

**PEI CHUN PUBLIC SCHOOL**

**PRIMARY 4**

**TERM 3 WEIGHTED ASSESSMENT 2020**

**SCIENCE**

**Time: 1 hour**

Name: \_\_\_\_\_ ( )

Class: Primary 4 / ( ) \_\_\_\_\_

Date: 18 August 2020

Science Teacher: \_\_\_\_\_

Parent's Signature: \_\_\_\_\_

<b>SECTION A</b>	<b>28</b>
<b>SECTION B</b>	<b>22</b>
<b>TOTAL</b>	<b>50</b>

**INSTRUCTIONS TO CANDIDATES**

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

WRITE YOUR ANSWERS IN THIS BOOKLET.

**Section A (14 × 2 marks)**

For questions 1 to 14, choose the most suitable answer and shade its number (1, 2, 3 or 4) on the Optical Answer Sheet (OAS) provided.

1 Ali observed an animal and concluded that it is an insect. Which of the following characteristics about the animal allowed him to make the conclusion?

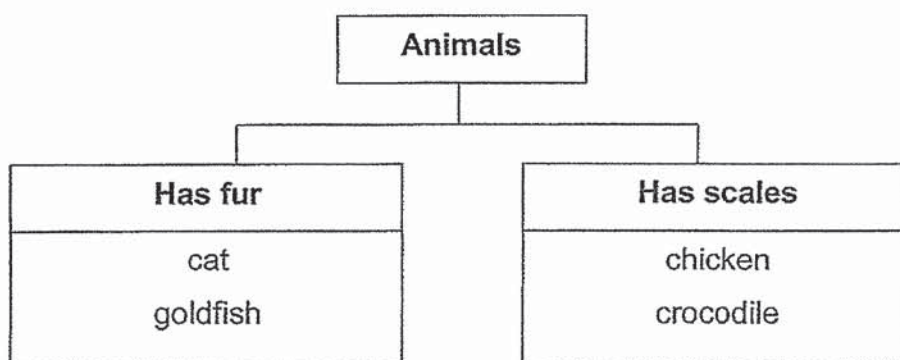
- A : It has two wings.
- B : It has three body parts.
- C : It has three pairs of legs.

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

2 Which of the following about the stages in the life cycle of a flowering plant is correct?

- (1) The seed needs water to grow.
- (2) The adult plant produces spores.
- (3) The seed can make its own food.
- (4) The young plant develops flowers. ( )

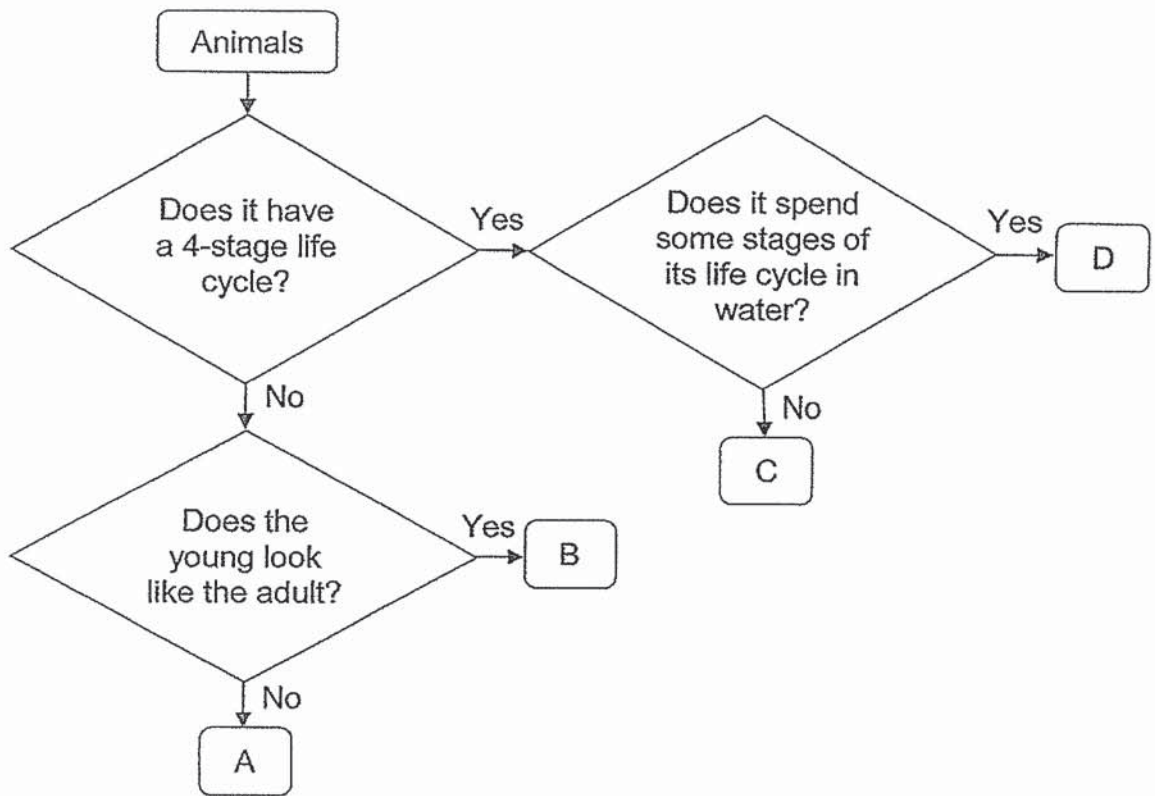
3 Boon Hong classified four animals as shown in the diagram below.



