RIVER VALLEY PRIMARY SCHOOL
CONTINUAL ASSESSMENT 2 / 2017
PRIMARY 4

STANDARD SCIENCE

(BOOKLET A)

Name : _____ ( ) Date : 16 Aug 2017

Class : P4 _____ Total Time for Booklet A & Booklet B : 1 hour

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number and class in the space above.
2. Do not turn over this pege until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. For Section A, shade your answers for questions 1 to 10 in the Optical Answer Sheet (OAS) provided.
6. For Section B, write your answers for questions 11 to 15 in the space provided in the booklet.
7. The total marks for Booklet A is 20 marks.

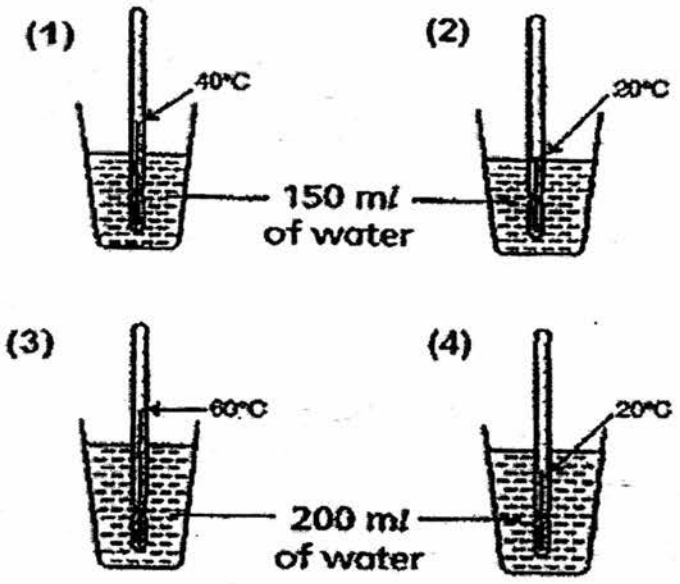
Section A (20 marks)

For each question 1 to 10, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which one of the following is **NOT** a source of heat?

   (1) A candle
   (2) Boiling water
   (3) Burning charcoal
   (4) Heated oven

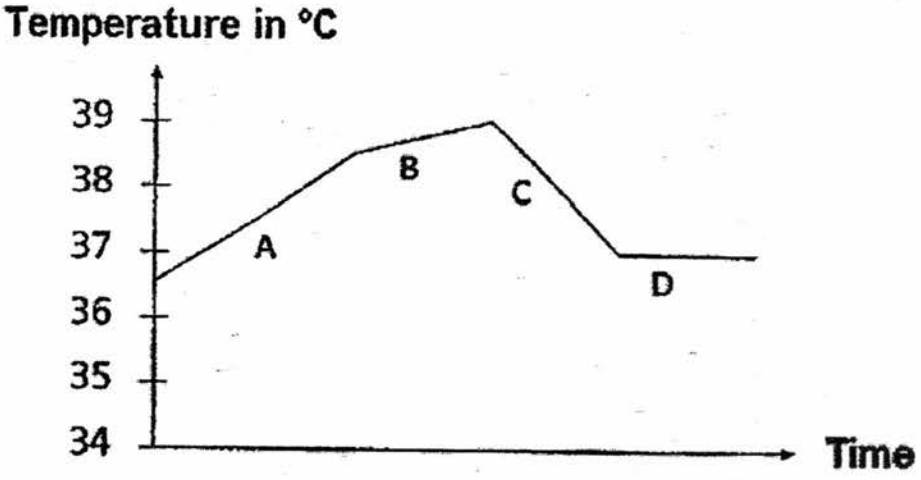
2. Which of the following glasses of water has the **least** amount of heat in it?



3. What does the temperature of an object measure?

(1) It measures the volume of an object.
(2) It is a measurement of its degree of hotness.
(3) It measures how hot or cold an object is at room temperature.
(4) It is a measurement of its degree of hotness at room temperature.

4. The graph shows the changes in Joe's body temperature.



Which part of the graph shows that he is recovering from a fever?

