CATHOLIC HIGH SCHOOL
PRIMARY 4
SEMESTRAL EXAMINATION 2
2012

SCIENCE

Name:_____

Class : Primary 4 _____

Date : 25 October 2012

30 Questions
60 Marks

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

Instructions to Candidates

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

Downloaded from SingaKids.com

Downloaded from SingaKids.com

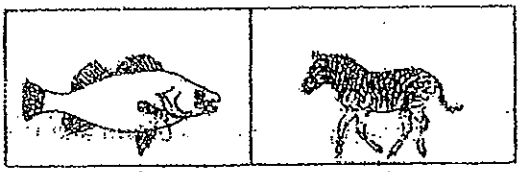
Section A: Multiple Choice Questions (60 marks)

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

1. Which pair of living things below is correctly classified?

	Non-flowering Plants	Fungi
(1)	Bird's Nest Fern	Algae
(2)	Mimosa	Yeast
(3)	Staghorn Fern	Toadstool
(4)	Cactus	Moss

2. The diagrams below show Organisms X and Y.



Organism X Organism Y

How are Organisms X and Y similar?

(1) Both need water to survive.
(2) Both reproduce by laying eggs.
(3) Both need sunlight to make food.
(4) Both have the same outer covering.

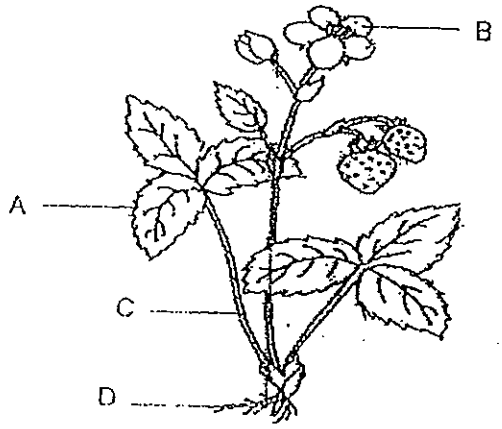
3. The leaves of a healthy potted plant are coated with oil. This plant will not remain healthy for long because _____.

(1) no food can be made
(2) no water can be taken in
(3) no mineral salts can be taken in
(4) no exchange of gases can take place

33

Downloaded from SingaKids.com

4. Rong Jun showed Mei Hua a plant. Then he pointed at one part of the plant and said that it was the part which made food.



Which part of the plant do you think he was pointing at?

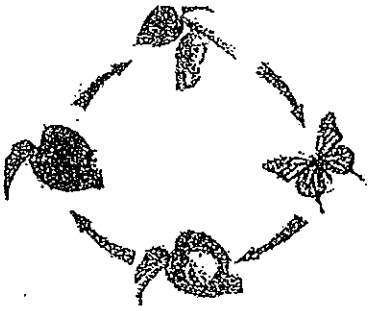
(1) A
(2) B
(3) C
(4) D

5. The diagrams below show the life cycles of two animals.

Animal A



Animal B

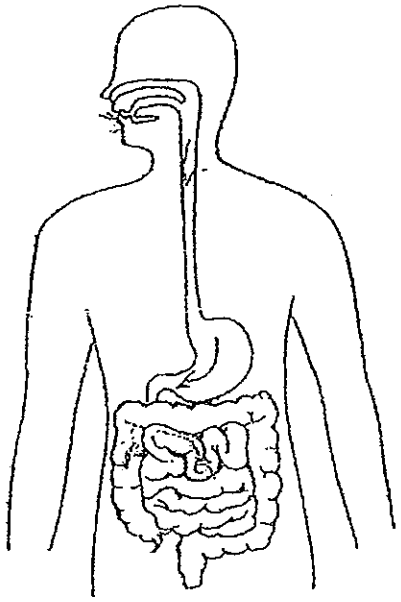


Which one of the following statements best describes both animals A and B?

(1) Both animals lay their eggs in water.
(2) Both animals take care of their young.
(3) Animal A has feelers but animal B has no feelers.
(4) The young of both animals do not look like their adults.

Downloaded from SingaKids.com

6. Digestion takes place in a long tube-like canal called the digestive tract as shown below.



Which one of the following is the correct order in which food travels?

(1) Mouth → gullet → stomach → small intestine → large intestine
(2) Mouth → stomach → gullet → small intestine → large intestine
(3) Mouth → gullet → stomach → large intestine → small intestine
(4) Mouth → stomach → gullet → large intestine → small intestine

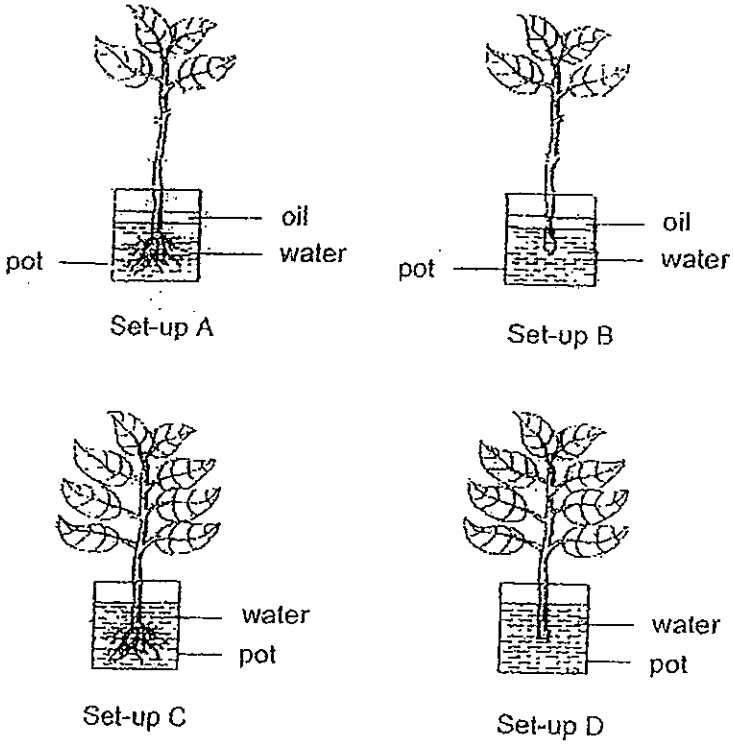
7. What is the function of the blood vessels in a human body?

(1) Pump blood to the heart.
(2) Remove impurities from the heart.
(3) Carry blood to all parts of the body.
(4) Send messages from the brain to the muscles

85

Downloaded from SingaKids.com

8. Ming Lun was given four different set-ups as shown below. His teacher asked him to conduct an experiment to show that the roots of a plant take in water.

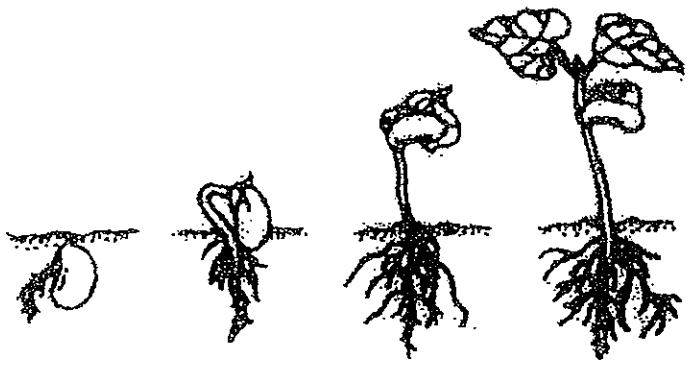


Which two set-ups should Ming Lun use in his experiment to ensure that it is a fair test?

