

Name: _____ ()

Class: Primary 5, _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (Primary)



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2010 First Continual Assessment

SCIENCE

BOOKLET A

3 March 2010

Total Time for Booklets A and B: 1 hr 45 min

25 questions

50 marks

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Answer all questions.

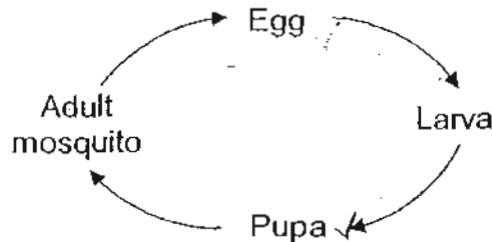
Parent's Signature / Date

This paper consists of 17 printed pages.

Section A : (25 x 2 MARKS)

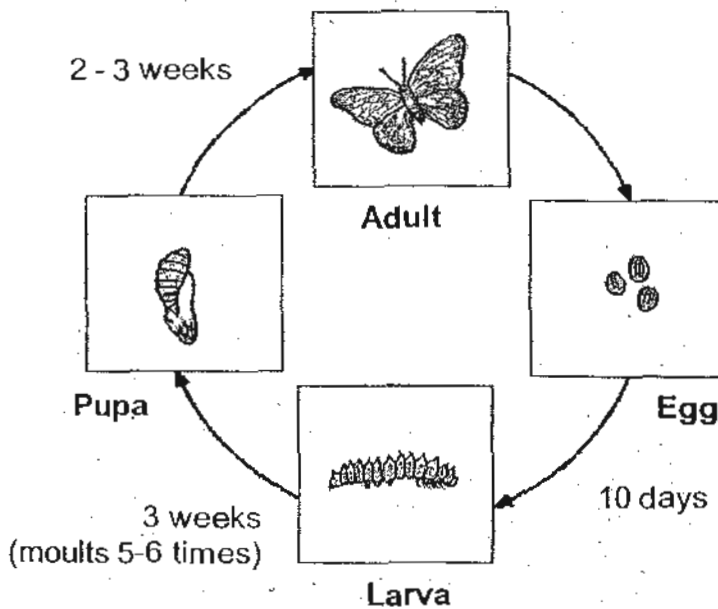
For each question from 1 to 25, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Study the life cycle of a mosquito as shown below.



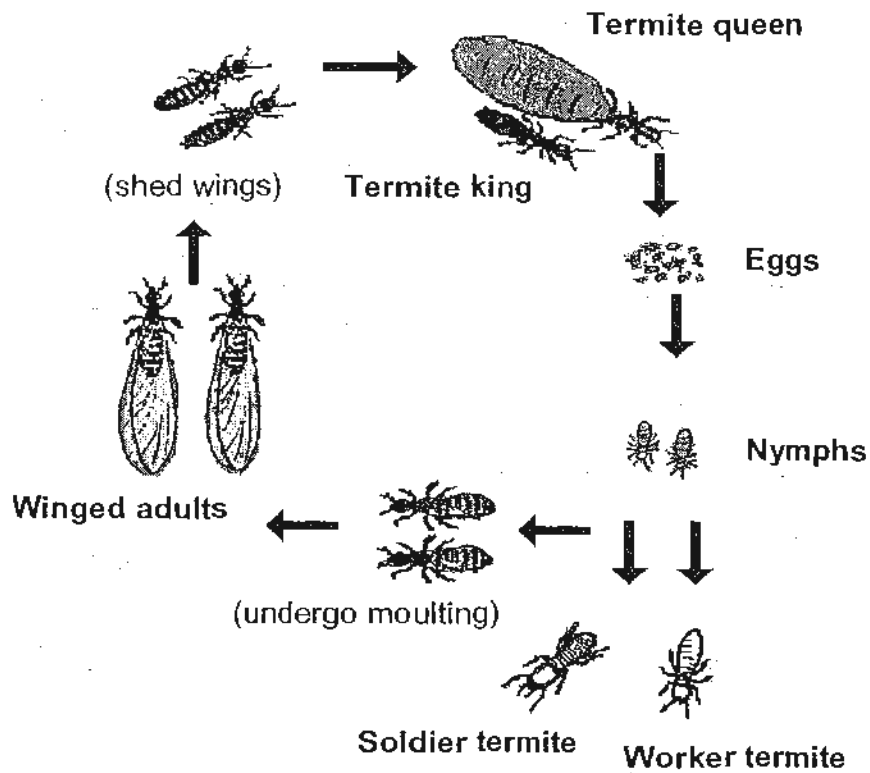
Which of the 4 stages of the mosquito can be found in water?

- (1) Egg only
 - (2) Larva and pupa only
 - (3) Egg, larva and pupa only
 - (4) Pupa and adult mosquito only
2. 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.

3. Study the life cycle of a termite as shown below.

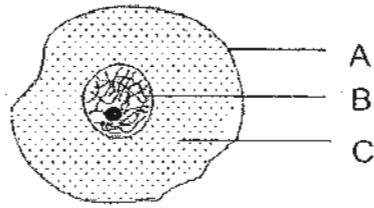


Which of the following statement(s) about the life cycle of the termite is/are correct?

- A The young of the termite looks like its adult.
- B There are 6 stages in the life cycle of a termite.
- C The termites undergo moulting at the nymph stage.
- D Both the male and female termites are needed for reproduction.

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

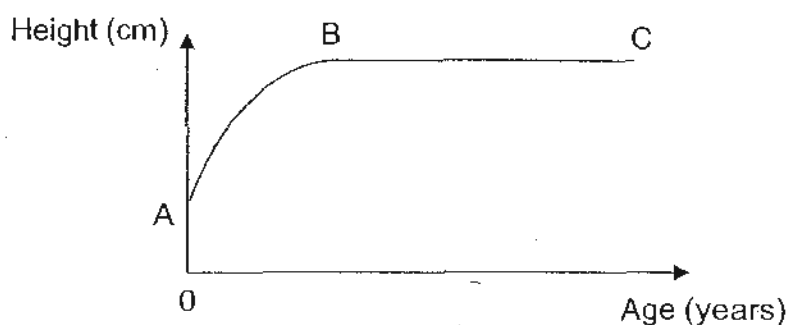
4. Samuel observed a cell under the microscope as shown below. He then recorded the functions of the labelled parts in a table.



Which one of the following shows the functions of the labelled parts of the cell correctly?

	A	B	C
(1)	Controls substances moving in and out of the cell	Controls all the activities in the cell	Allows substances to move around in the cell
(2)	Gives the cell a regular shape	Allows substances to move around in the cell	Controls all the activities in the cell
(3)	Gives the cell a regular shape	Controls all the activities in the cell	Allows substances to move around in the cell
(4)	Controls all the activities in the cell	Allows substances to move around in the cell	Gives the cell a regular shape

5. The graph below shows the changes in the height of a pupil over a period of time.



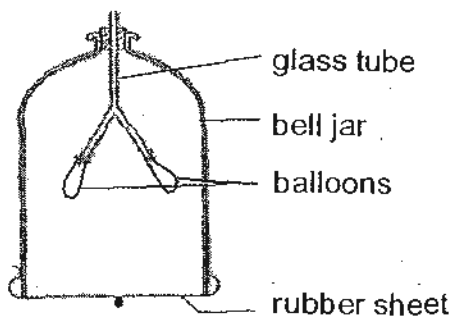
Based on the graph, a group of pupils made the following conclusions each:

- Hanna : From A to B, there is an increase in the height as the number of cells in the body increases.
 Ira : There is an increase in the height from A to B because the size of the cells in the body increases.
 Jackson: From B to C, there is no change in the height as the cells in the body did not increase in size and in numbers.

Which of the following pupils had made the correct conclusion(s)?

- (1) Ira only
 (2) Hanna only
 (3) Ira and Jackson only
 (4) Hanna and Jackson only

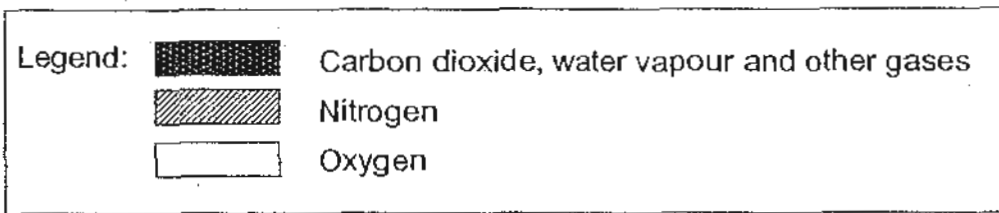
6. Benny set up a model of the respiratory system as shown below.



