Catholic High School (Primary)
Primary 6 Science 2025
Non-Weighted Assessment 1

Name: _____ ( )

Class: Pri. 6 - _____

Date: 25 February 2025

MARKS	25

Parent's Signature: _____

Booklet A (8 × 2 marks)

For each question from 1 to 8, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Write its correct number in the brackets provided.

(16 marks)

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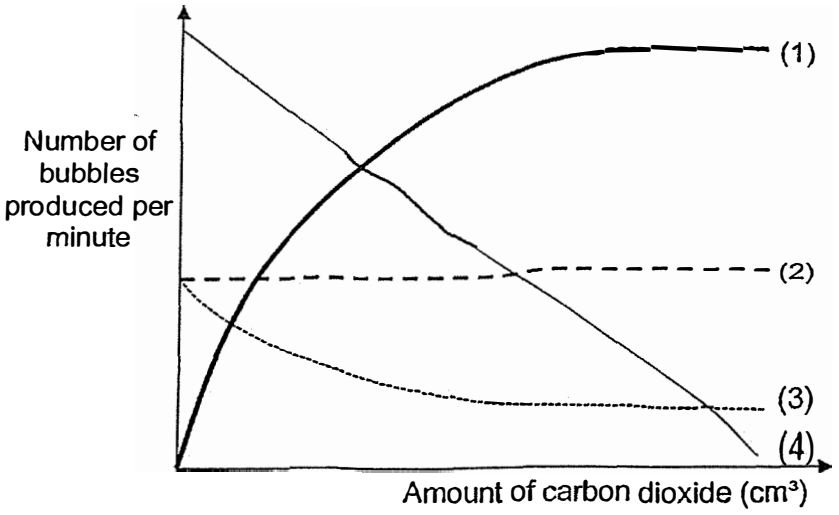
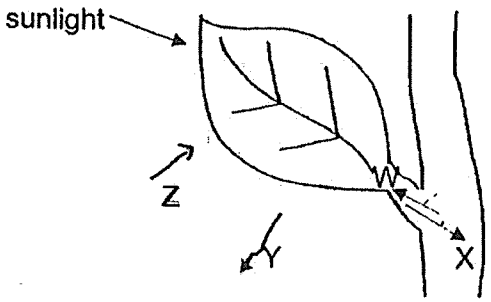
1 Leon carried out an experiment to find out how the amount of carbon dioxide taken in affects the rate of photosynthesis in a plant.

Which of the following correctly shows the results of his experiment if he had carried out a fair test?



( )

2 The diagram shows a process being carried out by a green leaf.

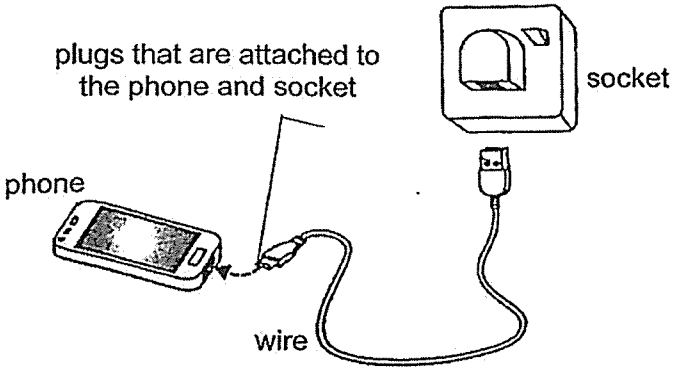


Which of the following correctly represents W, X, Y and Z?

