METHODIST GIRLS' SCHOOL
Founded in 1887

Weighted Assessment 1 2025
PRIMARY 6
SCIENCE

Total Time: 45 minutes

INSTRUCTIONS TO CANDIDATES
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Name: _____ ( )

Class: Primary 6._____

Date: 26 February 2025

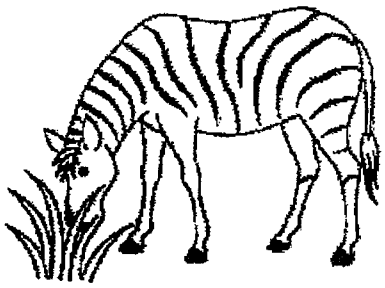
Parent's Signature: _____

Section A	16
Section B	14
Total	30

This booklet consists of 10 printed pages including this page.

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 your answer in the bracket provided. [16 marks]

1 The diagram below shows an animal feeding on a plant.



Which of the following statements is/are correct?

A The plant gets its energy from the sun.
B The animal gets its energy indirectly from the sun.
C The animal gets its energy from the plant it eats.

(1) A only.

(2) B only.

(3) A and B only.

(4) A, B and C.

( )

2 Which of the following do plants need to carry out photosynthesis?

A chloroplasts
B food-carrying tubes
C water-carrying tubes
D tiny openings on leaves

(1) A and C only.

(2) B and D only.

(3) A, B and D only.

(4) A, C and D only.

( )

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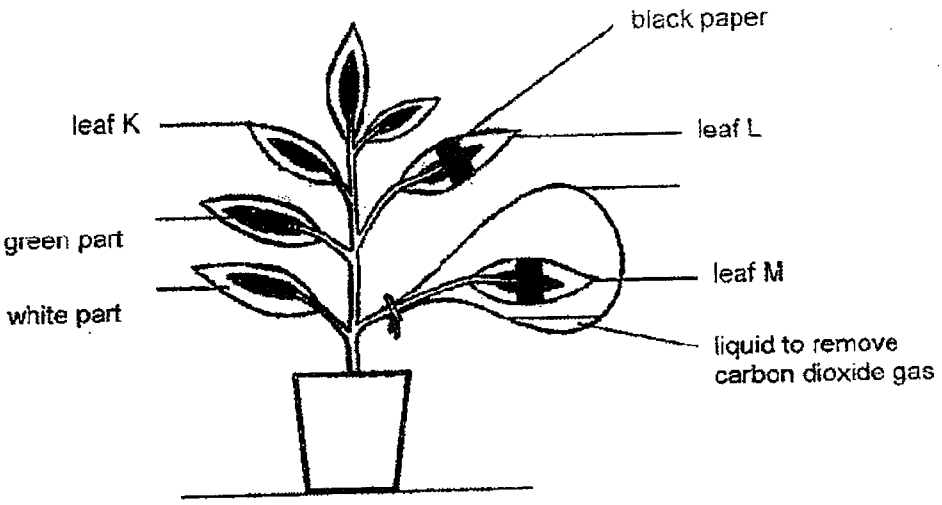
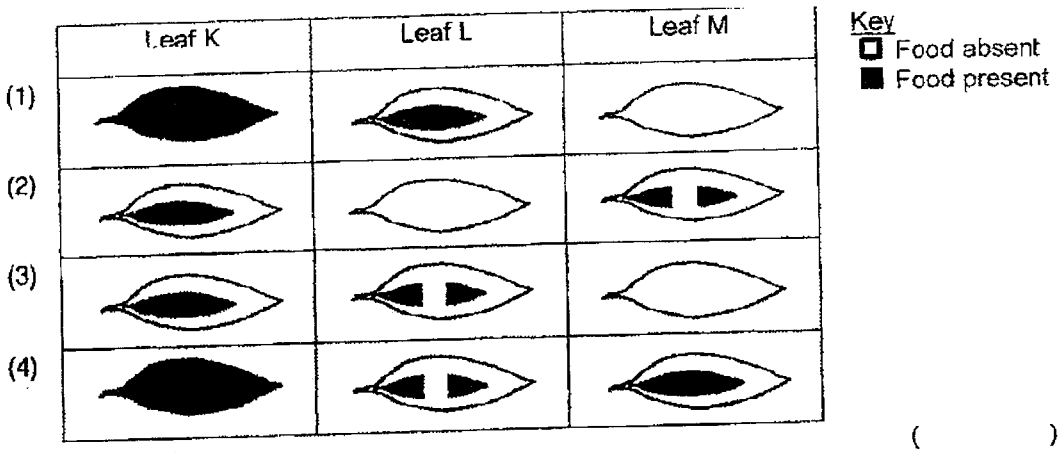
3 Sheila conducted an experiment using a plant that has leaves with green and white parts. The plant was kept in the dark to remove all the food from the leaves.