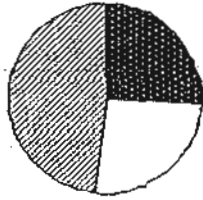
What would Benny observe when he pulled down and released the rubber sheet?

	Rubber sheet	Balloons	Amount of air in the balloons
(1)	Released	Deflated	More
(2)	Released	Inflated	Less
(3)	Pulled down	Inflated	More
(4)	Pulled down	Deflated	Less

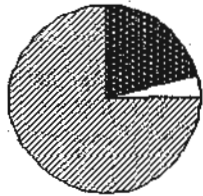
7. Which one of the following pie charts in the diagram below shows the correct composition of gases in surrounding air?



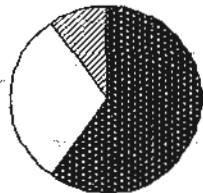
(1)



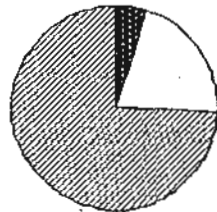
(2)



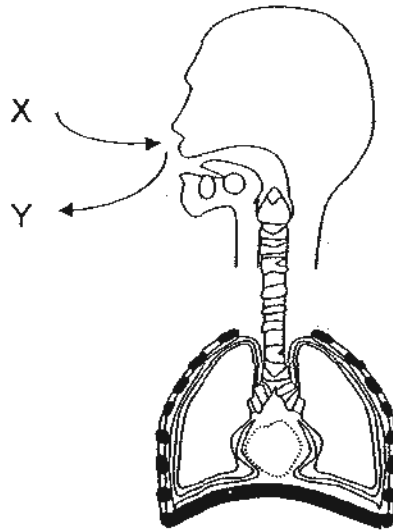
(3)



(4)



8. The diagram below shows the human respiratory system. X represents the air from the surroundings that enters the respiratory system while Y represents the air that leaves the respiratory system into the surrounding.

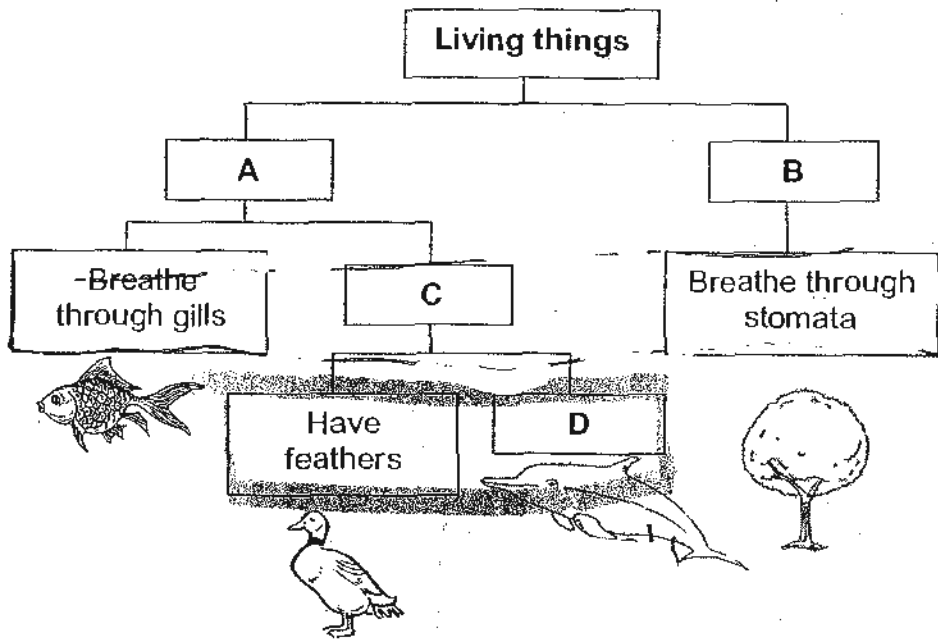


Which of the following statements about X and Y are correct?

- A Y can make limewater turn chalky.
- B Y contains more amount of carbon dioxide than oxygen.
- C X contains the same amount of nitrogen and rare gases as Y.
- D X enters the nose and travels down the windpipe but only oxygen in X enters the lungs.

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

9. The classification chart below shows how some living things are grouped.



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

	A	B	C	D
(1)	Unable to make food	Able to make food	Live in water	Breathe through gills
(2)	Have no chlorophyll	Have chlorophyll	Breathe through lungs	Have hair
(3)	Do not reproduce from seeds	Reproduce from seeds	Live in water only	Have scales
(4)	Can move freely	Cannot move freely	Lay eggs	Have blowhole

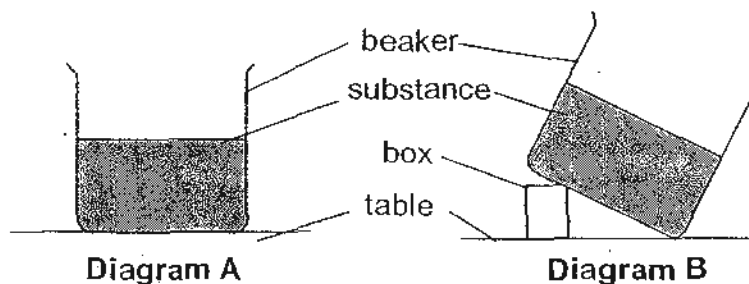
10. Andrea wanted to find out how different factors affect the germination of chilli seeds. She listed the variables that she would use in the list shown below:

- E Light
- F Water
- G Number of chilli seeds
- H Temperature of the environment

She made a list of experiments that she would like to conduct in the table below. Which one of the following experiments would enable her to conduct the experiment correctly?

	Aim of the experiment	Variables kept constant
(1)	To find out if heat affects germination.	E, F and H
(2)	To find out if light affects germination.	E, F and G
(3)	To find out if moisture affects germination.	E, G and H
(4)	To find out if overcrowding affects germination.	F, G and H

11. A beaker containing a substance was placed on a table as shown in diagram A. In diagram B, the beaker was tilted to one side when a box was placed under it.



What could the substance in the beaker be?

- A Plasticine
 - B Apple juice
 - C Oxygen
- (1) A only
 (2) C only
 (3) A and B only
 (4) B and C only

12. The table below shows the mass and volume of substance W in a 100cm^3 container.

Mass of W (g)	20	40	60	80	100
Volume of W (cm^3)	100	100	100	100	100

What is substance W likely to be?

- (1) Glue
 - (2) Sugar
 - (3) Nitrogen
 - (4) Kerosene
13. Look at the diagrams below carefully. A certain amount of oil is being poured into a bottle through a funnel as shown in diagram A.

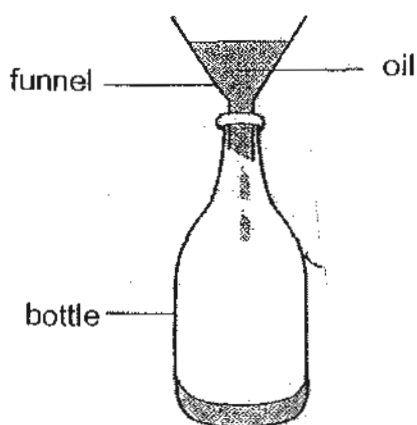
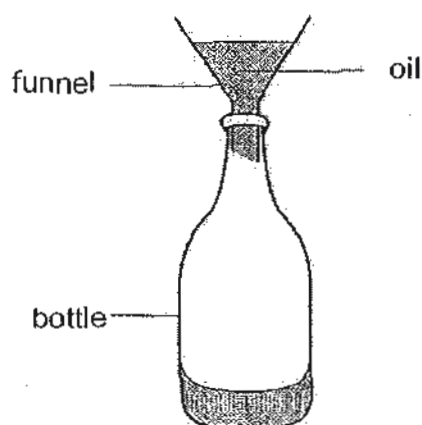


Diagram A



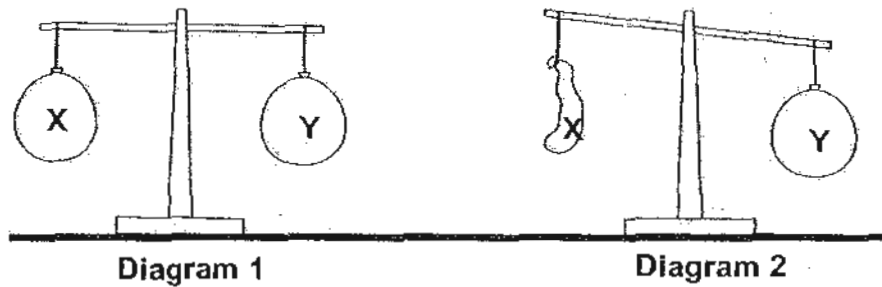
2 minutes later

The oil stops flowing into the bottle after 2 minutes.

