



Anglo-Chinese School  
(Primary)  
A Methodist Institution  
(Founded 1886)

SEMESTRAL ASSESSMENT ONE 2022  
SCIENCE  
PRIMARY FOUR  
BOOKLET A

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

Class: Primary 4 \_\_\_\_\_

Date: 12 May 2022

Duration of paper: 1 h 45 min

Additional Materials: Optical Answer Sheet (OAS)

**INSTRUCTIONS TO CANDIDATES**

1. Write your name, index number and class in the spaces provided.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answer on the Optical Answer Sheet (OAS) provided.

This question paper consists of 20 printed pages including this cover page.



For each question from 1 to 28, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet.

(56 marks)

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1 A scientist discovered a new animal and made some notes about it.

- It has four legs.
- It has moist skin.
- It reproduces by laying eggs.

Which of the following groups does this animal most likely belong to?

- (1) Birds
- (2) Insects
- (3) Mammals
- (4) Amphibians

2 Which of the following metal(s) can be made into a magnet?

- A steel
- B copper
- C aluminium

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

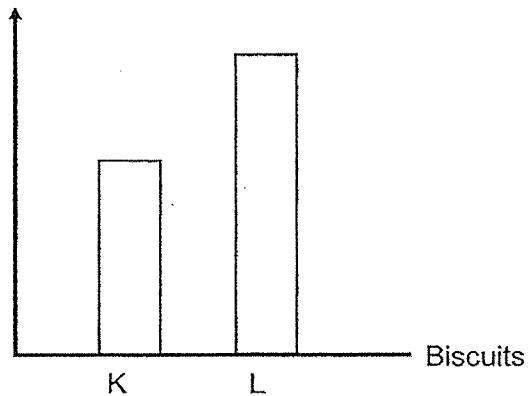
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- 3 Andy has two similar biscuits, K and L. The table below shows the condition and the place where he left each biscuit.

Biscuits	Was it moist?	Where was it placed?
K	Yes	Near the window
L	Yes	In the classroom cupboard

After a week, he drew a graph of the amount of mould growing on each biscuit.

Amount of mould  
after 1 week (units)

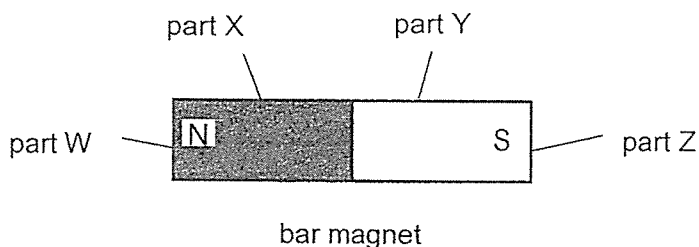


Based on his results, which of the statements is correct?

- (1) Mould grows faster in a dry place.
- (2) Mould does not need food to grow.
- (3) Mould grows faster in darker places.
- (4) Mould grows faster in brighter places.

(Go on to the next page)

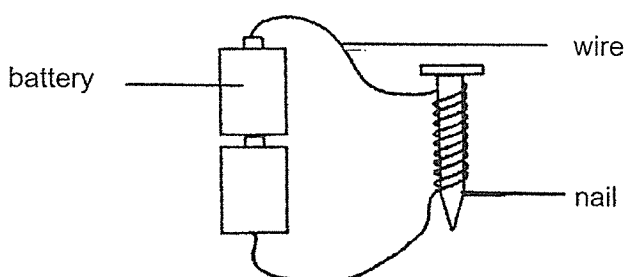
- 4 A bar magnet is brought close to some paper clips. The number of paper clips attracted by part W of the bar magnet is 10.



Which of the following shows the likely number of paper clips attracted by parts, X, Y and Z, of the bar magnet?

	part X	part Y	part Z
(1)	5	10	5
(2)	10	10	10
(3)	10	5	5
(4)	5	5	10

- 5 The set-up shows how a nail made of magnetic material can become an electromagnet.

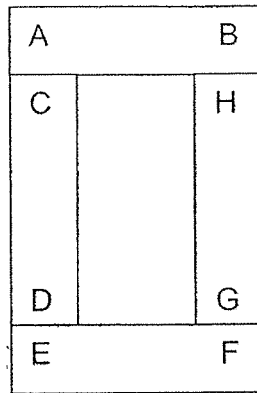


Which of the following methods would make the electromagnet stronger?

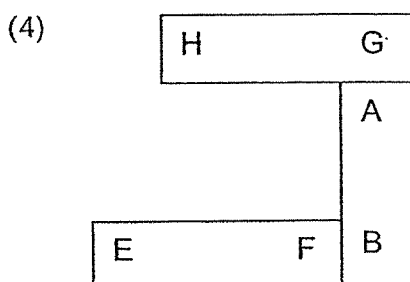
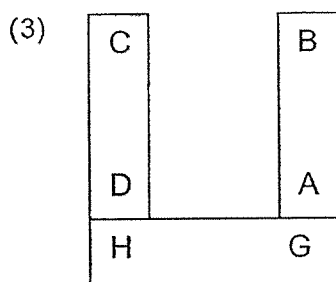
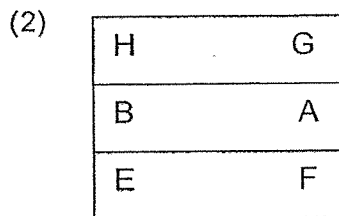
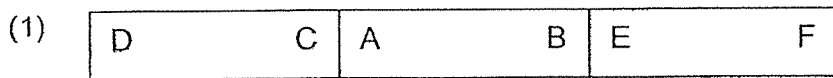
- (1) Increase the length of the nail.
- (2) Increase the number of batteries.
- (3) Decrease the thickness of the nail.
- (4) Decrease the number of coils of wire around the nail.

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- 6 Four bar magnets, AB, CD, EF and GH, can be arranged as shown:

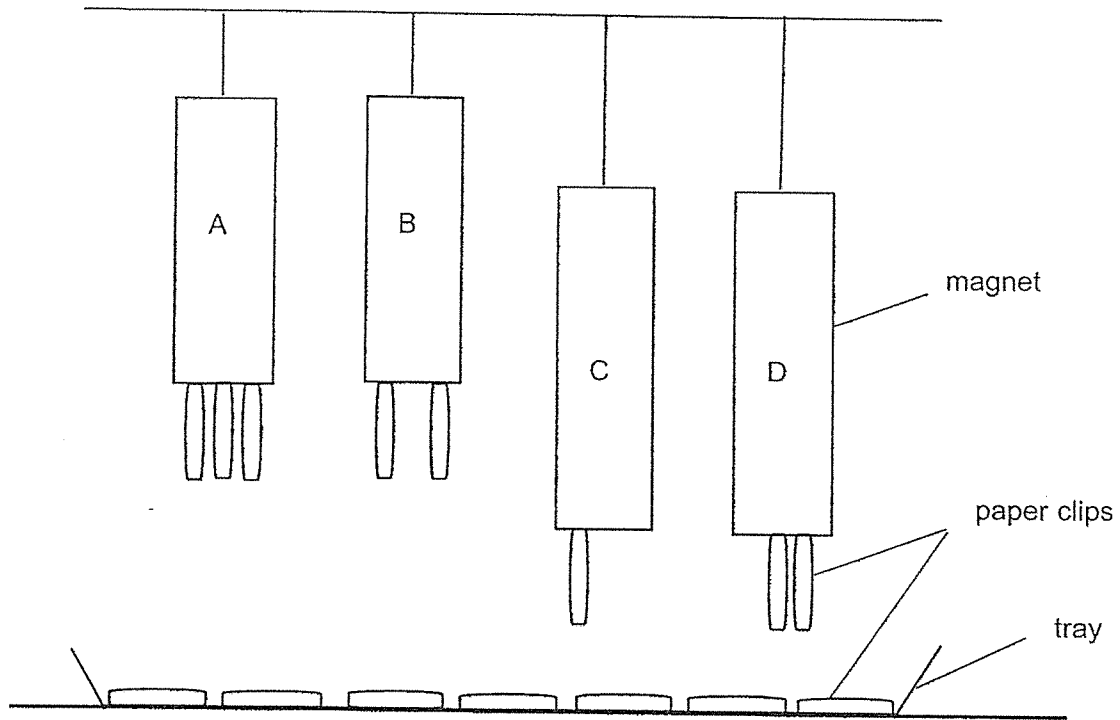


Which of the following arrangements of the magnets is possible when three of the magnets are brought close together?



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- 7 Four magnets, A, B, C and D, were suspended over a tray of paper clips as shown.

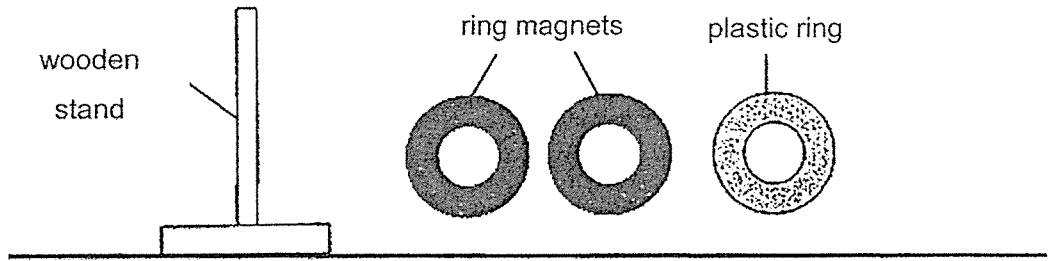


Based on the diagram, which of the arrangements correctly shows the strength of the magnets, from the weakest to the strongest?