Which animal(s) has/have been classified wrongly?

- (1) chicken only
- (2) cat and crocodile only
- (3) chicken and goldfish only ( )
- (4) goldfish and crocodile only

4 Study the diagram below.

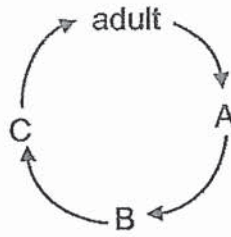


Which letter represents the mosquito and cockroach?

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

( )

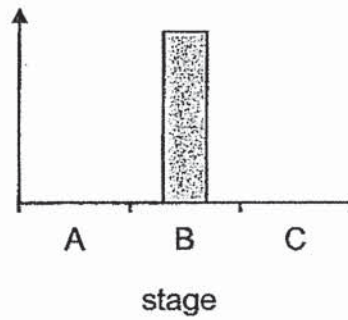
5 The diagram below shows the stages in the life cycle of a mealworm beetle.



Which graph correctly shows the amount of food it eats at each stage?

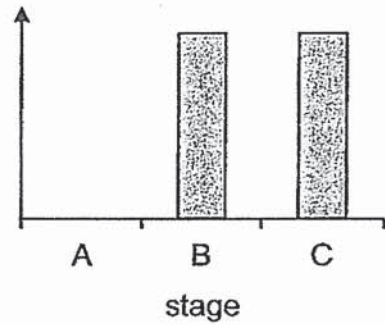
(1)

amount of  
food eaten (g)



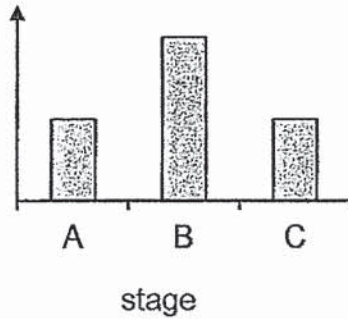
(2)

amount of  
food eaten (g)



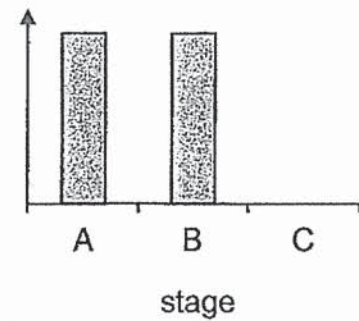
(3)

amount of  
food eaten (g)












(4)

amount of  
food eaten (g)



( )

- 6 Mushrooms were placed in different conditions in set-ups A, B and C. After five days, only the mushrooms in set-ups A and B showed signs of mould.

