



Nan Hua Primary School  
Primary 4 Science  
Term 1 Weighted Assessment 2023

Marks	
Section A:	/10
Section B:	/10
<b>Total:</b>	<b>/20</b>

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

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

Date: \_\_\_\_\_

Duration: 30 minutes

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

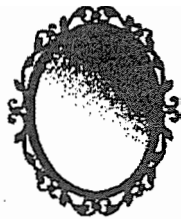
Answer all questions.

**Section A: (5 x 2 marks = 10 marks)**

For each question from 1 to 5, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and write your answer in the brackets provided.

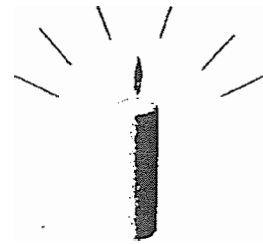
1 Which of the following is a source of light?

(1)



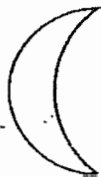
A mirror

(2)



A lighted candle

(3)



The moon

(4)

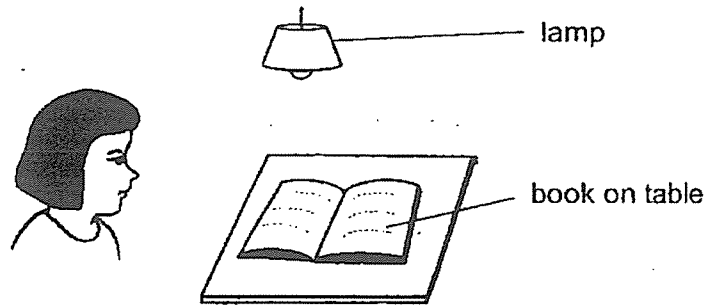


A glass

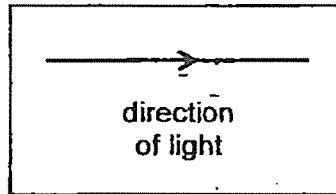
( )



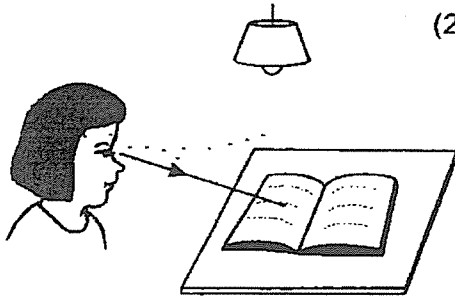
2 Look at the picture below.



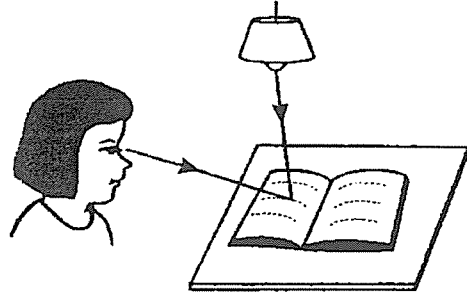
Which of the following shows the correct path of light that enables Jane to see the book on the table?



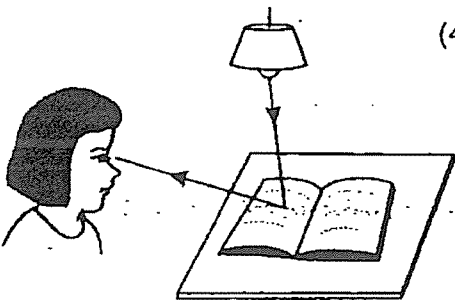
(1)



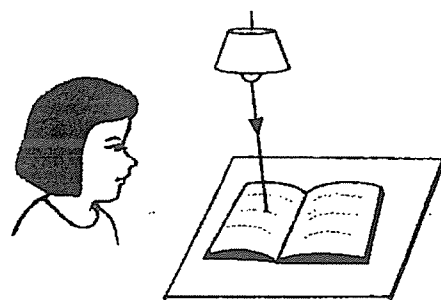
(2)



(3)



