

**Test:** Primary 6 Science (Term 1) - Pei Chun (Y0)

**Points:** 29 points

**Name:** \_\_\_\_\_

**Score:** \_\_\_\_\_

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

**Signature:** \_\_\_\_\_

Select multiple choice answers with a cross or tick:

Only select one answer

Can select multiple answers

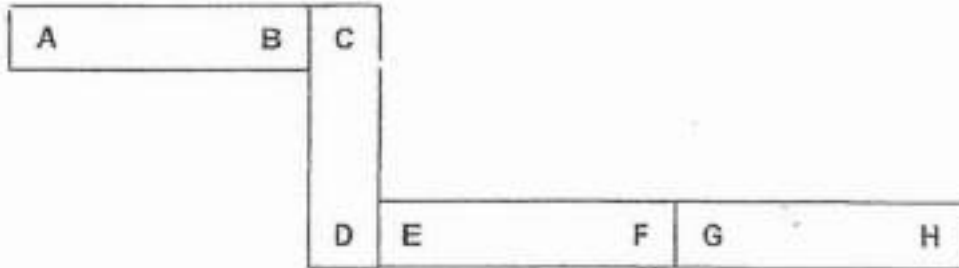
## Question 1 of 32

Primary 6 Science (Term 1)

2 pts

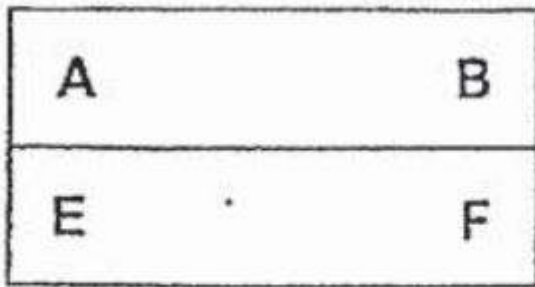
For each question, choose the most suitable answer. (14 x 2 marks)

Four bar magnets with their ends marked A to H can be arranged as shown below.

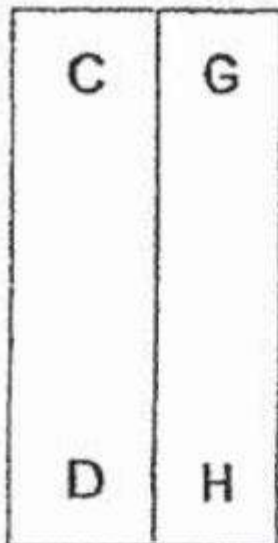


Which of the following diagrams shows a possible arrangement of two of the magnets?

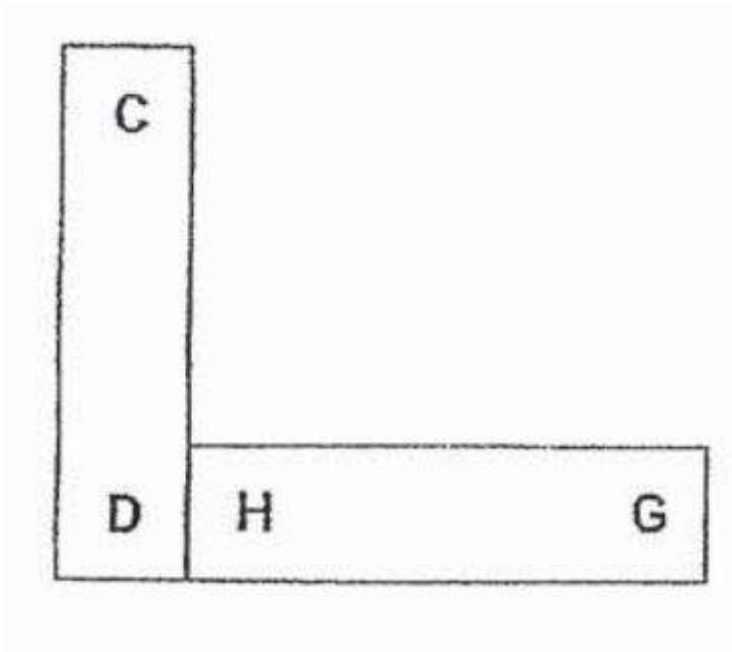
A)



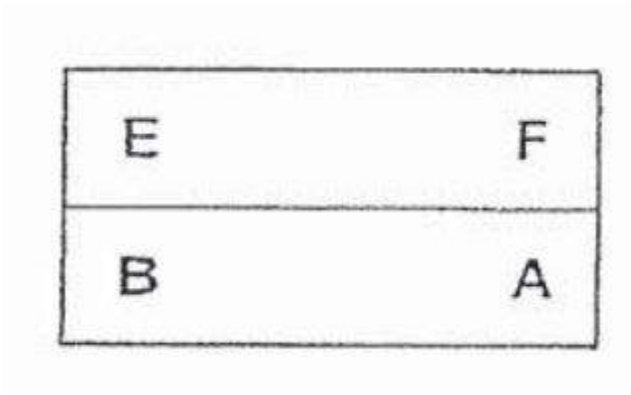
B)



C)



D)

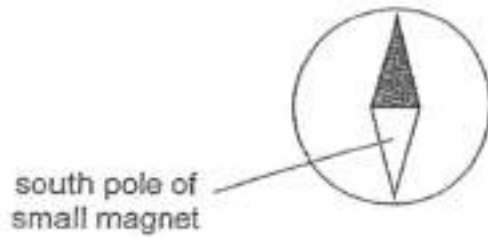


## Question 2 of 32

Primary 6 Science (Term 1)

2 pts

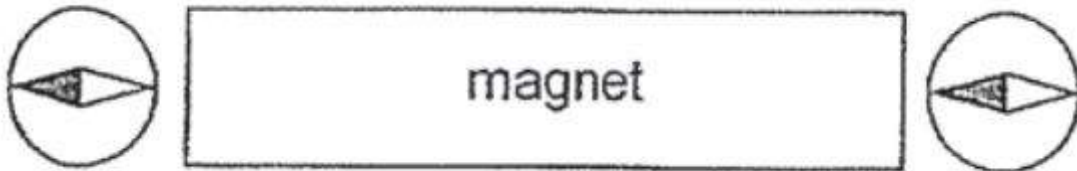
The diagram below shows a compass. It has a small magnet that can rotate freely.



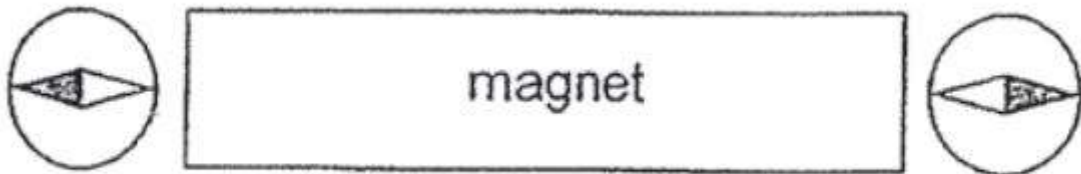
Two compasses are placed near a bar magnet.

Which diagram most likely shows the directions of the small magnets in the compasses?

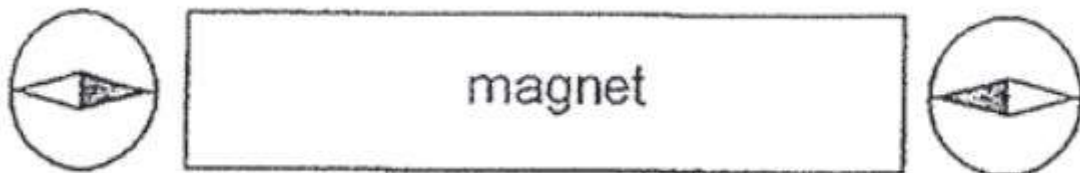
A)



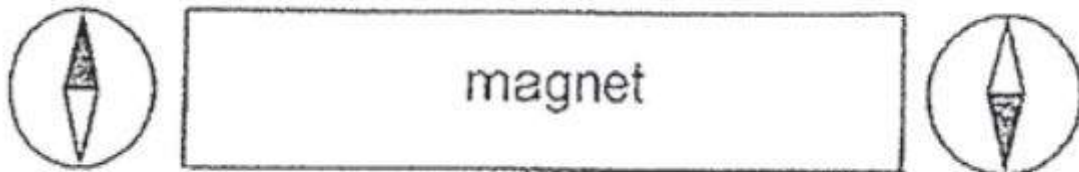
B)



C)



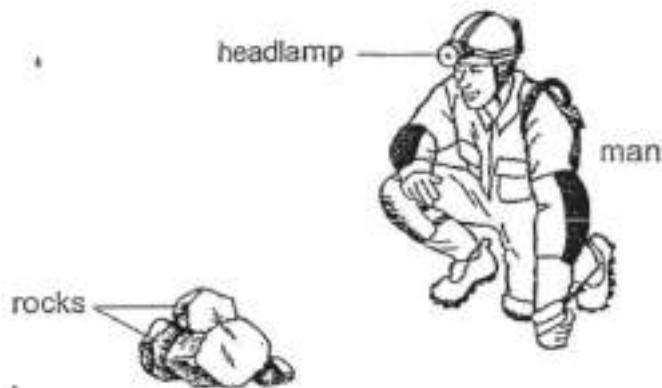
D)



**Question 3 of 32**

Primary 6 Science (Term 1) 2 pts

Study the diagram shown below. The man could see the rocks in the presence of light.



