METHODIST GIRLS' SCHOOL

Founded in 1887

CONTINUAL ASSESSMENT 2014
PRIMARY 6
SCIENCE

BOOKLET A1

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

INSTRUCTIONS TO CANDIDATES

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

Follow all instructions carefully.

Answer all questions.

Name: _____

Class: Primary 6._____

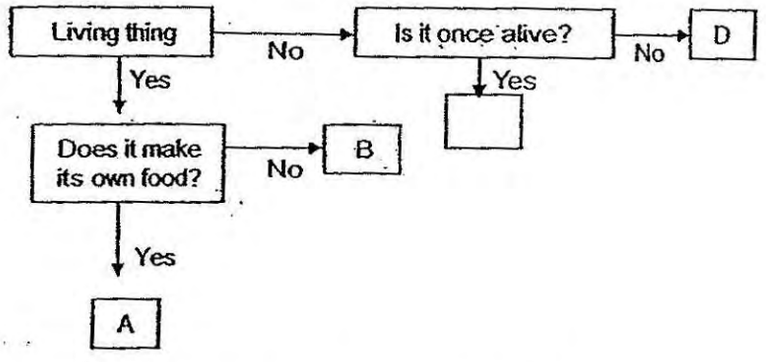
Date: 6 March 2014

This booklet consists of 12 printed pages including this page.

Part 1 (60 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.**

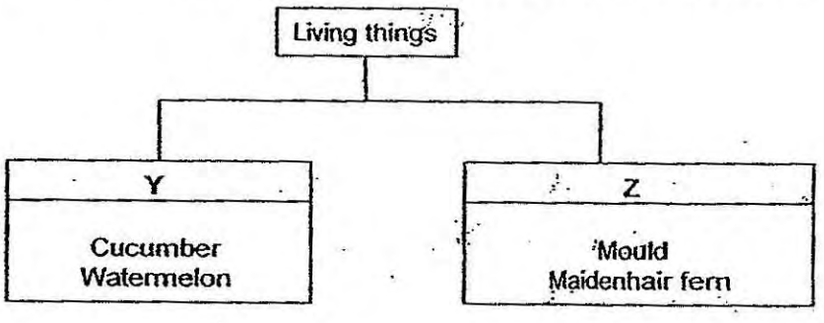
1. Study the flow chart below.



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

	A	B	C	D
(1)	Fungi	Deer	Steel bar	Cement
(2)	Grass	Bacteria	Wooden beads	Cotton towel
(3)	Frangipani	Staghorn fern	Silk dress	Pebble
(4)	Mango tree	Oyster Mushroom	Leather shoes	Stone

2. The classification chart below shows how some living things can be grouped.



Which of the following represents Y and Z?

	Y	Z
(1)	Grow on land	Grow in water
(2)	Make their own food	Do not make their own food
(3)	Reproduce from seeds	Reproduce from spores
(4)	Have fruits with many seeds	Have fruits with no seeds

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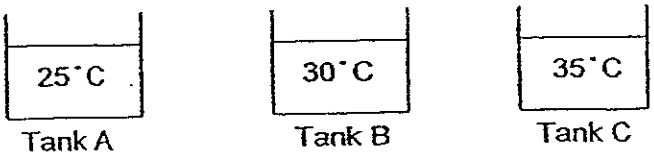
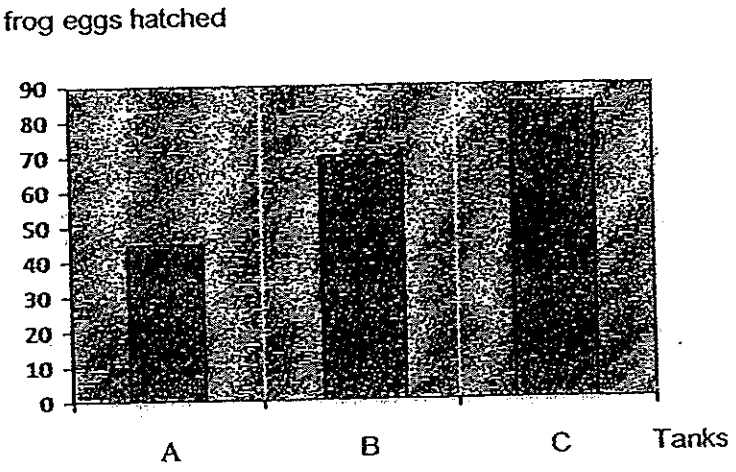
3. Andy put 100 frog eggs into each of the three tanks, A, B and C at varying temperatures.



The graph below shows what happened after a week.



Which of the following statements correctly describes the graph?

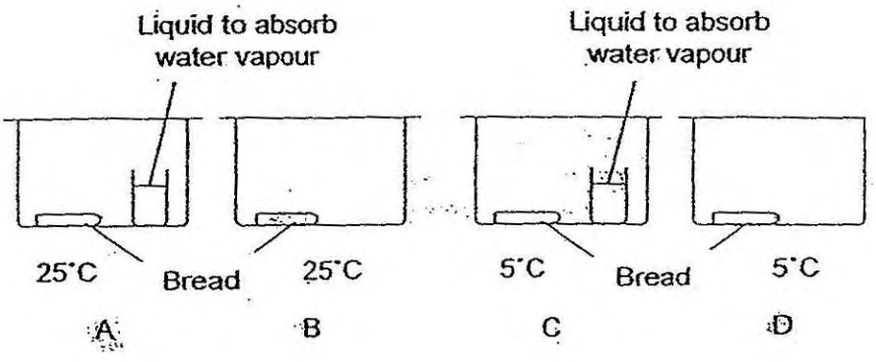
(1) The number of frog eggs in a tank affects how fast they are hatched.

(2) The number of frog eggs in a tank affects the temperature of the tanks.

(3) The temperature in a tank affects the number of frog eggs to be hatched.

(4) The temperature in a tank affects the number of frog eggs that will survive.

4. Tania conducted an experiment to investigate the growth of mould on a slice of bread. She put a slice of bread each into four containers, A, B, C and D, and left them for one week.



After one week, she observes that the bread in container B has the most bread mould. From the results of this experiment, she can conclude that bread remains freshest when kept in _____.

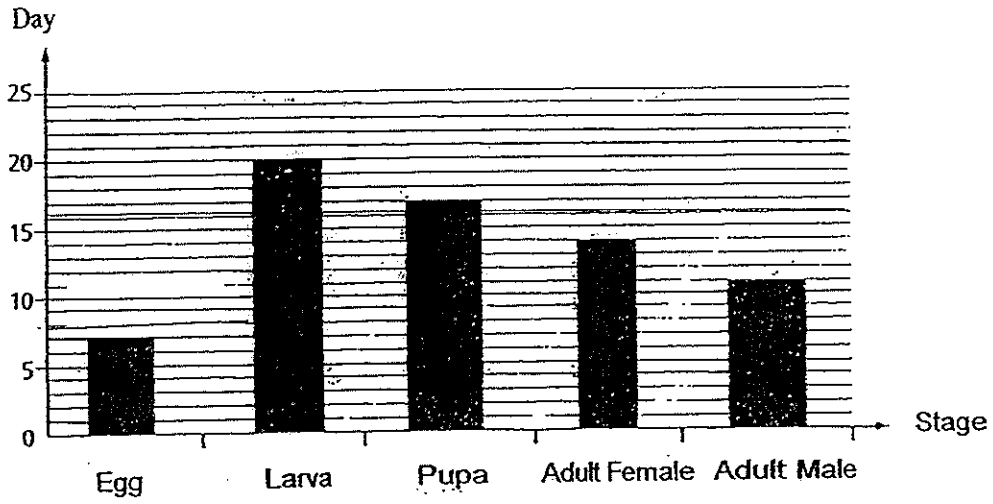
(1) Container A only

(2) Container B only

(3) Container C only

(4) Container D only

5. The graph below shows the number of days in each stage of the life cycle of an insect.

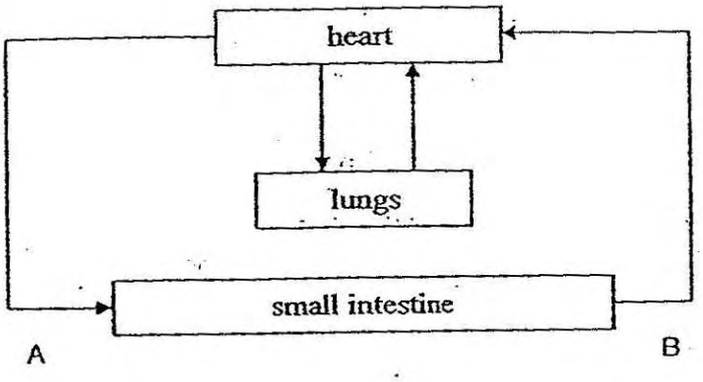


Using the information from the graph above, which of the following statement(s) is/are true?

A: The insect has a four-stage life cycle.
B: The whole life cycle of this insect requires 69 days.
C: The process from egg to pupa takes 27 days.
D: There are more female adult mosquitoes than male adult mosquitoes

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

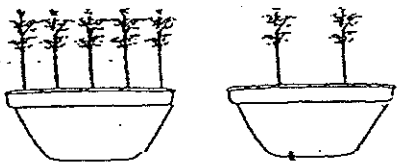
6. The diagram below shows how blood flows in our lungs, heart and small intestine a few hours after a meal.



In comparison to A, which of the following shows the blood in B correctly?

	Oxygen	Digested food
(1)	less	less
(2)	less	more
(3)	more	less
(4)	more	more

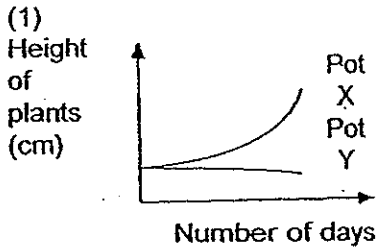
7. Some seedlings were planted in two identical pots, X and Y. The pots had the same amount of soil in them and were placed in the garden side by side.



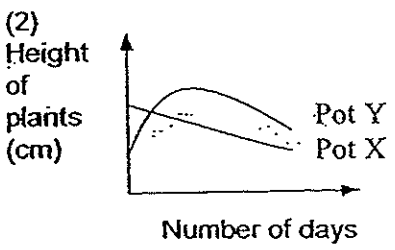
Pot X Pot Y

Given that the same amount of water was given to the two pots daily, which one of the following graphs shows the average heights of the plants in pots X and Y correctly?