Why does the oil stop flowing through the funnel although there is still a lot of 'empty space' in the bottle?

- (1) Oil cannot flow through the narrow tube of the funnel.
- (2) The air in the bottle is being compressed and this process takes time.
- (3) The oil has fixed shape, therefore, it is unable to flow through the funnel.
- (4) There is no space for the oil to flow into the bottle as the air in the bottle has occupied the 'empty space'.

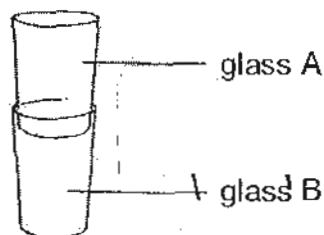
14. Karen pumped air into two identical balloons, X and Y, and hung them as shown in diagram 1. She then released air from balloon X. Diagram 2 shows what she had observed.



Karen made some conclusions about her experiment. Which of the following conclusion(s) she made is/are incorrect?

- A Air can be compressed.
 - B Air has mass and occupies space.
 - C The balance tilted because the air escaped from balloon X and it became lighter than Y.
 - D The balance tilted because the mass of balloon Y was increased and it became heavier than X.
- (1) A only
 (2) A and D only
 (3) B and C only
 (4) B, C and D only

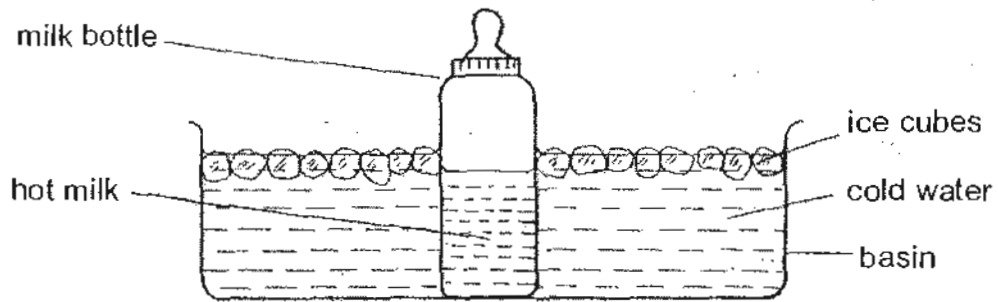
15. Ken tried to separate two glasses as shown in the diagram below.



Which one of the following method should he use in order to separate the two glasses without breaking any of them?

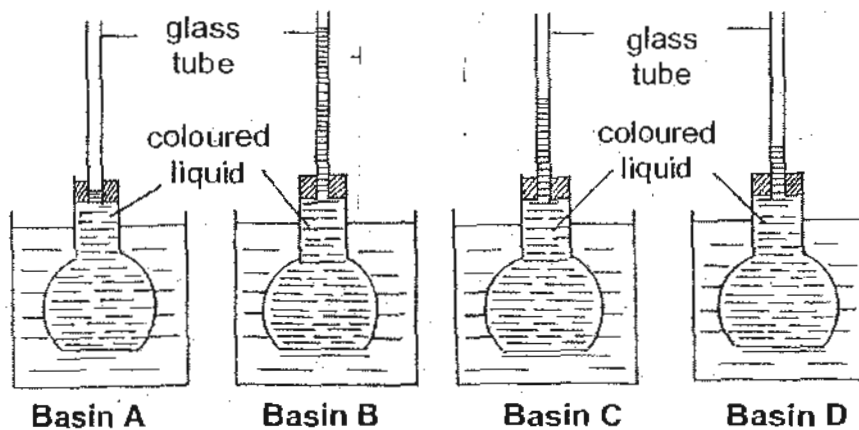
- (1) Pour hot water into glass A and put glass B in hot water.
- (2) Pour cold water into glass A and put glass B in hot water.
- (3) Pour hot water into glass A and put glass B in cold water.
- (4) Pour cold water into glass A and put glass B in cold water.

16. A bottle of hot milk is put into a basin of cold water as shown in the diagram below.



Which of the following will have a drop in temperature 10 minutes later?

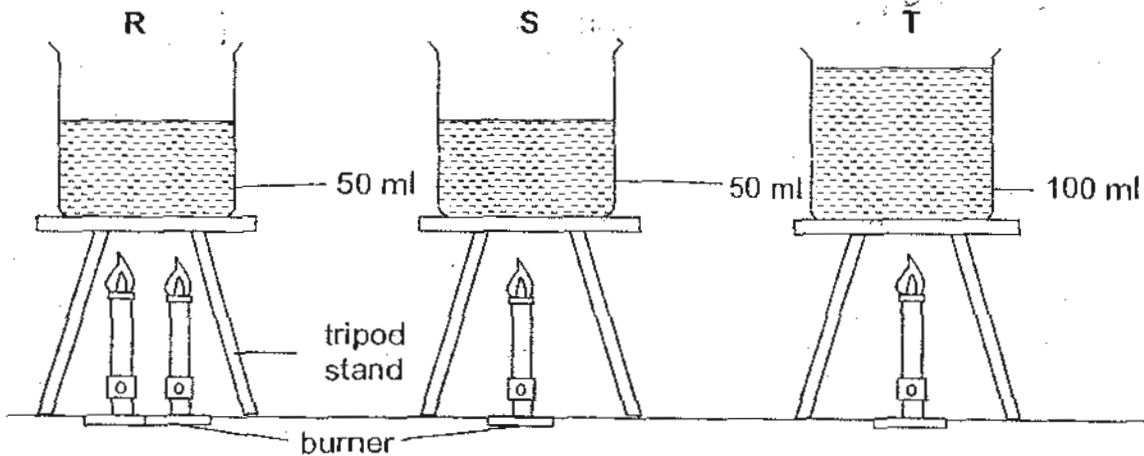
- A Basin
 - B Hot milk
 - C Milk bottle
 - D Cold water
- (1) A only
 (2) B only
 (3) B and C only
 (4) C and D only
17. Wimzie placed 4 identical flasks containing the same amount of coloured liquid in 4 identical basins of water for the same period of time as shown below. The level of liquid in the glass tube was noted when the flask was placed in the basin.



Which basin of water is the hottest?

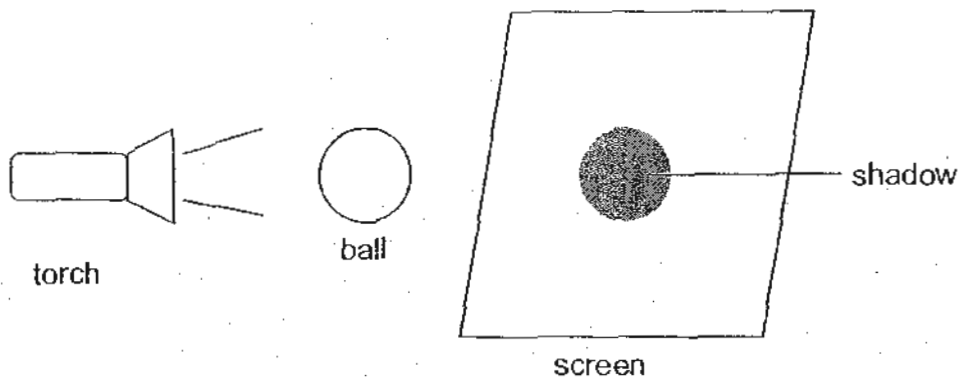
- (1) Basin A
- (2) Basin B
- (3) Basin C
- (4) Basin D

18. 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 R has the highest temperature.
 - (2) Set-up S has a higher temperature than Set-up T.
 - (3) Set-up S took the longest time to reach boiling point.
 - (4) Set-up R took a shorter time to reach the same temperature than Set-up T.
19. Study the picture below carefully.



