NANYANG PRIMARY SCHOOL

PRIMARY 6 SCIENCE

CONTINUAL ASSESSMENT 1
2010

BOOKLET A

Date : 2 March 2010

Duration : 1 h

Name : _____ ( )

Class: Primary 6 ( )

Marks Scored:

Booklet A:		30
Booklet B :		20
Total :		50

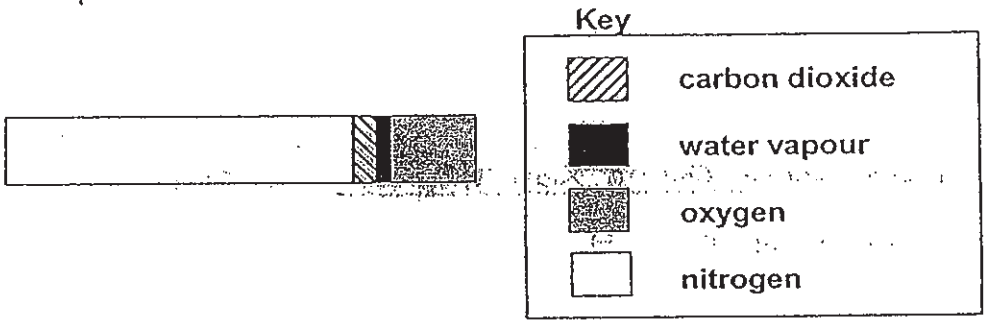
Parent's signature: _____

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 10 printed pages including this cover page.

Section A (15 x 2 marks = 30 marks)
For each question from 1 to 40, 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 provided.**

1. Yun Kao applied a layer of clear nail vanish on the upperside and underside of every leaf of a well-watered plant. He placed the plant in a glass tank and covered the tank, such that the tank is airtight. Yun Kao then put the tank, with the plant in it, in a well-lit room. The proportion of different gases present in the glass tank at the beginning of the experiment is as shown below.



Which one of the following describes the changes of the different gases in the glass tank after 8 hours?

	carbon dioxide (cm^3)	oxygen (cm^3)	water vapour (cm^3)
(1)	remains the same	remains the same	remains the same
(2)	decrease	increase	remains the same
(3)	decrease	increase	increase
(4)	increase	decrease	remains the same

2. Which of the following statements are **true**?

A Chlorophyll is only found in the leaves.
B Leaves capture chlorophyll to make food.
C Oxygen is not needed in the process of photosynthesis.
D Gaseous exchange can only take place through the stomata.

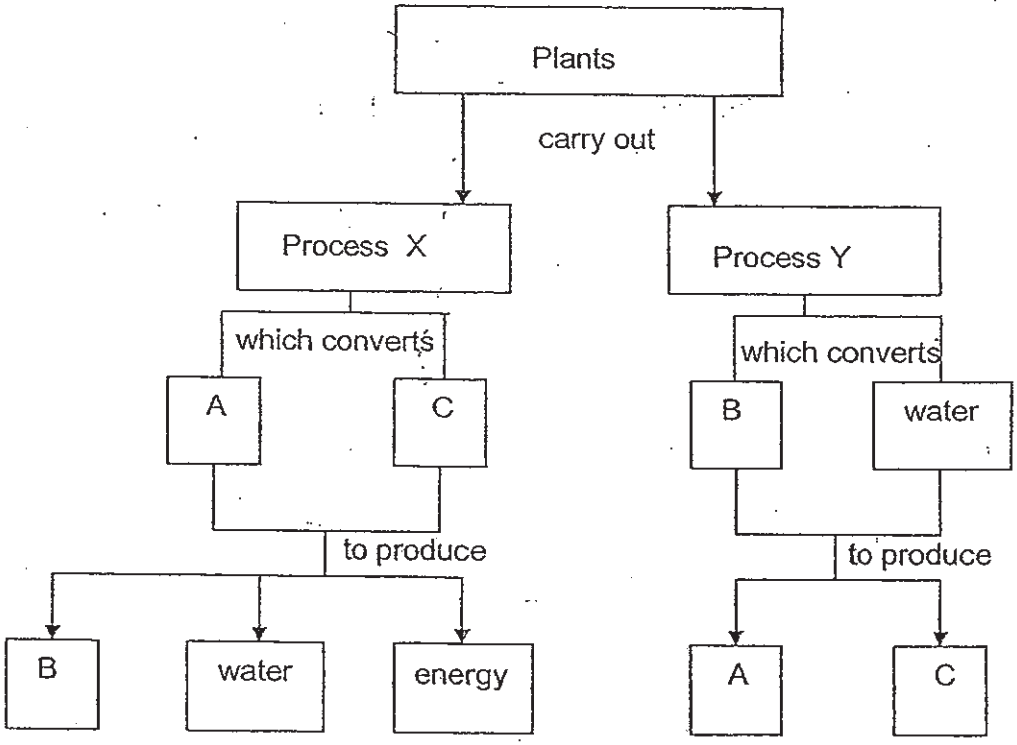
(1) A and C only
(2) A and D only
(3) B and C only
(4) C and D only

3. Which of the following statements about food made during photosynthesis are **true**?

A Food made by plants can be stored as starch.
B Extra food that plants made is stored only in the leaves.
C Food made in the leaves is transported by the phloem to all parts of the plants.
D During respiration, plants make use of the food they have made to produce energy.

