HENRY PARK PRIMARY SCHOOL

2012 SEMESTRAL EXAMINATION 1

PRIMARY 6 SCIENCE

Booklet A

Name: _____ ( )

Class: Primary 6 _____

60

30 Questions
60 Marks

Total Time for Booklet A and B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

READ AND FOLLOW INSTRUCTIONS CAREFULLY.

Booklet A (60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet

1 A group of students conducted some research on sources of energy and recorded the following statements

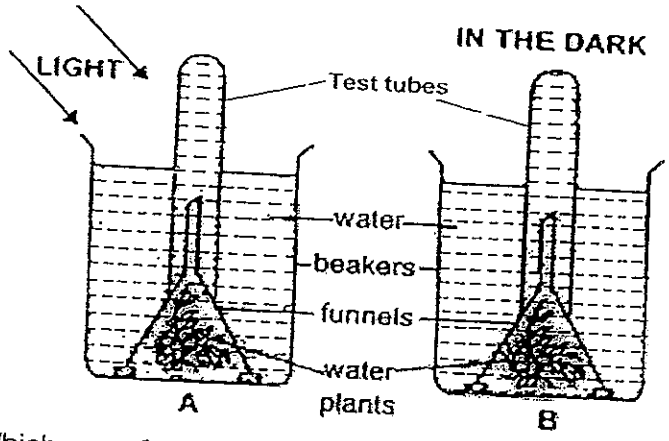
Mary	Plants only need sunlight, water and oxygen to make food.
John	I get energy from the food I eat to do my daily work.
Jason	The Sun is our primary source of heat and light energy.
Matthew	The grass the cow eats is its source of energy.

Which of the following students made the correct statement?

(1) Mary and Jason only
(2) Mary, John and Matthew only
(3) John, Jason and Matthew only
(4) Mary, John, Jason and Matthew

( )

2. Wendy set up an experiment to demonstrate how light affects the rate of photosynthesis of plants. She prepared set-ups A and B as shown below. Plants A and B were destarched before the start of the experiment.



Which one of the following should Wendy do, after 2 days, to obtain her results?

(1) Measure the temperature of water in both set-ups.
(2) Test for presence of starch in the leaves of each plant.
(3) Measure the amount of water evaporated in both set-ups.
(4) Compare the number of leaves in each plant in both set-ups.

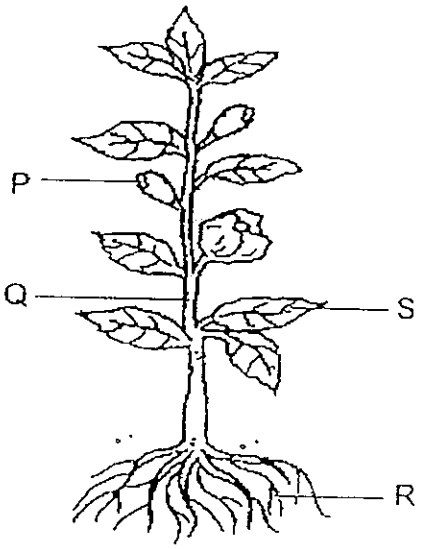
( )

3. Which of the following statements about energy is/are true?

A Only plants use energy from the Sun.
B Organisms need energy to carry out life processes.
C Energy from the Sun can be transferred from one organism to another.

(1) A only
(2) B only
(3) A and C only
(4) B and C only

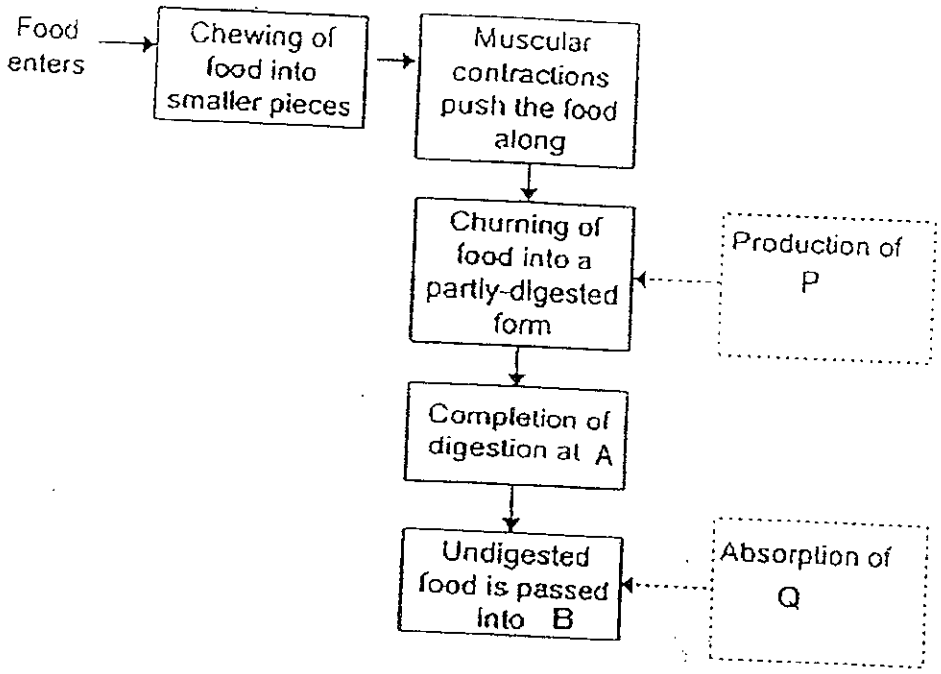
4 The diagram below shows parts of a plant.



Which one of the following gives the correct functions of the parts P, Q, R and S in the diagram above?

	P	Q	R	S
(1)	attracts animals to help in seed dispersal	transports food, water and mineral salts	holds plant firmly to the ground	takes in water and mineral salts
(2)	makes food	holds plant firmly to the ground	takes in water and mineral salts	allows gaseous exchange during photosynthesis
(3)	takes in water and mineral salts	makes food	holds plant firmly to the ground	attracts animals to help in seed dispersal
(4)	contains seeds for reproduction	transports food, water and mineral salts	takes in water and mineral salts	contains small openings for the exchange of gases

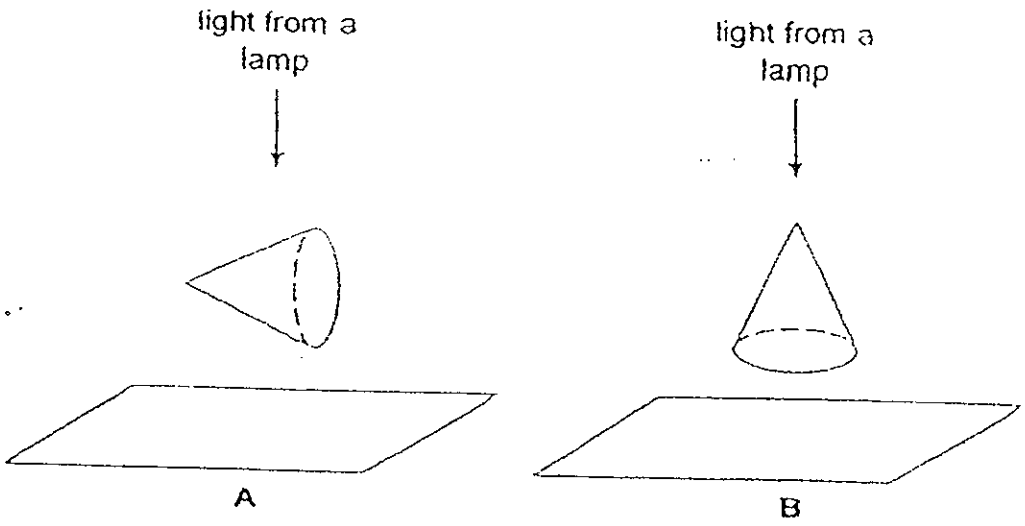
5. The flow chart below shows the processes involved in the human digestive system.



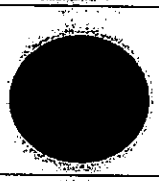
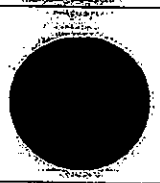
Based on the information given in the flow chart, what are A, B, P and Q?

	A	B	P	Q
1	stomach	anus	saliva	nutrients
2	stomach	large intestine	digestive juice	water
3	small intestine	large intestine	digestive juice	water
4	small intestine	anus	saliva	nutrients

6 Sally planned to study the shadows formed by two identical metal cones. The cones were placed in different positions directly under identical light sources in a dark room. Shadows were formed on screens A and B as shown below



Which of the following shadows would be observed for each screen?

	Screen A	Screen B
(1)		
(2)		
(3)		
(4)		

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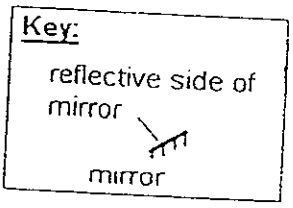
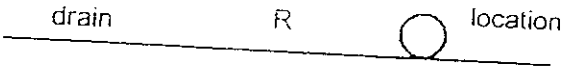
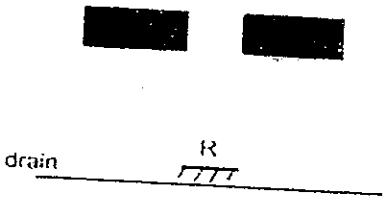
7 Susan dropped her ball that glowed in the dark into a deep drain. She was unable to see her ball when she looked into the drain. She decided to lower a mirror and place it at position R to help her see the ball.



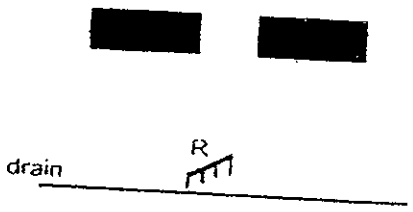


At which angle should Susan place the mirror so that she will be able to see the ball in the drain?