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

5. A keyboard was left in the air-conditioned room of temperature 25°C. Jonathan touched the keys on the keyboard and the metal casing of the keyboard. His hand felt cooler when he touched the metal casing.

Which of the following best explains why his hand felt cooler when he touched the metal casing?

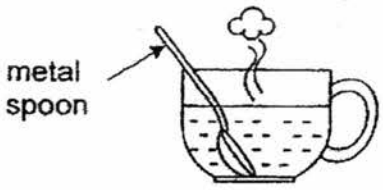
(1) The keys were hotter than the metal casing.

(2) The hands transferred less heat to the metal casing.

(3) More heat was transferred from the hands to the metal casing.

(4) The metal casing was a poorer conductor of heat than the keys.

6. Mrs. Tan placed a metal spoon into a cup of hot tea.



hot tea

After a while, the spoon became hotter because the _____

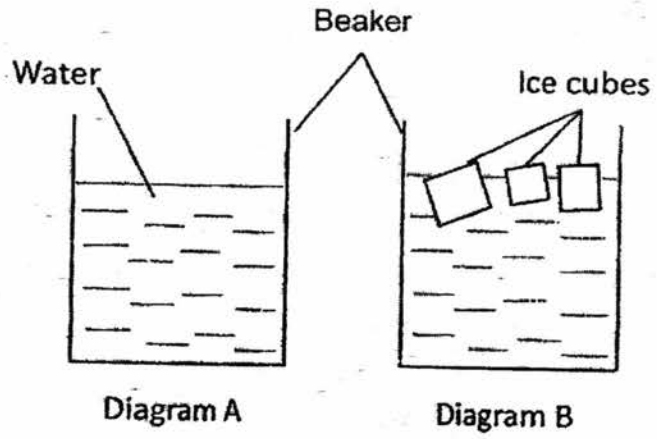
(1) cup lost heat to the hot tea

(2) spoon lost heat to the hot tea

(3) spoon gained heat from the hot tea

(4) spoon gained heat from the surrounding

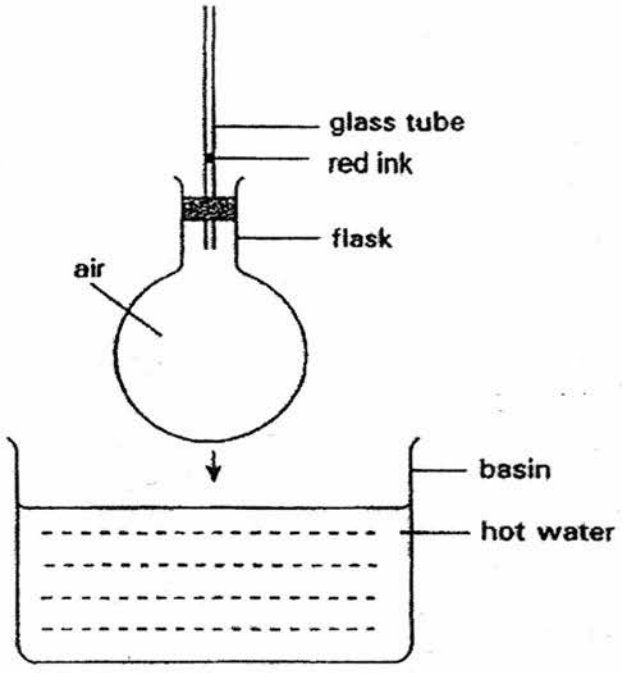
7. Diagram A shows a beaker containing some water. Zi Xuan then put some ice cubes into the water as shown in Diagram B. She notices that the temperature of the water decreases.



Why did the temperature of the water decrease?

(1) The ice cubes gained heat from the water.
(2) The ice cubes transferred heat to the beaker.
(3) The water gained heat from the surrounding.
(4) The heat in the ice was transferred to the water.

8. Serene placed a flask into a basin of hot water as shown below.



The red ink moved up because _____.

