

Test: Primary 5 Science (Term 4) - Nanyang

Points: 65 points

Name: _____

Score: _____

Date: _____

Signature: _____

Select multiple choice answers with a cross or tick:

Only select one answer

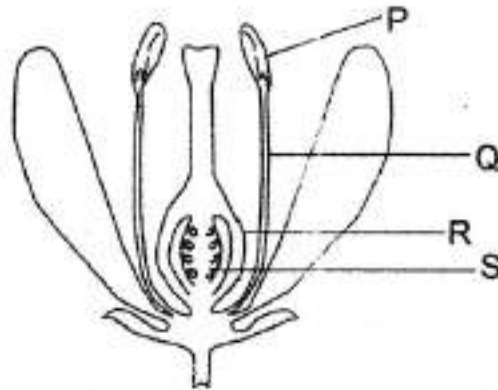
Can select multiple answers

Question 1 of 64

Primary 5 Science (Term 4) 2 pts

For each question, four options are given. One of them is the correct answer. (28 x 2 marks = 56 marks)

The diagram below shows a flower.



Which of the following is correct after pollination and fertilisation have taken place?

- A)

Will develop into a seed	Will develop into a fruit
P	Q
- B)

Will develop into a seed	Will develop into a fruit
Q	S
- C)

Will develop into a seed	Will develop into a fruit
R	P
- D)

Will develop into a seed	Will develop into a fruit
S	R

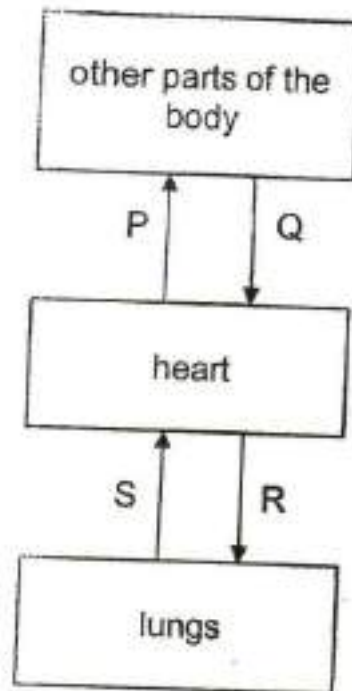
Question 2 of 64

Primary 5 Science (Term 4) 2 pts

Which one of the following characteristics is **not** inherited from the parents?

- A) Dimples
- B) Length of nails
- C) Type of eyelids
- D) Type of earlobes

Study the diagram below. P, Q, R and S represent blood vessels.

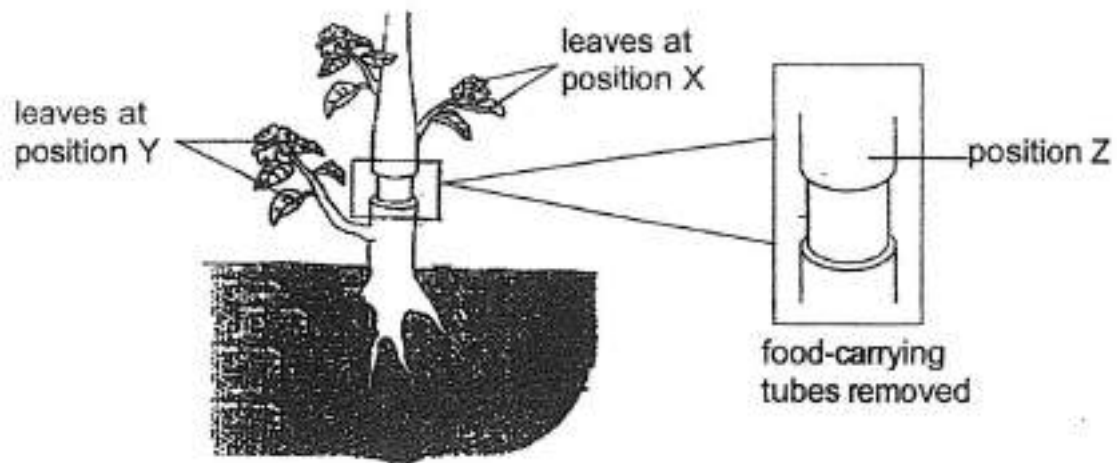


Direction of blood flow in a human

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

- A) R contains more oxygen than S.
- B) Q and R contain only carbon dioxide.
- C) R contains more digested food than Q.
- D) Q contains more carbon dioxide than S.

Sally removed the food-carrying tubes of a plant as shown in the diagram below.