She covered parts of leaves L and M with black paper on both the upper and lower surfaces. A clear plastic bag was also wrapped around leaf M as shown in the diagram below.



The plant was then placed under the sun. After a few hours, Sheila plucked three leaves, K, L and M, and tested them for the presence of food.

Which one of the following diagrams correctly shows the test results?



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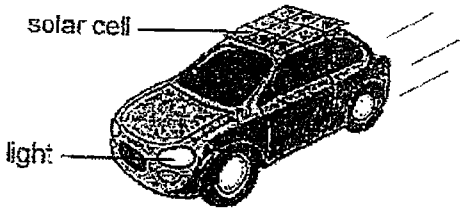
4 The solar-powered toy car below lights up and moves when placed under the sun.



Which of the following shows the correct energy conversions of the toy car when it is placed under the sun?

(1) Light energy → electrical energy → kinetic energy

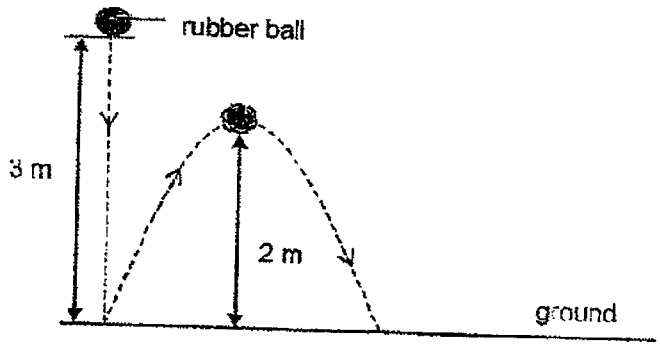
(2) Light energy → electrical energy → kinetic energy + light energy

(3) Chemical potential energy → electrical energy → kinetic energy

(4) Chemical potential energy → electrical energy → kinetic energy + light energy

( )

5 Angie dropped a 20 g rubber ball from a height of 3 m. After hitting the floor, the ball bounced up 2 m as shown in the diagram below.



Angie dropped another ball made of identical material but of different mass. The ball bounced up higher than 2 m.

Which of the following could be the mass of the ball and the height it was dropped from?

	Mass of ball (g)	Height dropped from (m)
(1)	10	2
(2)	10	3
(3)	40	2
(4)	40	3

( )

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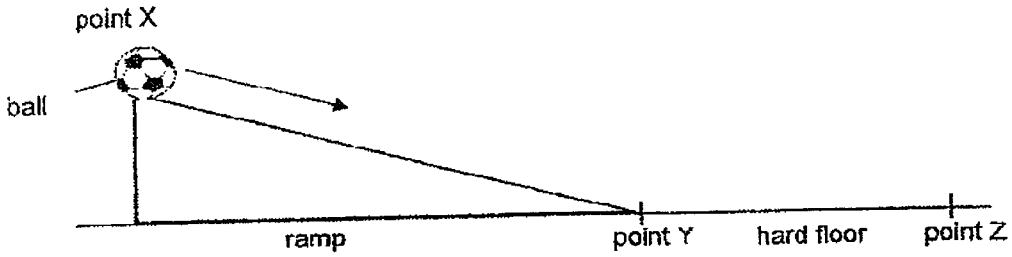
6 A ball placed at point X was released and it rolled down the ramp past point Y and came to a stop at point Z.



Based on the above diagram, which of the following statements is/are correct?

A The ball has more kinetic energy at point Y than at point Z.