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

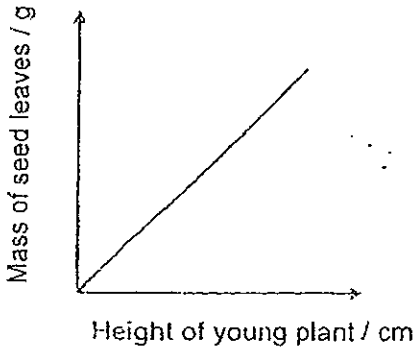
Downloaded from SingaKids.com

9. The picture below depicts 4 different stages of a young plant's growth.

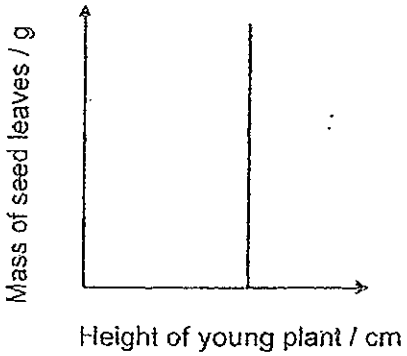


Which one of the following graphs shows the effect of the plant's growth on the mass of the seed leaves?

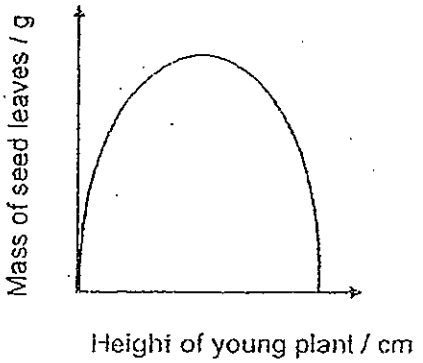
(1)



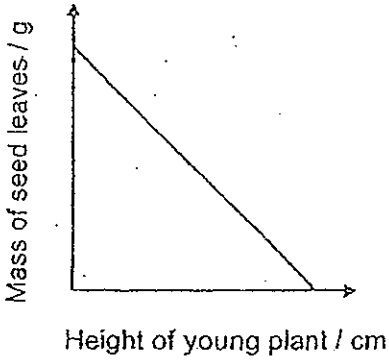
(2)



(3)



(4)



37

Downloaded from SingaKids.com

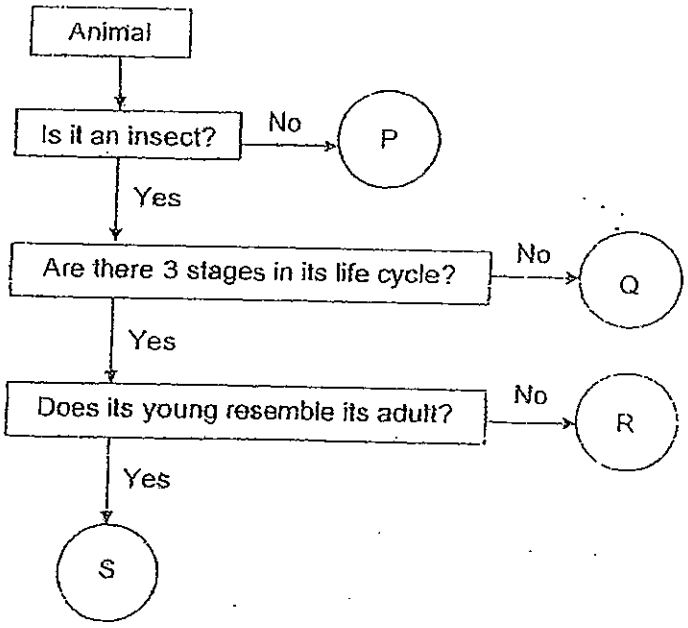
10. The table below shows some objects which have been categorised under 3 different groups X, Y and Z.

Group X	Group Y	Group Z
shirt	book	nail
handkerchief	newspaper	window grill

These objects have been classified according to _____.

(1) how heavy they are
(2) what they are used for
(3) what they are made of
(4) how much light is allowed to pass through

11. Study the flowchart below.

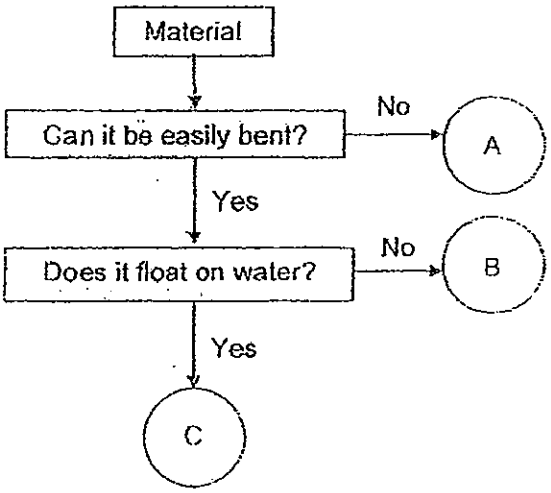


Which one of the following animals could S be?

(1) Chick
(2) Butterfly
(3) Mealworm
(4) Cockroach

Downloaded from SingaKids.com

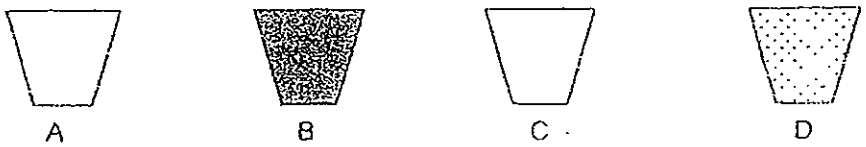
12. The flowchart below shows the properties of some objects.



What could Objects A, B and C represent?

	A	B	C
(1)	Rubber band	Glass mirror	Paper boat
(2)	Scissors	Pebble	Washing sponge
(3)	Iron nail	Metal ruler	Rubber duck
(4)	Plastic book cover	Wooden peg	Swimming float

13. Bao Ren used 4 similar cups, A, B, C and D which are made from different materials. He poured an equal amount of hot water in each of the cups. Which one of the following cups of water will take the shortest time to reach room temperature?

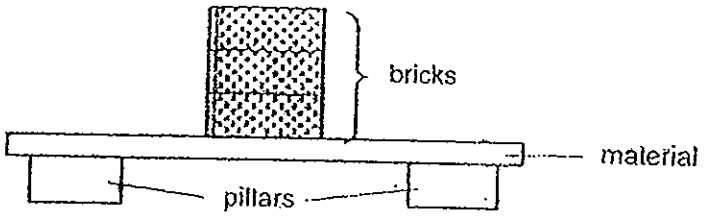


(1) glass (2) metal (3) ceramic (4) styrofoam

89

Downloaded from SingaKids.com

14. Jeff carried out an experiment as shown in the diagram below. Material A was placed on top of the two pillars. Bricks were then stacked one at a time until Material A broke.