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

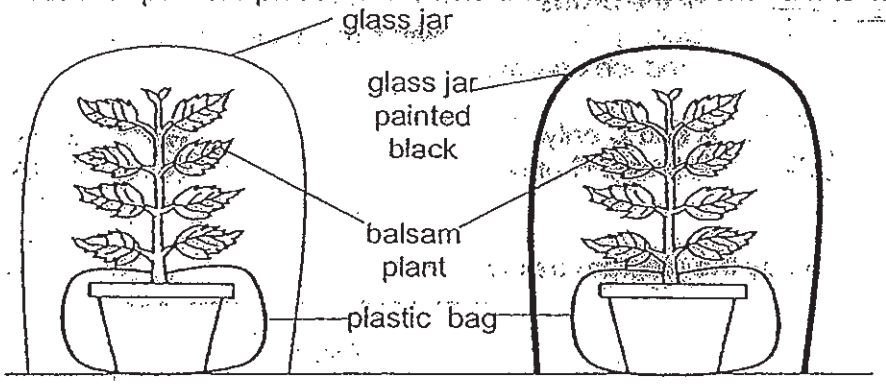
4. Study the diagram below.



Which one of the following correctly represents X, Y, A, B and C?

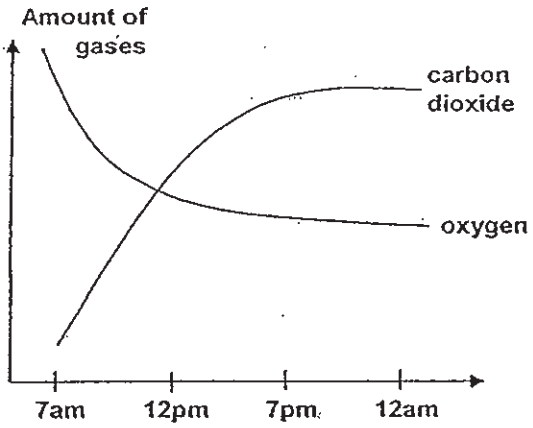
	Process X	Process Y	A	B	C
(1)	Respiration	Photosynthesis	carbon dioxide	oxygen	food
(2)	Respiration	Photosynthesis	oxygen	carbon dioxide	food
(3)	Photosynthesis	Respiration	carbon dioxide	food	oxygen
(4)	Photosynthesis	Respiration	oxygen	food	carbon dioxide

5. Edwin set up 2 experimental set-ups, P and Q, as shown in the diagram below. He gave the balsam plants the same amount of water. Both set-ups were placed in the field under the sun from 7am to 12am.

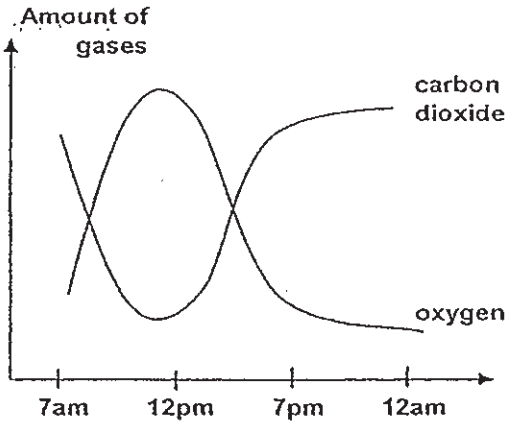


Which of the following graphs show the change in the amount of gases in the glass jars of set-up P and set-up Q throughout the experiment?