B The ball has more potential energy at point Z than at point Y.

C The ball has the most kinetic energy at point X before it was released.

D The ball has the most potential energy at point X before it was released.

(1) A and C only.

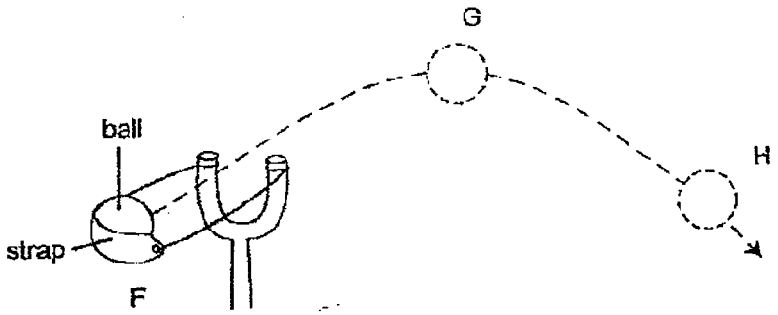
(2) B and C only.

(3) A and D only.

(4) B and D only.

( )

7 The diagram below shows a toy catapult.



When the strap was pulled back and released, the ball moved from position F to G to H.

Which of the following statements is correct?

(1) The ball had elastic potential energy at position F.

(2) The ball had no gravitational potential energy at position G.

(3) Gravitational potential energy of the ball increased when it moved from F to G.

(4) Gravitational potential energy of the ball increased when it moved from G to H.

( )

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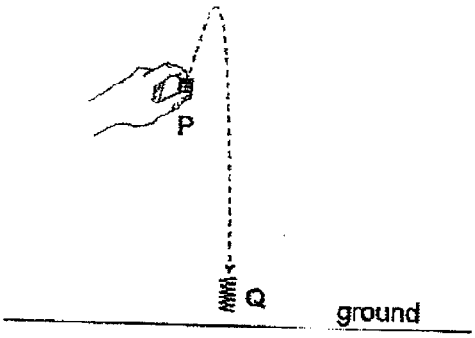
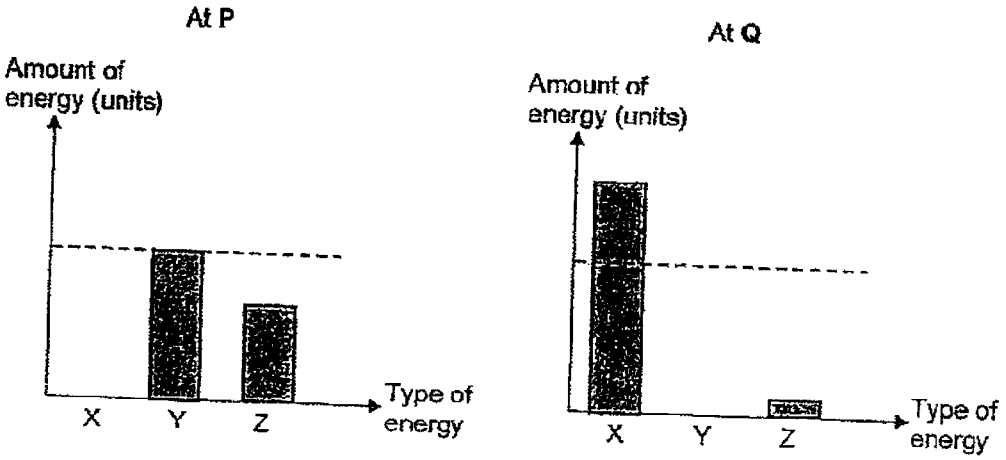
8 As shown in the diagram below, a spring is compressed and released at **P**. It moves to **Q** before it hits the ground.



The graphs below show the amount of different types of energy of the spring at **P** and **Q**.



Which of the following correctly identifies X, Y and Z?