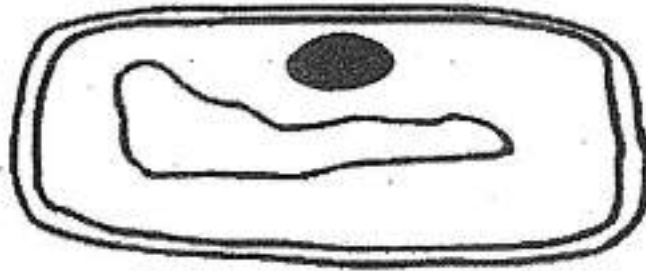


Sally observed the plant after one week and made the following statements. Which of the following statements are correct?

- A The leaves at position X will remain green.
- B The food-carrying tubes at position Z will swell.
- C The leaves at position Y will die due to the lack of food.

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

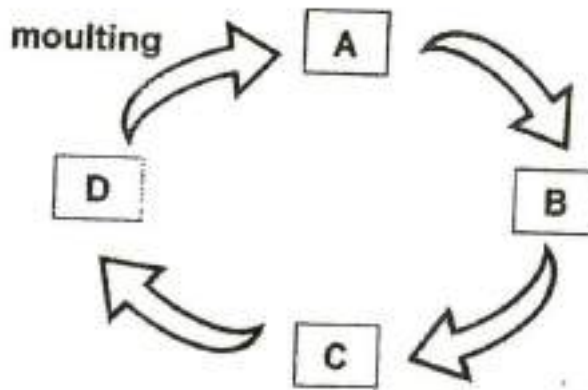
The diagram below shows a cell.



Which part of a living thing is this cell likely to be taken from?

-
- A) hair of a cat
 - B) root of a tree
 - C) leaf of a rose plant
 - D) skin of a human

The diagram below shows the stages in the life cycle of a mosquito.



Which one of the following correctly represents A, B, C and D based on the diagram above?

- A)

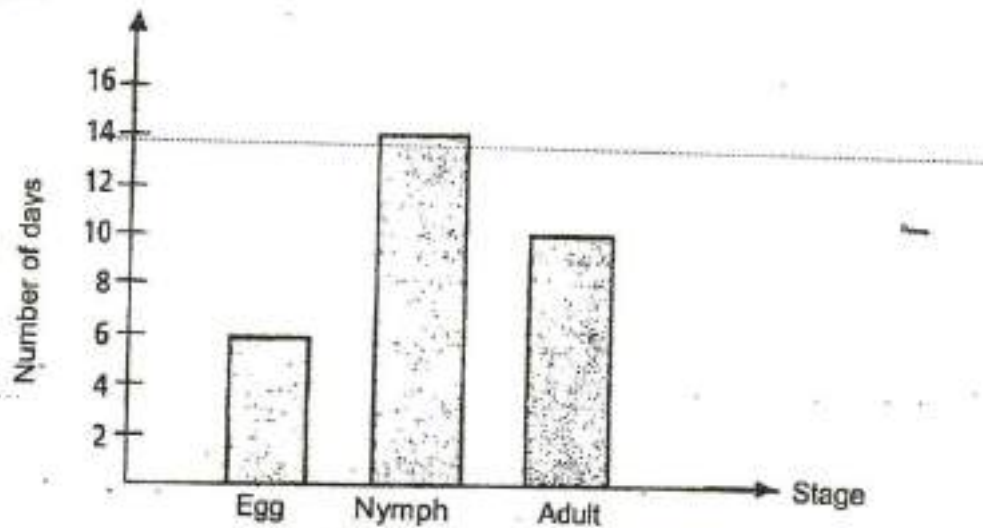
A	B	C	D
Egg	Larva	Pupa	Adult
- B)

A	B	C	D
Pupa	Adult	Egg	Larva
- C)

A	B	C	D
Adult	Egg	Larva	Pupa
- D)

A	B	C	D
Larva	Pupa	Adult	Egg

The graph below shows the number of days insect G spent in each stage of its life cycle.

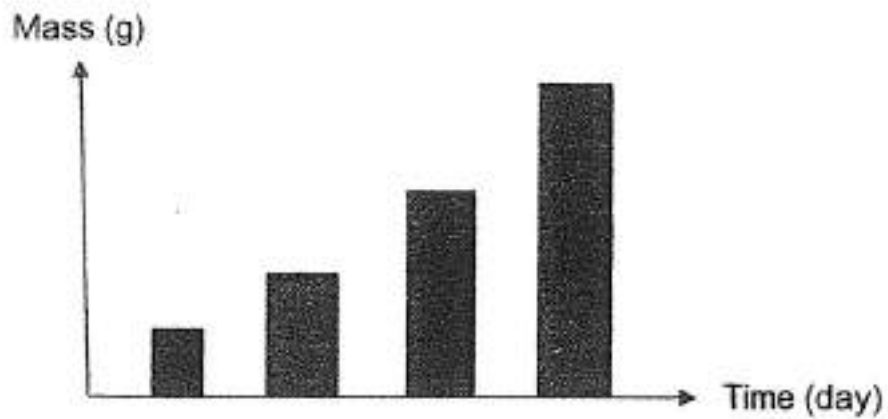


Based on the graph above, which of the following statement(s) is/are true of the life cycle of insect G?