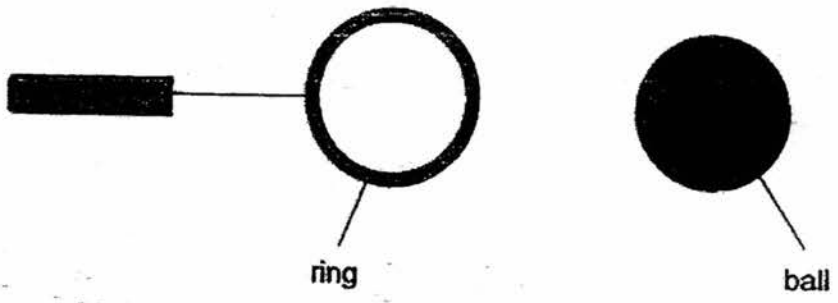
(1) the air in the flask expanded

(2) the air in the flask contracted

(3) the red ink in the glass tube expanded

(4) the flask expanded faster than the tube

9. The ring and the ball shown below were made of the same material.

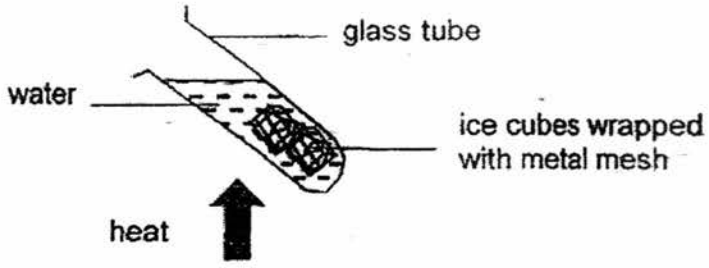


At room temperature, the ball was unable to pass through the ring. After heating the ring for a while, the ball passed through the ring.

Which of the following explains this observation?

	Ring	Ball
(1)	expanded	contracted
(2)	expanded	remained the same size
(3)	remained the same size	contracted
(4)	remained the same size	remained the same size

10. Miss Wong conducted an experiment as shown below.



Some ice cubes were wrapped up in metal mesh to make them sink to the bottom of the tube. After a few minutes, the ice cubes have not melted completely.
What can you conclude from the above experiment?

(1) Metal is a poor conductor of heat.
(2) Water is a poor conductor of heat.
(3) Water is a good conductor of heat.
(4) The glass tube is a good conductor of heat.

~ End of Section A ~

CONTINUAL ASSESSMENT 2 /
2017 PRIMARY 4

STANDARD SCIENCE

(BOOKLET B)

Name : _____ ( ) Date : 16 Aug 2017

Class : P4 _____ Total Time for Booklet A & Booklet B : 1 hour

INSTRUCTIONS TO CANDIDATES

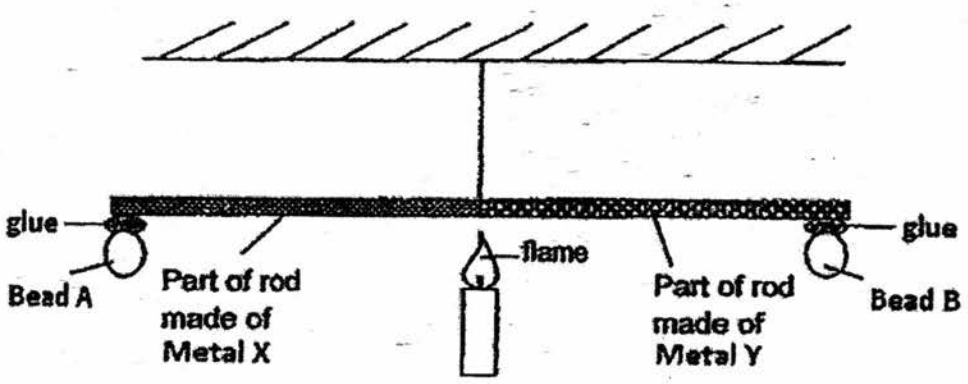
1. Write your name, index number and class in the space above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. For Section A, shade your answers for questions 1 to 10 in the Optical Answer Sheet (OAS) provided.
6. For Section B, write your answers for questions 11 to 15 in the space provided in the booklet.
7. The total marks for Booklet B is 20 marks.

Booklet A		/20
Booklet B		/20
Total		/40
Parent's Signature		

Section B (20 marks)

Write your answers for questions 11 to 15 in this booklet.