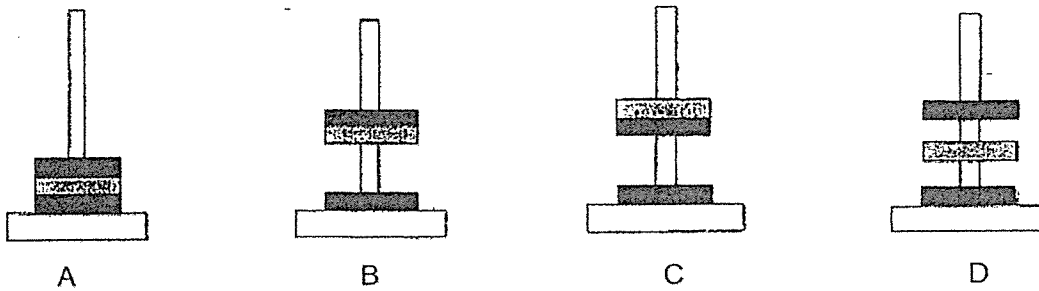
	weakest magnet	→	strongest magnet	
(1)	A	B	D	C
(2)	A	D	B	C
(3)	C	B	D	A
(4)	C	D	B	A

(Go on to the next page)

8 Study the following objects shown carefully.

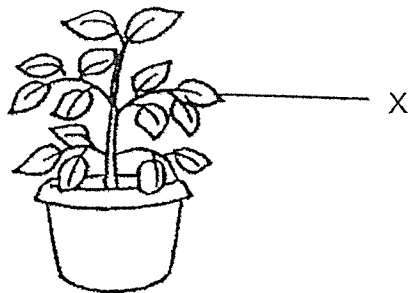


Which of the following correctly shows how the ring magnets and plastic ring can be slotted through the wooden stand?



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

9 A pot of plant is well-watered and placed in an open field.



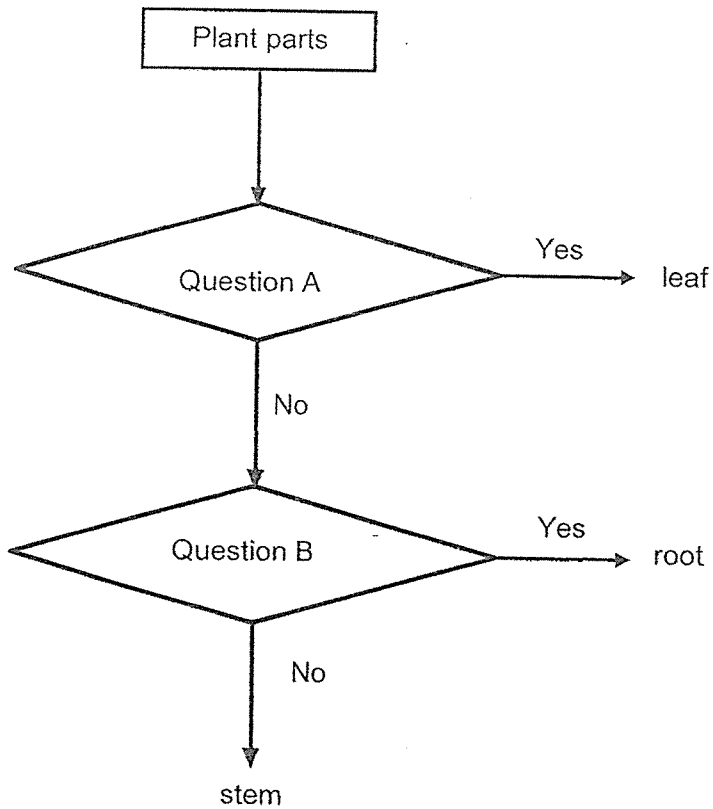
All of plant part X were then completely removed. Which of the following explains what will happen to the plant a few weeks later?

- (1) The plant will grow well as it has leaves.
- (2) The plant will die as it is unable to make food.
- (3) The plant will grow well as it has air and water.
- (4) The plant will die as it is unable to keep itself upright.

(Go on to the next page)



10 Study the flow chart below.



Which of the following best represents questions A and B?

	Question A	Question B
(1)	Makes food for the plant?	Absorbs water and minerals?
(2)	Makes food for the plant?	Transports water to all parts of the plant?
(3)	Absorbs water and minerals?	Transports water to all parts of the plant?
(4)	Absorbs water and minerals?	Makes food for the plant?

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11 Wendy wanted to find out if a plant grows better when planted in garden soil or sandy soil. Which of the condition(s) should she keep the same to ensure a fair test?

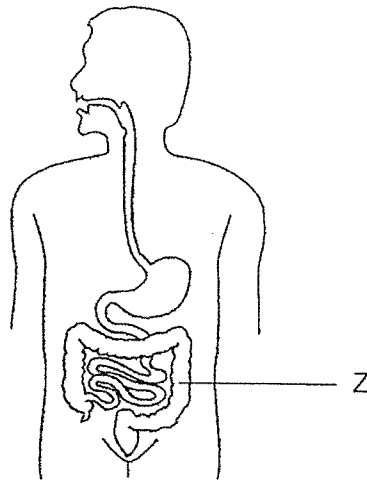
- A Type of soil given
- B Type of water given
- C Amount of water given
- D Place where the plants are grown

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

12 Where does digestion take place in the following parts of the digestive system?

- (1) gullet, stomach, anus
- (2) mouth, small intestine, anus
- (3) gullet, stomach, small intestine
- (4) mouth, stomach, small intestine

- 13 The diagram shows the human digestive system.



Which of the statement(s) about part Z is/are correct?

- A Digestion of food is completed in part Z.
- B Part Z absorbs water from undigested food.
- C Undigested food is further digested in part Z.

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

- 14 Which of the statement(s) about the gullet in the human digestive system is/are true?

- A Breaks down food into simple substances.
- B Absorbs substances to be used by the body.
- C Passes food from the mouth to the stomach.

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

- 15 Four beakers of water, A, B, C and D, were placed at the same location. The amount of water and temperature of water in each beaker are recorded in the table.

Beaker	A	B	C	D
Amount of water / ml	10	50	90	10
Temperature of water / °C	50	90	50	90

Which beaker of water has the least amount of heat energy?

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

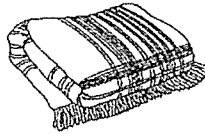
- 16 Which one of the following is not a source of heat energy?

(1)



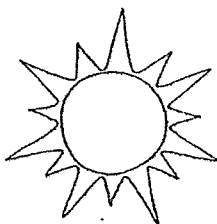
fire

(2)



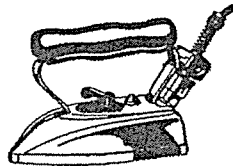
blanket

(3)



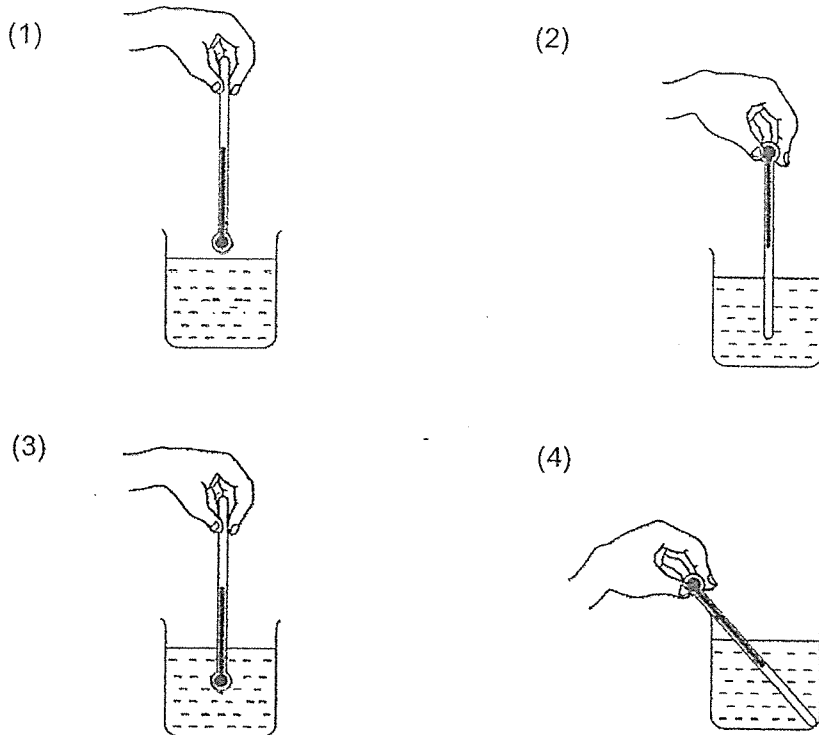
Sun

(4)

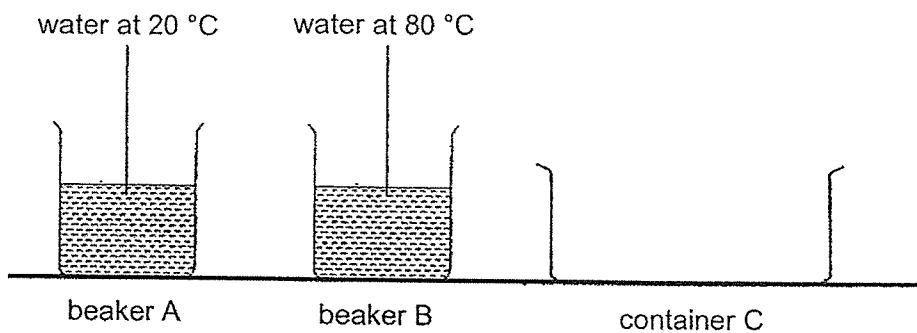


iron (switched on)

- 17 Which of the following diagrams shows the correct position of the instrument when taking the temperature of hot water in a beaker?



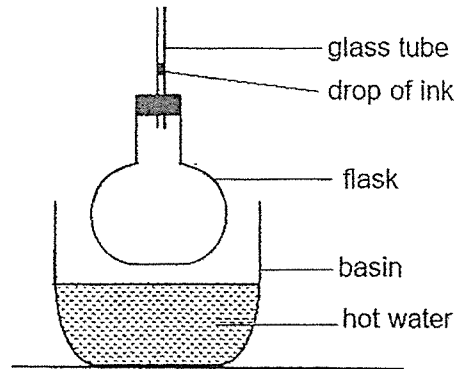
- 18 Beakers A and B contained equal amounts of water at different temperatures. The water from both beakers was then poured into container C. The room temperature was at 28 °C.



