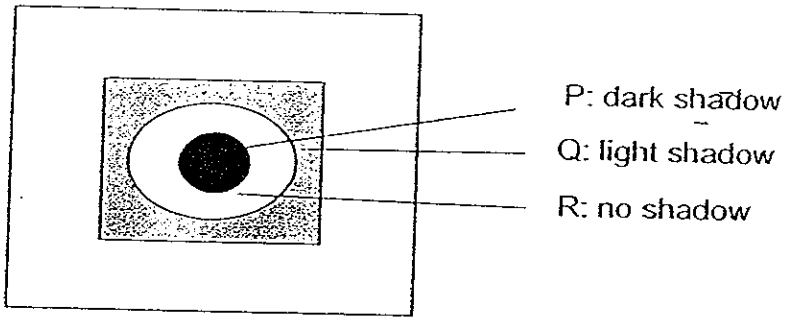
Which one of the following arrows shows the correct direction of reflected light when the light from the torch falls on the mirror?

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

14. Desmond carried out an experiment to find out more about shadows and the properties of light. He set up his experiment as shown in the diagram below.



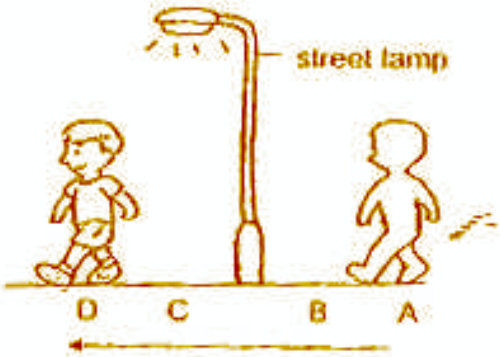
When he shone the torchlight at object X, he obtained a shadow as shown on the screen below.



Which one of the following materials would be used to make parts P, Q and R of Object-X?

	Part P	Part Q	Part R
(1)	Cardboard	Tracing paper	Clear plastic
(2)	Clear plastic	Tracing paper	Tissue paper
(3)	Tissue paper	White paper	Frosted glass
(4)	Tissue paper	Cardboard	Clear glass

15. On a dark night, Peter walked from point A to point D, passing the street lamp as shown below.



Which one of the following options shows Peter's shadows formed at points A, B, C and D under the lighted street lamp?

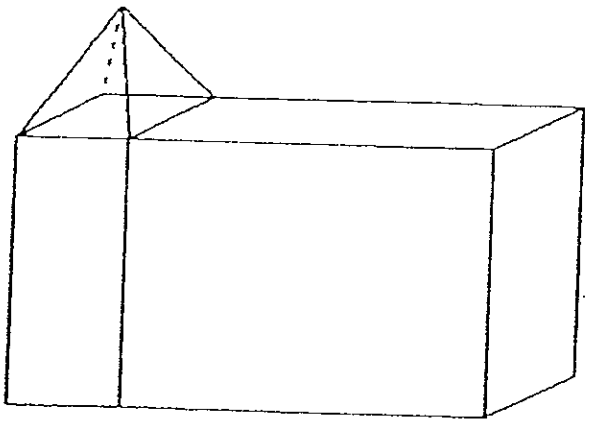
(1) 

(2) 

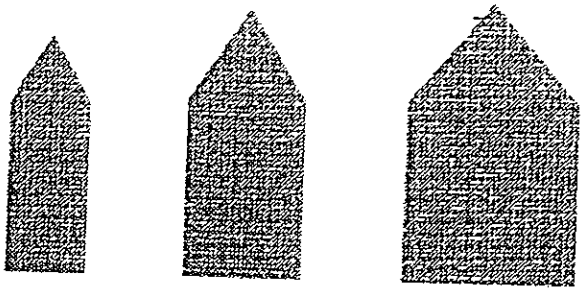
(3) 

(4) 

16. Four pupils observed the shadows cast by the object below when a light source was shone on it.



Study the shadows below carefully and decide who made the correct observation and conclusion.



Donny: There is no change in the direction of the light source and the distance between the object and the light source.

Paul: There is a change in the direction of the light source and the distance between the object and the light source.

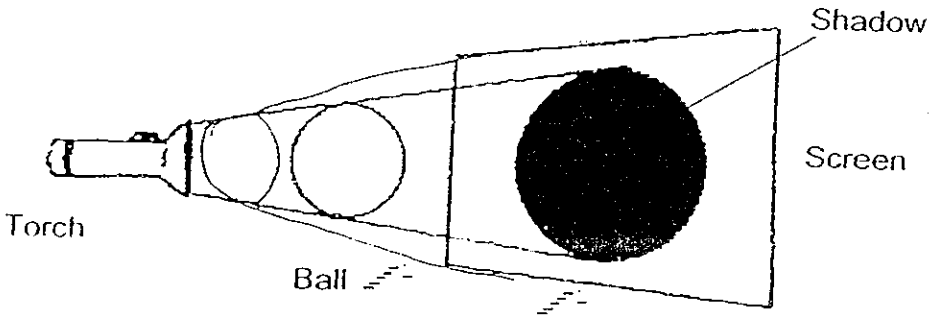
Lennon: There is a change in the distance between the object and the light source but the direction of the light source remains unchanged.

Ringo: There is a change in the direction of the light source but the distance between the object and the light source remains unchanged.

Whose observation was correct?