11. Sam hung a rod made of Metals X and Y as shown below. Two identical beads were attached to the ends of the rod using the same amount of glue. Both sections of the rod, made of metals X and Y are equal in length. At the beginning of the experiment, the rod was balanced.



Sam heated the centre of the rod with a flame. He recorded the time taken for the bead to drop as shown in the table below.

Bead	Time taken for each bead to drop (min)
A	3
B	4

(a) Based on his observation, which metal X or Y, is a better conductor of heat? Explain your answer. [1m]

_____

_____

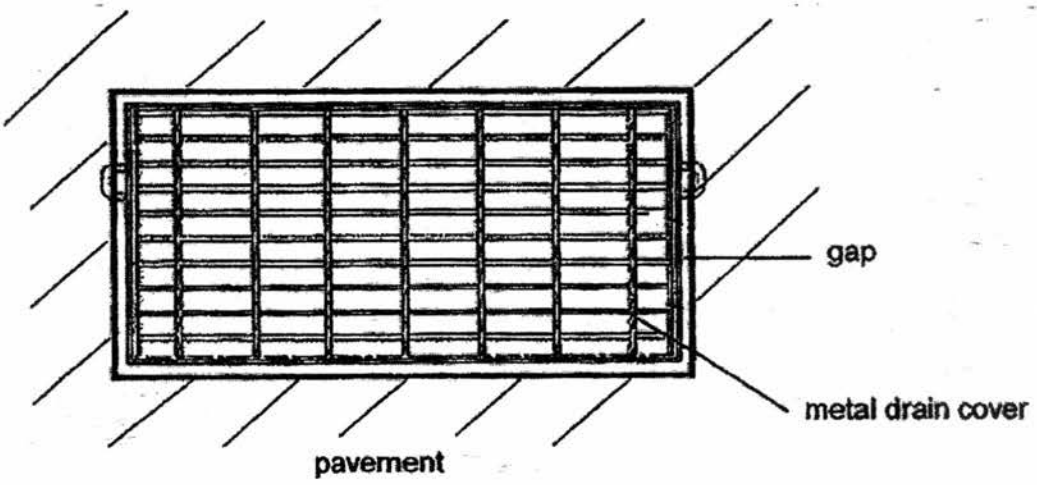
	1

(b) Sam continued to heat the rod X for another 10 minutes.
What is the effect of this heating on the rod X? [1m]

_____

_____

(c) Based on the results of the above experiment, explain why there is a gap between the metal drain cover and the pavement as shown in the picture below. [2m]



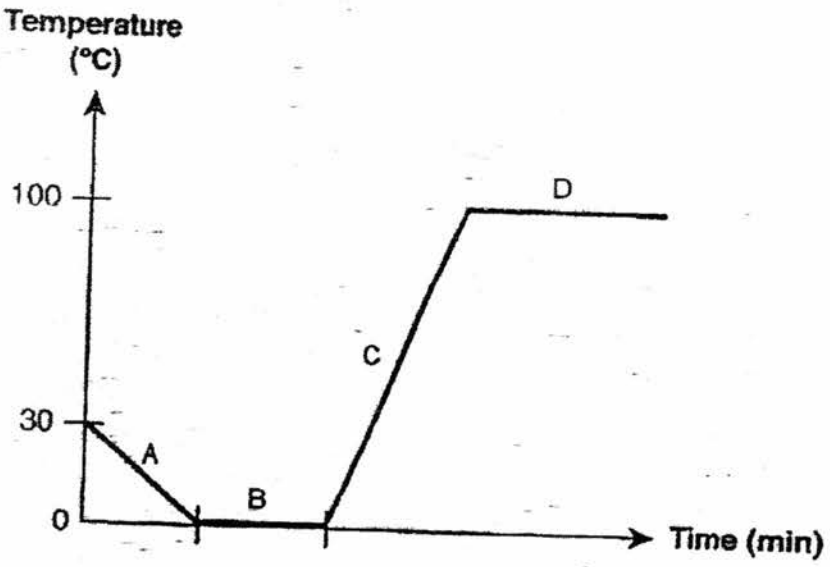
_____

_____

_____

	3

12. The graph below shows the changes in the temperature of water.



(a) State if there is **heat gain** or **heat loss** for the following: [2m]