	X	Y	Z
(1)	elastic potential energy	kinetic energy	gravitational potential energy
(2)	gravitational potential energy	elastic potential energy	kinetic energy
(3)	kinetic energy	gravitational potential energy	elastic potential energy
(4)	kinetic energy	elastic potential energy	gravitational potential energy

( )

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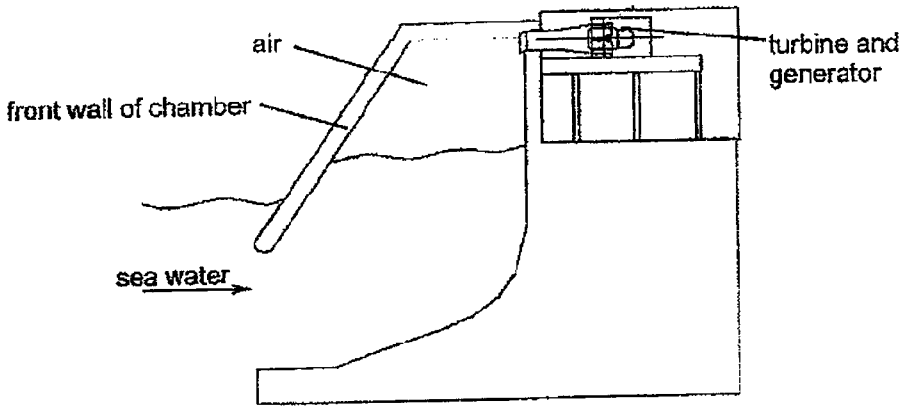
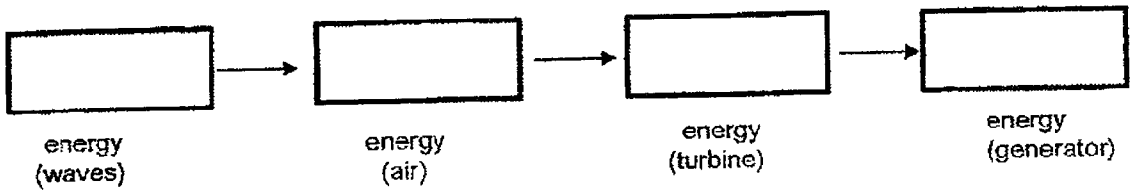
For questions 9 to 12, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[14 marks]

9 The diagram below shows how sea waves can be used to produce electricity. When the waves rise, more sea water enters the chamber and the water in the chamber moves up, pushing air through the turbine. The turbine turns and the generator produces electricity.



(a) Fill in the boxes to show the energy changes that took place. [2]



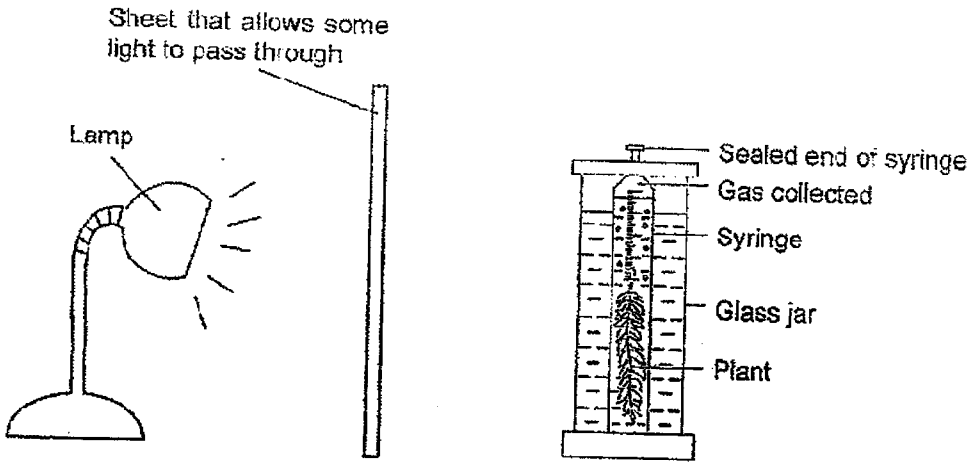
(b) State one advantage of using energy from sea waves instead of burning fossil fuels. [1]

_____

_____

3

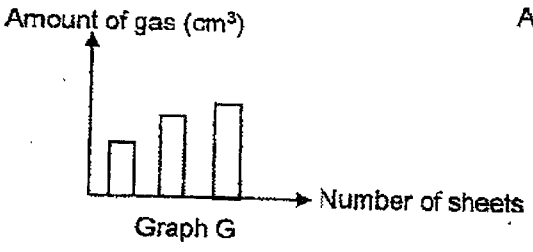
10 Joyce conducted an experiment in a dark room using the set-up shown below. She measured the amount of gas collected in the syringe after 1 hour.