Jaime wanted to cast a bigger shadow on the screen. What should she do?

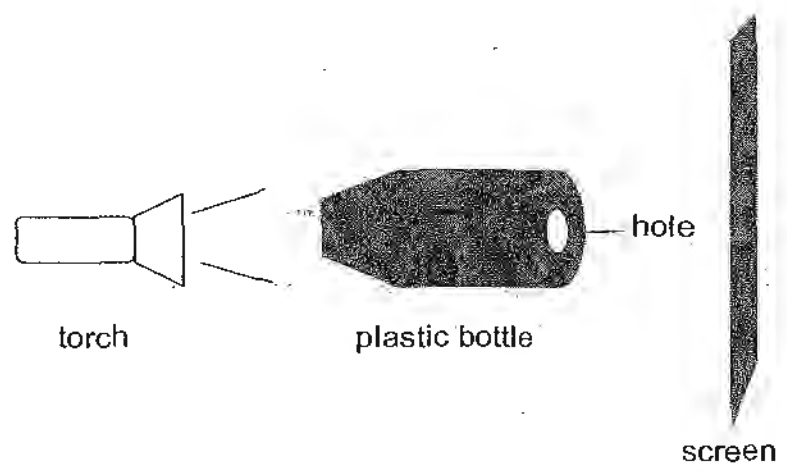
- (1) Change the batteries in the torch.
- (2) Move the ball nearer to the screen.
- (3) Move the torch further from the ball.
- (4) Move the torch nearer to the screen.

20. A shadow is formed when light is blocked by _____

- A soft wood
- B tracing paper
- C clear plastic sheet

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

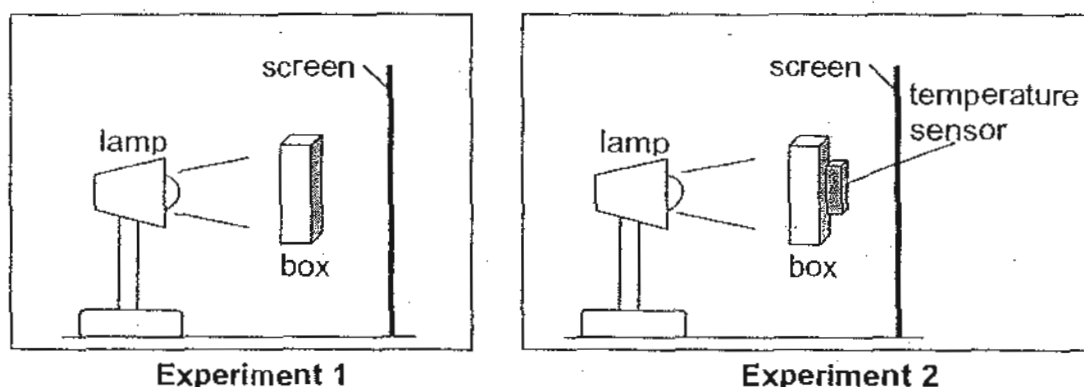
21. Dave cut off the mouth of a plastic bottle and then painted the bottle black. He then made a small hole at the other end of the bottle and shone a torch through the open end.



What would Dave see on the screen?

- (1)
- (2)
- (3)
- (4)

22. Farhana conducted two experiments with 4 identical boxes made of different materials, W, X, Y and Z, as shown below. For all of the experiments, she placed the lamp and the boxes at the same specific distance from the screen.

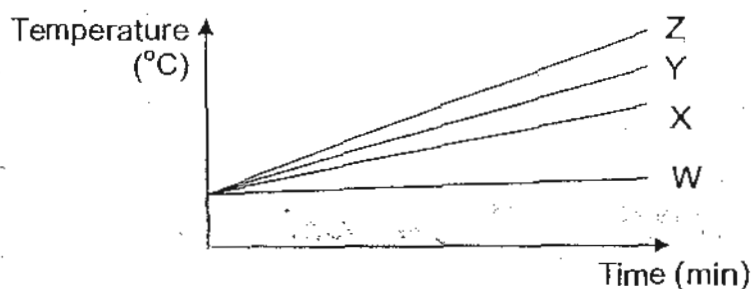


She recorded her observations for Experiment 1 in the table shown below and presented the temperature readings recorded by the temperature sensor for Experiment 2 in the graph.

Observations for Experiment 1

Material	Image seen on the screen
W	Very bright patch of light
X	Bright patch of light
Y	Vague patch of light
Z	Dark patch

Temperature Readings for Experiment 2



What conclusion could Farhana draw from the above observations and temperature readings?

- (1) All the materials are good conductor of heat.
- (2) Materials that are transparent are usually better conductors of heat.
- (3) The darker the image seen on the screen, the more the amount of heat the material absorbs.
- (4) There is no relationship between the observations and temperature readings.

23. Rosie wanted to compare the properties of 5 different materials. She did a series of experiments with these materials.

Which one of the following shows the most likely observations she had made?

(1)

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

(2)

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

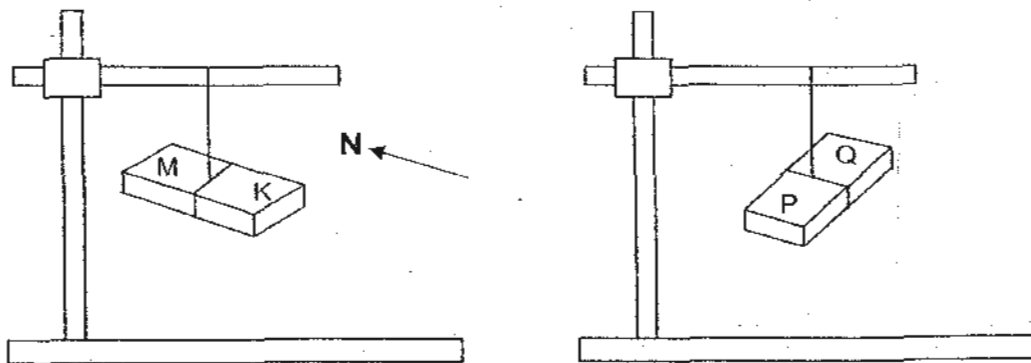
(3)

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

(4)

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

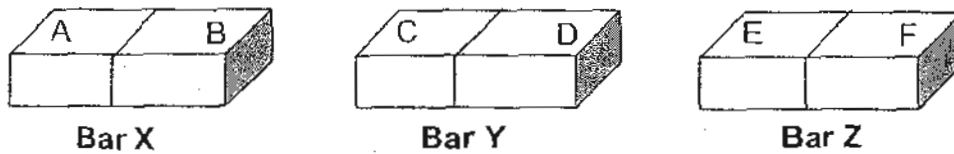
24. Xiao Min hung a metal bar, KM, using a piece of string on a retort stand. It always came to rest with end M pointing to the North direction as shown. She hung another bar, PQ, made of the same material, but it did not settle in any particular direction.



What would Xiao Min observe if she brought Bar KM close to Bar PQ?

- (1) End M will repel End P and End Q.
- (2) End M will attract End P and repel End Q.
- (3) Bar KM will not interact with Bar PQ at all.
- (4) Both ends of Bar KM will attract both ends of Bar PQ.

25. Jian Hui had 3 bars, X, Y and Z. Their ends were labelled as A, B, C, D, E and F. He placed the ends of Bar X, Bar Y and Bar Z close to one another as shown in the diagram below to find out if they would attract or repel.



He recorded his results in the table below.