- A There are three stages in its life cycle.
- B The number of days spent in the adult stage is shorter than in the nymph stage.
- C After the egg hatches, insect G takes another 24 days to become an adult.

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

The graph below shows the changes in the mass of one part of a seedling as it develops into an adult plant.

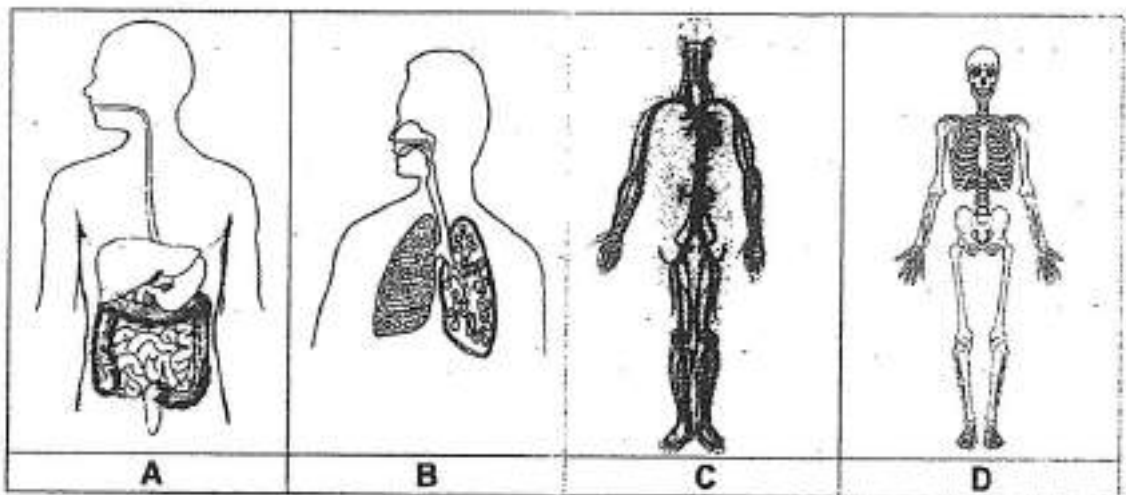


Which of the following are the possible parts of the seedling that the graph above represents?

- A root
- B shoot
- C seed leaf

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

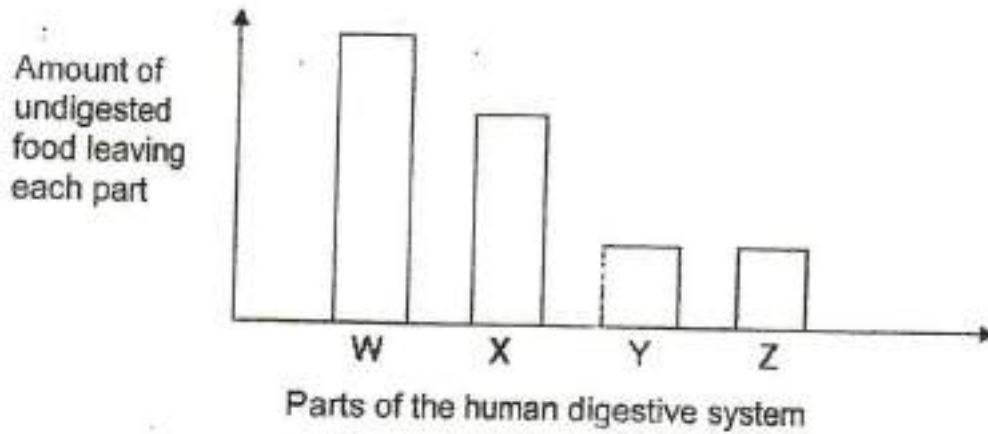
Study the diagrams below.



Which one of the systems, A, B, C and D, are at work when Jacob is taking a nap after his lunch?

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

The graph below shows the amount of undigested food found leaving the different parts of the human digestive system. Parts W, X, Y and Z are in sequence.



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

- A)

W	X	Y	Z
mouth	gullet	stomach	small intestine
- B)

W	X	Y	Z
mouth	gullet	small intestine	large intestine
- C)