Which of the following most likely shows the temperature of water in container C fifteen seconds later and five hours later?

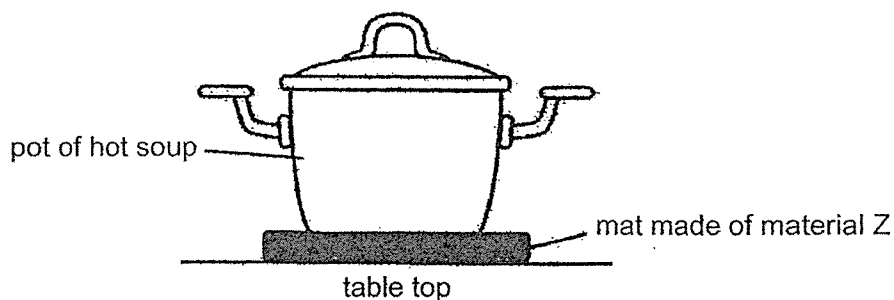
Temperature of water in container C (°C)	
Fifteen seconds later	Five hours later
(1) 50	28
(2) 100	28
(3) 40	80
(4) 80	60

- 19 John prepared a set-up by inserting a glass tube into a flask. The glass tube contained a drop of ink as shown.



He placed the flask into a basin of hot water. The drop of ink moved down slightly before moving up. What could have caused the drop of ink to move down slightly at first?

- (1) The flask lost heat to the hot water and contracted.
  - (2) The flask gained heat from the hot water and expanded.
  - (3) The air in the flask lost heat to the hot water and contracted.
  - (4) The air in the flask gained heat from the hot water and expanded.
- 20 A mat made of material Z was first placed on a table. A pot of hot soup was then placed on top of the mat as shown below.

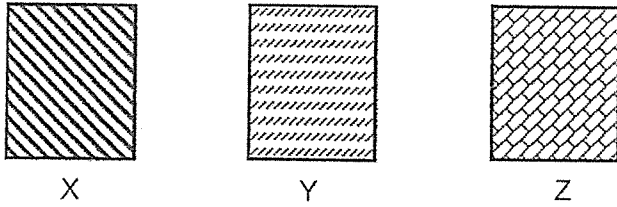


After five minutes, the pot of hot soup and the mat were removed.

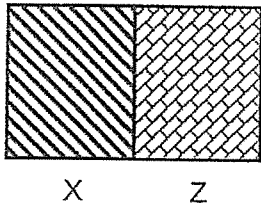
Which of the following best explains why the table top in contact with the mat did not feel hot when touched?

- (1) Material Z gained heat from the table.
- (2) Material Z is a poor conductor of heat.
- (3) Material Z lost heat to the surroundings.
- (4) Material Z and the pot are good conductors of heat.

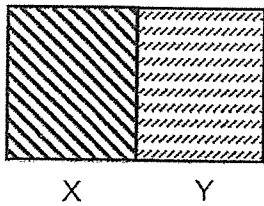
21 Three objects, X, Y and Z, have the same shape and size but different temperatures.



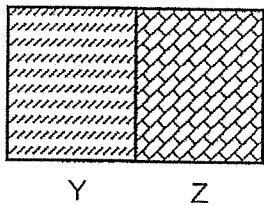
When the objects touch each other, the following observations were recorded.



When X touches Z, X gains heat.



When X touches Y, Y loses heat.



When Y touches Z, Y gains heat.

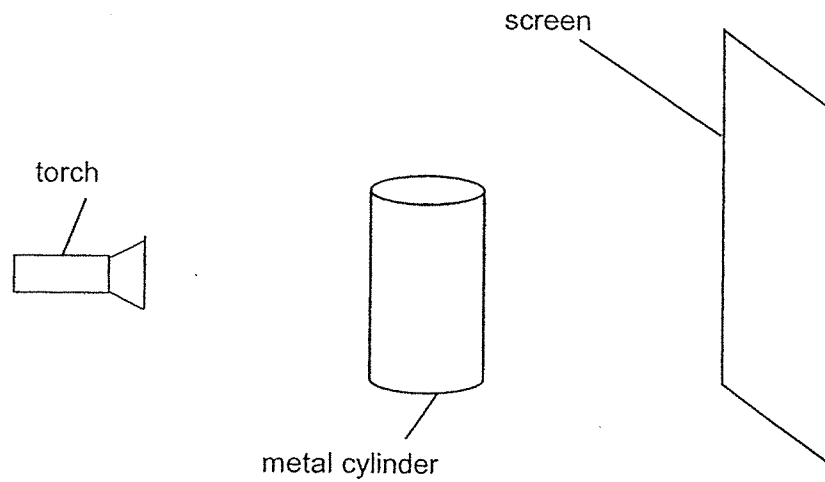
Based on the results above, which of the following correctly shows the objects with the highest and lowest temperature at the start of the experiment?

	Object at highest temperature	Object at lowest temperature
(1)	X	Y
(2)	Y	Z
(3)	Z	X
(4)	Z	Y

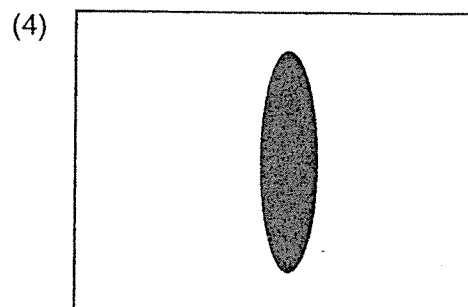
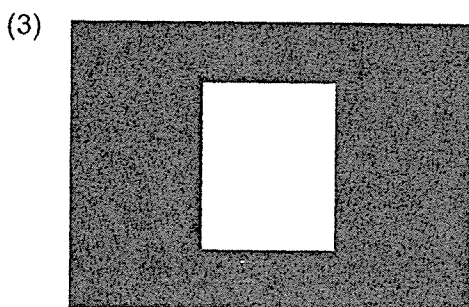
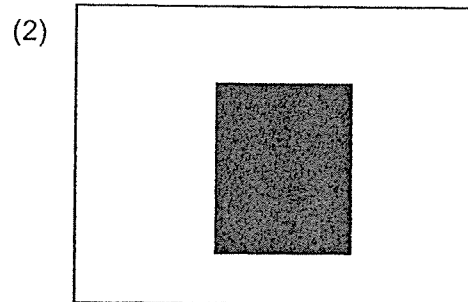
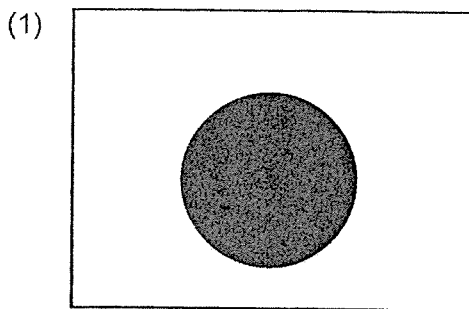
22 Which of the following is a source of light?

- (1) mirror
- (2) compass
- (3) lightning
- (4) The Moon

23 Paul shines a torch on a metal cylinder as shown.

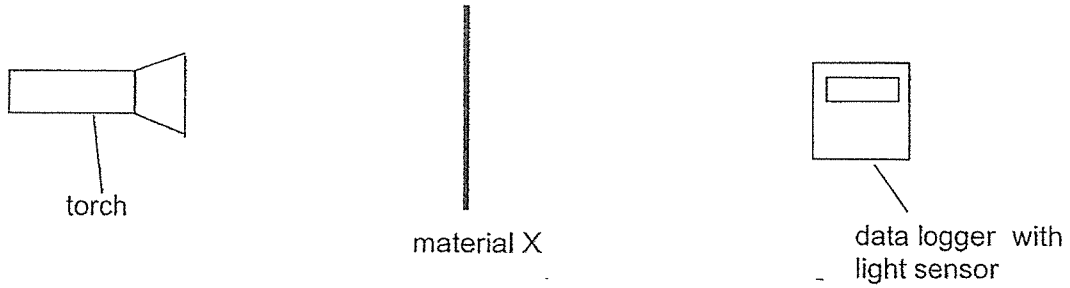


Which of the following would likely be seen on the screen?





- 24 Jack conducted an experiment in a dark room. He recorded the amount of light on the data logger as he increased the number of sheets of material X.



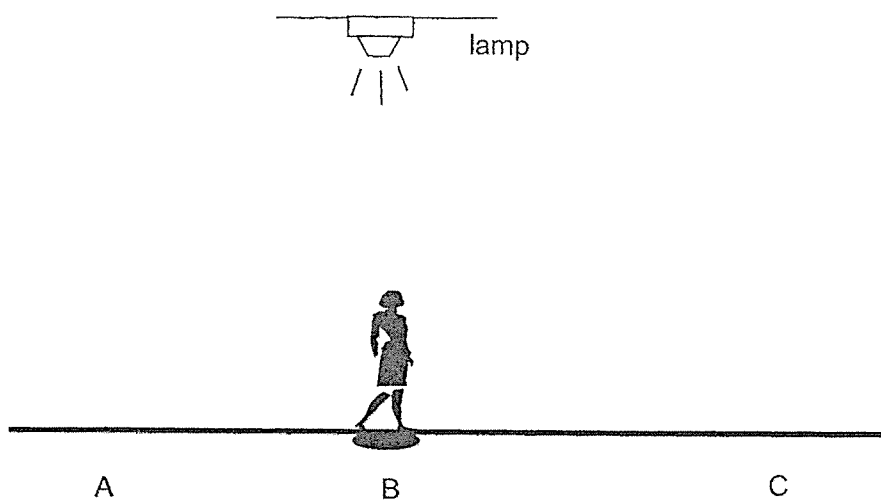
He recorded his results in the table below.