Stage A : _____

Stage C : _____

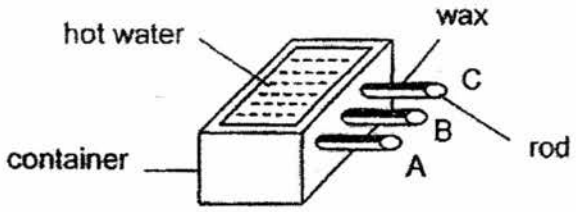
(b) Which part of the graph shows that: [2m]

(i) the water has been placed in a freezer: _____

(ii) the water has been heated in a kettle: _____

	4

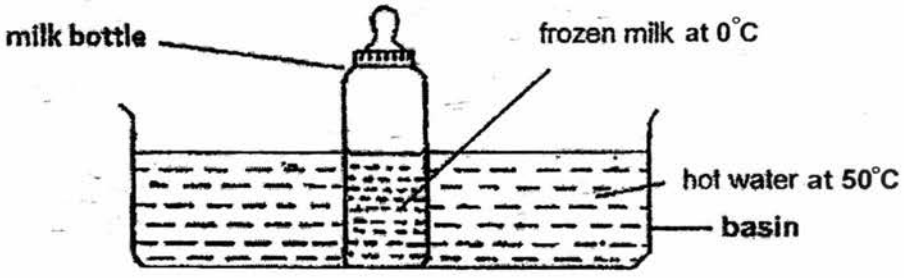
13. Adrian sets up an experiment below to find out which type of metal rod is the best conductor of heat. Rod A, B, C each has the same amount of wax applied.



(a) What should Adrian observe so that he can conduct this experiment accurately? Tick one of the following. [1m]

Amount of water	
Amount of wax left on the metal rod	
Type of wax used at the start of the experiment	

(b) Mrs Shannon took a bottle of milk out of the freezer. It was frozen and she placed it in a basin of hot water as shown below.



After 10 minutes, the frozen milk in the bottle had melted. What had happened to the temperature of the milk? [1m]

_____

_____

2

(c) If the temperature of the milk in the bottle is now 28°C, the temperature of the hot water will most likely be (tick one of the following) : [1m]

2°C to 5°C	
20°C to 30°C	
50°C to 70°C	

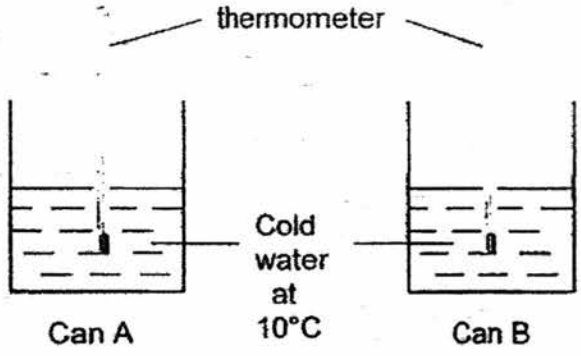
Explain your answer. [1m]

_____

_____

	2

14. The picture below shows two metal cans which contained cold water at 10°C. They were left in the classroom at room temperature of 30°C and changes in their temperature were measured.

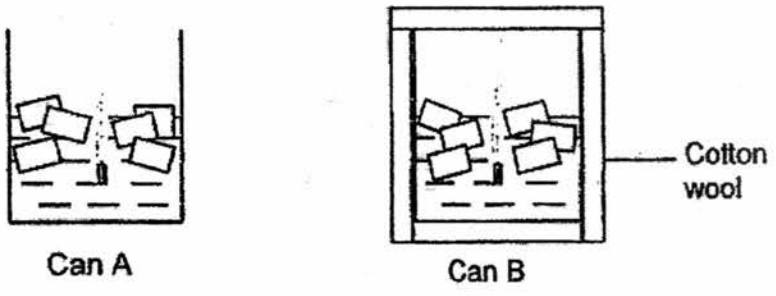


(a) What will happen to the temperature in both setups? [1m]

_____

_____

The next day, equal amount of ices were added into the cans. Can B was covered up with cotton wool and the readings of both thermometers in Can A and B were being recorded again.



