Name: _____ ( )

Class: Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

STEADFAST IN DUTY

德 纯 义 贞

Primary 5
Continual Assessment 2 – 2011
SCIENCE

BOOKLET A

25 August 2011

Total Time for Booklets A and B: 1 hour 45 minutes

30 questions
60 marks

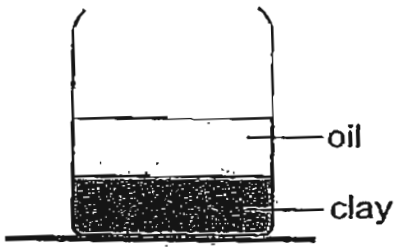
Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

This paper consists of 18 printed pages.

Section A : (30 x 2 MARKS)

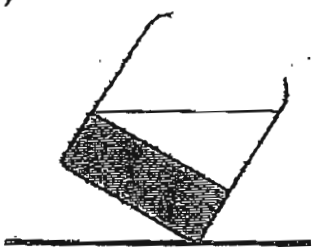
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The diagram below shows a container with clay pressed at the bottom and oil poured on top of the clay.

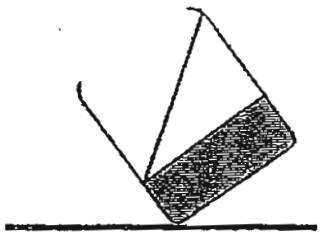


Which one of the following diagrams shows how the level of clay and oil would look like when the container is tilted?

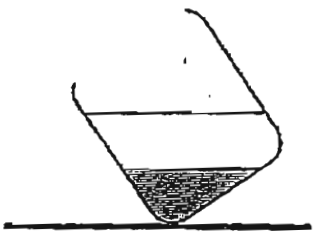
(1)



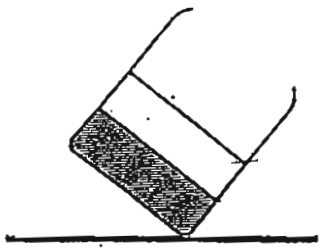
(3)



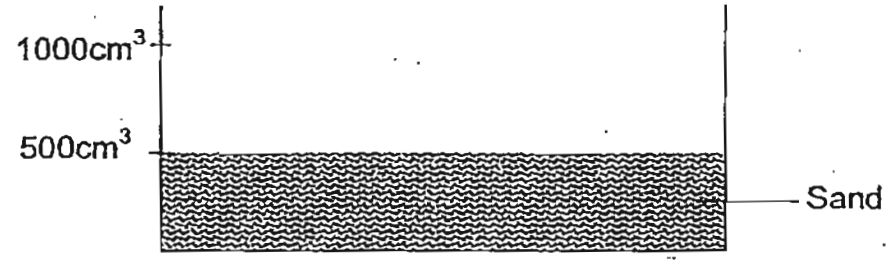
(2)



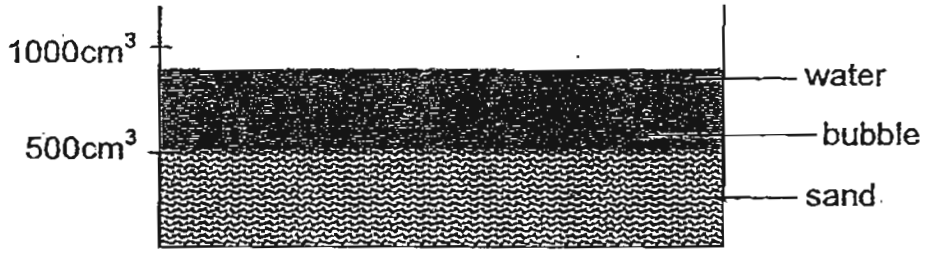
(4)



2. The diagram below shows a tank with sand.



When 500 cm^3 of water is gently poured into the tank, bubbles are seen appearing from the sand and moving upwards as shown in the diagram below.



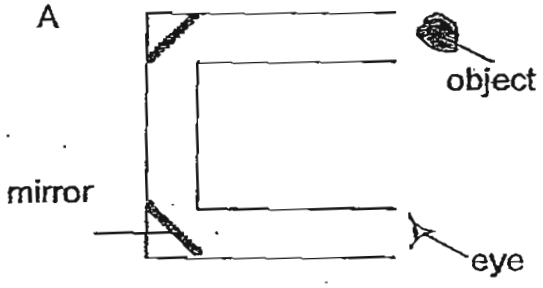
It is observed that the volume of sand and water does not reach $1000cm^3$. Why is this so?

A The water has evaporated.
B The sand has absorbed the water.
C The sand takes up the space occupied by the water.
D The water takes up the space occupied by the air trapped in the sand.

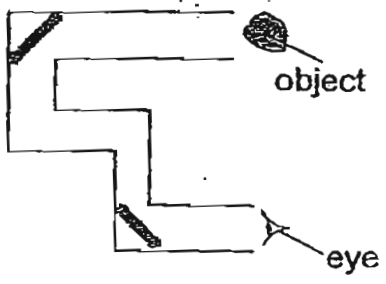
(1) D only
(2) B and D only
(3) A and B only
(4) A and C only

3. Which of the following setups would allow the object to be viewed through the tube?

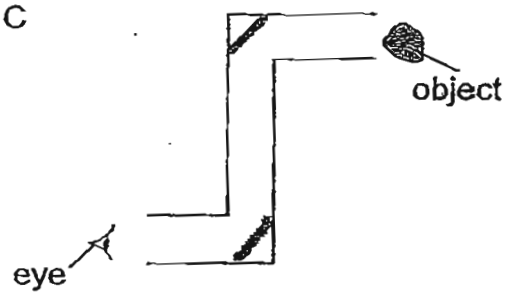
A



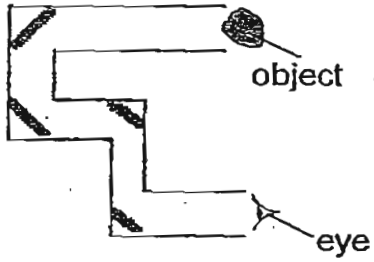
B



C

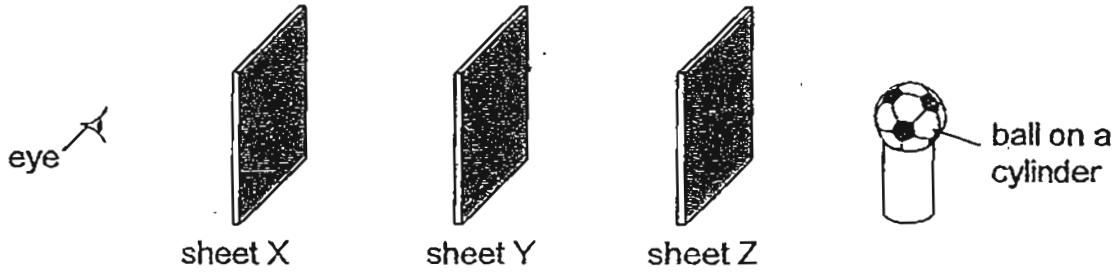


D

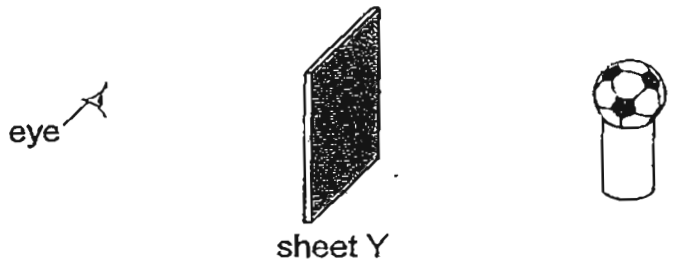


(1) C only
(2) A and B only
(3) C and D only
(4) A, C and D only

4. Jocelyn had three sheets, X, Y and Z, made of different materials. She noticed that when she placed all the three sheets in a row before her eye as shown below, she could not see the ball on the cylinder.



However, if she placed only sheet Y before her eye, she could see the ball.