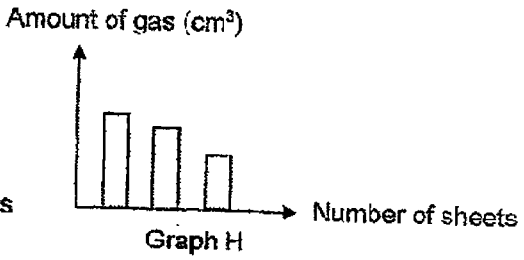
(a) Name the gas collected in the syringe. [1]

(b) Suggest a reason why the experiment is conducted in a dark room. [1]

(c) Keeping all the other variables constant, Joyce repeated the experiment by increasing the number of sheets. She measured and recorded the amount of gas collected after 1 hour.



Graph G



Graph H

Which graph, G or H, shows the results?
Explain your answer. [2]

4

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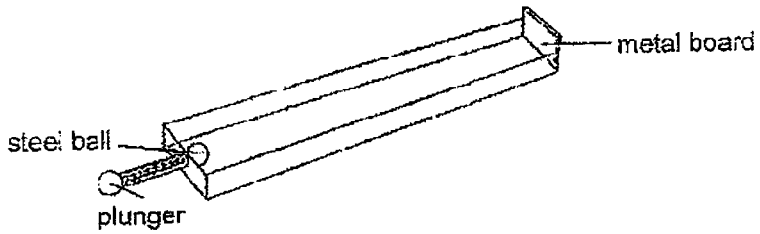
11 The diagram below shows a toy placed on a flat surface. When the plunger is pulled back and released, the steel ball moves forward.



John pulled the plunger backwards by 3 cm and then released it. He measured the time taken for the steel ball to hit the metal board.

He repeated his experiment by pulling the plunger backwards by different distance. The table below shows the results of his experiment.

Distance plunger was pulled back (cm)	Time taken (s)
3	12
4	9
5	6
6	3

(a) How did the distance at which the plunger was pulled back affect the time taken? [1]

(b) Explain your answer in (a) in terms of energy conversion. [1]

(c) After the steel ball hit the board, it rolled back and then came to a stop. Give a reason why the ball stopped moving. [1]

3

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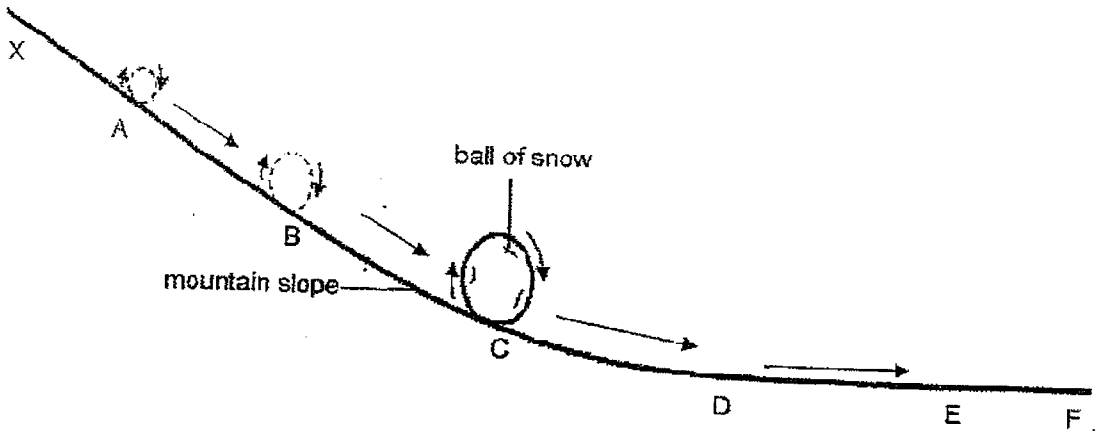
12 The diagram below shows a ball of snow sliding down the slope of a mountain, picking up more snow along the way.



