NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 2, 2014
PRIMARY FOUR
SCIENCE

Name : _____( )

Class : Primary 4 / ____

Date : 26 August 2014

Duration : 1 hr 30 min

Parent's Signature : _____

MARKS	
Sect A:	/ 40
Sect B:	/ 40
Total :	**/ 80**

Section A: (20 x 2 marks = 40 marks)
For each question from 1 to 20, 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. Which one of the following is **not** a source of light?

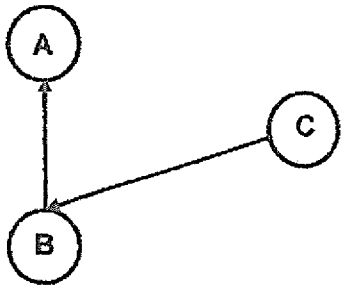
   (1) Fire
   (2) Fossil fuel
   (3) Lighted bulb
   (4) Sun.

2. Peter's basketball was filled with air but he still could pump more air into it. The basketball did not become bigger. It became harder instead.

   What property of air does it show?

   (1) Air takes up space.
   (2) Air can be compressed.
   (3) Air has a definite volume.
   (4) Air has no definite shape.

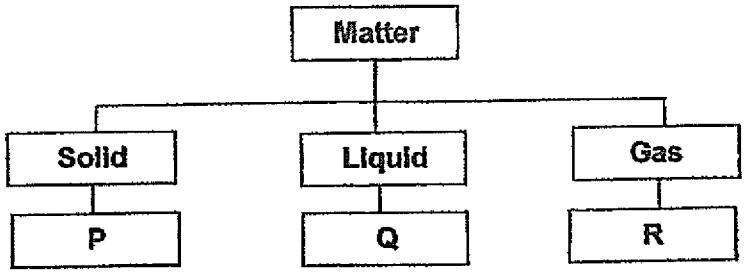
3. Study the diagram below.



The arrows indicate the path of light. Which of the following correctly represents A, B and C?

	A	B	C
(1)	Object	Light source	Eyes
(2)	Light source	Eyes	Object
(3)	Eyes	Light source	Object
(4)	Eyes	Object	Light source

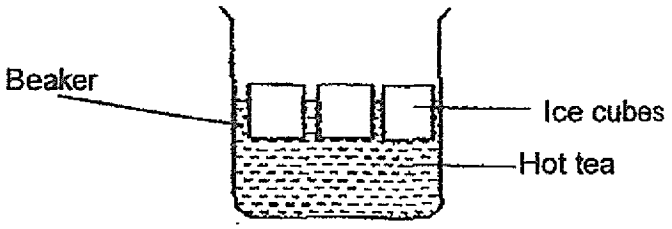
4. Study the classification chart below.



Which one of the following correctly shows what P, Q and R could be?

	P	Q	R
(1)	table	stone	air
(2)	paper	cooking oil	watch
(3)	sea shell	water	oxygen
(4)	plasticine	key	water vapour

5. Some ice cubes are added to a beaker of hot tea as shown in the diagram below.

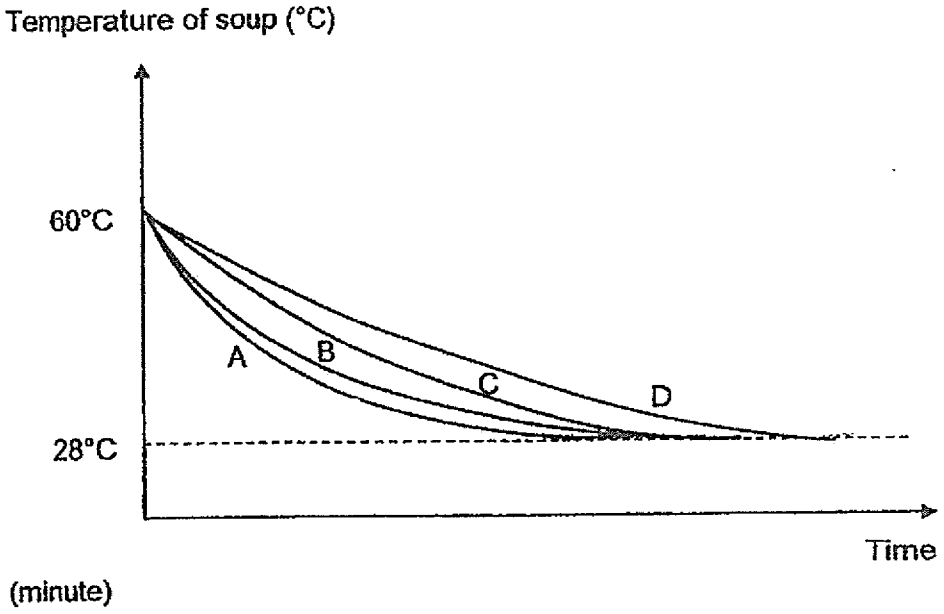


Which of the following changes are most likely to take place?

A The ice cubes lose coldness to the hot tea.
B The ice cubes gain heat from the hot tea.
C The hot tea changes from liquid to solid state.
D The ice cubes changes from solid to liquid state.

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

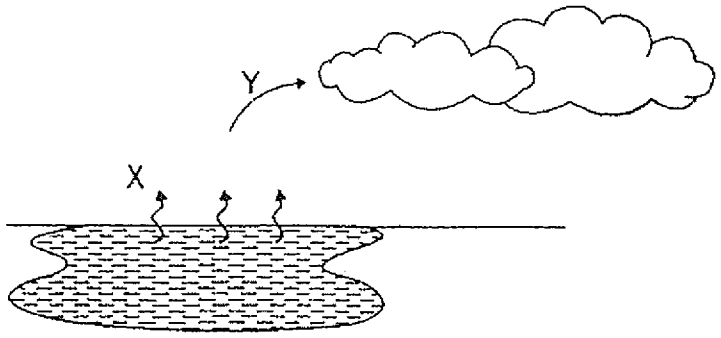
6. Mrs Lim poured some hot soup into 4 identical containers of similar size and shape which were made of different materials. Based on her observation, she plotted the graph as shown below.