(1)



(2)



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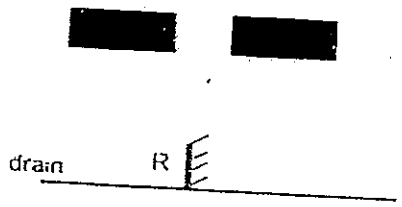

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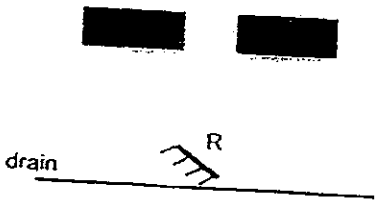

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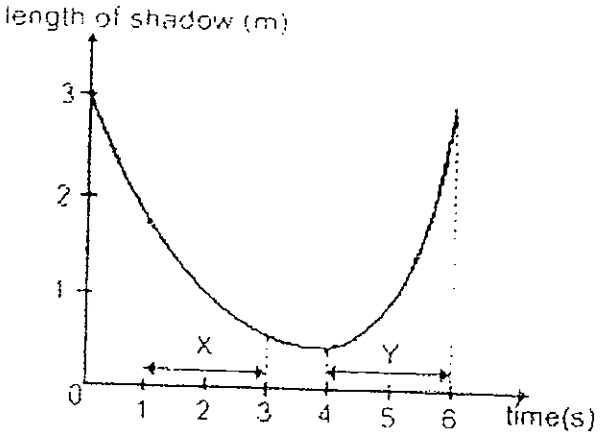
8. The graph below shows how the length of Linda's shadow changes over a period of time as she walks in a straight line near a street lamp at night.



Which of the following statements are correct?

A Linda is walking directly below the lamp at the 4th second.
B Linda is walking towards the lamp during period X and away from the lamp during period Y as shown in the graph.
C Linda is walking at a faster speed during the period Y compared to the period X.
D Linda is walking towards the lamp during period Y and away from the lamp during period X as shown in the graph.

(1) A and B only
(2) C and D only
(3) A, B and C only
(4) A, C and D only

( )

9. Mrs Tan went to a café and ordered a cup of tea. When she received the tea she realised it was very hot and she was in a hurry.

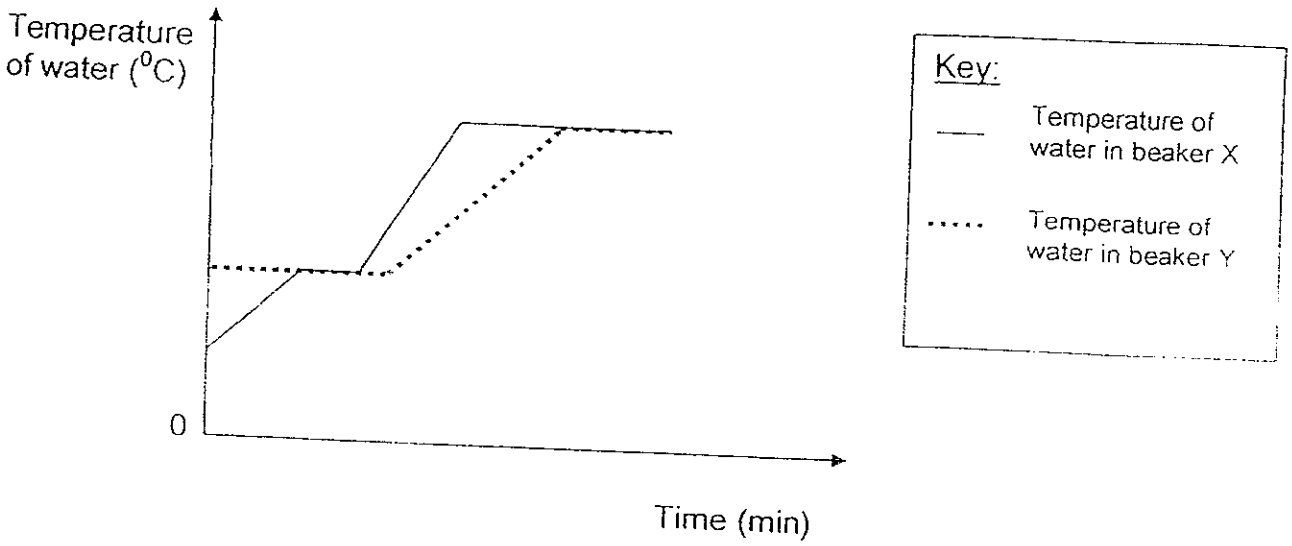
Which of the following way(s) will enable her to cool her tea faster?

A Stir the tea with a spoon.
B Add some ice cubes to the tea.
C Cover the cup of tea with the saucer.
D Pour the tea from the cup into the saucer.

(1) C only
(2) A and C only
(3) B and D only
(4) A, B and D only

( )

10. Janet recorded the temperature of water in two beakers, X and Y, and she plotted the graphs as shown below. The graph shows how the temperature of water in each beaker changed over time as the water in both beakers were heated



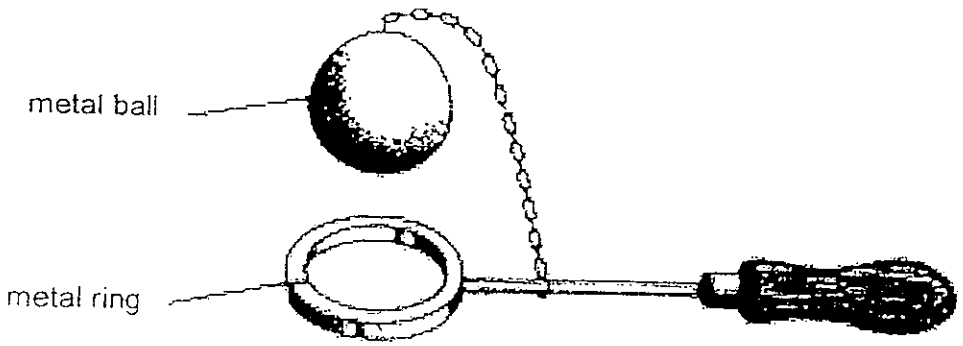
Based on the graph above, which of the following statements are possible explanations of the graph?

A Both beakers of water were heated for the same amount of time.
B Beaker X was heated over a stronger flame than beaker Y.
C Both the beakers had water at the same temperature at the start of the experiment.
D The temperature of water in beaker Y took a longer time to reach its boiling point.

(1) A and B only
(2) C and D only
(3) A, B and C only
(4) A, B and D only

( )

11 Tom wanted to allow the metal ball to pass through the metal ring. However, the metal ball was bigger than the metal ring.



What should Tom do to allow the metal ball to pass through the metal ring?

A Heat the ball over a flame.
B Heat the ring over a flame.
C Dip the ball into cold water.
D Dip the ring into cold water.

(1) A only
(2) D only
(3) A and D only
(4) B and C only

( )

12. Joe jogged round the track 6 times in the morning on a sunny day.

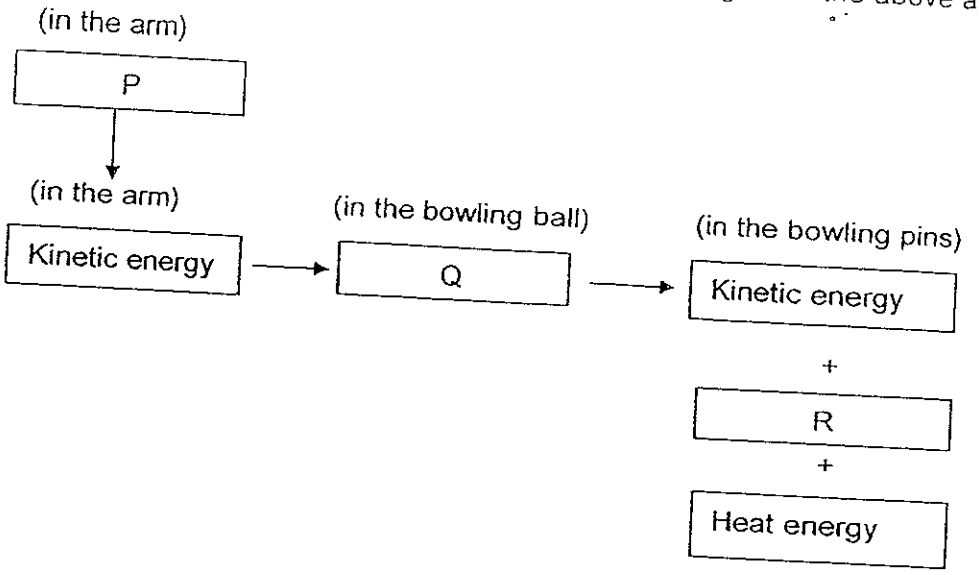
Which one of the following correctly describes his source of energy and the energy changes during his jog?

	Source of energy	Energy changes
(1)	Food	Chemical potential energy in his body was converted to heat energy and sound energy only.
(2)	Food	Chemical potential energy in his body was converted to heat energy and kinetic energy.
(3)	Sun	Solar energy in his body was converted to heat energy and sound energy.
(4)	Sun	Solar energy was converted to chemical potential energy in his body.

( )

13. Aishah observed the activity below in order to classify the energy changes during the activity.

The flow chart below shows the possible energy changes for the above activity



Which one of the following correctly represents P, Q and R?