Day	set-up A	set-up B	set-up C
1			
3			
5			

Which of the following most likely shows the conditions that the mushrooms are placed in?

	set-up A	set-up B	set-up C	
(1)	cold and dry	warm and moist	warm and dry	( )
(2)	cold and dry	warm and dry	warm and moist	
(3)	warm and dry	warm and moist	cold and dry	
(4)	warm and moist	warm and dry	cold and dry	

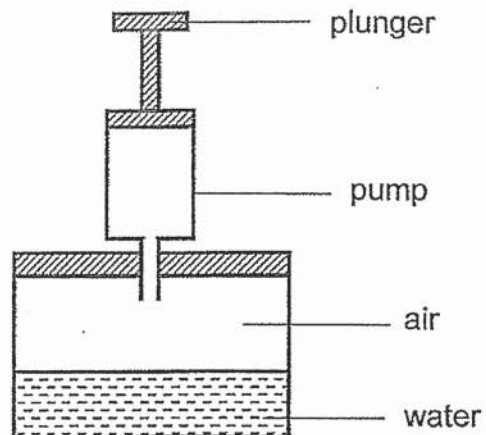
- 7 The table below shows the properties of three substances, X, Y and Z.

Properties	X	Y	Z
Has definite shape	No	Yes	No
Has definite volume	Yes	Yes	No

Which of the following substances are most likely to be X, Y and Z?

	X	Y	Z	
(1)	air	spoon	water	( )
(2)	spoon	water	air	
(3)	water	air	spoon	
(4)	water	spoon	air	

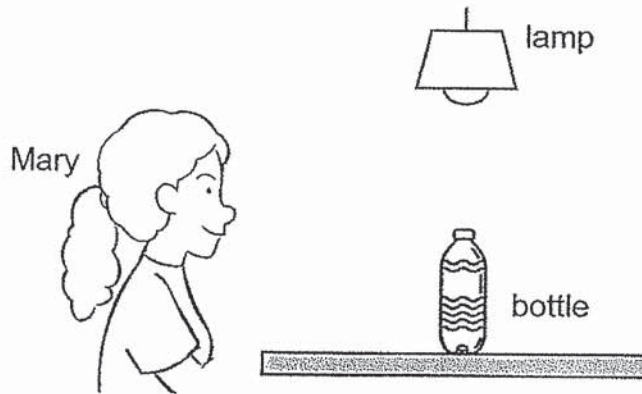
- 8 The diagram below shows a pump connected to a metal container which holds  $250 \text{ cm}^3$  of air and  $200 \text{ cm}^3$  of water.



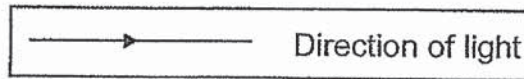
When the plunger was pushed in completely,  $50 \text{ cm}^3$  of air was pumped into the container. What would be the final volume of the air in the container?

- (1)  $200 \text{ cm}^3$
  - (2)  $250 \text{ cm}^3$
  - (3)  $300 \text{ cm}^3$
  - (4)  $450 \text{ cm}^3$  ( )
- 9 Which one of the following is **not** a source of heat?
- (1) sun
  - (2) lighted bulb
  - (3) candle flame
  - (4) woollen sweater ( )

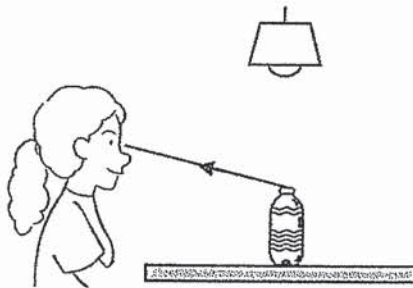
10 Look at the picture below.



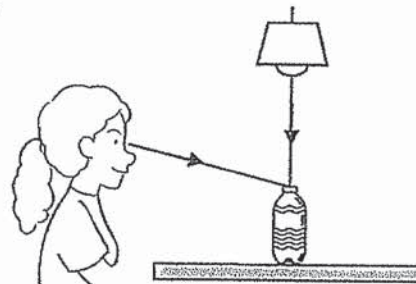
Which one of the following best explains how Mary can see the bottle on the table?