Number of sheets of material X	Amount of light detected (units)
5	100
10	84
15	52
20	18
25	0
30	0

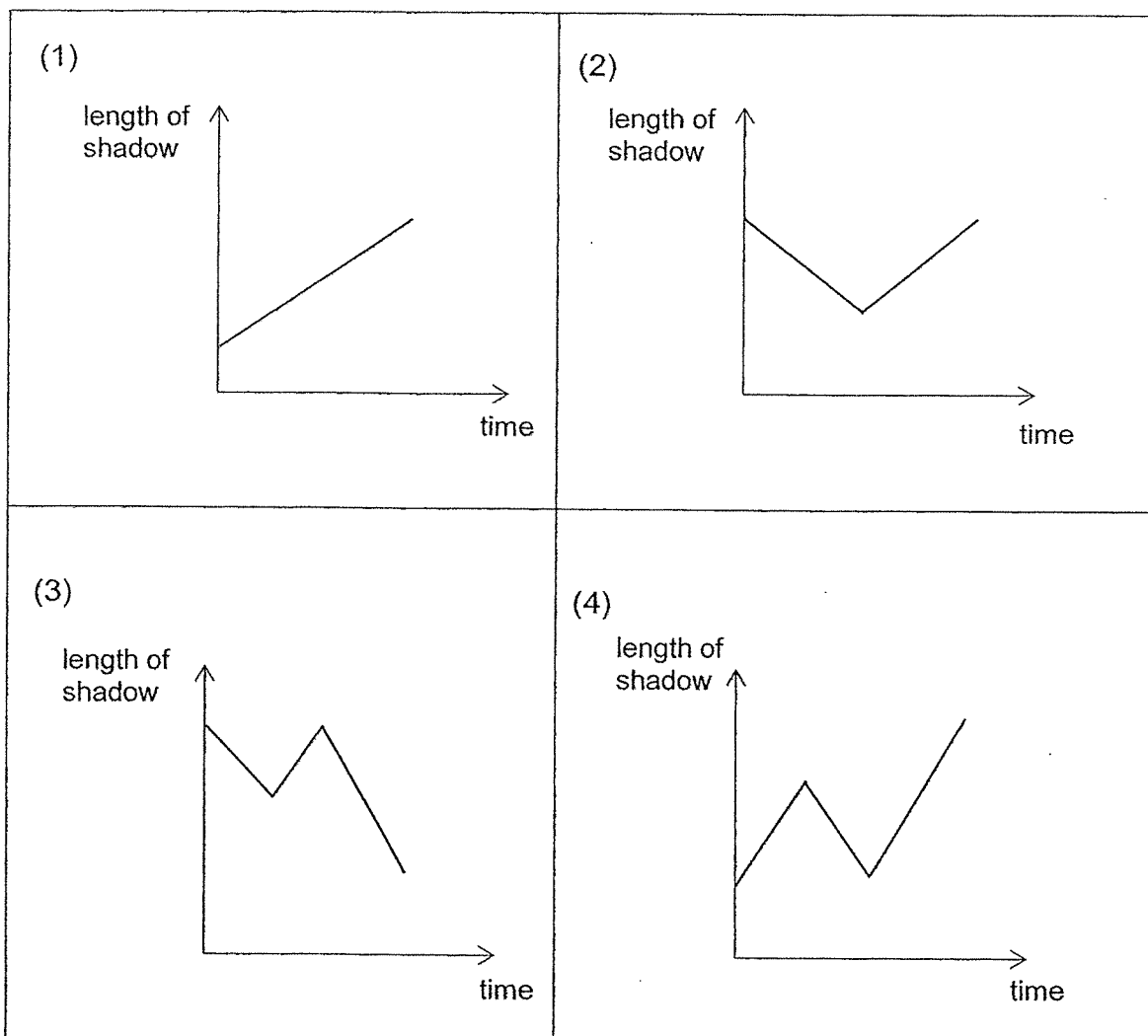
Based on the above results, which of the following number of sheets of material X would most likely not allow any light to be detected by the sensor?

- (1) 3
- (2) 12
- (3) 20
- (4) 27

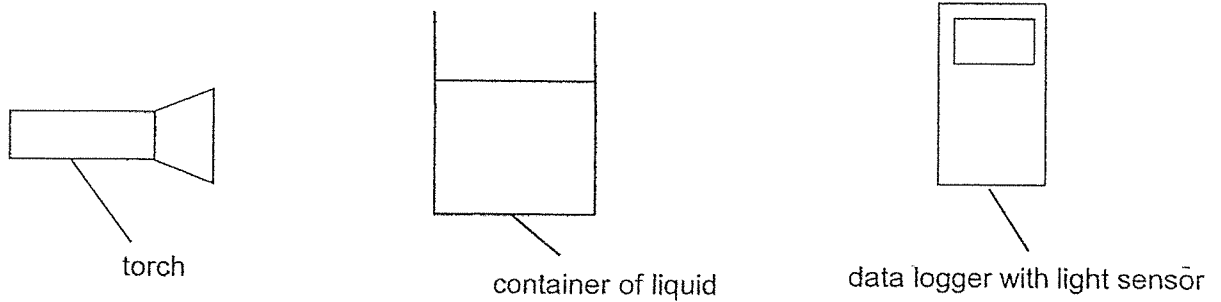
- 25 Mrs Tan stood under a lamp as shown. She walked from position B to position A, and then to position C in a straight line.



Which graph shows how the length of her shadow changed during this time?



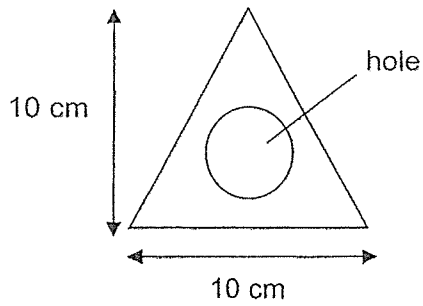
- 26 Ali wants to find out which liquid, X or Y, allows the most amount of light to pass through.



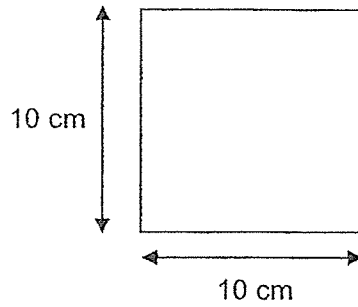
Which of the following represents the variables to be changed and measured?

	<b>Variable to be changed</b>	<b>Variable to be measured</b>
(1)	Amount of light from the torch	Amount of light detected by the light sensor
(2)	Distance between torch and liquid	Amount of liquid
(3)	Type of liquid	Amount of light detected by the light sensor
(4)	Amount of liquid	Amount of light shone from the torch

27 The diagram below shows the front view of two blocks of wood of different shapes.

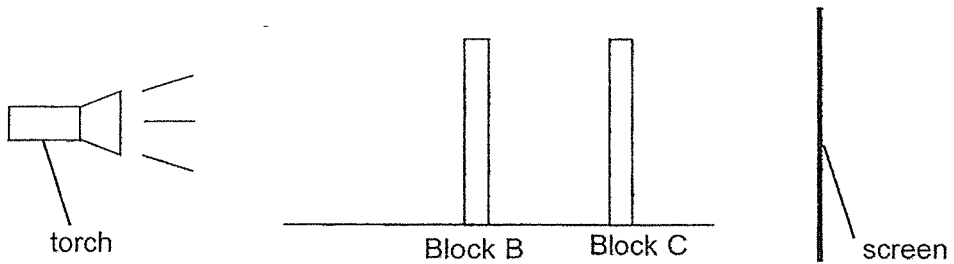


Block B

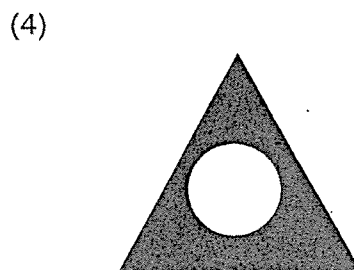
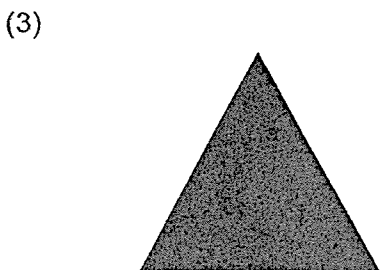
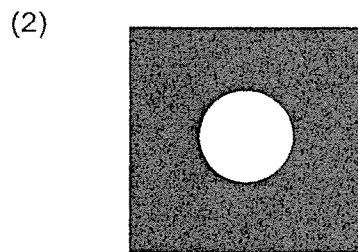
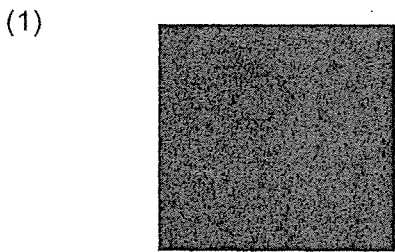


Block C

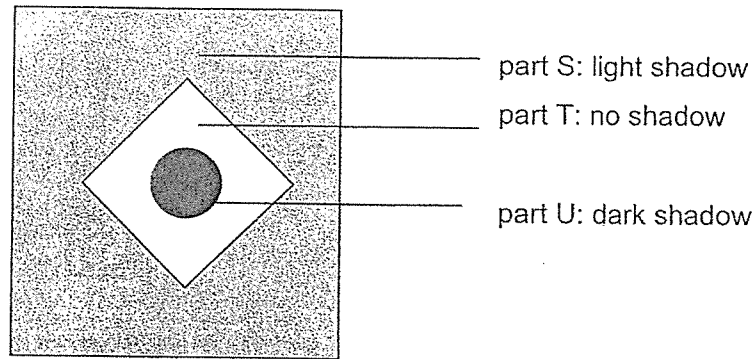
The blocks of wood are arranged in a straight line between a torch and a screen as shown.