Which one of the containers should Mrs Lim choose to keep the soup hot for the longest possible time?

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

7. The diagram below shows a simple water cycle.



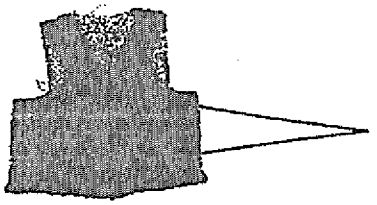
What do the processes X and Y represent?

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

8. Which one of the following will **not** help in conserving water?

(1) Installing automatic taps in toilets.
(2) Collecting rainwater for domestic use.
(3) Using ice in place of water to cool machines in factories.
(4) Collecting water from rinsing vegetable to water plants.

9. The diagram below shows a vest that is worn by a traffic police officer when carrying out his duties on the road.



Why are reflectors placed on the vest?

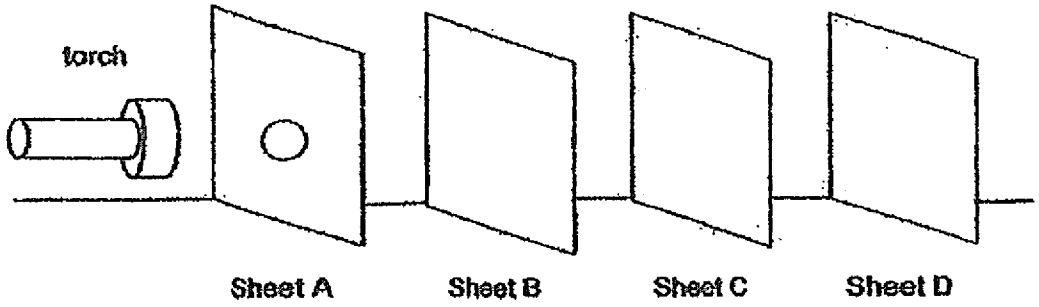
(1) To absorb heat energy from the Sun to keep the traffic police officer warm.

(2) To enable the traffic police officer to see the images of the on-coming vehicles in the reflectors.

(3) To give out light at night so that the traffic police officer could see the surrounding area better.

(4) To reflect light from the surrounding light sources at night so that the drivers can notice the traffic police officer wearing the vest.

10. Yong En wants to find out if light can pass through some materials. He carried out the following experiment in a dark room.

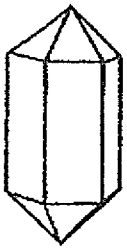


Sheet A, B, C and D are arranged in a straight line. Sheet A has a circular hole as shown above. When the torch is switched on, a bright circular patch of light is observed on Sheet C.

Which one of the following correctly describes the properties of the materials that Sheet A, B, C and D are made of?

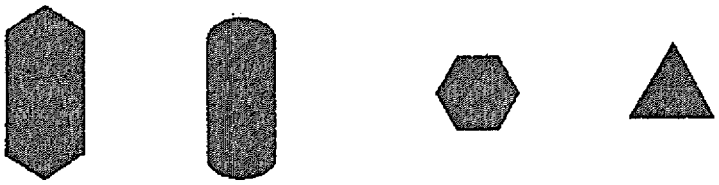
	Allow light to pass through	Does not allow light to pass through	Not possible to tell
(1)	A	C	B and D
(2)	A	C and D	B
(3)	B	A and C	D
(4)	B	C	A and D

11. Mrs Tan has a jade pendant as shown below.



Different shadows are formed when she shines her torch on it.

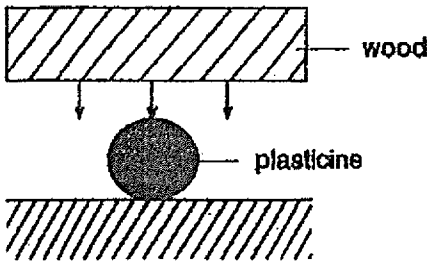
Which of the following could possibly be the shadows of the pendant?



A B C D

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

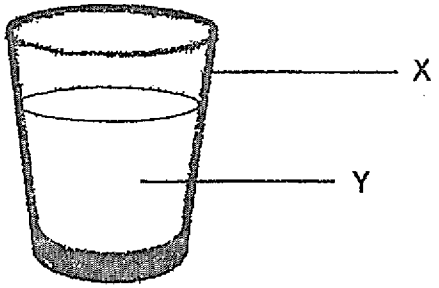
12. A ball of plasticine is pressed under a heavy piece of wood.



What change will the plasticine undergo?

(1) Change in size
(2) Change in mass
(3) Change in shape
(4) Change in volume

13. The diagram below shows a glass cup that is half-filled with milk.

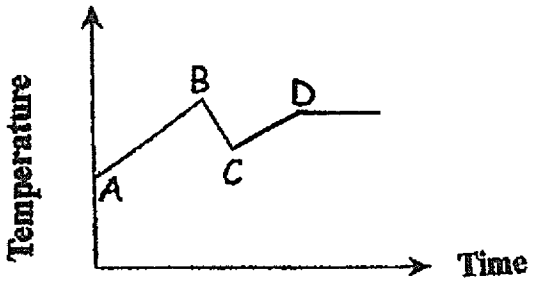


Which of the following statements are true for both X and Y?

A They have mass.
B They occupy space.
C They have definite volume.
D They have a definite shape.

