0.1

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

Marks	
Section A:	/10
Section B:	/10
Total:	**/20**

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.

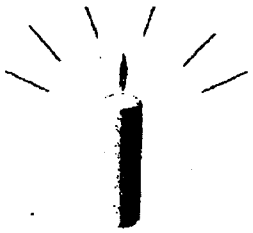
1 Which of the following is a source of light?

(1)



A mirror

(2)



A lighted candle

(3)



The moon

(4)



A glass

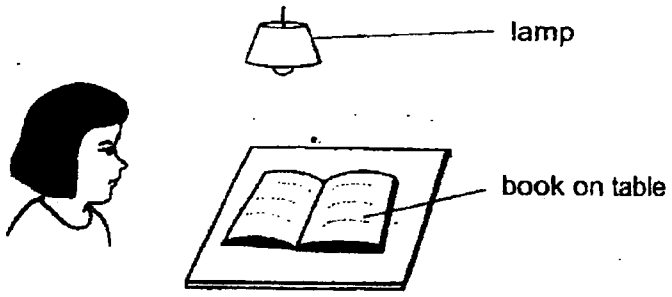
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This booklet consists of 10 printed pages.

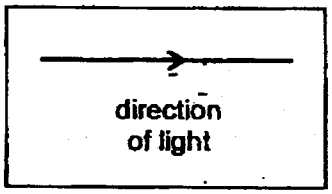
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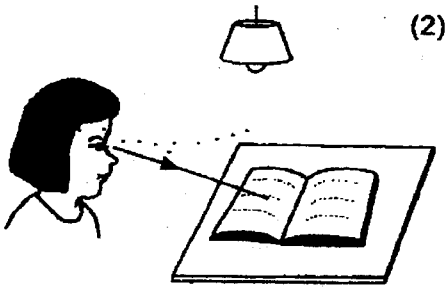
2 Look at the picture below.



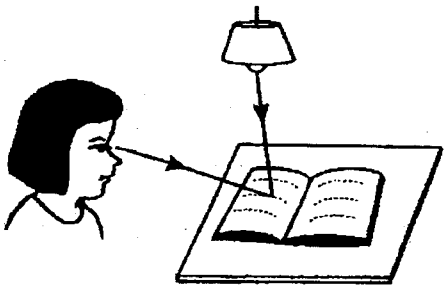
Which of the following shows the correct path of light that enables Jane to see the book on the table?



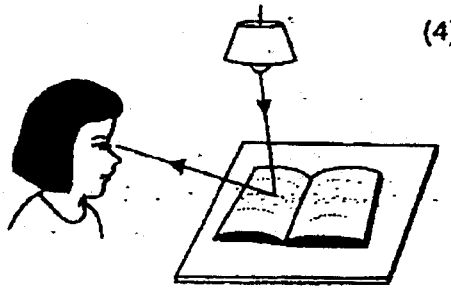
(1)



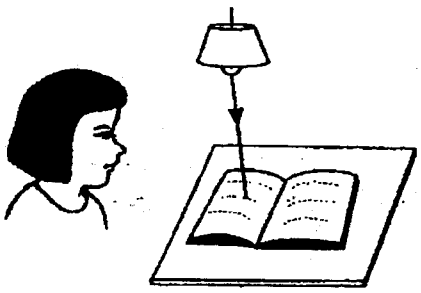
(2)



(3)



(4)

