Nan Hua Primary School
Primary 4 Science
Term 1 Weighted Assessment 2021

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

Name: _____ ( )

Class: Primary 4/_____

Date: _____

Duration: **30 minutes**

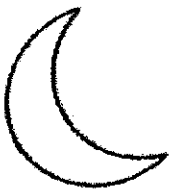
Answer all questions.

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 **NOT** a source of light?

(1)

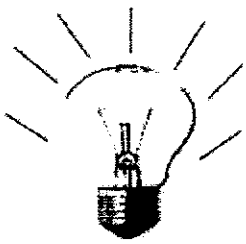


the moon

(2)

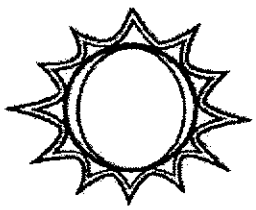
fireflies

(3)



a lit bulb

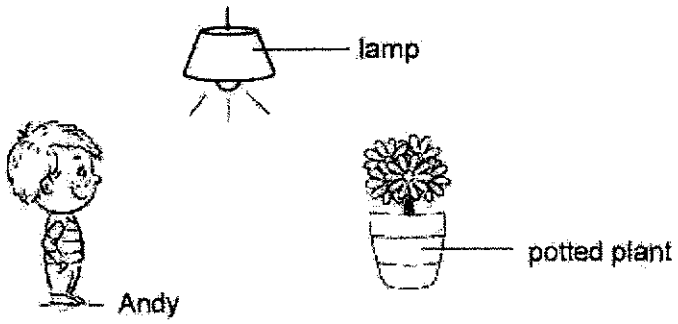
(4)



the sun

( )

2 Andy saw a potted plant in his room.



Which of the following statement best explains how Andy was able to see the potted plant?

(1) Light from Andy's eyes was reflected by the potted plant.

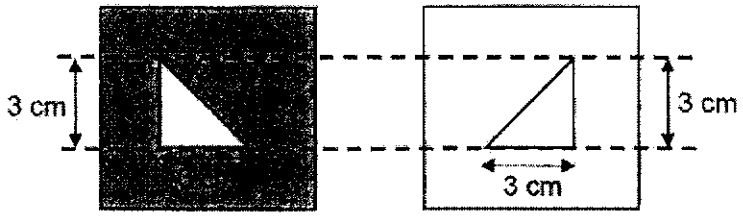
(2) Light from the potted plant was reflected off the lamp into Andy's eyes.

(3) Light from the lamp was reflected off the potted plant into Andy's eyes.

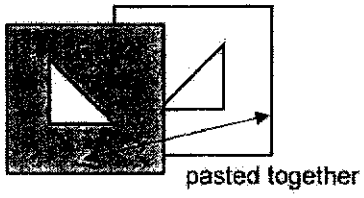
(4) Light from the lamp entered Andy's eyes and the potted plant.

( )

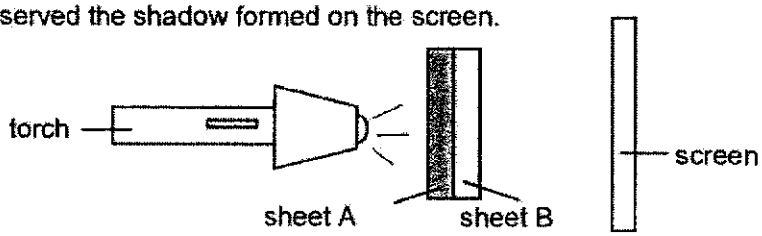
3 Two sheets of different materials were cut in the middle as shown below. Sheet A is made of metal. Sheet B is made of frosted glass.



The two sheets were then pasted together as shown in the diagram below.



Sally shone a torch at the two sheets of materials as shown in the diagram below and observed the shadow formed on the screen.



Which of the following correctly shows the shadow observed by Sally on the screen?