	W	X	Y	Z
(1)	oxygen	water	carbon dioxide	sugar
(2)	water	carbon dioxide	sugar	oxygen
(3)	sugar	carbon dioxide	water	oxygen
(4)	water	sugar	oxygen	carbon dioxide

( )

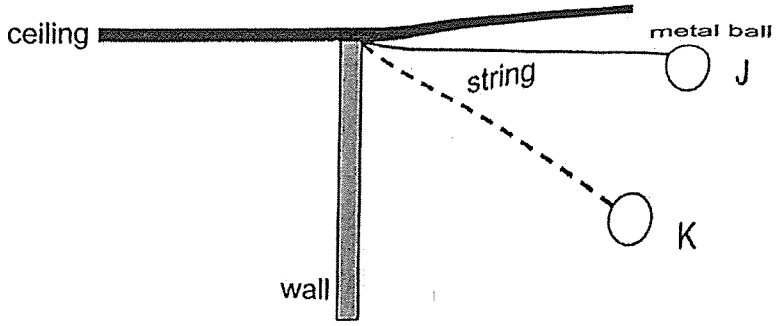
3 After the battery of the phone is fully charged, it is unplugged from the socket and then switched on.



Which of the following represents the energy conversion of the phone when it is switched on?

(1) heat energy ⟶ electrical energy ⟶ sound and light energy
(2) kinetic energy ⟶ electrical energy ⟶ sound and light energy
(3) electrical energy ⟶ potential energy ⟶ sound and light energy
(4) potential energy ⟶ electrical energy ⟶ sound and light energy ( )

4 Sheela hung three metal balls, A, B and C, one at a time, from a string and released each one from either position J or K as shown.



She recorded the sound level when the metal ball hit the wall using a sound sensor connected to a datalogger.

metal ball	mass of metal ball (g)	position released from
A	100	J
B	200	J
C	100	K

Which of the following shows the sound level recorded for each metal ball?

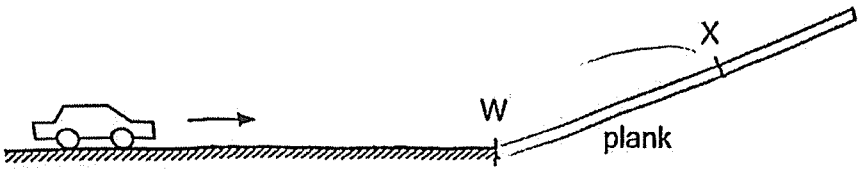
	sound level recorded for each metal ball (units)		
	A	B	C
(1)	85	100	150
(2)	100	150	85
(3)	150	85	100
(4)	150	100	85

( )

5 Which of the following is **not** an example of energy conversion?

(1) light passing through a glass
(2) walking up an overhead bridge
(3) lighting a candle with a matchstick
(4) generating electricity in a power station ( )

6 A toy car was pushed towards a wooden plank as shown. It moved up the plank, stopped at X and then it rolled down the plank.

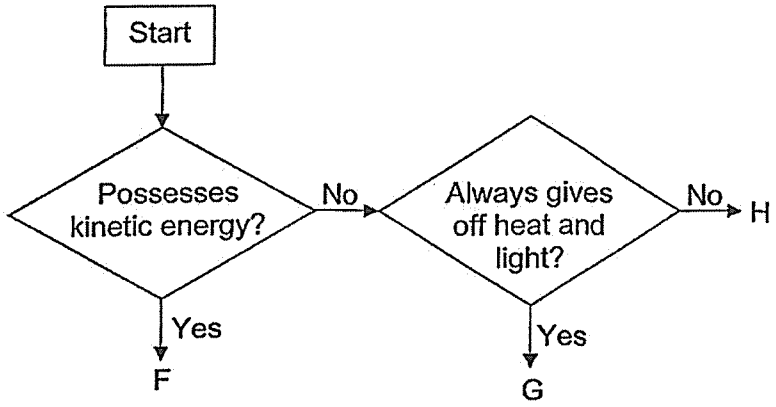


Which of the following is correct?

	kinetic energy of the car from W to X	potential energy of the car from W to X
(1)	decreases	increases
(2)	increases	increases
(3)	decreases	decreases
(4)	increases	decreases

( )