(1)



(2)



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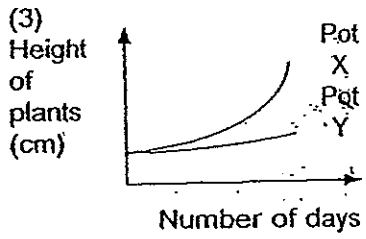

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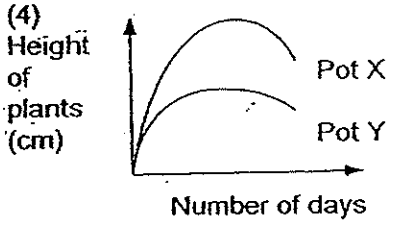
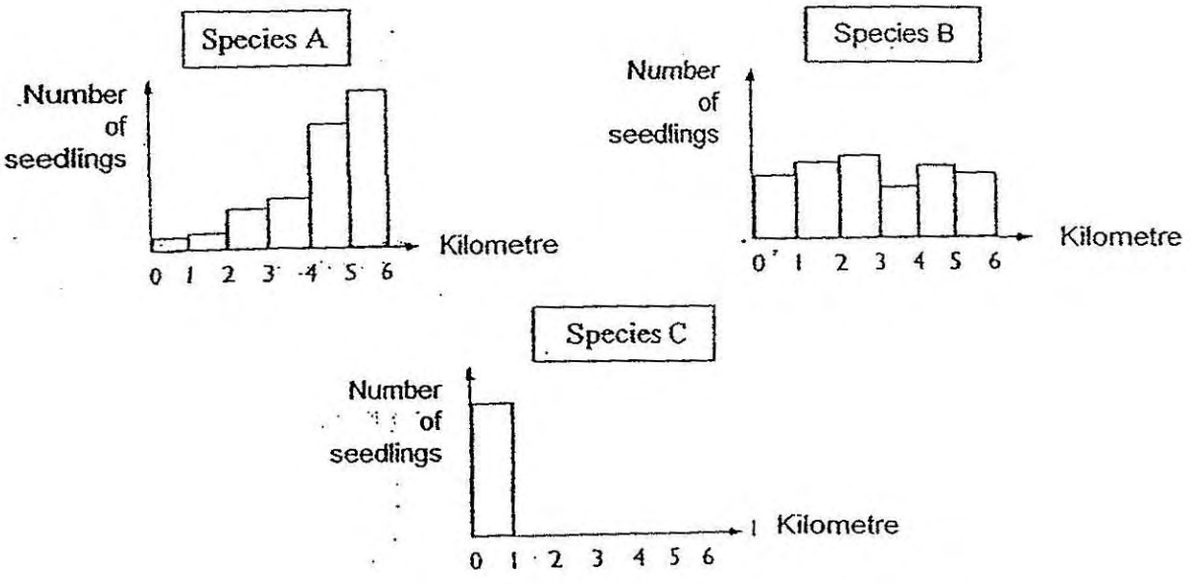


8. Which of the following statements about sexual reproduction in **both** flowering plants and most mammals are true?

A: The female reproductive cells are called eggs.
B: The male reproductive cells are produced in the ovaries.
C: The male and female organisms have to meet for fertilization to take place.
D: Fertilization takes place in the female reproductive system.

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

9. Three different species of plants were chosen for recording of their methods of dispersal. The graphs below show the average number of seedlings found at various distances around the parent plant.

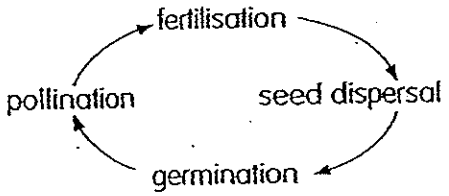


What one of the following shows the correct methods of seed dispersal of each plant?

	Species A	Species B	Species C
(1)	Wind	Animal	Explosive action
(2)	Wind	Animal	Water
(3)	Explosive action	Water	Animal
(4)	Explosive action	Animal	Water

10. Which of the following diagrams shows the correct sequence of the reproduction of a flowering plant?

(1)



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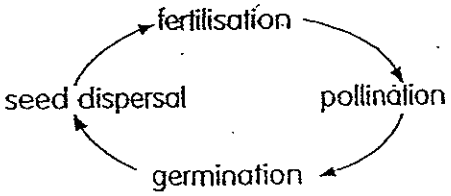
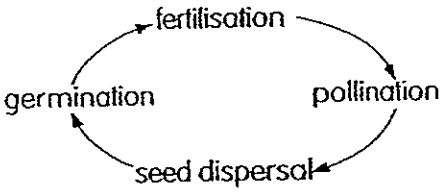
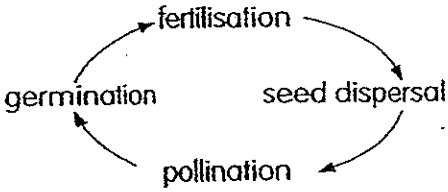


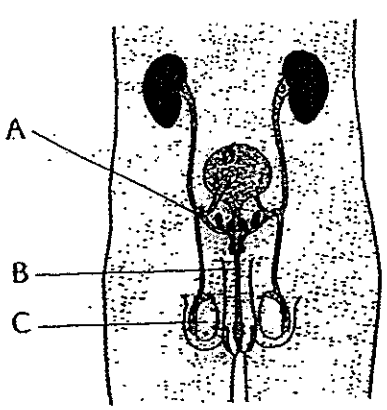
(3)

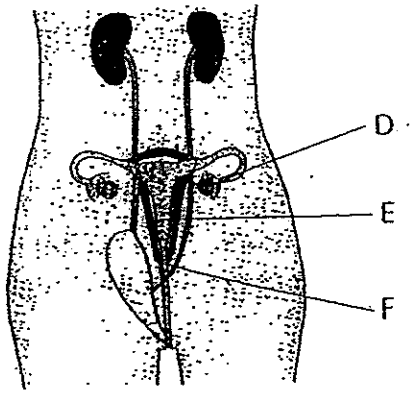


(4)



11. The diagrams show the reproductive organs of human beings.

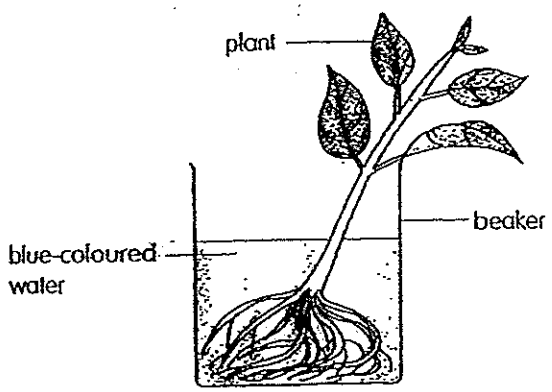


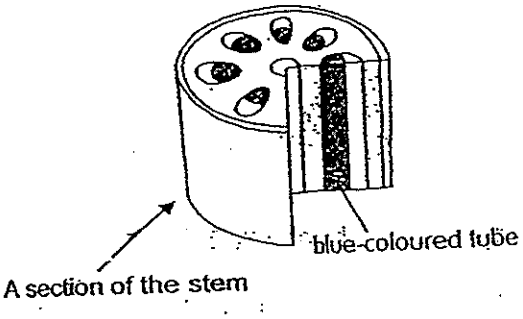


Which of the following is correct?

	Produces egg cell	Produces sperm cell	Where the fertilized egg develops
(1)	C	D	E
(2)	D	B	F
(3)	D	C	E
(4)	E	A	F

12. Nathanael placed a plant in a beaker with blue-coloured water. The plant was left aside for a day. It was then removed from the beaker and a short length of the stem was cut. The diagram below shows a section of the stem.

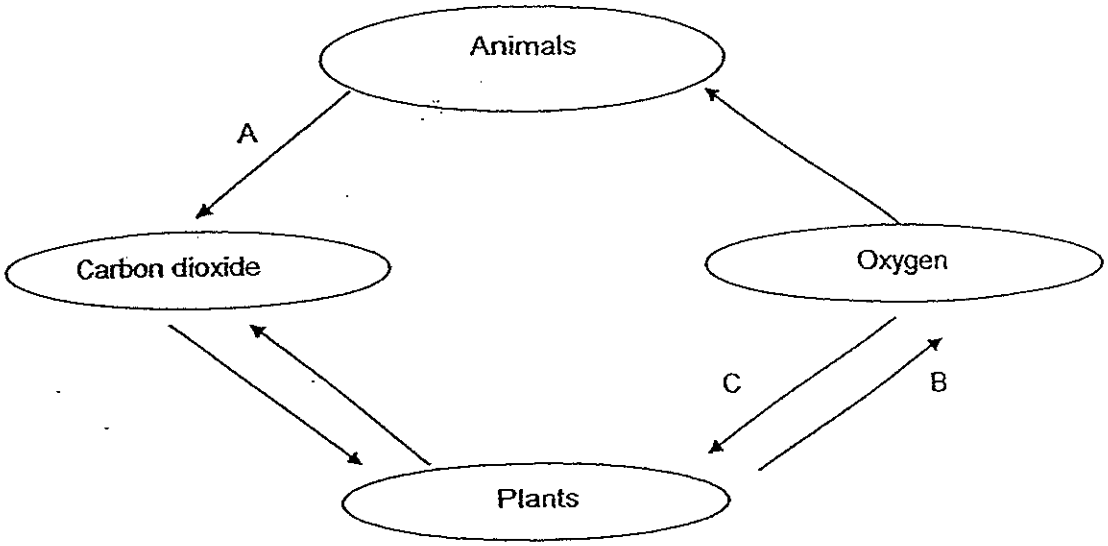




Without the blue-coloured tubes, X cannot be absorbed by Y to be transported to Z. Which of the following could X, Y and Z represent?

	X	Y	Z
(1)	Food	Roots	Leaves and other parts of the plant
(2)	Food	Leaves	Other parts of the plant
(3)	Water and mineral salts ✓	Roots ✓	Leaves and other parts of the plants ✓
(4)	Water and mineral salts	Leaves	Other parts of the plants

13. The diagram below shows gaseous exchange occurring in living organisms.



What one of the following represents processes A, B and C?

	A	B	C
(1)	Breathing	Photosynthesis	Photosynthesis
(2)	Respiration	Photosynthesis	Respiration
(3)	Breathing	Respiration	Photosynthesis
(4)	Respiration	Breathing	Photosynthesis

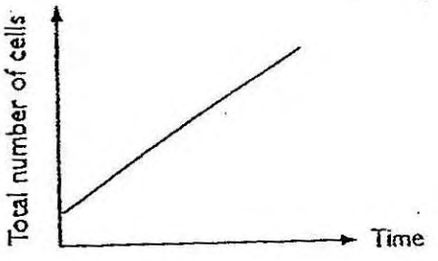
14. Charlene goes for a jog at the exercise park. Which of the following happens while she is jogging?