	P	Q	R
(1)	Potential energy	Sound energy	Kinetic energy
(2)	Kinetic energy	Potential energy	Heat energy
(3)	Potential energy	Potential energy	Sound energy
(4)	Potential energy	Kinetic energy	Sound energy

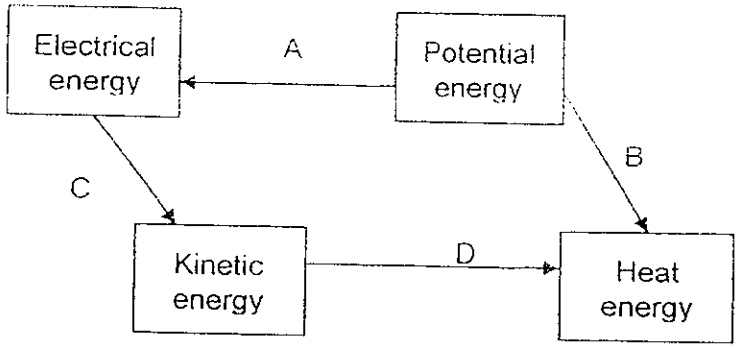
( )

14 Janice listed some processes involving energy changes as shown below

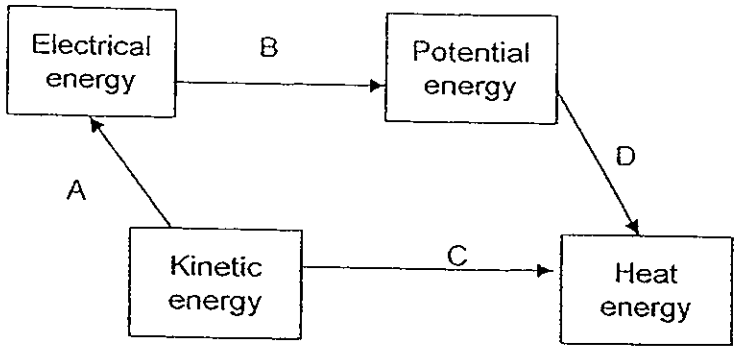
A Charging the hand phone.
B Turning on an electrical fan
C Burning firewood to keep warm.
D Rubbing a rubber seed on the ground.

Which one of the following diagrams correctly shows the energy changes in the processes above?

(1)



(2)



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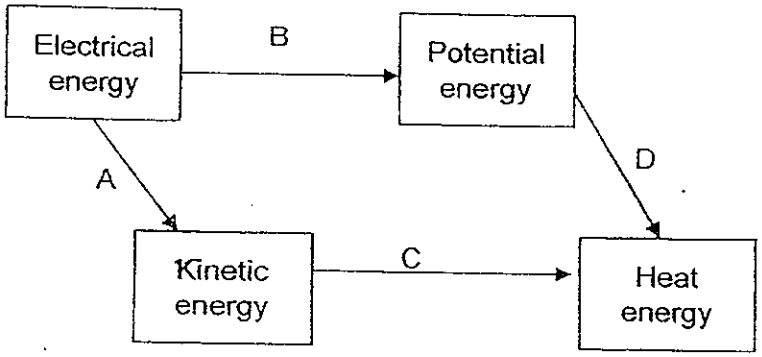

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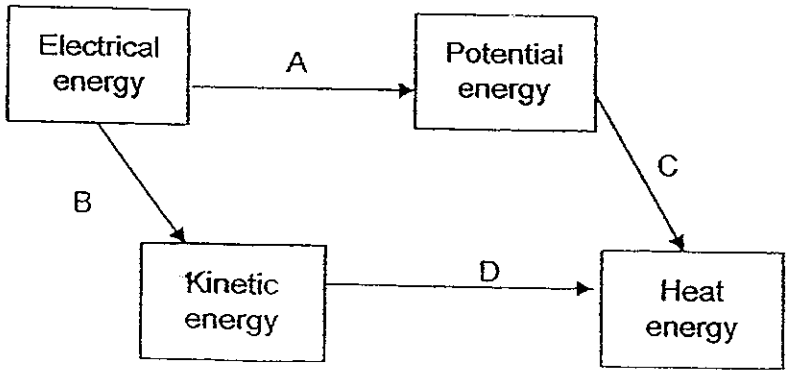

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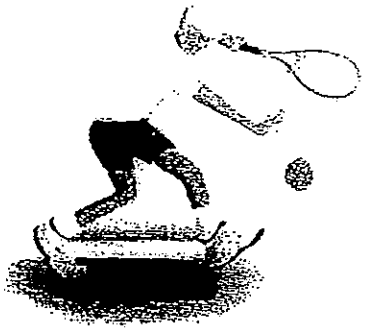
15. James is playing tennis. When the ball comes towards him, he will hit it hard with his racket as shown below.



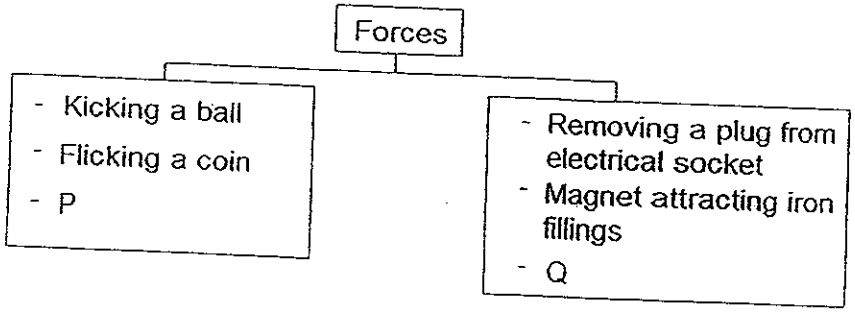
Which of the following will change after James hits the ball with his racket?

A mass of the tennis ball
B speed of the tennis ball
C volume of the tennis ball
D direction of the moving tennis ball

(1) A and B only
(2) A and C only
(3) B and C only
(4) B and D only

( )

16. Study the diagram below.



Which one of the following represents activities P and Q correctly?

	P	Q
(1)	Like poles of two magnets repelling	Pressing a lift button
(2)	Gravity acting on a falling object	Pressing a calculator button
(3)	Closing a drawer	Lifting a box from the floor
(4)	Removing a nail from the wall	Removing a tissue from a tissue box

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17. An iron bar AB was magnetised using the stroking method as shown in Diagram 1 below. Diagram 2 shows the magnetised poles of bar AB after it was magnetised.

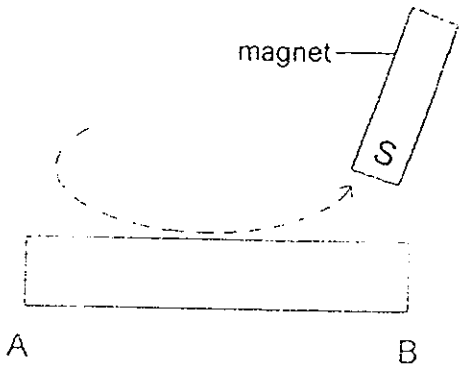


Diagram 1

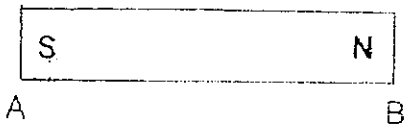


Diagram 2

Another iron bar, XY, was magnetised using two magnets as in Diagram 3.

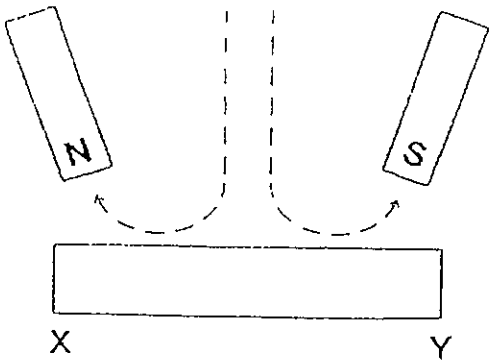
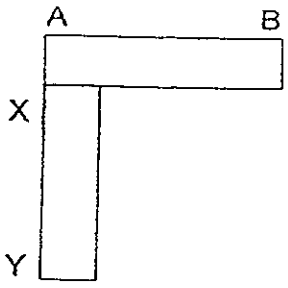


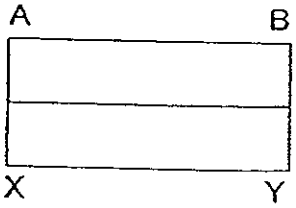
Diagram 3

Which one of the following diagrams shows a possible arrangement of the two bars after they were magnetised?

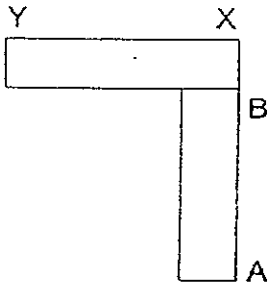
(1)



(2)



(3)



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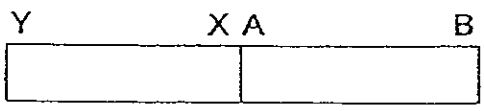
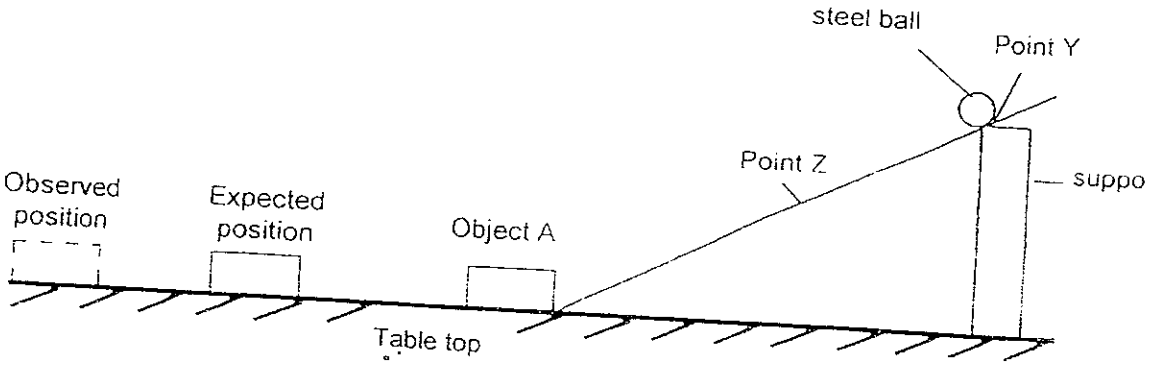


18. Angela set up an experiment on a table top as shown in the diagram below. When she released a steel ball from Point Y down the ramp, it hit object A causing it to move to its observed position, which was further than the expected position.



What could she possibly do to the above set-up to ensure that Object A reached the expected position?

A Lower the height of the support.
B Release the steel ball at Point Z.
C Increase the height of the support.
D Replace the steel ball with a ping-pong ball.

(1) B and C only
(2) C and D only
(3) A, B and D only
(4) B, C and D only

( )

19. Four balls were dropped onto a box of sand. The diagram below shows from the side view the depressions by each ball after they had been dropped onto the sand.