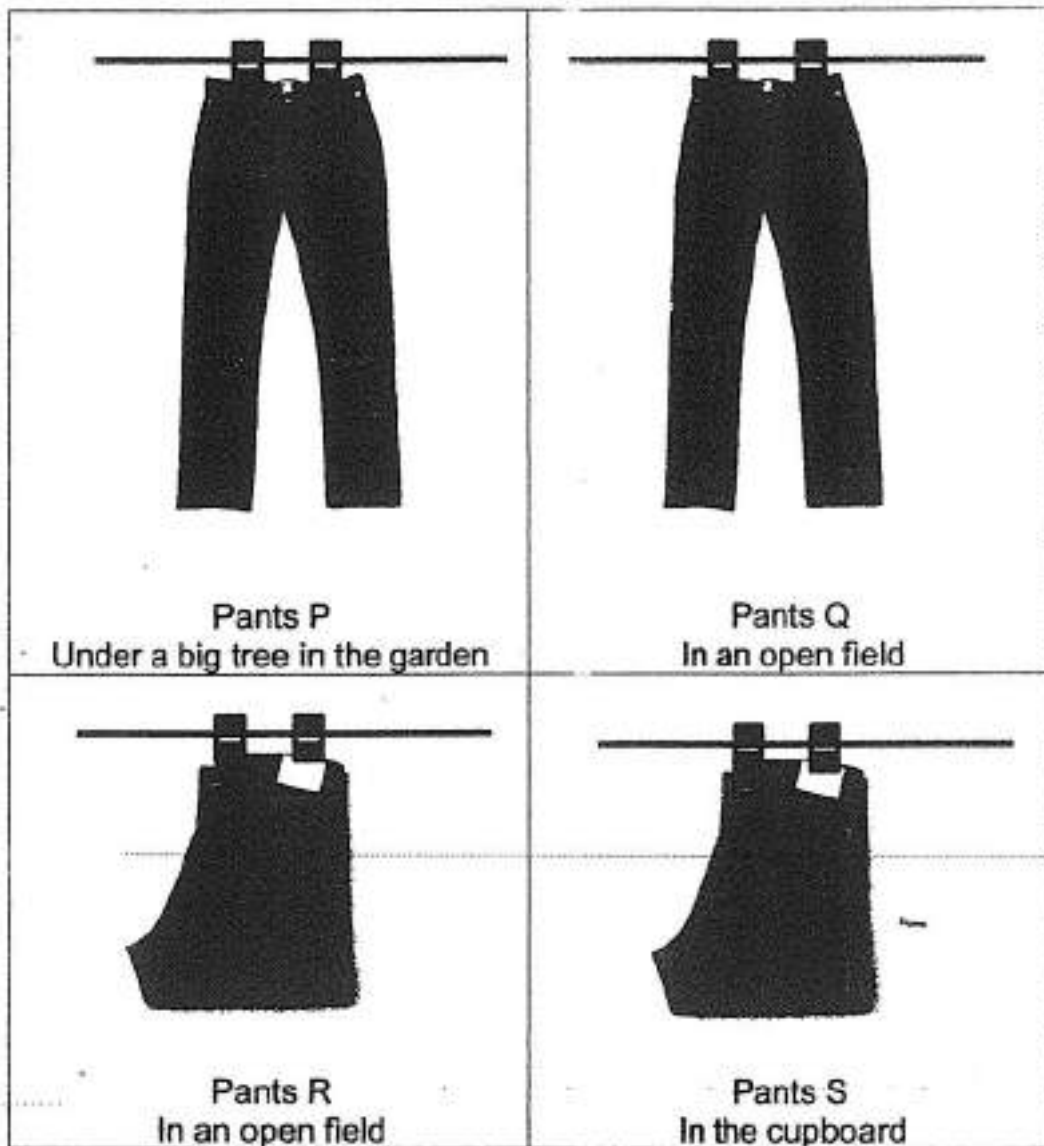
W	X	Y	Z
gullet	stomach	small intestine	large intestine
- D)

W	X	Y	Z
gullet	small intestine	large intestine	stomach

Which one of the following actions helps to conserve water?

- A) Fixing a leaking tap
- B) Using the water hose to wash a car
- C) Turning off the lights when you leave the room
- D) Switching off and unplugging appliances when not in use

John poured the same amount of water on four identical pants, P, Q, R and S. He hung the pants to dry in different conditions as shown in the diagrams below.

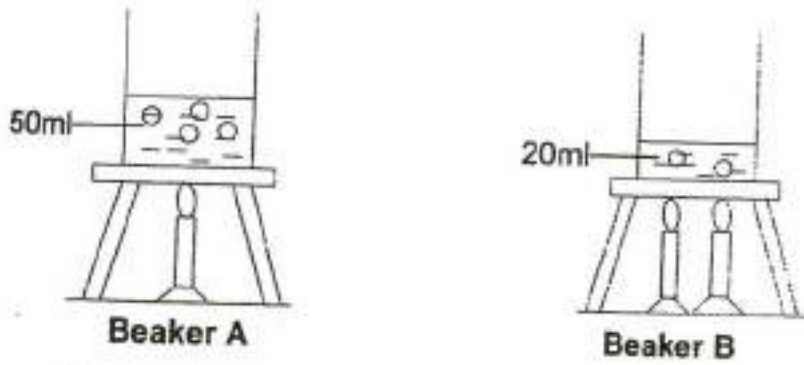


Based on the information above, which of the following statements are correct?