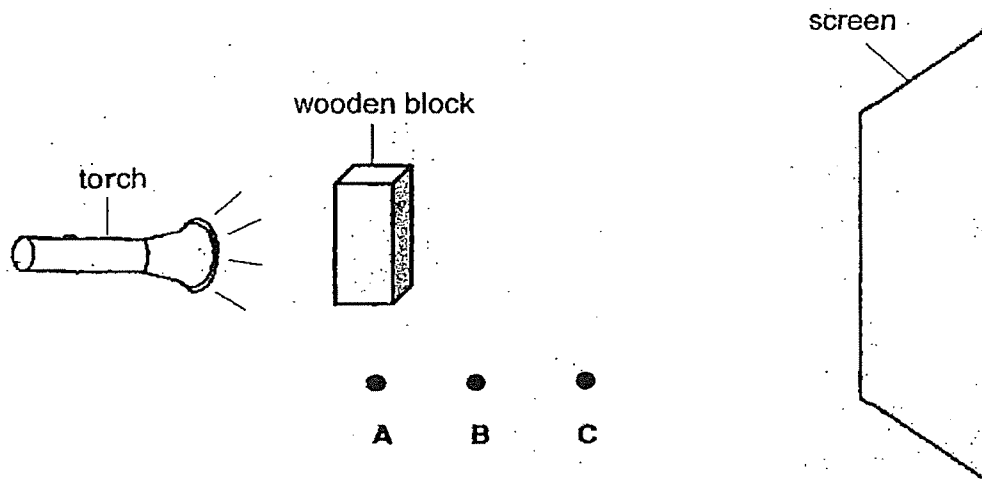
(4)



( )

(Go on to the next page)

3 Siti shone a torch on a piece of wooden block and a shadow was formed on the screen.



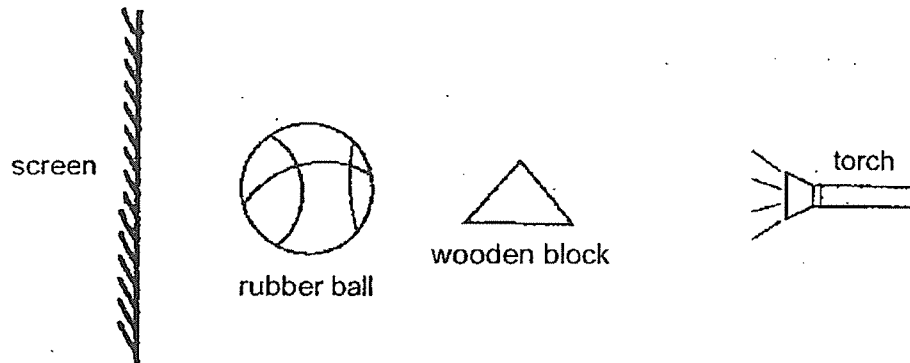
She placed the wooden block at positions A, B and C. At each position, she measured the height of the shadow formed on the screen. Which of the following correctly represents the results?

Height of shadow (cm)			
	Position A	Position B	Position C
(1)	12	16	20
(2)	12	20	16
(3)	20	12	16
(4)	20	16	12

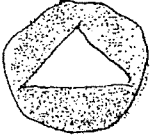
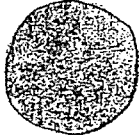
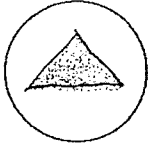
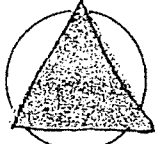
( )

(Go on to the next page)

- 4 The diagram below shows a torch shining on a rubber ball and a wooden block. A shadow is cast on the screen.



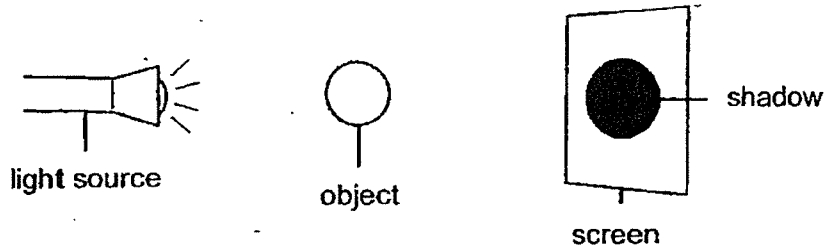
Which of the following shadows would be observed on the screen?