Jeff repeated the experiment using different materials B, C and D, one piece at a time. Similarly, a brick was stacked, one on top of another until that particular material broke. He recorded the results in the table below.

Materials	Number of bricks put on each material before it broke
A	4
B	5
C	2
D	3

Which statement best describes the aim of Jeff's experiment?

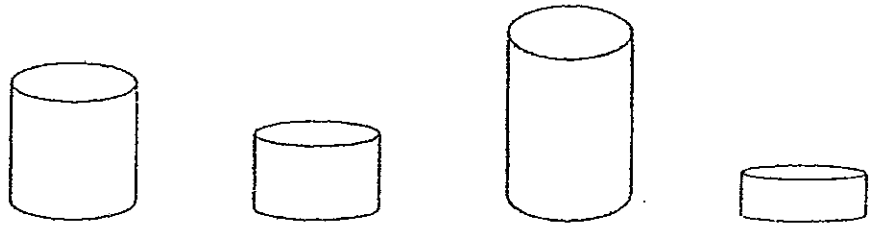
(1) To find out the strength of different pillars.
(2) To find out which material is the strongest.
(3) To find out if the number of bricks affects the flexibility of the materials.
(4) To find out if the number of bricks affects the hardness of the materials.

15. A permanent magnet loses its magnetism when it has been _____.

(1) disconnected from a battery
(2) put into a basin of cold water
(3) stroked by a temporary magnet
(4) dropped several times on a hard floor

Downloaded from SingaKids.com

16. Wilson had four magnets as shown below. He brought them close to some paper clips.



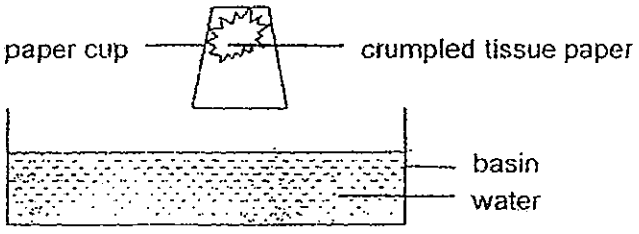
He observed the number of paper clips attracted by each magnet and recorded the results in the table below.

	Magnet A	Magnet B	Magnet C	Magnet D
Number of paper clips attracted	17	11	15	25

What can he conclude from the results above?

(1) Magnet C is stronger than Magnet A.
(2) The strength of a magnet depends on its shape.
(3) Smaller magnets are stronger than bigger magnets.
(4) The strength of a magnet does not depend on its size.

17. A paper cup is inverted and slowly inserted into a basin of water. However, the water does not enter the cup and wet the crumpled tissue paper.



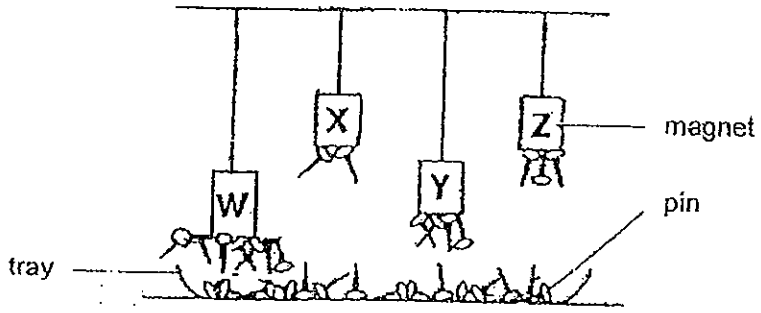
This experiment shows that _____.

(1) water cannot be compressed
(2) the volume of water has decreased
(3) the tissue paper has a definite shape
(4) air has occupied the space within the cup

91

Downloaded from SingaKids.com

18. Mabel hung four magnets, W, X, Y and Z from strings of four different lengths and then placed a tray of pins below the magnets as shown in the diagram below. She observed the number of pins attracted to each magnet.



What can Mabel conclude based on her observations?

(1) Magnet X is the weakest.
(2) Magnet W is the strongest.
(3) Magnet Y is stronger than Magnet Z.
(4) Magnet Z is stronger than Magnet X.

19. The table below shows the properties of 3 objects, U, V and W.

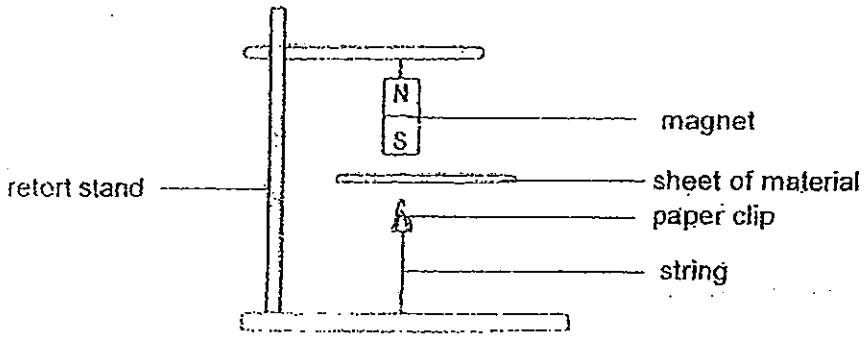
Object	Has definite shape	Has definite volume	Can be compressed
U	No	No	Yes
V	No	Yes	No
W	Yes	Yes	No

Which one of the following represents U, V and W correctly?

	U	V	W
(1)	Oxygen	Lime juice	Stapler
(2)	Watch	Saliva	Air
(3)	Coffee	Ice Cream	Gas
(4)	Carbon dioxide	Sandwich	Water

Downloaded from SingaKids.com

20. Sam hung a magnet from a retort stand as shown below. He then placed sheets E, F, G and H, made from different materials between the magnet and the paper clip.



When he placed Sheets E or F between the magnet and the paper clip, he noticed that the paper clip floated in the air.

When he placed Sheets G or H between the magnet and the paper clip, he noticed that the paper clip dropped to the ground.

In order to ensure a fair test, which one of the following variables does not need to be kept constant?

(1) Size of the magnet
(2) Colour of the paper clip
(3) Thickness of the sheet of material
(4) Distance between the magnet and the paper clip

21. The sentences below are extracted from Jason's diary.

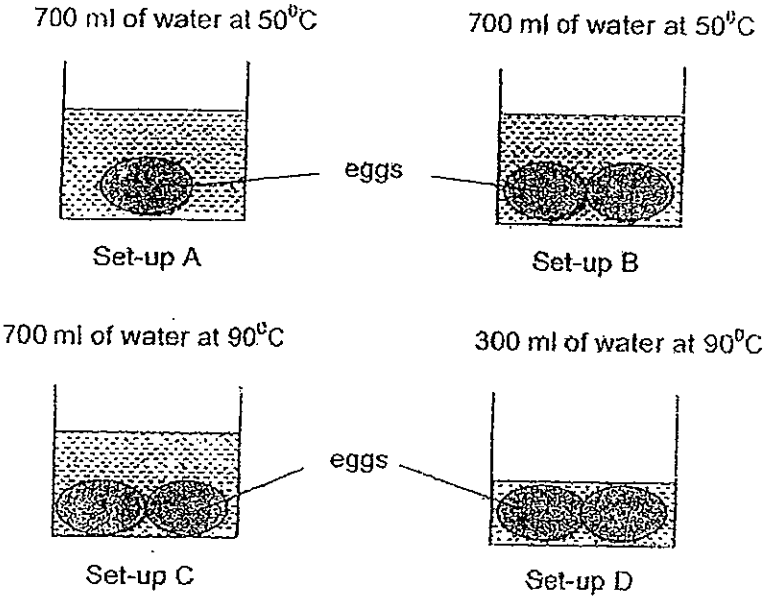
22 May 2012: "Marcus jumped up and screamed in pain when his father hit his hand with a ruler."
17 August 2012: "The fish in the bowl swam away frantically when James placed his hand in the fish bowl."
30 September 2012: "The zebras leapt away when they saw a lion approaching."