Based on her observations, which of the following statements is/are definitely correct?

definitely

A Sheet Y could be a mirror.
B Sheet Y allows light to pass through.
C Sheets Y and Z allow light to pass through.
D Sheets X and Z do not allow light to pass through.

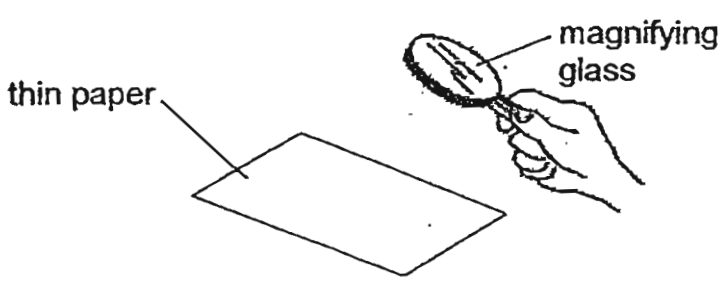
(1) B only
(2) A and D only
(3) A and C only
(4) B and D only

5. Which of the following situations show(s) heat is lost?

A When ice melts.
B When water vapour condenses.
C When a liquid changes to a solid.
D When a steel pot is left in the fridge.

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

6. Isa was using a magnifying glass to make a tiny bright spot of light on a piece of thin paper. He held the magnifying glass very still so that the bright spot remained at the same place.



After a few minutes, the paper started to burn. Why do you think this happened?

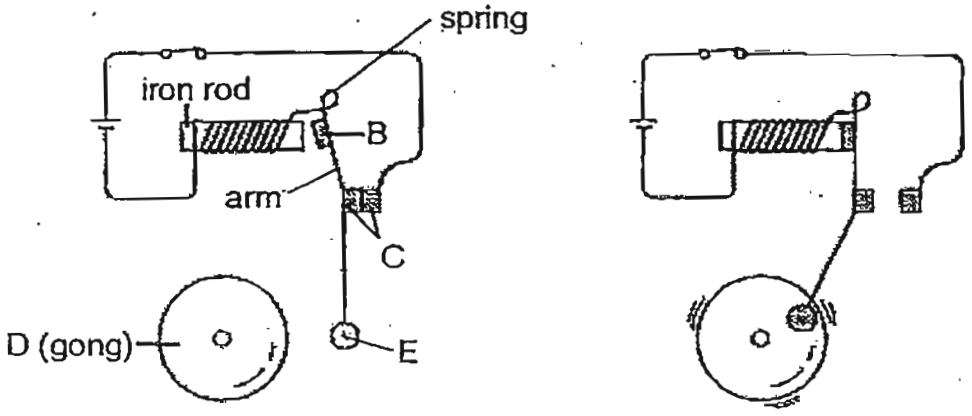
(1) The bright light made the paper burn.
(2) The magnifying glass caused the paper to gain heat.
(3) The paper was too thin so it burnt easily.
(4) The heat from the sun was concentrated on the spot causing the paper to burn.

7. Which of the following statements is/are false?

A Expansion happens when heat is lost.
B Temperature is measured using the thermometer.
C There is no difference between temperature and heat.
D Heat flow is always from a lower temperature to a higher temperature.

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

8. The two diagrams below illustrate how an electromagnet can be used to make a bell work.

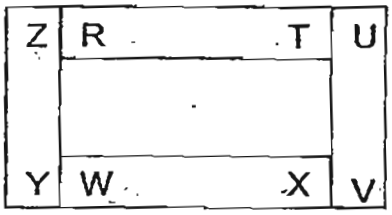


When the current flows through the circuit, the iron rod becomes an electromagnet. The electromagnet attracts the arm and the arm will hit the gong, which makes a sound and the circuit is broken. When the circuit is broken, the iron rod will lose its magnetism and the arm moves back to its original position. The circuit is closed again.

Which objects, B, C, D or E, must be magnetic objects?

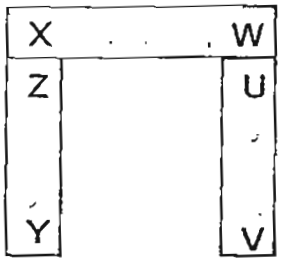
(1) B only
(2) B and C only
(3) D and E only
(4) C, D and E only

9. The diagram below shows the arrangement of four bar magnets that form a rectangular frame.

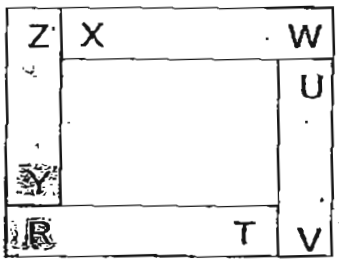


Which one of the following arrangements are not possible?

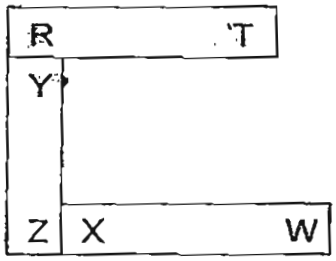
A



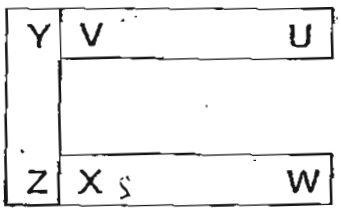
B



C

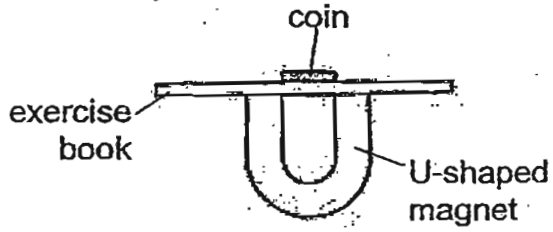


D

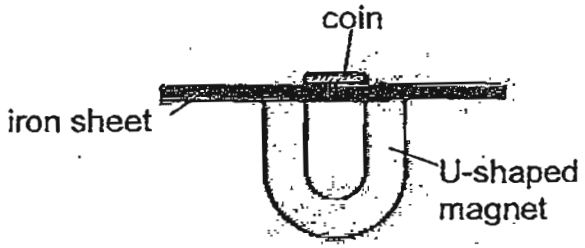


(1) A and B only
(2) A and D only
(3) B and C only
(4) B, C and D only

10. Mike placed a U-shaped magnet under an exercise book and a coin on the exercise book as shown in the diagram below. When he moved the magnet, the coin on the exercise book moved together.



He repeated the experiment and replaced the exercise book with an iron sheet.



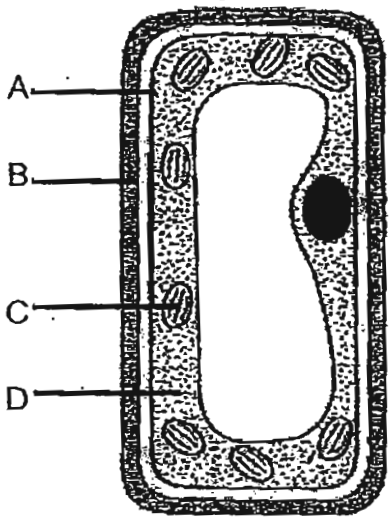
Which one of the following would happen?

(1) The iron sheet would become a strong permanent magnet.
(2) The U-shaped magnet would attract the iron sheet and the coin would not move.
(3) The magnetic force of the U-shaped magnet would pass through the iron sheet and attract the coin causing it to move.
(4) The U-shaped magnet would attract the iron sheet and the iron sheet would repel the coin, causing it to slip off the iron sheet.

11. Which one of the following statements about the cell membrane in a plant cell is true?

(1) It helps the plant to make food.
(2) It gives the plant its regular shape.
(3) It is where most cellular activity takes place.
(4) It controls the substances entering or leaving the cell.

12. The diagram below shows a plant cell.



Which of the following letters, A, B, C or D, correctly represent the parts named?