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

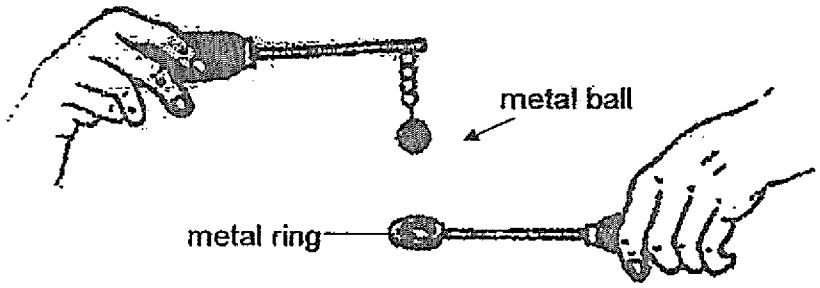
14. Mary heated a beaker of water. At one point in the experiment, she added some ice cubes into the beaker of water. She plotted the temperature change of the water in the graph shown below.



At which point of the graph, A, B, C or D, were the ice cubes added to the beaker of water?

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

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



What can be done to the metal ball and metal ring apparatus to prevent the ball from passing through the metal ring?

A Dip the ring in hot water.

B Dip the ball in cold water.

C Dip the ring in cold water.

D Heat the ball over the Bunsen burner.

(1) A only

(2) D only

(3) A and B only

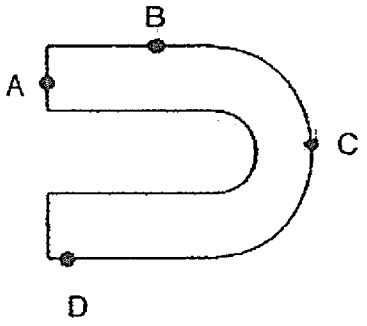
(4) C and D only

15. Which of the following statement(s) is/are true about the human digestive system?

A Food is not digested in the mouth and gullet.
B Digestive juices are produced in the small intestine.
C Water is absorbed from undigested food in the large intestine.

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

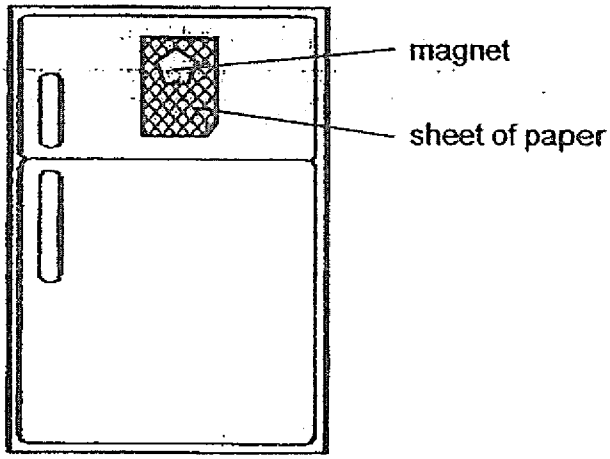
16. The diagram below shows a horseshoe magnet with different parts labelled A, B, C and D.



If part A can attract 5 pins, which of the following best represents the number of pins attracted by parts **B, C and D** of the horseshoe magnet?

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

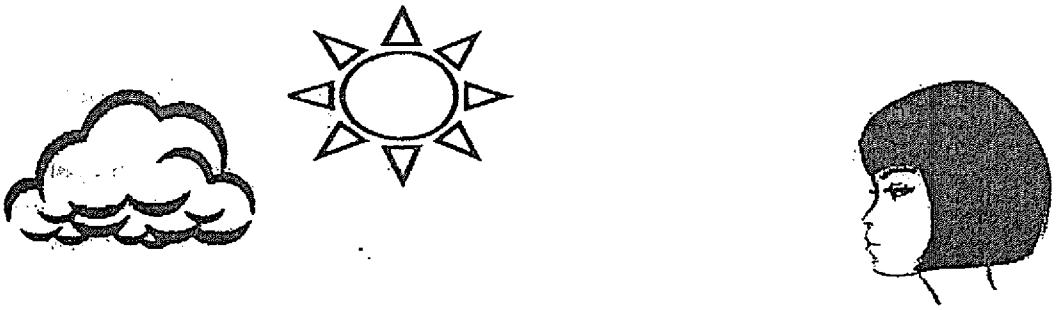
17. Mala used a magnet to hold a sheet of paper on the surface of a refrigerator. She noticed that the magnet can only hold up to 6 sheets of the same type of paper.



Which one of the following best explains her observation?

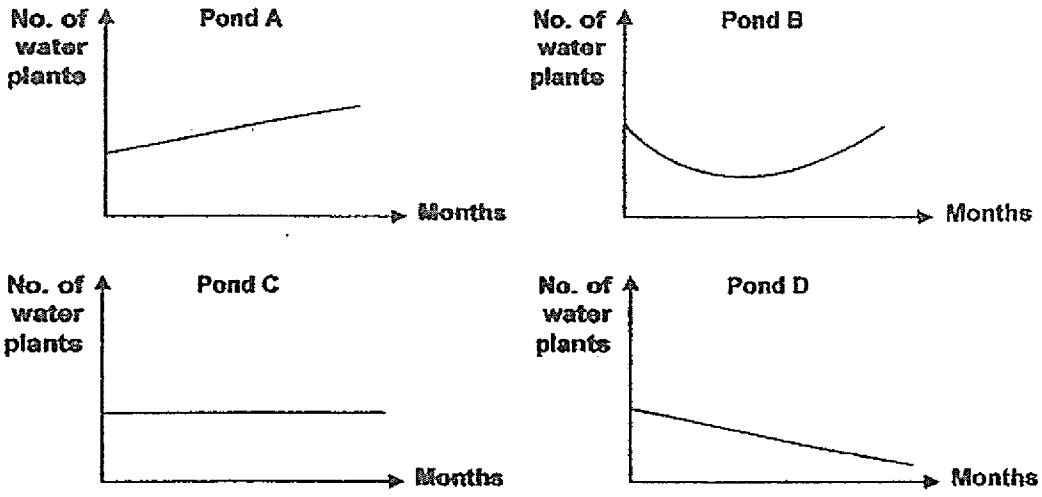
(1) The magnet can attract up to 6 sheets of paper.
(2) The refrigerator and the paper are made of magnetic material.
(3) The magnetism of the magnet cannot pass through 6 sheets of paper.
(4) The magnetism of the magnet can only pass through a maximum of 6 sheets of paper.