A: Her heart rate increases.
B: Her oxygen intake decreases.
C: Her leg muscles contract and relax.
D: Her skin temperature becomes greater than her body temperature.

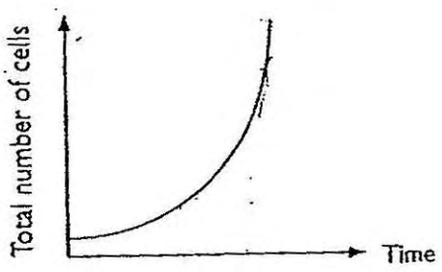
(1) A and C only
(2) A, B and C
(3) A, C and D
(4) All of the above

15. Which one of the following graphs shows the change in the total number of cells over time when a cell of a bacterium starts to divide?

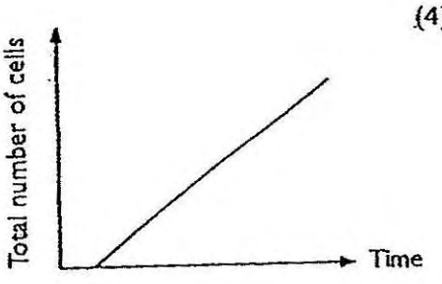
(1)



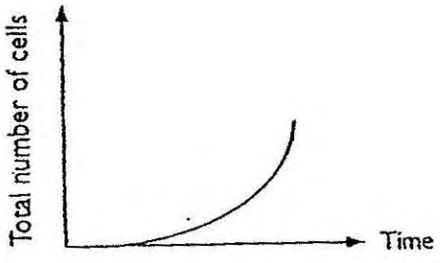
(2)



(3)



(4)



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CONTINUAL ASSESSMENT 2014
PRIMARY 6
SCIENCE

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

INSTRUCTIONS TO CANDIDATES

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

Follow all instructions carefully.

Answer all questions.

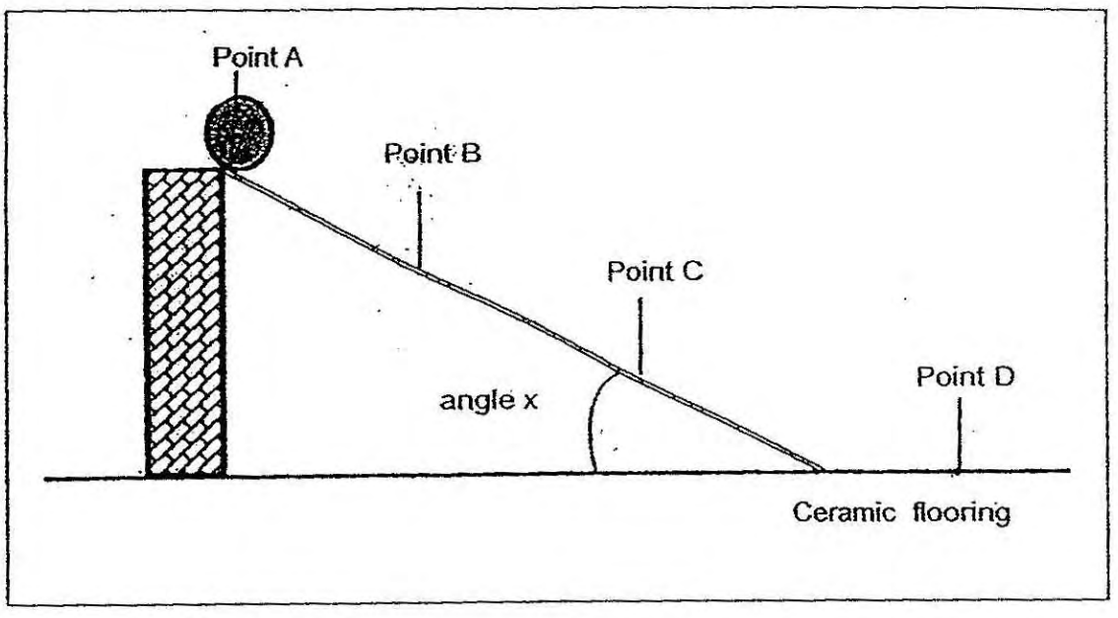
Name: _____

Class: Primary 6._____

Date: 6 March 2014

This booklet consists of 15 printed pages including this page.

16. A marble was released at Point A as shown in the diagram below. It rolled down the ramp until it reached Point D.



Four pupils then made the following statements:

Mandy:	The marble has the greatest amount of gravitational potential energy at Point A.
Ravi:	At Point A to C, the marble only has kinetic energy since it is moving.
Susan:	The marble will travel a shorter distance if the experiment is done on carpeted flooring.
Erikson:	The marble will travel a longer distance if the angle x is smaller.

Which of the above statements are correct?

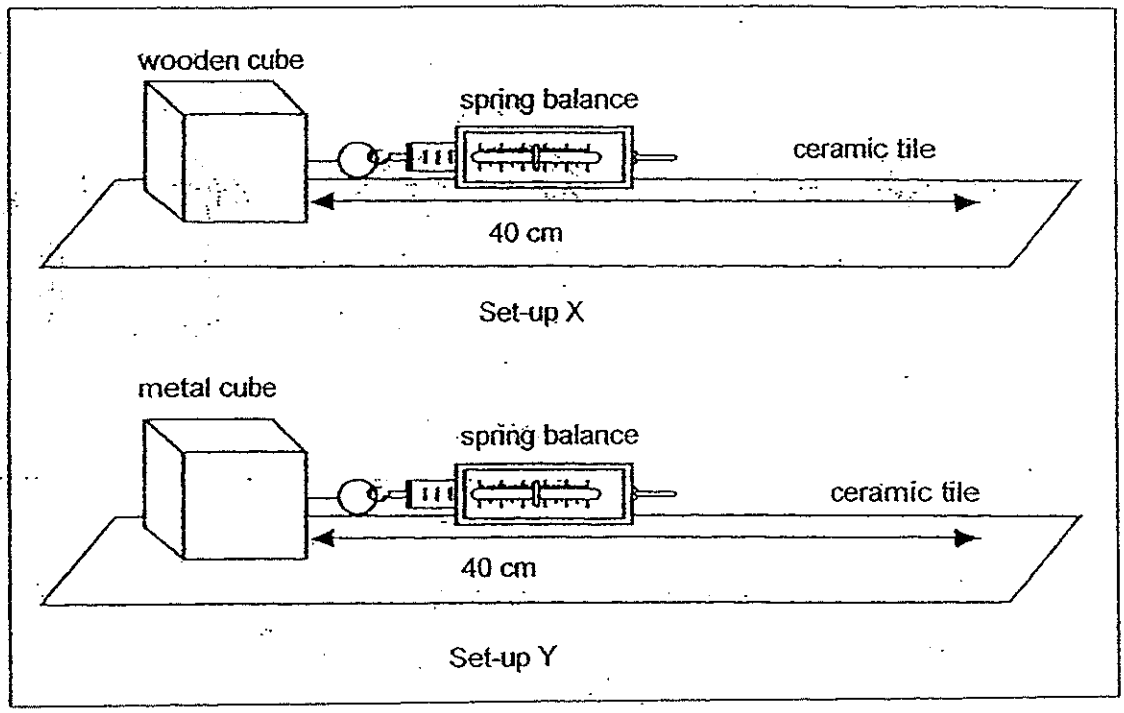
(1) Mandy and Ravi

(2) Ravi and Susan

(3) Mandy and Susan

(4) Ravi, Susan and Erikson

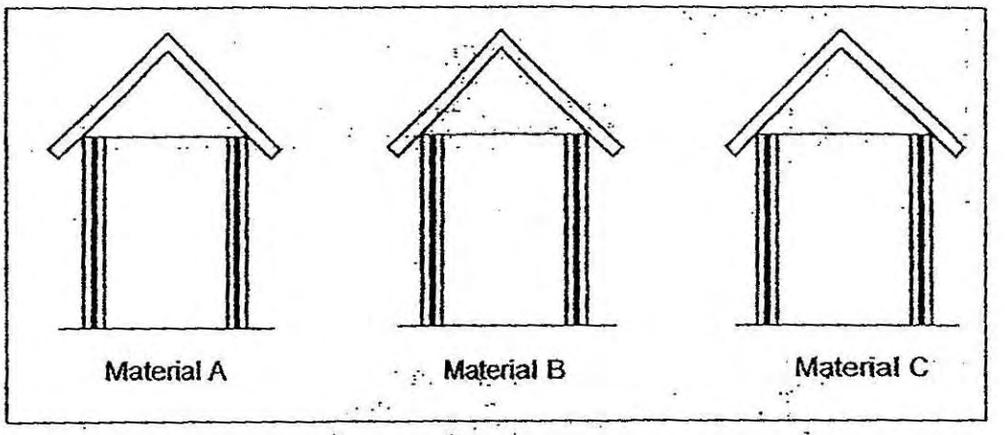
17. Linda set up the following experiment to find out if the type of surface affects the amount of force needed to move a metal cube over a certain distance.



Her teacher commented that she should change some variables in Set- up X in order to ensure that it is a fair test. Which of these variables in Set- up X should she change?

	Variable 1	Variable 2
(1)	Replace the wooden cube with a metal cube	Replace the ceramic tile with a marble tile
(2)	Use shorter distance of 35 cm	Use 2 spring balances to move the cube
(3)	Replace the metal cube with a smaller one	Replace the ceramic tile with a marble tile
(4)	Use a longer distance of 55 cm	Use 2 spring balances to move the cube.

18. Ben built 3 model houses to compare the heat conductivity of materials A, B and C as shown in the following diagram. He then placed the model houses outdoors on 3 different days. The temperature inside the model houses was then recorded in the table below.

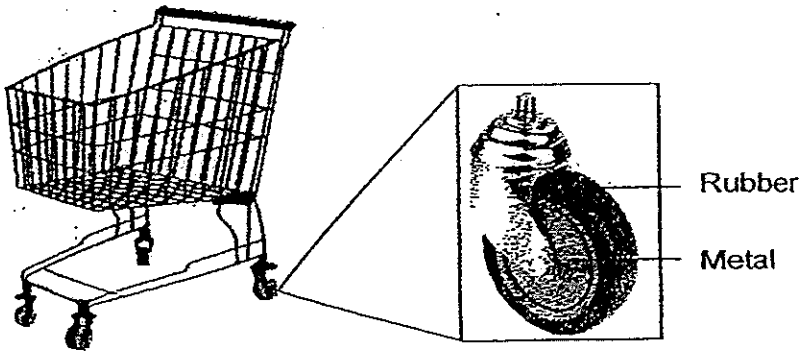


Day	Temperature outside the model house /°C	Temperature inside the model house/ °C		
		Material A	Material B	Material C
Day 1	32.5	28	29.5	31
Day 2	33	29	30	31.5
Day 3	31	27.5	28	29.5

Which one of the following shows the correct heat conductivity of the 3 materials?