(1)		(2)	
(3)		(4)	

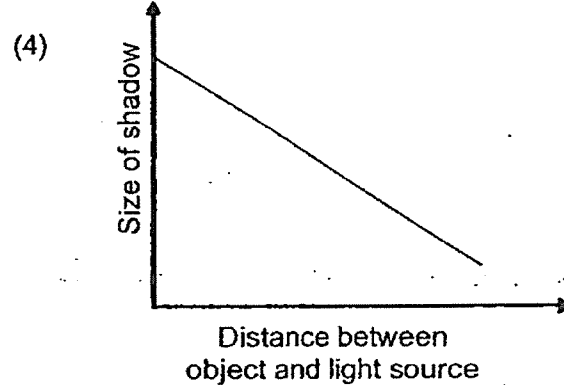
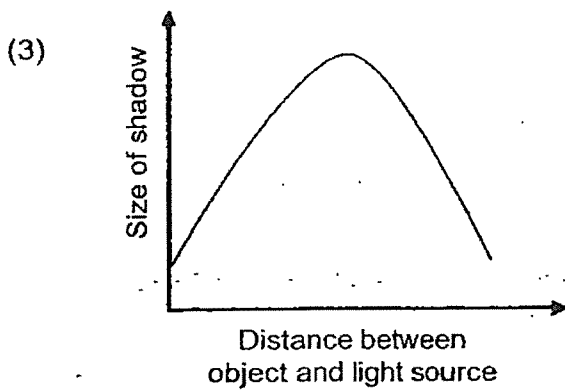
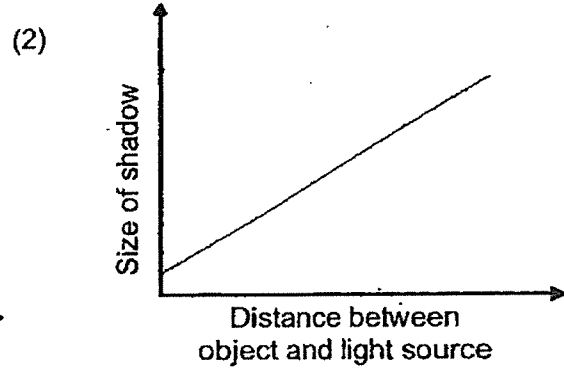
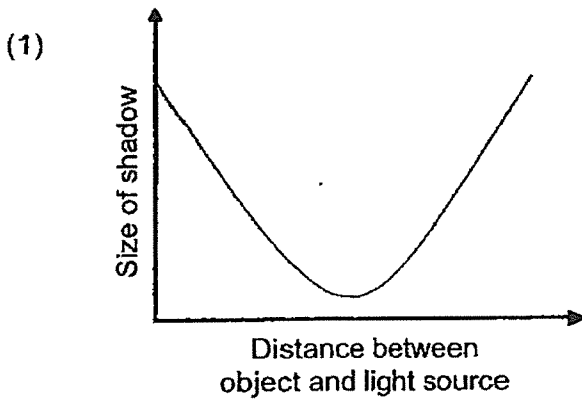
( )

(Go on to the next page)

5 Study the diagram shown below.



Which of the following graphs correctly shows the relationship between the distance of the object and the light source and the size of the shadow cast on the screen?