18. Which of the following path of light correctly shows how Jane sees the clouds?



(1) From Jane's eyes to Sun to clouds.
(2) From Jane's eyes to clouds to Sun.
(3) From Sun to Jane's eyes to clouds.
(4) From Sun to clouds to Jane's eyes.

20. The graphs below show the number of water plants in Ponds A, B, C and D respectively with respect to the amount of pollution over a period of 5 months.



Which pond contains water that is most polluted?

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

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Name : _____( )

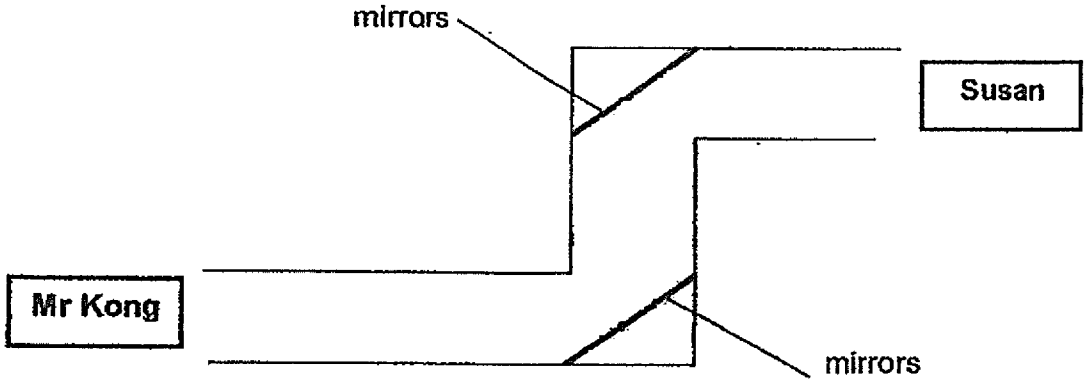
Class : Primary 4 / ____

MARKS
/40

Section B: (40 marks)
Write your answers to questions 21 to 34.
The number of marks available is shown in brackets [ ] at the end of each question or part-question.

21. Susan was walking in an underground tunnel. There were mirrors placed at certain corners of the tunnel. Susan was able to spot Mr Kong before bumping into him.

(a) **Draw arrows** to show the path of light that enables Susan to see Mr Kong. [1]

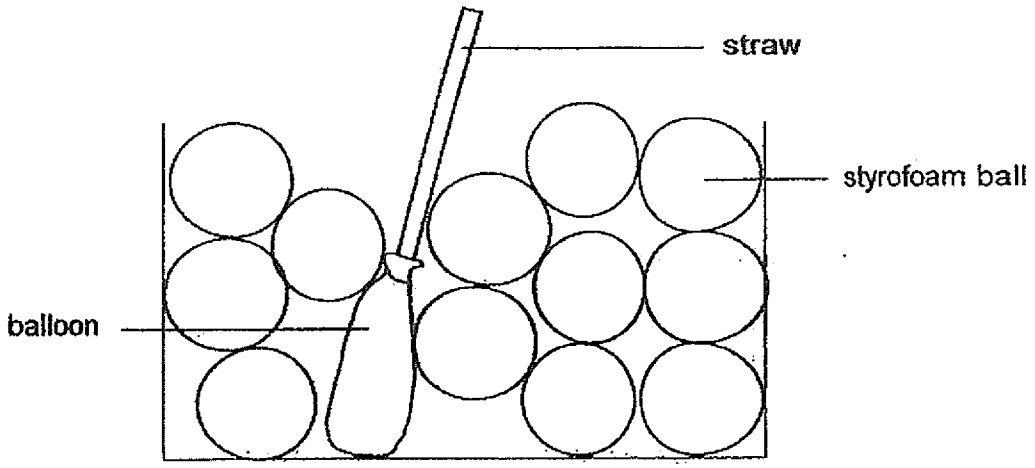


(b) State one property of light as shown above. [1]

_____

Score	/2

22. May carried out the following experiment as shown in the diagram below. She filled up the container with 12 styrofoam balls and a balloon that has a straw attached to it.



(a) May pumped air into the balloon through the straw.
State 2 observations that May will make when she pumped air into the balloon through the straw. [2]

i) _____

ii) _____

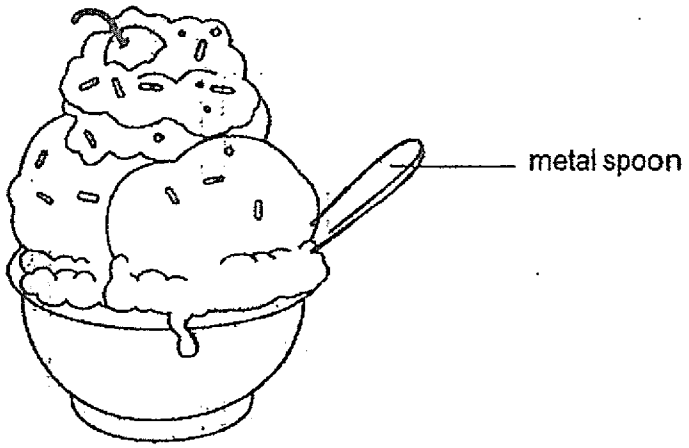
(b) What property of the styrofoam balls does this show? [1]

_____

_____

Score	
	3

23. A metal spoon is placed in a bowl of ice-cream as shown in the diagram below.



(a) How does the handle of the spoon feel when you touch it? [1]

_____

_____

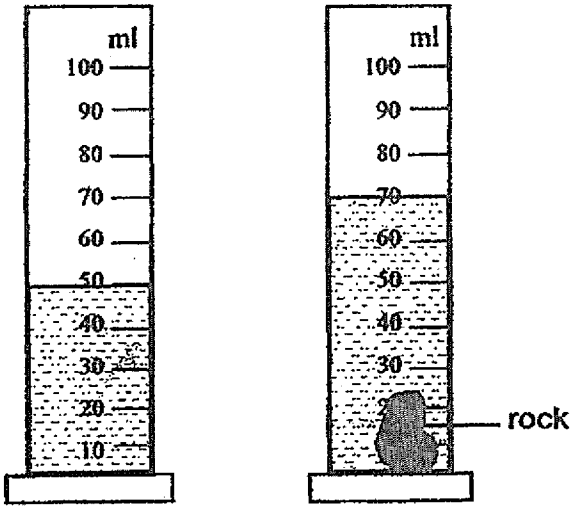
(b) Give a reason for your answer in (a). [1]

_____

_____

Score	2

24. Siew Meng filled a measuring cylinder with $50cm^3$ of water. He then placed a rock into the measuring cylinder and took down the new reading.