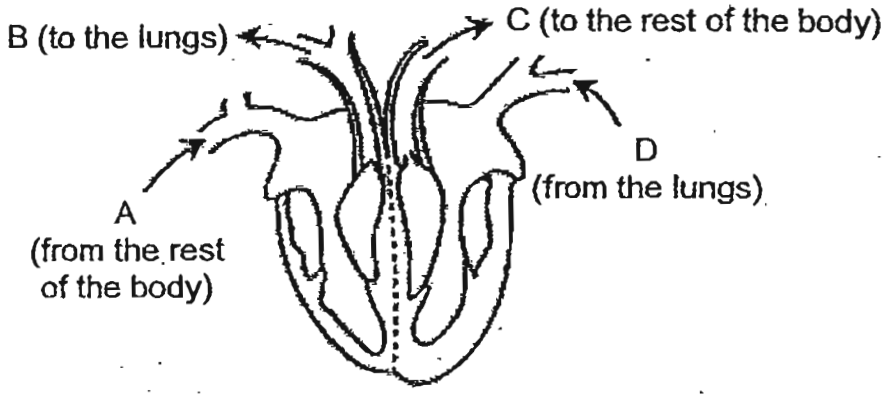
	Cell wall	Chloroplast	Cytoplasm
(1)	D	A	C
(2)	B	C	A
(3)	A	D	C
(4)	B	C	D

13. Which structure indicates that a root hair is from a plant and not from an animal?

A Cell wall
B Cytoplasm
C Chloroplast
D Cell membrane

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

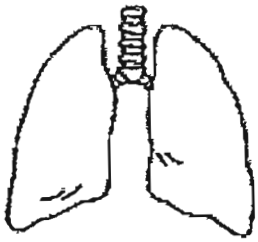
14. The diagram below shows how blood is circulated in our body.



Which one of the following lists correctly shows the amount of carbon dioxide in our blood at A, B, C and D?

	More carbon dioxide	Less carbon dioxide
(1)	A and D	B and C
(2)	A and B	C and D
(3)	C and D	A and B
(4)	B and C	A and D

15. The following organs are found in a human.


lungs

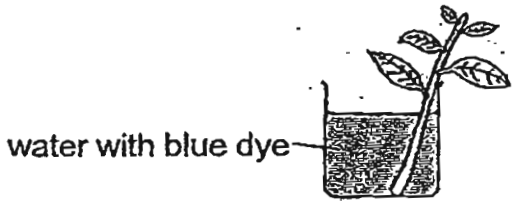

heart

How are the two organs similar to each other?

A They are muscular organs.
B They stop working when the human sleeps.
C They are both required for the respiratory system to work.
D They both help to transport food to other parts of the body.

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

16. A leafy shoot is placed in a beaker containing blue dye for one day.



Which part will be stained by the blue dye?

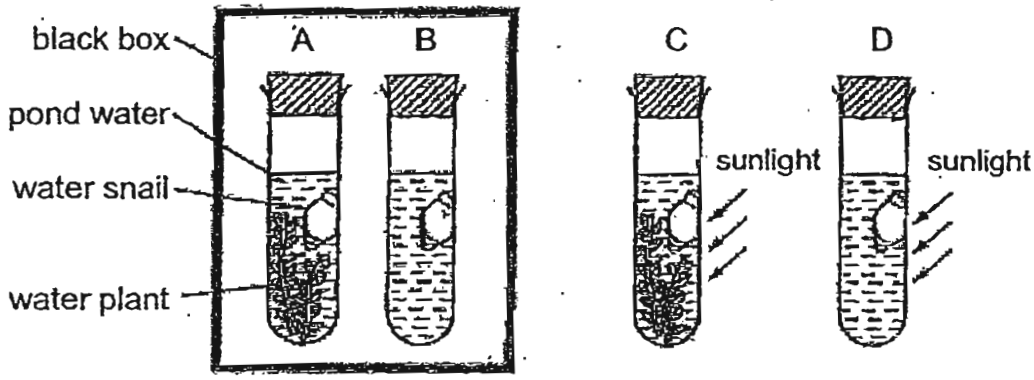
A The xylem tube in the stem.
B The xylem tube in the leaves.
C The phloem tubes in the stem.
D The phloem tubes in the leaves.

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

17. Which one of the following comparisons between the human circulatory system and the plant transport system is not correct?

	Human circulatory System	Plant transport System
(1)	Transports gases	Does not transport gases
(2)	Fluid moves in one direction	Fluid moves in two directions
(3)	Has a pump to move the fluid around the body	Does not have a pump to pump the fluid
(4)	Has tubes to carry fluid containing both food and water	Has one tube to carry fluid containing food and one tube to carry fluid containing water

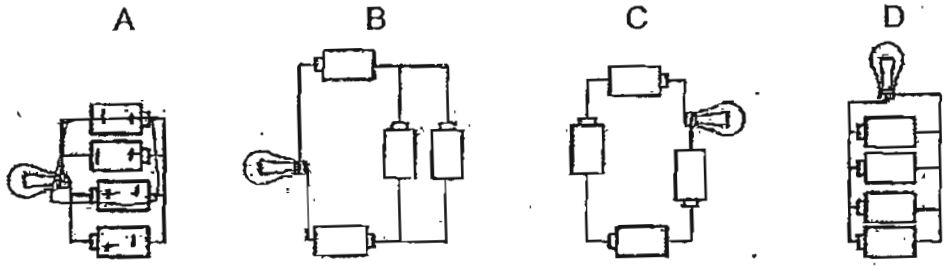
18. Four test-tubes are set up as shown below.



In which test-tube will the concentration of carbon dioxide increase most rapidly?

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

19. In the four electric circuits below, all the batteries, wires and bulbs used are identical.



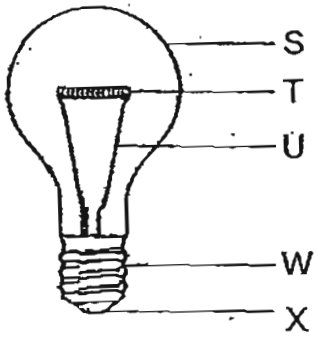
brightness

Which one of the following arrangements shows the brightness of the bulbs from the brightest to the least bright?

brighest least bright

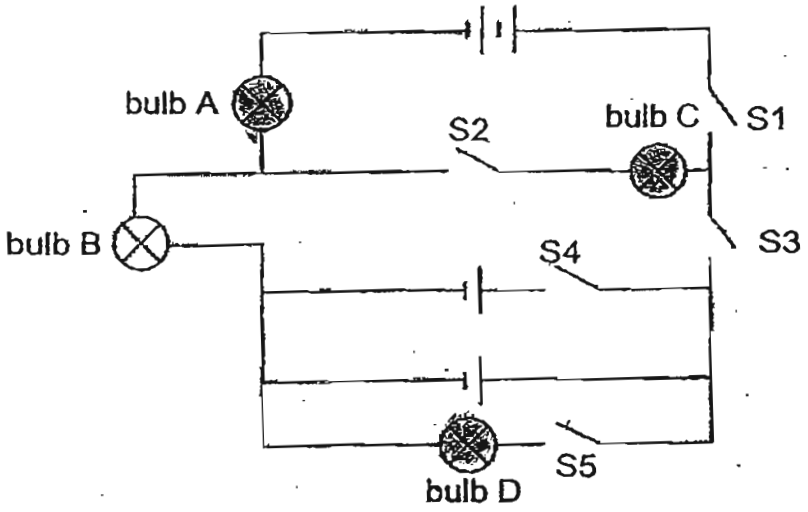
(1) A, D, B, C
(2) B, A, C, D
(3) C, B, A, D
(4) D, C, A, B

20. Which of the following parts of the bulb are made of conductors of electricity?



(1) W and X only
(2) S, T and U only
(3) T, W and X only
(4) T, U, W and X only

21. Study the circuit diagram below.



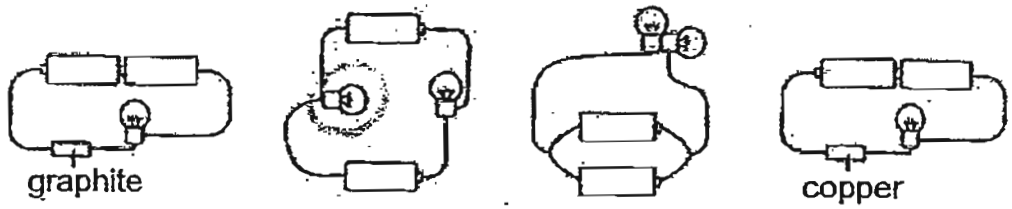
Which switches needed to be closed in order to light up bulbs A, C and D only?