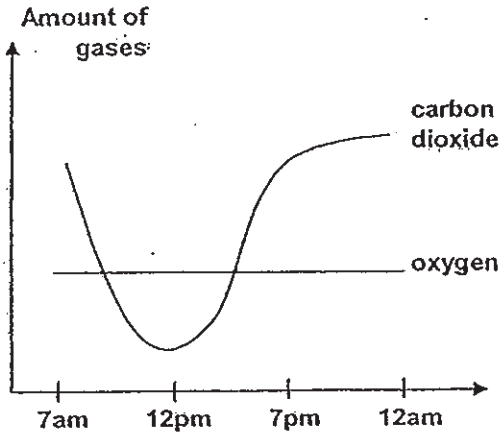
Graph A



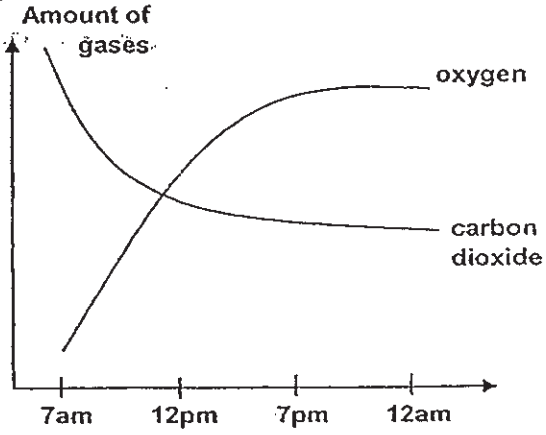
Graph B



Graph C

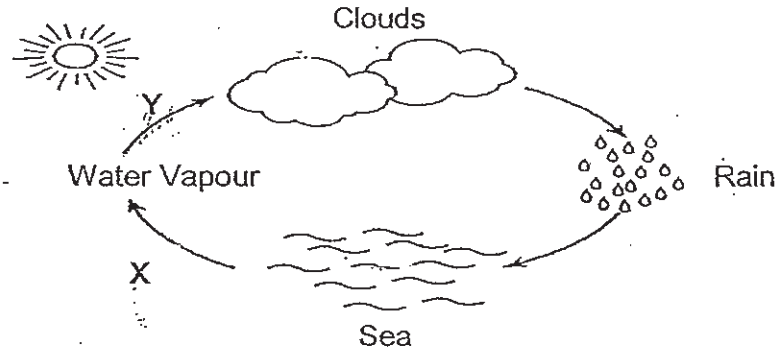


Graph D



	Set-up P	Set-up Q
(1)	Graph A	Graph C
(2)	Graph B	Graph A
(3)	Graph C	Graph D
(4)	Graph D	Graph B

6. Look at the diagram of the water cycle below.



Process X and Y are two processes that take place in the water cycle. Which of the following describe water going through the same processes as X and Y in the diagram above?

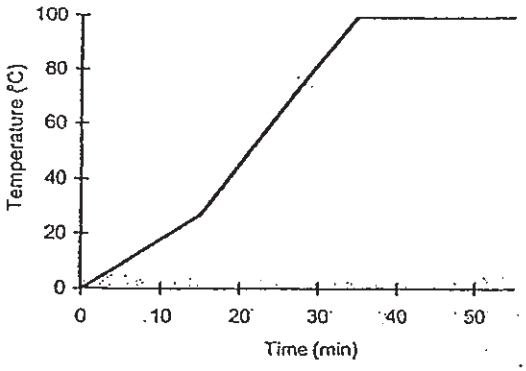
A Leaving a piece of ice on a table.
B Blowing wet hair using a hairdryer.
C Adding water into a glass of orange juice.
D Spectacles turning foggy when stepping out of an air-conditioned room.

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

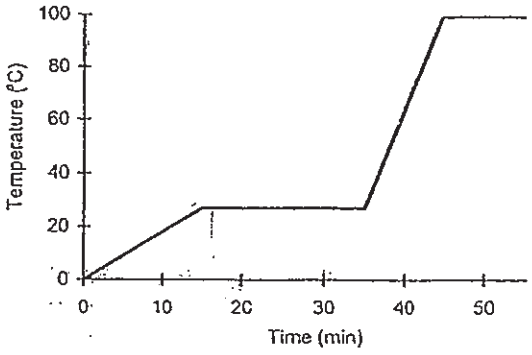
Study the following scenario to answer Questions 7 and 8.

A beaker of ice was taken from the freezer and placed on a table at room temperature (27°C). After the ice had melted completely in 15 minutes, the water in the beaker was left standing on the table for 20 minutes. Then it was heated until it boiled.

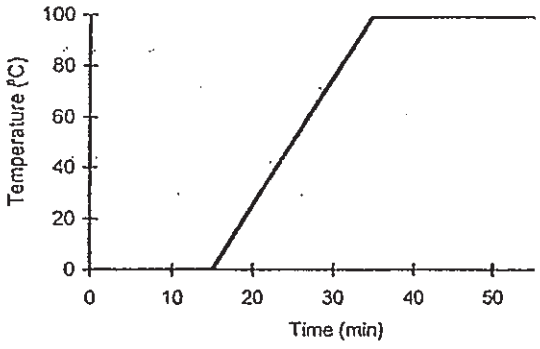
7. Which one of the following graphs below illustrates the temperature change of water from the time the beaker was taken out from the freezer to the time the water boiled?