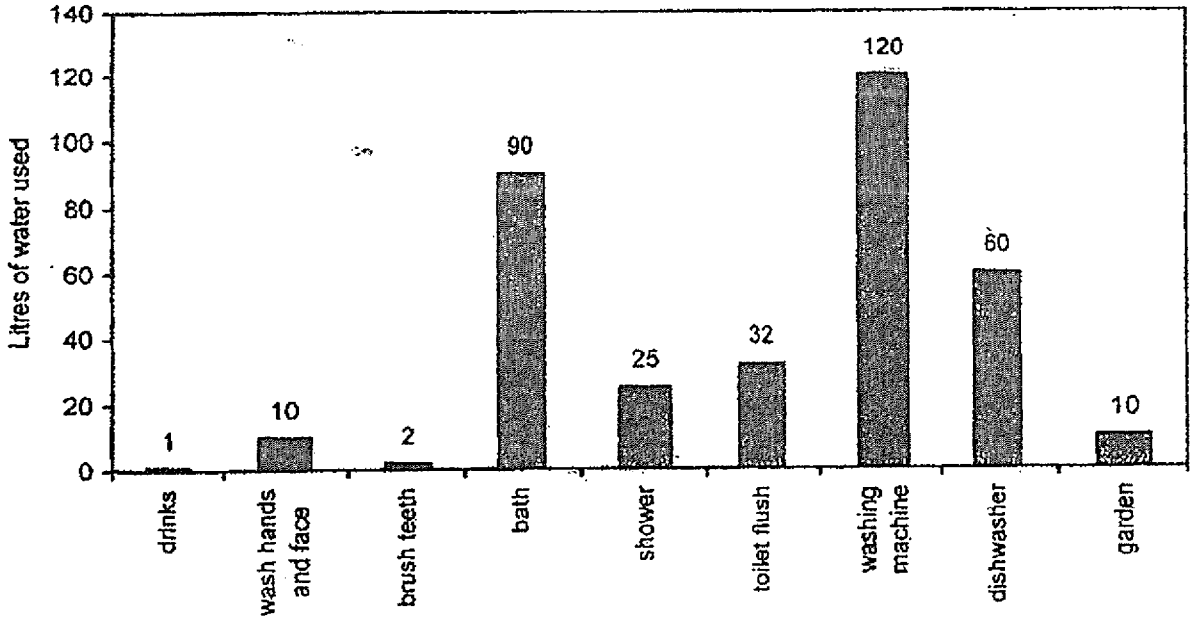


(a) What is the volume of the piece of rock? [1]

(b) Based on the above activity, what is one similarity between the property of the rock and the water? [1]

Score	
	2

25. The graph below shows the water consumption pattern of different activities at a residential home.



(a) Study the graph carefully and identify **two** activities that consume more water as compared to the rest. [1]

i) _____

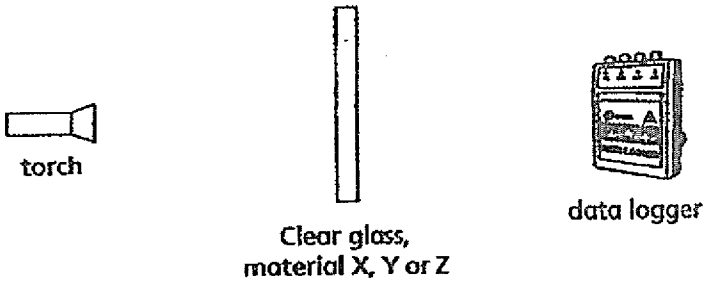
ii) _____

(b) Put a tick (√) in the respective boxes that show activities which help to conserve water. You may tick more than 1 box. [1]

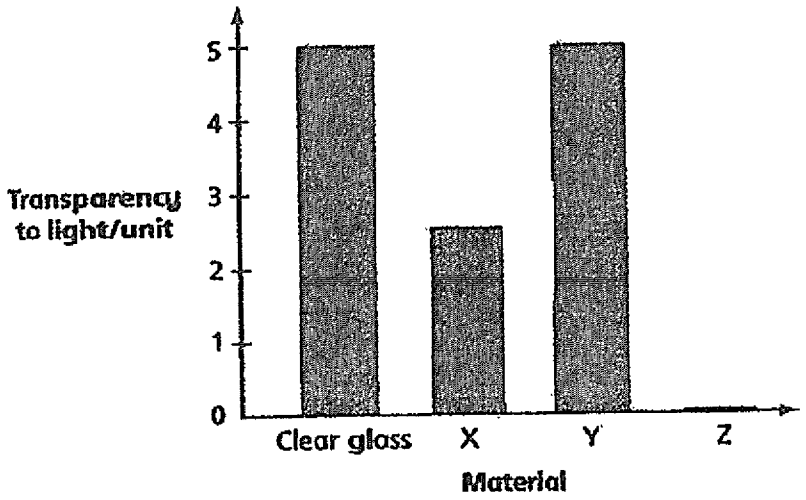
Activity	Tick (√)
Use running water to wash the dishes instead of a water-efficient dishwasher.	
Take a shower instead of a bath.	
Install water-saving devices such as a half-flush water cistern.	