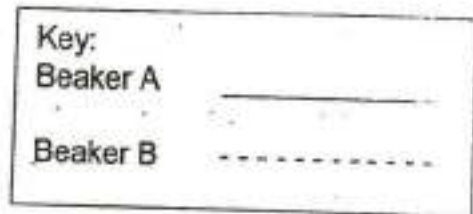
- A Evaporation takes place only in pants P, Q and R.
- B Evaporation takes place faster in pants P than pants Q.
- C Evaporation takes place faster in pants Q than pants R.
- D Evaporation takes place faster in pants R than pants S.

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

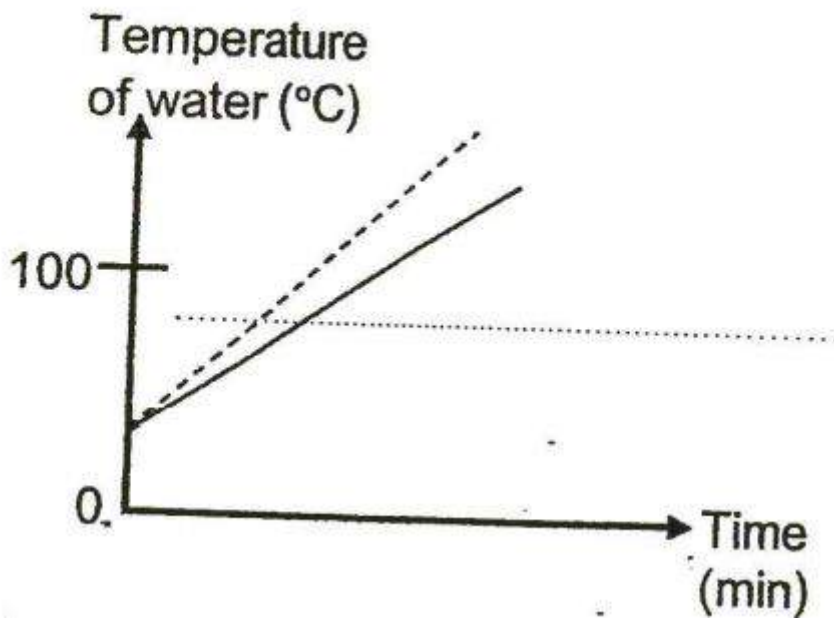
Janice poured different amounts of pure water at room temperature into beakers A and B. Both beakers were heated until the water boiled as shown in the diagram below. The temperature in each beaker was measured over time and the readings were plotted on a graph.



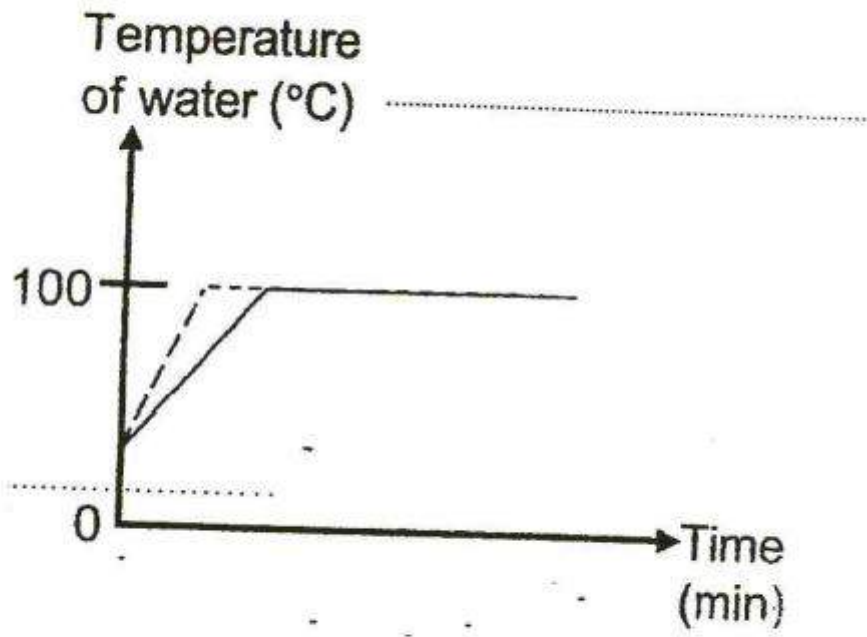
Which one of the following graphs correctly shows the temperature of water over a period of time?