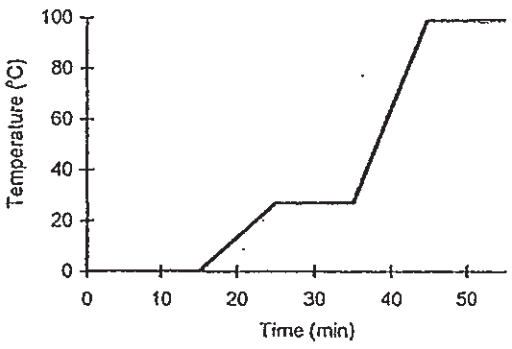
(1)



(2)



(3)



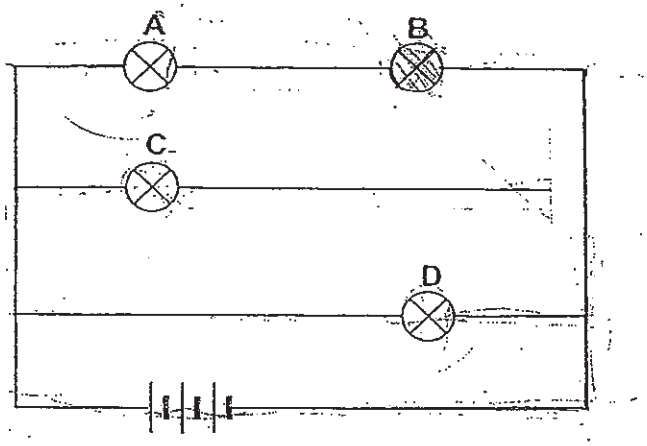
(4)

8. Which of the following statements correctly describe the exchange of heat that had taken place?

A During boiling, the water in the beaker was losing heat.
B The water in the beaker gained heat for boiling to take place.
C The ice in the beaker lost heat to the surroundings as melting was taking place.
D The ice in the beaker gained heat from the surroundings for melting to take place.

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

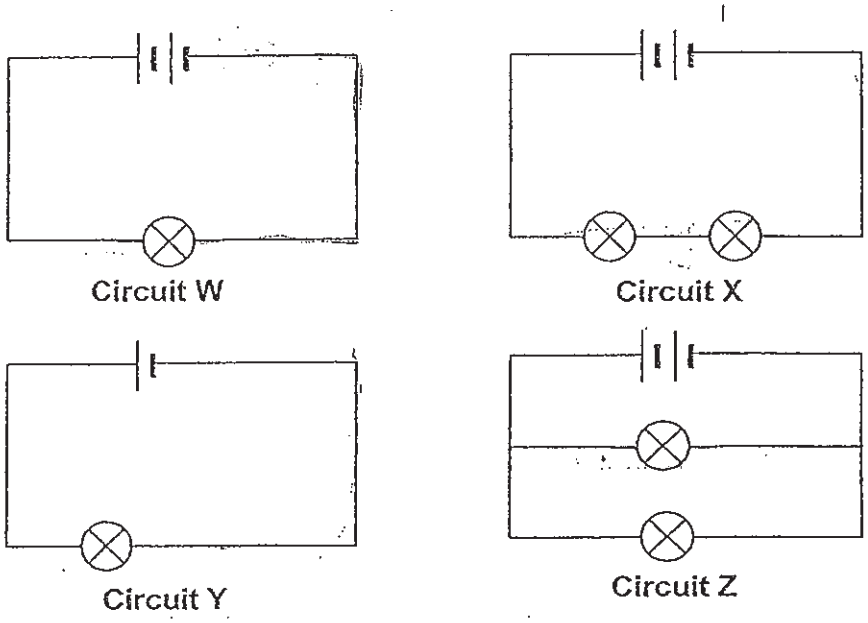
9. Study the circuit diagram below.



Which of the bulb/s will remain lit when bulb B blows?

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

10. Study the four circuits W, X, Y and Z as shown below.



The bulbs and the batteries in the four circuits are identical. All the bulbs lit up.

Which one of the following statements about the brightness of the bulb/s is correct?

(1) The bulb in Circuit Y is brighter than the bulb in Circuit W.
(2) Each bulb in Circuit X is as bright as each bulb in Circuit Z.
(3) The bulb in Circuit W is brighter than both bulbs in Circuit X.
(4) The 2 bulbs in Circuit Z will be dimmer than the bulb in Circuit Y.

11. Guan Yang found a device at home. When in use, the device has the energy conversion as shown below.

electrical energy ⟶ heat energy (useful) + kinetic energy (useful) + sound energy (wasted)

Which one of the following has the same energy conversion as the device shown above?

(1) Vacuum Cleaner
(2) Refrigerator
(3) Table lamp
(4) Hairdryer

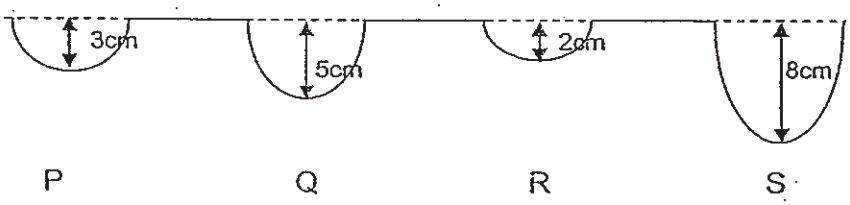
12. Kelvin classified the following objects, which have been underlined, into 3 groups, A, B and C according to the energy they possess.