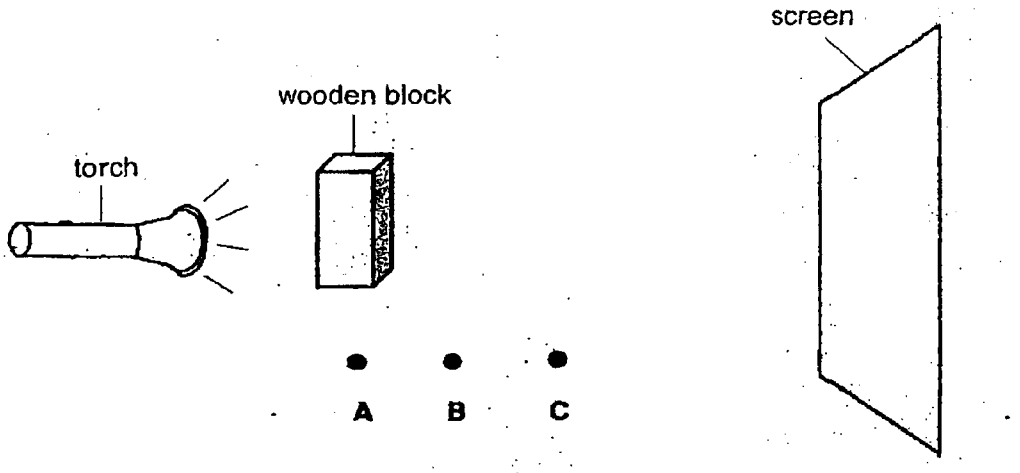


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3 Siti shone a torch on a piece of wooden block and a shadow was formed on the screen.



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?

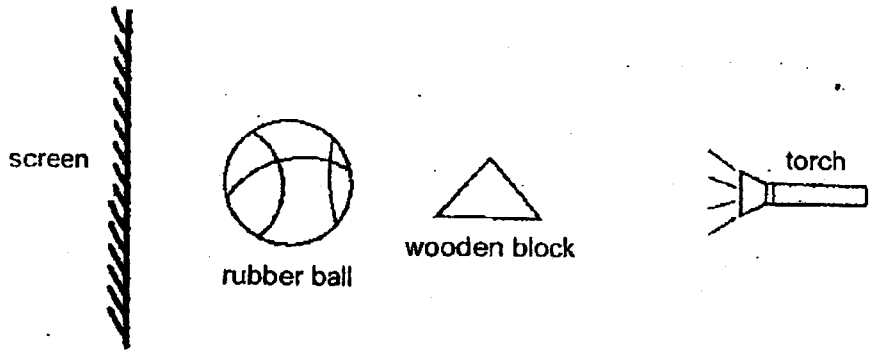
	Height of shadow (cm)		
	Position A	**Position B**	**Position C**
(1)	12	16	20
(2)	12	20	16
(3)	20	12	16
(4)	20	16	12

( )

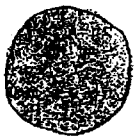
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4 The diagram below shows a torch shining on a rubber ball and a wooden block. A shadow is cast on the screen.



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

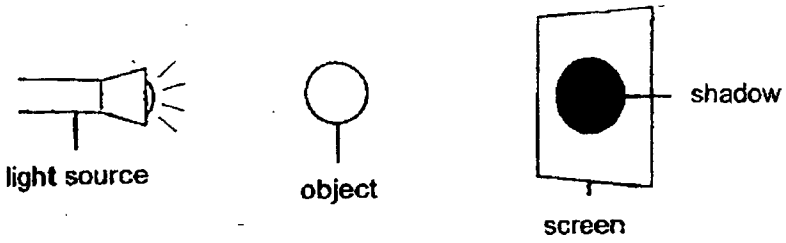
(1)		(2)	
(3)		(4)	

( )

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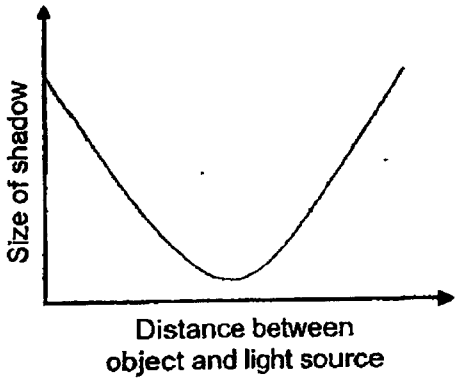
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5 Study the diagram shown below.