closed

light up bulbs A, C and D

(1) S1, S2 and S5 only
(2) S2, S3 and S5 only
(3) S1, S2, S3 and S5 only.
(4) S2, S3, S4 and S5 only

22. Study the diagrams below carefully.

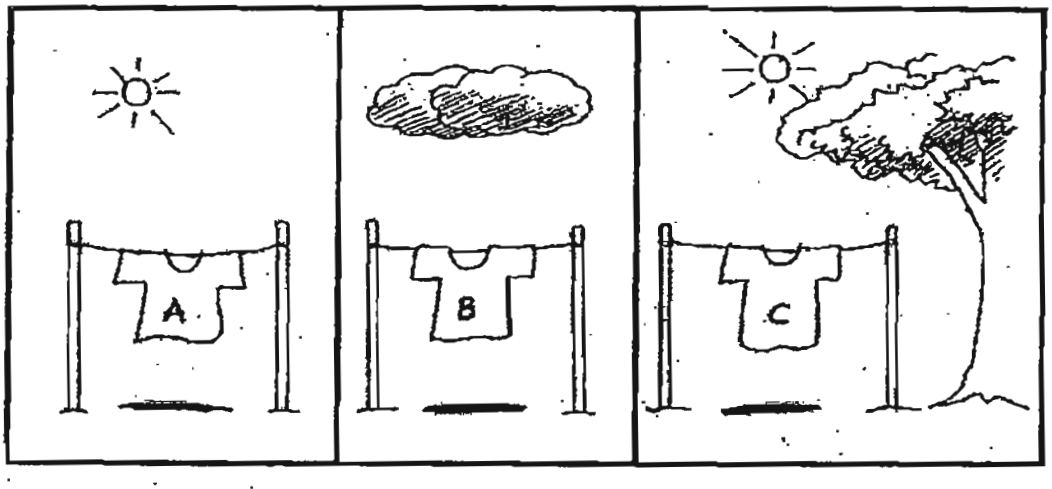


setup A setup B setup C setup D

In which of the above circuits will the bulb(s) not light up?

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

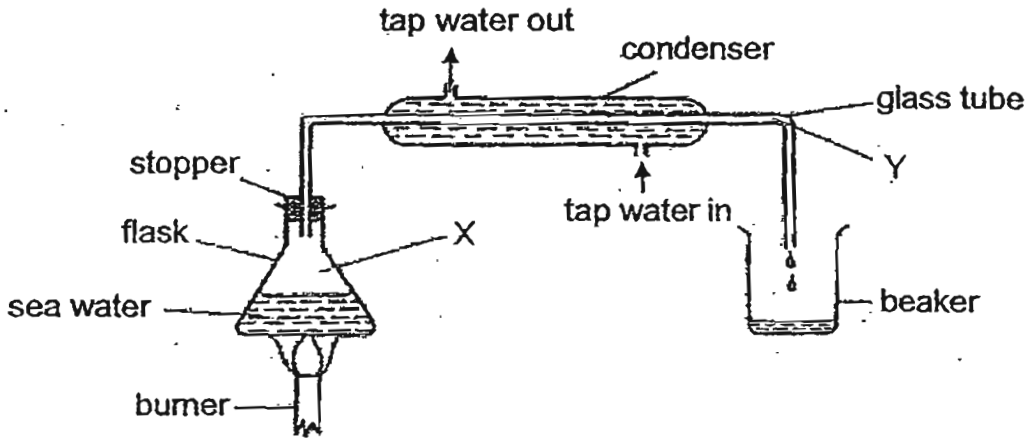
23. Three similar T-shirts, A, B and C, were sprayed with equal amounts of water and left to dry in three different places as shown in the diagram below.



Which one of the following shows the arrangement of the three T-shirts in order of the rate of drying, starting with the T-shirt that would dry in the shortest time?

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

24. Many countries have limited supply of fresh water because many of their water sources are polluted. As a result, they have to look for alternative ways of obtaining fresh water. One of the ways is shown in the diagram below.



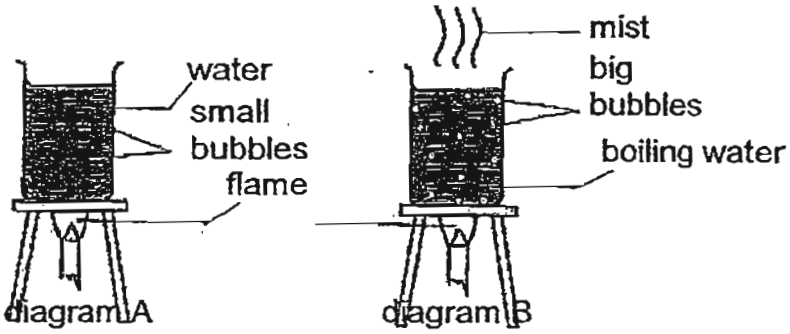
What are the processes taking place at X and Y?

	X	Y
(1)	Boiling	Melting
(2)	Boiling	Condensation
(3)	Evaporation	Condensation
(4)	Condensation	Evaporation

25. Which one of the following classifications is correct?

	Solid	Liquid	Gas
(1)	Cloud	Water	Mist
(2)	Ice	Rain	Water Droplets
(3)	Iceberg	Water Droplets	Water vapour
(4)	Snow	Dew	Cloud

26. Susan put a beaker of water over a burner as shown in diagram A. She noticed small bubbles forming in the water three minutes later. These bubbles started to rise to the water surface before the water started to boil.



She continued to heat the water until it started to boil as shown in diagram B. When the water was boiling, more and bigger bubbles were seen rising and bursting at the water surface. Susan made some comments after her experiment.

Which of the following statements made by her is/are correctly?

A The bigger bubbles are steam.
B Bubbles indicate that boiling has started.
C The smaller bubbles are hot water droplets.
D The bubbles come from the surrounding air.

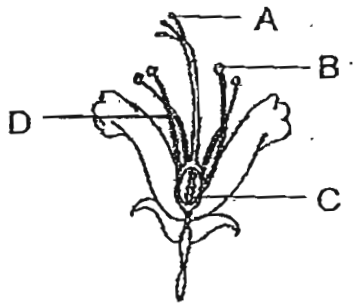
(1) A only
(2) A and C only
(3) B and C only
(4) B and D only

27. Which of the following types of flowers is/are most likely pollinated by insects?

A Flowers that produce scent.
B Flowers that produce nectar.
C Flowers that have big and colourful petals.
D Flowers that have small and pale green petals.

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

28. Study the diagram below.



Which of the following are the female parts of the flower?

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

29. Some flowers cannot develop into fruits. Which one of the following is the best explanation for this?

(1) It only has the male reproductive parts in them.
(2) It only has the female reproductive parts in them.
(3) It does not have petals to attract insects for pollination.
(4) It does not have nectar and scent, therefore pollination does not happen.

30. Look at the diagrams below carefully.

Banana Plant
(Plant A) ✓

Life Plant
(Plant B)

French Bean Plant
(Plant C)

Which of the above plants can grow from plant parts other than seeds?

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

- End of paper -

Name: _____ ( )

Class: Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

STEADFAST IN DUTY

穆 纯 义 坚

Primary 5

Continual Assessment 2– 2011

SCIENCE

BOOKLET B

25 August 2011

Booklet A	60
Booklet B	40
Total	100

Total Time for Booklets A and B: 1 hour 45 minutes

14 questions
40 marks

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

This paper consists of 15 printed pages.