Score	/ 2

26. Jane carried out the following experiment to investigate the degree of transparency of clear glass and materials X, Y and Z to light.



The bar graph below shows the result that Jane collected.



(a) Based on the above results, write down the materials, X, Y and Z, in the classification table below. [1½]

Group A	Group B	Group C
Rubber	Clear Plastic Sheet	Frosted glass

(b) Provide suitable headings for Groups A, B and C respectively. [1½]

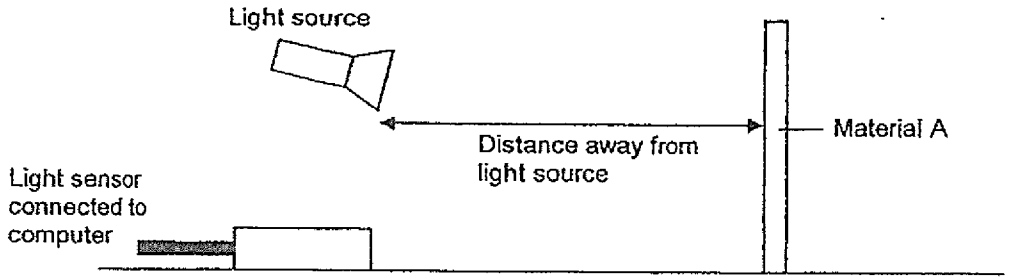
Group A: _____

Group B: _____

Group C: _____

Score	
	3

27. Elton conducted an experiment to find out how the amount of light reflected by Material A is affected by the distance that Material A is away from the light source. He set up his experiment as shown in the diagram below.



He placed Material A at different distances away from the light source and used a light sensor to determine the amount of light that was reflected. He recorded the results in the table below.

Amount of light that was reflected by material A (lux)

Distance away from the light source (cm)

10	300
30	200
80	100

(a) What is the independent variable (variable changed) in this experiment? [1]

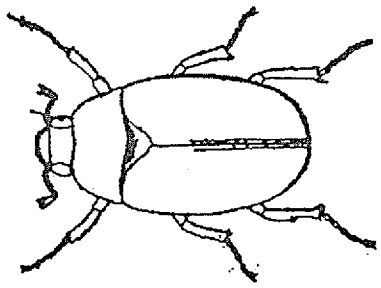
(b) State one constant variable (variable kept the same) in this experiment? [1]

(c) What is the relationship between the distance of Material A from the light source and the amount of light was reflected? [1]

Score	3

Section B: (40 marks)
Write your answers to questions 31 to 44.The number of marks available is shown in brackets [ ] at the end of each question or part question.

31. Look at the diagram below and tick (√) the correct box(es).



It is an insect because it _____. [2]

☐ can crawl

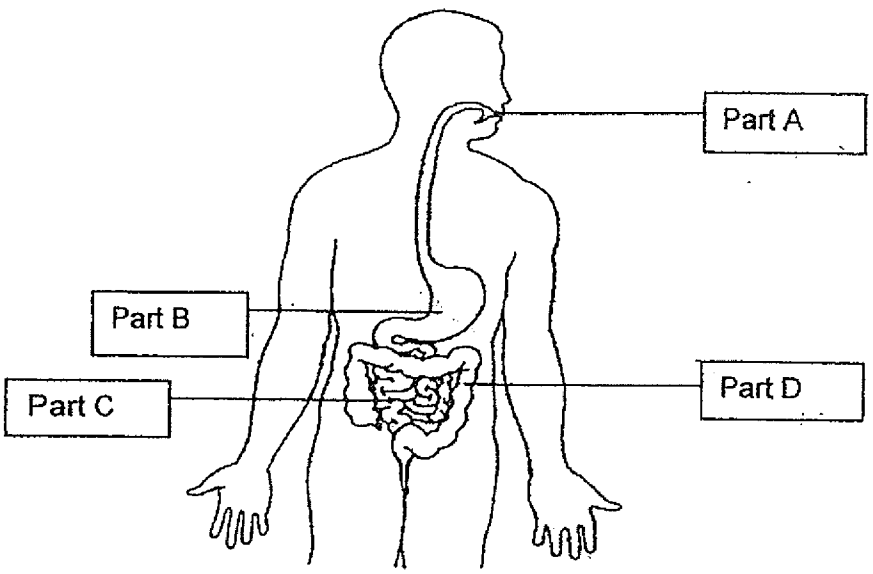
☐ has six legs

☐ has eyes

☐ has three body parts

Score	/2

32. The diagram below shows the human digestive system.



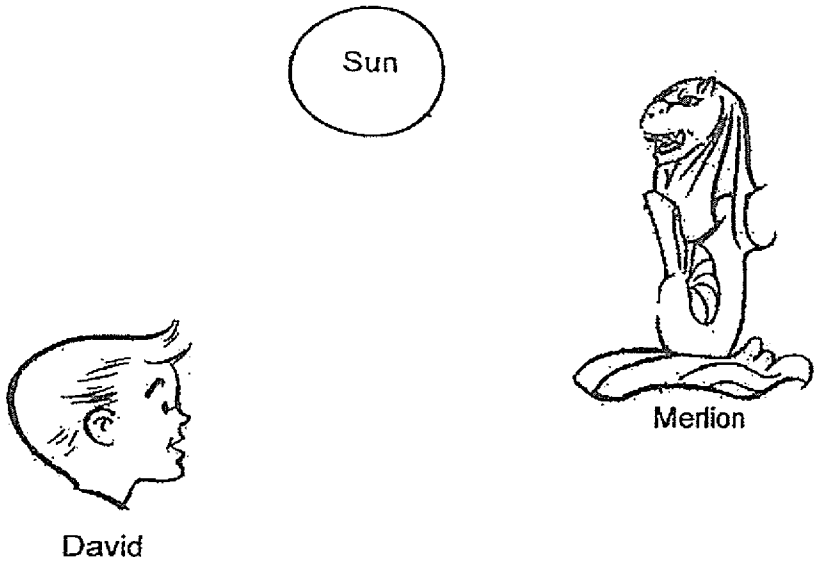
Identify the part where

a) digestion first takes place : Part _____ [1]

b) digestion is completed : Part _____ [1]