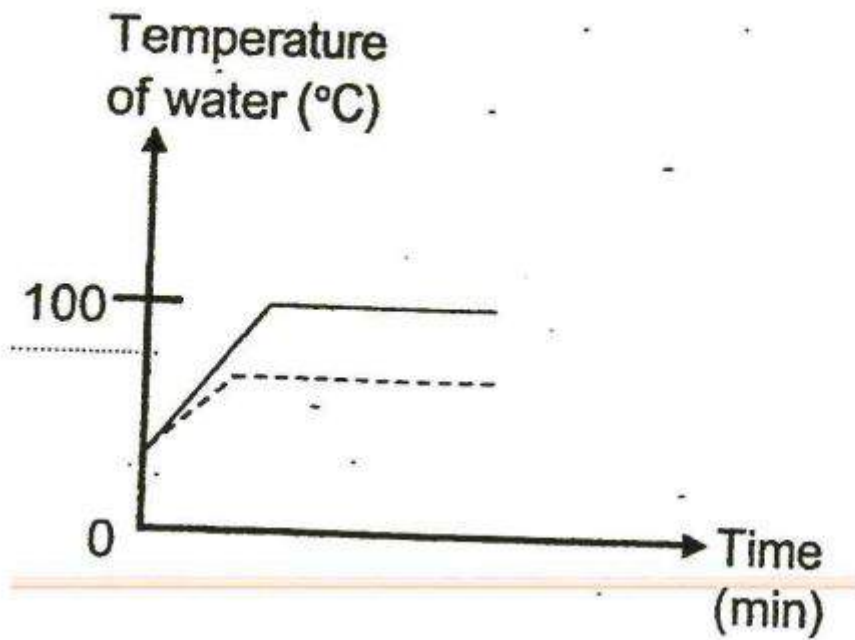
A)



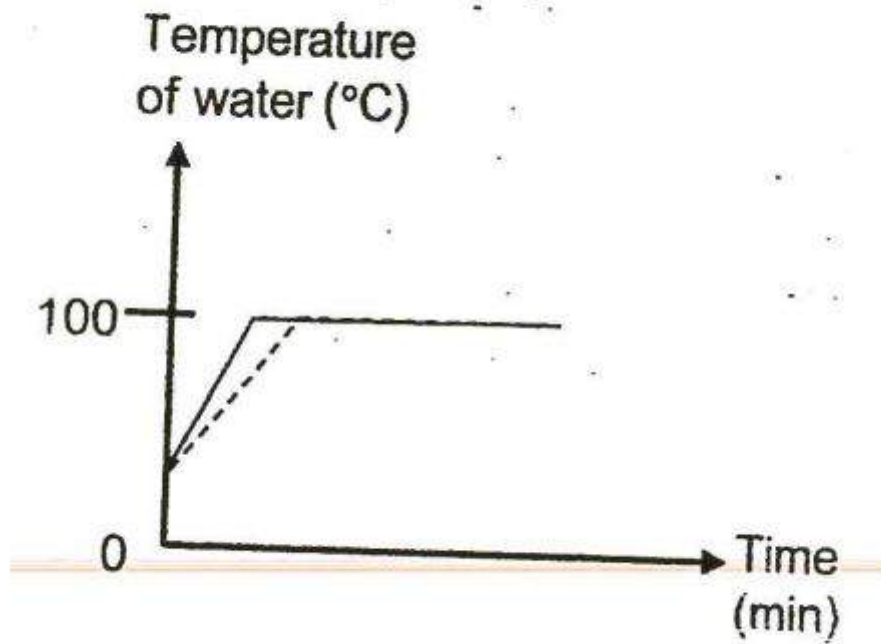
B)



C)



D)

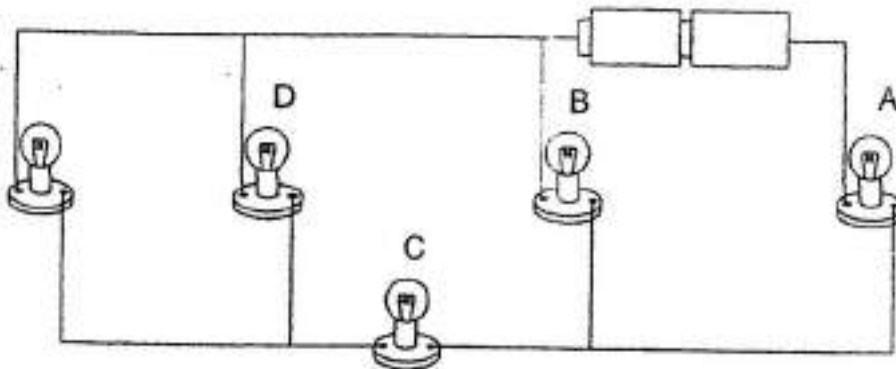


Question 14 of 64

Primary 5 Science (Term 4)

2 pts

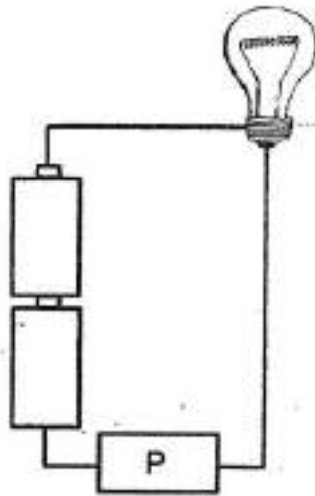
The diagram below shows five identical bulbs connected to two batteries. One of the bulbs was faulty and only two bulbs remained lit up.