Side View of Box of Sand

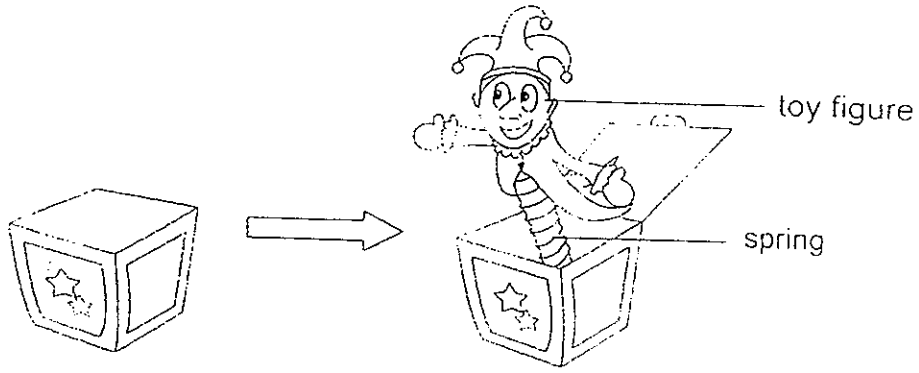
If the above experiment was conducted to show the effect of dropping the balls at different height from the ground, which one of the following variables must be kept the same in order for the experiment to be a fair test?

A mass of each ball
B material of the balls
C distance of the balls from the sand

(1) A only
(2) A and B only
(3) B and C only
(4) A and C only

( )

20. The toy below consists of a box with a toy figure attached to a spring. When the lid is opened, the toy figure will pop out of the box as shown below



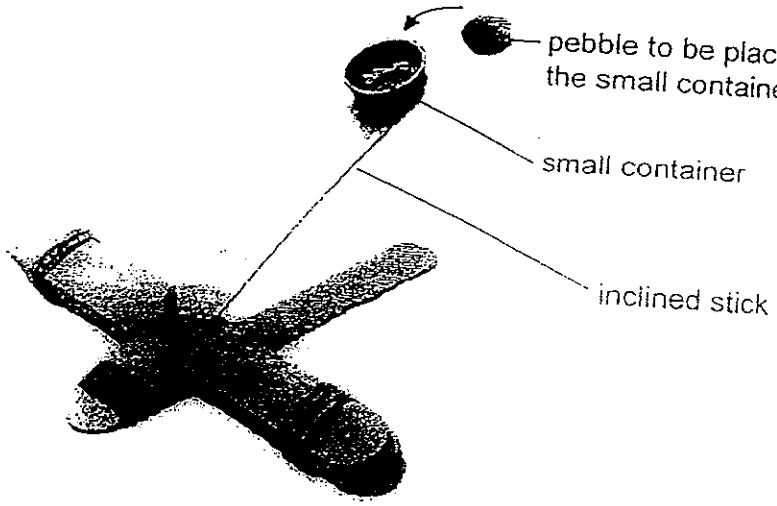
Which of the following statements are correct to describe the popping out effect of the toy figure once the lid is opened?

A The toy figure pops out as the stretched spring return to its original length once the lid is opened.
B The compressed spring exerts a force on the closed lid which causes the toy figure to pop out once the lid is opened.
C The elastic potential energy in the compressed spring is converted to kinetic energy as the spring returns to its original length once the lid is opened.

(1) B only
(2) B and C only
(3) A and C only
(4) A, B and C

( )

21 The diagram below shows a catapult made of rubber bands and ice-cream sticks. A small container is attached at the end of the inclined stick to hold a pebble. When the inclined stick is pushed down and released, the pebble will move forward and travel in the air for a certain distance before dropping to the ground.



Which one of the following statements about the experiment is correct?

(1) The pebble travelled forward and dropped to the ground because it had lost all its energy.
(2) The moving pebble did not possess any gravitational potential energy when it travelled in the air.
(3) The chemical potential energy of the rubber band had been converted to kinetic energy in the moving pebble.
(4) The kinetic energy in the dropping pebble had been converted to sound energy and heat energy when it hit the ground.

( )

22. Which of the following statements about gravitational force are correct?

A Gravitational force is a force that acts at a distance.
B The Earth's gravitational force is the force that pulls objects to the ground.
C Our weight is less on the Moon than on the Earth because the Moon has less gravitational force than the Earth.

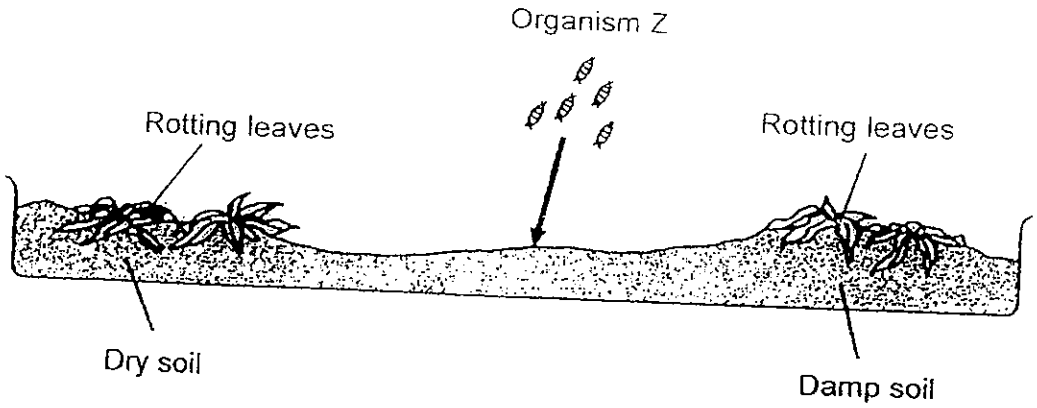
(1) A and B only
(2) B and C only
(3) A and C only
(4) A, B and C

( )

23 Haikal found many of Organism Z under piles of rotting leaves in the garden. He then suggested four possible explanations for this behaviour.

A Organism Z prefers dark condition.
B Organism Z feeds on rotting leaves.
C Organism Z prefers damp condition.
D Organism Z does not need direct sunlight to live.

He set up an experiment as shown in the diagram below and placed some Organism Z at the centre.

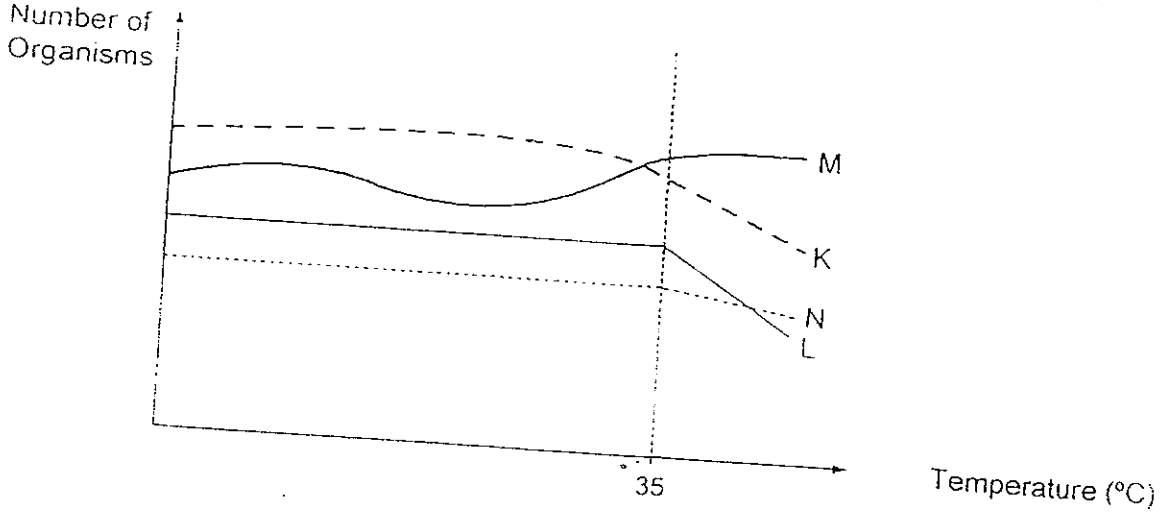


Based on his set-up, which one of the explanations (A, B, C or D) for the behaviour of Organism Z was Haikal trying to test?

(1) A
(2) B
(3) C
(4) D

( )

24 The graph below shows the effect of temperature on the number of four different organisms, K, L, M and N.



Which organism(s) will most likely survive the longest period if the temperature of the environment continues to increase slowly from 35°C?

(1) M only
(2) N only
(3) K and L only
(4) M, K and L only

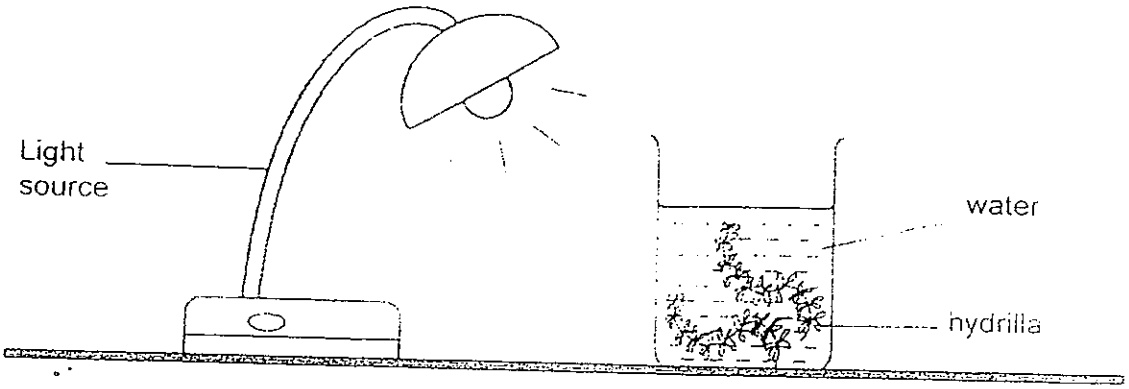
25. Sara found out from the school gardener that ladybirds feed on aphids. She decided to help the gardener find out which type of ladybird is most effective in removing the aphids. She carried out an investigation, repeated it twice and obtained results as shown below. ( )

Set-up	Type of Ladybird	Number of Ladybirds in each Set-up	Number of Aphids	Average Number of Aphids
			Start of Experiment	After 5 days
A		20	150	65
B		20	150	34
C		20	150	87

Based on her results, what can she conclude from her experiment?