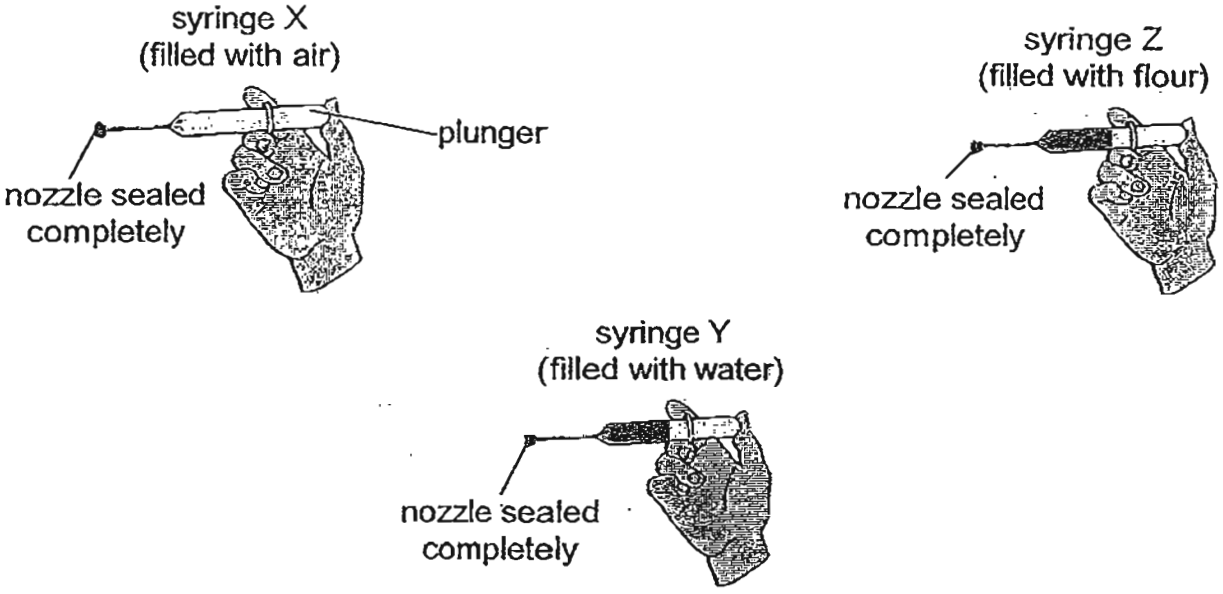
_____

Parent's Signature/Date

Section B : (40 marks)

For Questions 31 to 44, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part- question.

31. David fully filled up three identical syringes, X, Y and Z, with three different substances.



The nozzles of the syringes were sealed completely. He then tried to push the plunger of each of the syringes inwards as far as he could.

(a) Which plunger, X, Y or Z, can be pushed in easily? [1]

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(b) Explain your answer. [1]

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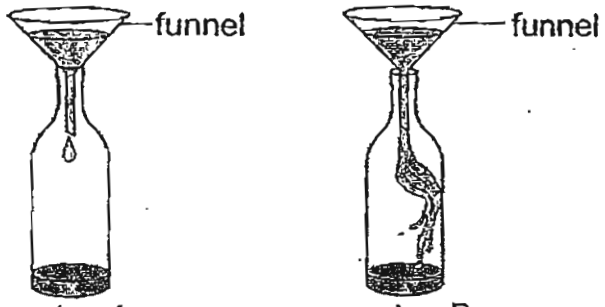
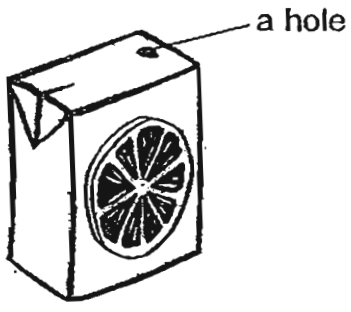
32. A funnel was used to fill a bottle with water.



When the water was poured into the funnel in setup A, it trickled into the bottle slowly. However, when the funnel was lifted off the mouth of the bottle, the water in the funnel emptied into the bottle at a much faster rate.

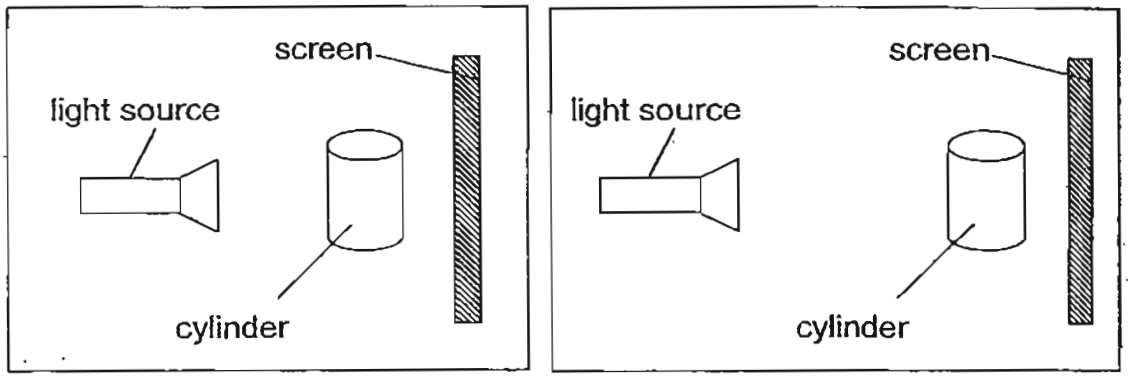
(a) Why did the water enter the bottle at a much faster rate when the funnel was lifted off the mouth of the bottle? [1]

Kamala wanted to pour out some orange juice into a jar. She made a hole on the top of the packet as shown in the diagram below.



(b) Kamala realised that the orange juice did not flow out as fast as she had expected it to be. What should she do to allow the orange juice to flow out faster? Explain your answer. [2]

33. Shanti conducted an experiment to observe the shadows formed by an opaque cylinder. She arranged two setups, X and Y, as shown below.



(a) How is the shadow formed in set-up X different from that formed in setup Y? [1]

_____

_____

(b) Give a reason for your answer in (a). [1]

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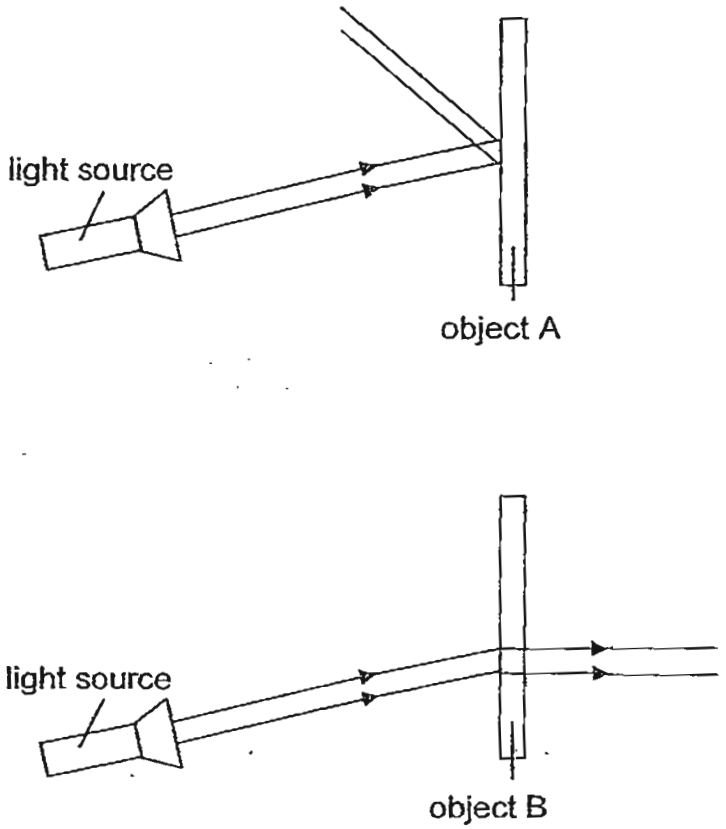
(c) In the space given below, draw the shadow that will be cast on the screen for setup X. [1]

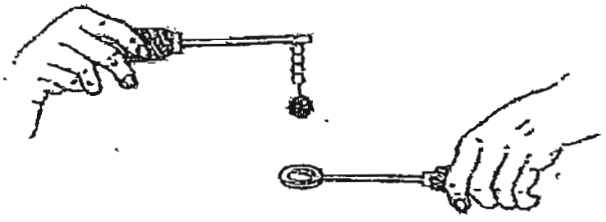
34. The diagram below shows light from a torch falling on two objects that are made of different materials.