Which of the shadows is possible when the torch is switched on?



- 28 Object X is made of three different types of materials. When a torch is shone at object X, a shadow was formed as shown below.



shadow of object X

Which of the materials will parts S, T and U be most likely made of?

	part S	part T	part U
(1)	frosted glass	aluminium	clear glass
(2)	tissue paper	frosted glass	aluminium
(3)	clear plastic	tracing paper	tissue paper
(4)	tracing paper	clear plastic	cardboard

**End of Booklet A**  
**Please go on to booklet B**



Anglo-Chinese School  
(Primary)

A Methodist Institution  
(Founded 1886)

SEMESTRAL ASSESSMENT ONE 2022  
SCIENCE  
PRIMARY FOUR  
BOOKLET B

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

Class: Primary 4 \_\_\_\_\_

Date: 12 May 2022

Duration of paper: 1 h 45 min

\_\_\_\_\_  
Parent's / Guardian's signature

**INSTRUCTIONS TO CANDIDATES**

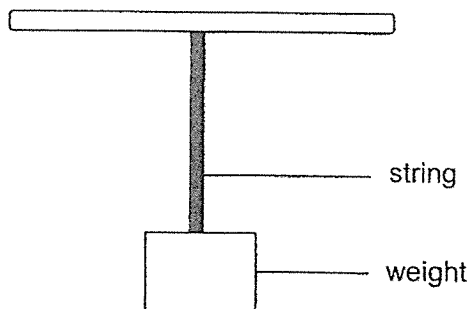
1. Write your name, index number and class in the spaces provided.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

BOOKLET	MAX MARKS	MARKS OBTAINED
A	56	
B	44	
Total	100	

This question paper consists of 14 printed pages including this cover page.

For questions 29 to 41, write your answers in the spaces provided in this booklet.  
The number of marks available is shown in brackets [ ] at the end of each question or part question.  
(44 marks)

- 29 James set up an experiment as shown in the diagram below. He used strings made of different material, P, Q, R and S. The strings had the same thickness and length.



He added more weights until each string broke. He recorded his results in the table shown.

Material of string	Mass of weights (g)
P	60
Q	10
R	5
S	30

- (a) Based on the experiment above, what property of material was tested? [1]
- \_\_\_\_\_
- (b) Using a fishing line, James caught a fish that weighs 50 g. Based on the results above, which material, P, Q, R or S, was the fishing line made of? Explain. [2]
- \_\_\_\_\_
- \_\_\_\_\_
- (c) Keeping the variables constant, give a reason why James repeated the same experiment three times. [1]
- \_\_\_\_\_

(Go on to the next page)

Score	4
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- 30 Three identical magnets, A, B and C, each attracted 20 pins. Amir used a hammer to hit each magnet over a period of time and then recorded the number of pins each magnet could attract again. The results of his experiment are shown in the table.

Magnet	Number of times the magnet is hit	Number of pins attracted	
		Before hitting	After hitting
A	15	20	14
B	30	20	9
C	60	20	2

- (a) Which magnet, A, B or C, was the strongest at the end of the experiment? [1]

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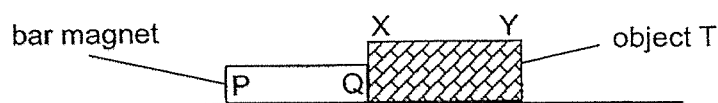
- (b) Based on the results above, state the relationship between the number of times a magnet is hit by a hammer and the number of pins attracted. [1]

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- (c) Next, Amir brought another bar magnet near object T. He observed that object T was attracted to the bar magnet when Q faced X as shown in the diagram below.



- (i) What is the next step Amir should take to test whether that object T is a magnet? [1]

Put a tick (✓) in the correct box  below.

Turn object T around and bring Y near to Q

Turn both objects T and the bar magnet around and bring P near to Y.

Based on the step chosen above, what observation should he make to conclude that Object T is a magnet? [1]

- (ii) \_\_\_\_\_

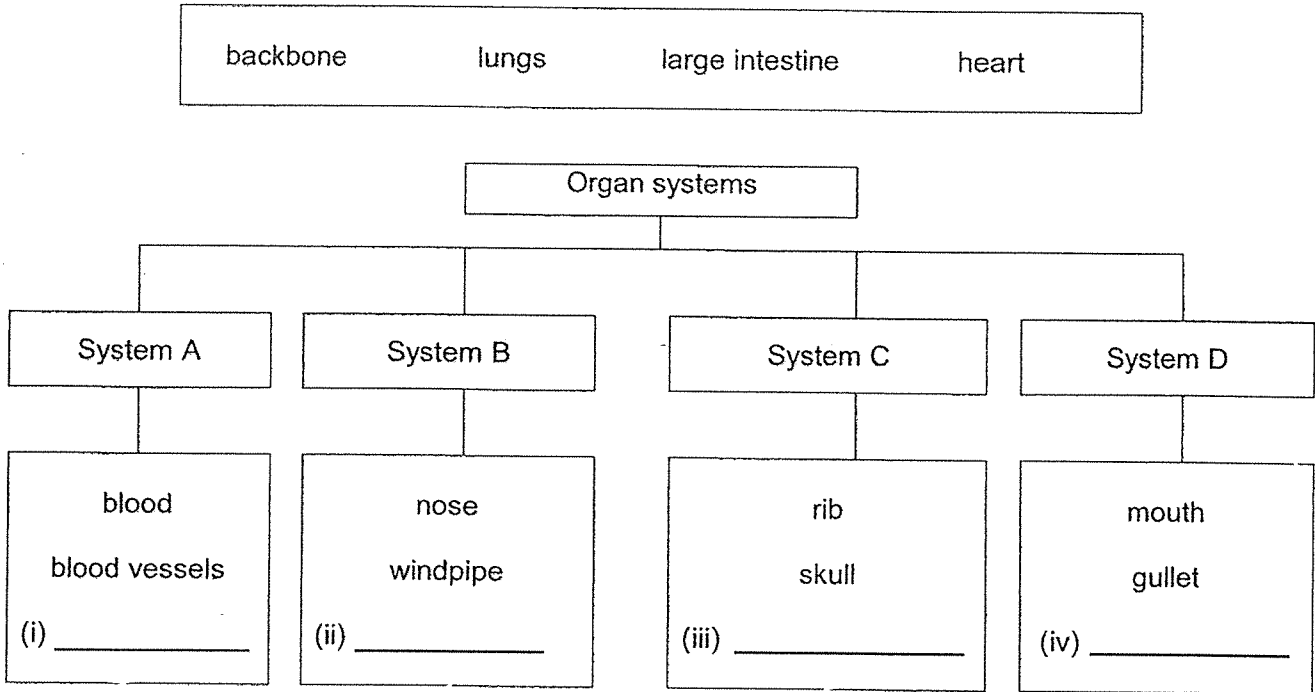
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Score	4
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31 Study the classification table below.

- (a) Using only the words given in the box below, fill in the spaces (i), (ii), (iii) and (iv) in the table. [2]



- (b) Name System B. [1]

\_\_\_\_\_

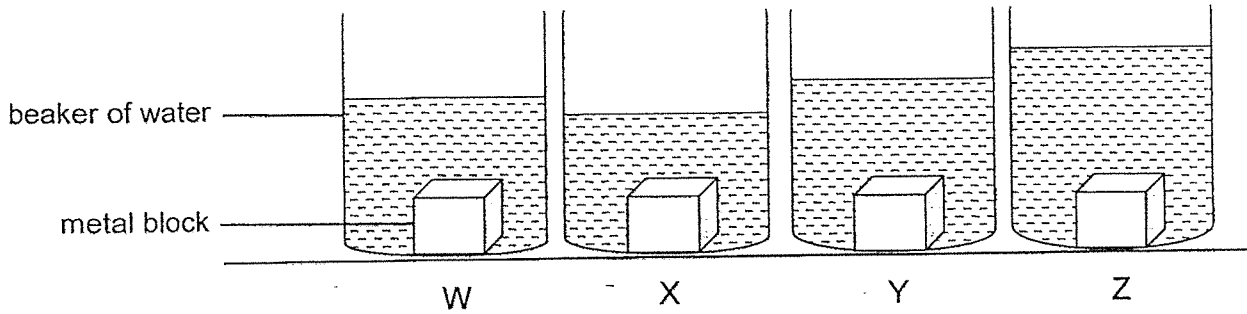
- (c) Which organ system A, B, C or D, carries waste materials away from different parts of the body? [1]

\_\_\_\_\_

(Go on to the next page)

Score	4
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- 32 Different amount of water at  $40\text{ }^{\circ}\text{C}$  was added into four identical beakers W, X, Y and Z. Four identical metal blocks at  $80\text{ }^{\circ}\text{C}$  were then placed into each beaker as shown.



The temperature of the water in each beaker was measured after ten minutes.

- (a) Describe how the temperature of each metal block changed after it was placed into the beaker of water. [1]

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- (b) In which beaker, W, X, Y or Z, would the water show the smallest increase in temperature after ten minutes? [1]

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

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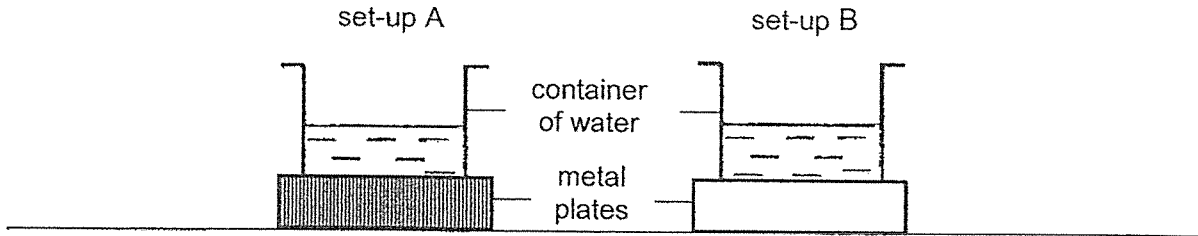


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Score	3
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33 Devi poured the same amount of water at 90 °C into two similar containers. The two containers were placed on two similar-sized plates made of two different types of metal as shown. The temperature of the room was 30 °C.