(1) Donny
(2) Lennon
(3) Paul
(4) Ringo

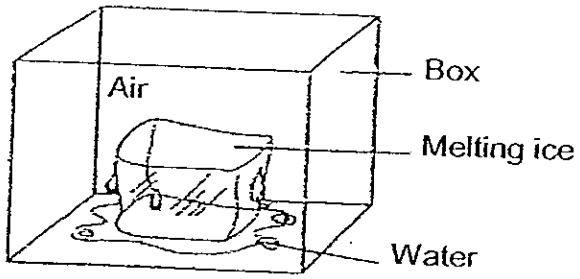
17. Study the set-up below.



What should be done in order to get a larger shadow?

(1) Move the ball nearer to the torch.
(2) Move the ball nearer to the screen.
(3) Move the torch further from the ball.
(4) Move the screen nearer to the torch.

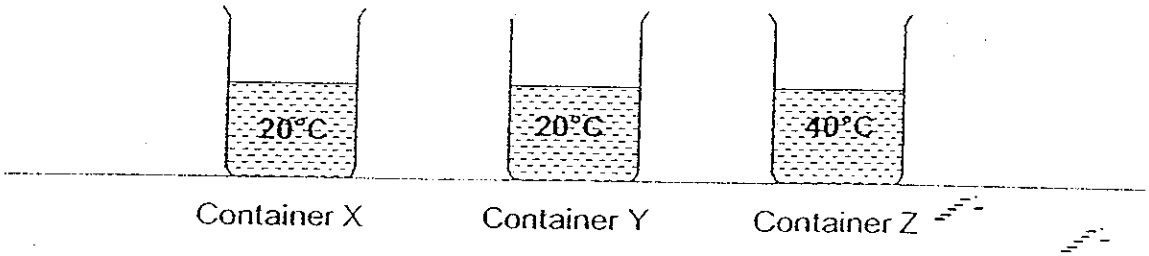
18. A block of ice is kept in a closed box as shown in the diagram below.



What happens to the air, melting ice and box after a few seconds?

	Air	Melting ice	Box
(1)	loses heat	gains heat	loses heat
(2)	loses heat	loses heat	gains heat
(3)	gains heat	gains heat	loses heat
(4)	gains heat	loses heat	gains heat

19. The picture below shows three containers, X, Y and Z, each containing 100ml of water at different temperatures.

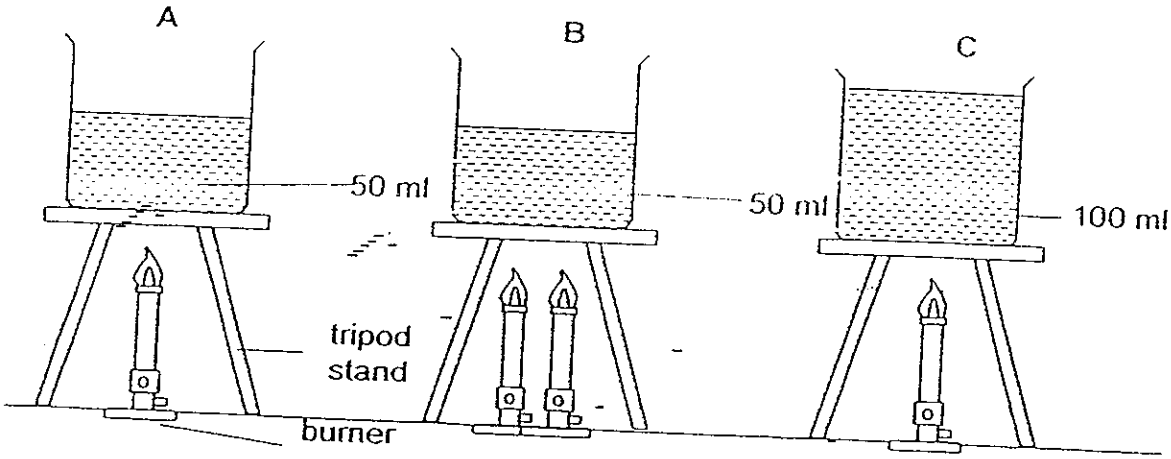


Limin poured the water from Container X and Y into Container Z. Then, she measured the volume and the temperature of the water in Container Z.

What would be the probable readings obtained?

	Volume	Temperature
(1)	100 ml	28°C
(2)	100 ml	60°C
(3)	300 ml	25°C
(4)	300 ml	80°C

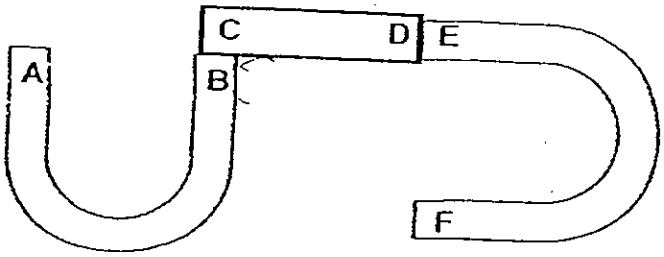
20. Identical burners were used to heat 3 beakers of tap water in the same room as shown in the diagram below. The water in each beaker was heated until it just started to boil and the time taken was recorded.



Which one of the following is a **true** statement on the set-ups at the **end** of the experiment?

(1) Set-up B has the highest temperature.
(2) Set-up A has a higher temperature than Set-up C.
(3) Set-up B took the longest time to reach boiling point.
(4) Set-up A took a shorter time to reach the same temperature than Set-up C

21. The diagram below shows a bar magnet and two U-shaped magnets.



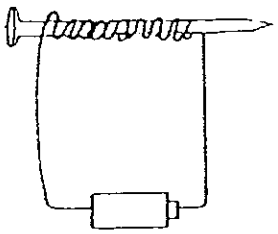
Based on the diagram above, which of the following statement(s) about the poles of the magnets is/are **false**?