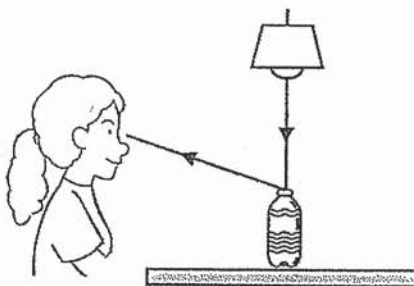
(1)



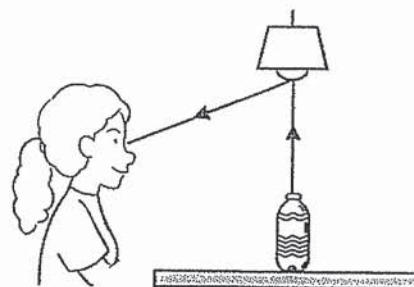
(2)



(3)

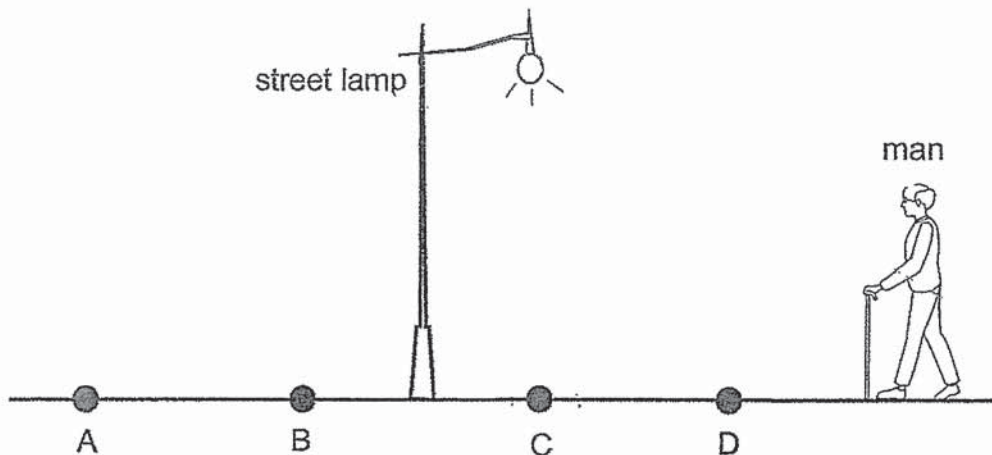


(4)



( )

11 A man was walking in a straight line near a street lamp at night.

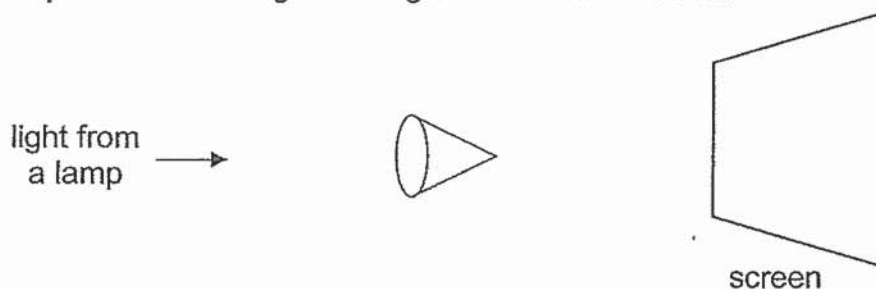


At which point will his shadow be the shortest?

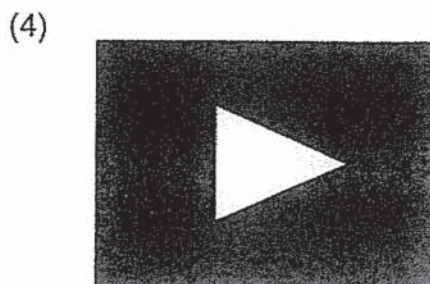
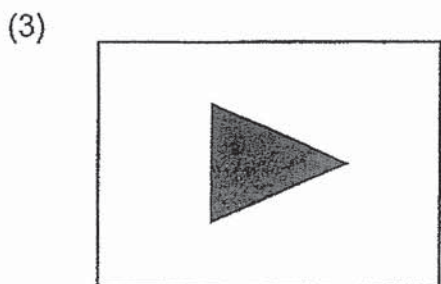
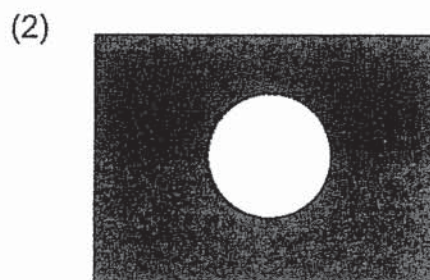
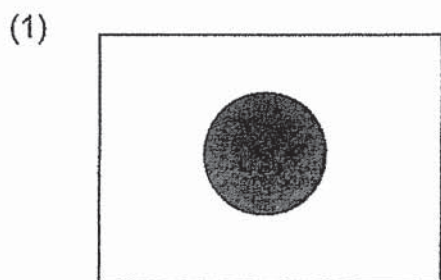
- (1) A
- (2) B
- (3) C
- (4) D