(1) 

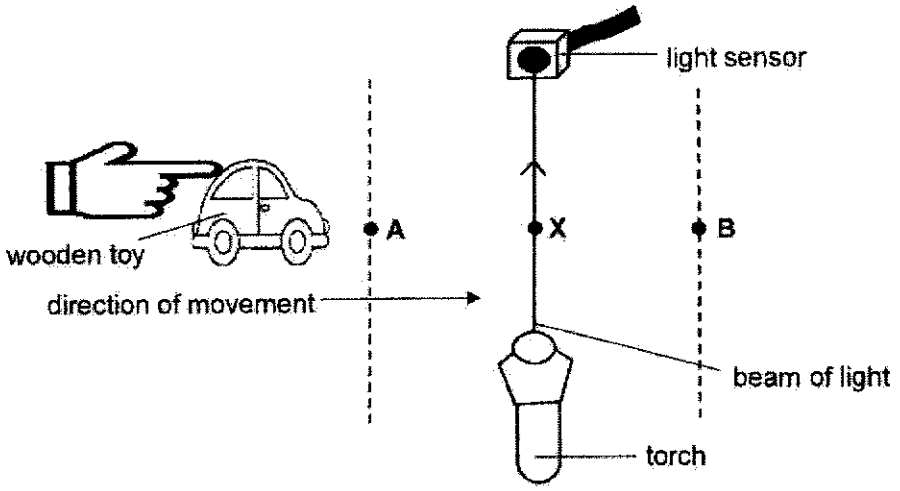
(2) 

(3) 

(4) 

( )

4 Timothy conducted an experiment in a dark room as shown below.

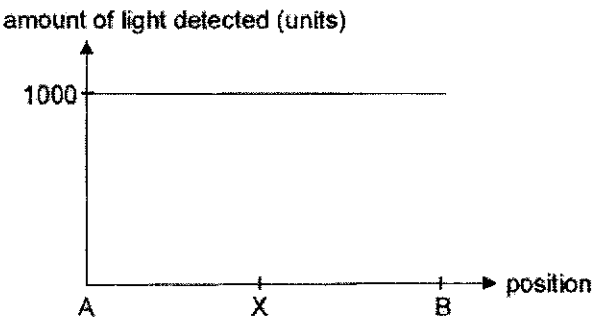


He switched on the torch which gives out a narrow beam of light. Timothy then pushed a wooden toy car from point A. The toy car moved and went past point B.

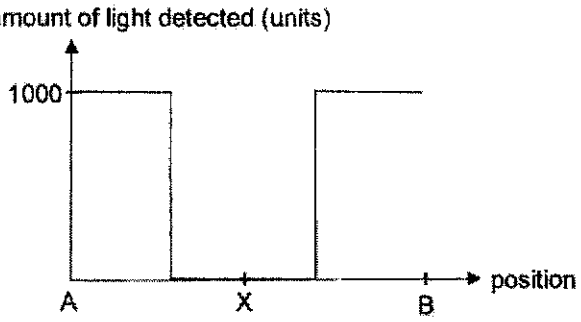
Continue next page →

Which of the following graphs below shows the correct amount of light detected by the light sensor when the toy car moved from point A to B?

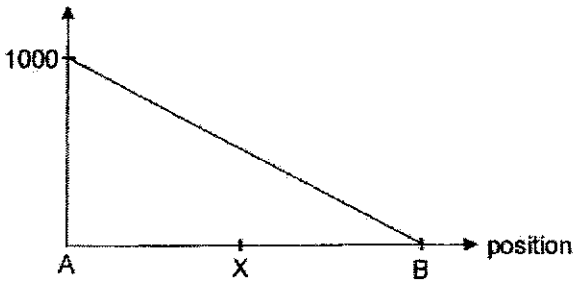
(1)