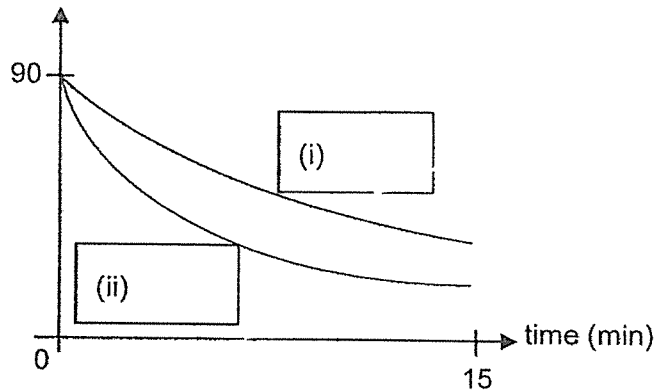


Devi measured the temperature of water in both containers over 15 minutes and recorded her results in the table below.

Time (min)	Temperature of water in set-up A (°C)	Temperature of water in set-up B (°C)
0	90	90
5	55	65
10	40	55
15	30	45

(a) Using only the letters, A and B, label the two graphs in the boxes below. [1]

temperature of water in container (°C)



(b) Which metal plates, in set-up A or B, is a better conductor of heat? [1]

\_\_\_\_\_

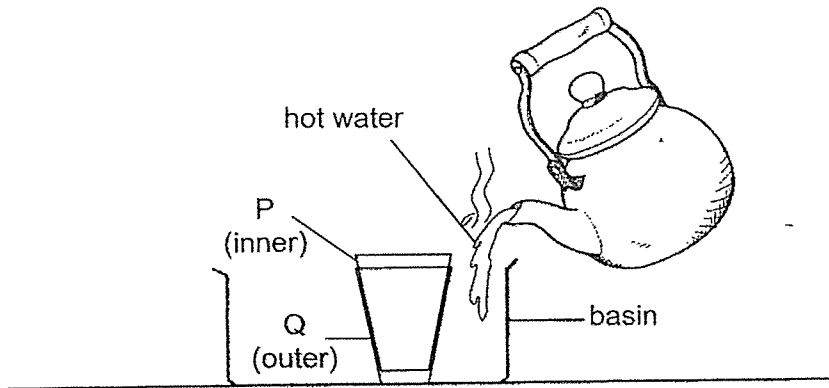
(c) Based on the results in the table above, explain your answer in (b). [2]

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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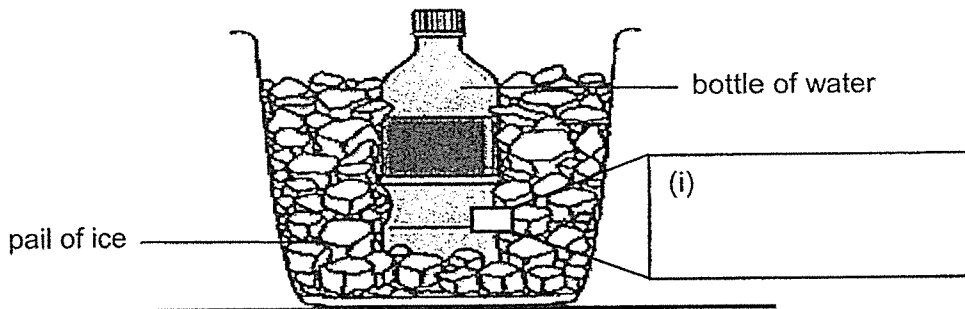
Score	4
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- 34 Two glasses, P and Q, were stuck together and could not be separated. Ravi poured hot water into the basin and placed the glasses upright into it. After a minute, he could separate the two glasses P and Q easily.



- (a) Explain why this happened. Circle the correct answer.
- (i) Both glasses will ( gain heat from / lose heat to ) the hot water. [1]
- (ii) The glasses separated easily as glass Q will expand ( more / less ) than glass P at first. [1]

In another experiment, Ravi placed a bottle of water at room temperature into a pail of ice as shown.



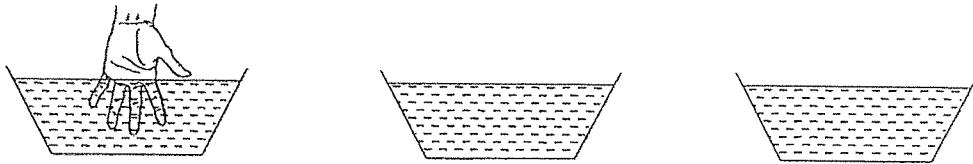
After some time, he found that all the ice in the pail had turned into a liquid and the bottle of water felt cold.

- (b) Draw an arrow ( $\leftarrow$  or  $\rightarrow$ ) in the box (i) above to show the direction of heat flow between the ice and the bottle of water. [1]

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Score	3
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- 35 Joe was given three bowls of water, each containing the same amount of water at a different temperature. To find out which bowl of water was the hottest, he placed his hand into each bowl one at a time as shown in the diagram below. Joe's teacher told him that his method of measuring was not accurate.



- (a) What instrument should Joe use to measure the temperature of water accurately? [1]
- \_\_\_\_\_
- (b) How can Joe tell from his instrument which bowl of water is the hottest? [1]
- \_\_\_\_\_

In another experiment, Joe wanted to find out how the temperature of water affects the time taken for ice cubes to melt. He prepared four set-ups with different conditions as listed in the table below.

	set-up P	set-up Q	set-up R	set-up S
Temperature of water ( $^{\circ}\text{C}$ )	30	70	30	70
Amount of water (ml)	200	300	100	200
Number of ice cubes added	5	3	3	5

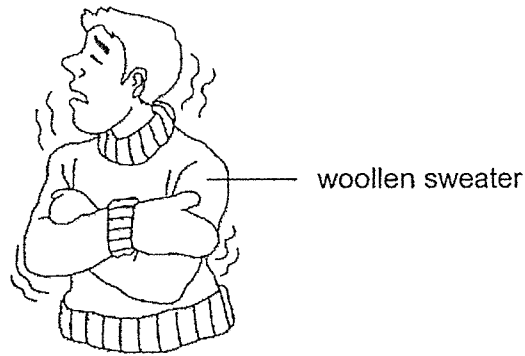
- (c) Which two set-ups should Joe use to ensure a fair test? [1]

Set-ups \_\_\_\_\_ and \_\_\_\_\_.

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Score	3
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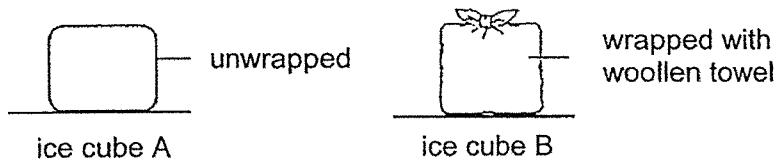
36 Tom put on a woollen sweater on a very cold night as shown in the picture. There is air trapped in between the wool that is used to make this sweater.



(a) Read each statement below carefully. For each statement, put a tick (✓) in the correct box to show if it explains how the woollen sweater helped to keep Tom warm. [2]

	Statement	True	False
i.	Tom gains heat from the woollen sweater.		
ii.	Air in woollen sweater is a poor conductor of heat.		
iii.	With the sweater, heat is conducted away from Tom slower.		
iv.	Temperature of the surroundings is higher than Tom's body.		

Tom had two identical ice cubes, A and B. He left ice cube A unwrapped and ice cube B wrapped with a woollen towel as shown in the diagram below. He observed that ice cube B took a longer time to melt than ice cube A.



(b) Explain why ice cube B took a longer time to melt than ice cube A. [1]

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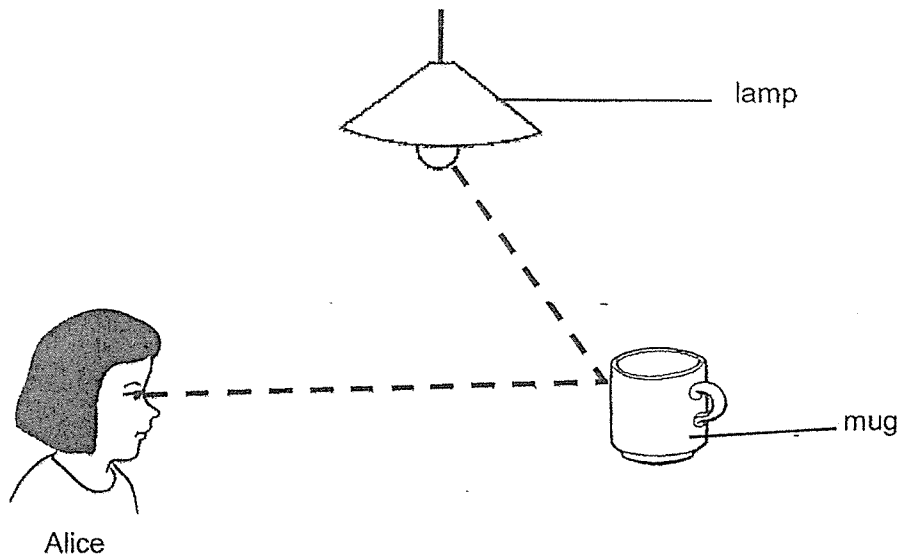


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Score	3
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- 37 Alice is in a room which is lighted up only by a lamp as shown below. There are no windows in the room.