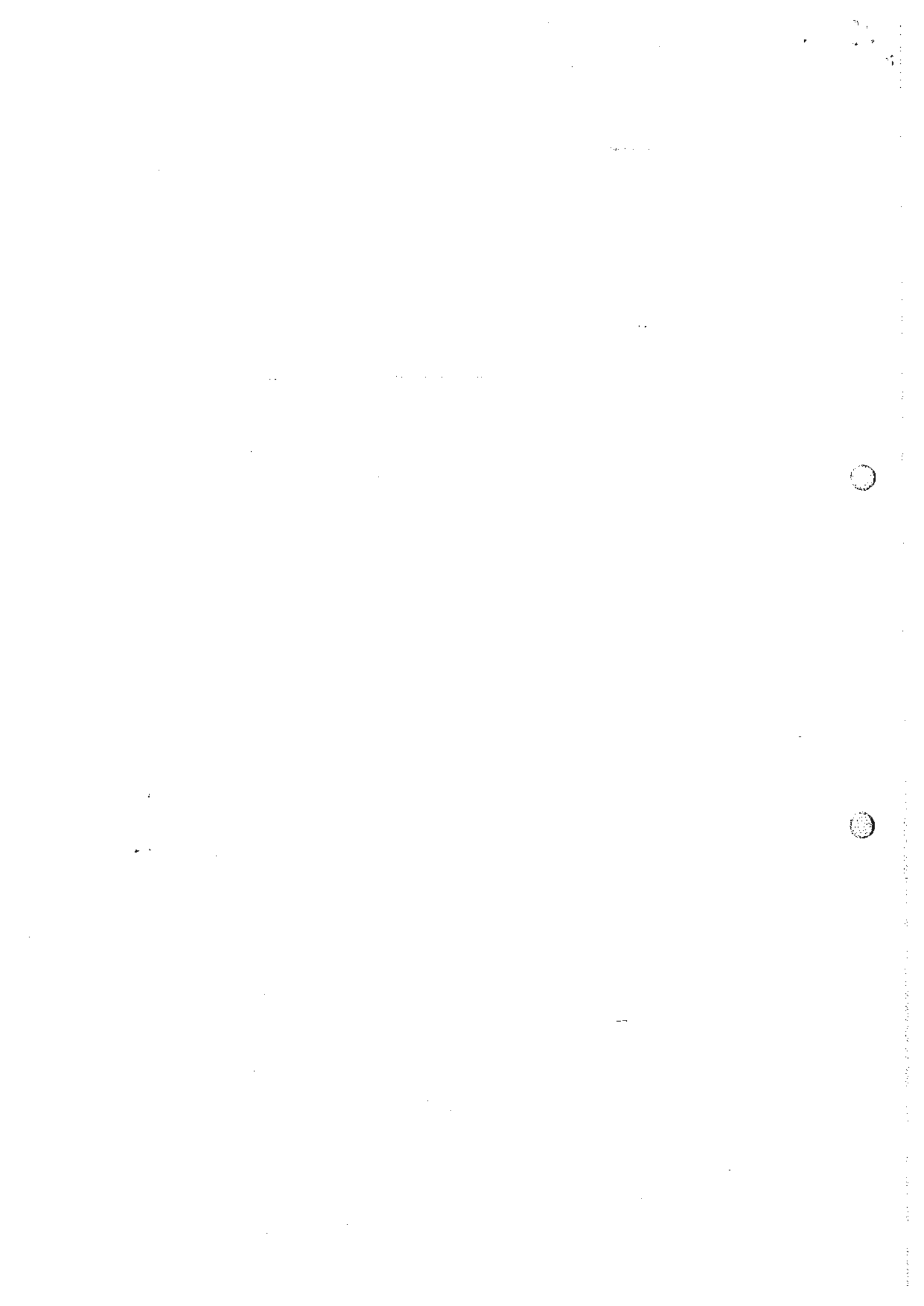
		Bar X		Bar Y	
		A	B	C	D
Bar Y	C	attract	attract		
	D	attract	attract		
Bar Z	E	attract	repel	attract	attract
	F	repel	attract	attract	attract

Based on the results above, which of the following statement(s) is / are true?

- A Only Bar X is a magnet.
- B Bars X, Y and Z are magnets.
- C Only Bars X and Z are magnets.
- D Bars X, Y and Z are made of magnetic materials.

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

~ End of Section A ~



Name: _____ ()

Class: Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (Primary)



德 纯 义 学

2010 First Continual Assessment

SCIENCE

BOOKLET B

3 March 2010

Total Time for Booklets A and B: 1 hr 45 min

10 questions

30 marks

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Booklet A	5
Booklet B	3
Total	8

Parent's Signature / Date

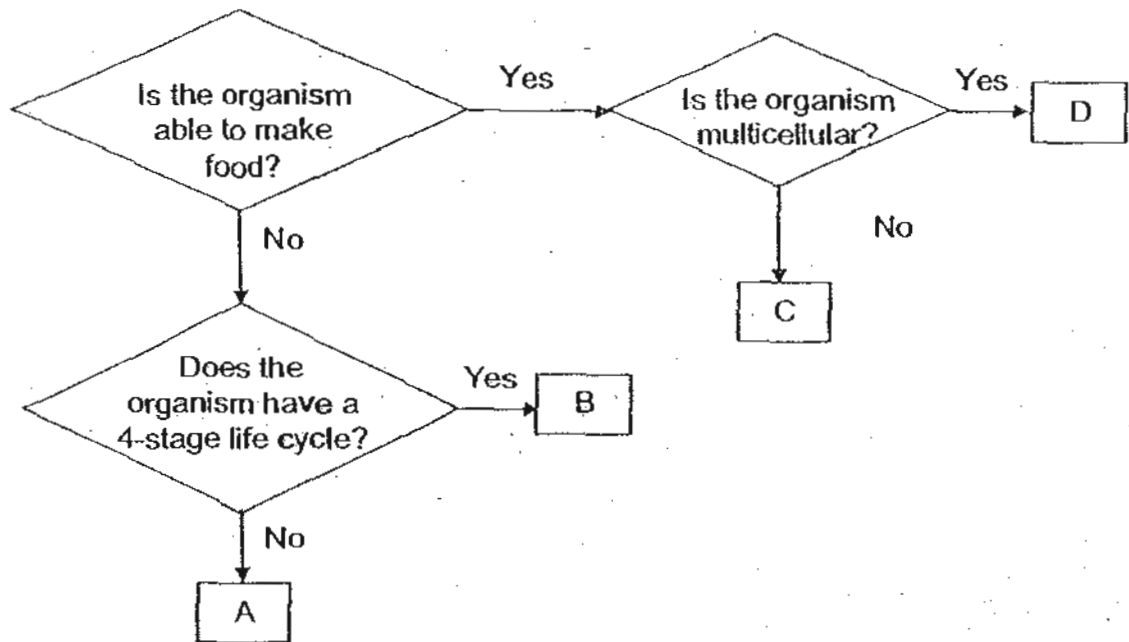
This paper consists of 11 printed pages.

Section B : (30 marks)

For questions 26 to 35, 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. Study the flow chart below carefully.



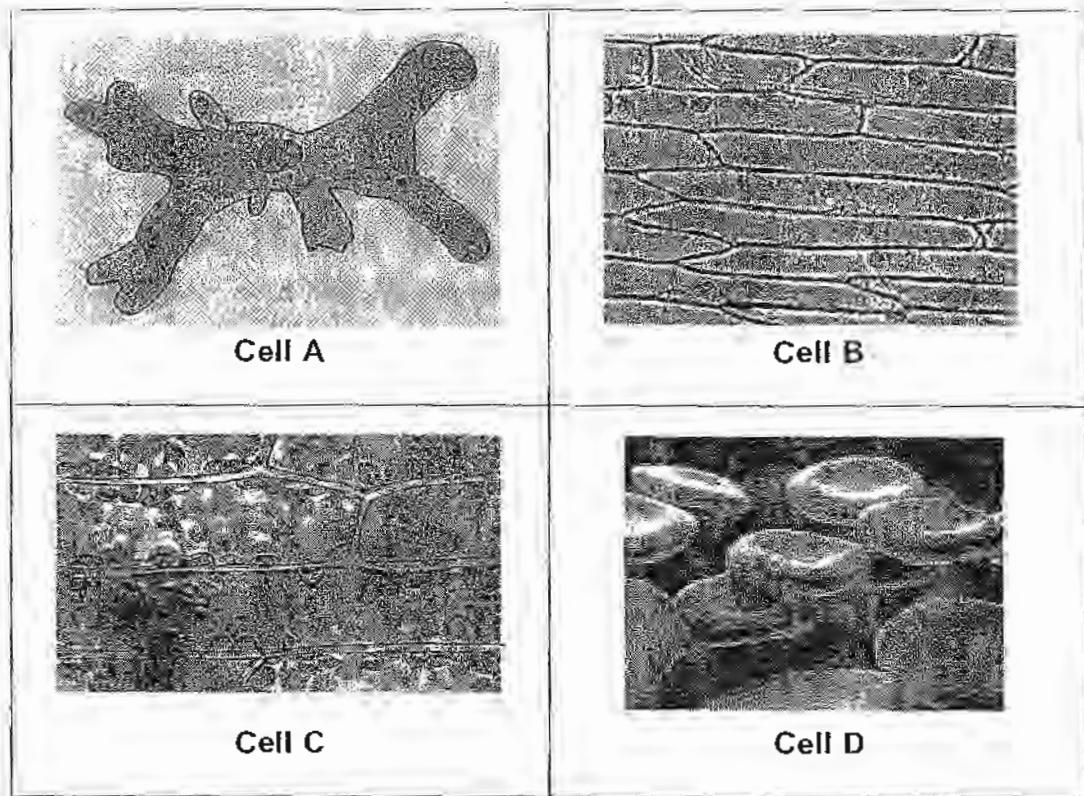
(a) Which group, A, B, C or D, would you place Grasshopper in? Explain your choice. [1]