(a) Which object, A or B, is a mirror? Explain your answer. [1]

(b) Charmaine wanted to brighten her house during the day without wasting electricity. Her friends suggested that she should have more mirrors on the walls of her house. Why is this suggestion possible? [1]

35. The picture below shows a metal ball and ring apparatus. The ring was big enough for the ball to pass through at the start of the experiment.



(a) What should be done to the metal ball and ring apparatus to prevent the ball from passing through the ring? Explain your answer. [1]

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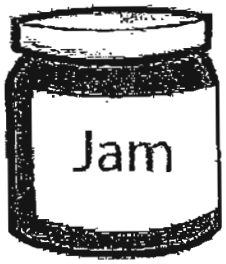
Jane wanted to spread some jam on her bread. However, the metal lid of the jam jar was closed too tightly and she was unable to uncap it.



(b) What could Jane do in order for her to open the lid without breaking it? Explain your answer. [2]

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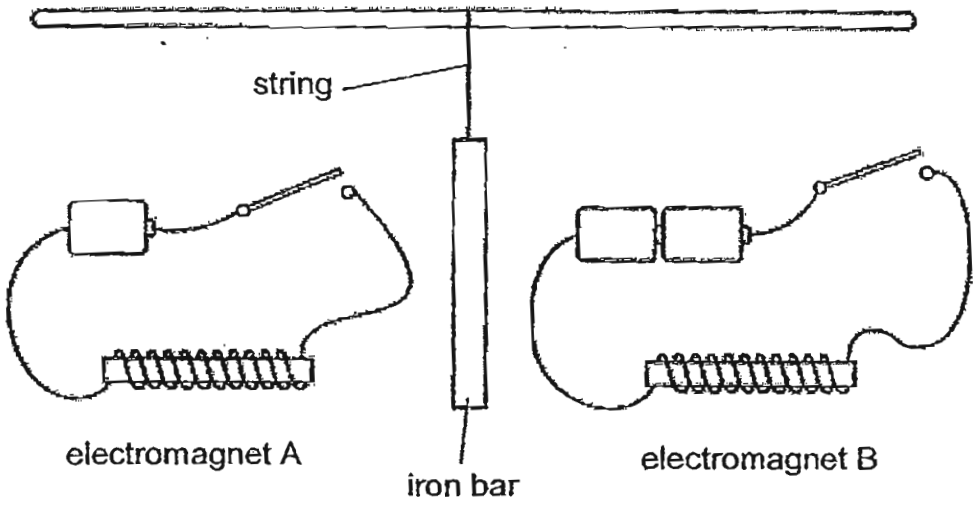
36. The diagram below shows an iron bar hung between two electromagnets. All the batteries in the circuit are identical.



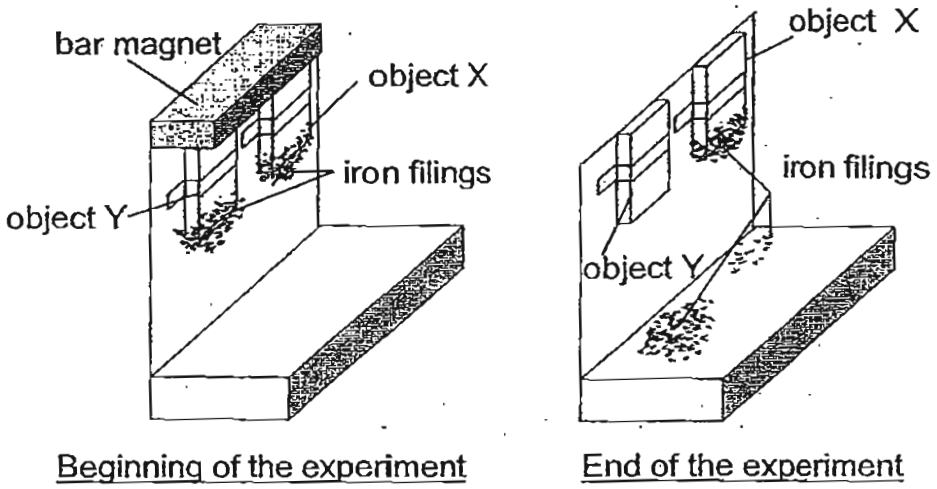
Paul closed the switches for both circuits and observed that the iron bar was attracted to one of the electromagnets.

(a) Which electromagnet did the iron bar get attracted to? Explain your answer. [1]

(b) Paul changed the iron bar to copper bar and switched on the electromagnet. What would Paul observe? Explain your answer. [1]

(c) What could Paul do to the circuit if he wants the iron bar to get attracted to electromagnet A? [1]

37. Zi Qi conducted an experiment using a bar magnet as shown below.



Beginning of the experiment

End of the experiment

(a) What happened to the iron filings on objects X and Y when the bar magnet was removed? [1]

_____

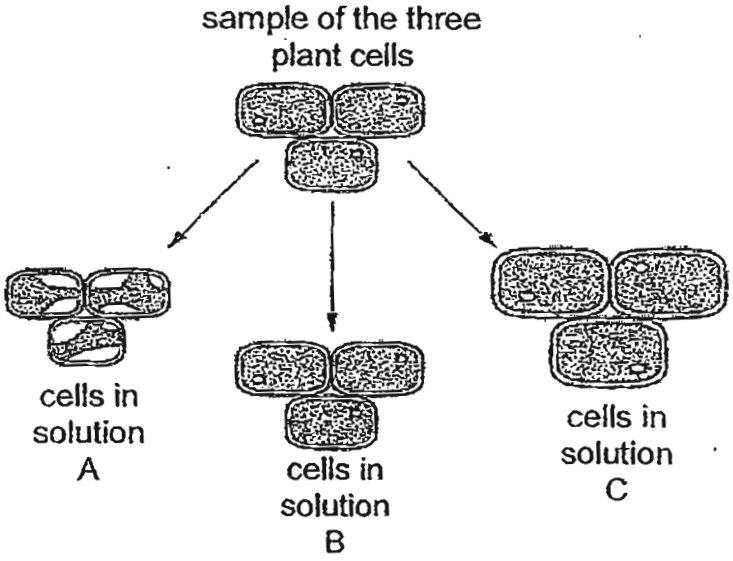
_____

(b) What can you say about the magnetic property of objects X and Y? [1]

_____

_____

38. A student removed three samples of plant cells from a leaf. Each cell was placed into one of the three sugar solutions labelled A, B and C. Each sugar solution was of different concentrations. The diagram below shows the appearance of these cells after 30 minutes.