7 Study the diagram.

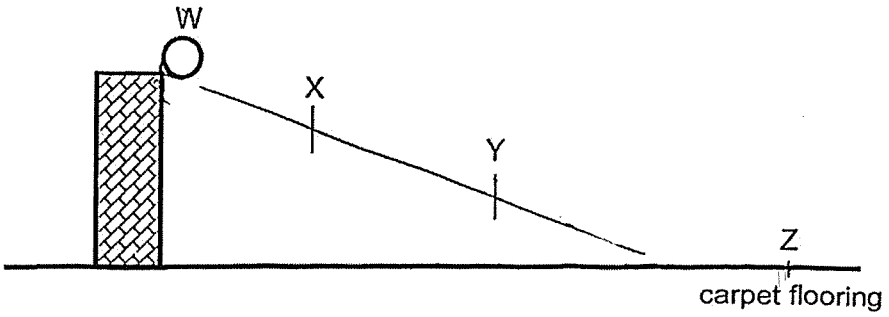


What could F, G and H represent?

	F	G	H
(1)	laptop	rabbit	flying kite
(2)	Sun	laptop	rabbit
(3)	flying kite	Sun	laptop
(4)	rabbit	flying kite	Sun

( )

8 Patrick released a ball from Point W as shown. The ball rolled down the slope, moved along the carpet flooring and stopped at point Z.



Which statements are correct?

A At points X and Y, the ball had kinetic energy only.

B The ball would have rolled down faster if slope was shorter.

C The ball had the greatest amount of kinetic energy at point W.

D The ball would have rolled further if the ball was released at a higher height than Point W.

(1) A and C only

(2) B and D only

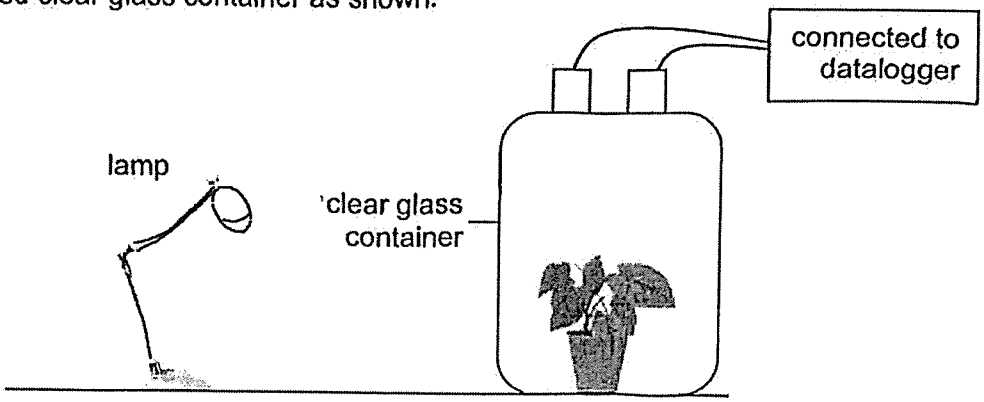
(3) A, B and D only

(4) B, C and D only ( )

Booklet B (9 marks)

For questions 9 to 11, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

9 Pei Hwa carried out an experiment in a dark room. He placed a plant in a closed clear glass container as shown.



(a) Give a reason why a clear glass container was used for the experiment. [1]

_____

_____

(b) Pei Hwa switched off the lamp.

State what would happen to the amount of oxygen and the amount of carbon dioxide detected by the datalogger after a few hours. Explain. [1]

_____

_____

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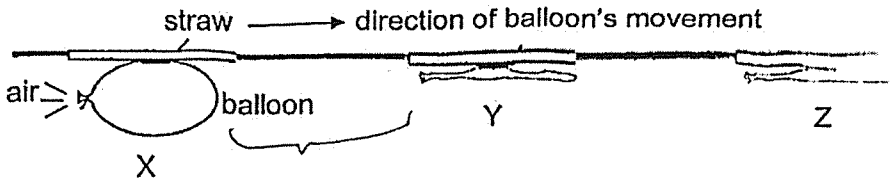
SCORE	/ 2

10 In an experiment, an inflated balloon was glued to the straw.

At X, when the air was released from the balloon, it moved forward. At Y, all the air had escaped from the balloon but it continued to move forward. The balloon came to a stop at Z.