Which of the following correctly describes the path of light that allows the man to see the rocks?

- A) from rocks to headlamp to man
- B) from rocks to man to headlamp
- C) from headlamp to rocks to man
- D) from headlamp to man to rocks

**Question 4 of 32**

Primary 6 Science (Term 1) 2 pts

Which of the following statements about the differences between inhaled and exhaled air is correct?

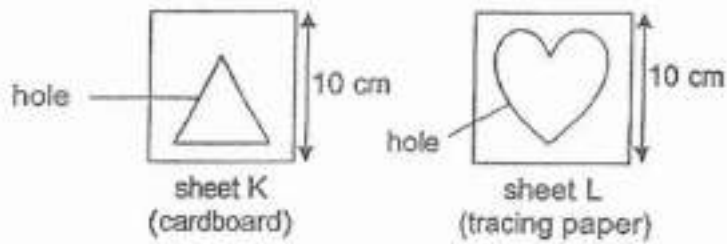
- A) Inhaled air is warmer than exhaled air.
- B) Inhaled air contains less dust than exhaled air.
- C) Inhaled air contains less water vapour than exhaled air.
- D) Inhaled air contains more carbon dioxide than exhaled air.

## Question 5 of 32

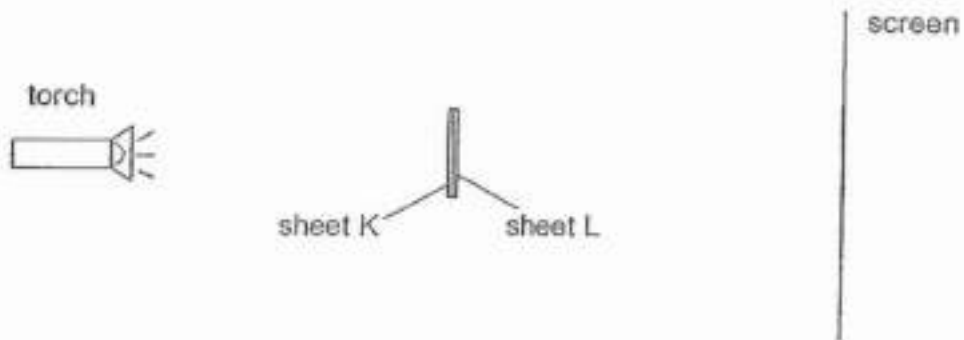
Primary 6 Science (Term 1)

2 pts

Gopal has two sheets of different materials with different shapes cut out in the middle.

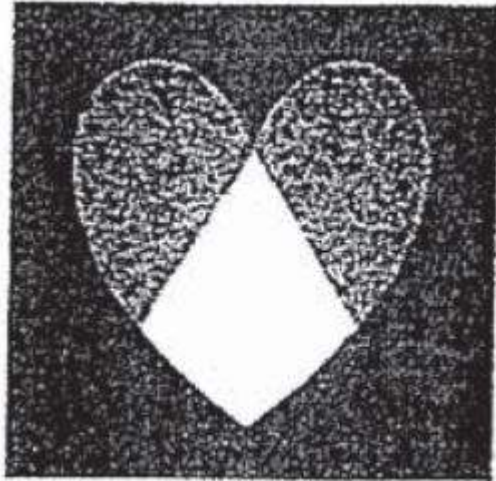


He glued the two sheets together and placed the sheets between a torch and a screen as shown below.

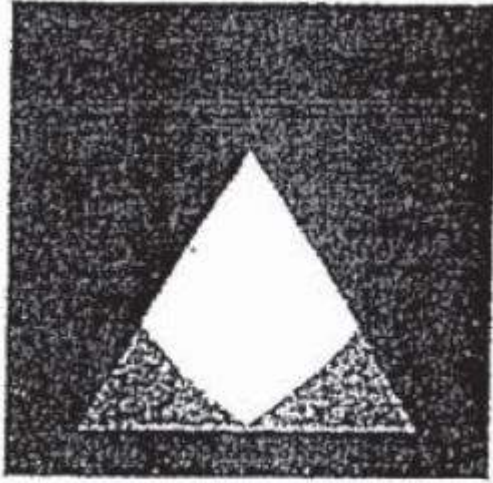


Which of the following correctly shows the shadow that would be formed on the screen?

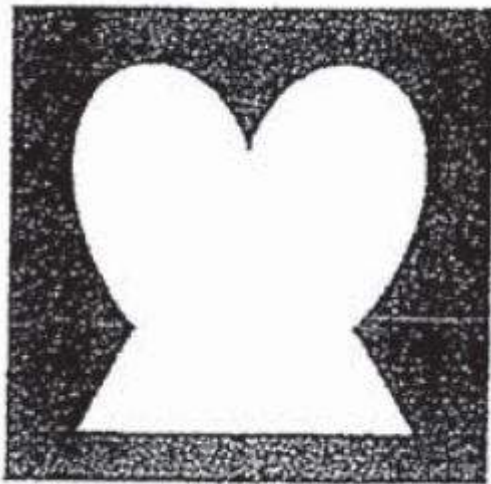
A)



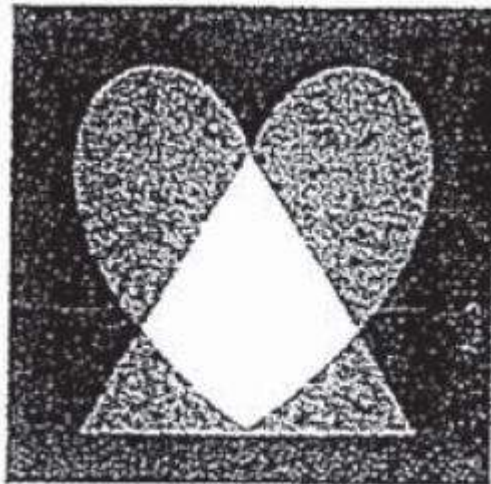
B)



C)



D)

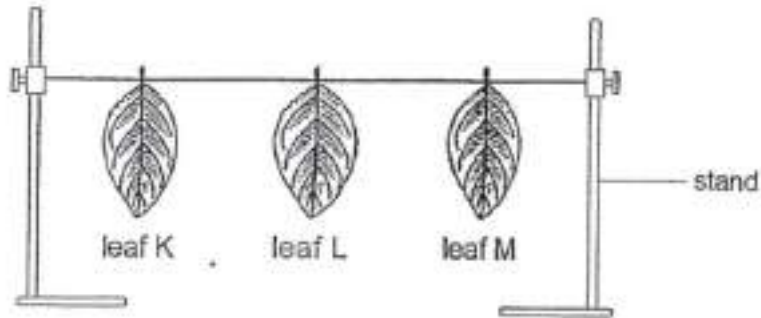


**Question 6 of 32**

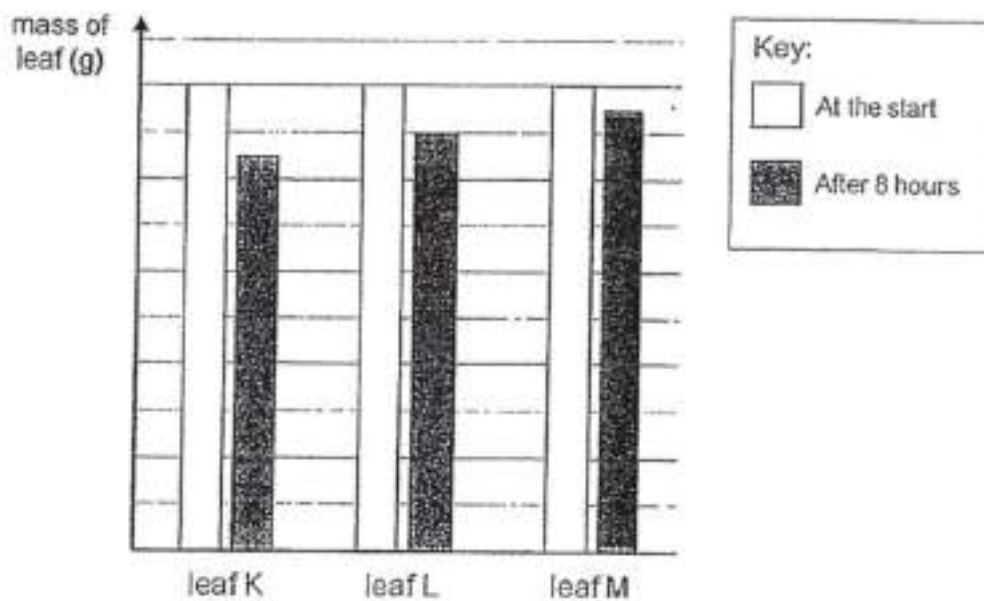
Primary 6 Science (Term 1) 2 pts

Judy set up an experiment using three similar leaves, K, L and M. These leaves have more openings known as stomata on their bottom surfaces than on their top surfaces. Leaves lose water through the stomata.