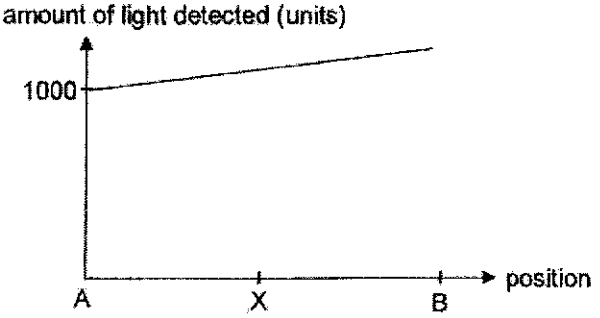
(2)



(3)

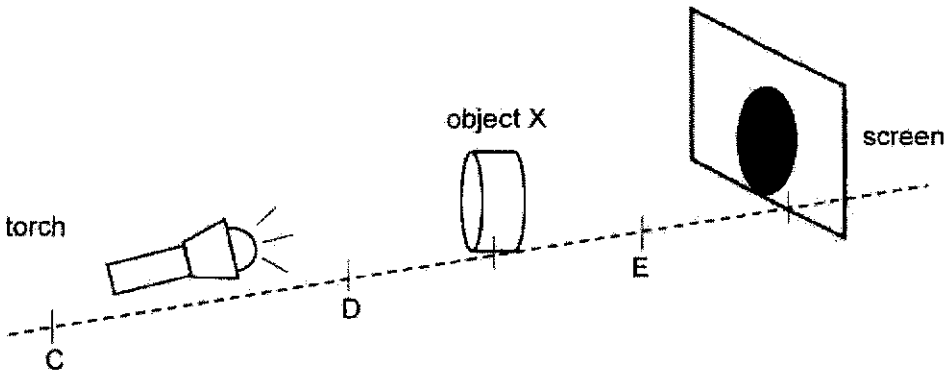


(4)



( )

5 Mandy set up the experiment as shown below. She observed a shadow formed on the screen.



Mandy wanted a bigger shadow on the screen. Which of the following changes should she make?

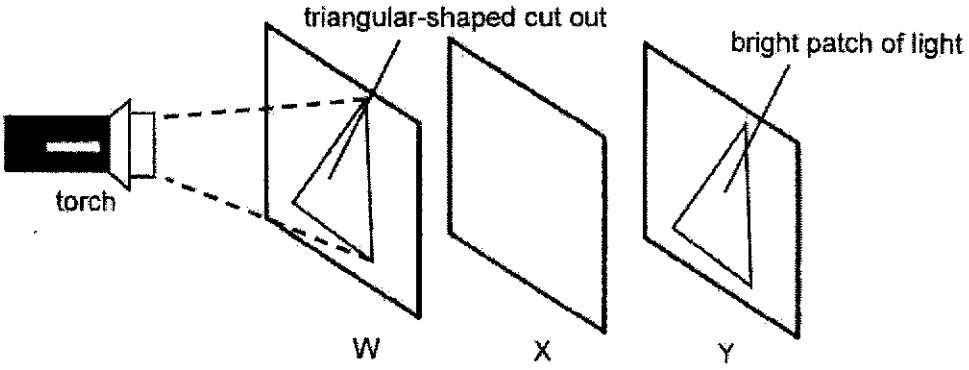
(1) Move object X to position E
(2) Move the torch to position C
(3) Move the torch to position D
(4) Move the screen to position E

( )

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 W, X and Y are three sheets made of different materials. A triangle is cut out from W as shown in the experimental set-up below. When the torch is switched on, a bright patch of light in the shape of a triangle is seen on Y.