( )

12 The set-up below shows light shining on a cardboard cone.



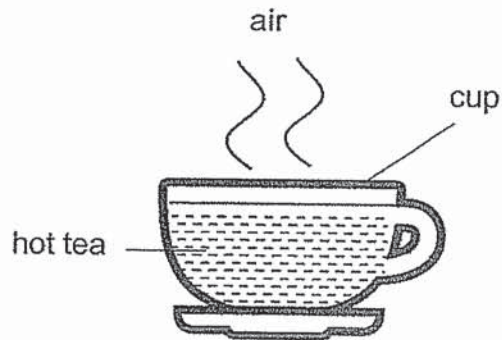
Which of the following shadows would be observed on the screen?



( )



13 Raju placed a cup of hot tea in a room.



Which of the following correctly shows the flow of heat?

- (1) The cup loses heat to the hot tea.
- (2) The surrounding air loses heat to the cup.
- (3) The hot tea gains heat from the surrounding air.
- (4) The surrounding air gains heat from the hot tea.

( )

14 A bowl of soup was left in a room for twenty minutes.  
The table below shows how the temperature of the soup changed with time.

Time (min)	Temperature (°C)
0	50
5	40
10	30
15	25
20	25

What was the temperature of the room?

- (1) 25 °C
- (2) 30 °C
- (3) 40 °C
- (4) 50 °C

( )

**End of Section A**

**Section B (22 marks)**

For questions 15 to 21, write your answers in the spaces provided.

- 15 The following table gives information on three plants, W, X and Y, based on two characteristics. A tick (✓) shows that the plant has the characteristic.

	W	X	Y
Bears fruit		✓	✓
Grows on land	✓	✓	

- (a) Based on the table, name a similarity and a difference between plants X and Y. [2]

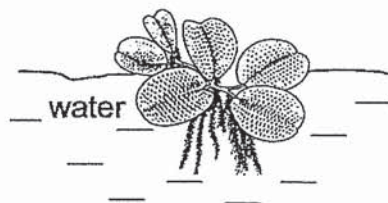
Similarity: \_\_\_\_\_

\_\_\_\_\_

Difference: \_\_\_\_\_

\_\_\_\_\_

- (b) The diagram below shows a non-flowering plant that grows in a pond.



The plant above cannot be W, X or Y. Explain why.

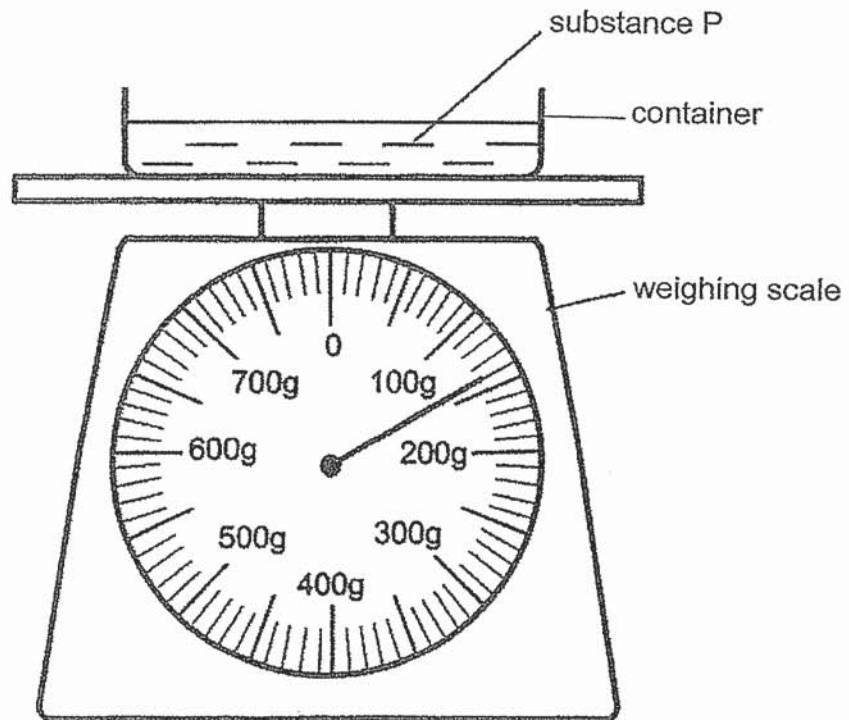
[1]

\_\_\_\_\_

\_\_\_\_\_

SCORE	
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- 16 Omar has a container of substance P. He placed it on a weighing scale as shown below.



