Anglo-Chinese School (Junior)

BITE-SIZED ASSESSMENT 2 (2021)

PRIMARY 4

SCIENCE

Tuesday **24 August 2021** **50 minutes**

Name: _____ Parent's Signature: _____

INSTRUCTIONS TO PUPILS

1 Do not turn over the pages until you are told to do so.
2 Follow all instructions carefully.
3 There are 8 questions in this booklet.
4 Answer ALL questions.
5 The marks are given in the brackets [ ] at the end of each question or part question.

Question Paper	Possible Marks	Marks Obtained
Total	20	

This question paper consists of 8 printed pages (inclusive of cover page).

Answer questions 1 to 8. The number of marks available is shown in the brackets [ ] at the end of each question.

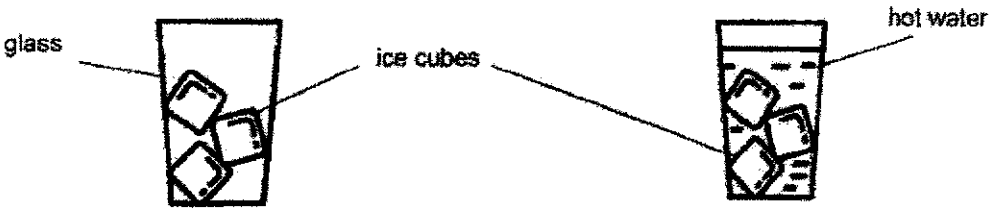
[20 marks]

1. Match the correct answers by connecting the dots. [3]

A _____ thermometer is used to measure our body temperature.	cold
Heat is a form of _____.	clinical
Temperature is a measure of how hot or _____ something is.	conductors
Good _____ of heat are materials that allow heat to pass through easily.	energy
When water gains heat, it changes to _____ state.	expands
A metal ball gains heat and _____ when heated.	gaseous

SCORE 3

2. John placed some ice cubes into an empty glass. Then, he added hot water into the glass.



Before pouring in hot water

After pouring in hot water

Complete the table with 'gained heat' or 'lost heat' to show what happened to the ice cubes and hot water three minutes after hot water was added to the glass of ice cubes. [1]

(a)

	'gained heat' or 'lost heat'
Ice cubes	
Hot water	

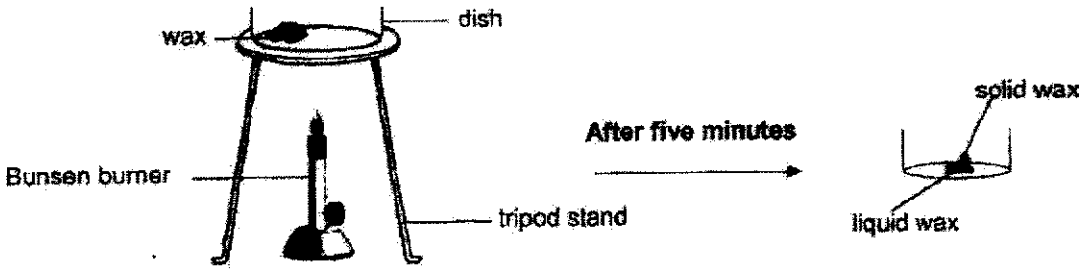
(b) What is the change in state of the ice cubes as it melts? [1]

_____

_____

SCORE 2

3. Amy heated equal amounts of wax on four dishes made of different materials, A, B, C and D, on a tripod stand at room temperature for five minutes.



Then, she separated the solid wax from the liquid wax and measured the mass of the solid wax. She recorded the results in a table.