X : B and E are like poles.
Y : F will repel D and be attracted to C.
Z : E will repel C and be attracted to B.

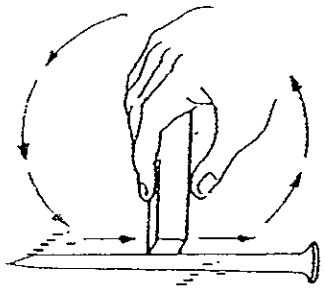
(1) X only
(2) Y only
(3) X and Z only
(4) Y and Z only

22. Which one of the following set-ups will produce an electromagnet?

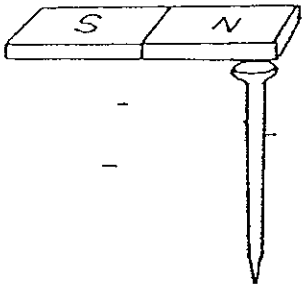
(1)



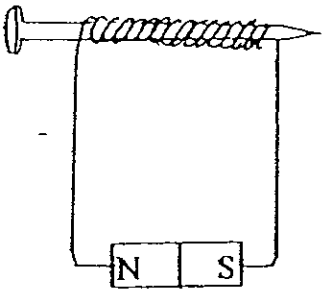
(2)



(3)



(4)



23. Suzy wanted to compare the properties of four objects, A, B, C and D. She did a series of experiments.
Which one of the following is the most likely observations she had made?

(1)

Property / Material	Magnetic	Good Conductor of Heat
Aluminium	✓	
Steel	✓	✓
Copper	✓	✓
Iron	✓	✓
Silver	✓	

(2)

Property / Material	Magnetic	Good Conductor of Heat
Aluminium		
Steel	✓	✓
Copper		✓
Iron	✓	✓
Silver	✓	

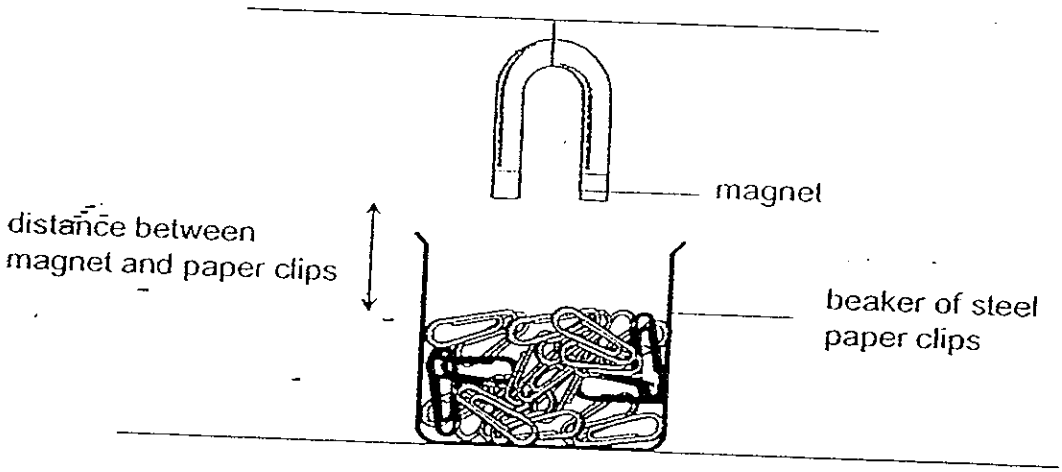
(3)

Property / Material	Magnetic	Good Conductor of Heat
Aluminium		✓
Steel	✓	✓
Copper		✓
Iron	✓	✓
Silver		✓

(4)

Property / Material	Magnetic	Good Conductor of Heat
Aluminium	✓	✓
Steel		✓
Copper	✓	✓
Iron		✓
Silver	✓	✓

24. Ming Hua carried out an experiment with 4 different magnets, A, B, C and D, and some steel paper clips. He lowered each magnet down to a beaker of paper clips as shown in the diagram below.



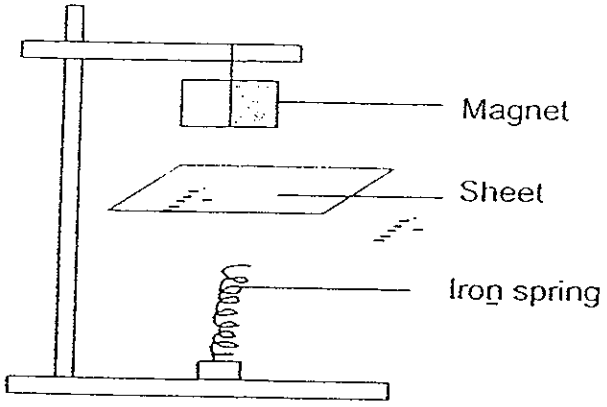
He made the following observations during the experiment.

Magnet	Distance between the magnet and the steel paper clips (cm)	Number of steel paper clips attracted
A	2	10
B	2	5
C	3	10
D	4	25

Arrange the magnets according to descending order of their magnetic strength.

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

25. Jill sets up an experiment to find out if magnetism can pass through certain materials. She notes that the spring is stretched when it is attracted to the magnet.



The table below shows the observations made when she places a sheet that is made up of different materials between the magnet and the iron spring. The sheets are of identical size and thickness.

Types of materials	Did the iron spring remain stretched?	Did the magnetism pass through the material?
Plastic	Yes	Yes
Glass	Yes	Yes
Paper	Yes	Yes
Steel	No	No
Aluminium	?	?

Which one of the following is likely to be Jill's observation when aluminium is used?