	Heat Conductivity: Good ← → Poor		
(1)	A	B	C
(2)	C	B	A
(3)	C	A	B
(4)	A	C	B

19. Siva used a trolley to carry some heavy boxes across the room. The trolley has four metals wheels covered with a layer of rubber as shown in the diagram. One of the rubber coverings in the wheels came off and scratched the ceramic tiles while the other wheels did not scratch the tiles.



Which is the correct conclusion Siva can make?

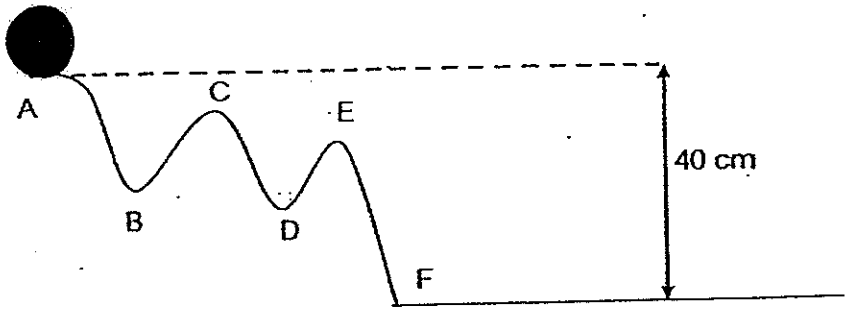
(1) Metal is heavier than rubber.

(2) Metal is harder than ceramic.

(3) Ceramic is smoother than rubber.

(4) There is no friction between ceramic and rubber.

20. Xiao Wei released a ball from position A to F as shown in the following diagram.



At which of the following point(s) on the slope would the **gravitational** force acting on the ball be the same as that of position C?

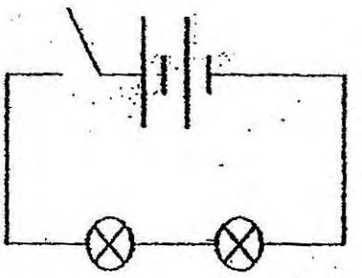
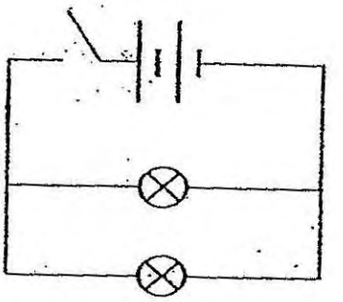
(1) A only

(2) A and E only

(3) B and D only

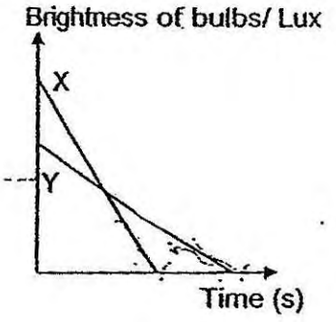
(4) A, B, D, E and F

21. Jenny set up the 2 circuits, X and Y, as shown below. Both switches in the circuits are closed at the same time. A data logger was used to measure the brightness of the bulbs for a period of time until the power in the batteries ran out. She also recorded the length of time that the bulbs remained lit.

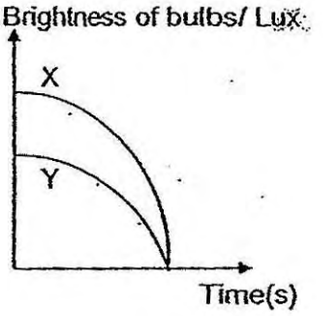
Circuit X	Circuit Y
	
Number of hours bulbs remain lit : 9h	Number of hours bulbs remain lit : 7h

Which one of the following graphs correctly represents the change in brightness of bulbs in circuit X and Y with time?

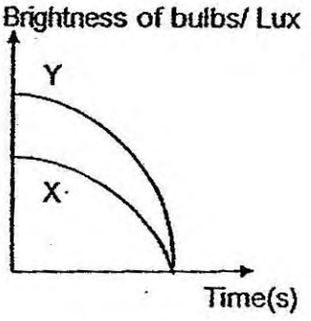
(1)



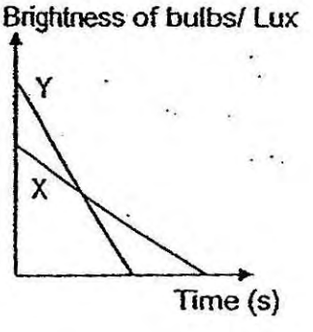
(2)



(3)



(4)



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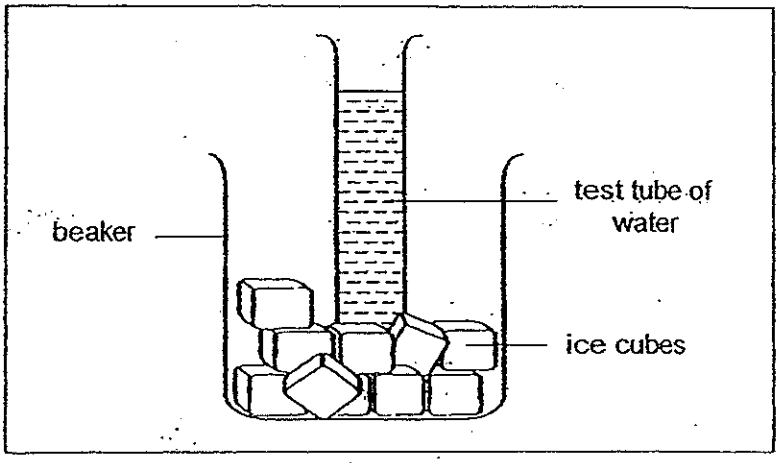
22. Ahmad set up an experiment in a Science Laboratory as shown in the following diagram.



Which of the following are most likely to be observed after <u>5 minutes</u>?

A: Some ice cubes will slowly change its state.

B: The test tube of water will slowly change its state

C: The temperature of water in the test tube will drop.

D: Both the test tube of water and the ice cubes will reach room temperature

(1) A and B only

(2) A and C only

(3) B and D only

(4) A, B and C only

23. The table below shows the states of four substances W, X, Y and Z at different temperatures.

Substance	State of substance		
	30°C	60°C	90°C
W	Liquid	Liquid	Gas
X	Solid	Liquid	Gas
Y	Liquid	Liquid	Liquid
Z	Solid	Solid	Solid

Which of the following statements is correct?

(1) The boiling point of Substance W is the highest.
(2) The boiling point of Substance X is the lowest.
(3) The melting point of Substance Y is the lowest.
(4) The melting point of substance Z is the highest.

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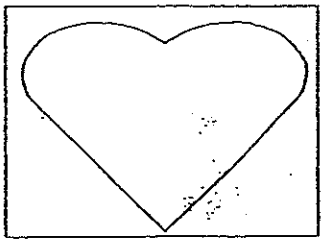
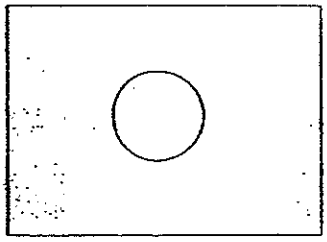
24. Johnny cut out a heart shape from a clear plastic sheet and a circle from a metal sheet of the same size. The two sheets are then glued together.

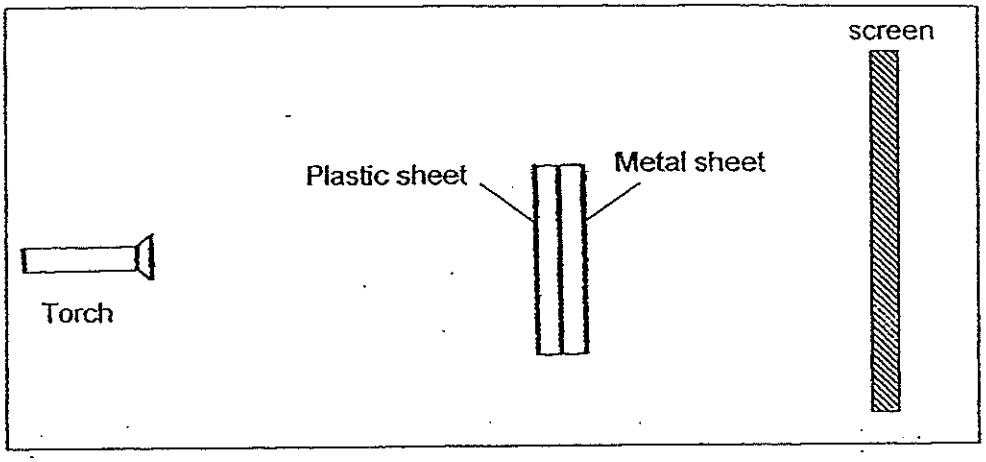


Clear plastic sheet



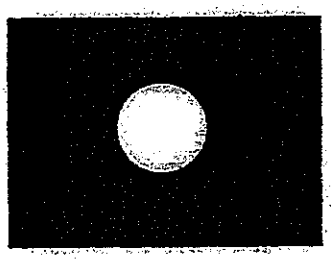
Metal sheet

Johnny then shone a torch at the glued sheets. A shadow was then cast on the screen.

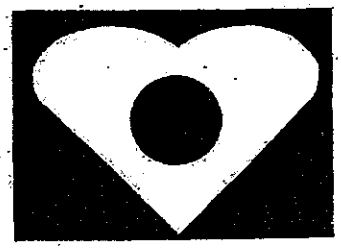


Which one of the following is most likely to be the shadow formed on the screen?