Material of dishes	Mass of the solid wax at the start (g)	Mass of remaining solid wax after five minutes (g)
A	25	18
B	25	15
C	25	10
D	25	4

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

_____

_____

(b) What can Amy conclude about the property of material A? Explain your answer based on the results. [2]

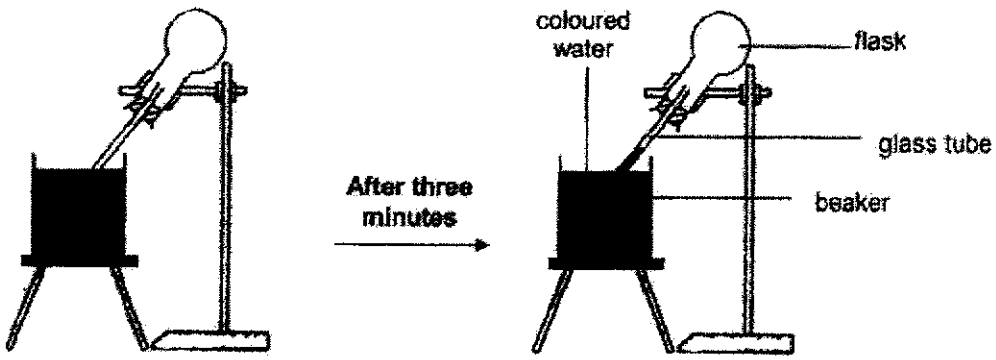
_____

_____

_____

SCORE	/ 3

4. Kenneth carried out the experiment as shown. He made a change to the set-up and observed that after three minutes, the coloured water rose inside the glass tube.



At the start of the experiment **End of three minutes**

(a) Tick (✓) the box to indicate the possible change that he might have made. [1]

Possible changes	Tick (✓)
He placed a cold towel on the flask.	
He heated the flask with a bunsen burner.	
He placed the beaker in a basin of cold water.	

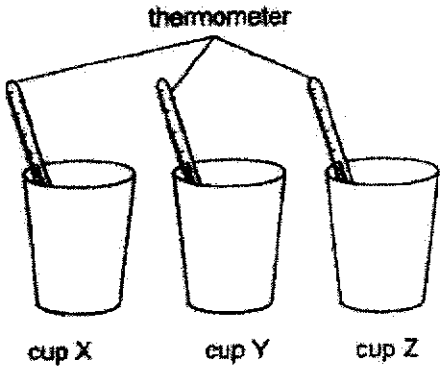
(b) Explain why the level of the coloured water in the glass tube increased. [2]

_____

_____

SCORE	/ 3

5. Shane wanted to find out which material is able to keep boiling water hot for the longest time. He used three identical cups, X, Y and Z, and wrapped each one with a different material of the same size. He poured equal amounts of boiling water into each cup.



He measured the temperature of the water in each cup using a thermometer every ten minutes and recorded the results in the table.

Time (min)	Temperature of water (°C) in		
	Cup X	Cup Y	Cup Z
0	100	100	100
10	80	85	90
20	60	70	80

(a) Which material is most likely wrapped around cups X, Y and Z? Write 'X', 'Y' or 'Z' in the box accordingly. [1]

Material around the cup	Cup
Paper	
Bubble wrap	
Cotton cloth	

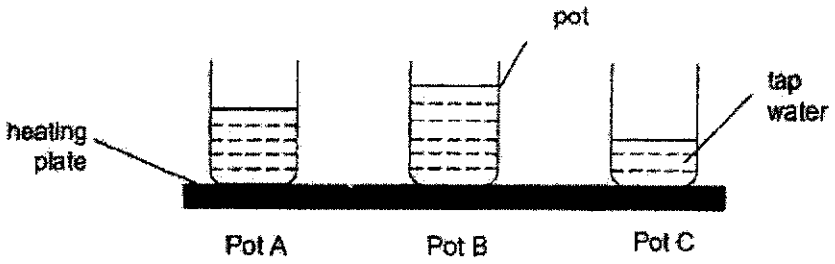
(b) Which cup will be most suitable to keep boiling water hot for the longest time? Explain your choice based on the results in the table. [1]

_____

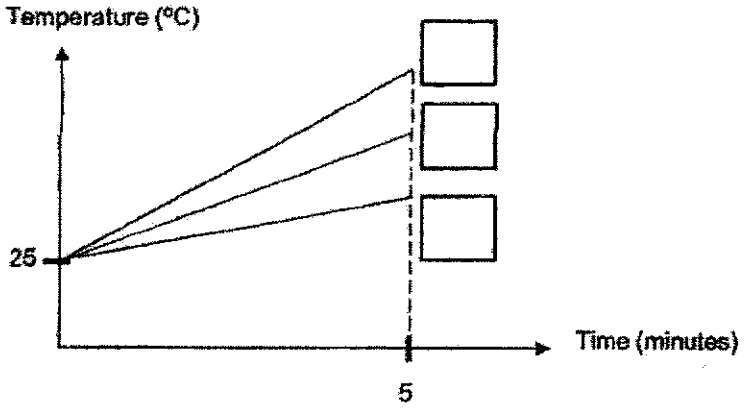
_____

SCORE	/ 2

6. Vanessa filled three identical pots, A, B and C, with different amounts of tap water. She then heated all the pots on a heating plate as shown.