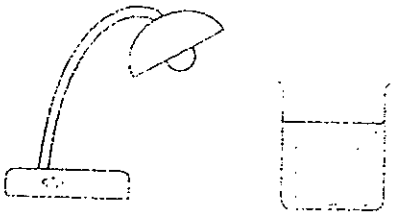
(1) The ladybirds in set-up A feeds on the least number of aphids.
(2) The ladybirds in set-up B are most effective in removing the aphids.
(3) The ladybirds in set-up C are most effective in removing the aphids.
(4) The ladybirds in set-up C are more effective in removing the aphids than the ladybirds in set-up A. ( )

26. An experiment was conducted to find out the effect of light on the growth of hydrilla plant. An experimental set-up was prepared as shown below.

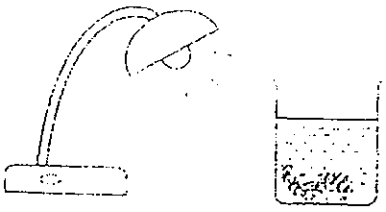


Which one of the following should be a control set-up for this experiment?

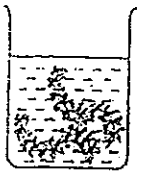
(1)



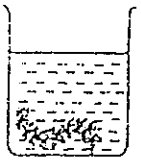
(3)



(2)

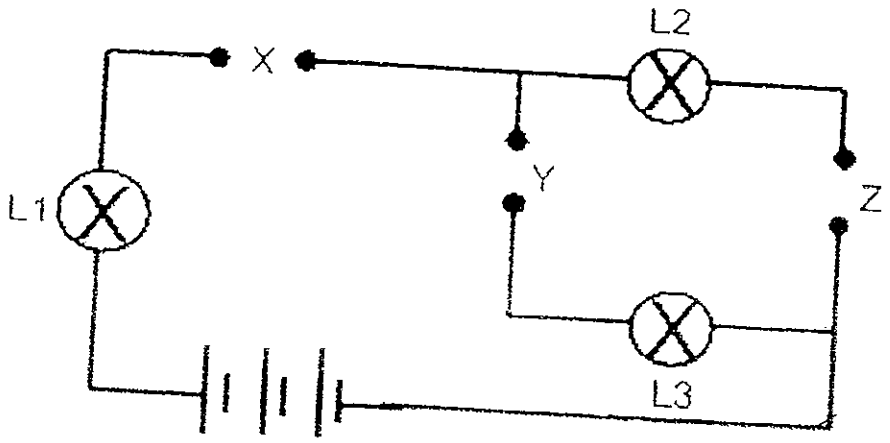


(4)



( )

27. Siew Hong had three rods, P, Q and R made of different materials. She placed them in various positions, X, Y and Z, in the circuit below.



The results of the experiment are shown in the table below.

Positions where rods were placed			Did the lamp light up?		
X	Y	Z	L1	L2	L3
P	Q	R	Yes	Yes	No
Q	R	P	No	No	No
R	P	Q	Yes	No	Yes

Which one of the inferences can she make from the results above?

(1) Only rod R is not able to conduct electricity.
(2) Only rods P and R are able to conduct electricity.
(3) Only rods P and Q are able to conduct electricity.
(4) Rods Q and R are better conductors of electricity than rod P. ( )

28. After running for 2 rounds in their school field, Siva and his classmates rushed to stand under the ceiling fan when they went back to their classroom. They claimed that by standing under the moving fan, they will cool down faster.

Which one of the following statements explains why they cool down faster when standing under the moving fan?

A their sweat loses heat making them cool down faster
B wind from the moving fan increases the rate of evaporation
C heat is removed from their body when their sweat evaporates
D their sweat droplets are absorbed into their body more quickly

(1) A and B only
(2) B and C only
(3) A and D only
(4) C and D only

( )

29. Which of the following statements is/are correct when water evaporates?

A Water gains mass.
B Water evaporates at 100 °C only.
C Water gains heat and becomes steam.
D Water changes from a liquid state to a gaseous state.

(1) B only
(2) D only
(3) A and C only
(4) A, B and D only

( )

30. Tom breathed onto a mirror and it turned "misty" at first. After a while, the "mist" cleared up and he was able to see himself in the mirror again. What is the explanation for his observation?

	The "mist" on the mirror is _____.	The mirror cleared up after the "mist" had _____.
(1)	water vapour	evaporated
(2)	water vapour	condensed
(3)	water droplets	condensed
(4)	water droplets	evaporated

( )

End of Booklet A

HENRY PARK PRIMARY SCHOOL

2012 SEMESTRAL EXAMINATION 1

PRIMARY 6 SCIENCE

Booklet B

Name: _____ ( )

Class: Primary 6 _____

40

14 Questions
40 Marks

Total Time for Booklet A and B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

READ AND FOLLOW INSTRUCTIONS CAREFULLY.

Booklet B (40 marks)

Write your answers to questions 31 to 44 in the spaces given.

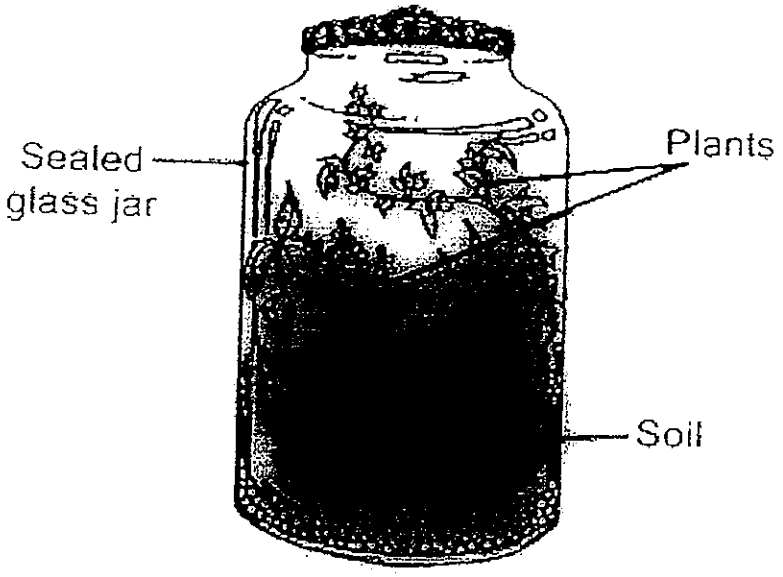
31. James carried out an investigation on his breathing rate before and after brisk walking for 5 min. He recorded his results in the table below.

Breathing rate at rest (breaths per min)	Breathing rate immediately after exercising (breaths per min)
25	50

a) How could James make his investigation more reliable? *(1m)*

b) James rested for 15 min before conducting the experiment again. Explain why it was necessary for him to do so. *(1m)*

32 The diagram shows a terrarium, which is a self-sustaining community of small plants living in a sealed glass jar



a) After putting the layer of soil and adding in the plants, what must be added before sealing the glass jar? *(1m)*

_____

_____

b) Where should the terrarium be placed to ensure healthy plant growth? *(1m)*

_____

_____

c) Explain in detail how the plants in the terrarium get the <u>carbon dioxide</u> and <u>oxygen</u> to survive. *(2m)*

(i) Carbon dioxide:

_____

_____

(ii) Oxygen:

_____

_____

33. Teva wanted to investigate how the amount of Liquid Y affects the growth of an aquatic organism called "Jiv". He set up 3 beakers (Beaker 1, 2 and 3), adding different amount o Liquid Y, tap water and "Jiv" as shown in the table below.

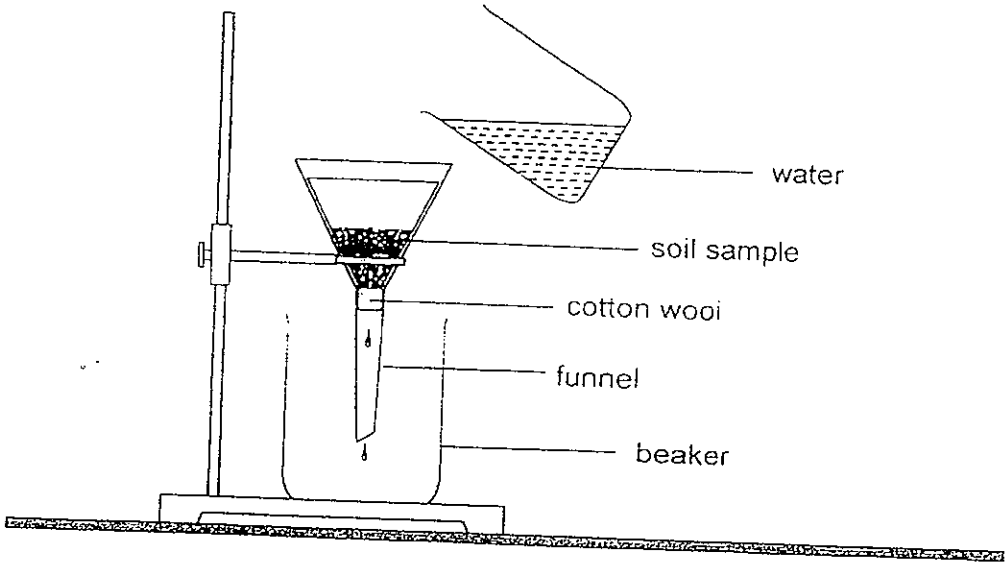
	Amount of Liquid Y Added (ml)	Amount of Tap Water Added (ml)	Number of "Ji in each beake
Beaker 1	10	350	30
Beaker 2	30	350	30
Beaker 3	50	350	40

a) Why was his experiment not a fair test? (2

b) Complete the table below to show how he should set up a control set-up for his experiment. (1

	Amount of Liquid Y Added (ml)	Amount of Tap Water Added (ml)	Quantity of "Jiv" in each beaker
Beaker (Control Set-up)			30

34 Irfan collected three different soil samples, P, Q and R. He poured the same amount of soil sample in a funnel with its end plugged with some cotton wool. Then he poured 300 ml of water onto each soil sample as shown below.