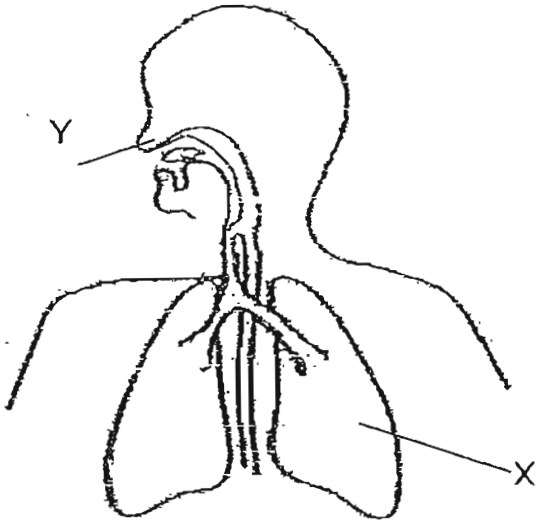


(a) Some of the liquid in the cells in solution A were missing after the experiment. However, the cell still maintained its regular shape. Explain why this is so. [1]

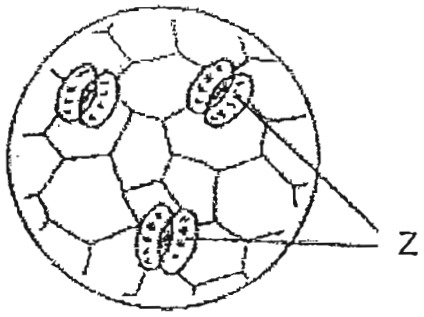
(b) Explain why the cells did not change in appearance when placed in solution B. [1]

(c) The cells in solution C expanded in size after 30 minutes. What caused the cells to expand? [1]

39. The diagram below shows cross-sections of a human and an enlarged part of a leaf.



cross-section of a human



an enlarged part of a leaf

(a) Name the part labelled Z. [1]

_____

_____

(b) How is the part labelled Y of a human similar to the part labelled Z of the leaf? [1]

_____

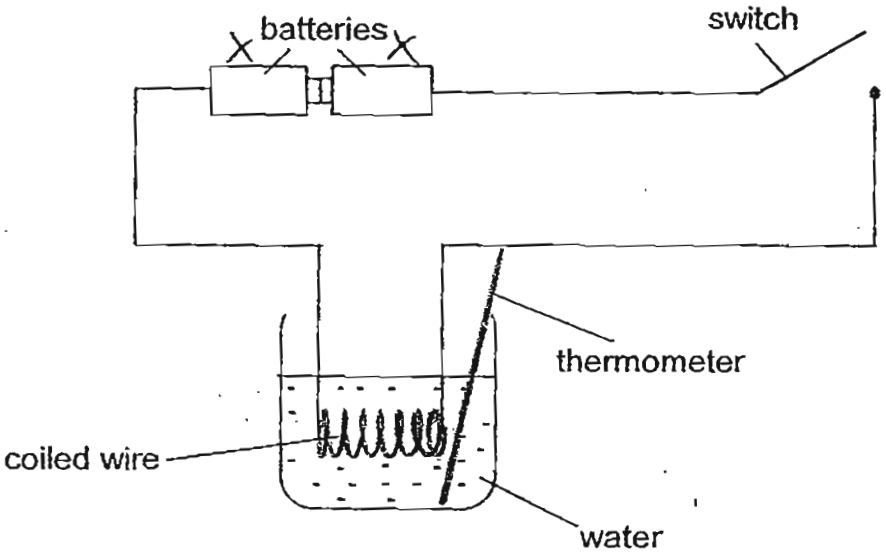
_____

(c) What will happen to the human if part X is missing? [1]

_____

_____

40. Study the diagram below carefully.

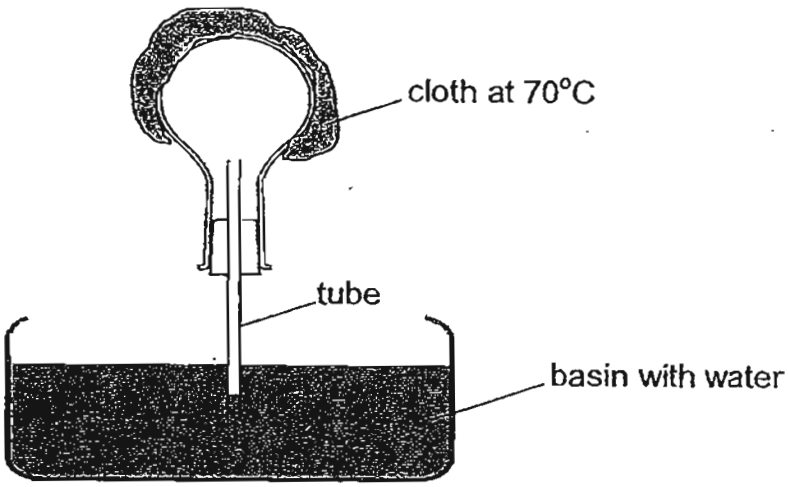


Peter recorded the temperature of water before the start of the experiment. After that, he closed the switch of the circuit above and waited for 10 minutes before reading the temperature of the water from the thermometer.

(a) Will there be any change in the temperature? Explain your answer. [1]

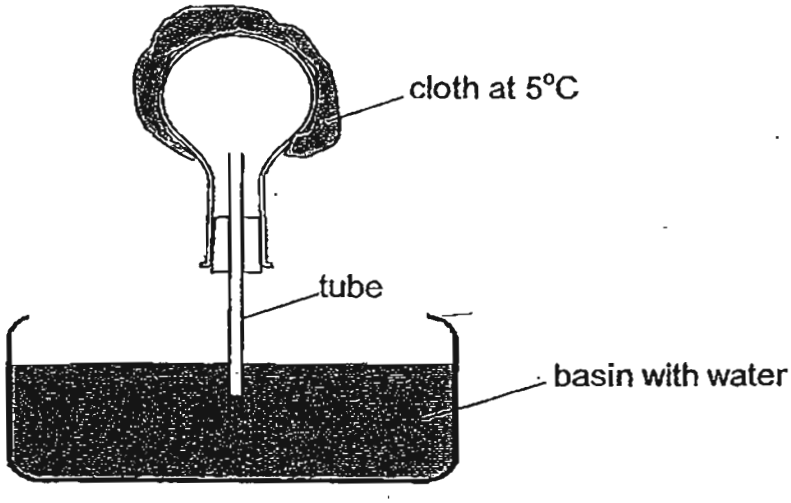
(b) Peter added another similar battery to the setup above and repeated his experiment. Will there be any change in the temperature? Explain your answer. [2]

41. Judy set up the following experiment as shown below. She placed a hot cloth over the flask.



(a) What could be observed to the water level in the glass tube after the cloth had been placed on the flask for a while as shown above? Explain your answer. [2]

Judy had another identical setup. However, she placed ~~the~~ a cold cloth over the flask instead as shown below.



(b) What could be observed to the water level in the glass tube after a while? Explain your answer. [2]

42. Allen was walking in the park and he observed a certain type of flower growing along the sides of the pavement. The diagram below shows how the flower looked like.

(a) Allen observed that part X of the flower was hanging out of its petals. What is the name of the part that Allen observed? [1]

_____

(b) What was the purpose for part X to be hanging out of the petals? [1]

_____

_____

_____

(c) Allen concluded that this flower was a male flower and would never develop into a fruit. Is he correct? Explain your answer. [1]

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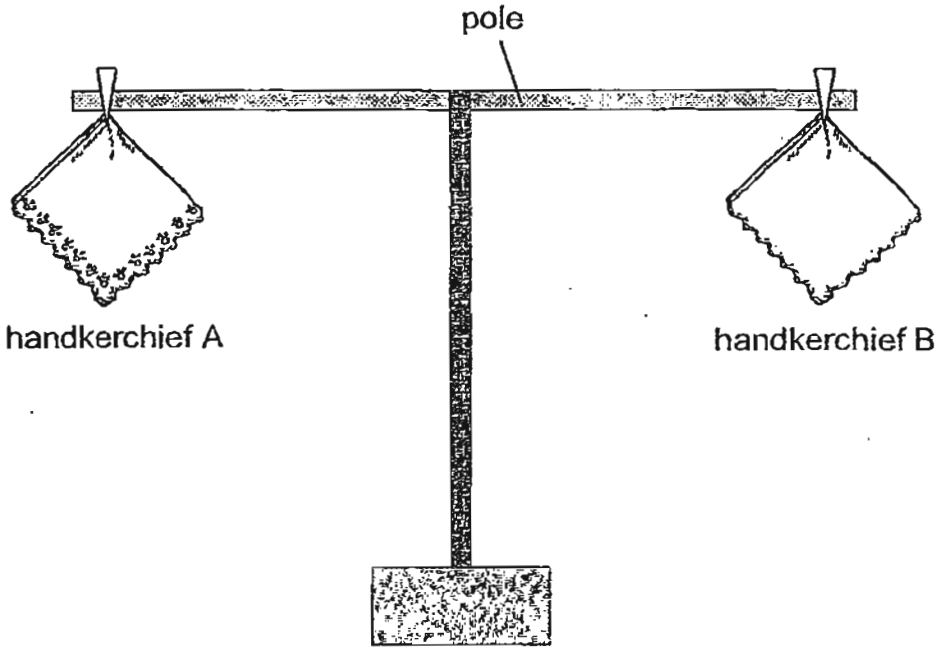
43. Karen has two handkerchiefs, A and B, which are made of different materials. She wets the handkerchiefs before hanging them out on a pole near the window to dry as shown below.