(b) Put a tick (✓) in the correct box to match the organisms given to their correct groupings. [2]

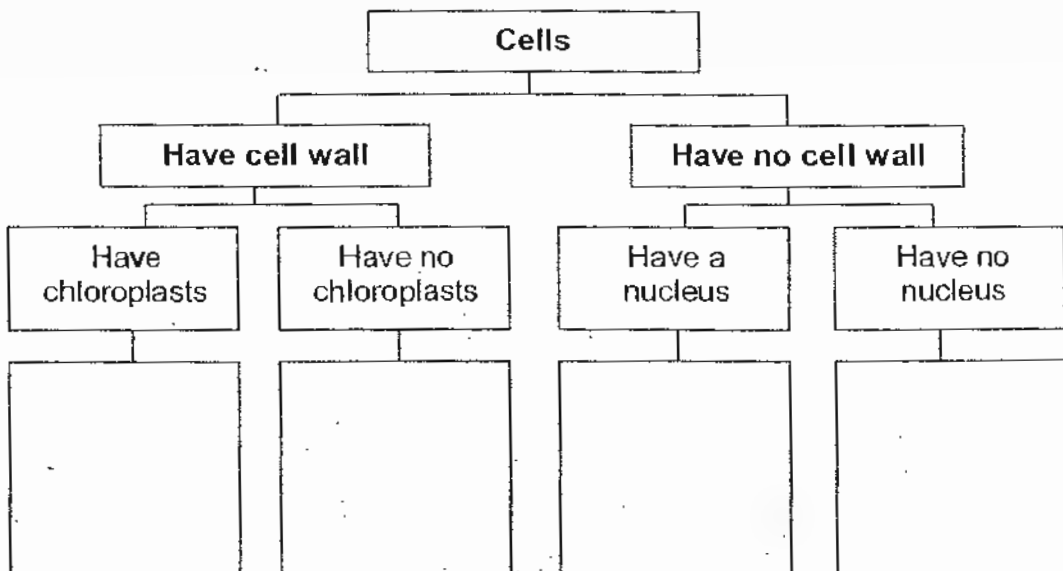
Organism	Group A	Group B	Group C	Group D
Yeast				
Algae				
Mealworm Beetle				
Dragonfly				



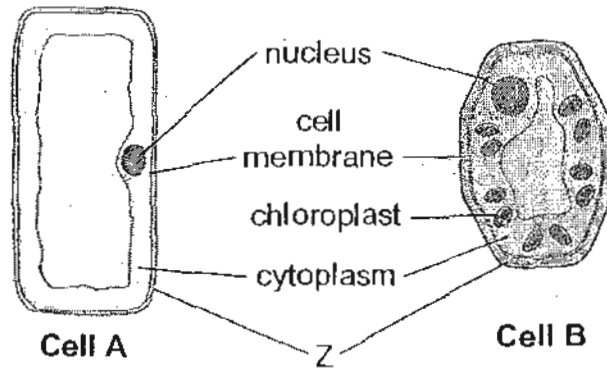
27. The pictures below show 4 different types of plant and animal cells when viewed under the microscope.



Complete the classification chart below by placing the cells under the correct headings. Write letters A, B, C and D in the boxes provided. [2]



28. Nancy observed two different types of cells, A and B, obtained from different parts of the same plant, as shown in the diagram below.

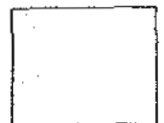


- (a) What is the function of part Z? [1]

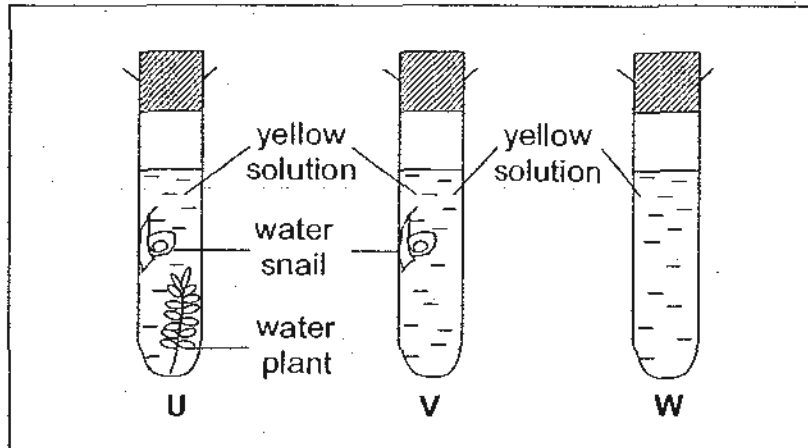
- (b) Which of the labelled part of the cell help the plant to make food? [1]

- (c) In which part of the plant are you likely to find cell A? Give a reason for your answer. [1]

- (d) Explain why different parts of the plant are made of cells like cell A and cell B? [1]



29. Three glass tubes, U, V and W containing the same amount of yellow solution were set up as shown in the diagram below.



Tube U contained a water snail and a water plant while Tube V contained a water snail only. The three tubes were kept in darkness for 2 hours before they were left in the sunlight for another 2 hours.

When tube U was kept in darkness for 2 hours, gas P was produced which turned the yellow solution red. It then turned blue when it was left in the sunlight for another 2 hours.

The yellow solution in tube W remained unchanged throughout the experiment.

- (a) What was gas P? [1]

- (b) What would happen to the yellow solution in tube V after it was kept for 2 hours in the darkness? [1]

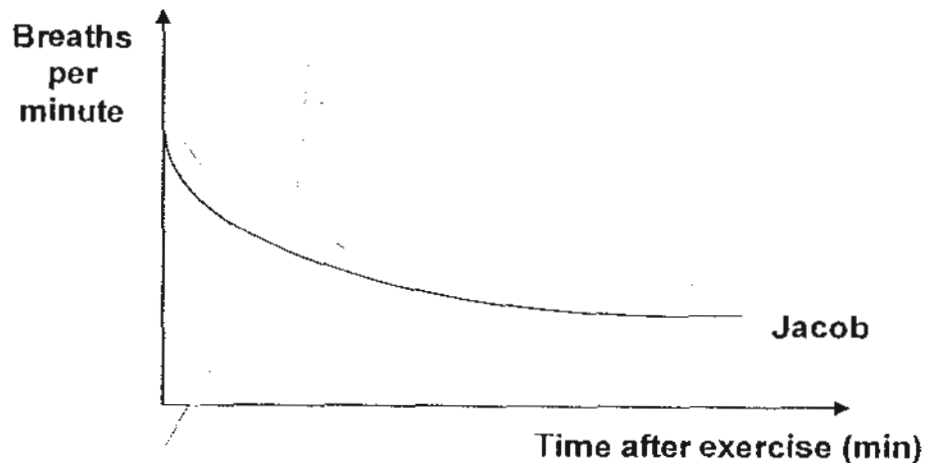
- (c) What would happen to the solution in tube V after it was kept for another 2 hours in the sunlight? [1]

30. Jacob and Issac carried out an experiment to investigate the effect of exercise on their breathing rate. They measured their breathing rate before the exercise. Then, they ran for 20 minutes. They measured their breathing rate immediately after the run and again every two-minute for 10 minutes.

They recorded their breathing rates before and after exercising in the table below.