She coated some surfaces of the leaves with clear oil that did not drip. She weighed each leaf and hung the leaves in an open area as shown below.



After eight hours, she weighed each leaf again. Her results are shown in the graph below.



Which of the following correctly describes leaves K, L and M?

- A)
 

Both surfaces coated with oil	Only the bottom surface coated with oil	Only the top surface coated with oil
K	L	M
- B)
 

Both surfaces coated with oil	Only the bottom surface coated with oil	Only the top surface coated with oil
K	M	L
- C)
 

Both surfaces coated with oil	Only the bottom surface coated with oil	Only the top surface coated with oil
M	L	K

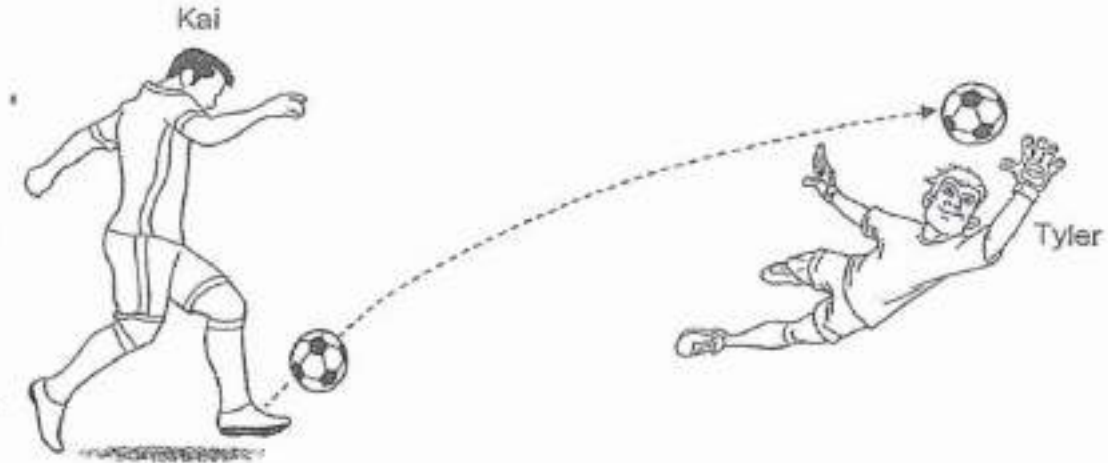


<input type="radio"/> D)	Both surfaces coated with oil	Only the bottom surface coated with oil	Only the top surface coated with oil
	M	K	L

## Question 7 of 32

Primary 6 Science (Term 1) 2 pts

During a soccer game, Kai kicked a ball to Tyler. The diagram shows the path of the ball after he kicked it.



Along the path of the ball, what could have changed?

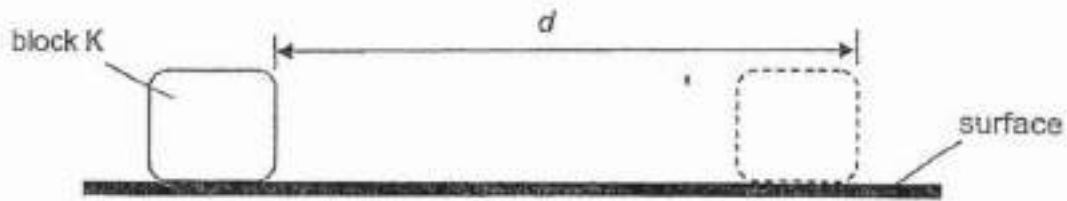
- A : mass of the ball
- B : speed of the ball
- C : shape of the ball
- D : direction of the ball

- A) B only
- B) A and D only
- C) B and D only
- D) A, B and C only

## Question 8 of 32

Primary 6 Science (Term 1) 2 pts

Dejan conducted an experiment using the set-up below.



Dejan gave block K a push. The block moved a distance  $d$  along the surface before stopping.

The experiment was repeated on different types of surfaces.

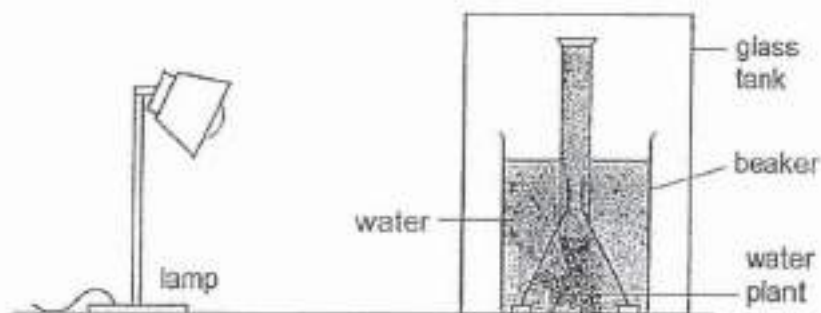
What was Dejan trying to find out?

- A) whether the type of surface affects distance  $d$
- B) whether the weight of the block affects distance  $d$
- C) whether the strength of the push affects distance  $d$
- D) whether the material of the block affects distance  $d$

## Question 9 of 32

Primary 6 Science (Term 1) 2 pts

Bala conducted an experiment in a dark room using the set-up shown below.



He switched on the lamp and counted the number of bubbles the water plants produced in one minute at regular time intervals.

He observed that the number of bubbles produced per minute by the water plant decreased with time. This was most likely caused by a lack of \_\_\_\_\_.

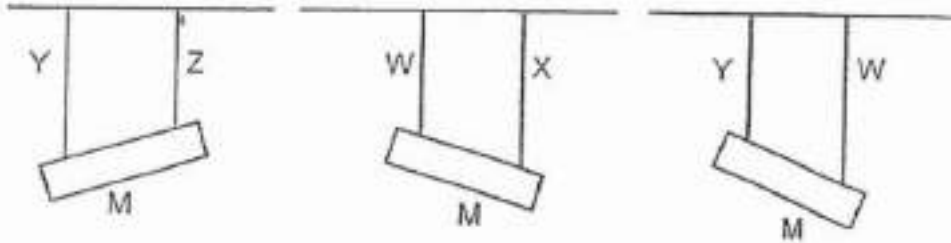
- A) water
- B) oxygen
- C) chlorophyll
- D) carbon dioxide

## Question 10 of 32

Primary 6 Science (Term 1) 2 pts

Aini conducted an experiment using four springs, W, X, Y and Z, each of equal length when unstretched.

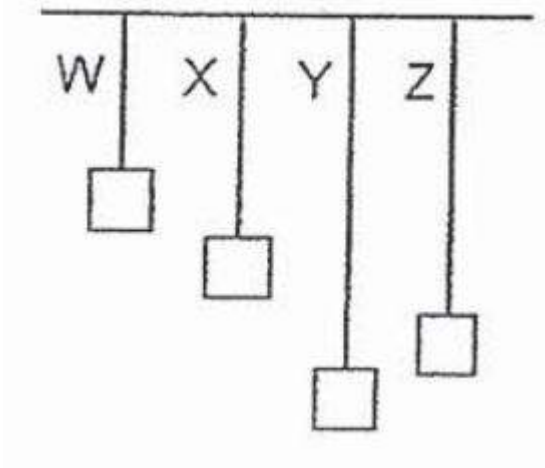
She hung a metal rod M from two of the springs at an equal distance apart. The results of her experiment are shown below.



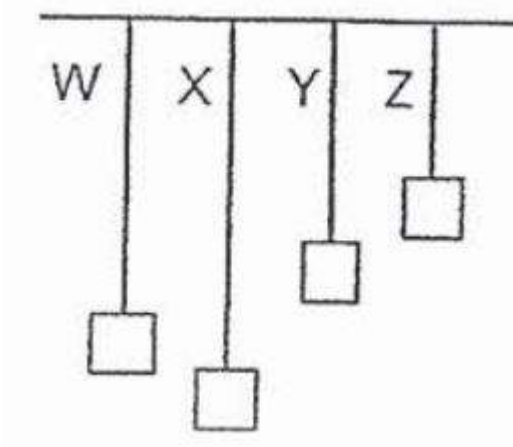
In another experiment, she hung four equal masses from each of the springs.

Which of the following correctly represents how the four springs will be stretched?