	Did the iron spring remain stretched?	Did the magnetism pass through the material?
(1)	Yes	No
(2)	Yes	Yes
(3)	No	No
(4)	No	Yes

~~ End of Section A ~~

Name : _____ ( )

Class : Primary _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

STEADFAST IN DUTY

德 纯 义 爱

Primary 4

Continual Assessment 2 – 2008

SCIENCE

BOOKLET B

21st August 2008

Booklet A	50
Booklet B	30
Total	30

Total Time for Booklets A and B: 1 hour 30 minutes

12 questions
30 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

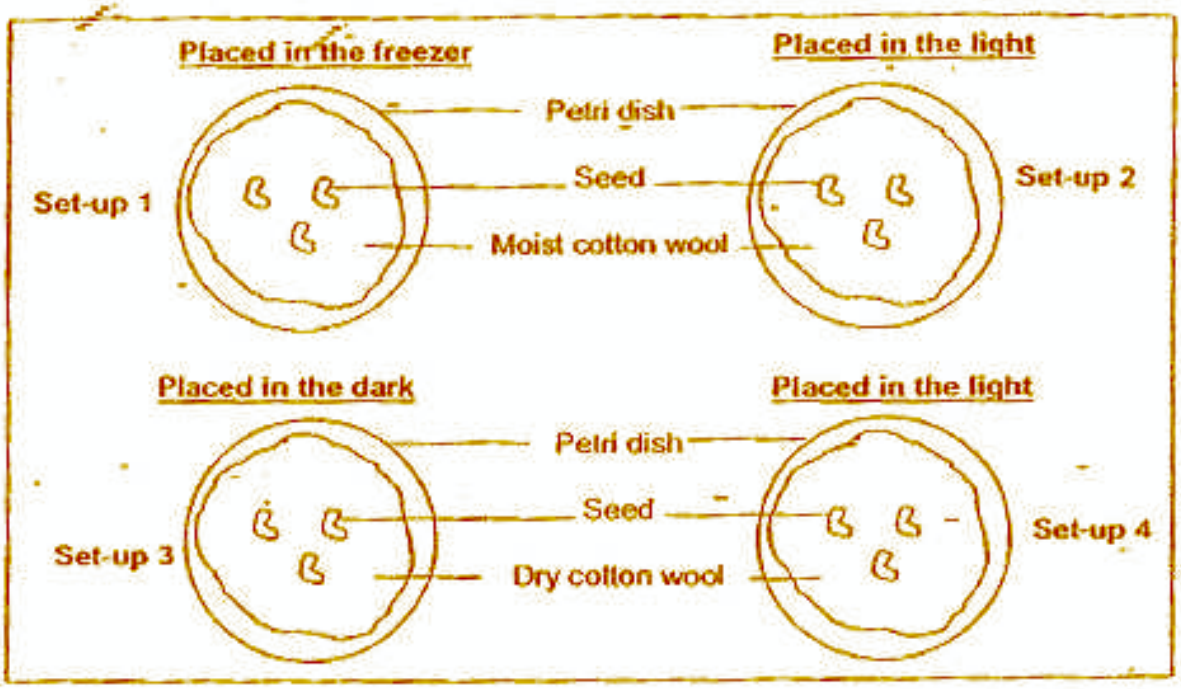
Parent's Signature/Date _____

Section B : (30 marks)

For questions 26 to 37, write your answers in this booklet.

The number of marks available is shown in brackets [ ] at the end of each question or part question.

26. Muthu carried out an experiment using the four set-ups as shown below.

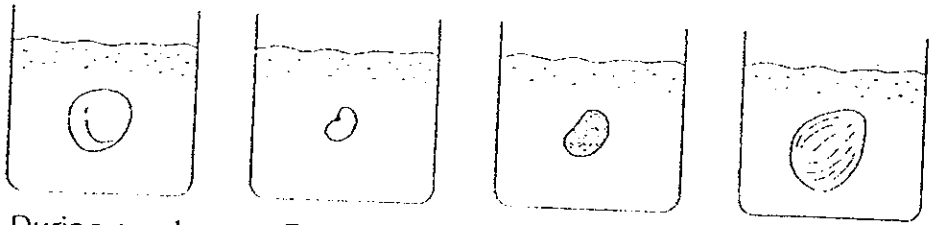


a) He observed that the seeds in some set-ups did not germinate. In which set-ups did the seeds not germinate? Why was it so? [2]

Set-up	Reason
i)	
ii)	

b) If Muthu decided to conduct another experiment using only set-ups 2 and 4, what would be the aim of his experiment? [1]

27. Andrea placed 4 different seeds into containers of the same shape and size. Each container had the same amount of soil as shown in the diagrams below.



Durian seed | Red bean seed | Black bean seed | Mango seed

She watered the seeds daily and took note of the number of days taken for the shoot of each seed to appear. Her data is shown in the table below.