(a) Label the line graphs with A, B and C to match them to the temperature of water in each pot, after five minutes. [1]



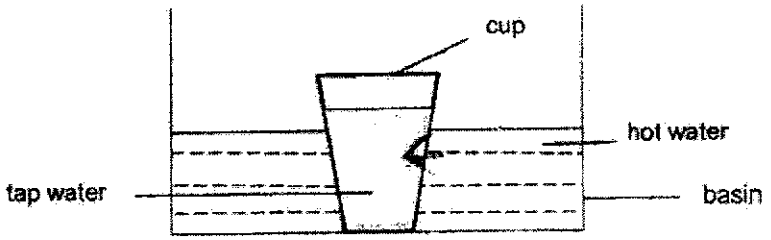
(b) The water in all the pots are heated to 90°C. Which pot of water will take the least amount of time to reach room temperature? Explain why. [2]

_____

_____

SCORE 3

7. Tom set up an experiment as shown.



Set-up X

(a) **Draw an arrow (→)** to show the direction in which heat is flowing within Set-up X. [½]

(b) What will happen to the temperature of the hot water and tap water in the next three minutes? [½]

(i) Hot water: _____

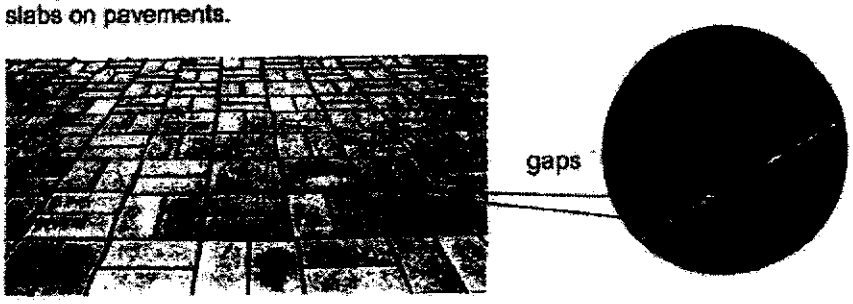
(ii) Tap water: _____

(c) What will happen to the temperature of the tap water and hot water after a few hours? [1]

_____

_____

8. The picture shows gaps that are commonly found between concrete slabs on pavements.



(a) Will the gaps remain the same, become wider or become narrower on a cold day? [1]

_____

(b) Explain the advantage of having gaps in between concrete slabs. [1]