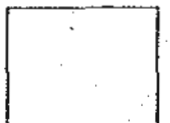
Pupil	Breathing rate before exercise (per minute)	Reading of breathing rate (per minute) at the following time interval					
		0 min	2 min	4 min	6 min	8 min	10 min
Jacob	12	38	30	22	14	12	12
Issac	14	44	38	32	26	18	14

- (a) Jacob's breathing rate after exercising is plotted in the graph below. Using the same diagram below, plot and label the graph for Issac to show how his breathing rate has changed after exercising. [1]

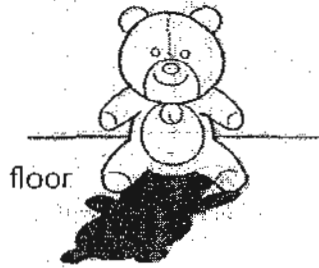


- (b) Which of the boys, Jacob or Issac, made a quicker recovery from the exercise? Give a reason for your answer. [1]

- (c) Explain why the boys breathing rates increased after exercising. [2]



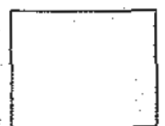
31. Hamid set up an experiment shown in the diagram below. He used a light source to shine on the teddy bear and a shadow of it was cast on the floor.



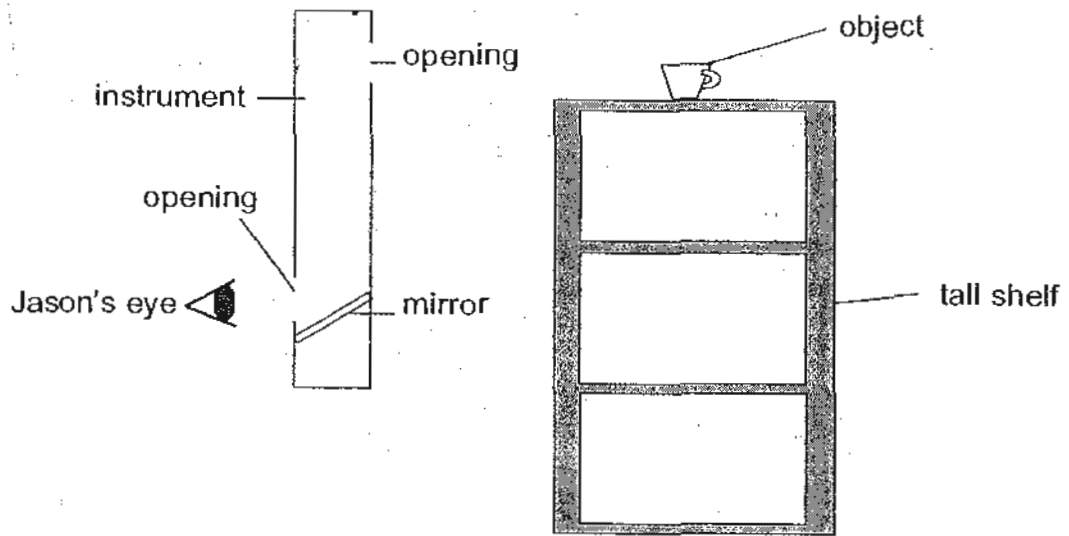
- (a) Why did the teddy bear cast a dark shadow? [1]

- (b) By looking at the shadow, where did Hamid place the light source? Explain your answer. [1]

- (c) What would happen to the length of the shadow if Hamid were to move the light source directly above the teddy bear? [1]



32. Jason was trying to look at what was on top of the tall shelf. He made an instrument to help him to do so.



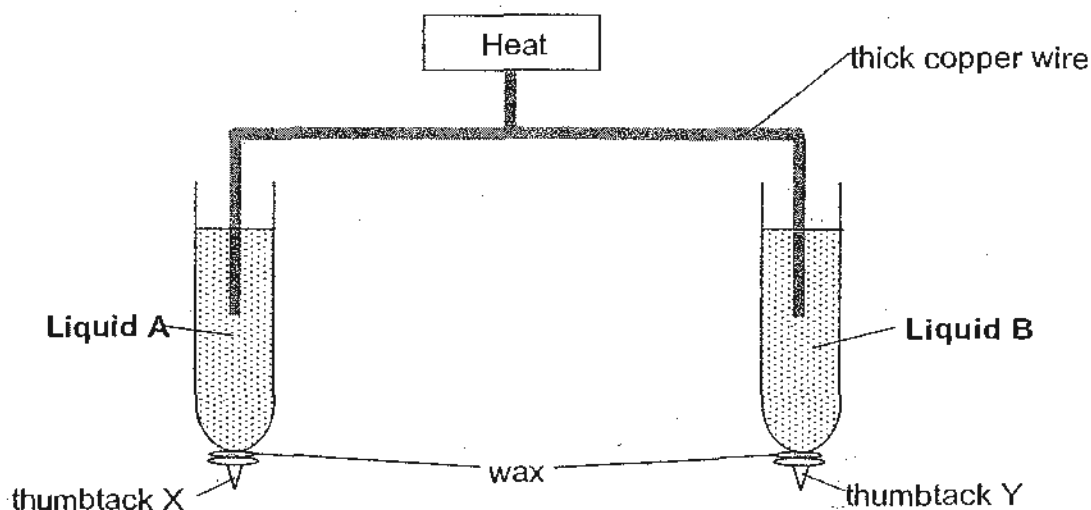
- (a) Jason realised that he was unable to see the object. He thought of adding another mirror to his instrument.

Where should he add the second mirror? Draw it clearly in the diagram above. [1]

- (b) After adding another mirror in (a), would Jason be able to see the object using his instrument if there were no light in the room? Explain your answer. [1]



33. The apparatus shown below was set up by Daphne to determine which liquid is a better conductor of heat. She attached thumbtack X and thumbtack Y to the base of each test tube with candle wax.

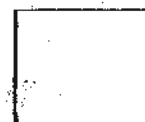


Daphne recorded the time taken for each thumbtack to drop in the table below. She repeated the experiment three times.

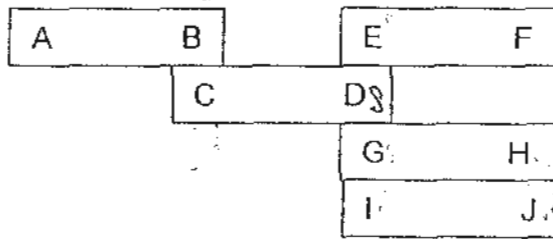
Thumbtack	1 st reading	2 nd reading	3 rd reading
X	80 seconds	85 seconds	83 seconds
Y	50 seconds	45 seconds	50 seconds

- (a) Based on the result above, which liquid is a better conductor of heat? Explain your answer. [1]

- (b) Daphne changed the copper wire to glass rods and conducted the experiment again. Would it take a much shorter or longer time than before for the thumbtacks to drop? Explain your answer. [2]

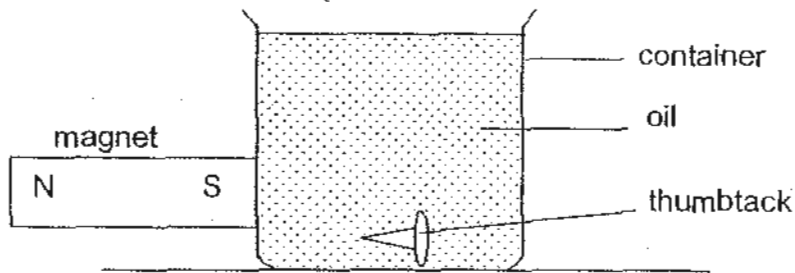


34. Michael arranged five magnets together as shown in the diagram below.



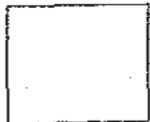
(a) If part A is a North pole, which pole is Part J? [1]

(b) During the experiment, Michael accidentally dropped an iron thumbtack into a container of oil. Without dirtying his hands, he tried to move the iron thumbtack from the base of the container to its brim by pulling a bar magnet along the side of the container.