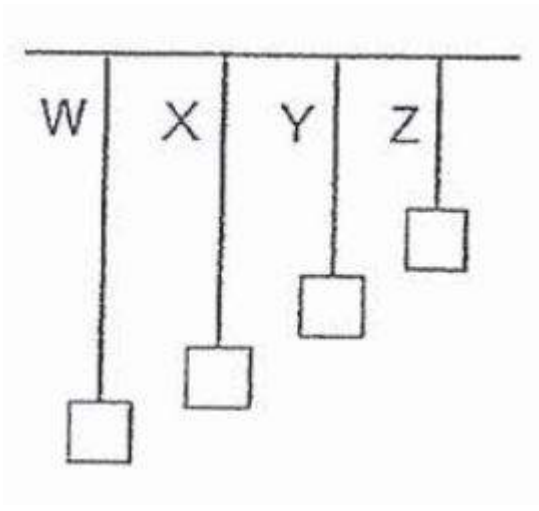
A)



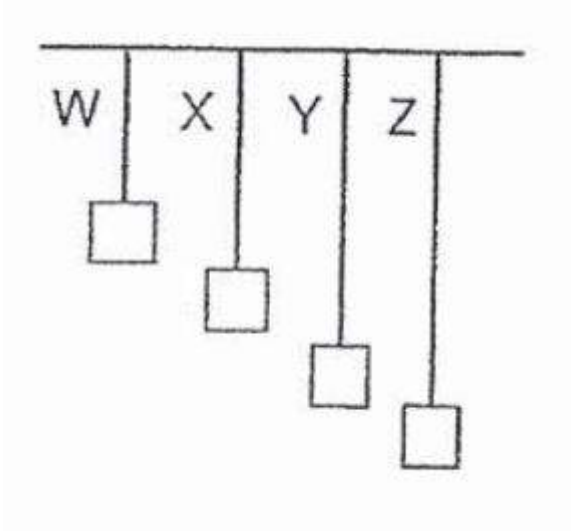
B)



C)



D)



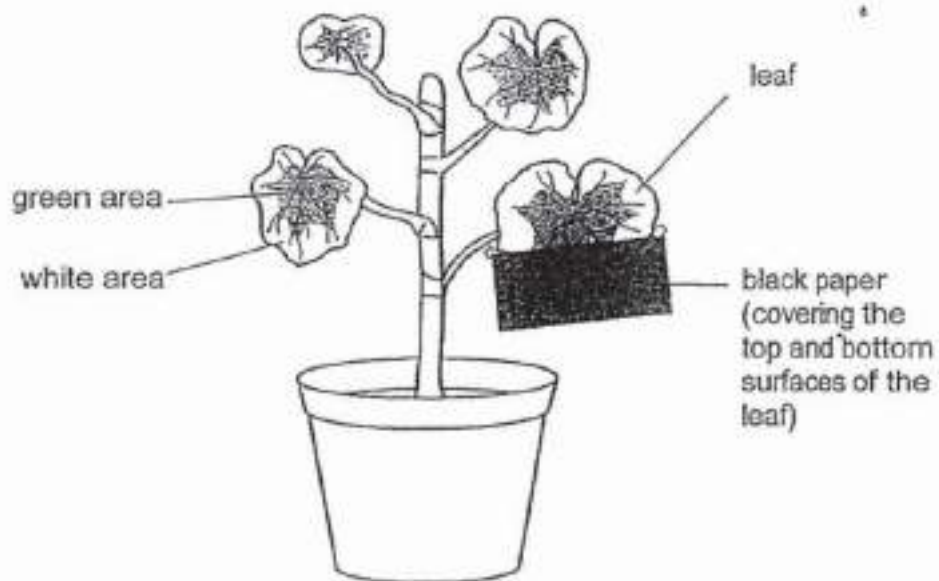
## Question 11 of 32

Primary 6 Science (Term 1)

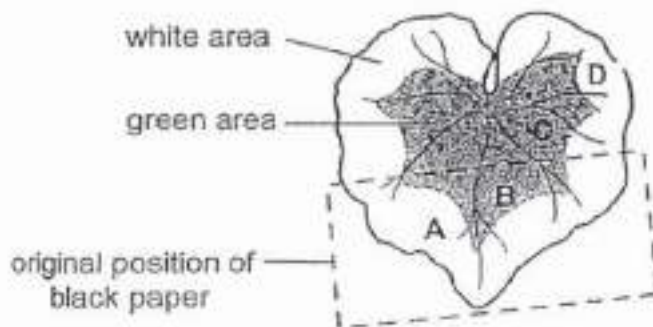
2 pts

Shanti conducted an experiment using a plant. At the start of the experiment, there was no starch on the leaf.

She covered part of a leaf with black paper as shown below.



The plant was then put in the sun.



After several hours, the leaf was plucked off and the black paper was removed. The leaf was tested for starch. In which of the areas is starch found?

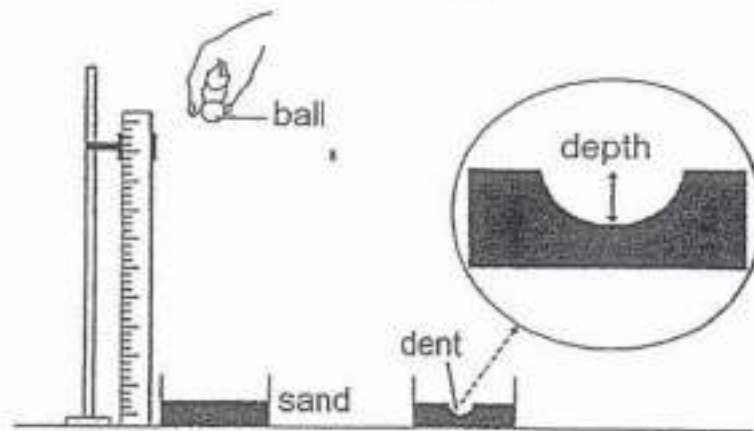
- A) C only
- B) D only
- C) A and B only
- D) C and D only

## Question 12 of 32

Primary 6 Science (Term 1)

2 pts

Kim carried out an experiment using three metal balls, A, B and C. The three balls were of the same size.



She dropped the balls from different heights onto a container of sand. She measured the depth of the circular dent created by each ball on the sand.

Her results are shown below.

Ball	Height at which the ball was dropped (cm)	Depth of dent created (cm)
A	40	2
B	60	1
C	20	2

Which of the following most likely shows the mass of the three balls?

- A) 

Ball A	Ball B	Ball C
15 g	20 g	25 g
- B) 

Ball A	Ball B	Ball C
15 g	10 g	25 g
- C) 

Ball A	Ball B	Ball C
20 g	25 g	15 g
- D) 

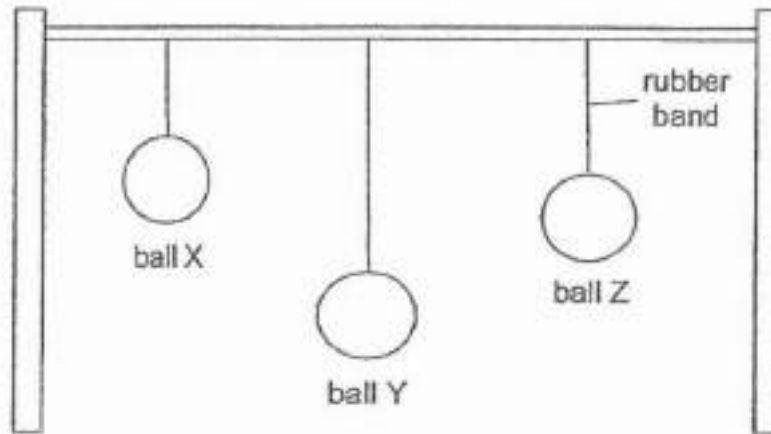
Ball A	Ball B	Ball C
20 g	15 g	20 g

**Question 13 of 32**

Primary 6 Science (Term 1) 2 pts

Deena carried out an experiment by hanging three balls, X, Y and Z, using three identical rubber bands on a fixed pole.

The results of her experiment are shown below.



Which of the following statements about the experiment is definitely true?

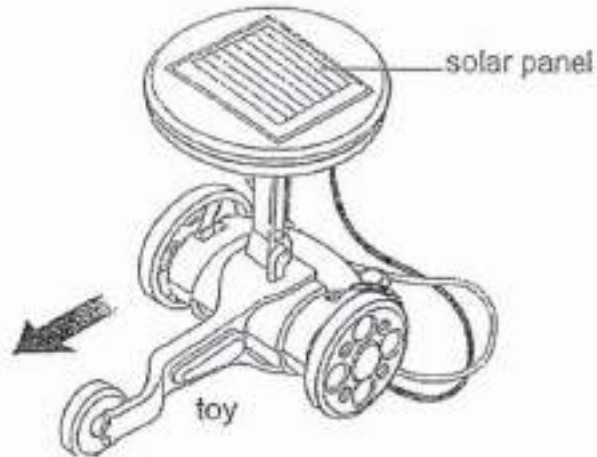
- A) Ball Y has a greater mass than ball X.
- B) Ball Y has the least amount of gravitational potential energy.
- C) The gravitational potential energy of each of the balls is zero.
- D) The amount of gravitational force acting on each of the three balls is the same.

**Question 14 of 32**

Primary 6 Science (Term 1)

2 pts

The diagram below shows a toy.



When the toy is placed under the Sun, the solar cell in the solar panel absorbs energy from the Sun and the toy moves forward.

Which energy received by the solar panel is used to produce electricity?