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(b) Which thermometer, in Can A or B, will show a faster increase in temperature?

The thermometer in Can _____ [1m]

(c) After 30 minutes, all the ice in Can A had melted but some of the ice in Can B remained. Based on the results of this experiment, what can you conclude about the property of the cotton wool? [2m]

_____

_____

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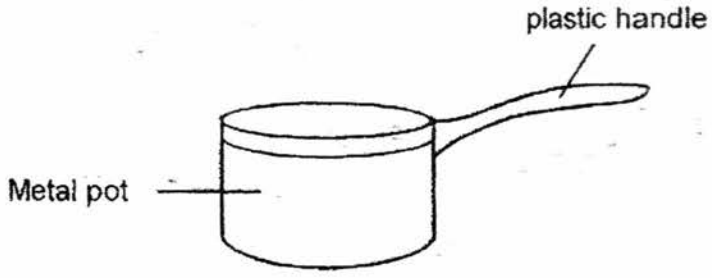
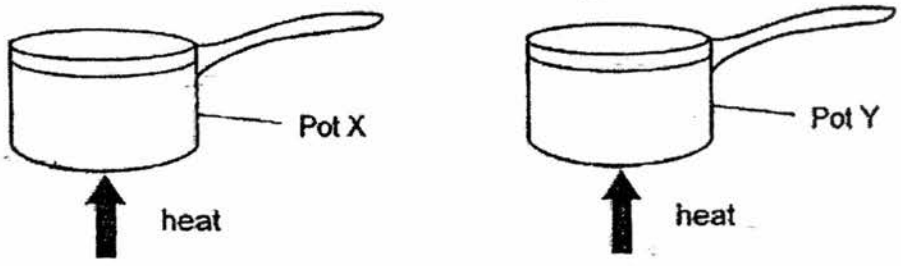
15. The diagram below shows a cooking pot.



(a) The handle is made of plastic because it is a _____ conductor of heat. [1m]

The pot is made of metal because it is a _____ conductor of heat. [1m]

Mrs Goh used two pots to cook dinner. The pots are of the same size, thickness and shape but they were made of different materials. She poured the same amount of water into each pot.



(b) Using the same stove, Mrs Goh realized that the water in Pot Y boil faster than Pot X. Explain why. [1m]

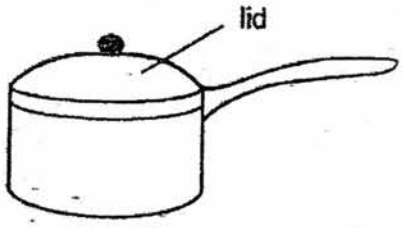
_____

_____

_____

	3

(c) Mdm Tan suggested that Mrs Goh should use a lid to cover the pot so that the water in the pot will boil faster. Is Mdm Tan correct? [1m]
Give a reason for your answer.



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~ End of Paper ~

EXAM PAPER 2017 (P4)

SCHOOL : RIVER VELLEY

SUBJECT : SCIENCE

TERM : CA2

ORDER CALL :

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	2	2	3	3	3	1	1	2	2

11)a)Metal X. It takes a shorter time for heat to travel to the glue.

b)Rod X will gain heat and expand so the metal X and Y will take a longer time to drop.

c)Gaps between the pavement allowed for expansion on hot days when the pavement gain heat and expand.

12)a)A: heat loss b)heat gain

b)i)B ii)C

13)a)Amount of wax left on the metal rod

b)The temperature of the milk will increase.

c)The frozen milk gained heat from the hot water.

The hot water lost heat to the frozen milk.

14)a)The temperature in both setup will increase.

b)A.

c)The cotton wool is a poor conductor of heat and it can slow down the ice from gaining heat from the surrounding so the ice in Can B remained.'

15)a)poor / good

b)Pot Y is a better conductor of heat then Pot X so Pot Y boil faster than Pot X.

c)Yes. The lid prevents heat loss to the surroundings and traps heat. Hence water will boil faster.