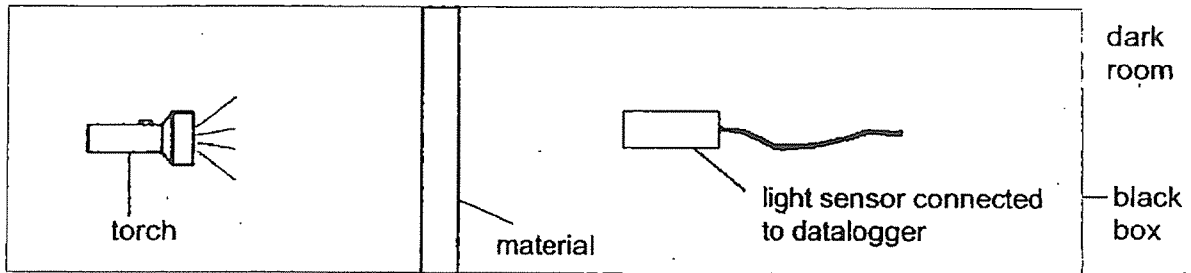
(Go on to the next page)

Total score for Section A	10
---------------------------	----

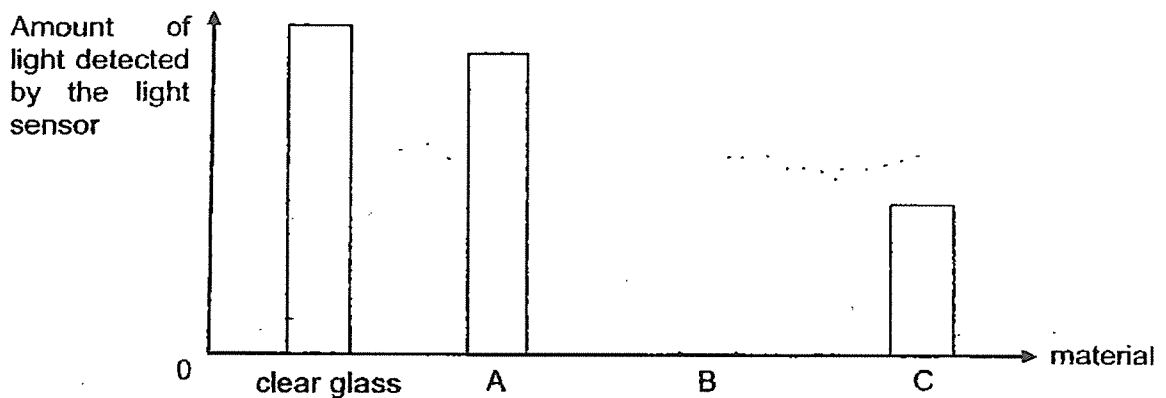
**Section B: Structured questions (10m)**

For questions 6 to 8, write your answers in the space provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

- 6 Ravi carried out an experiment to investigate the amount of light passing through three different materials, A, B, and C, of similar size and thickness in a dark room.



The graph below shows the amount of light passing through the three materials.



- (a) Based on the graph, which of the materials, A, B or C, shows the properties stated below? [1]

Property	Material
Allow most light to pass through	
Allow some light to pass through	

(Go on to the next page)

Score	1
-------	---

(b) Identify the measured (dependent) variable in this experiment.

[1]

---

---

(c) Ravi wanted to make a box to hide his surprise gift from his mother. Which material, A, B or C, should he use to make the box? Explain your answer.

[2]

---

---

---

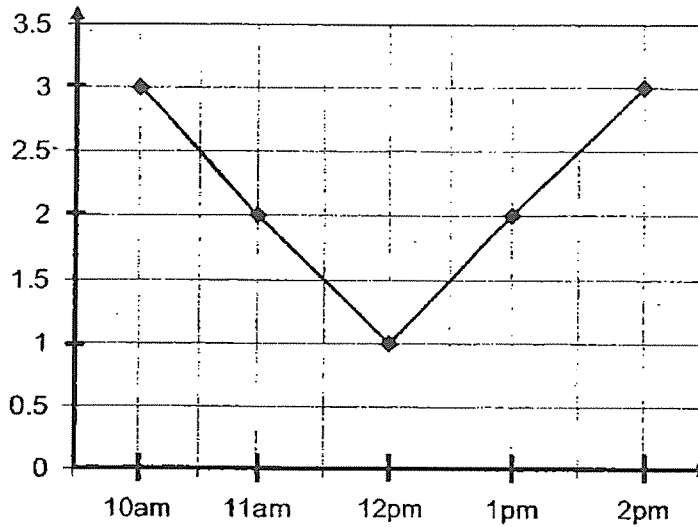
(Go on to the next page)

Score	3
-------	---



- 7 Lily recorded the length of the shadow (in metres) of a flagpole in a garden at different times of the day. She represented the results in a line graph as shown below.