(a) Give a reason why the balloon continued to move forward from Y towards Z. [1]

(b) Explain why the balloon finally stopped at Z. [1]

(c) Using the same set-up, suggest a way to make the balloon move further than Z. Explain your answer in terms of energy conversion. [2]

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SCORE	/4

11 Sulaiman made a device to drive a nail into a wooden plank as shown in diagrams 1, 2 and 3.

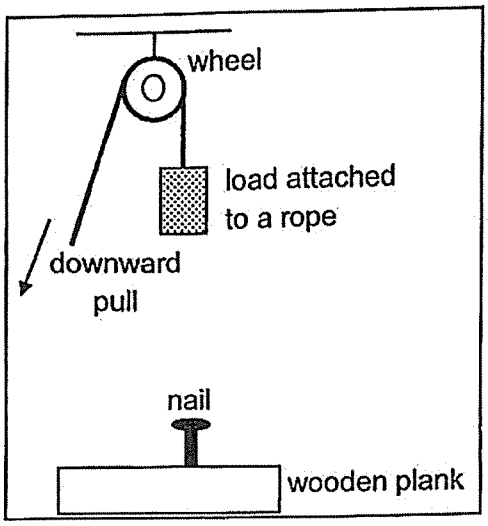


diagram 1

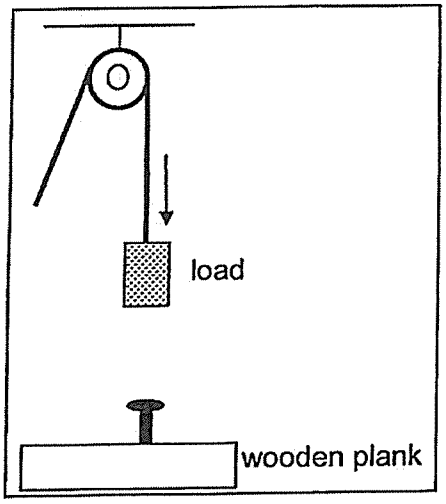


diagram 2

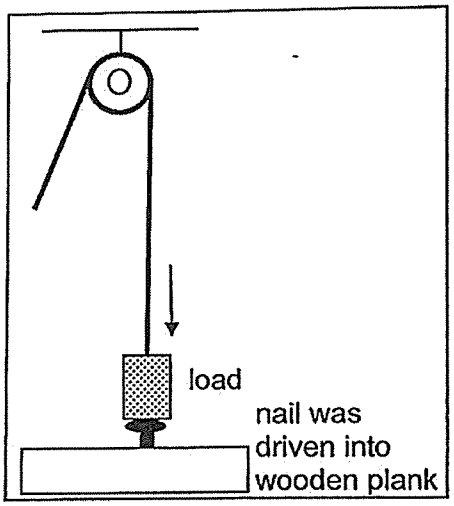
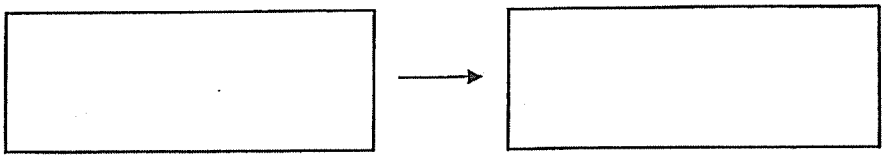


diagram 3

(a) Fill in the boxes provided to show the conversion of energy in the load in diagrams 1 and 2. [1]



(load in diagram 1) (load in diagram 2)

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SCORE	1

Continue from Question 11

(b) In order to drive the nail deeper into the wooden plank, would the following suggestions work?

Circle 'Yes' or 'No' to indicate your choice.
Explain your choice in terms of energy conversion.