A battery
Ceiling lamp
A bottle of oil
A bowl of rice
A dancing doll
A ball rolling in the basketball court

Which one of the following represents the headings for groups A, B and C correctly?

	Group A	Group B	Group C
(1)	Kinetic Energy	Chemical Potential Energy	Gravitational Potential Energy
(2)	Elastic Potential Energy	Chemical Potential Energy	Gravitational Potential Energy
(3)	Heat Energy	Kinetic Energy	Electrical Energy
(4)	Kinetic Energy	Electrical Energy	Elastic Potential Energy

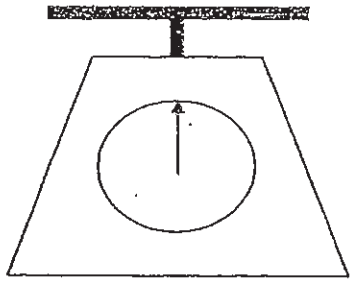
13. 4 similar balls of different materials, P, Q, R and S were dropped from a building. The diagram below shows the indentation on the sand pit which they have landed on.



Which one of the following balls had the least amount of gravitational potential energy before it was dropped?

(1) P (2) Q
(3) R (4) S

14. The diagram below shows a kitchen scale.



What energy changes will take place to cause the needle of the kitchen scale to move when a packet of sugar is placed on the scale?

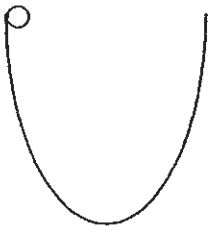
(1) Chemical Potential Energy ⟶ Kinetic Energy

(2) Chemical Potential Energy ⟶ Heat Energy + Kinetic Energy

(3) Gravitational Potential Energy ⟶ Elastic Potential Energy ⟶ Kinetic Energy

(4) Elastic Potential Energy ⟶ Kinetic Energy

15. In the experiment below, 4 identical marbles were released from the edge of 4 different containers. Which one of these marbles will take the longest time to come to a stop?

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

NANYANG PRIMARY SCHOOL

PRIMARY 6 SCIENCE

CONTINUAL ASSESSMENT 1
2010

BOOKLET B

Date : 2 March 2010

Duration : 1 h

Name : _____ ( )

Class: Primary 6 ( )

Marks Scored:

Booklet A:		30
Booklet B :		20
Total :		50

Parent's signature:

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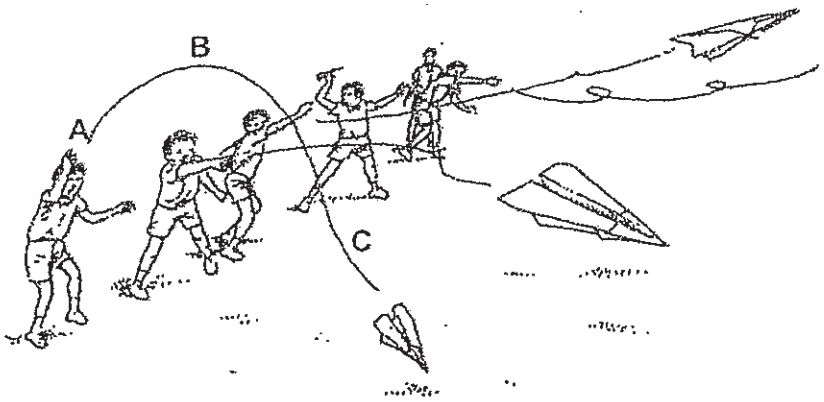
Booklet B consists of 8 printed pages including this cover page.

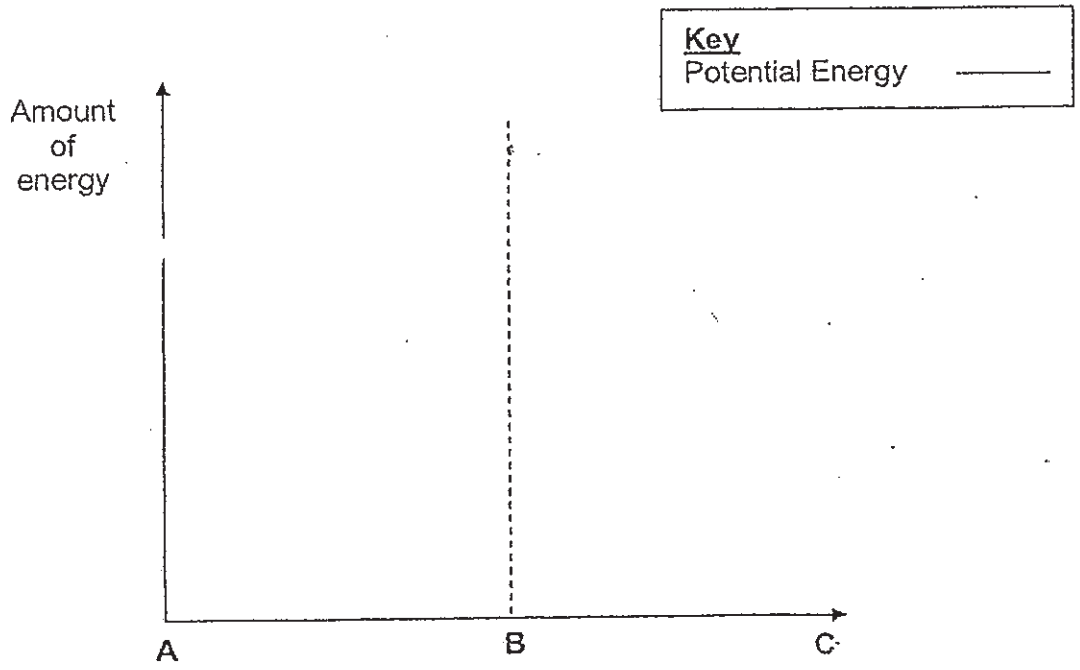
Section B (40 marks)
Write your answers to questions 31 to 46 in the spaces provided.
Marks will be deducted for misspelt key words.