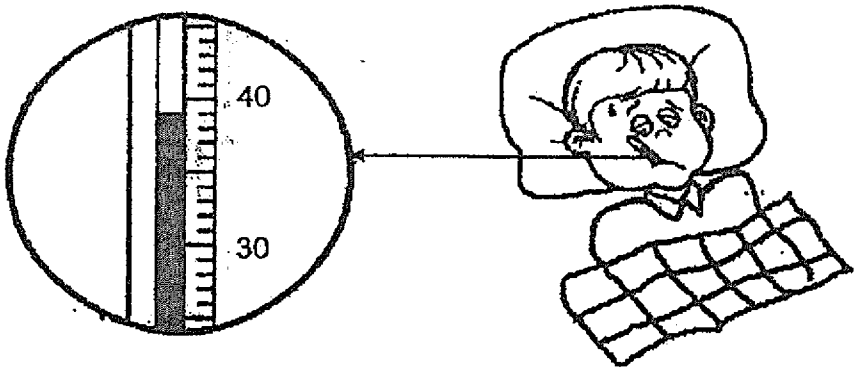
Score	2

33. The diagram below shows how David sees the statue of the Merlion.



The sun gives off _____ and the statue of the Merlion _____ the light into David's eyes. [2]

34. Roy had a fever. He used an instrument to measure his temperature.



a) What is the instrument called? [1]

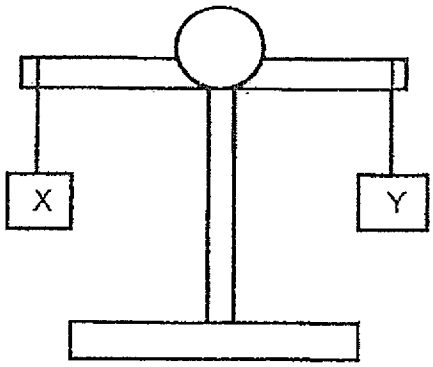
_____

b) What is Roy's temperature? [1]

_____

Score	4

35. Study the diagrams below and tick (√) the correct box for part (a) and (b).

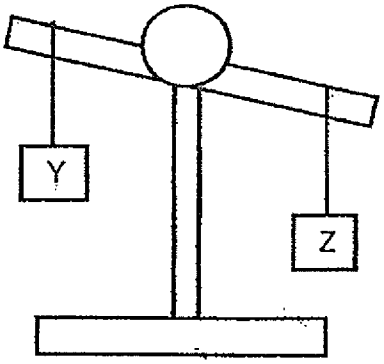


a) Block X._____ block Y. [1]

☐ is lighter than

☐ has the same mass as

☐ is heavier than



b) Block Y _____ block Z. [1]

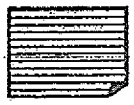
☐ is lighter than

☐ has the same mass as

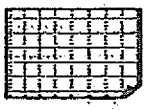
☐ is heavier than

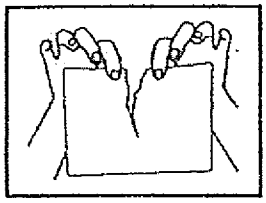
Score	2

36. Eric conducted an experiment to investigate a property of material using 3 different sheets of materials, A, B and C.


Material A


Material B


Material C



He placed sheets of the same material together to tear them. Then he recorded the maximum number of sheets of the same material that he can tear together at one go in the table below.

Maximum number of sheets of material that Eric can tear together at one go when placed together	8	2	25

a) What property of material was Eric investigating? [1]

_____

b) State two variables that must be kept the same in order to ensure a fair test. [2]

_____

_____

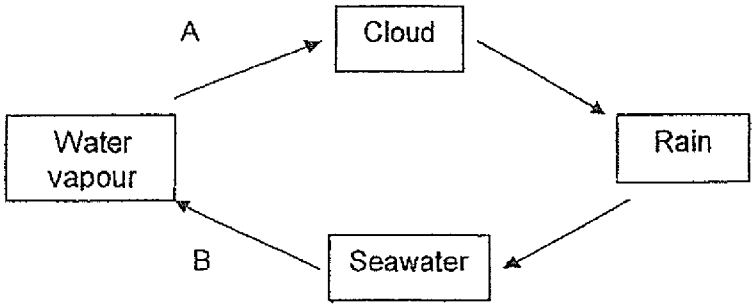
c) Which material should Eric choose to make a paper bag to carry heavy books? Explain your answer. [1]

_____

_____

Score	4

33. The diagram below shows the water cycle.



(a) In the table below, put a tick (✓) in the appropriate box to indicate if there is heat gain or heat loss in the water when it goes through Processes A and B respectively. [2]