Which one of the following characteristics best describes the living things as shown in the above diary entries?

(1) They can reproduce.
(2) They can grow and die.
(3) They need air, food and water.
(4) They can respond to changes around them.

Downloaded from SingaKids.com

22. Mabel wants to find out whether the temperature of water affects the speed at which eggs are cooked.

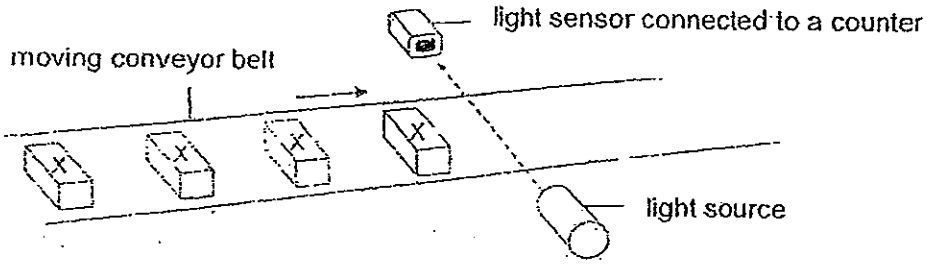


Which 2 set-ups should she use in order to carry out a fair test?

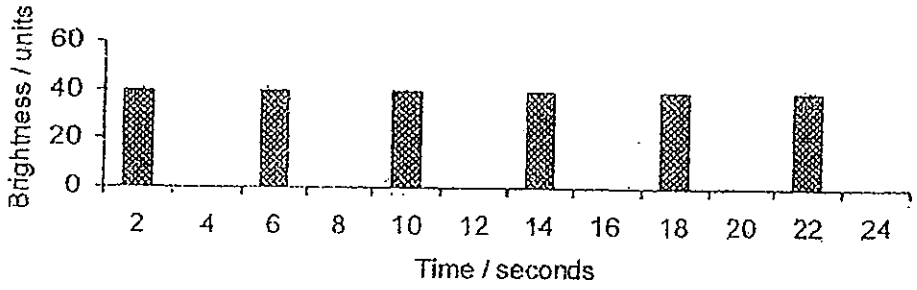
(1) A and C
(2) A and D
(3) B and C
(4) C and D

Downloaded from SingaKids.com

23. The set-up below uses a light sensor to count the number of identical object X, on a moving conveyor belt.



The belt moves at a constant speed. Whenever Object X comes between the light source and the light sensor, it blocks the light from reaching the sensor. The data recorded is shown in the graph below.



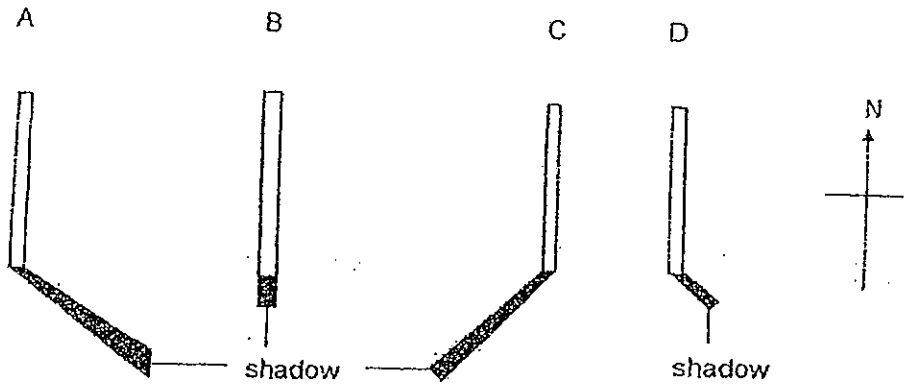
Based on the graph, how many Object X passed the sensor in 18 seconds?

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

95

Downloaded from SingaKids.com

24. The following figures show the shadows which are formed by a pole at different times on a typical sunny day.



Which one of the following reflects the most accurate data collected?

(1)

Time	10 am	12 pm	2 pm	6 pm
Shadow	D	B	C	A

(2)

Time	10 am	12 pm	2 pm	6 pm
Shadow	D	A	B	C

(3)

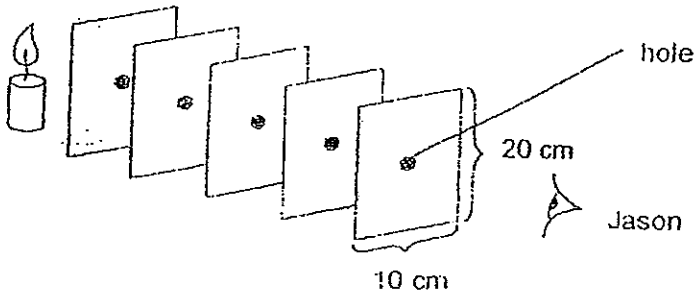
Time	10 am	12 pm	2 pm	6 pm
Shadow	C	D	A	B

(4)

Time	10 am	12 pm	2 pm	6 pm
Shadow	C	B	D	A

Downloaded from SingaKids.com

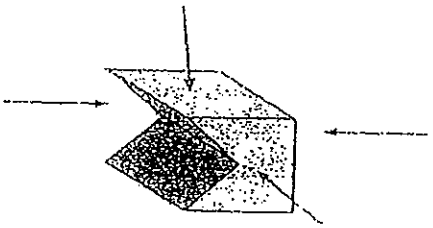
25. Jason did the following experiment using 5 identical cardboards.



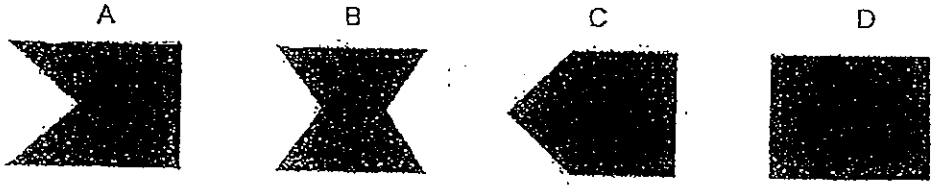
What was Jason trying to find out? He was trying to find out _____.

(1) how heat travels
(2) how fast light travels
(3) if light travels in a straight line
(4) how much heat does a candle flame generate

26. Shawn shone a torch at the following object from different directions as shown in the diagram below.



Which of the following shadows cannot be formed by the object?