(i) Suggestion 1: Decrease the distance between the load and the nail [1]

Yes / No

Explanation: _____

_____

_____

(ii) Suggestion 2: Increase the mass of the load [1]

Yes / No

Explanation: _____

_____

_____

End of Paper

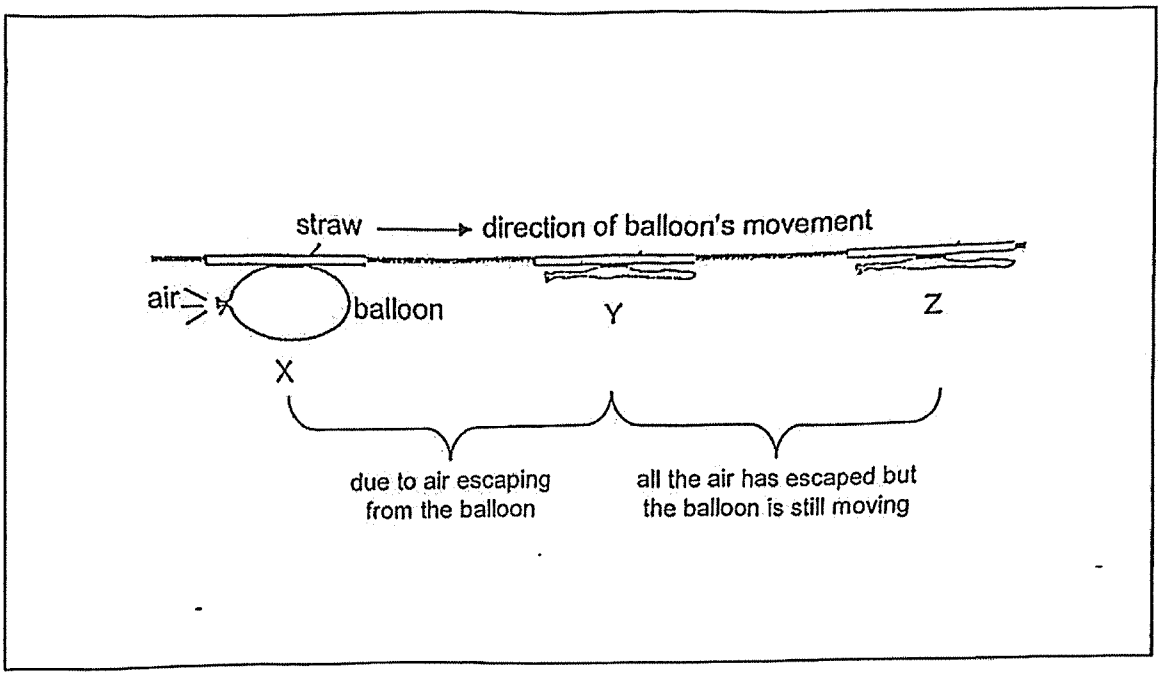
SCORE	/ 2

SCHOOL : CATHOLIC HIGH SCHOOL
LEVEL : PRIMARY 6
SUBJECT : SCIENCE
TERM : 2025 NON-WEIGHTED ASSESSMENT 1

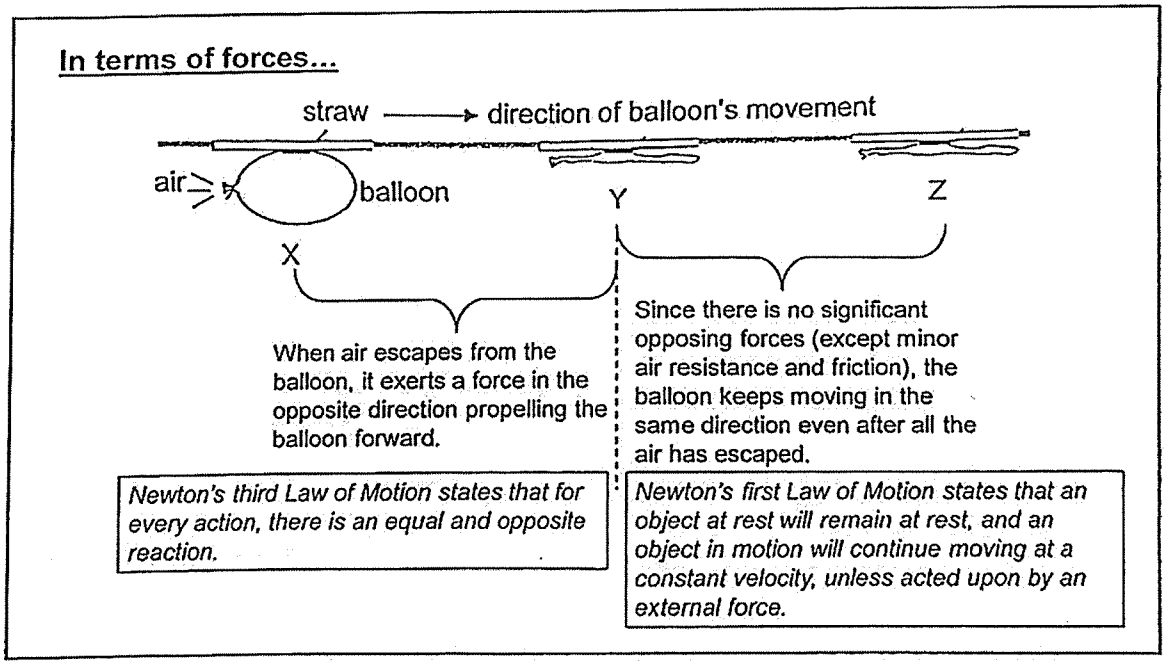
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8		
1	4	4	2	1	1	3	2		

		Hints / Remarks
9a	Light can **pass through** the glass for the plant to **photosynthesize**	
9b	What would happen to the amount of oxygen and the amount of carbon dioxide detected? **Choice** The amount of oxygen will **decrease** and the amount of carbon dioxide will **increase**. **Evidence:** The plant **could not photosynthesize** **Reason: There was no light**	Pei Hwa switched off the lamp.
10a	The balloon still has **some kinetic energy at Y**.	Command word: Give a reason Balloon continued to move forward.
10b	**All the kinetic energy** has been converted to **heat / sound energy**.	Command word: Explain why Balloon finally stopped. Energy can neither be created, destroyed nor used up or no more.