Process	Heat gain	Heat loss
A		
B		

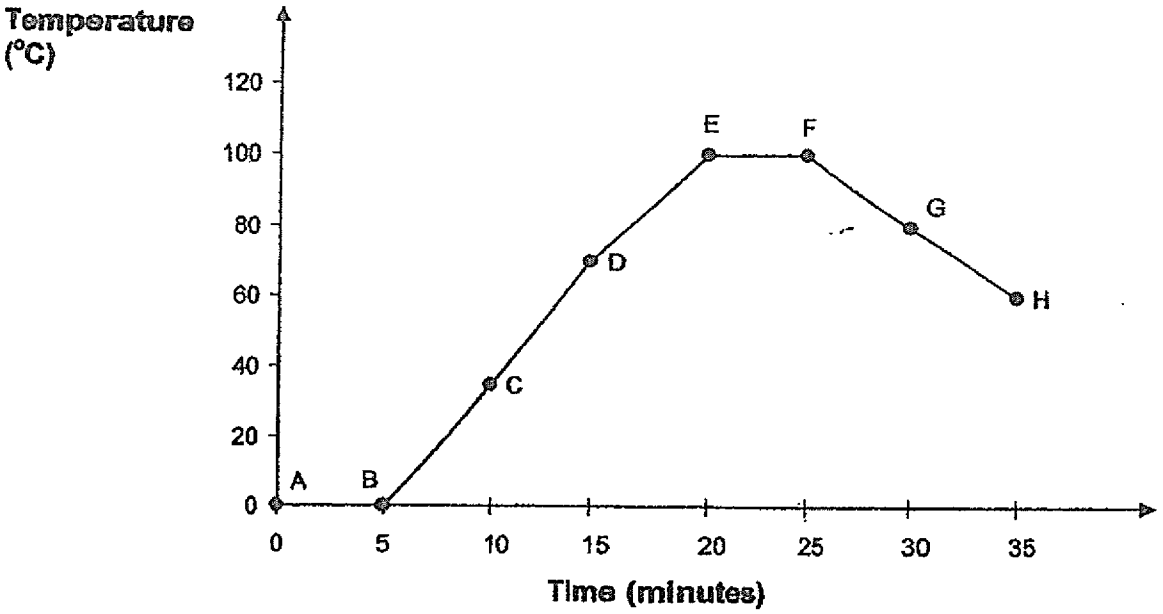
(b) Why is the water cycle important for the survival of living things? [1]

_____

_____

Score	/3

34. Cindy heated a beaker of ice cubes and recorded the changes in its temperature over some time.



(a) How long did it take for the ice cubes to melt completely? [1]

(b) At which point (A, B, C, D, E, F, G or H) in the graph did the water start to boil? [1]

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

(d) Cindy noticed that there was less water left in the beaker at the end of 35 minutes explain didthe volume of water decrease? [1]

Score	4

END OF PAPER

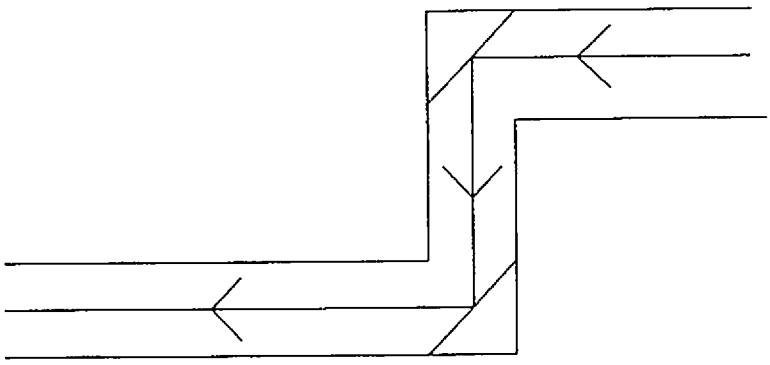
EXAM PAPER 2014
SCHOOL : NAN HUA PRIMARY SCHOOL
PRIMARY : P4
SUBJECT : SCIENCE
TERM : CA2

SECTION A

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

Q18	Q19	Q20
2	1	4

SECTION B



21. a)

b) Light will be reflected by shiny surfaces.

22. a) i) The balloon will inflate a little.
ii) Some Styrofoam balls will drop out from the containers.
b) The Styrofoam balls occupy space.

23. a) It will feel cool.
b) The metal spoon loses heat to the ice cream and will feel cold after a while.

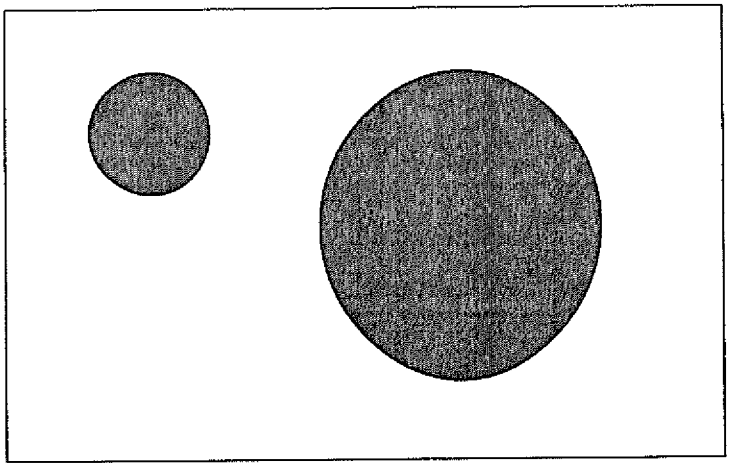
24. a) 20ml
b) The water and rock occupy space.

25. a) i) Bath
ii) Washing machine
b) Take a shower instead of a bath
Install water-saving devices such as a half-flush water cistern.

26. a) Z Y X
b) Opaque
Transparent
Translucent

27. a) The distance between the light source and Material A
b) The amount of light given off by the light source.
c) The further from Material A to the light source, the lesser amount of light reflected by Material A.

28. a)



b)i) Move the torchlight closer to the screen.
ii) Move the ball further away from the screen.

29. a) There is air in the flask and the air could not escape due to the stopper, which stopped the water from flowing in.
b)i) The water in the funnel will flow in.
ii) The water in the inverted beaker will flow out into the basin.
c) Air occupies space.

30. a) The ink indicator will go down into the flask.
b) The air in the flask contracts when it is cooled by the cold water.

31. a) Beaker A
    b) Water vapour from the surroundings came into contacts with the cooler surface of the beaker and condensed to form water droplets.

32. a) The tissue paper
    b) After Lisa took the temperature, it had the least amount of heat after 10 minutes.
    c) Water will eventually drop till room temperature and remain constant.

33. a) Heat loss
    Heat gain
    b) Living things need water to survive and the water cycle ensures an unlimited supply of fresh water.

34. a) 5 minutes
    b) E
    c) Water boils at the temperature of 100°C
    d) At the start, water is already evaporating, thus the volume of water decreases.