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

97

Downloaded from SingaKids.com

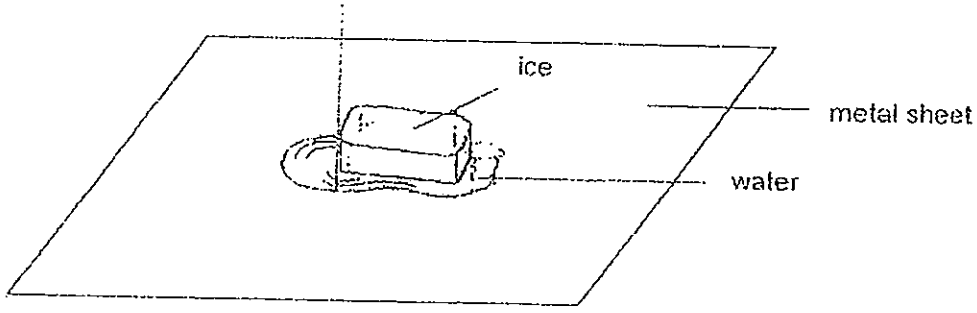
27. Hansel carried out an experiment to compare the amount of heat at 2 different locations. He set up a thermometer at each location and noted the reading on the thermometer after some time. He recorded the results in the table as shown below.

	Set-up A	Set-up B
Location	Open field	Under the shade of a tree
Duration / min	10 minutes	15 minutes
Temperature / ^{0}C	30°C	25°C

He had not done a fair test because _____.

(1) he used two different places
(2) the two places had different temperatures
(3) the thermometers were placed in 2 different places
(4) the duration for each experiment was not the same

28. A big block of ice is left to melt on a piece of metal sheet as shown below.



Based on the above experiment, which of the following statements is true?

A The metal sheet is losing heat to the block of ice.
B The water is gaining heat from the surroundings.
C The temperature of the block of ice is increasing.

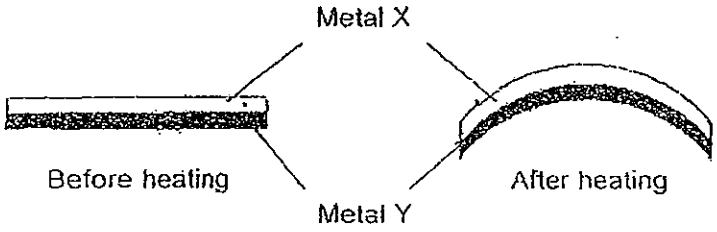
(1) A only
(2) A and B only
(3) B and C only
(4) A, B and C

Downloaded from SingaKids.com

29. Which one of the following is grouped correctly?

	Good conductor of heat	Poor conductor of heat
(1)	Silver	Iron
(2)	Plastic	Gold
(3)	Copper	Wood
(4)	Styrofoam	Sponge

30. The diagram below shows a bimetallic strip made of Metal X and Y.



Which of the following best explains the above observation?

(1) Metal X and Metal Y are flexible.
(2) Metal X and Metal Y are good conductors of heat.
(3) Metal Y is a better conductor of heat than Metal X.
(4) Metal X has expanded more than Metal Y when heated.

99

Downloaded from SingaKids.com

CATHOLIC HIGH SCHOOL
PRIMARY 4
SEMESTRAL EXAMINATION 2
2012

SCIENCE

Name: _____ ( )

Class : Primary 4_____

Date : 25 October 2012

BOOKLET B

14 Questions
40 Marks

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

Instructions to Candidates

Follow all instructions carefully.
Answer all questions.

Score	
Section A	60
Section B	40
Total	100

Parent's Signature:_____

Date:_____

Downloaded from SingaKids.com

Section B: Open-Ended Questions (40 marks)

Read the following questions carefully and write your answers in the space provided. The maximum marks that can be awarded are shown at the end of each question or part-question.

31. The table below describes four characteristics of animals.

Animal	outer covering	Beak	Wings	Fins	Feelers	Legs
P	scales	×	×	✓	×	×
Q	hard outer coverings	×	✓	×	✓	✓
R	feathers	✓	✓	×	×	✓
S	hair or fur	×	×	×	×	✓

(a) Which animal will most likely be an insect? [1]

_____

(b) Based on the table above, state your reasons for your answer in (a) [1]

_____

_____

(c) Give another characteristic which Animal S possesses that is not shown in the table above. [1]

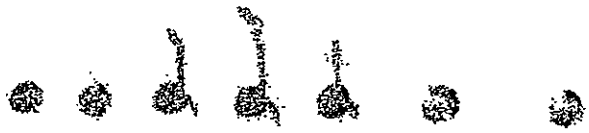
_____

_____

3

Downloaded from SingaKids.com

32. The diagram below shows the stages, A, B,C, D, E, F and G, of the growth of a seed.



A B C D E F G

(a) When the seed grows, what appears first at stage A? [1]

_____

(b) Why is the part in stage A important for the growth of the seed? [1]

_____

_____

(c) What are the necessary conditions for the seed to grow from Stages A to E? [1]

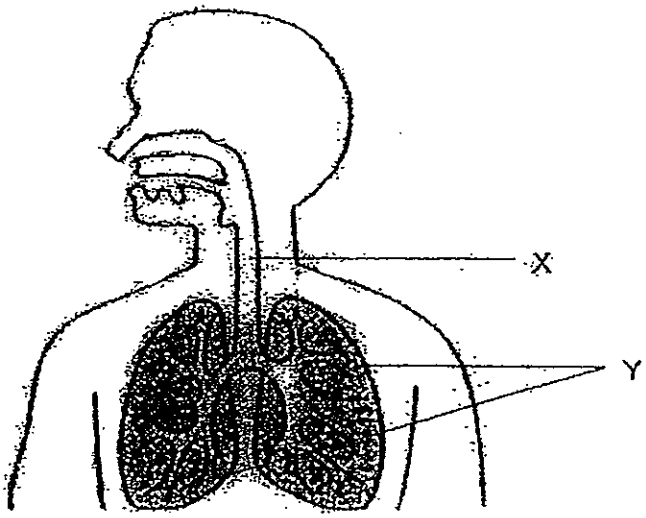
_____

_____

3

Downloaded from SingaKids.com

33. The diagram below shows a human organ system.



(a) Which organ system does this diagram represent? [1]

_____

(b) What are parts X and Y? [1]

Part X : _____

Part Y : _____

(c) Whar is the function of the organ system mentioned in (a)? [1]