_____

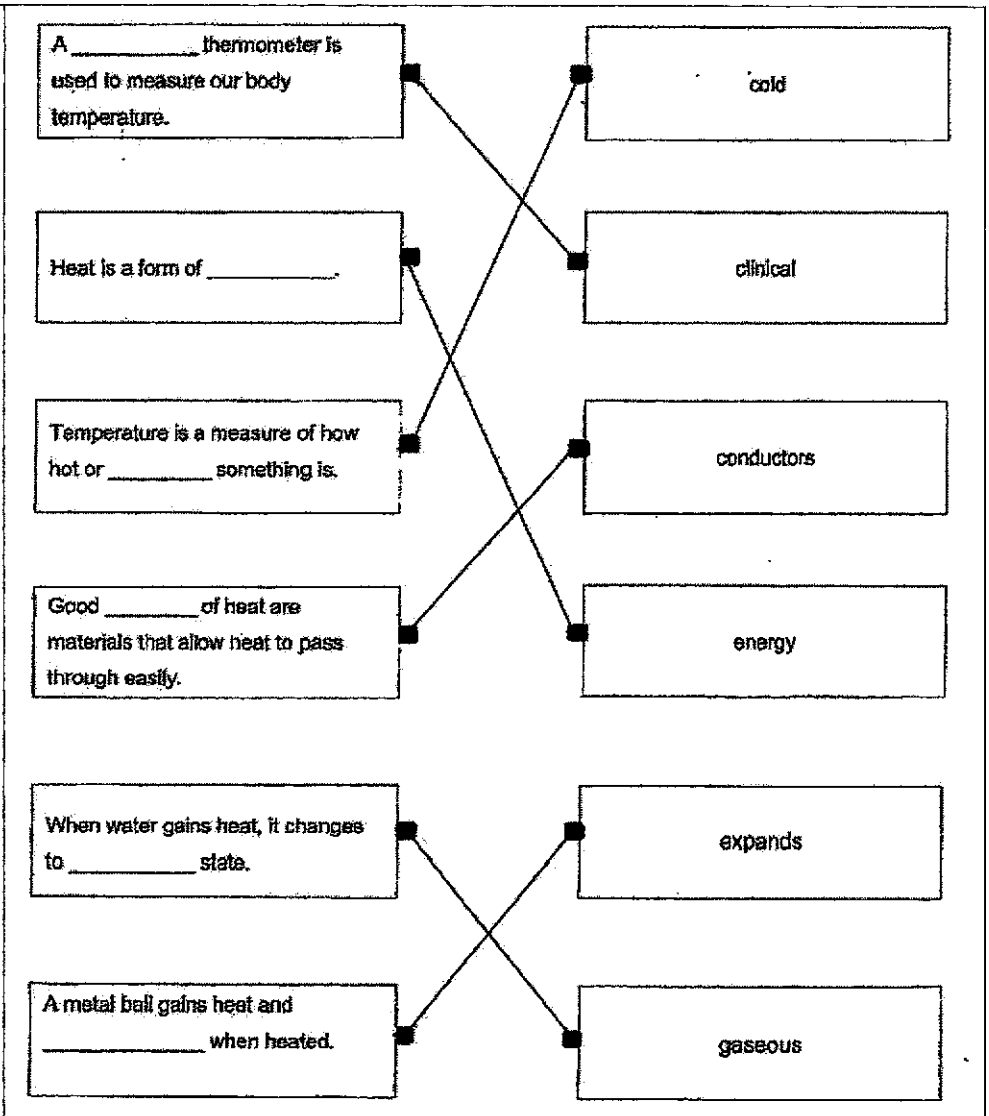
_____

End of Paper

SCORE	
	4

SCHOOL : ANGLO-CHINESE SCHOOL (JUNIOR)
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : BIT-SIZED ASSESSMENT 2

Q1



Q2

a) Ice Cubes: Gain heat
Hot Water: Lost heat

b) The ice cubes will change into a liquid state from a solid state.

Q3

a) To find out which material A,B,C or D is the best conductor of heat.
b) Material A is the ppoest conductor of heat. There was most amount of solid was remaining after 5 minutes.

Q4

Possible changes	Tick (✓)
He placed a cold towel on the flask.	✓
He heated the flask with a bunsen burner.	
He placed the beaker in a basin of cold water.	

a)
b) The air in the flask lost heat to the towl and contracted

Q5

Material around the cup	Cup
Paper	X
Bubble Wrap	Z
Cotton Cloth	Y

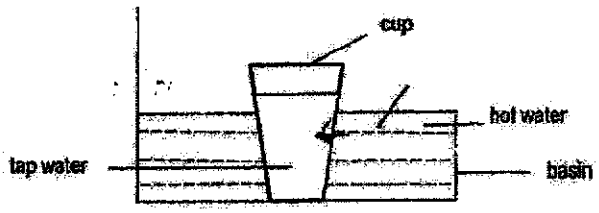
a)
b) Cup Z, the temperature of water in Cup Z was the greatest after 20 minutes.

Q6

a) C
A
B

b) Pot C. The tap water in Pot C was the least. Hence, It has the least amount of heat energy.

Q7



Set-up X

a) Asdf
b) Hot water: decrease
Tap Water: increase

c) The temperature of the tap water and hot water will be the same. They willr each room temperature.

Q8

a) The gaps will become wider on a cold day
b) On a hot day the concrete slabs can gain heat and expand within breaking because the gaps provide space.