10c	Suggest a way: **Fill / Blow / inflate the balloon with more air** Explain (in terms of energy conversion): **There is more potential energy in the balloon to be converted into more kinetic energy in the balloon.**	

11a	Potential energy → kinetic energy	
11b	Suggestion 1: Decrease the distance between the load and nail. **No** At a lower height, the load has **less potential energy** converted to less kinetic energy when released Suggestion 2: Increase the mass of the load. **Yes** With the heavier load, the load has **more potential energy** converted to more kinetic energy when released.	Energy can neither be created, destroyed nor used up or no more. Use word: **Converted** Must have comparative word.

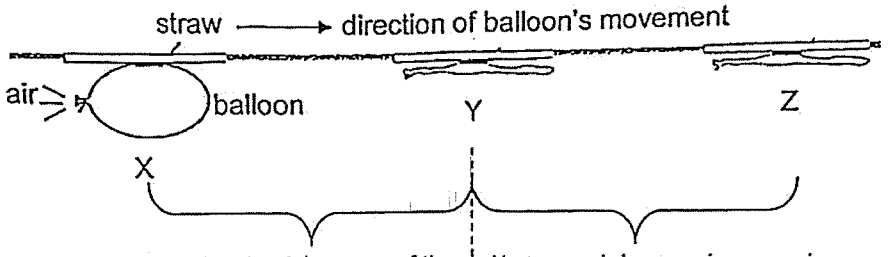


1



2

In terms of energy conversion...



(Elastic) potential energy of the stretched balloon is converted to kinetic energy of the escaping air. This exerts a force on the balloon, transferring the energy to it and giving it kinetic energy, making it move forward.

Newton's third Law of Motion states that for every action, there is an equal and opposite reaction.

No more air is escaping meaning no additional force is applied. However, the balloon still has kinetic energy which keeps it forward.

Gradually, this kinetic energy is converted to heat energy due to air resistance and friction with the string which slowed down the balloon until it eventually stops.

3