- (a) What is the reading of the mass shown on the weighing scale? [ 1 ]

\_\_\_\_\_ g

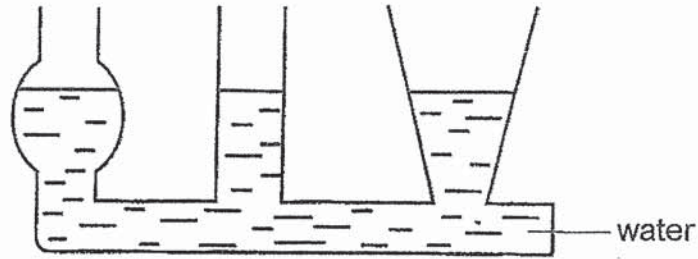
- (b) Omar concluded that the reading in (a) is the mass of the substance P. Give a reason why his conclusion was not correct. [ 1 ]

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(c) In another experiment, Omar poured water into an apparatus as shown below.



What property of water is shown in the above experiment?

[ 1 ]

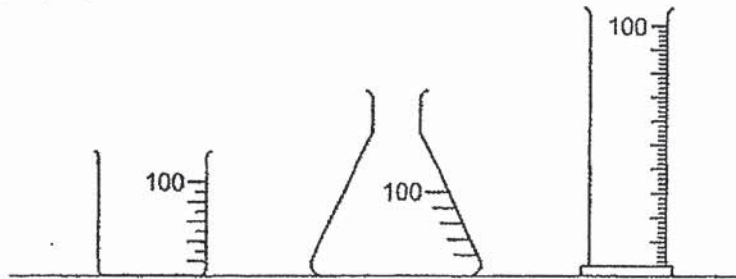
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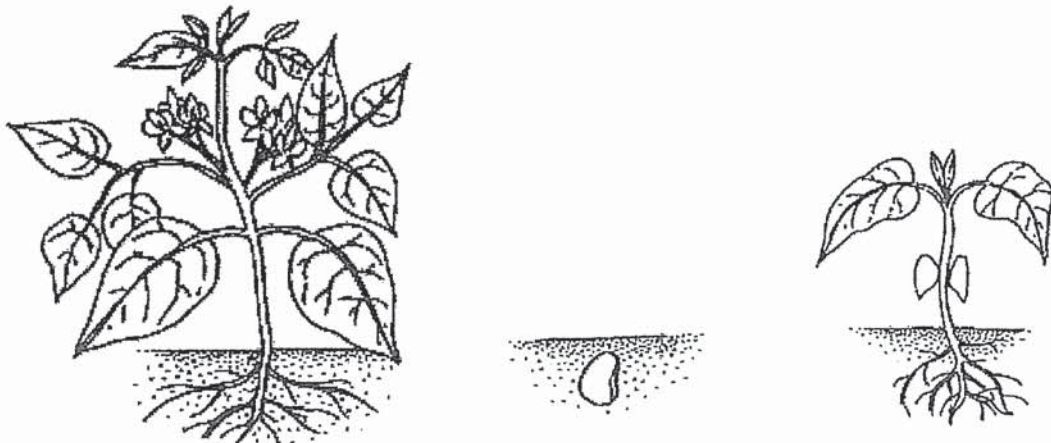
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(d) Which of the following apparatus is most suitable for measuring 53 ml of water?  
Circle your answer.

[ 1 ]



17 The diagram below shows the stages in the life cycle of a plant.



P

Q

R

Name the stages Q and R in the life cycle of the plant.