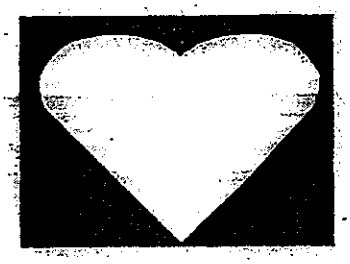
(1)



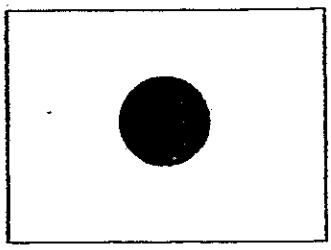
(2)



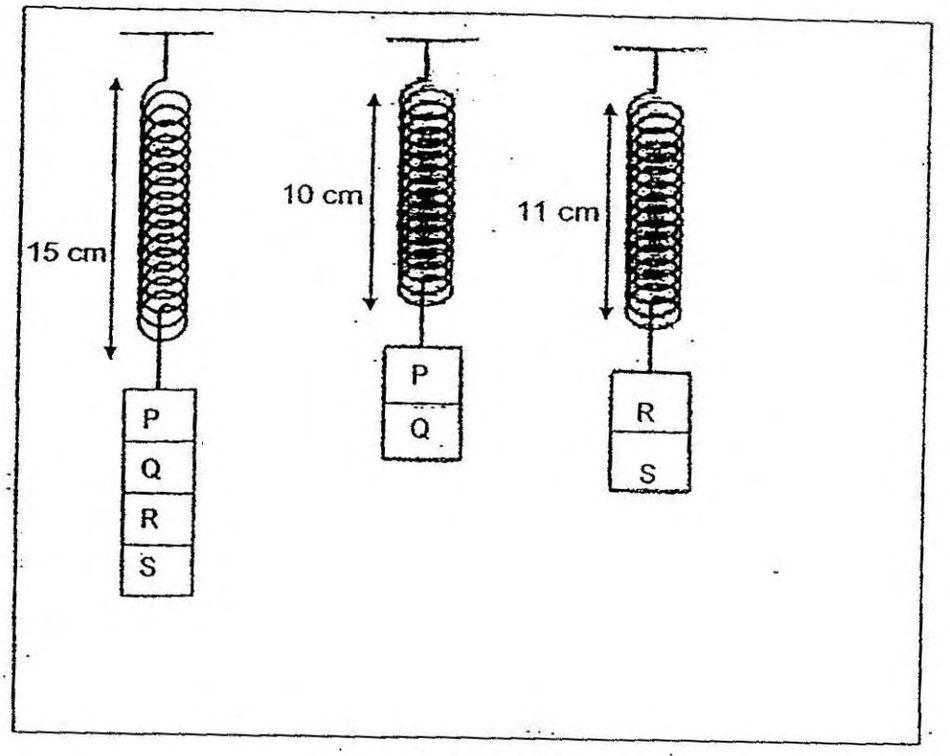
(3)



(4)



25. The diagram below shows the same spring with different amounts of weights, P, Q, R and S hanging on it.



Based on the results shown in the diagram, what is the original length of the spring?

(1) 7 cm
(2) 6 cm
(3) 5 cm
(4) 4 cm

26. Mandy set up the following experiment as shown in the figure below. Four rings, A, B, C and D were placed through a ceramic rod and remained in that position as shown in Figure 1. Mandy then removed ring A and B and added a new ring, Z. She then placed ring A and B back without flipping them.

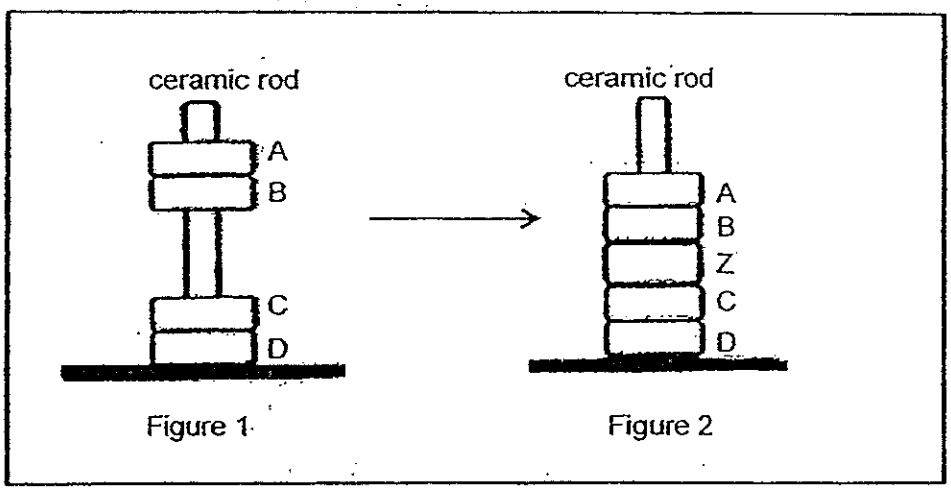
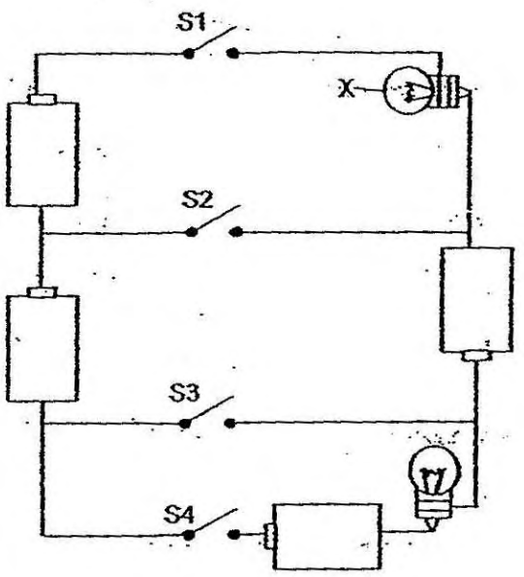


Figure 1 Figure 2

Which one of the following correctly represents A, B, C, D and Z in Figure 2?

	Ring Magnet	Iron Ring	Wooden Ring
(1)	B, D	C, Z	A
(2)	B, C	D, Z	A
(3)	C, D	A,Z	B
(4)	B	C, D	A, Z

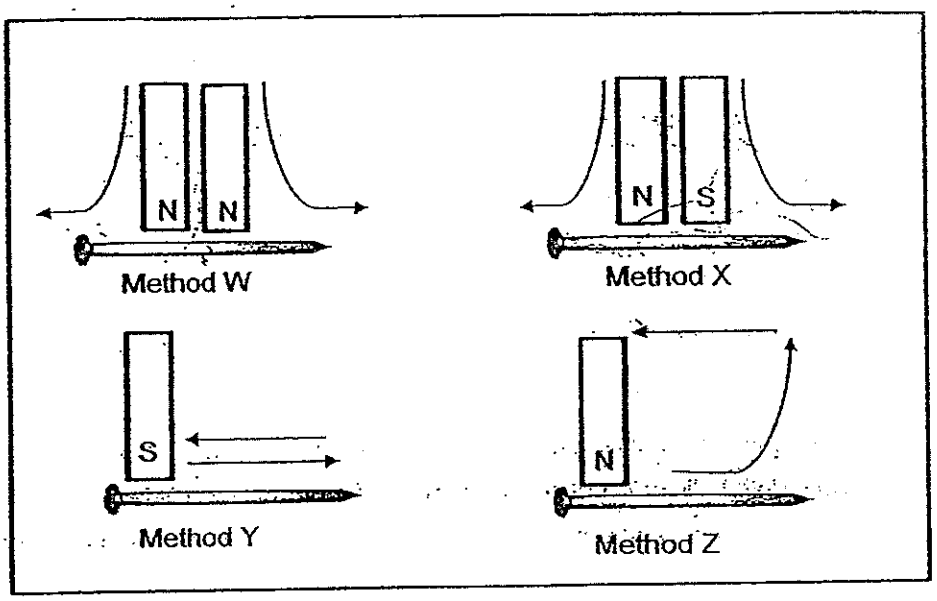
27. The diagram below shows an electric circuit with identical bulbs and batteries.



Which one of the following would ensure that Bulb X is the brightest?

	S1	S2	S3	S4
(1)	Close	Close	Open	Open
(2)	Close	Open	Close	Open
(3)	Open	Close	Open	Close
(4)	Close	Open	Open	Close

28. The following diagrams show the different methods of stroking to make a temporary magnet of a steel nail. The arrow (→) shows the movement of the magnet.



Which of the above methods is/are correct to make a steel nail into a temporary magnet?

(1) Z

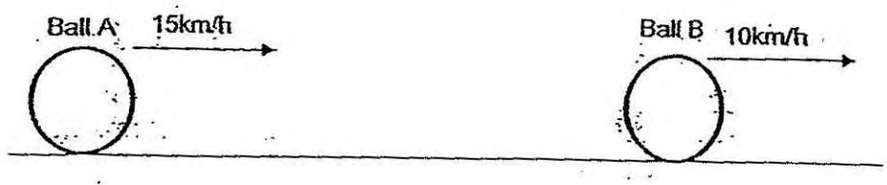
(2) X and Z only

(3) W and Z only

(4) X, Y and Z only

29. Two identical balls, A and B are rolling along a smooth wooden floor at different speeds in the same direction.

Go on to the next page



Four students observed how the balls rolled and made the following statements.

Andy: Both balls possess the same amount of kinetic energy

Betty: Both balls move in the opposite direction after they collide.

Cathy: Both balls will continue moving forward after they collide.

Doris: Both balls possess the same amount of gravitational potential energy

Which of the following statements is/are correct?

(1) Andy

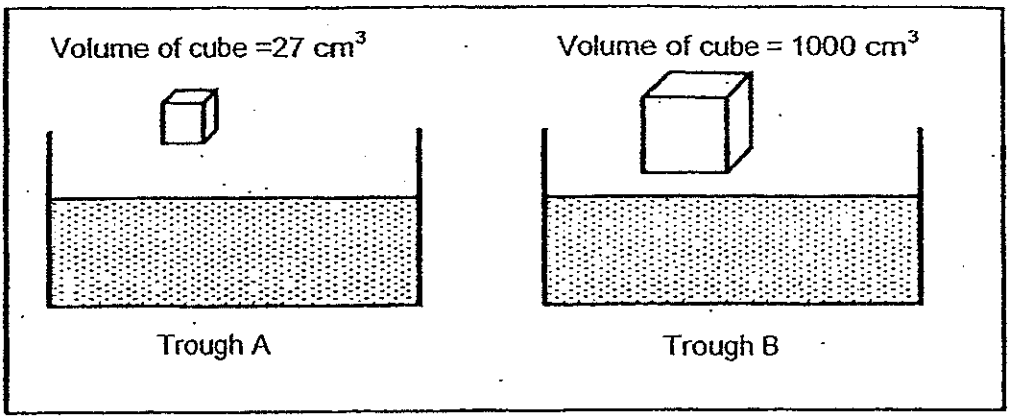
(2) Betty and Cathy

(3) Cathy and Doris

(4) Andy and Betty

Go on to the next page

30. Two metal cubes at room temperature but with different volumes were placed into 2 troughs of hot water of the same temperature as shown in the figure below. Both troughs A and B contain the same amount of water.



After 3 minutes, the metal cubes were removed from both troughs and the temperature of the water in each trough was measured.

Which one of the following observations and reasons is correct?