Seed	Number of days
Mango	23
Durian	10
Red bean	3
Black bean	5

a) Which shoot took the longest time to appear? [1]

b) What do you think Andrea was trying to find out? [1]

c) From the results, what relationship can Andrea conclude about the size of the seed, and the time it takes to germinate? [1]

28. The following table contains information about Insects X and Y.

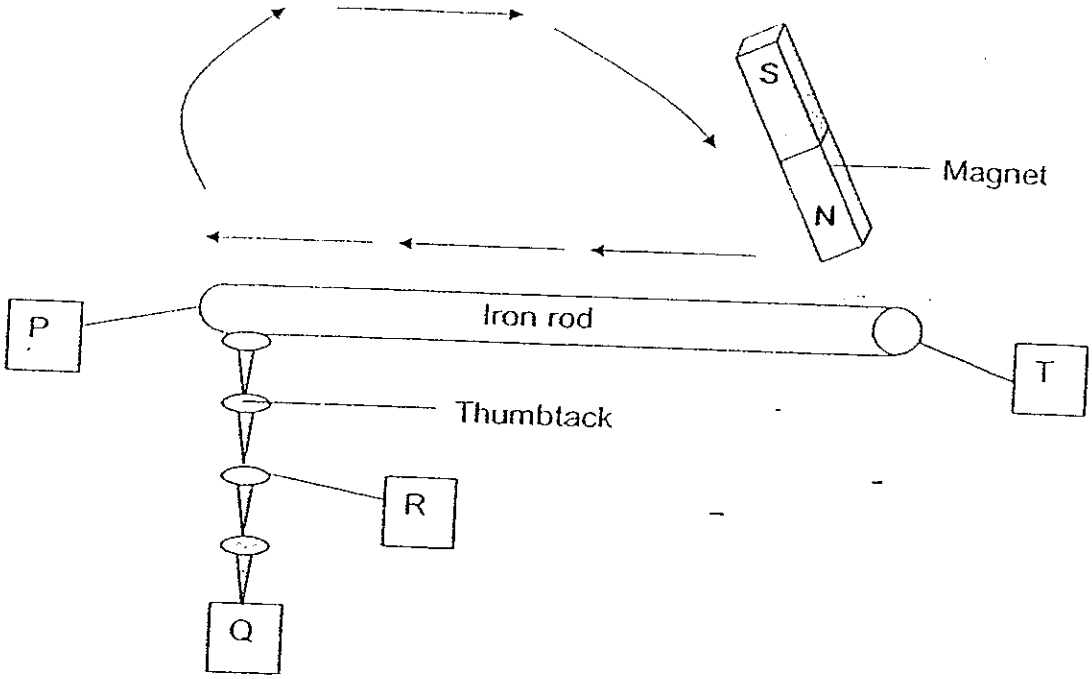
	Insect X	Insect Y
Number of eggs	8	8
Diet	Grass	Grass
Number of stages in its life cycle	3	4
Number of days for it to develop from an egg into an adult.	12	6

An equal number of eggs of Insect X and Y were placed in a tank. There was also enough grass, air and water. All the eggs hatched and none of the animals could escape from the tank. **The mating season will be two weeks after they have become an adult.**

a) If no insect died, which insect would have more adults at the end of 6 days? [1]

b) What would happen to the number of the adults of both insects at the end of 13 days? [1]

29. Sheena stroked an iron rod with a magnet several times to magnetise it. She then used the iron rod to attract some thumbtacks.



a) Label the poles of the magnetised iron rod and the thumbtacks as indicated by P, Q, R and T. [2]

P: _____ pole

Q: _____ pole

R: _____ pole

T: _____ pole

b) Suggest a possible way to cause a magnet to lose its magnetism. [1]