Which bulb, A, B, C or D, was faulty?

- A) A
- B) B
- C) C
- D) D

Ruth sets up an electric circuit using a bulb, some batteries and an object P, as shown below.

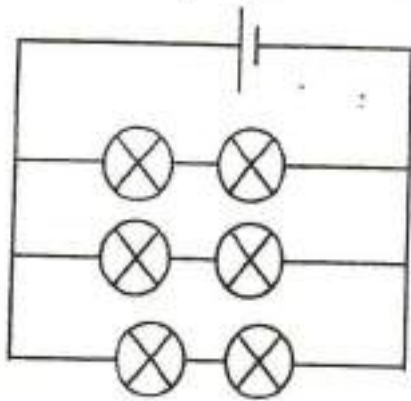


She wants to find out how the number of bulbs arranged in series affects the brightness of each bulb. In order to ensure a fair test, which of the following variables must she keep constant?

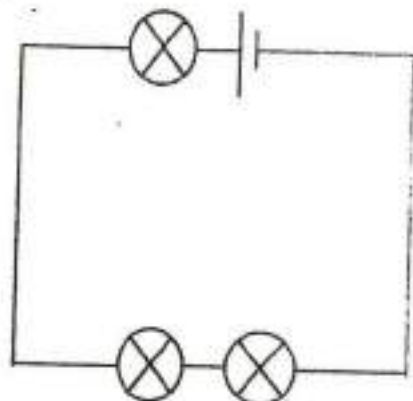
- A Number of bulbs
- B Brightness of bulbs
- C Number of batteries
- D Type of material for object P

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

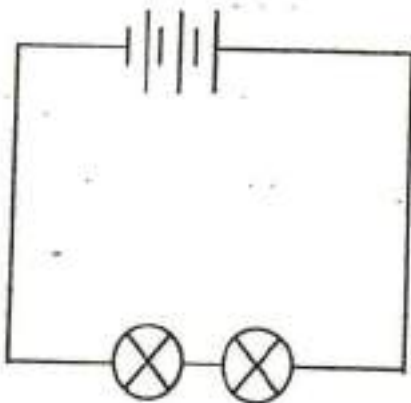
Study the circuit diagrams below.



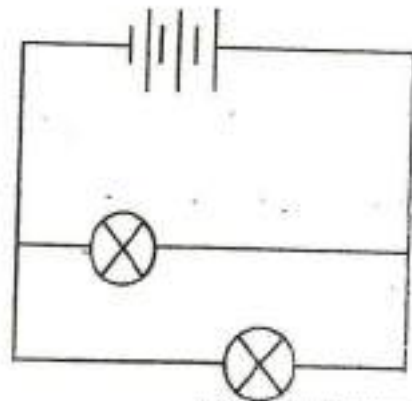
circuit E



circuit F



circuit G



circuit H

Which one of the following correctly arranges the bulbs in each circuit from the dimmest to the brightest?

- A)

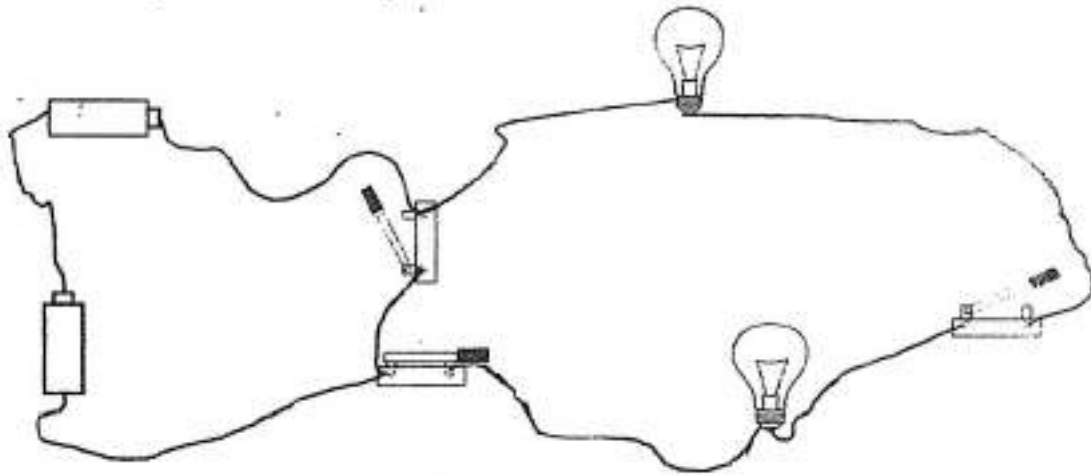
Dimmest	--	->	Brightest
E	F	G	H
- B)