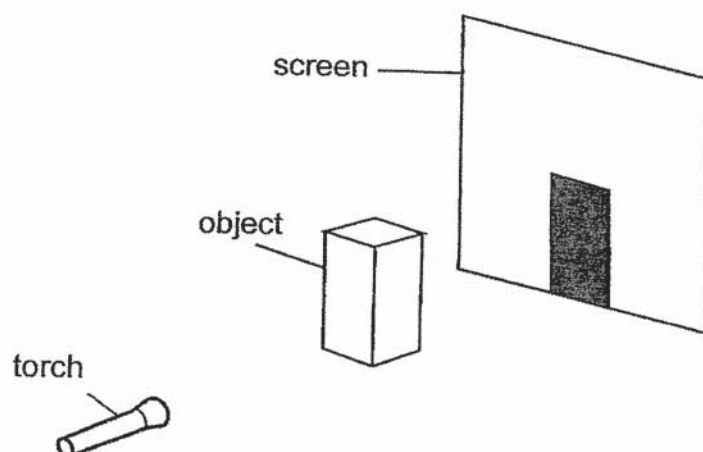
[ 2 ]

Q: \_\_\_\_\_

R: \_\_\_\_\_

SCORE	
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18 An object is placed between a torch and screen in a dark room as shown below.



(a) Explain why a torch can be seen in the dark. [ 1 ]

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(b) State a property of light that caused a shadow to be formed. [ 1 ]

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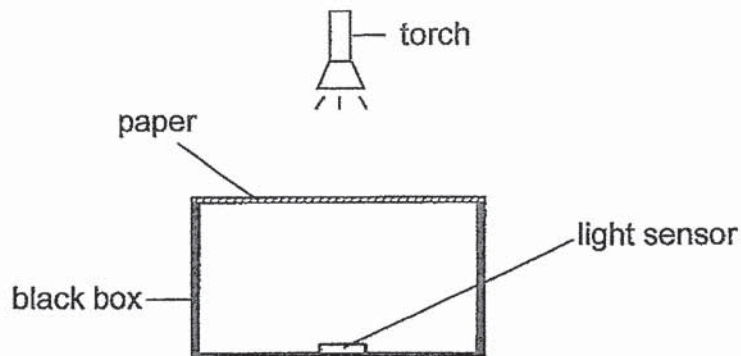
(c) Using the same items above, suggest a change to the set-up that would make the shadow on the screen appear bigger. [ 1 ]

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SCORE	
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- 19 Li Mei conducted an experiment in a dark room as shown below.



- (a) When Li Mei switched on the torch and no paper was placed on the opening of the black box, the light sensor shows a reading of 5000 units.

When a sheet of thin paper is placed at the opening, the reading becomes 4000 units. Explain why. [ 1 ]

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Li Mei repeated the experiment by adding more sheets of the same type of paper. The table below shows her results.

Number of sheets	Amount of light (units)
0	5000
1	4000
2	3000
3	(b) _____
4	1000
5	0

- (b) Fill in the missing result in the table above when 3 sheets of paper were placed on the opening of the black box. [ 1 ]

SCORE	
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- (c) In another experiment, Li Mei covered the opening of the black box using fabric X. She repeated the experiment using fabrics Y and Z.

The table below shows the results.

Fabric	Amount of light (units)
X	500
Y	1000
Z	40

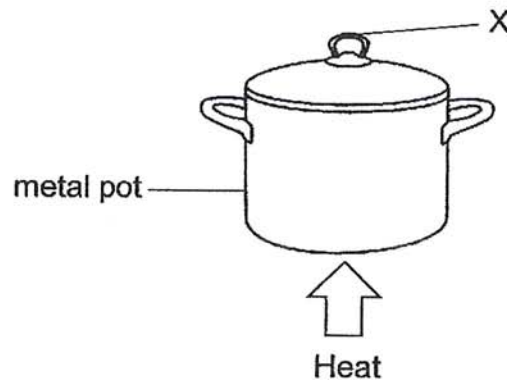
Li Mei wants to choose a fabric to make curtains for her windows in the bedroom. She wants her bedroom to be as dark as possible during the day.

Which fabric, X, Y or Z, should Li Mei use for the curtains? Give a reason for your answer. [ 2 ]

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- 20 Mrs Chan put 1000 ml of water at room temperature into a metal pot and heated it.