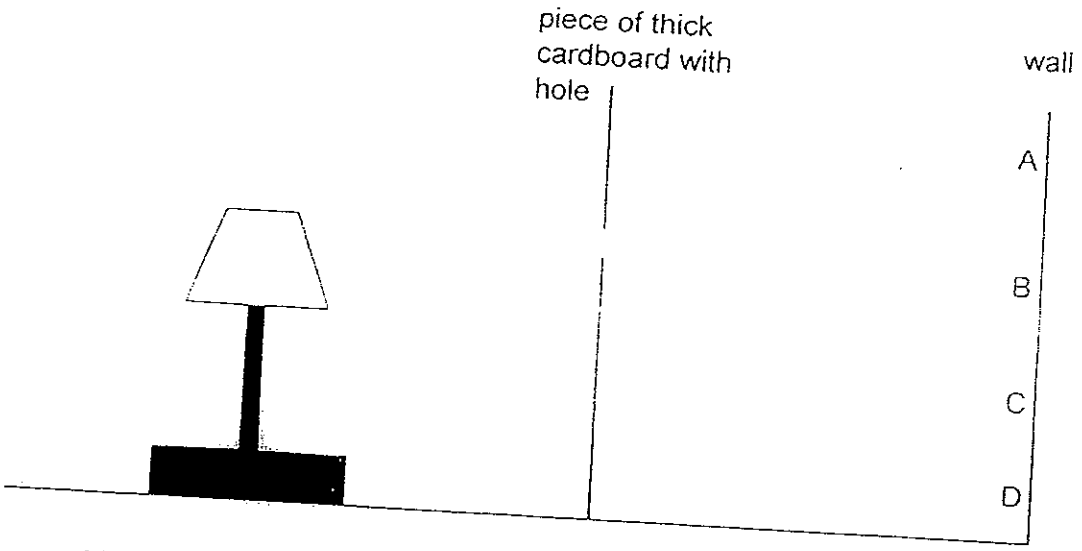


He measured and recorded the amount of water collected in the beaker 20 minutes after the first drop of water flowed out from the funnel into the beaker. The results are tabulated below.

Soil Sample	Amount of water collected 20 minutes after the first drop of water flowed out from the funnel (ml)
P	110
Q	60
R	250

By studying the results, which soil sample, P, Q or R, is able to retain the most amount of water? Explain your answer. *(2m)*

35. Karen set up an experiment as shown below



Light from the lamp passes through the hole in the thick cardboard and forms a bright spot on the wall.

a) Which point on the wall, A, B, C or D, is lit up by the lamp? *(1m)*

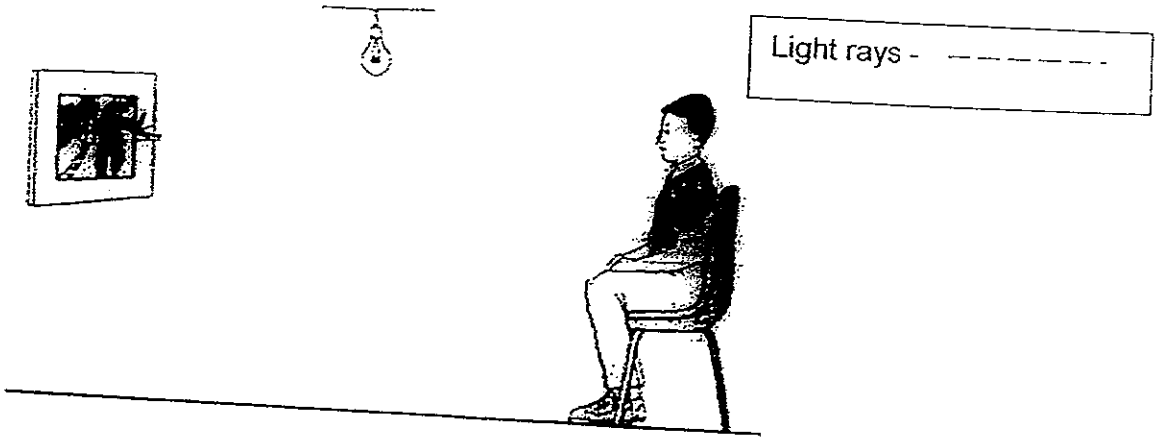
_____

b) Give two reasons why the other points on the wall are not lit by the lamp. *(1m)*

Reason 1: _____

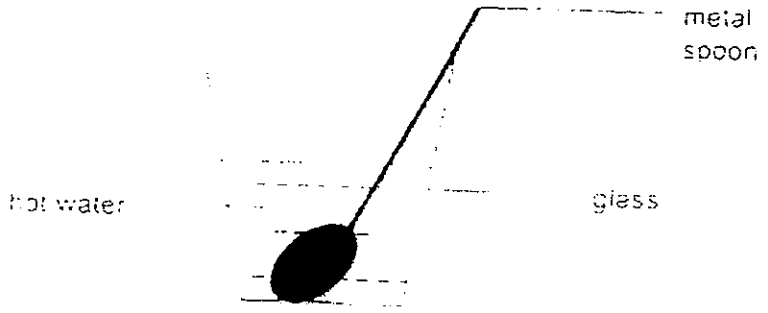
Reason 2: _____

c) John wondered why he could see the picture hanging on the wall.
Draw 2 arrows on the light rays represented by the dotted line shown in the diagram below to show how John was able to see the picture. *(1m)*



36. Thomas set up two experiments as shown below

In experiment 1 he placed a metal spoon in a glass of hot water



a) When Thomas touched the metal spoon with his hand, it felt hot to him. Explain why the spoon felt hot.

(1m)

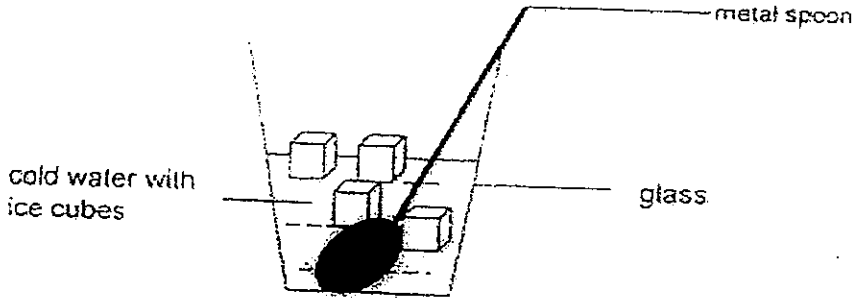
_____

_____

_____

b) In experiment 2, Thomas placed a metal spoon in a glass of cold water with some ice cubes in it.

(1m)



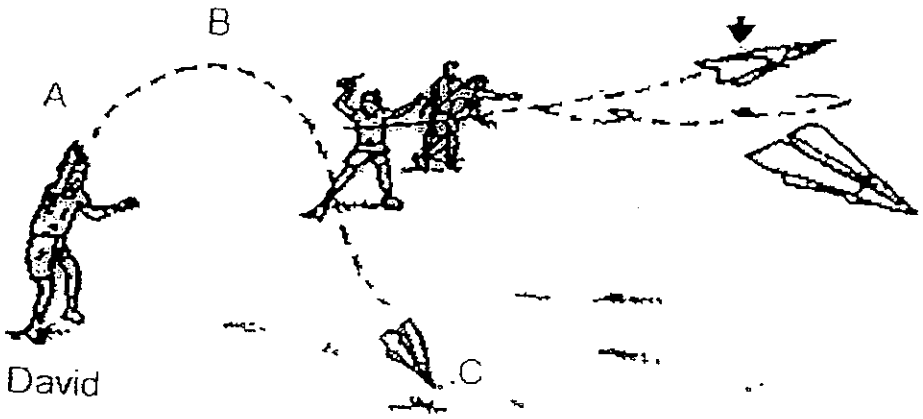
When Thomas touched the metal spoon with his hands, it felt cold to him. Explain why the spoon felt cold.

_____

_____

_____

37. David and some of his classmates bought some identical paper aeroplanes and were flying them on the field.

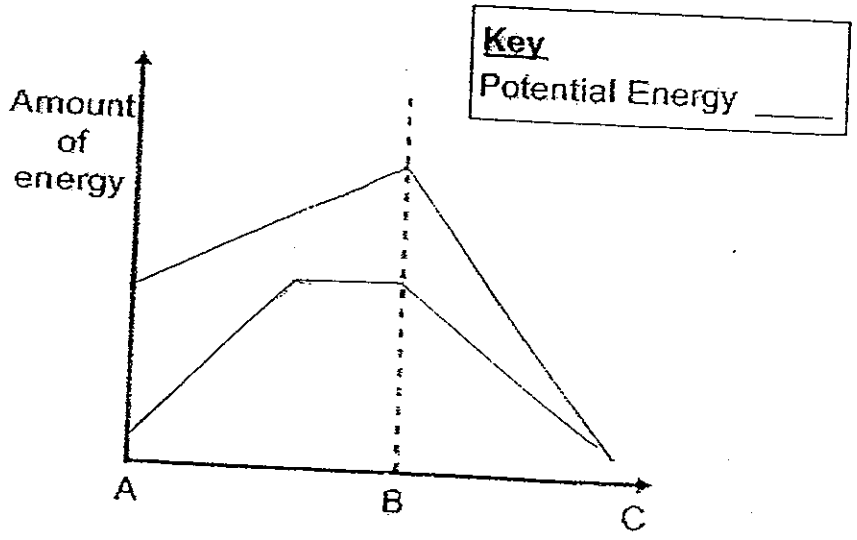


a) List 2 sources of energy that enable the aeroplanes to fly. *(1m)*

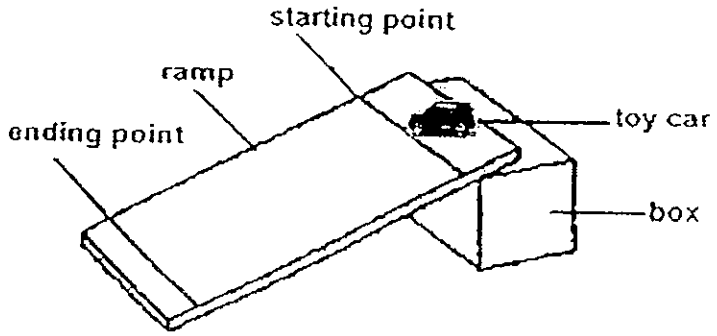
_____

_____

b) On the graph below, draw the change in gravitational potential energy of the aeroplane from point A to point C. Point A is the point when the aeroplane is released from the hand and Point C is the point when the aeroplane nearly reaches the ground. *(2m)*