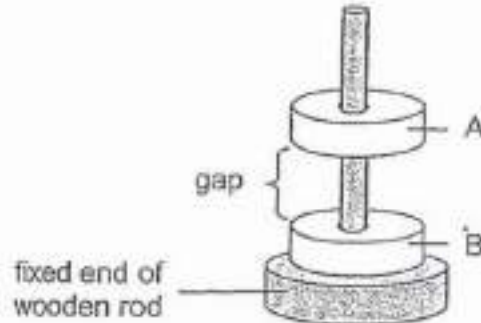
- A) light energy
- B) kinetic energy
- C) sound energy
- D) potential energy



**Question 15 of 32**

Primary 6 Science (Term 1) 0 pts

The diagram below shows two identical ring magnets passing through a smooth wooden rod. Magnet A is suspended while magnet B rests on a fixed end of the wooden rod.



What property of magnets allowed magnet A to be suspended? (1 mark)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

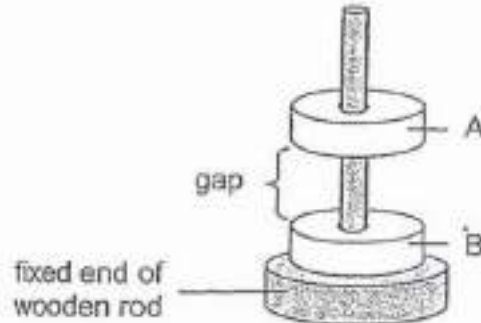
*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

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**Question 16 of 32**

Primary 6 Science (Term 1) 0 pts

The diagram below shows two identical ring magnets passing through a smooth wooden rod. Magnet A is suspended while magnet B rests on a fixed end of the wooden rod.



The gap between magnets A and B show the interaction of two main types of forces. (1 mark)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

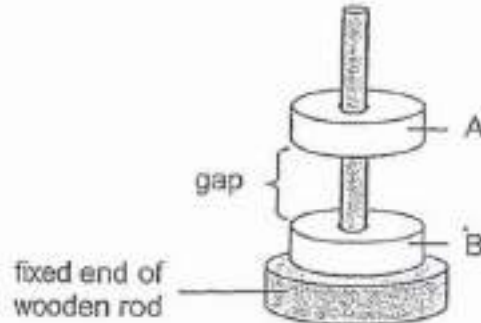
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**Question 17 of 32**

Primary 6 Science (Term 1) 0 pts

The diagram below shows two identical ring magnets passing through a smooth wooden rod. Magnet A is suspended while magnet B rests on a fixed end of the wooden rod.



Zhi Hong tried to push magnet A towards magnet B. He found that he needed to push harder as the gap between the magnets decreased. Explain why. (1 mark)

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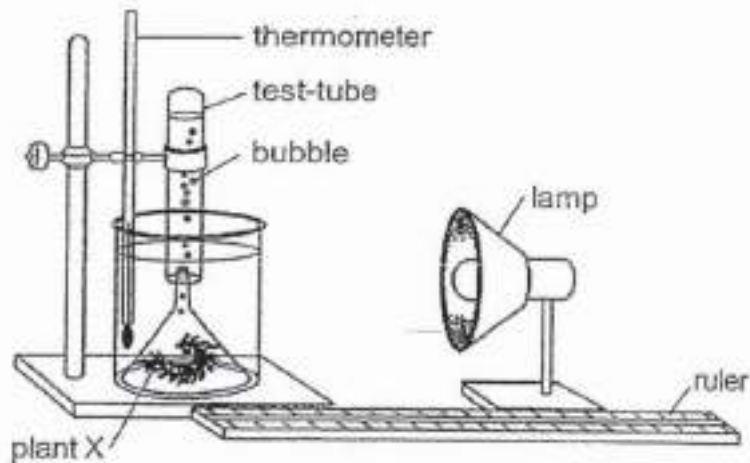
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## Question 18 of 32

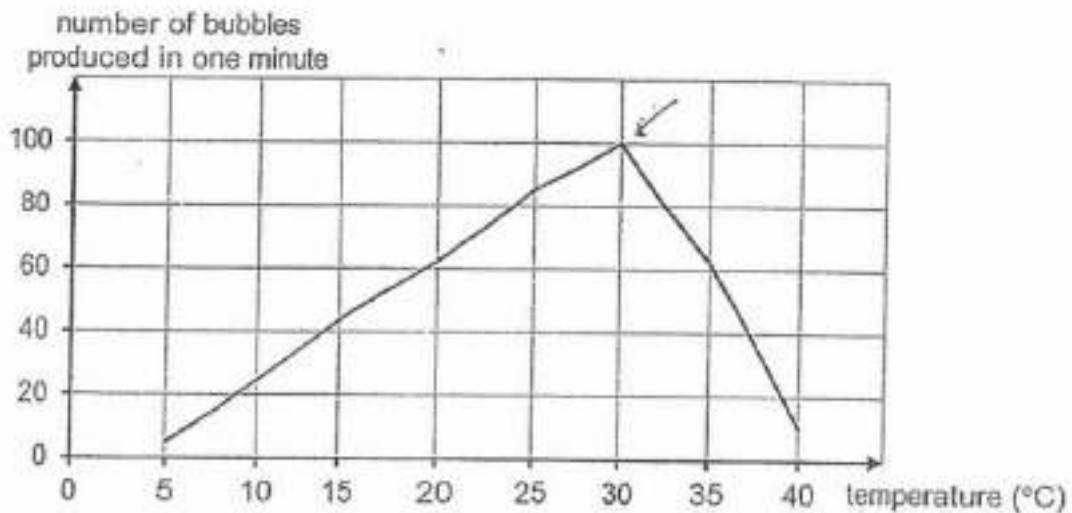
Primary 6 Science (Term 1) 0 pts

Eunice wanted to find out the effect of temperature on the rate of photosynthesis of plant X. She set up an experiment in a dark room as shown below.



She switched on the lamp and counted the number of bubbles produced by plant X in one minute.

Eunice repeated the experiment with water of different temperatures. Her results are shown below.



Based on her results, what can Eunice conclude about the effect of temperature on the rate of photosynthesis of plant X? (2 marks)

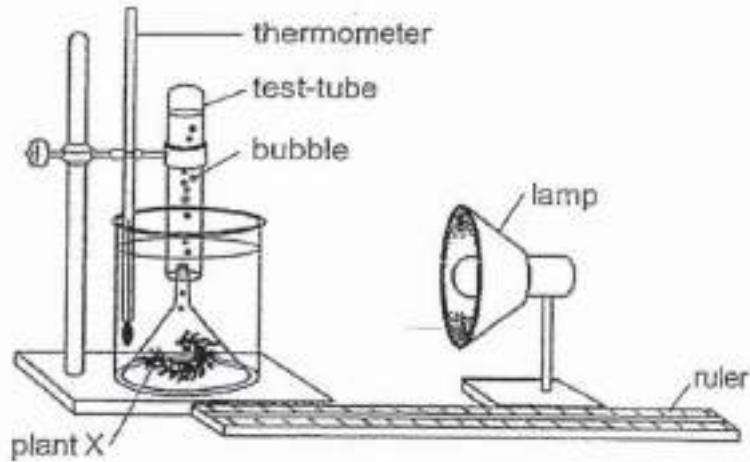
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## Question 19 of 32

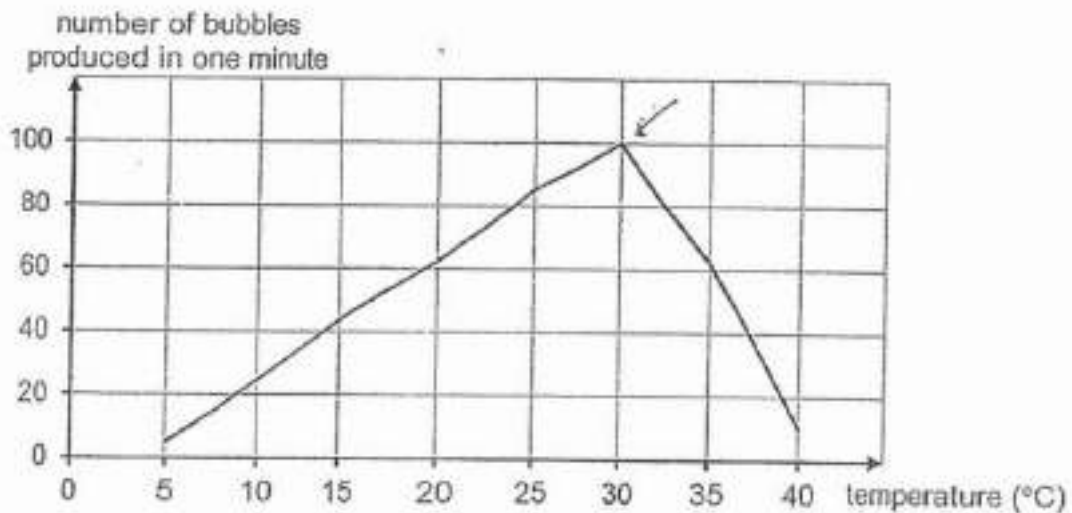
Primary 6 Science (Term 1) 0 pts

Eunice wanted to find out the effect of temperature on the rate of photosynthesis of plant X. She set up an experiment in a dark room as shown below.