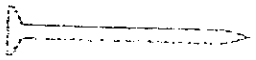
_____

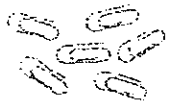
_____

30. Josh wanted to conduct an experiment to find out more about making magnets. He gathered the following objects.


battery


wire

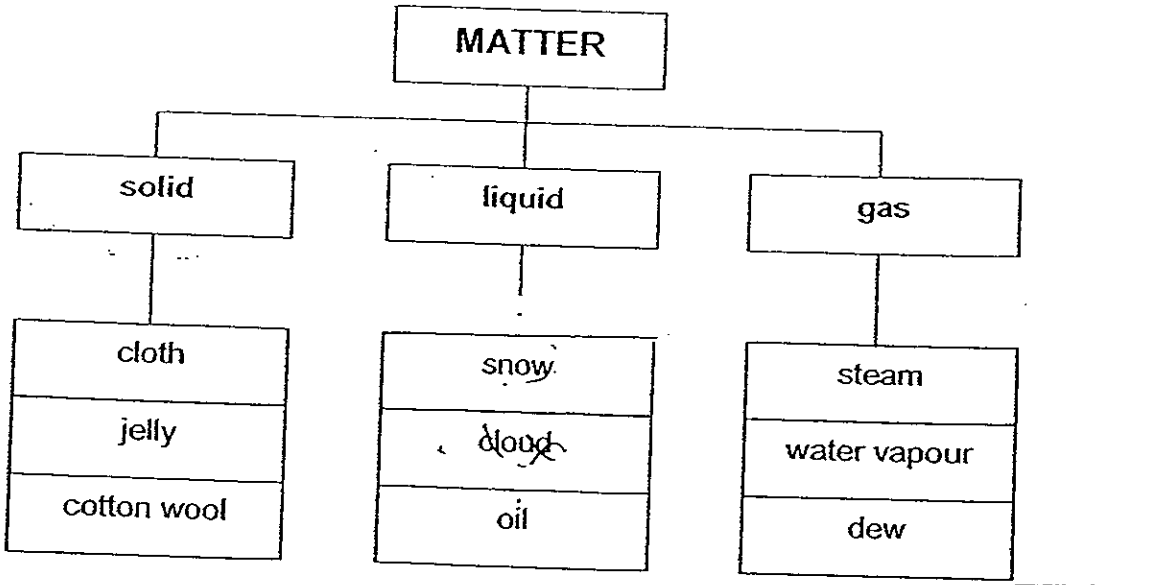

iron nail


paper clips

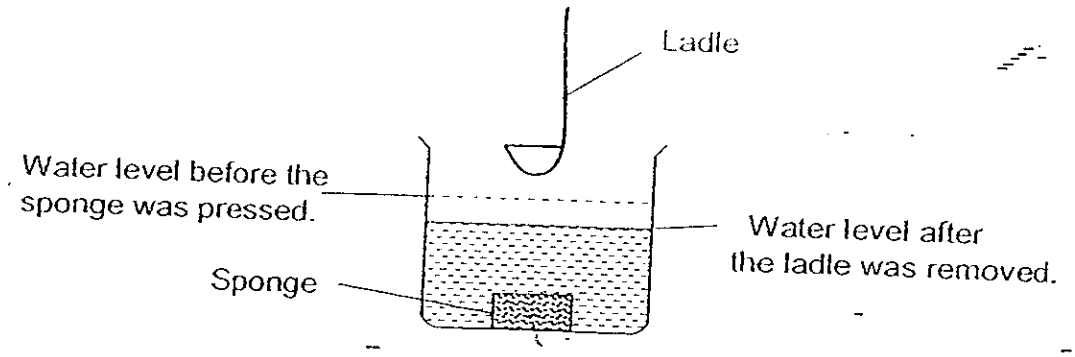
He wanted to find out how the strength of batteries affects the strength of an electromagnet. Which of the following variables should he keep the same and which should he change? Put a tick (✓) in the correct boxes. [2]

Variables	Keep the same	Change
Type of wire		
Number of coils		
Length of the nail		
Strength of the batteries (number of batteries used)		

31. Matter exists in three main states; solid, liquid and gas. Look at the chart below and **circle** the examples of matter which are placed in the wrong group. [2]



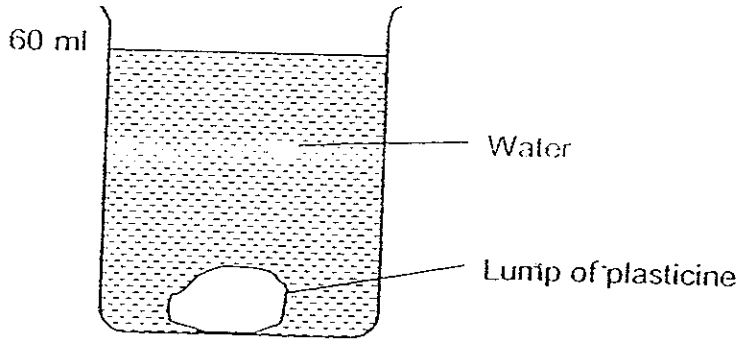
32. Heidi taped a sponge at the bottom of a basin and poured water into it to cover the sponge. Next, she marked the water level in the basin and used a ladle to press the sponge down. She noticed that the sponge had changed its shape. After she removed the ladle, the sponge went back to its original shape. She noticed that the water level had dropped.



a) What did Heidi observe when the ladle was pressed against the sponge? [1]

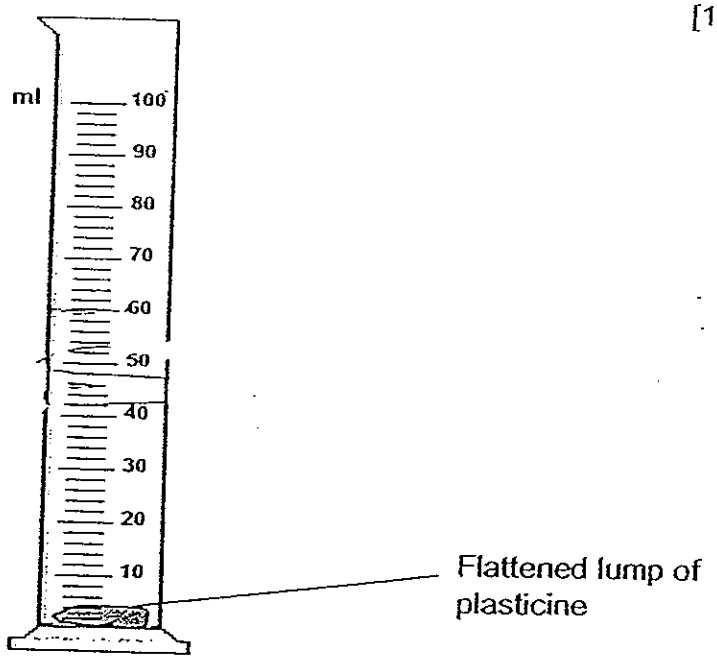
b) Why did the water level in the basin decrease after the ladle was removed? [2]

33. Luther dropped a lump of plasticine into a basin of water and found that the water level rose to the 60 ml mark. He then took the plasticine out of the water and flattened it. **(Assuming no water was lost)**



a) Later, he dropped the flattened plasticine into an empty measuring cylinder, as shown below. If he poured the water from the beaker above into the measuring cylinder, what would be the water level in it? **Draw** the water level in the measuring cylinder below.

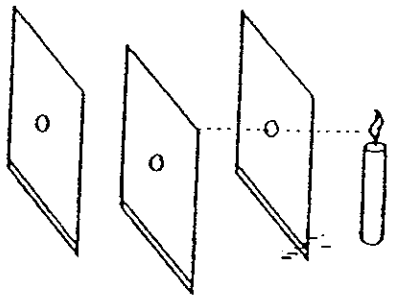
[1]



b) From this experiment, what can Luther conclude about the volume of solid and the change of its shape?