38. Roger wanted to find out how the height of the ramp affects the time taken for the toy car to reach the end point of the ramp. He set up the experiment as shown below



a) Name one variable that must be **changed** and three **important** variables that must remain unchanged in the experiment. *(2m)*

Variable to be **changed**: _____

3 **important** variables that remain unchanged:

(i) _____

(ii) _____

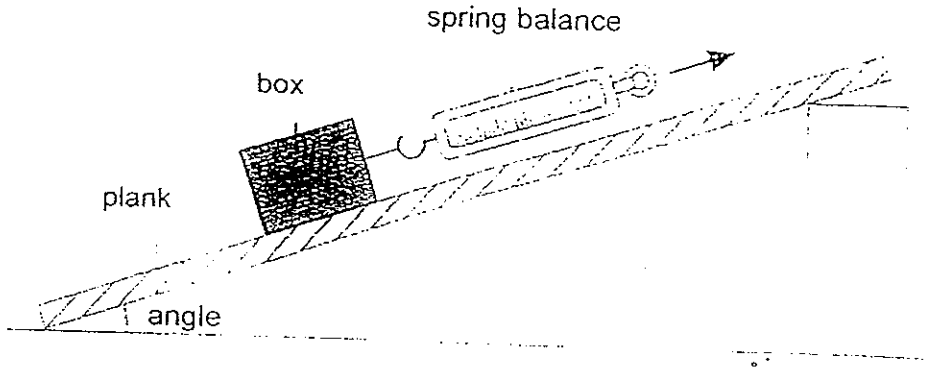
(iii) _____

b) Roger observed that the higher the ramp was raised, the faster the toy car reached the end point of ramp. Explain his observation. *(2m)*

_____

_____

39. Megan wanted to investigate how the different surfaces of a plank affect the force needed to pull a box. She measured the force using a spring balance. She then repeated the experiment, each time using a plank of different surface. She ensured that the angle of inclination of the plank is kept the same for the different planks used



Her results are tabulated in the table below.

Plank	A	B	C	D	E
Amount of force needed to pull (units)	20	10	45	60	35

a) Apart from air resistance, state **one** other force that is acting on the box as it starts to move. *(1m)*

_____

b) Which plank offers the least resistance to movement? Explain your answer. *(1m)*

_____

_____

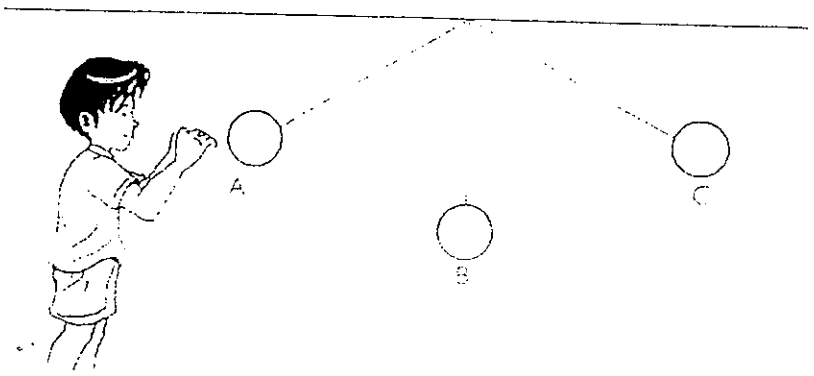
c) State how the amount of pulling force changes with the surface of the plank. *(1m)*

_____

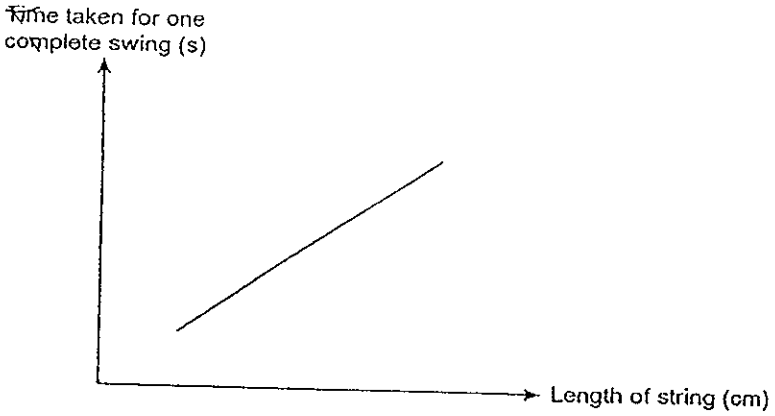
_____

_____

40 Azim set up an experiment as shown below to measure the amount of time taken for a ball to make one complete swing (from A to B to C and back to A again) as shown below.



He recorded the time taken to make one complete swing (in seconds) using different lengths of string and the results are shown in the graph below.



a) What is the test (independent) variable in this experiment? *(1m)*

_____

b) Other than using the same ball, state one other variable that he must keep the same. *(1m)*

_____

_____

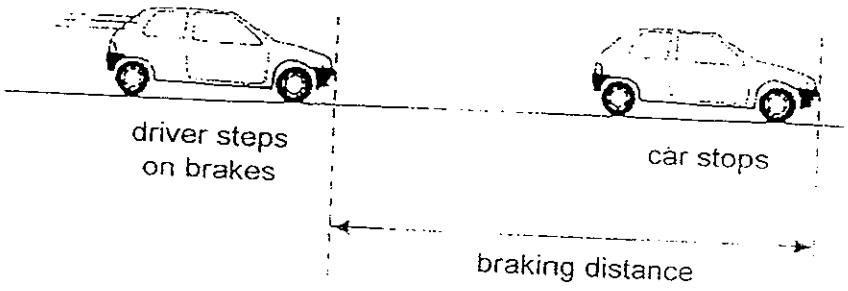
c) What can be concluded from the results of this experiment? *(1m)*

_____

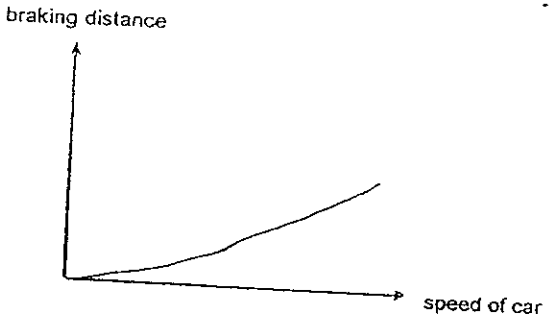
_____

_____

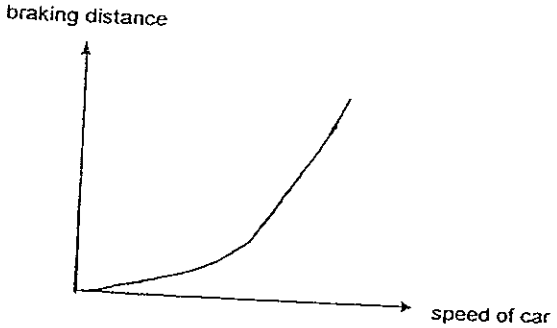
41. An experiment was conducted to investigate the braking distance of a car travelling at a fixed speed on two different road conditions, dry and wet. The braking distance is the distance the car has to cover after the driver steps on the brake before it comes to a stop as shown in the diagram below.



The experiment was repeated, each time at a different speed on each road condition (dry and wet). The graphs below show the findings of the experiment.



Graph A



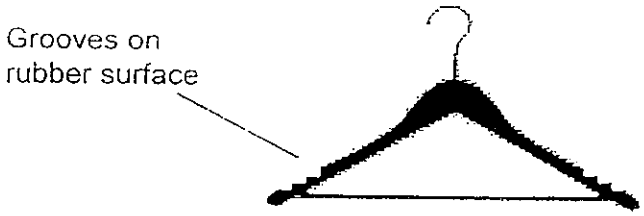
Graph B

a) Which graph, A or B, represents the dry or wet road conditions? Write the word "dry" or "wet" in the table below under the column road condition below to represent the corresponding graph. *(2m)*

Graph	Road Condition
A	
B	

b) Cheryl follows her father to the workshop one day to replace the tyres of their car. According to her father, the grooves on the tyres have worn out and it is dangerous to continue using such tyres as they will reduce the friction between the tyres and the ground which may cause their car to skid when turning.

When Cheryl returns home, she notices grooves on the rubber surface at the ends of her wooden clothes hanger in her wardrobe, like the grooves on the tyres that she has seen earlier.