	Observation	Reason
(1)	The water in trough A has a higher temperature than trough B	The water lost less heat to the metal cube.
(2)	The water in trough B has a higher temperature than trough	The water gained more heat from the metal cube.
(3)	Both the water in trough A and B will have the same temperature	The amount of heat lost by the water in both troughs is the same.
(4)	Both the water in trough A and B will have the same temperature.	The metal cubes do not gain any heat

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CONTINUAL ASSESSMENT 2014
PRIMARY 6
SCIENCE

BOOKLET B1

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

INSTRUCTIONS TO CANDIDATES

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

Name: _____ ( )

Class: Primary 6._____

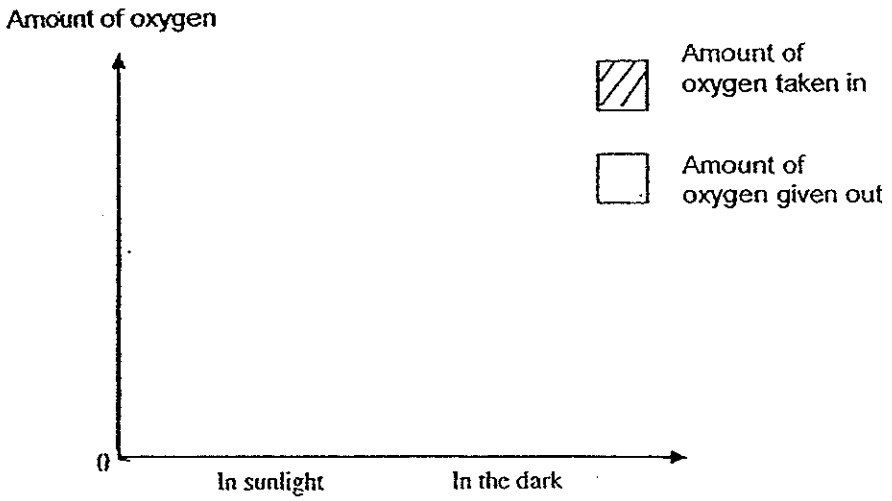
Date: 6 March 2014

Booklet A	/ 60
Booklet B1	/ 20
Booklet B2	/ 20
Total	/ 100

This booklet consists of 9 printed pages including this page.

Part 2 (40 marks)
For questions 31 to 44, write your answers clearly in the space provided.
The number of marks available is shown in the brackets ( ) at the end of each question or part question.

31. The graph below shows the amount of oxygen taken in and given out by a green plant in an open field for 24 hours that covers both day and night, with absence of artificial light.

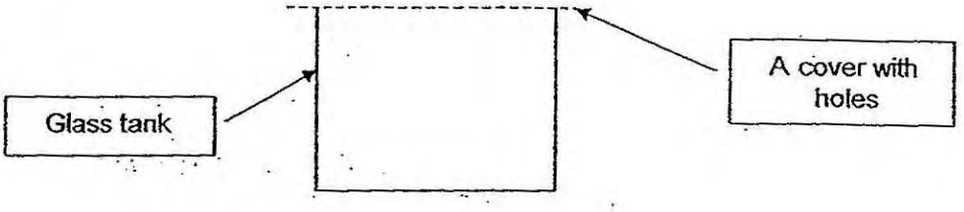


a) Complete the chart, by drawing bar(s), to show the amount of oxygen taken in and given out in sunlight. (1m)

b) Explain your answer in (a). (1m)

Green

32. Animal P was placed in a glass tank with a cover that had small holes in it as shown below.



Thereafter, 8 flies, 15 leaves and a dish of water were placed into the tank, and covered. The table below shows the number of flies and leaves in the tank at 3-hour intervals.

Time	Number of flies	Number of leaves
7am	8	15
10am	8	13
1pm	8	11
4pm	8	9
7pm	8	9
10pm	8	9

a) Why was the dish of water placed in the tank? (1m)

_____

b) Using only the table above, what can you conclude about animal P and the two items in the tank from 7am to 10pm? (1m)

_____

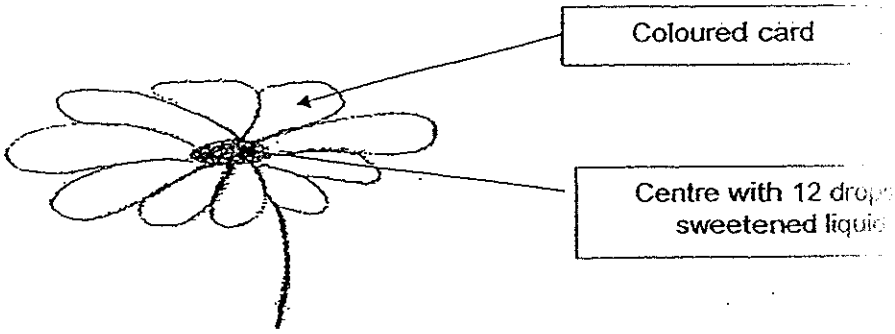
c) How will the outcome in the table differ if animal P was replaced by a frog? (1m)

_____

d) Give a reason for the difference in (c). (1m)

_____

33. Jamilah wanted to find out if butterflies have a preference for the colour of flo... made similar model flowers using different coloured cards. 12 drops of sweete... liquid were put in the centre of each flower. The model flowers were left in the garden.



For three hours, Jamilah counted the number of butterflies that visited the mod... flowers. The results were recorded in the table below.

Colour of flower	Number of butterflies visiting the flower		
	9am - 10am	10am - 11am	11am - 12...
White	7	6	2
Yellow	15	12	5
Red	8	6	1

a) Based on Jamilah's findings, which colour of flower did most of the butterflies prefer? (1m)

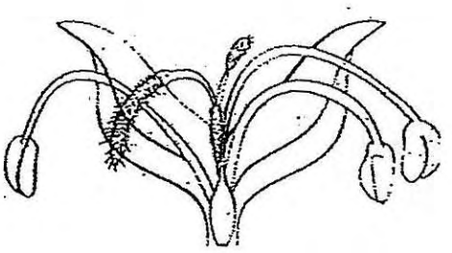
_____

b) Jamilah decided to find out the relationship between the size of the flowers and the number of butterflies visiting the flowers. What changes(s) would she have made? (1m)

_____

_____

While Jamilah was in the garden, she spotted a flower as shown below.



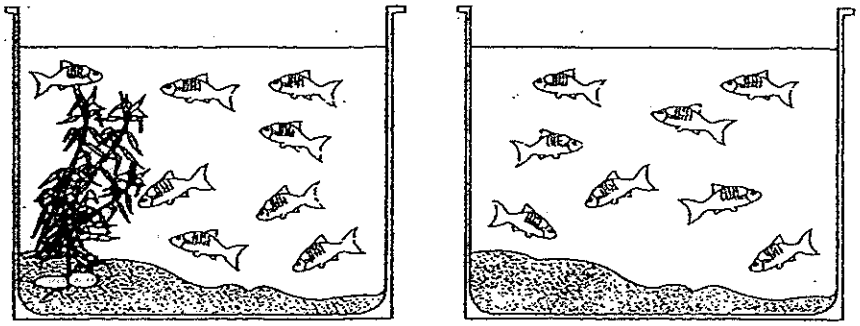
c) Suggest the most likely agent of pollination of this flower. (1m)

_____

d) Give a reason for your answer in (c). (1m)

_____

34. Muthu set up the following experiment with Tank A and Tank B as shown. Both tanks were similar but Tank A had water plants. He allowed the two tanks to stand for three days in a room, on a table near a window.



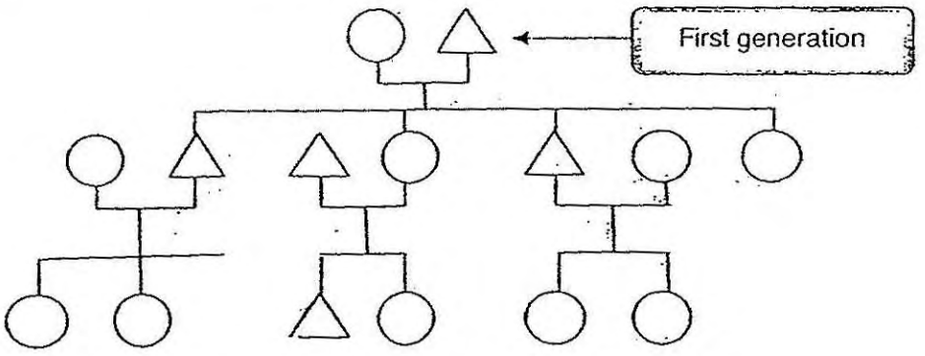
Tank A Tank B

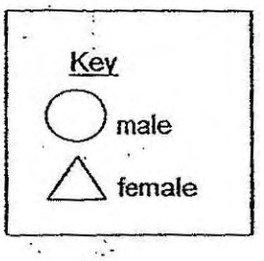
a) He observed that most fishes were swimming near the water surface in Tank B after the third day. Why? (2m)

b) ~~Suggest~~ a reason for your answer in (a). (1m)

b) Did Muthu set up a fair test? Explain your answer. (1m)

35. The family tree of the Tan family is shown below.

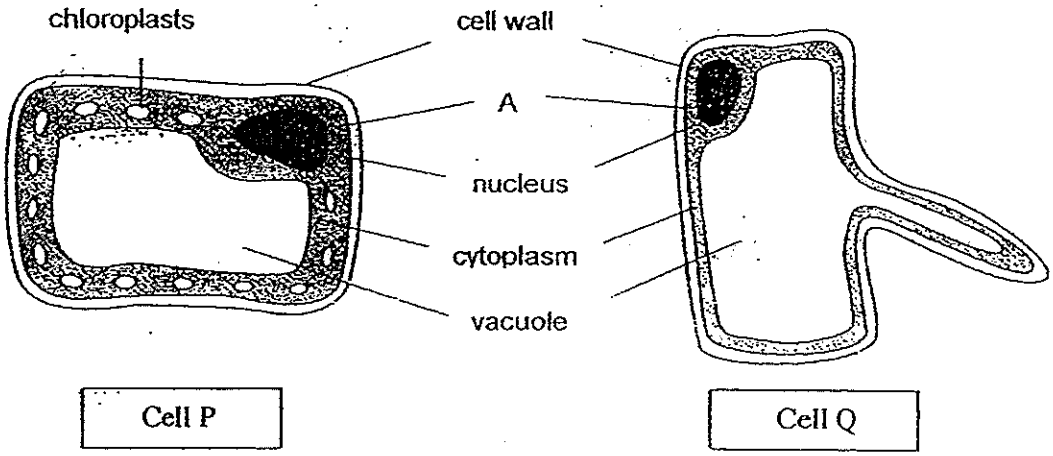




a) Paula is born in the third generation. She has three male cousins. Shade the right shape that represents Paula in the family tree. (1/2m)

b) The unmarried son in the second generation of the family tree later marries and has a son and a daughter. Show these in the family tree by drawing the relevant shapes and lines. (1 1/2m)