Length of shadow (metres)



- (a) Write the changed (independent) variable in the box above. [1]

- (b) Why is the shadow the shortest at 12pm? [1]

---



---

- (c) Based on the graph above, what is the relationship between the length of the shadow and the time of the day from 10am to 12pm? [1]

---

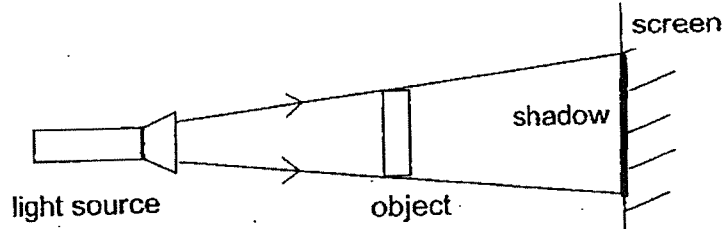


---

(Go on to the next page)

Score	3
-------	---

(d) A shadow is formed as shown in the diagram below.



Using the same set-up and without moving the object, suggest a way to form a bigger shadow of the object on the screen. [1]

---

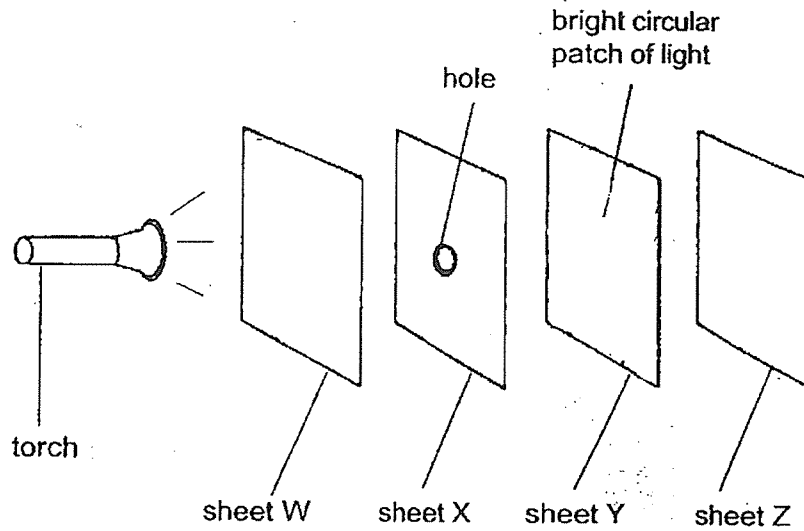
---

(Go on to the next page)

Score	1
-------	---

8 The experiment shown below is carried out in a dark room.

Sheets W, X, Y and Z are arranged in a straight line. When the torch is switched on, a bright circular patch of light is seen on sheet Y only.