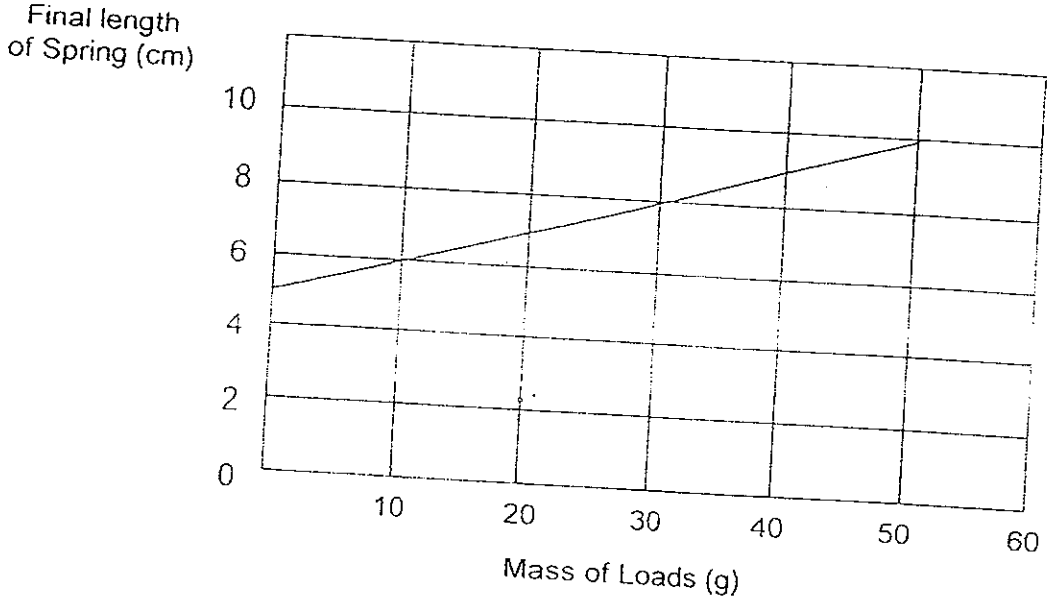
Explain how the grooves on the rubber surface at the ends of the hanger help when Cheryl hangs her clothes on it. *(2m)*

_____

_____

_____

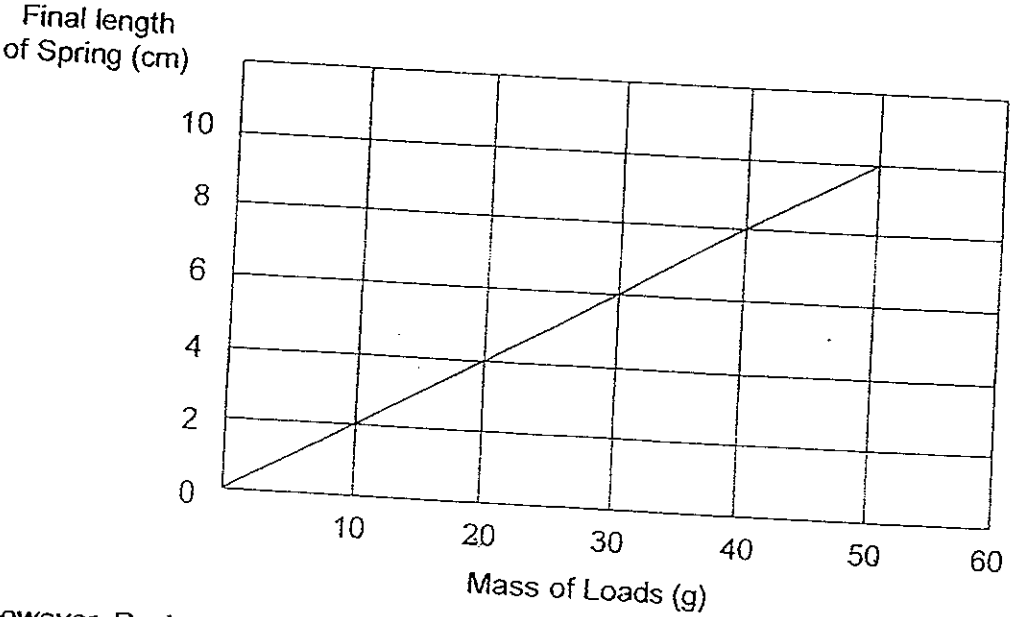
42. Ravi used a spring of original length 5 cm. He hung loads of different masses onto it and measured the final length of the spring.
The graph below shows the final length of the spring against loads of different masses.



a) What is the extension of the spring when a load of 30 g is hung onto it? *(1m)*

_____

Wai Kiat also did the same experiment as Ravi and he plotted a graph as shown below to show his results.



However, Ravi told Wai Kiat that he has plotted his graph wrongly.

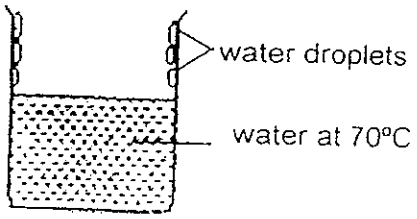
b) Do you agree with Ravi? Explain your answer. *(2m)*

_____

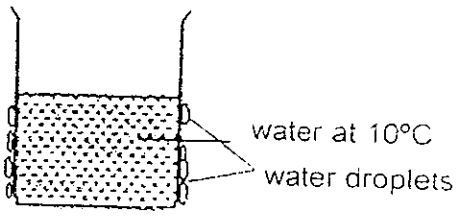
_____

43 Sally set up Beaker A and Beaker B as shown below.

	Beaker A	Beaker B
Volume of water	500 ml	500 ml
Temperature of water	70°C	10°C



Beaker A



Beaker B

She then placed both beakers in the living room at temperature 30°C

After some time, she observed that there are water droplets on both beakers as shown above.

Explain clearly why the water droplets appear on different parts of Beaker A and Beaker B. *(2m)*

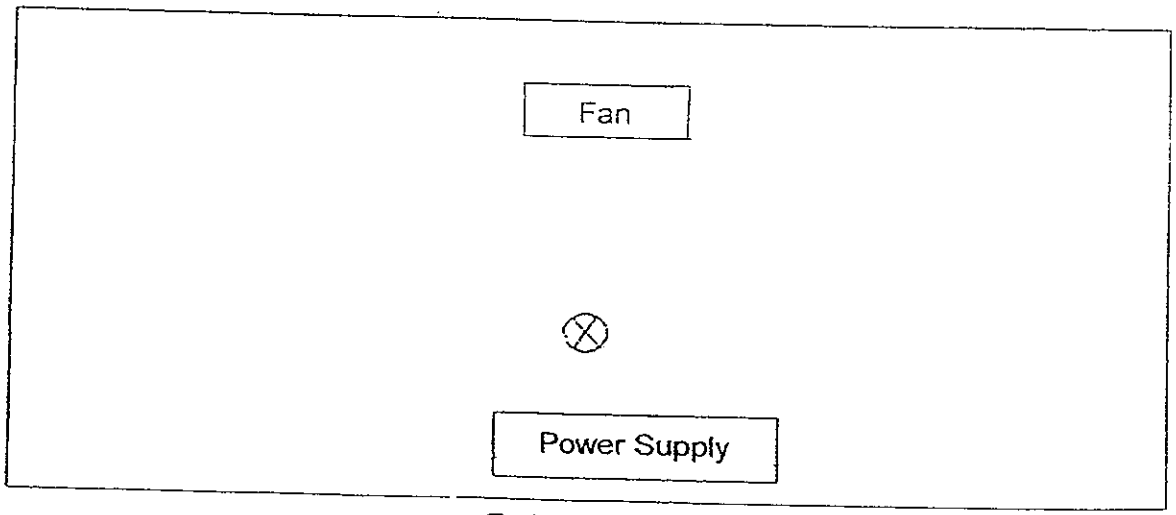
(i) Beaker A: _____

(ii) Beaker B: _____

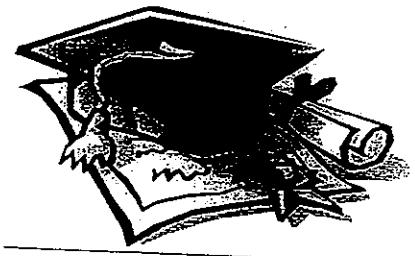
_____

44. Mr Lee wants to connect an electrical fan and lamp in his room such that the lamp and fan can continue working when either one is out of order.

In the box below, draw a circuit Mr Lee needs to set up. The fan, lamp and power supply are already drawn for you. *(2m)*



End of Booklet B



ANSWER SHEET

EXAM PAPER 2012

SCHOOL : HENRY PARK
SUBJECT : PRIMARY 6 SCINECE

TERM : SA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
3	2	4	4	3	2	4	3	4	4	4	2	4	4	4	3	3

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	2	2	4	4	3	1	2	2	2	2	2	4

31)a)James could repeat the experiment, three more times.
b)It is to ensure that his breathing rate returns to normal.

32)a)Water must be added before sealing the jar.
b)It should be placed where there is light.
c)i)When plants respire, they give out carbon dioxide.
ii)When the plants photosynthesis, the plants take in carbon dioxide and give out oxygen.

33)a)Only the amount of liquid Y should be changed. Changing the number of jiv in Beaker 3 can affect the growth of jiv.
b)0 , 350

34)Soil sample Q. The amount of water collect after 20 minutes after the first drop of water flowed out of the funnel, it has the least amount of water.

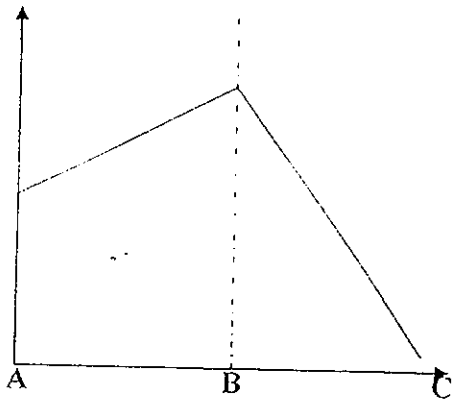
35)a)Point B.
b)1: Light travels in a straight line.
2: The cardboard is opaque that does not allow light to pass through.
c)

36)a)The heat from hot water is transferred to the metal spoon. Metal is a good conductor of heat, the heat from the metal spoon is transferred to Thomas hand.

b)Spoon loses heat to ice cubes/ water, Tomas's hand loses heat to the spoon.

37)a)Wind and food.

b)



38)a)The height of the ramp.

i)Surface of the ramp.

ii)Mass of toy car.

iii)The car has to start at the starting point.

b)The higher the lamp is raised, the more gravitational potential energy the car possesses, thus car has more kinetic energy.

39)a)Gravitational force.

b)It needed the least amount of pulling force to pull up the box.

c)The rougher the surface of the plank, greater the amount of pulling force needed to pull up the box.

40)a)Length of the string.

b)The angle that the ball is released.

c)As the length of the string increases the time taken for the ball to take one complete swing also decreases.

41)a)A)dry B)wet

b)The friction between the clothing and the ends of the hanger has increased. This prevent the clothing from slipping off.

42)a)3cm.

b)The original length of spring should never be zero.

43)i)Water vapour from water lost heat to the inside of the beaker.
ii)water vapour from surrounding air lost heat to outer surface of the beaker.

44)