36. Two different types of cells, P and Q, from the same plant are shown below.



a) Name structure A and state its function. (1m)

_____

_____

b) Which cell is able to photosynthesise? Explain your answer. (1m)

_____

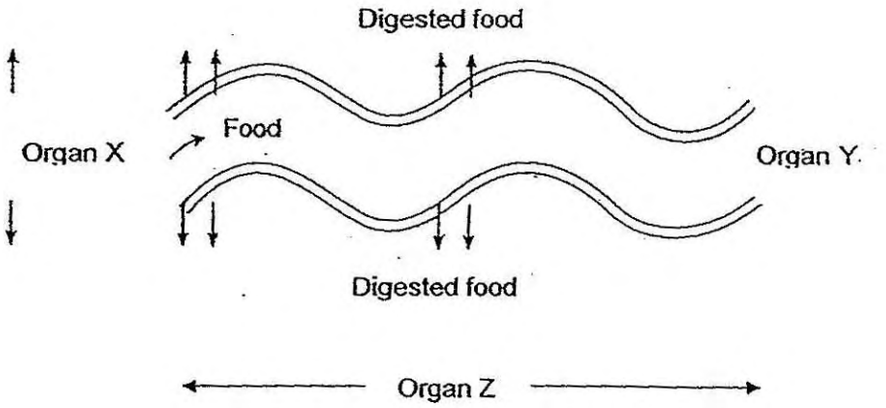
_____

c) In which part of the plant is cell Q likely to be found? Explain your answer. (1m)

_____

_____

37. As food travels from organ X to organ Y in the digestive system of a human body, digested food is absorbed in organ Z as shown below.



a) Name the organs.

Organ X: _____ (1/2m)

Organ Y: _____ (1/2m)

b) If organ Z is shorter, what will happen to the digested food? (1m)

_____

_____

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PRIMARY 6
SCIENCE

BOOKLET B2

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

INSTRUCTIONS TO CANDIDATES

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

Name: _____

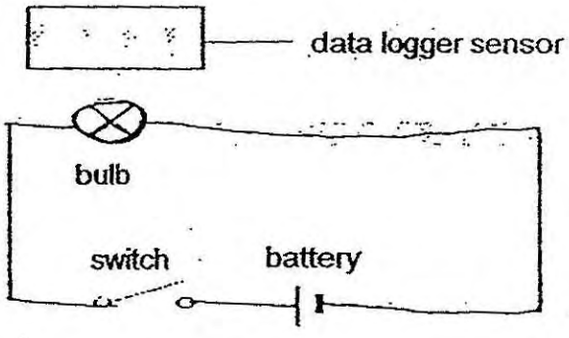
Class: Primary 6._____

Date: 6 March 2014

Booklet A	**/ 60**
Booklet B1	**/ 20**
Booklet B2	**/ 20**
Total	**/ 100**

This booklet consists of 8 printed pages including this page.

38. Ali set up the following experiment to find out if the number of batteries would affect the brightness of the bulb. A data logger sensor was placed at a distance from the bulb to measure its brightness.



Ali then tabulated the results in the following table.

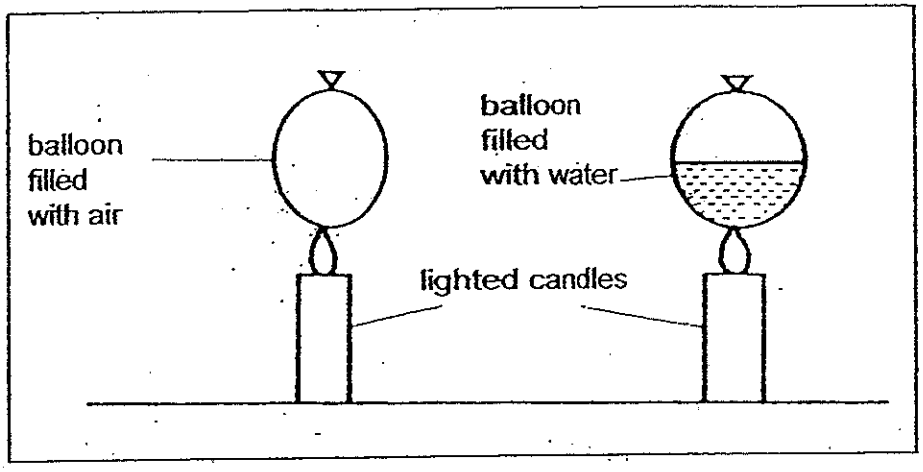
Number of batteries	Brightness (Lux)
0	300
1	400
2	500
3	600

a) Based on the table above, what is the relationship between the number of batteries in the circuit and the brightness of the bulb? (1 m)

b) Ali noticed that there was a reading on the data logger even when there was no battery in the circuit. Suggest a possible reason for his observation. (1m)

c) When a fourth battery is added, the reading on the data logger shows 300 lux. Suggest a possible reason for the decrease in reading. (1m)

39) Cindy set up the following experiment as shown in the Science Laboratory. She inflated two balloons to the same size. Balloon A was completely filled with air and the other was filled with some water. She then placed the balloons on top of a Bunsen ~~burner~~ candle as shown in the following diagram.



a) It is observed that the balloon without water burst first. Explain why (2m)

_____

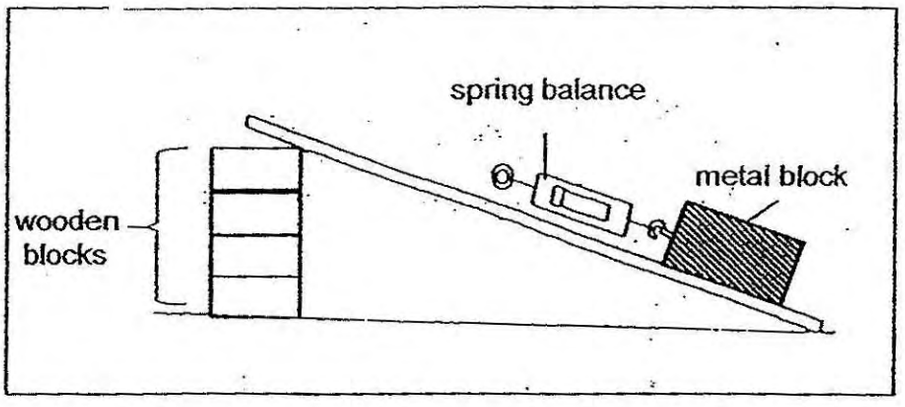
_____

b) Without changing the heat intensity of the Bunsen burner, what can Cindy do to increase the time taken for both balloons to burst? (1m)

_____

_____

40. Jasvinder set up the following by using a spring balance to pull a metal block along a ramp. She then increased the height of the ramp by putting more wooden blocks. Jasvinder then recorded the amount of force needed to pull the metal block up the ramp.



(ai) Give a reason to explain why more force is required to pull the metal block as the height of the ramp increased.

_____

(ii) Without changing the height of the ramp and the mass of the metal block, suggest a way to decrease the amount of force required to pull the metal block up the ramp. (1m)

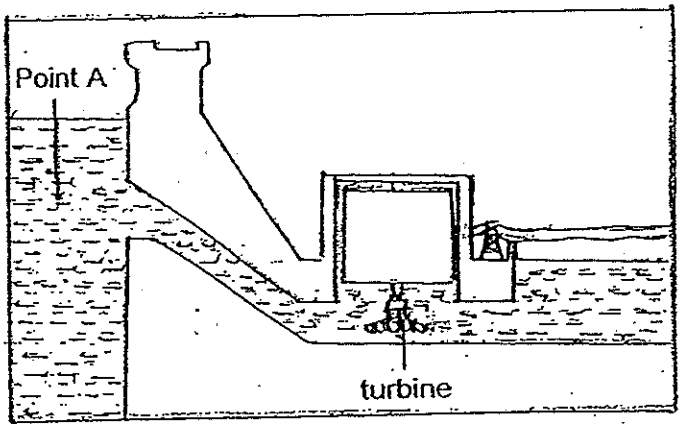
_____

(b) Using the same set up, Jasvinder pulled the metal block down the ramp instead of pulling it up. She observed that the spring balance show a smaller reading compared to pulling the metal block up the ramp. Explain her observation. (1m)

_____

_____

41. The following shows a hydroelectric power station.

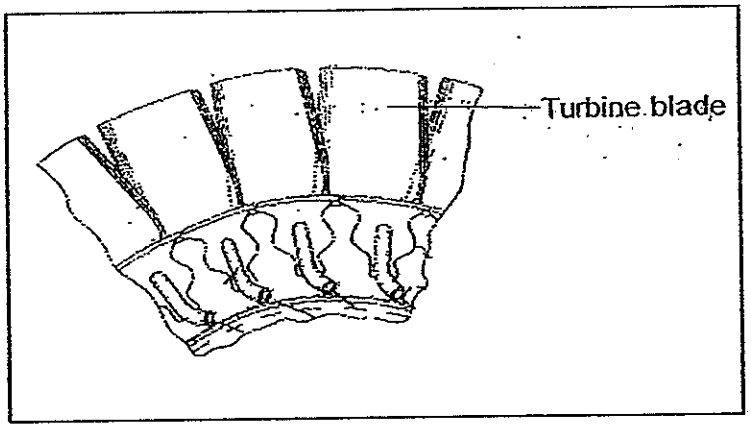


(a) State the energy changes which occur in the hydroelectric power station by filling in the following blanks (1m)

_____ energy → _____ energy → _____ energy →
(water from Point A) (running water) (turbine)

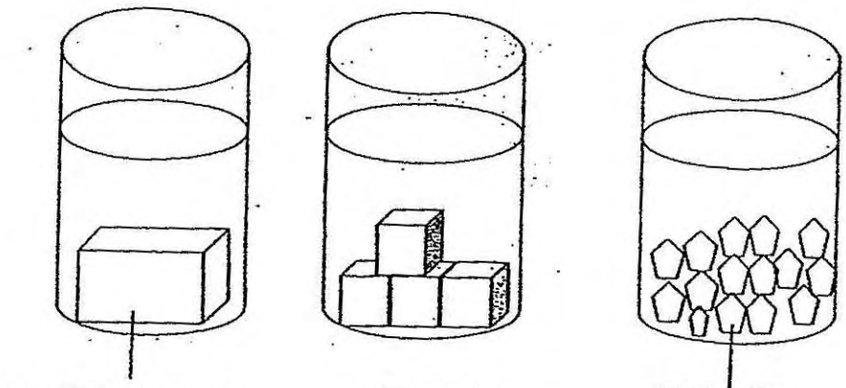
_____ energy
(generator)

(b) The following shows a closed up view of the blades of the turbine



(i) Assuming that all variables remain the **same**, how would the amount of power generated by the hydroelectric station change if **heavier** turbine blades are used. Explain your answer.
(2m)

42. Li Yen conducted an experiment to investigate the melting of ice in hot coffee. Equal amount of hot coffee of the same temperature was poured into containers A, B and C. The same volume of ice was then added to the coffee. After 5 minutes, the temperature of the coffee was recorded.