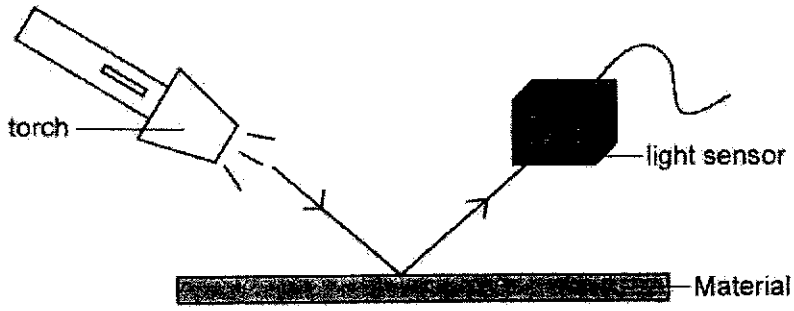


(a) Write **True** or **False** beside each statement(s) below. [2]

	Statement	True or False
(i)	Material X allows light to pass through it.	
(ii)	Material Y allows most light to pass through it.	
(iii)	Material W allows most light to pass through it.	
(iv)	The triangular-shaped cut out cast a triangular shadow on sheet Y.	

Score	/ 2

7 Janice wants to investigate which type of material is best for making a cyclist's choice of clothing when cycling at night. She sets up her experiment in a dark room as shown below.



Janice shines the light from the torch onto material R and records the amount of light detected by the light sensor. She repeats the experiment with materials S and T. She then records the results in the table shown below.

Material	Amount of light detected (units)
R	15
S	200
T	50

(a) Identify the changed (independent) variable in this experiment. [1]

_____

(b) Based on Janice's experimental results, which type of material is the most suitable for making a cyclist's clothes so that he can be easily seen by drivers at night? Explain your answer. [2]

_____

_____

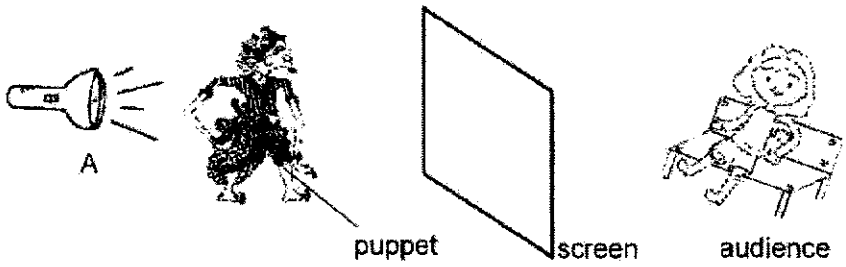
_____

(c) State the property of light shown in this experiment. [1]

_____

Score / 4

8 A shadow puppet show was set up as shown in the diagram below by Pete.



(a) A shadow is formed when light is _____ by the puppet. [1]

(b) Without moving the screen, suggest how Pete could make the puppet's shadow appear smaller on the screen. [1]

_____

_____

(c) Put a tick (✓) in the boxes below to show the property of the material used to make the screen. [1]

	Allow most light to pass through	Allow some light to pass through	Allow no light to pass through
material of screen			

(d) Explain why this property allows it to be used as a screen for the puppet show. [1]

_____

_____

-End-of-paper-

Score	/ 4

SCHOOL : NANHUA PRIMARY SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : NHPS P4 Weighted Assessment 1

SECTION A

Q1	Q2	Q3	Q4	Q5					
1	3	4	2	3					

SECTION B

Q6A

Statement	True/False
a) Material X allows light to pass through it	True
b) Material Y allows most light to pass through it	False
c) Material W allows most light to pass through it	False
d) The triangular shaped cut out cast a triangular shadow on sheet Y.	False

Q7A The type of material

Q7B Material S

Amount of light detected (by the light sensor) is the greatest for Materials S. Material S reflects the most amount of light from the car's headlamp into the driver's eyes.
This enables the driver to be able to see the night cyclist most easily.

Q7C Light can be reflected / Light travels in a straight line.

Q8A blocked

Q8B Move the puppet closer to the screen. / Move touch A further away from the puppet.

Q8C

	Allow most light to pass through	Allow some light to pass through	Allow no light to pass through
material of screen		✓	

Q8D It allows the audience to be able to see the shadow of the puppet formed on the screen. / allows the shadow of the puppet formed to be seen on both sides of the screen.