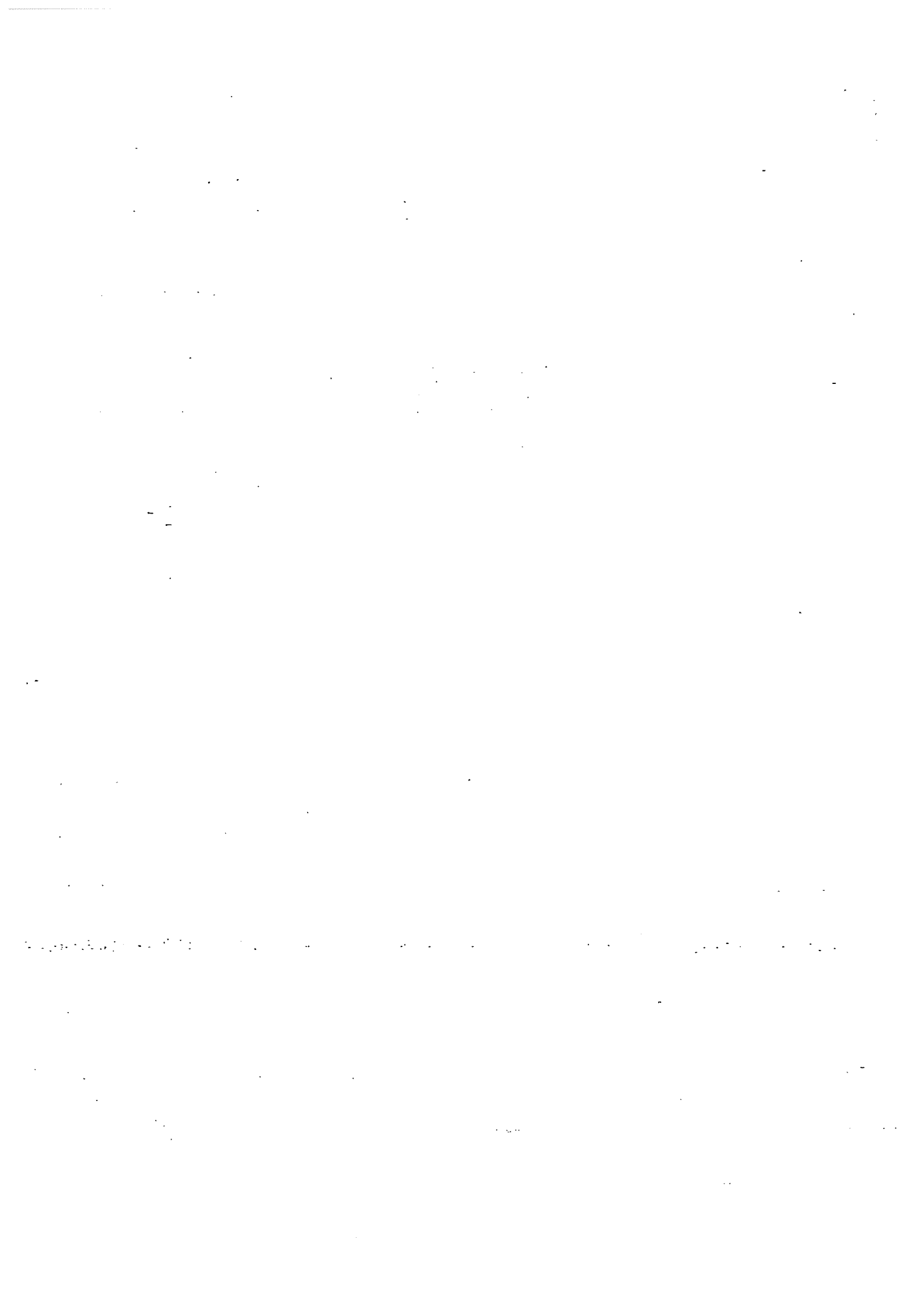
Fill in the table below correctly with the letters W, X, Y and Z to describe the properties of the materials that sheets W, X, Y and Z are made of.

[2]

Allow light to pass through	Does not allow light to pass through	Not possible to tell

End of Paper

Score	2
-------	---



SCHOOL : NAN HUA PRIMARY SCHOOL  
 LEVEL : PRIMARY 4  
 SUBJECT : SCIENCE  
 TERM : 2023 WA1

**SECTION A**

Q 1	Q2	Q3	Q4	Q5
2	3	4	2	4

**SECTION B**

Q6)	a)			
	Property	Material		
	Allow most light to pass through	A		
	Allow some light to pass through	C		
	b) Amount of light detected c) Material B. The light sensor did not detect any light, suggesting B does not allow light to pass through (Opaque). Hence mother will not be able to see his surprise gift.			
Q7)	a) Time b) At 12pm. The sun is directly over the flagpole, casting the shortest shadow. c) As time of day increases from 10am to 12pm, length of shadow decreases d) Move the light source nearer to the object			
Q8)	Allow light to pass through	Does not allow light to pass through	Not possible to tell	
	W	X, Y	Z	