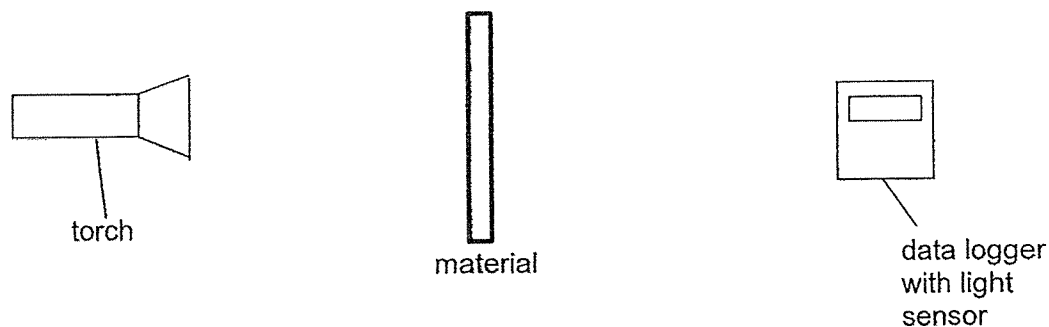


- (a) In the diagram above, the dotted lines show the light rays without the arrowheads. Draw arrowheads ( $\rightarrow$ ,  $\leftarrow$ ) on the dotted lines to show how Alice is able to see the mug. [1]
- (b) State the property of light as shown in part (a) above. [1]
- 
- (c) Alice's father came into the room and said that if he switched off the lamp, he would be able to see a shadow of the mug. Is he correct? Explain your answer. [1]
- 
- 

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Score	3
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- 38 Ali used a data logger to measure how much light can pass through materials W, X, Y and Z, of similar size and thickness.



He recorded the results as shown.

Material	W	X	Y	Z
Data logger reading (units)	35	60	3	120

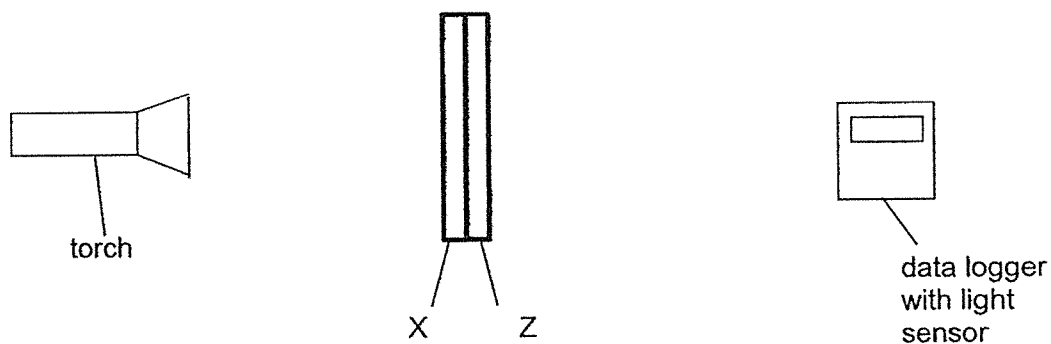
- (a) Based on the results, which material, W, X, Y or Z, is suitable to make a curtain that blocks out the most light? Explain your answer. [2]

---



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After recording the results above, Ali placed both materials X and Z back to back together in front of the data logger.



- (b) State the brightness recorded in the data logger. [1]

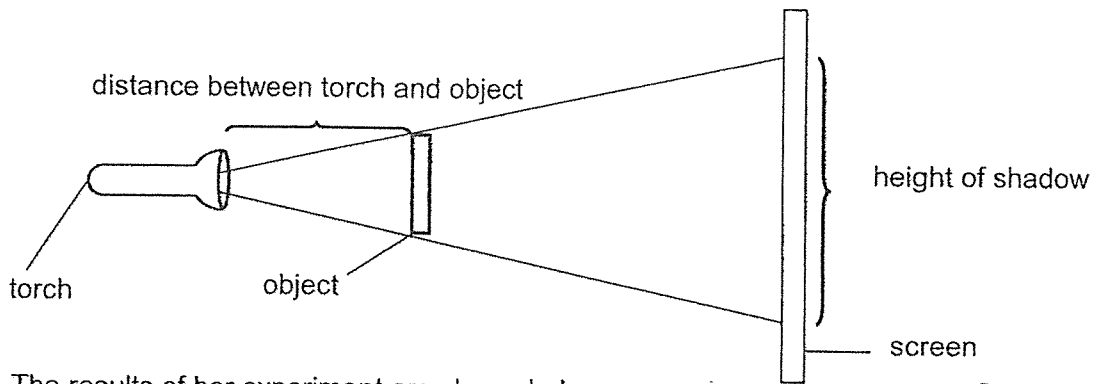
\_\_\_\_\_ units

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Score	3
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39 Sulin conducted an experiment as shown.



The results of her experiment are shown below.

Distance between torch and object (cm)	Height of shadow on screen (cm)
10	11
15	9
20	7

(a) State the aim of the experiment. [1]

---



---

(b) What is the relationship between the distance between torch and object and the height of shadow formed on the screen? [1]

---



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(c) Tick (✓) the correct variable(s) Sulin should keep the same in the table below. [1]

Variable	To keep the same
Type of torch	
Size of object	
Distance of object and screen	

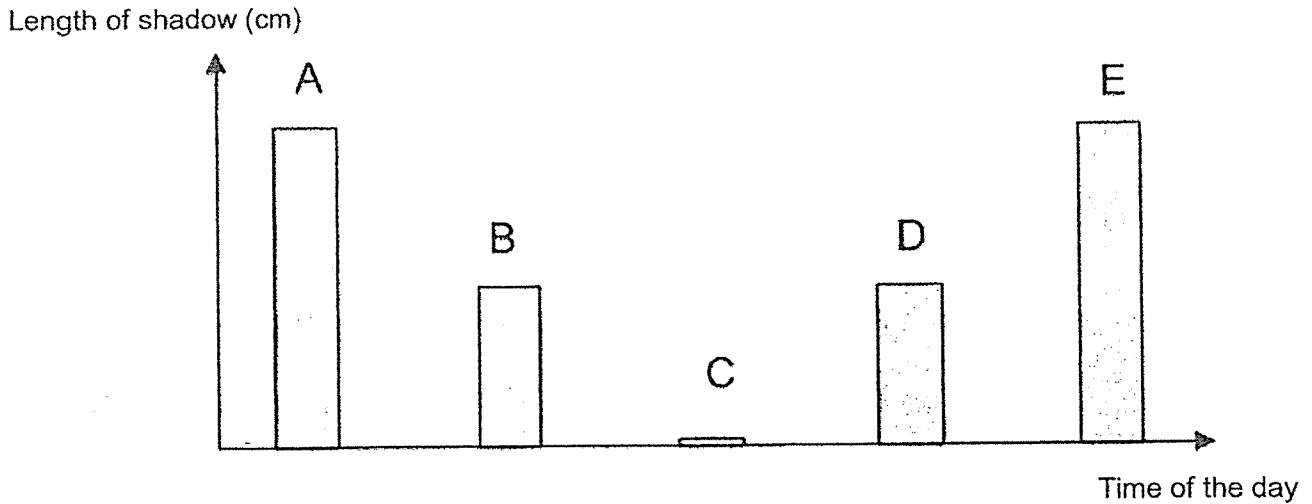
(d) Without moving the torch and the object, what can Sulin do to decrease the height of the shadow formed on the screen? [1]

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Score	4
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40 A stick was placed vertically in the middle of a field. The length of the shadow formed by the stick at different times of the day was measured. The graph below shows the information collected.



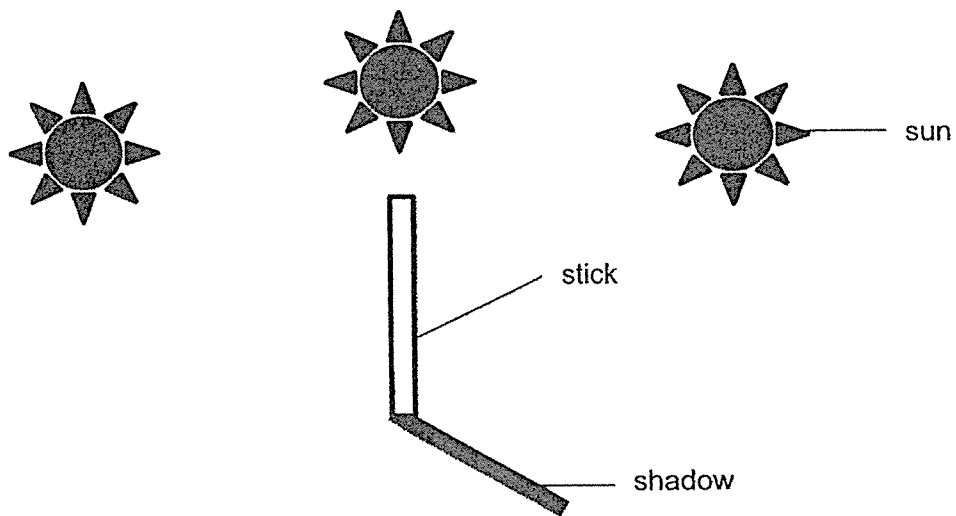
(a) How is a shadow formed? [1]

\_\_\_\_\_

(b) From the graph, which bar, A, B, C, D or E, most likely represents the shadow formed by the stick at noon? [1]

\_\_\_\_\_  
\_\_\_\_\_

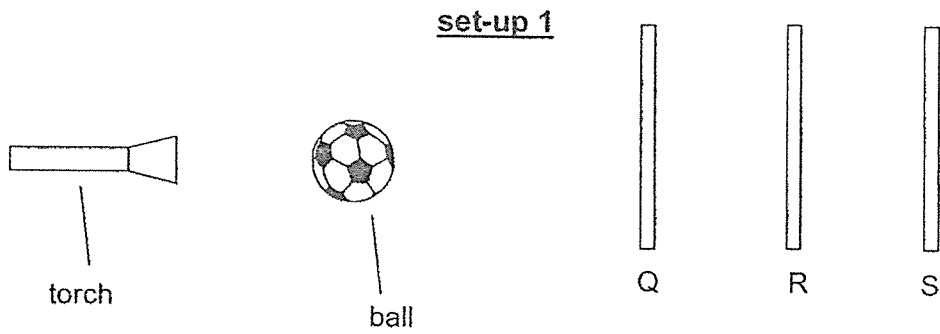
(c) In the diagram below, circle the position of the sun that caused the formation of the shadow. [1]



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Score	3
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- 41 Matthew shone a torch on a ball placed in front of sheets Q, R and S, which are made of different materials of the same thickness as shown below.