She switched on the lamp and counted the number of bubbles produced by plant X in one minute.

Eunice repeated the experiment with water of different temperatures. Her results are shown below.



Eunice kept the distance between the lamp and plant X the same throughout the experiment. Give a reason how this action helps to make the experiment a fair test. (1 mark)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

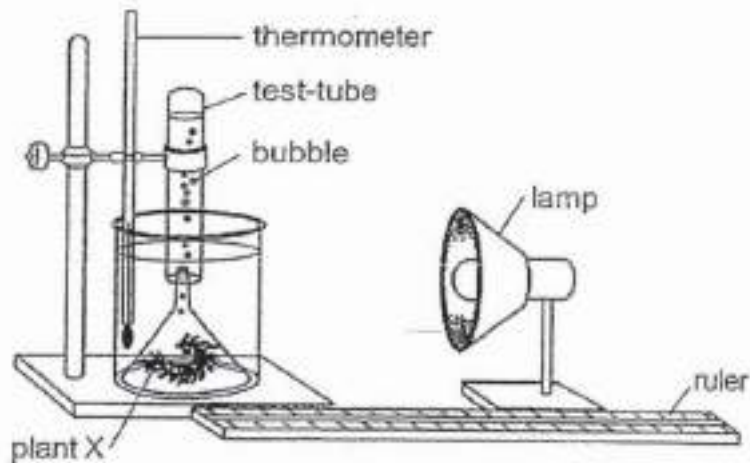
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## Question 20 of 32

Primary 6 Science (Term 1)

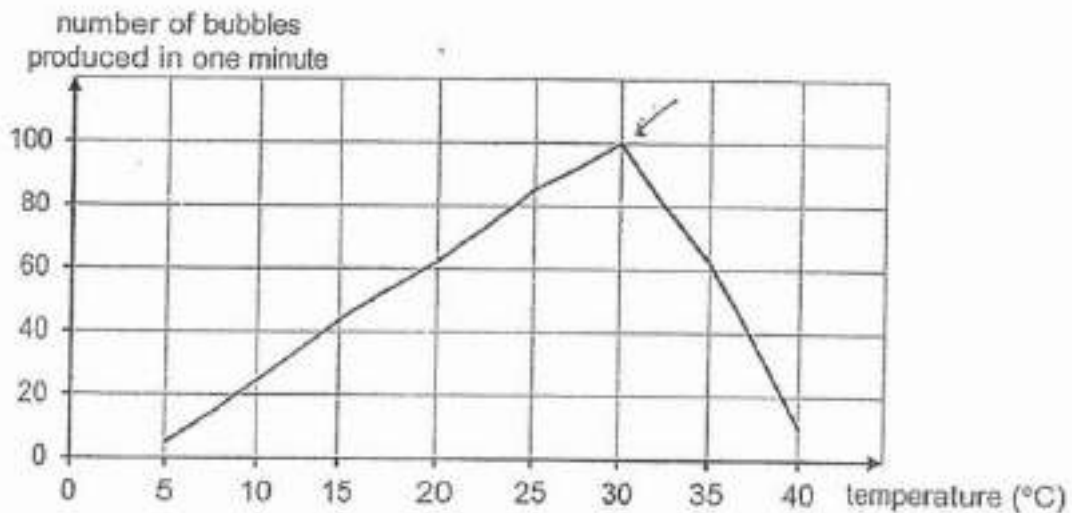
0 pts

Eunice wanted to find out the effect of temperature on the rate of photosynthesis of plant X. She set up an experiment in a dark room as shown below.

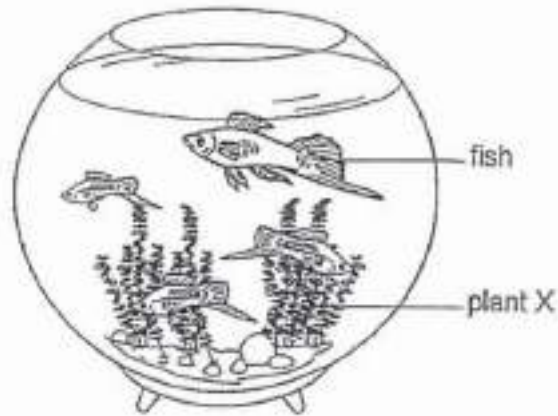


She switched on the lamp and counted the number of bubbles produced by plant X in one minute.

Eunice repeated the experiment with water of different temperatures. Her results are shown below.



Eunice added plant X to a small fish tank with some fish. The tank was placed in a well-lit room.



She observed that the breathing rate of the fish increased when the temperature of the water in the tank increased from 32 °C to 38 °C.

Using the results from Eunice's experiment on plant X, explain why the breathing rate of the fish increased. [2]

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

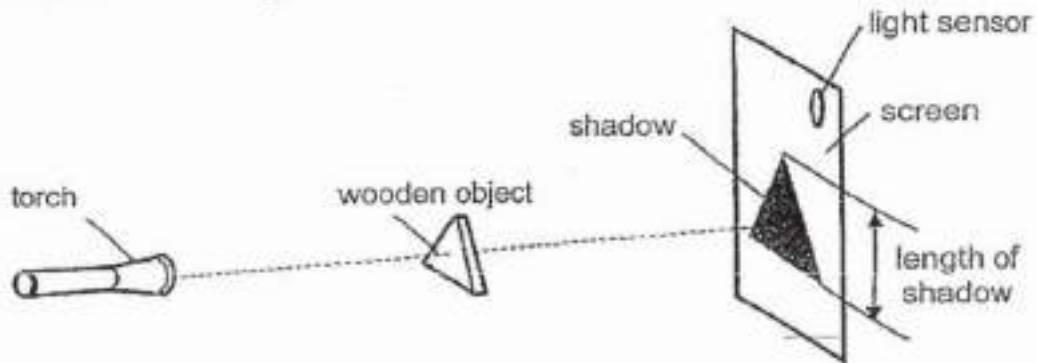
*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

## Question 21 of 32

Primary 6 Science (Term 1)

0 pts

Asman used the set-up below to conduct an experiment. He used a light sensor to measure the amount of light on the screen.



He varied the position of one of the items in the set-up and recorded his observations for each position as follows.

Light sensor reading (units)	Length of shadow (cm)
120	15
250	9
320	6

State how the shadow on the screen was formed. (1 mark)

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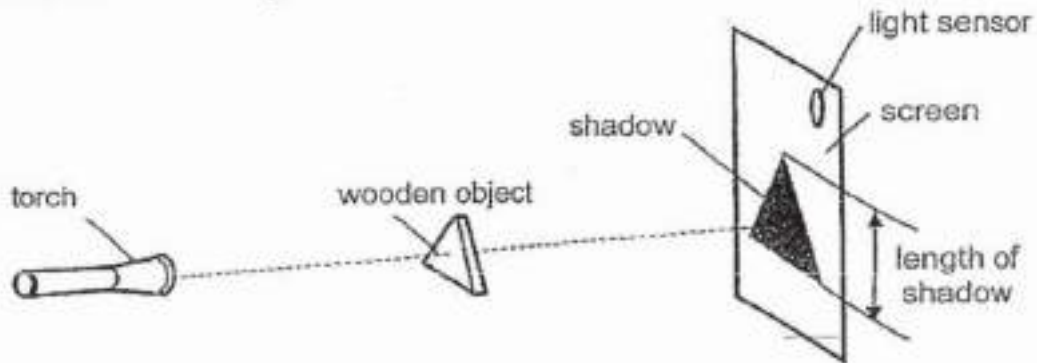


## Question 22 of 32

Primary 6 Science (Term 1)

0 pts

Asman used the set-up below to conduct an experiment. He used a light sensor to measure the amount of light on the screen.



He varied the position of one of the items in the set-up and recorded his observations for each position as follows.

Light sensor reading (units)	Length of shadow (cm)
120	15
250	9
320	6

Asman's friend, Ramsy, said that Asman had moved the wooden object towards the torch. Based on the experimental results, give two reasons why Ramsy was wrong. (2 marks)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

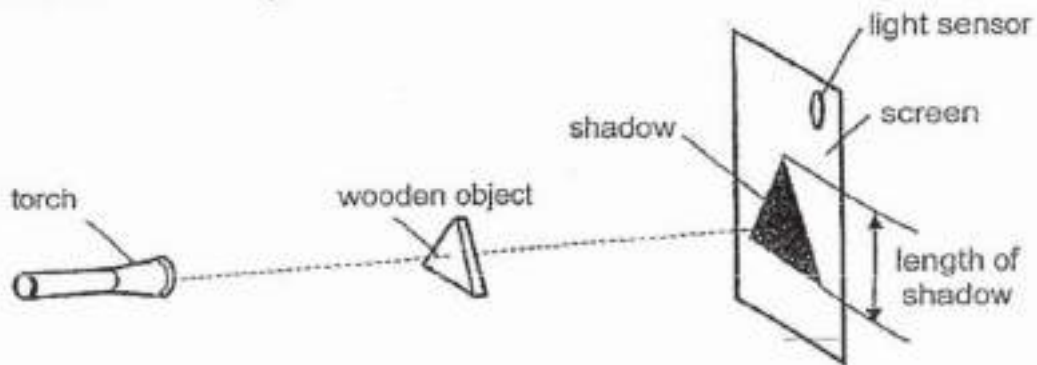
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## Question 23 of 32

Primary 6 Science (Term 1)

0 pts

Asman used the set-up below to conduct an experiment. He used a light sensor to measure the amount of light on the screen.