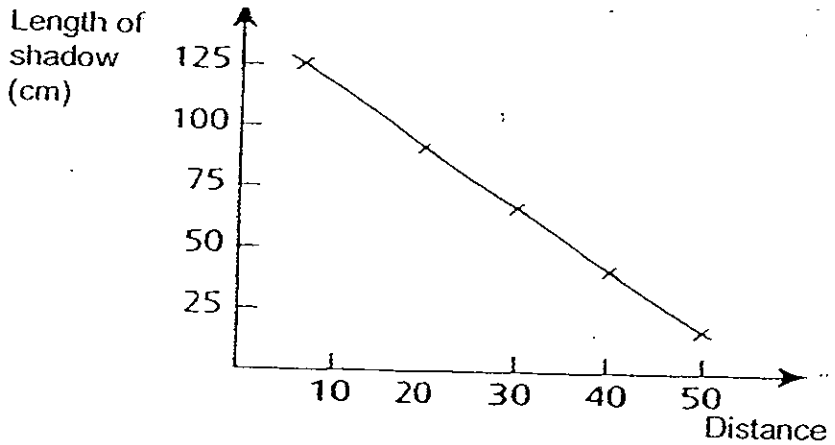
[1]

34. The diagram below shows the arrangement of 3 cardboards.



a) Will the light of the candle be seen from Point A ? Why ? [2]

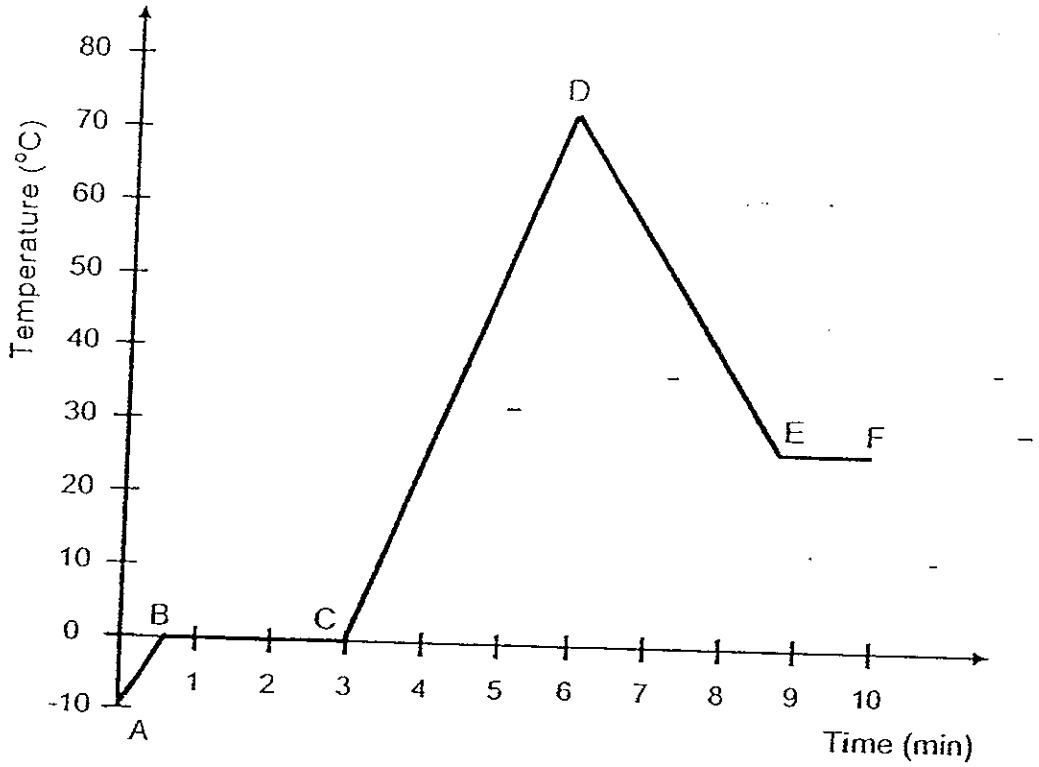
b) The graph below shows the length of the shadow of an object when the light source is placed at different distances.



What is the relationship between the length of the shadow and the distance of object from the light source? [1]

35. Meena took some ice cubes out from a freezer. Then she started heating the ice cubes in a beaker. After a while, she stopped the heating and placed the beaker on a table in the kitchen.

The graph below shows her results.



ai) Which part of the graph shows the melting of the ice? [½]

_____

ii) What was the temperature of the freezer? [½]

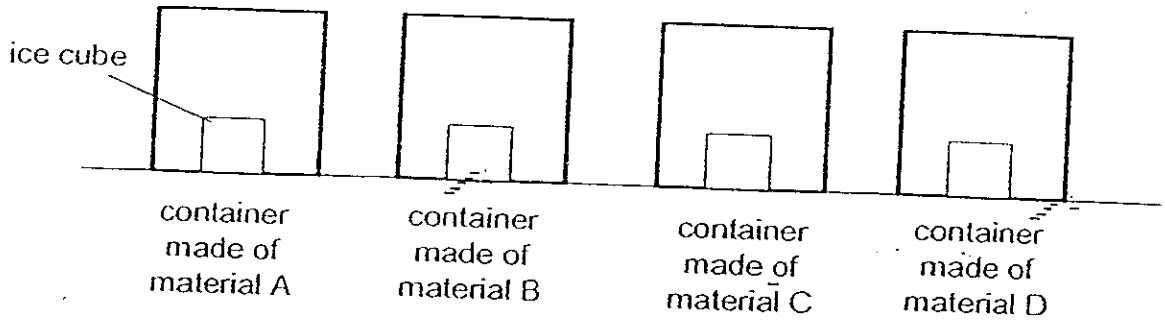
_____

b) Describe what was happening along the line DE? [1]