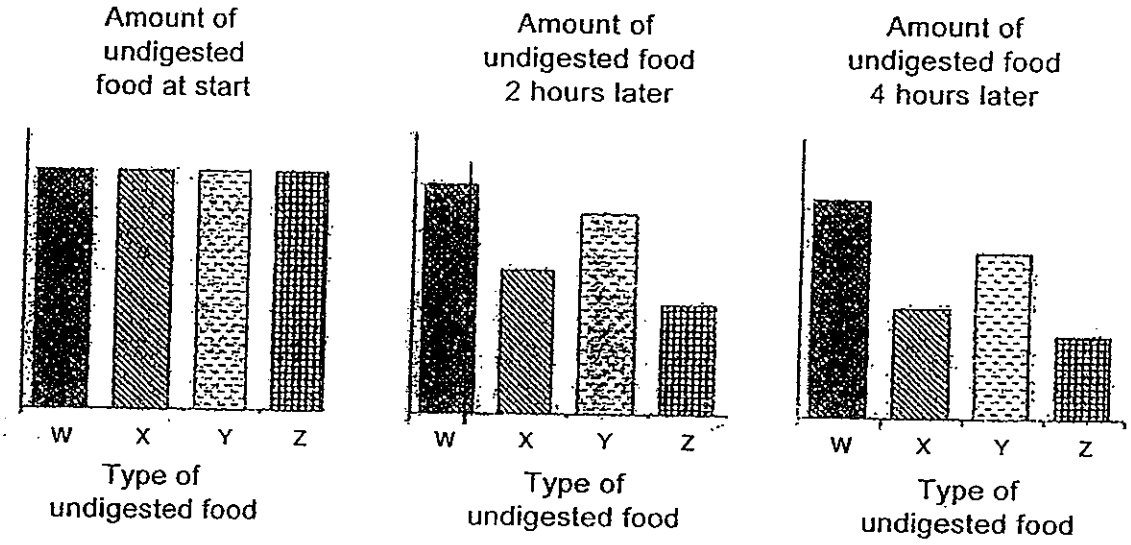
_____

3

103

Downloaded from SingaKids.com

34. The graph below shows the changes in the amount of four different types of undigested food W, X, Y and Z, in our digestive system.



(a) Based on the infromation goven in the graph above, arrange the types of the food from the most easily digested to the least easily digested Write W, X, Y and Z in the blankc provided. [2]

_____ _____ _____ _____

Most easily digested

Least easily digested

(b) Name the parts of the human digestive system that produce digestive juices. [1]

_____

3

Downloaded from SingaKids.com

35. Four pupils, Alice, Briah, Cindy and Devin were having a discussion on the life cycles of a mealworm beetle, cockroach and butterfly. The following tables shows their statements. Write True next to the statement(s) that is/are correct and flase next to the statement(s) that is/are wrong. [2]

(a)

Pupil	Statement	True/False
Alice	There are four stages in the life cycle of a mealworm beetle	
Brian	A cockroach and a butterfly have different number of stages in their life cycles	
Cindy	The life cycle of a cockroach resembles the life cycle of a butterfly as they both spend part of their life cycle in water.	
Devin	The young of a cockroach moults several times before is becomes an adult cockroach,	

(b) In the space provided below, draw a simple diagram to show the life cycle of q mosquito. [1]

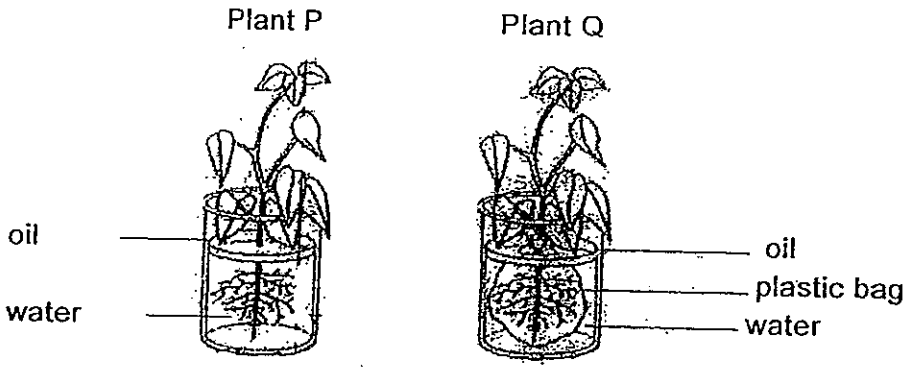
Life cycle of a mosquito

3

105

Downloaded from SingaKids.com

36. Sean conducted an experiment as shown below. He placed two similar plants, P and Q, with the same amount of water into two similar beakers. A layer of oil was poured in the prevent evaporation from taking place. However, he placed plant Q into a plastic bag and tied it tightly before putting it into the days, he measured the water level in each of the beakers.



(a) What was Sean trying to find out by putting Plant Q into a plastic bag and tying it tightly before placing it into the beaker of water [1]

_____

_____

(b) What would happen to each of the plant after a week? [1]

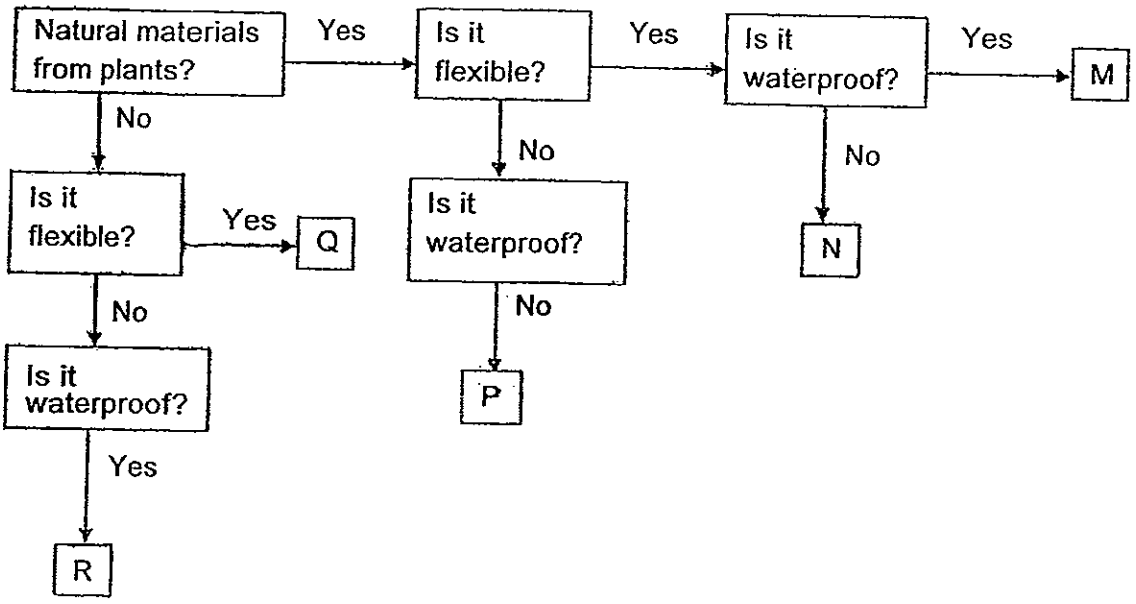
Plant P : _____

Plant Q: _____

2

Downloaded from SingaKids.com

37. The flow chart below shows five different materials, M, N, P, Q and R, and their properties



(a) Based on the flow chart above, fill in the boxes with the letters (M,N,P, A,or R for the corresponding items. [2]

	Items	Letter
(i)	A pair of wooden disposable chopsticks	
(ii)	A car tyre	
(iii)	A raincoat	
(iV)	A ceramic wash basin	

(b) Using the information given in the flow chart above, describe Material N. [1]

_____

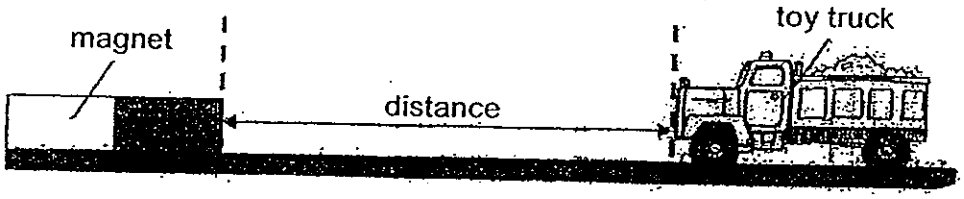
_____

3

107

Downloaded from SingaKids.com

38. Tomothy carried out an experiment using four magnets of the same size, W, X, Y and Z as shown in the diagram below. He placed each of the magnets at a distance from the toy truck that is made of a magnetic material and recorded the distance at which the magnet attracted the toy truck.