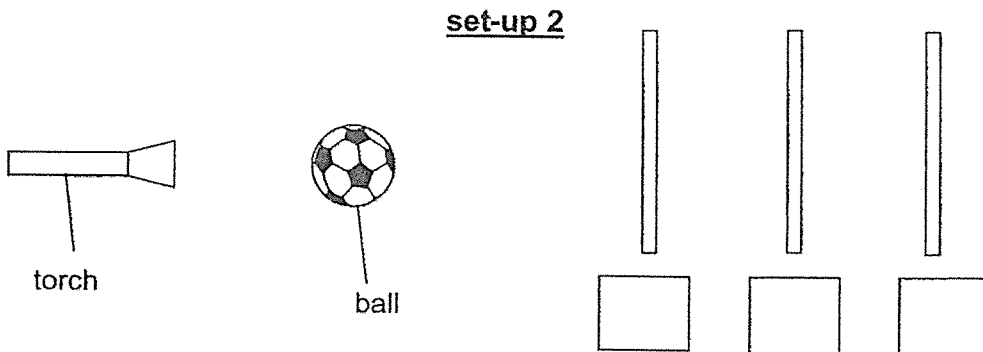


When the torch was switched on, a dark shadow of the ball was seen only on sheet R.

- (a) Based on Matthew's observation, write the letters Q, R and S, in the table below. Two sheets allow most light to pass through and one sheet does not allow light to pass through. [1]

Observation	Sheet (Q, R and S)
Sheet allows most light to pass through.	_____
Sheet does not allow light to pass through.	_____

- (b) Matthew now wants the shadow to be seen on the last sheet instead. In the diagram, show how he should rearrange the sheets in set-up 2. Write the letters, Q, R and S, in the boxes below. [1]



- (c) In which set-up, 1 or 2, would the shadow appear bigger? [1]

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End of Booklet B / End of Paper

Score	3
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YEAR : 2022  
 LEVEL : PRIMARY 4  
 SCHOOL : ANGLO CHINESE SCHOOL  
 SUBJECT : SCIENCE  
 TERM : SEMESTRAL ASSESSMENT ONE

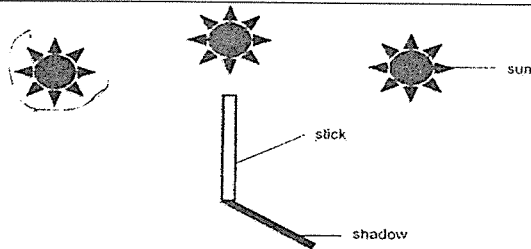
**(BOOKLET A)**

Q1	4	Q2	1	Q3	3	Q4	4	Q5	2
Q6	4	Q7	4	Q8	2	Q9	2	Q10	1
Q11	3	Q12	4	Q13	2	Q14	2	Q15	1
Q16	2	Q17	3	Q18	1	Q19	2	Q20	2
Q21	3	Q22	3	Q23	2	Q24	4	Q25	4
Q26	3	Q27	1	Q28	4				

**(BOOKLET B)**

Q29	a)	Strength
	b)	Material P. Material P is the strongest.
	c)	To ensure reliable results.
Q30	a)	Magnet A
	b)	As the number of times the magnet is hit by a hammer <u>increase</u> , the number of pins attracted decreased.
	c)	(i) Turn object T around and bring Y near to Q. (ii) Object T repelled the magnet.
Q31	a)	(i) Heart (ii) Lungs (iii) Backbone (iv) Large intestine
	b)	Respiratory system
	c)	Organ system A
Q32	a)	The temperature of the metal block decreased.
	b)	Beaker Z
	c)	Beaker Z contains the largest amount of water.
Q33	a)	(i) B (ii) A
	b)	Metal plate in A
	c)	Temperature of water in set-up A decreased more than in set-up B. Metal plate in set-up A conducted heat away faster from the water and so it is a better conductor of heat.
Q34	a)	(i) gain heat from (ii) more
	b)	→



Q35	a)	Thermometer
	b)	The reading has the highest value.
	c)	Set-up P and S
Q36	a)	(i) False (ii) True (iii) True (iv) False
	b)	Air in the woolen towel is a poor conductor of heat so ice cube B gained heat slower from the surrounding air than ice cube A.
Q37	a)	lamp → mug → eyes
	b)	Light travels in a straight line.
	c)	No. If there is no light source, he would not be able to see anything.
Q38	a)	Material Y. It allows the least amount of light to pass through.
	b)	Accept any number between 50 - 60
Q39	a)	To find out how distance between torch and object affects height of shadow formed.
	b)	When the distance between the torch and object increases, the height of shadow formed on the screen decreases.
	c)	Tick – type of torch, size of object
	d)	Move the screen nearer to the object.
Q40	a)	A shadow is formed when light is completely or partially blocked by an object.
	b)	Bar C
	c)	
Q41	a)	Sheet allows most light to pass through – Q Sheet allows no light to pass through – R
	b)	Q, S, R OR S, Q, R
	c)	Set-up 2





Name: \_\_\_\_\_ ( ) Class: \_\_\_\_\_ Date: \_\_\_\_\_

**P4 SA1 2022**

**Students' Corrections Template**

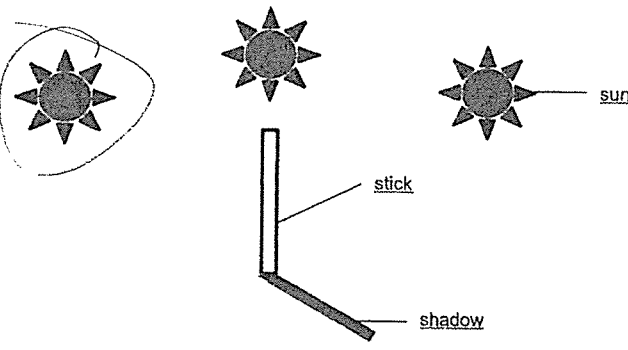
**Booklet A**

No	Ans	No	Ans	No	Ans	No	Ans	No	Ans	No	Ans
1	4	6	4	11	3	16	2	21	3	26	3
2	1	7	4	12	4	17	3	22	3	27	1
3	3	8	2	13	2	18	1	23	2	28	4
4	4	9	2	14	2	19	2	24	4		
5	2	10	1	15	1	20	2	25	4		

**Booklet B**

Qn	Suggested Answers
29 (a)	<u>Strength</u> .
(b)	Material P. Material P is the <u>strongest</u> .
(c)	To ensure <u>reliable</u> results.
30 (a)	Magnet <u>A</u>
(b)	As the number of times the magnet is hit by a hammer <u>increased</u> , the number of pins attracted <u>decreased</u> .
(c)(i)	<input checked="" type="checkbox"/> Turn object T around and bring Y near to Q. <input type="checkbox"/> Turn both objects T and the bar magnet around and bring P near to Y.
(c)(ii)	Object T <u>repelled</u> the magnet.
31 (a)	(i) Heart (ii) Lungs (iii) Backbone (iv) Large intestine
(b)	<u>Respiratory</u> system
(c)	Organ system <u>A</u>

<p>32 (a) (b) (c)</p>	<p>The temperature of the metal block <u>decreased</u>.</p> <p>Beaker <u>Z</u></p> <p>Beaker Z contains the <u>largest</u> amount of water.</p>
<p>33 (a) (b) (c)</p>	<p>(i) B (ii) A</p> <p>Metal plate in <u>A</u>.</p> <p>Temperature of water in set-up A decreased <u>more</u> than in set-up B. Metal plate in set-up A conducted heat away <u>faster</u> from the water and so it is a better conductor of heat.</p>
<p>34 (a) (b)</p>	<p>(i) <u>gain</u> heat from (ii) more</p> <p>→</p>
<p>35 (a) (b) (c)</p>	<p>Thermometer</p> <p>The reading has the <u>highest</u> value.</p> <p>Setup <u>P</u> and <u>S</u></p>
<p>36 (a) (b)</p>	<p>(i) False (ii) True (iii) True (iv) False</p> <p>Air in the woollen towel is a <u>poor</u> conductor of heat so ice cube B <u>gained</u> heat <u>slower</u> from the surrounding air than ice cube A.</p>
<p>37 (a) (b) (c)</p>	<div data-bbox="383 1523 798 1792" data-label="Diagram"> </div> <p>Light travels in a <u>straight</u> line.</p> <p>No. If there is no light <u>source</u>, he would not be able to see anything.</p>

<p>38 (a)</p> <p>(b)</p>	<p>Material <u>Y</u>. It allows the <u>least</u> amount of light to pass through.</p> <p>Accept any number between 50 - 60</p>
<p>39 (a)</p> <p>(b)</p> <p>(c)</p> <p>(d)</p>	<p>To find out how distance between torch and object affects <u>height</u> of shadow formed.</p> <p>When the distance between torch and object <u>increases</u>, the height of shadow formed on the screen <u>decreases</u>.</p> <p>Tick - type of torch, size of object</p> <p>Move the screen <u>nearer</u> to the object.</p>
<p>40 (a)</p> <p>(b)</p> <p>(c)</p>	<p>A shadow is formed when light is completely or partially <u>blocked</u> by an object.</p> <p>Bar <u>C</u>.</p> 
<p>41 (a)</p> <p>(b)</p> <p>(c)</p>	<p>Sheet allows most light to pass through - <u>Q, S</u></p> <p>Sheet allows no light to pass through - <u>R</u></p> <p>Q, S, R <b>OR</b> S, Q, R</p> <p>Set-up <u>2</u></p>

END