16. Douglas and some of his classmates bought some identical paper aeroplanes and were flying them on the field.

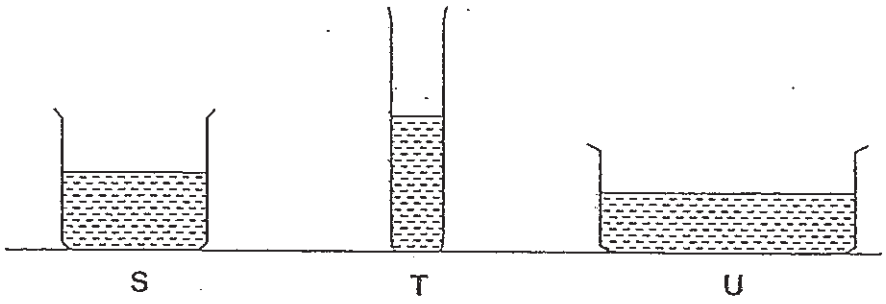


(a) List the source(s) of energy that enable the aeroplanes to fly.
(1 mark)

(b) On the graph below, draw the potential energy change of the aeroplane from point A to point C.
(1 mark)



17. Alan set up an experiment as shown below to study the rate of evaporation in 3 containers **S**, **T** and **U**. He poured different amount of water into each of the containers and left them in the open for a day.



(a) His teacher told him that his experiment is not a fair test. Suggest what Alan should do to make this experiment a fair test. (1 mark)

_____

_____

Alan then improved on his experiment to make it a fair test.

(b) What should he measure to determine the container with the highest rate of evaporation? (1 mark)

_____

_____

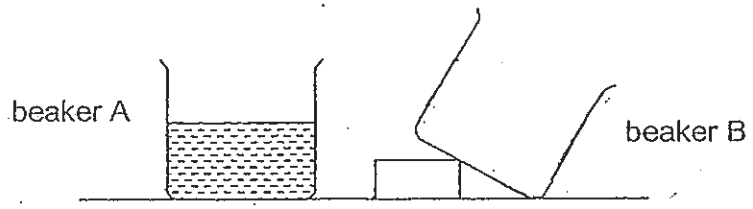
(c) Which container will have the highest rate of evaporation? Explain your answer. (1 mark)

_____

_____

18. Gopal carried out an experiment with four 200ml beakers. He poured 100ml of water into beaker A as shown below. He poured another 100ml of water into beaker B.

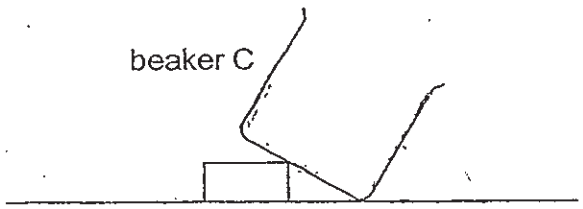
(a) Draw the water level of the water in beaker B. (1/2 mark)



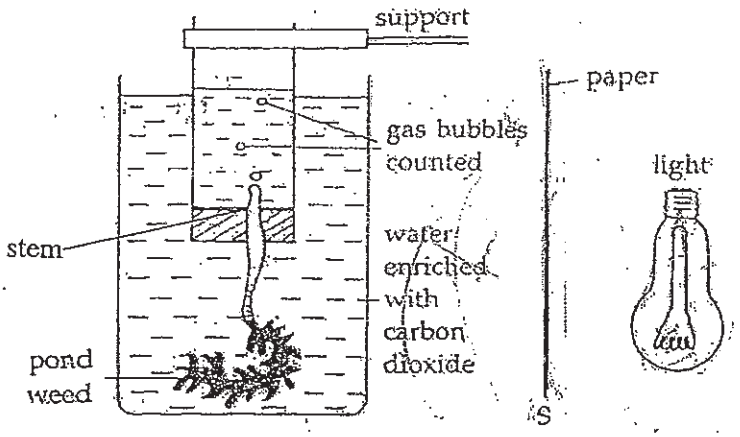
(b) Which property of water is shown in the above experiment? (1 mark)

He repeated the experiment with sand. He poured 100cm^3 of sand into beaker C.