- (a) Give a reason why plastic, instead of metal, is more suitable for making the part labelled X. [ 1 ]

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- (b) When Mrs Chan heated the metal pot, what would happen to the temperature of the water in the pot? [ 1 ]

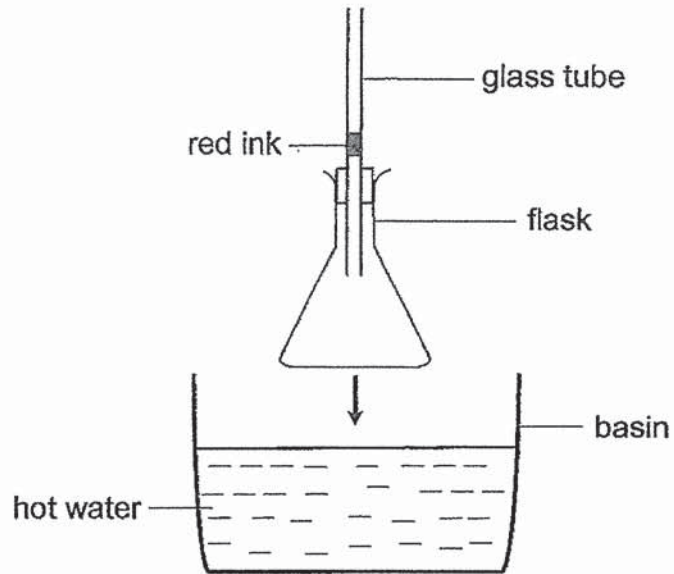
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- (c) Would the amount of heat in the water be *less than, the same or more than* if 500 ml of water was put into the metal pot and heated to the same temperature? [ 1 ]

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SCORE	
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- 21 The diagram shows a flask and a basin of hot water. The initial level of the red ink in the glass tube is shown below.



- (a) When the flask is lowered into the basin of hot water, the red ink rises. Explain why. [ 2 ]

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- (b) The flask is removed from the hot water and placed into a basin of ice. What will be observed about the position of the red ink after a few minutes? [ 1 ]

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**End of Section B**

Set by : Mr Gabriel Teo and Mdm Liyana  
Vetted by: Mdm Samantha Gooi and Mrs Candice Gwee

SCORE	
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## ANSWER KEY

**YEAR: 2020**

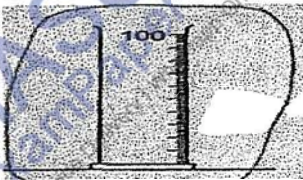
**LEVEL: PRIMARY 4**

**SCHOOL: PEI CHUN PUBLIC SCHOOL**

**SUBJECT: SCIENCE**

**TERM: WEIGHTED ASSESSMENT**

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

Q15	<p>(a)  <b>Similarity: Both plants X and Y bear fruit.</b>  <b>Difference: Plant X grows on land but Plant Y grows in water.</b></p> <p>(b) <b>The plant above is a non-flowering plant which does not bear fruit and only plant W does not bear fruit. However, the above plant grows in water but Plant W grows on land, so the above plant cannot be W, X or Y.</b></p>
Q16	<p>(a) <b>140g</b></p> <p>(b) <b>The container, which substance P is in, is also a matter and has mass. So, the reading on the scale is the mass of substance P and the container, not substance P alone.</b></p> <p>(c) <b>Water has no definite shape</b></p> <div style="text-align: center;">  </div> <p>(d)</p>
Q17	<p>(a) <b>Q: Seed</b>  <b>R: Young</b></p>
Q18	<p>(a) <b>It gives off light</b></p> <p>(b) <b>Light travels in straight lines.</b></p> <p>(c) <b>Move the torch nearer to the object.</b></p>
Q19	<p>(a) <b>Some of the light is blocked by the paper as it is translucent.</b></p> <p>(b) <b>2000</b></p> <p>(c) <b>Z. Z blocks the most amount of light compared to X and Y and Li Mei Wants her bedroom to be as dark as possible.</b></p>

Q20	<p>(a) Part X is for you to remove the lid safely without burning your hand. Plastic is a poor conductor of heat and you will not burn your hand so easily unlike metal, a good conductor of heat.</p> <p>(b) The temperature of the water in the pot would rise.</p> <p>(c) There would be more heat without the 500ml added.</p>
Q21	<p>(a) When the flask is lowered into the basin of hot water, the air in the flask gains heat and expands, causing the red ink to rise. The air in the flask gains heat from the hot water and expands.</p> <p>(b) The red ink will drop.</p>