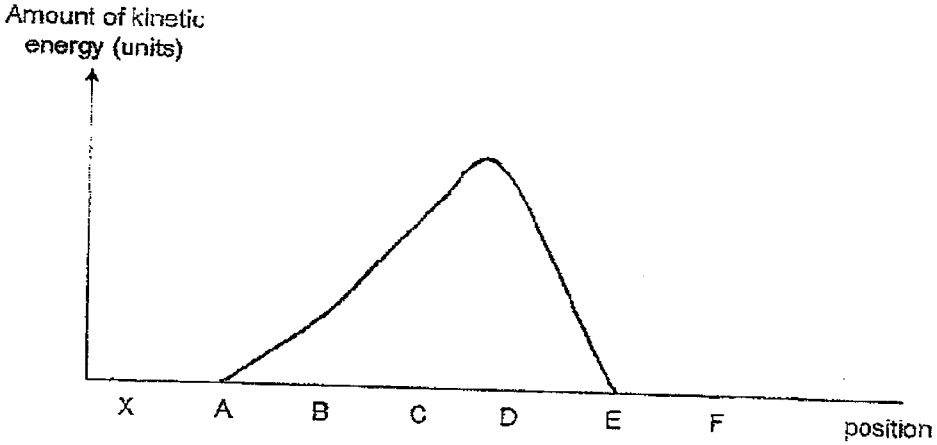
(a) Apart from heat and sound energy, state another 2 forms of energy possessed by the ball of snow at position C.

[1]

(b) Explain how the change in mass of the ball of snow from position B to position C leads to the ball of snow rolling faster.

[2]

(c) The graph below shows how the kinetic energy of the ball of snow changes as it travels down from positions A to E.



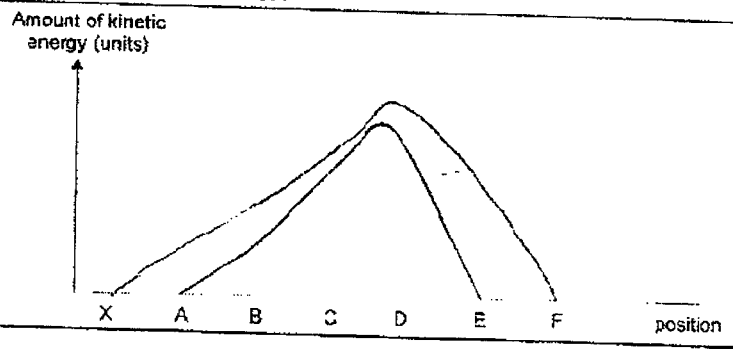
On the same diagram, draw another graph to show how the kinetic energy of the ball of snow changes if it starts rolling from position X and comes to a stop at F.

[1]

End of Paper

YEAR : 2025
LEVEL : PRIMARY 6
SCHOOL : METHODIST GIRLS' SCHOOL
SUBJECT : SCIENCE
TERM : WEIGHTED ASSESSMENT 1

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

Q9	a)	Kinetic → Kinetic → Kinetic → Electrical
	b)	Water is a renewable source of energy unlike burning fossil fuels.
Q10	a)	Oxygen
	b)	So that the light from the lamp and not from other light source was the only light source affecting the amount of gas collected.
	c)	Graph H. As the number of sheets increases, more light is blocked / less light is trapped by the chlorophyl which leads to lower rate of photosynthesis so less oxygen was produced / collected.
Q11	a)	When the distance the plunger was pulled back increases, the time taken to hit the metal board decreases.
	b)	As the distance the plunger was pulled back increases, more elastic potential energy would be stored, Therefore, more elastic potential energy would be converted to more kinetic energy, for the ball to hit the metal board faster. energy
	c)	All the kinetic is converted to sound and heat energy.
Q12	a)	Kinetic energy and gravitational potential energy.
	b)	As the ball of snow increases in mass, more gravitational potential energy would be stored. Therefore, more gravitational potential energy would be converted to more kinetic energy of the ball of snow so the ball of snow would roll down faster.
	c)	

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