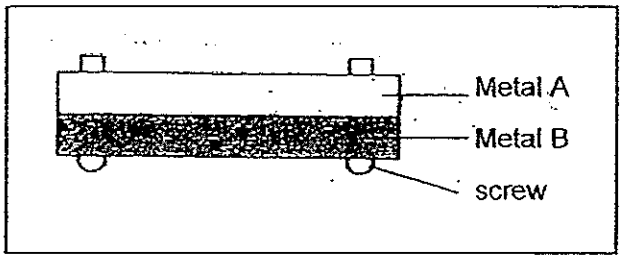
a) Arrange the containers of coffee above in <u>ascending</u> order of their temperatures after 5 minutes. Explain your answer. (2m)

_____

_____

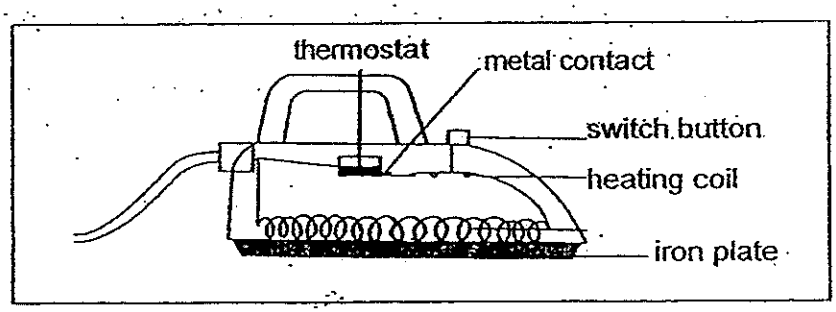
_____

43. As shown in the following diagram, a thermostat is made of two different metals A and B, which are joined together. The two ends of the metals are fixed with a screw so that the ends will always be in line with each other. When the thermostat is heated, one metal expands more and it will cause the thermostat to bend.

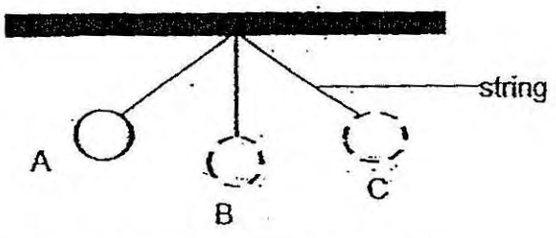


(a) Given that metal B expands more than metal A, draw in the space below to show what the thermostat will look like when it is heated.

(b) The thermostat can be found in an electric iron to control its temperature as shown in the following diagram. Explain how the thermostat works.



44. Mr Lim released a pendulum from Point A to find out the amount of time it took to make 20 complete swings (from A to B to C and back to A again) by varying the lengths of the string.



He recorded the data as shown in the following table.

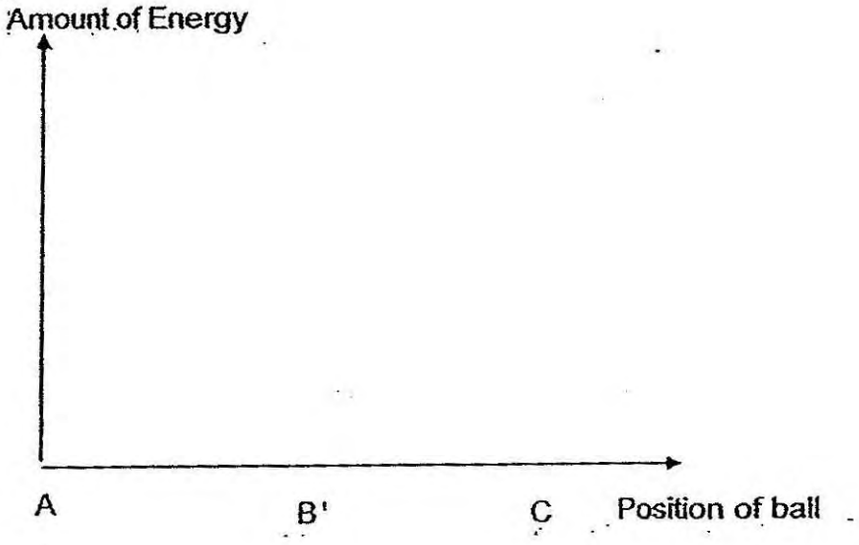
Length of string	Time taken to make 20 complete swings
30	21.8
25	20
20	17.8
15	15.4
10	12.6

a) What is the relationship between the length of the string and the time taken to make 20 complete swings? (1m)

_____

_____

b) In the diagram below, draw **2 line graphs** to represent the amount of kinetic energy and gravitational potential energy as the pendulum swing from A to B and to C. **Label** the 2 graphs as "KE" and "GPE" accordingly. (2m)



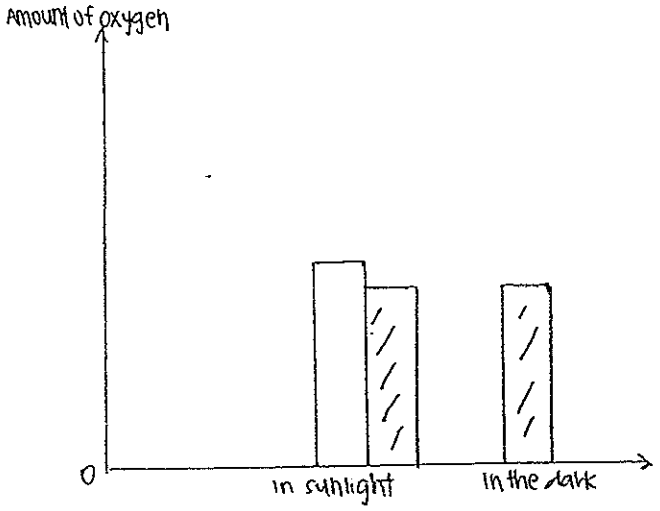
End of Paper

Exam Paper 2014 Answer Sheet

School: METHODIST GIRLS' SCHOOL
Subject: PRIMARY 6 SCIENCE
Term: CA1

1) 4	6) 2	11) 3	16) 3	21) 4	26) 2
2) 3	7) 3	12) 3	17) 1	22) 2	27) 2
3) 3	8) 1	13) 2	18) 2	23) 4	28) 2
4) 3	9) 1	14) 1	19) 2	24) 1	29) 3
5) 1	10) 1	15) 2	20) 4	25) 2	30) 1

31. (a)



(b) Oxygen is taken in by the plant all the time for respiration. More oxygen is given out by the plant during photosynthesis which occurs only during the day.

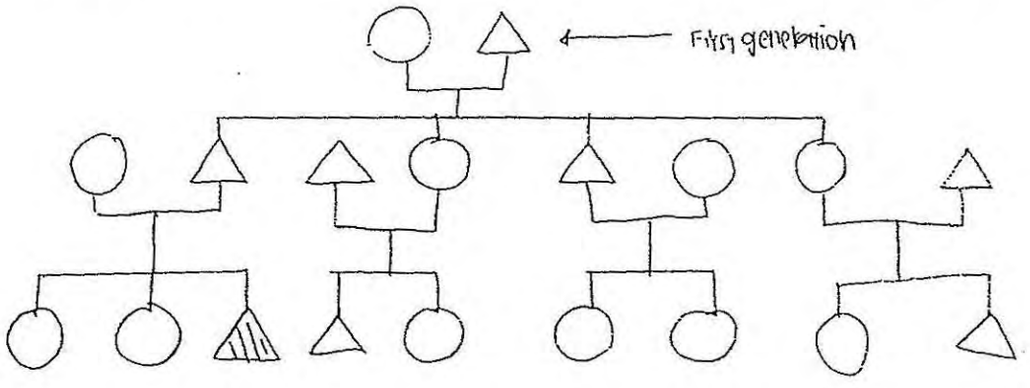
32. (a) Animal P is a living thing and needs water, air and food to survive.
(b) Animal P only feeds on leaves, so the number of leaves will decrease but the number of flies remained the same.
(c) The number of leaves will remain the same and the number of flies will decrease.
(d) Frogs feed on flies and not leaves whereas Animal P feeds on leaves and not flies.

33. (a) Yellow colour.
(b) She should change the colour of the flowers all to one colour and change the size of the flowers.
(c) The wind.
(d) The anthers of the flower are hanging out of the petals, making it easier for the wind to blow the pollen grains made by the anthers to the stigma of another flower.

34. (a) There are no water plants in tank B to provide oxygen for the fishes so the fishes had to swim near the water surface to breathe in oxygen.

(b) Yes as all the variables except the presence of water plants were kept the same.

35.



36. (a) Cell membrane, it allows only certain substances to come in and out of the cell.

(b) Cell P. It has chloroplasts to trap sunlight and make food.

(c) The roots of the plant. It does not need chloroplasts as it absorbs water and mineral salts from the soil.

37. (a) X: stomach

Y: large intestine

(b) Not all or less digested food will be absorbed by the body.

38. (a) The more the number of batteries, the brighter the bulb.

(b) The reading on the data logger sensor is the amount of brightness of the room the experiment is conducted in.

(c) There is too much electricity flowing to the bulb, causing the bulb to fuse.

39. (a) The water in the balloon gained heat from the candle so the balloon will not burst.

(b) Big balloons increase the distance between the balloons and the flames.

40. (a) i. More force is needed to overcome the pull of gravity which is acting on the ball as it is being pull up along the ramp.

ii. Change the material of the ramp to a smoother material.

(b) When he pulls the metal block down the ramp, it is moving in the same direction of gravity.

41. (a) Gravitational potential; kinetic; kinetic; electrical

(b) i. Since heavier turbines are used, more energy is needed to move them.

42. (a) C, B, A. The more the number of cubes and ice, the more surface area is in contact with the water, causing the water to lose heat fast.

43. (a)

(b) When the temperature of the iron is too hot, the thermostat will bend upwards and no longer be in contact with the metal conduct. This creates an open circuit and electricity will not continue to heat up.

44. (a) The longer the string, the longer the time taken to make 20 complete swings.

(b)