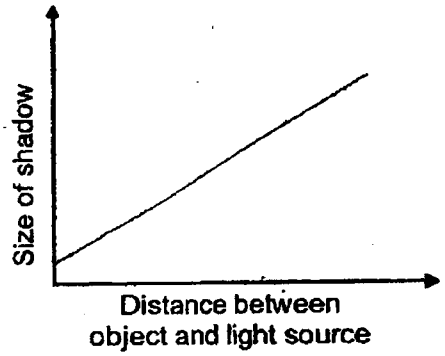


Which of the following graphs correctly shows the relationship between the distance of the object and the light source and the size of the shadow cast on the screen?

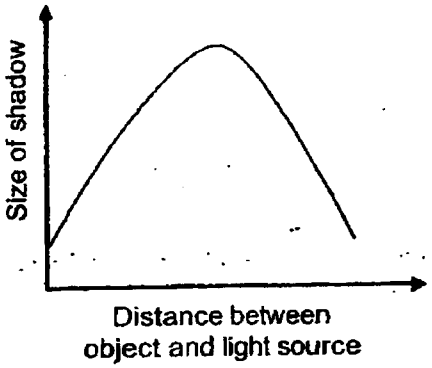
(1)



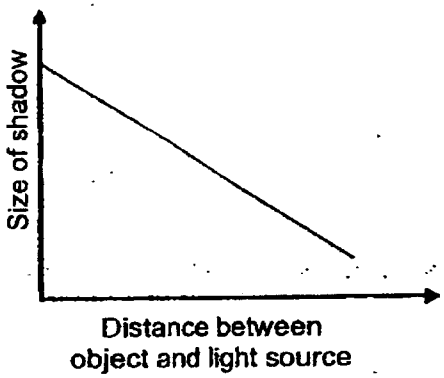
(2)



(3)



(4)



( ).

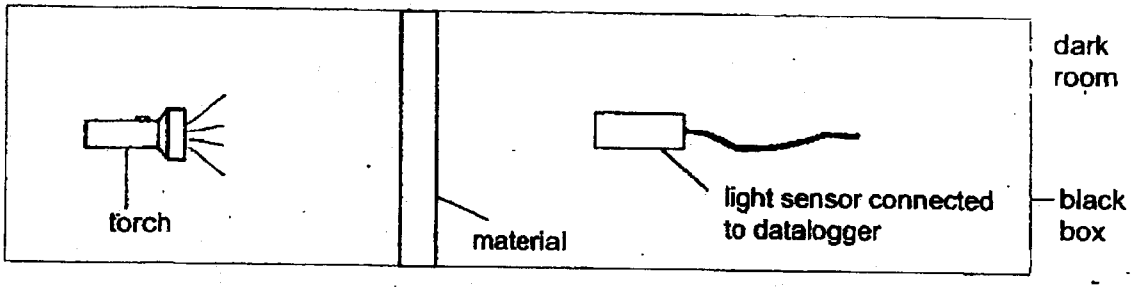
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Total score for Section A	10

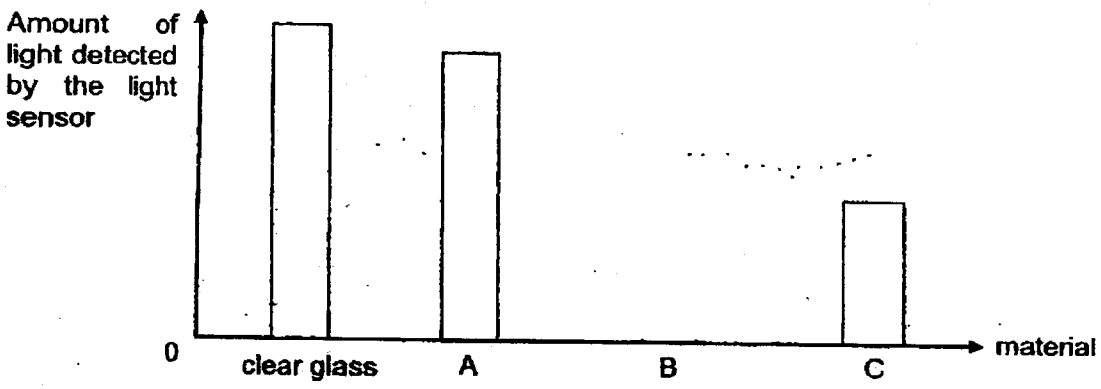
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Section B: Structured questions (10m)
For questions 6 to 8, write your answers in the space provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