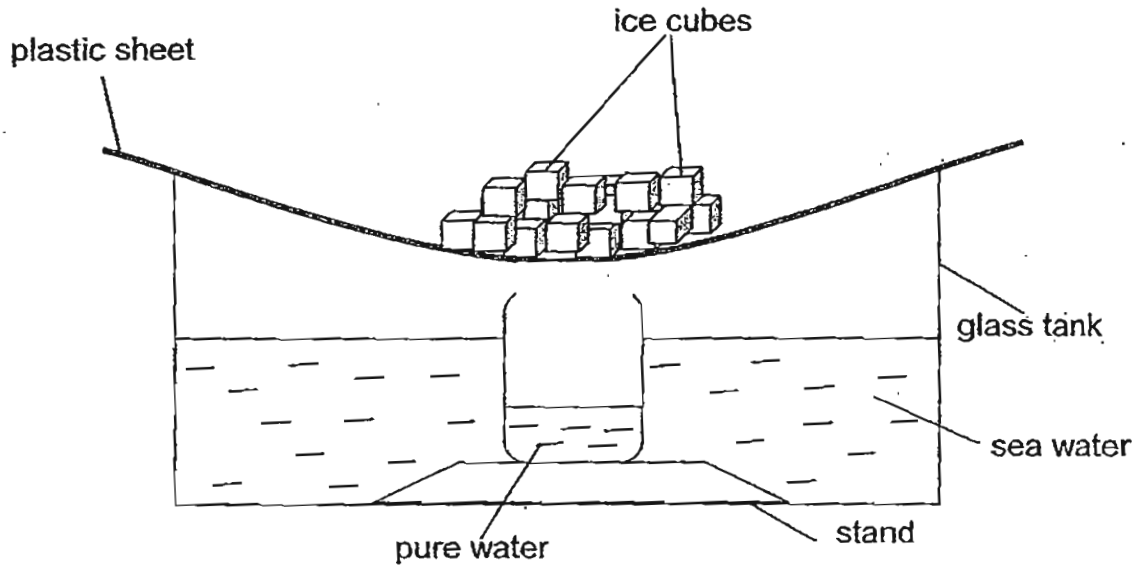


(a) Which of the following variables should she keep constant during her experiment? Put a tick (√) in the boxes given. [1]

Variables	Tick (√)
Size of the handkerchief.	
Thickness of the handkerchief.	
Amount of water the handkerchief contain.	

(b) Karen conducted the experiment during a rainy day. Will she be able to achieve the aim of her experiment? Explain your answer. [2]

44. Kai Wen wanted to obtain pure water from sea water. He tried to do that by using the setup shown below.

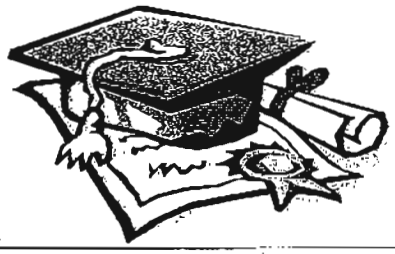


(a) Where did the pure water in the beaker come from? [1]

(b) What was the purpose of placing the ice cubes on the plastic sheet? [1]

(c) What could be done to the setup to speed up the collection of pure water? [1]

End of paper

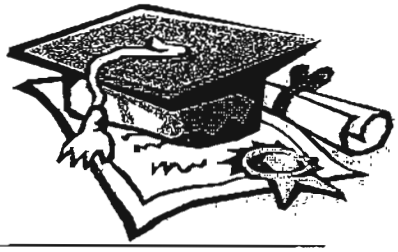


ANSWER SHEET

EXAM PAPER 2011

SCHOOL : CHIJ
SUBJECT : PRIMARY 5 SCIENCE

TERM : CA2



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

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

31)a)Plunger X.

b)As Syringe Y and Z contains liquid and solid, which have definite volume, it cannot be compressed. However, Syringe X is filled with gas which has no definite and can be compressed.

32)a)Air had occupied the empty space at first. However, when the funnel was lifted, the air could escape and thus the water entered at a faster rate.

b)She should make another hole on the top of the packet. The surrounding air wanted to enter the packet while the orange juice was to be poured out. It she makes another hole, the surrounding air can enter and allow the orange juice to be poured out.

33)a)The shadow formed in set-up X is bigger and not as sharp than the shadow formed in set-up Y.

b)In set-up X, the light source is nearer to the cylinder than the light source in set-up Y, and thus the shadow formed in set-up X is bigger.

c)

34)a)Object A is a mirror. A mirror is make out of an opaque material, so it will reflect off light.

b)As mirror have a shiny and smooth surface, it will reflect light well. If she has mirrors on the walls, it will reflect light from the sunlight and thus make the house brighter.

35)a)The metal ball should be heated up and the ring apparatus should be cooled. When the metal balls heated, it would expand and when the ring is cooled, it will contract. Thus, the ball will be too big to pass through the ring.

b)Place the metal lid in a basin of hot water. When it is heated, it will expand and thus would loosen up so that Jane can open it.

36)a)Electromagnet B. For electromagnet B, there are two batteries providing electricity for it compared to A, which only has one battery. As electromagnet A is stronger than A, the iron bar will get attracted to it.

b)The copper bar will not be attracted to any of the electromagnets. As copper is a non-magnetic material, it would not get attracted to the electromagnets even if they are switched on.

c)Add one more dry cell to the circuit which provides electricity to electromagnet A and arrange the batteries in B to parallel instead of series.

37)a)The iron fillings on object Y had dropped off completely while the iron fillings on X dropped only a little bit.

b)Object Y is a magnet while object Y is a magnetic material.

38)a)The concentration of water in solution A was lower than the concentration level in the cell. Thus, the some water molecules in the cells left it and entered the solution via osmosis until the concentration became the same.

b)The concentration of water in the cell and in the sugar solution was the same thus it's appearance did not change.

c)The concentration of water in the sugar solution was higher than in the cell. Thus, the water molecules from the solution left and entered the cell via osmosis until the concentration was the same. Thus, it expanded but the cell wall prevented it from bursting.

39)a)Stomata.

b)They both allow exchange of gases to take place.

c)Gaseous exchange would not be able to take place and the human would die due to the lack of oxygen.

40)a)No, there will not be any change in the temperature. The batteries are not connected properly and just becomes a conductor electricity. However, there is no current flowing and thus there is no change.

b)Yes, the additional battery will be able to supply the current flow to heat up the coiled water.

41)a)The water level would have risen then fell. When the flask gained heat from the cloth expanded and thus the water level rised. Later on, the air gained heat from the flask, expanded, and thus it fell.

b)The water level would have fell then rise again. At first, the flask lost heat to the cloth, contracted and thus the water level fell. Later, the air lost heat to the flask, contracted, and thus it rose again.

42)a)Anther.

b)It is so that the pollen grains can be catched by the wind easily.

c)No, he is not corrected. It also has female parts and thus it can still develop into a fruit.

43)a) ✓
✓
✓

b)No, she will not. It was raining and thus it will still get wet, and hence even though it can still evaporate, it will just get wet again.

44)a)The pure water came from the salt water which gained heat evaporated to from water vopour lost heat and condensed on the cooler plastic sheet to form the pure water.

b)It is so that when the sea water gained heat and evaporated, it will lose heat to the cooker surface of the plastic sheet and condense to form the water droplets, which would be the pure water.

c)He can place the set-up under the sun.