He varied the position of one of the items in the set-up and recorded his observations for each position as follows.

Light sensor reading (units)	Length of shadow (cm)
120	15
250	9
320	6

Based on the experimental results, did Asman move the torch, wooden object or screen? Describe the change he had made to the position of the item. (1 mark)

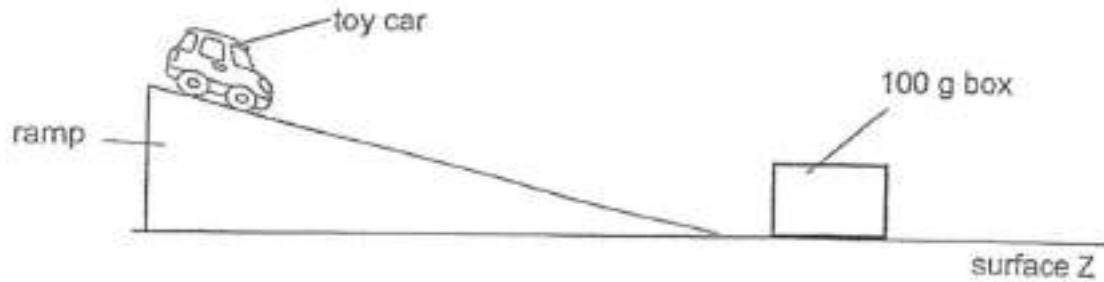
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## Question 24 of 32

Primary 6 Science (Term 1) 0 pts

All conducted an experiment using a toy car, a ramp and a 100 g box as shown below.



He released the toy car from the top of the ramp and recorded the distance travelled by the 100 g box on surface Z. He repeated the experiment with a 400 g box of the same size.

The table below shows the results of his experiment.

Mass of box (g)	Distance travelled on surface Z (cm)			
	First try	Second try	Third Try	Average
100	50	43	57	50
400	14	18	16	16

What is the relationship between the mass of box and the distance travelled by the box on surface Z? (1 mark)

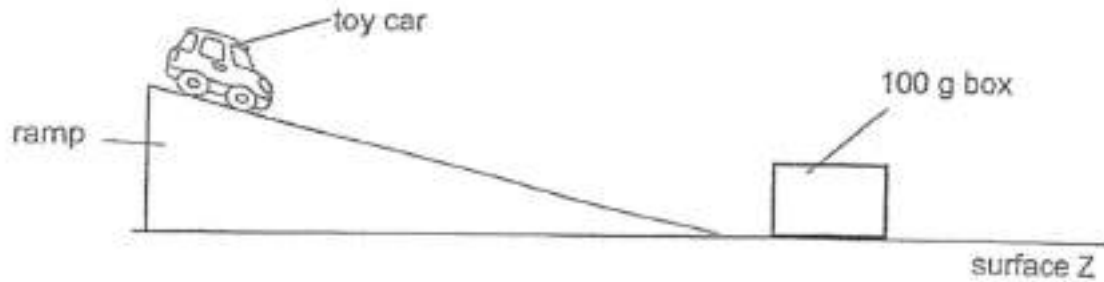
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## Question 25 of 32

Primary 6 Science (Term 1) 0 pts

All conducted an experiment using a toy car, a ramp and a 100 g box as shown below.



He released the toy car from the top of the ramp and recorded the distance travelled by the 100 g box on surface Z. He repeated the experiment with a 400 g box of the same size.

The table below shows the results of his experiment.

Mass of box (g)	Distance travelled on surface Z (cm)			
	First try	Second try	Third Try	Average
100	50	43	57	50
400	14	18	16	16

Based on the readings, the distance travelled on surface Z was different in each of the three tries.

Give a possible reason why this was so. (1 mark)

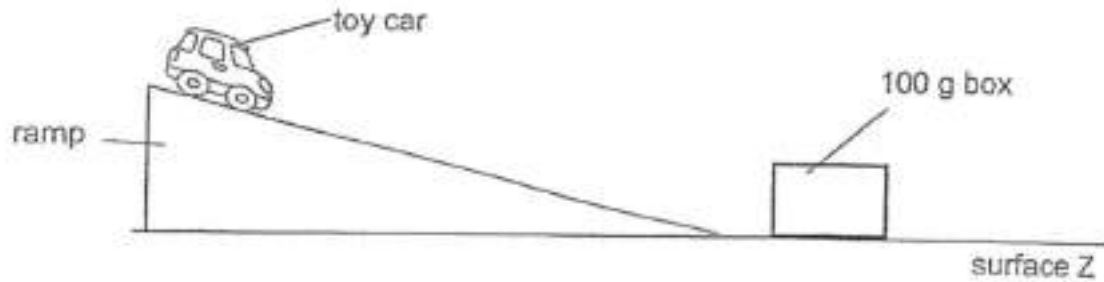
*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

**Question 26 of 32**

Primary 6 Science (Term 1) 0 pts

Ali conducted an experiment using a toy car, a ramp and a 100 g box as shown below.



He released the toy car from the top of the ramp and recorded the distance travelled by the 100 g box on surface Z. He repeated the experiment with a 400 g box of the same size.

The table below shows the results of his experiment.

Mass of box (g)	Distance travelled on surface Z (cm)			
	First try	Second try	Third Try	Average
100	50	43	57	50
400	14	18	16	16

Ali wanted to increase the distances travelled by the boxes. His classmates suggested that he could add oil to the surface of the ramp.

Do you agree with his classmate's suggestion? Give a reason for your answer. (1 mark)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

**Question 27 of 32**

Primary 6 Science (Term 1)

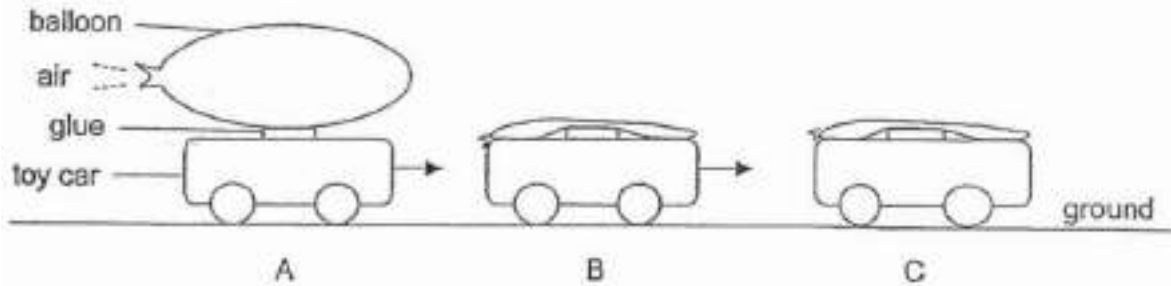
0 pts

In an experiment, an inflated balloon was glued to a toy car as shown below.

At A, air was released from the balloon which caused the car to move forward.

At B, all the air had escaped but the car continued to move forward.

At C, the car came to a stop.



What was the source of energy that caused the car to move at the beginning of A? (1 mark)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

**Question 28 of 32**

Primary 6 Science (Term 1)

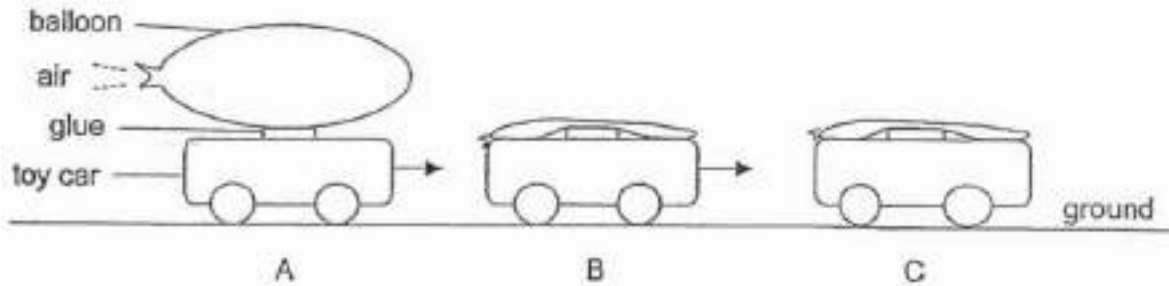
0 pts

In an experiment, an inflated balloon was glued to a toy car as shown below.

At A, air was released from the balloon which caused the car to move forward.

At B, all the air had escaped but the car continued to move forward.

At C, the car came to a stop.