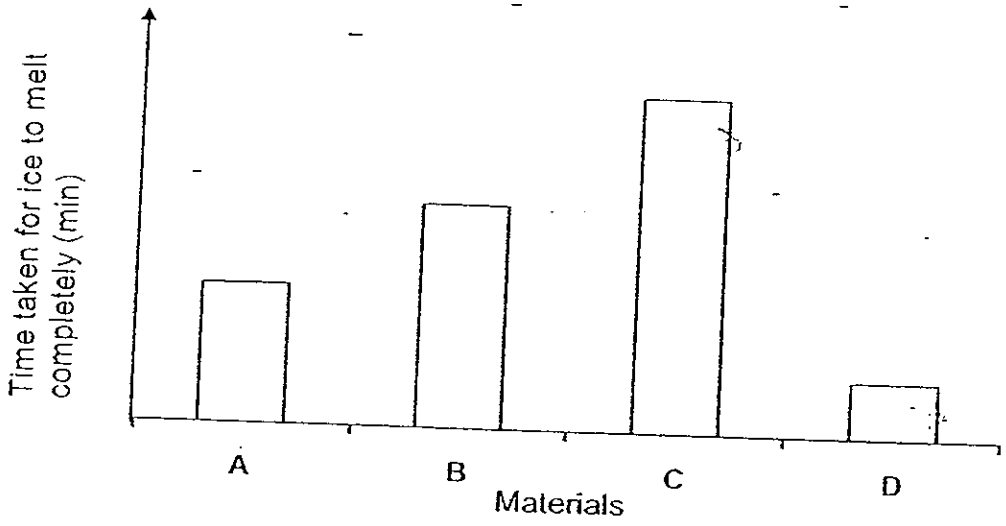
_____

_____

36. An ice cube was placed and sealed in each of the four containers as shown below. The containers are of identical size and are made of different materials (A, B, C and D) of equal thickness.



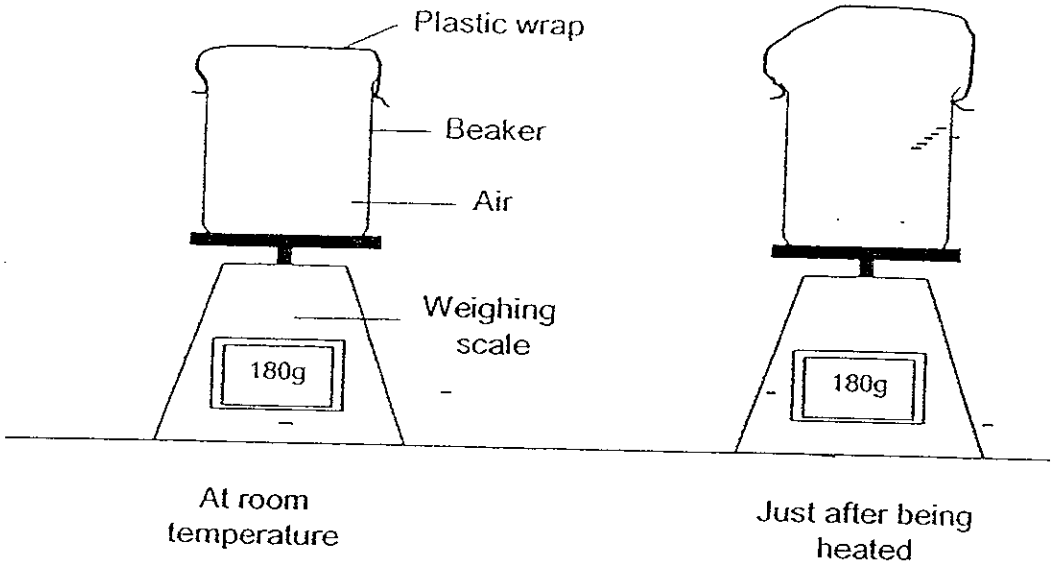
The graph below shows the time taken for the ice in each container to melt completely.



a) Based on the graph above, which material (A, B, C and D) is least suitable for making containers for keeping food warm? [1]

b) State a property of this material which makes it the least suitable for making containers for keeping food warm. Explain why. [2]

37. A beaker was covered tightly with a piece of plastic wrap so that air could not enter or leave it. The weight of the jar was taken before and after heating as shown in the diagram below.



What happened to the mass and the volume of the air in the beaker just after it is being heated? [2]

~~ End of Paper ~~

ANSWER SHEET

EXAM PAPER 2008

SCHOOL : CHIJ PRIMARY SCHOOL
SUBJECT : PRIMARY 4 SCIENCE

TERM : CA 2

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

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
1	3	4	1	1	3	4	2

26)a)i)4 Because without water the seed cannot germinate.
ii)3 It has no water.
b)To find out if water is needed for germination water is needed for seeds to grow.

27)a)Mango took the longest time to let to shoot appear.
b)Andrea is trying to find out which one germinate or let the shoot appears first.
c)The larger the seed size, the longer it take germination.

28)a)Insect Y will have more adults at the end of the days.
b)Both would have the same number of adults.

29)a)P: South Q: South R: North T: North
b)You can put it under a hot sun, or a burning candle.

30)Keep the same
Keep the same
Keep the same
Change

31)Liquid→snow gas→dew

32)a)Air bubbles came out from the sponge.
b)Water takes the place.

33)a)60ml
b)Solid got definite shape and volume.

34)a)Light travels in straight lines and the holes and not aligned in a straight line.
b)When the distance of the light sources increase, the length of the shadow decreases.

35)a)B to C.
b)-10℃
c)Cooling of water.

36)a)container D.
b)Material D is a good/ best conductor of heat hence it allows heat to pass through.

37)The mass of the air remained the same but the volume of the air has increased.