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	

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Score	1

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(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]

_____

_____

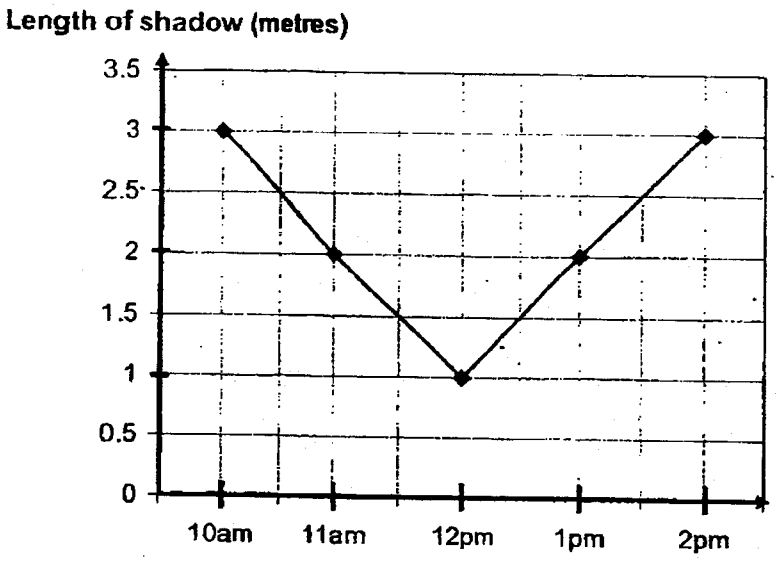
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Score	
	3

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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.



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

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

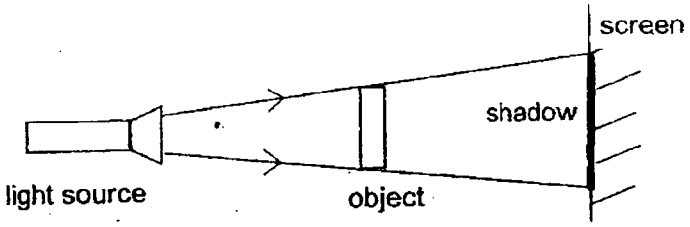
(c) Based on the graph above, what is the relationship between the length of the shadow and the time of the day from 10am to 12pm? [1]

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Score	/3

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(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]

_____

_____

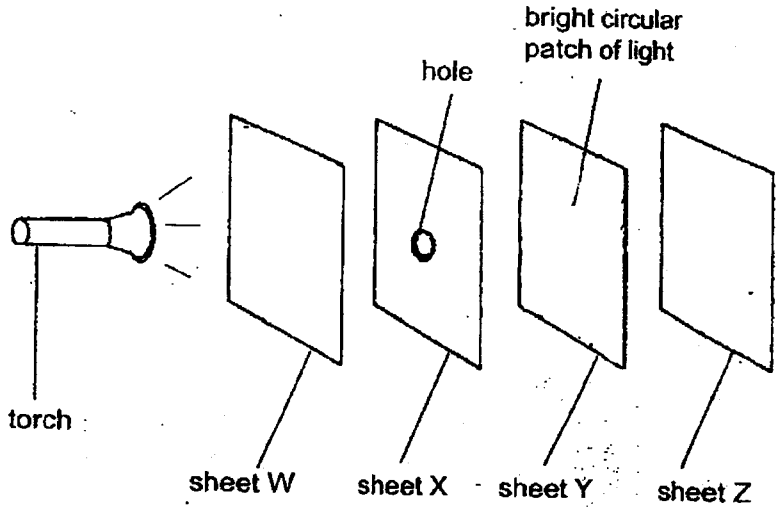
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Score	1

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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

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

CONTACT :

SECTION A

Q1	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

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