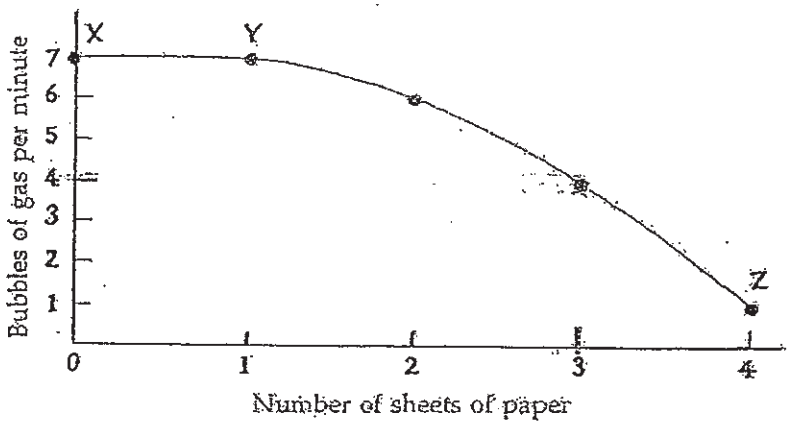
(c) Draw the level of the sand in beaker C. (1/2 mark)



19. Yati set up an experiment with a pond weed as shown below. Gas produced within the plant passed up the stem and bubbled into the water. An electric bulb was placed near the set-up and the number of bubbles produced during one minute was counted. The experiment was repeated, with different number of sheets of paper placed at point S between the light and the beaker each time.



The results of these experiments were recorded and represented in the form of a graph below.



(a) How many bubbles per minute were produced when 3 sheets of paper were placed between light and beaker? (1 mark)

_____

(b) Name the gas produced by the plant and explain how they are formed. (1 mark)

_____

_____

(c) Based on the graph, state the relationship between the rate of the process and light intensity from point Y to point Z. (1 mark)

_____

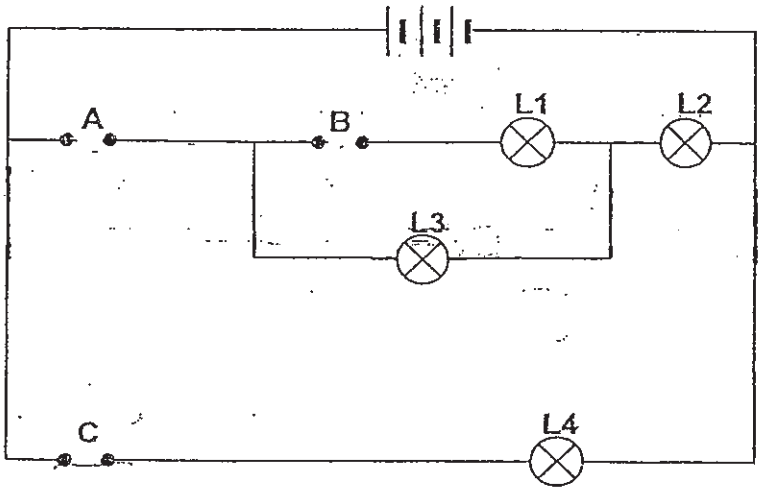
_____

(d) Based on the results of the experiment, suggest a reason why the pond weed would not grow well in a muddy school pond.
(1 mark)

_____

_____

20. Wen Wen had 3 rods, Q, R and S of unknown materials. She placed them in various positions, A, B and C in the circuit as shown below.



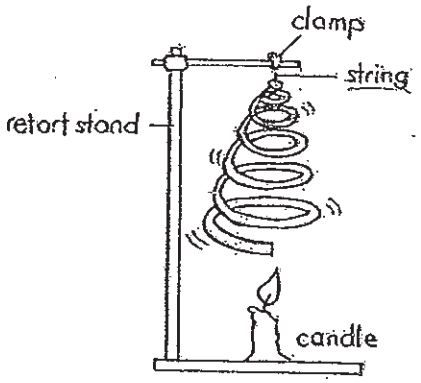
The results of the experiment were shown in the table below. When any of the lamps, L1, L2, L3 and L4, lit up during the experiment, a (√) was placed in the box.

Position where the rods were placed			Lamp			
A	B	C	L1	L2	L3	L4
Q	S	R				√
S	R	Q	√	√	√	
R	Q	S		√	√	√

Based on the information above, put a tick (√) in the correct column to indicate if each of these statements is 'True' or 'False'. (3 marks)

	Statements	True	False
(a)	Rod S is a conductor of electricity.		
(b)	Rod Q is a non-conductor of electricity.		
(c)	If Rod R is placed at all the 3 positions, A, B and C, all the bulbs will light up.		