Give a reason why the car continued to move forward from B to C. (1 mark)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

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**Question 29 of 32**

Primary 6 Science (Term 1)

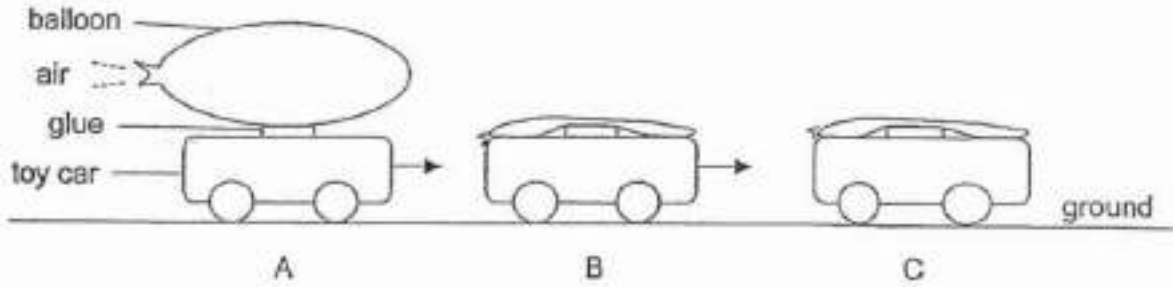
1 pt

In an experiment, an inflated balloon was glued to a toy car as shown below.

At A, air was released from the balloon which caused the car to move forward.

At B, all the air had escaped but the car continued to move forward.

At C, the car came to a stop.



What caused the car to stop moving after some time?

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**Question 30 of 32**

Primary 6 Science (Term 1)

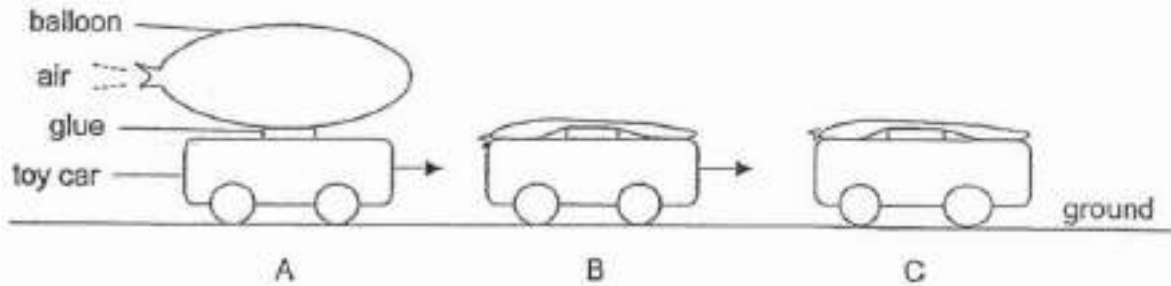
0 pts

In an experiment, an inflated balloon was glued to a toy car as shown below.

At A, air was released from the balloon which caused the car to move forward.

At B, all the air had escaped but the car continued to move forward.

At C, the car came to a stop.



Using only the materials given in the experiment, suggest one way to make the car move a longer distance in the experiment. (1 mark)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

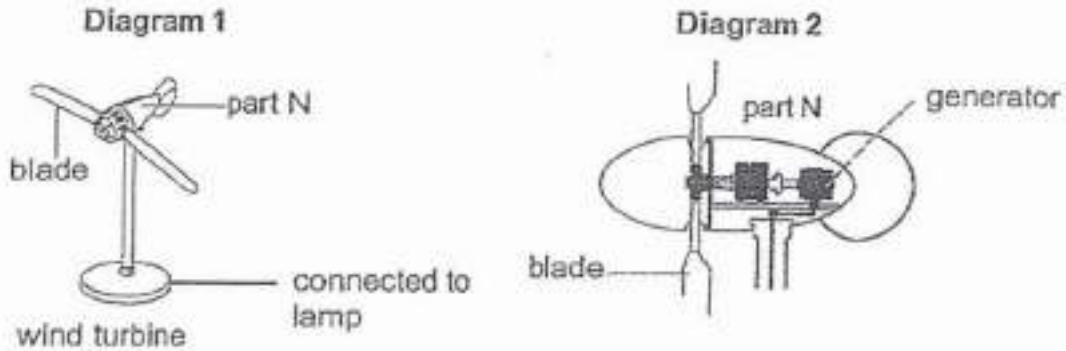
*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

**Question 31 of 32**

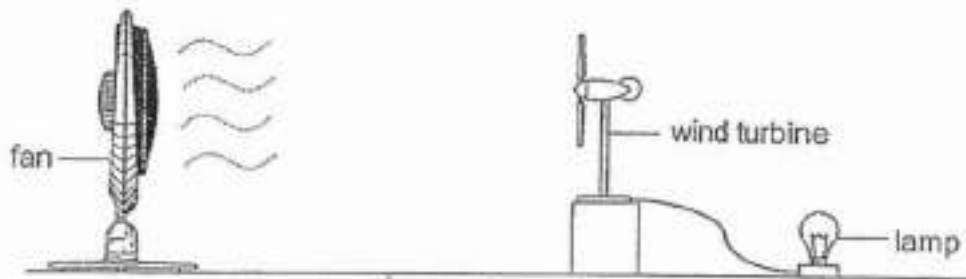
Primary 6 Science (Term 1)

0 pts

Meiling has a wind turbine with two blades as shown below in diagram 1. Diagram 2 shows the inside of part N of the wind turbine.

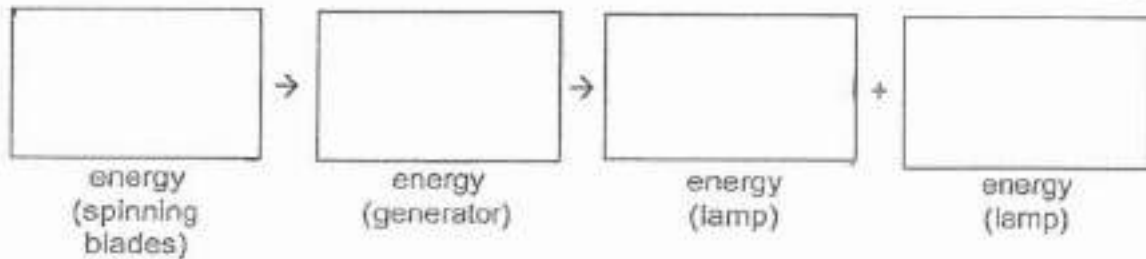


She placed the wind turbine in front of a fan as shown below. She observed that the blades spun and the lamp lit up.



Fill in the boxes below to show the energy changes that took place.

[ 2 ]



*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

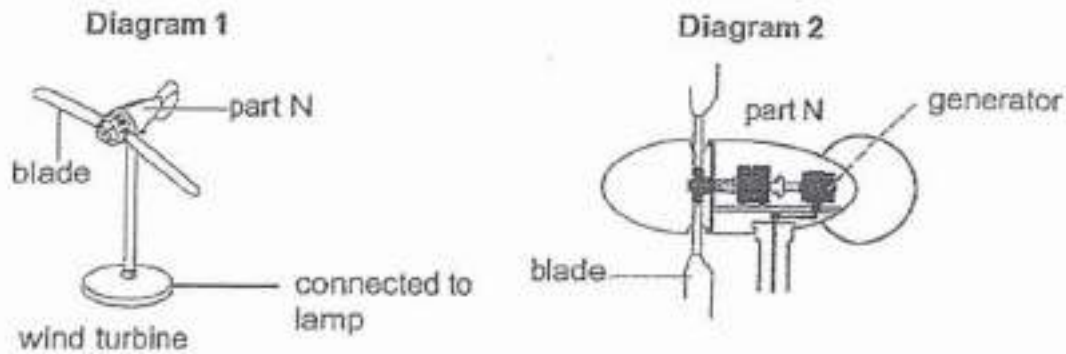
*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

## Question 32 of 32

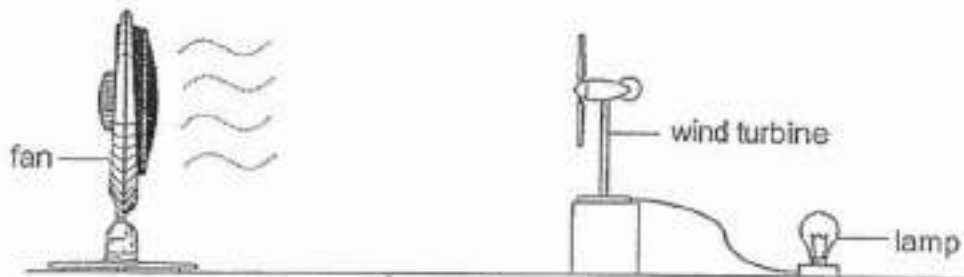
Primary 6 Science (Term 1)

0 pts

Meiling has a wind turbine with two blades as shown below in diagram 1. Diagram 2 shows the inside of part N of the wind turbine.



She placed the wind turbine in front of a fan as shown below. She observed that the blades spun and the lamp lit up.



Meiling placed the wind turbine closer to the fan. She observed that the blades of the wind turbine spun faster and the lamp lit up more brightly.

Explain, in terms of energy changes, why the lamp lit up more brightly when the blades of the turbine spun faster. (1 mark)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*