The results of his experiment are shown in the table below.

Magnet	Distance / cm
W	18
X	10
Y	29
Z	24

(a) In the aboce experiment, which of the following variables were kept the same?Put a tick next to them. [1]

	Variables	Tick
(i)	The size of the magnet	
(ii)	The strength of the magnet	
(iii)	The distance between the magnet and the toy truck	

(b) Arrange the magnets, W, X, X and Z from the weakest to the strongest. [2]

weakest strongest

3

Downloaded from SingaKids.com

39. Lynn made two different shapes, one at a time using the same piece of plasticine as shown below, The mass of the plasticine is 70g while its volume is 40cm^3. She measured the mass and volume of each shape and recorded the results in a table below.



(a) Record her results in the table below [2]

Shape of plasticine	Mass /g	Volume / cm^3
circle		
triangulat		

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

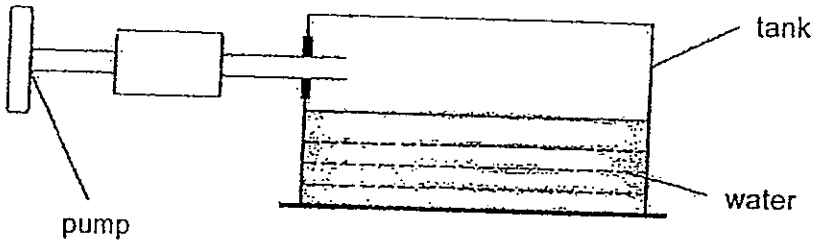
_____

_____

3

Downloaded from SingaKids.com

40. The tank below has volume of 600 cm^3. Is contains 300 cm^3 of water
A pump that is attached to the tank allows 20 cm^3 of air to enter the tank with each stroke of the pump.



(a) What is the volume of air in the tank at first? [½]

_____

(b) What is the volume of air in the tank after 4 strokes of air was pumped into the tank? [½]

_____

(c) Explain your answer in(b). [2]

_____

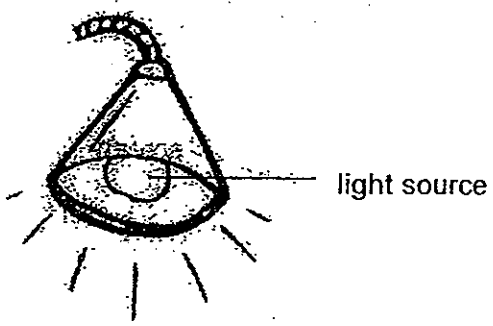
_____

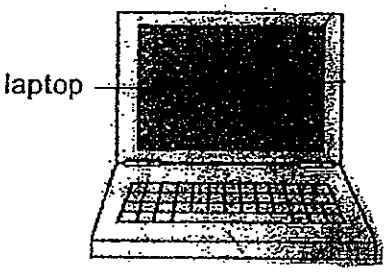
_____

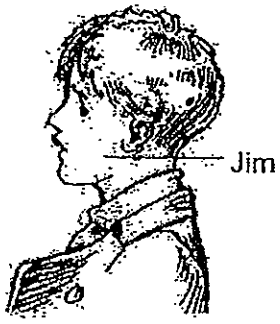
3

Downloaded from SingaKids.com

41. Study the picture below carefully.







(a) In the picture above,draw two arrows to show the path of light which allows Jim to see the laptop [1]

(b) What property of light allows Jim to see the laptop? [1]

_____

(c) Explain how Jim is able to see the laptop [1]

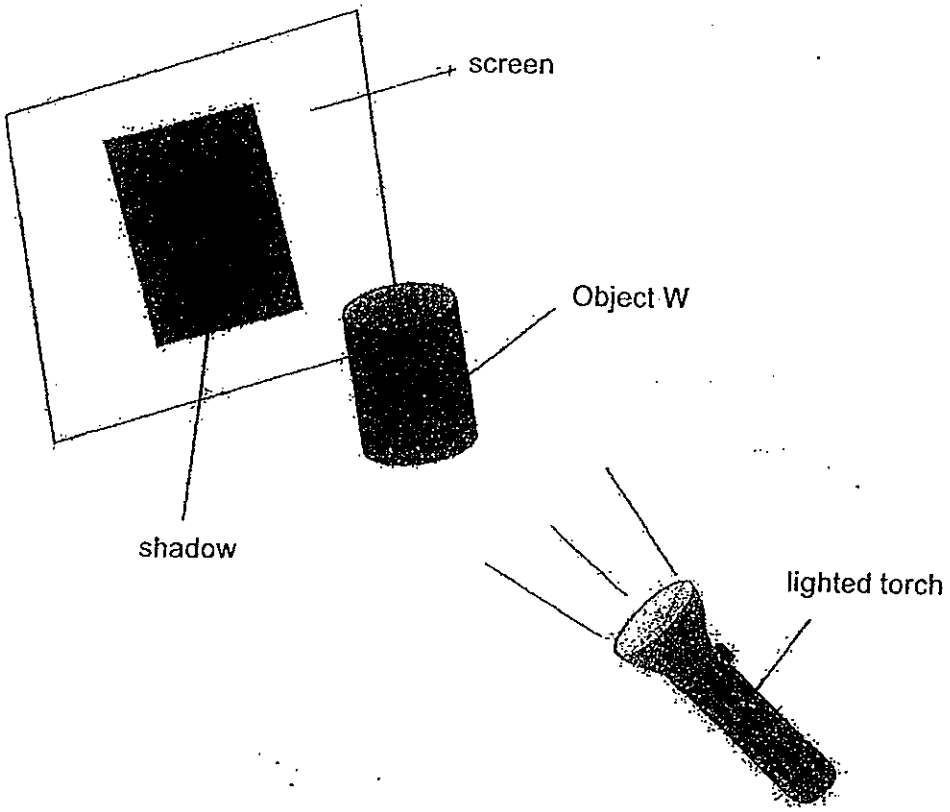
_____

_____

3

Downloaded from SingaKids.com

42. The set-up below shows an object, W, placed between a lighted torch and a screen. The torch was switched on and a shadow was cast onto the screen as shown.



The table below shows a record of how the distance between Object W and the lighted torch has been changed and the height of the shadow cast that was formed.