21. An experiment was conducted using a strip of paper and a candle as shown below. When the candle was lit, it was observed that the spiral started to spin.

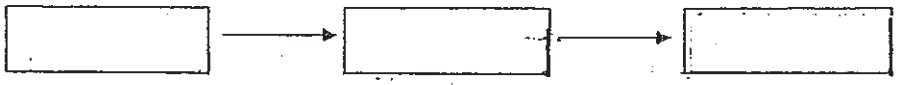


(a) Explain what caused the spiral to spin. (1 mark)

_____

_____

(b) Write down the energy conversion that has taken place in the above experiment. (1 mark)



candle flame air spiral

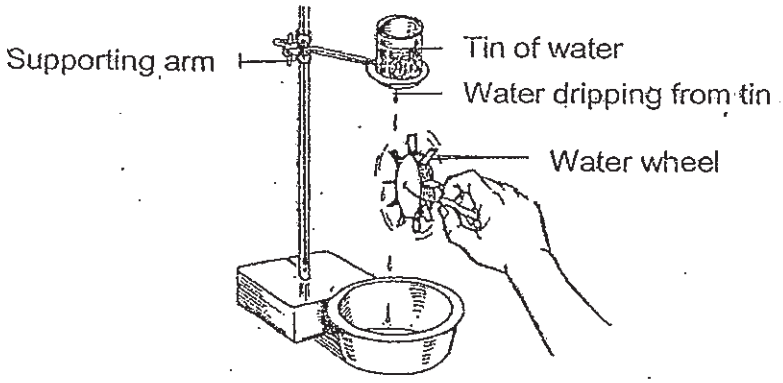
(c) If the width of the spiral is reduced by half and the experiment is repeated, predict what would be observed. Explain your prediction. (1 mark)

Prediction : _____

Explanation : _____

_____

22. Hui Hui set up an experiment as shown below.



(a) Name 2 things that Hui Hui can do to make the water wheel spin faster. (2 marks)

(i) _____

_____

(ii) _____

_____

(b) Write down the energy conversion that has taken place in the above experiment. (1 mark)

----------END OF PAPER----------

Setters: Mrs Shirley Lam
Mdm Chia Li Hoon

ANSWER SHEET

EXAM PAPER 2010

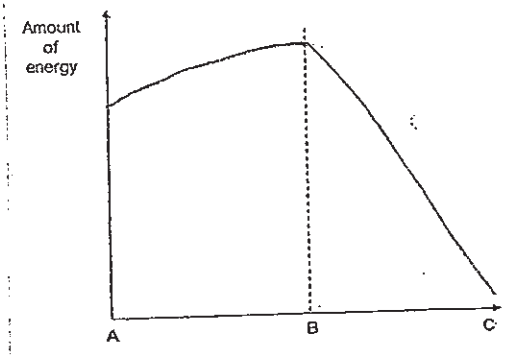
SCHOOL : NANYANG PRIMARY
SUBJECT : PRIMARY 6 SCIENCE

TERM : CA1

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

16)a)Wind and food.

b)

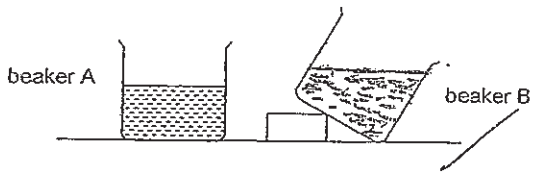


17)a)He should pour an equal amount of water into each container.

b)He should measure the time taken for each container to totally dry up &how much water was left after some tine.

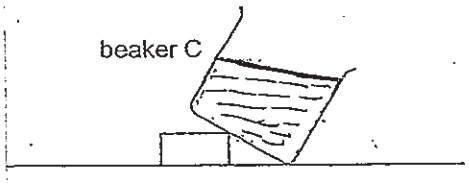
c)Container U. It has the largest exposed surface area.

18)a)



b)Water has no definite shape but has a definite volume.

c)



19)a)4 bubbles minute.

b)Oxygen. When a plant photosynthesis, it converts carbon-dioxide and water into oxygen and glucose under the presence of light energy & chlorophyll.

c)The more sheets of paper at point S, the lesser the light intensity & the lower the rate of photosynthesis.

20)a)T b)T c)T

21)a)Heat energy form the candle flame caused the surrounding air move and turn the spiral.

b)heat energy→kinetic energy→kinetic energy

c)There is less surface area for the moving hot air to move the spiral.
With the width reduced, it is lighter hence same amount of energy turn it faster.

22)a)i)She can increase the hole size of the tin of water.

ii)She can lower the position of the water wheel

b)Gravitational potential energy→kinetic energy→kinetic energy