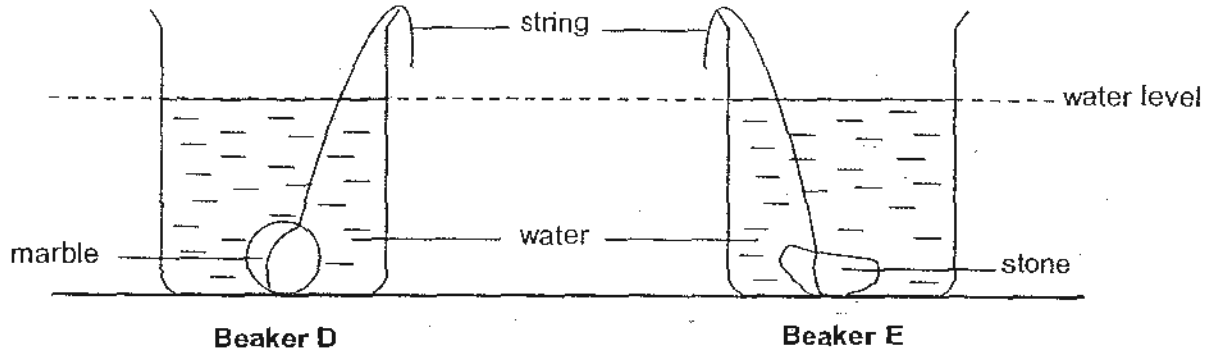


He found that he could not move the iron thumbtack at all. State two possible reasons why he could not move the iron thumbtack. [2]

Reason 1	
Reason 2	



35. The diagram below shows two identical beakers, D and E. A marble tied with a string was lowered into the empty beaker D and a stone tied with a string was lowered into the empty beaker E. Then, water was poured into both beakers D and E, until they have the same water level.



- (a) What will you do, if you want to find out whether the marble or the stone has a larger volume? [2]

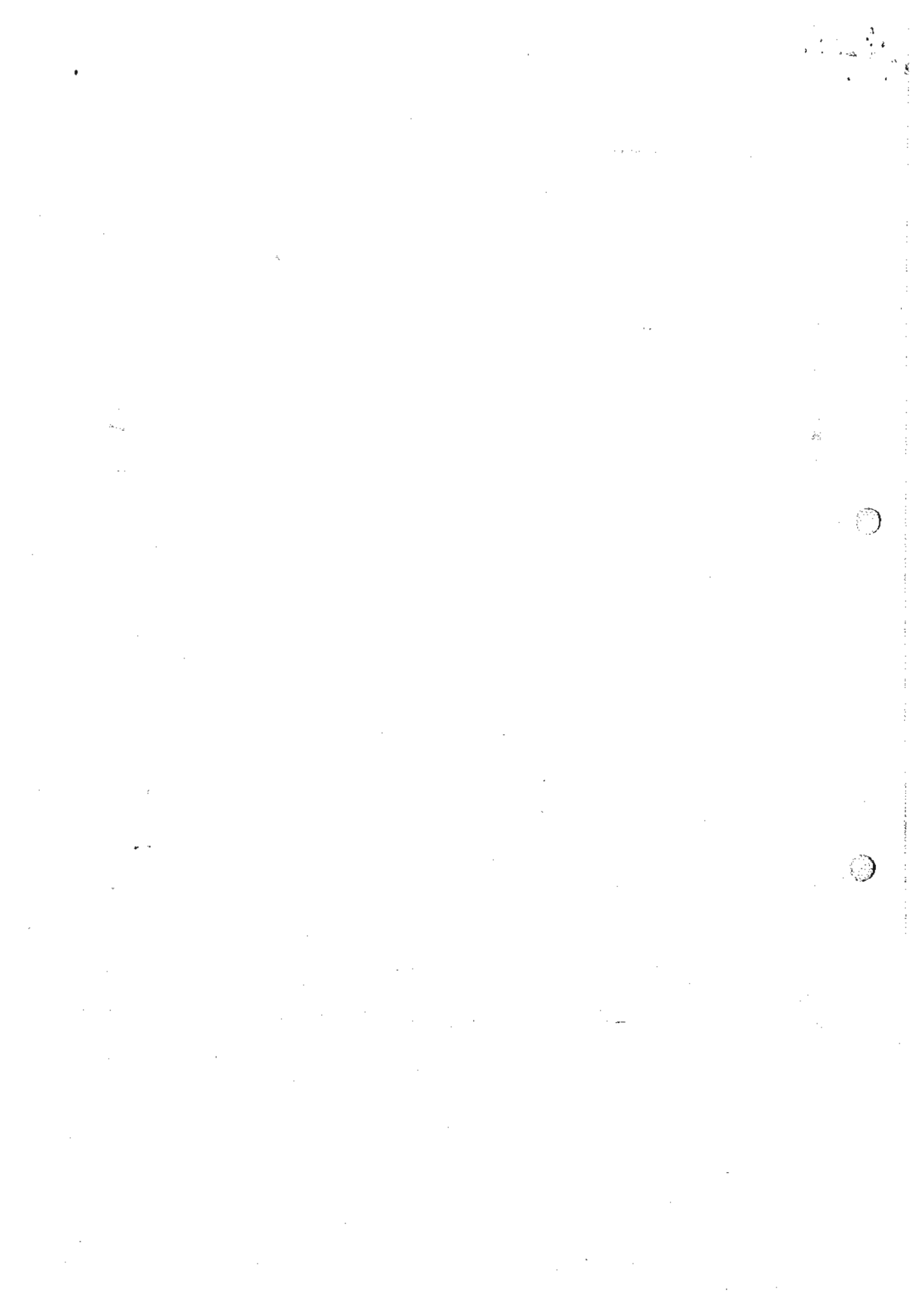
You are **NOT** allowed to:

- use any other apparatus or equipment.
- pour water into or out of the beakers.

Step 1	
Step 2	

- (b) After what you have done in (a), what observation tells you that the marble has a greater volume than the stone? [1]

~~ End of Paper ~~



ANSWER SHEET

EXAM PAPER 2010

SCHOOL : CHIJ PRIMARY
SUBJECT : PRIMARY 5 SCIENCE

TERM : CA1

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

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

26)a)A. The grasshopper isn't able to make food and it has a three-stage life cycle and not a four-stage life cycle.

b)

Organism	Group A	Group B	Group C	Group D
Yeast	✓			
Algae			✓	
Mealworm Beetle		✓		
Dragonfly	✓			

27)C, B, A, D

28)a)It gives the cell a regular shape.

b)The chloroplast.

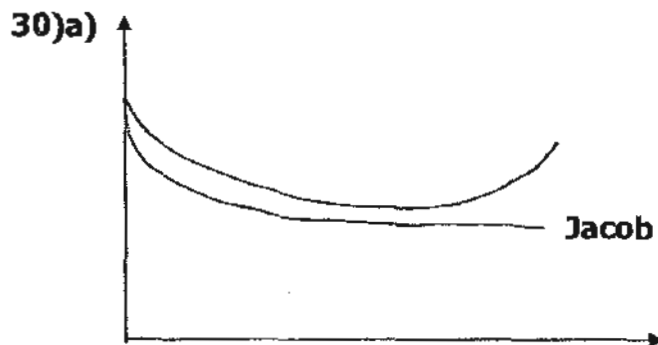
c)Roots, underground stems, fruits, flowers. There is no chloroplasts and that part does not need to make food.

d)The cells have different shapes and sizes to carry out different functions.

29)a)Carbon dioxide.

b)It turned red.

c)It will turn red.



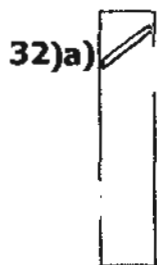
b) Jacob. He breathed as normal after 8 minutes, but Isaac took 10 minutes to breathe normally.

c) The boy's breathing rates increased after exercising because their bodies need to take in more oxygen and give out carbon dioxide more quickly more oxygen is needed.

31)a) It was opaque and blocked the path of light.

b) He placed it behind the teddy bear. When he placed it behind the teddy bear, the teddy bear will block the path of light and cast shadow in the front.

c) It will decrease and become shorter.



b) No. Light is needed for us to see things. If there is no light, there will be no reflection of light from the object to Jason's eye, thus Jason will not be able to see the object.

33)a) B is a better conductor of heat. It heats up faster, hence heat travels faster from B to wax, causing it to melt faster.

b) It would take a much longer time for the thumbtacks to drop. Grass is a poor conductor of heat and the heat will not be able to pass through the glass rods to the liquids easily.

34)a) Part J is a North pole.

b) 1) The magnet is not strong enough to attract the thumbtack.

2) The container is made of a magnetic material. Magnetic force cannot pass through magnetic materials.

35)a) 1) Take the strings and take out the marble and the stone from the beaker with the strings.

2) The beaker with lesser water will have the object with a larger volume.

b) The Beaker D (which holds the marble), will have lesser water than Beaker E (which holds the stone) when the stone and marble are taken out.