Distance between Object W and the torch /cm	Height of shadow /cm
30	25
25	30
20	35
15	40
10	45
5	50

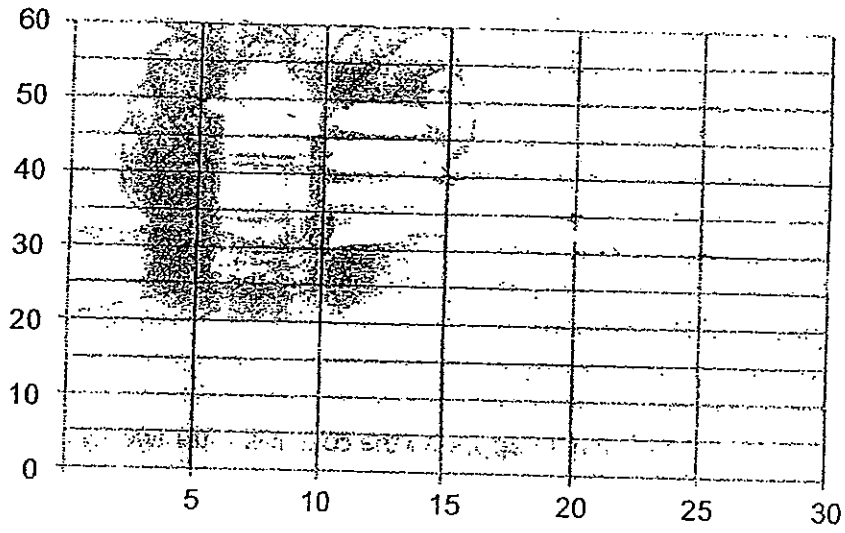
Downloaded from SingaKids.com

Using the table on page 29

(a) plot the graph [1]

(b) fill in the boxes below to label axes (i) and (ii) [1]

(b) (i)



(b) (ii)

(c) What is the relationship between te distance between Object W and the torch and the height of the shadow cast? [1]

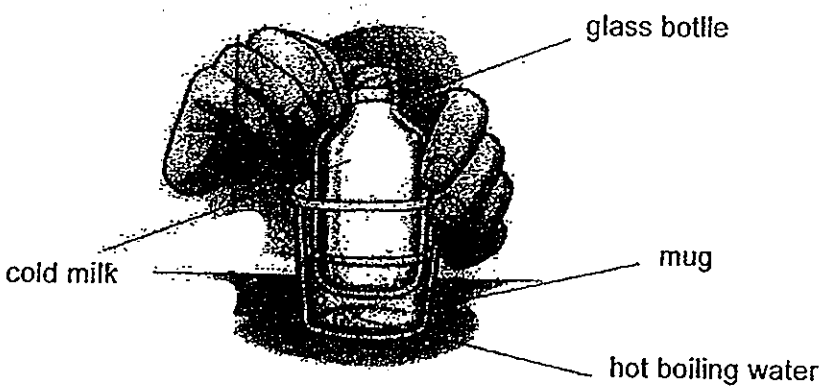
_____

_____

3

Downloaded from SingaKids.com

43. A glass bottle of cold milk was placed in a mug containing hot boling water in the diagram below.



(a) What would happen to the cold milk after twenty minutes? [1]

_____

_____

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

_____

_____

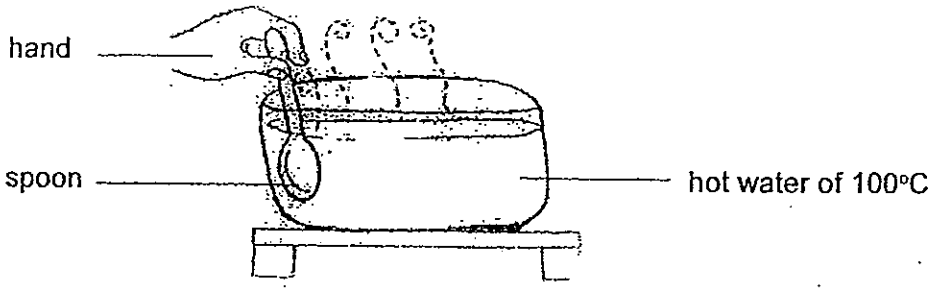
2

Downloaded from SingaKids.com

44. Felicia was instructed to hold onto a spoon placed in a basin of hot water of 100°C as shown below. Her teacher used a stopwatch to time how long she could hold onto the spoon. She was told to let go of the spoon the moment she felt that she could not withstand the heat on the spoon.

She repeated the test with three other similar spoons but made from different materials.

The results were then recorded in the table below.



The table below shows the amount of time she held onto the spoons before she let them go.

Material of spoon	Amount of time / seconds
Aluminium	54
Wooden	125
Copper	11
Plastic	125

(a) What is the aim of the experiment? [1]

_____

(b) From the results above, which spoon(s) is/are poor conductor(s) of heat ? [1]

_____

(c) Give a reason to support your answer in (b) [1]

_____

_____

- End of the Booklet B -

3

Downloaded from SingaKids.com

Downloaded from SingaKids.com

Answer Ke

EXAM PAPER 2012

SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL

SUBJECT : PRIMARY 4 - SCIENCE

TERM : SA 2

Catholic High School Primary 4 SA2

1 (3) 2 (1) 3 (4) 4 (1) 5 (4) 6 (1) 7 (3) 8 (1) 9 (4) 10 (3) 11 (4) 12 (3) 13 (2) 14 (2) 15 (4) 16 (4)

17 (4) 18 (4) 19 (1) 20 (2) 21 (4) 22 (3) 23 (4) 24 (4)25 (3) 26 (2) 27 (4) 28 (2) 29 (3) 30 (4)

31 Q / It has hard outer coverings, a pair of wings and a pair of feelers and six legs

It gives birth to young.

32 roots / A seed needs water to grow, and water is absorbed through the roots.

Water, air and suitable temperature.

33 Respiratory System / Windpipe / Lungs / exchange gases with the surroundings

34 Z / X / Y / W , Mouth, Stomach, Small intestine

117

Downloaded from SingaKids.com

EXAM PAPER 2012

SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL

SUBJECT : PRIMARY 4 - SCIENCE

TERM : SA 2

---

35 True / True / False / True

36 To find out if the roots of plant absorbs water. / would still be alive / would die

37 P / M / Q / R , It is not water proof, and is flexible and is a natural material from plants.

38 The Size of the magnet / X,W,Z,Y

39 Circle (70g / 40cm^3) Triangular (70g / 40cm^3)

A plasticine is a solid and so the mass and the volume of it will not change according to shape.

40 300cm^3 / 300cm^3 / The air is been compressed and does not have a definite volume

41 Light travels in Straight Lines. / Light from the source fall onto the laptop which reflects into Jim's eyes.

42 Height of shadow / Distance btw the Touch and Object

The distance between object and the torch is decreasing, while the height of the shadow will be increase.

Downloaded from SingaKids.com

EXAM PAPER 2012

SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL

SUBJECT : PRIMARY 4 - SCIENCE

TERM : SA 2

---

43 The Cold milk will have the same temperature as the hot boiling water.

The cold milk gains heat from the hot boiling water, while the boiling hot water loses heat to the cold milk.

44 To find out which material of the spoon gain heat faster. Wood / Plastic . They takes more time to become hot.

END

119

Downloaded from SingaKids.com

Downloaded from SingaKids.com