Dimmest	--	->	Brightest
F	E	G	H
- C)

Dimmest	--	->	Brightest
F	H	G	E
- D)

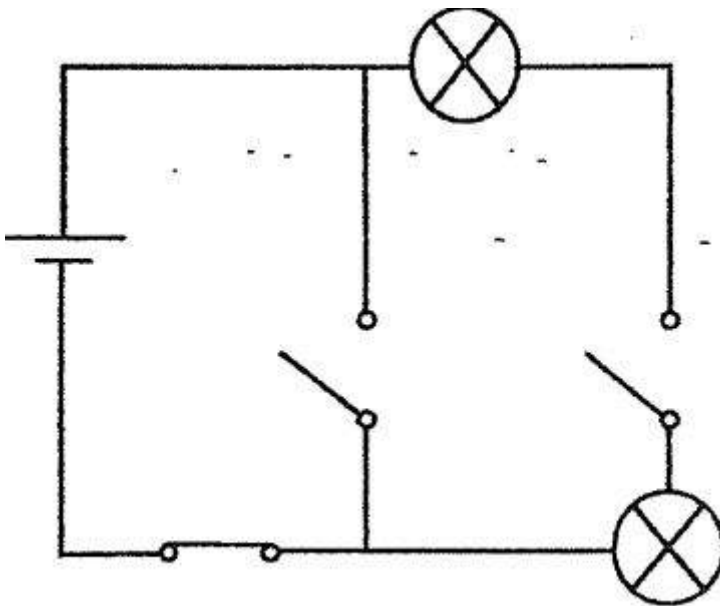
Dimmest	--	->	Brightest
H	G	E	F

Study the circuit below.

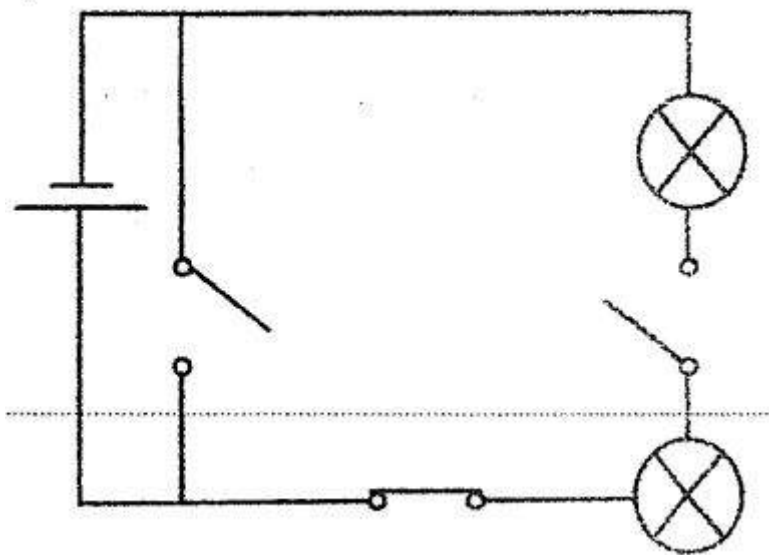


Which one of the following circuit diagrams correctly represents the set-up above?

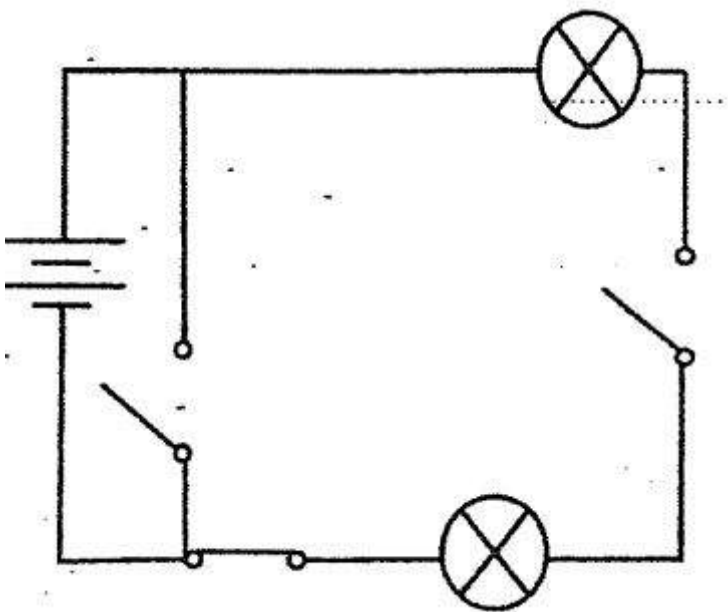
A)



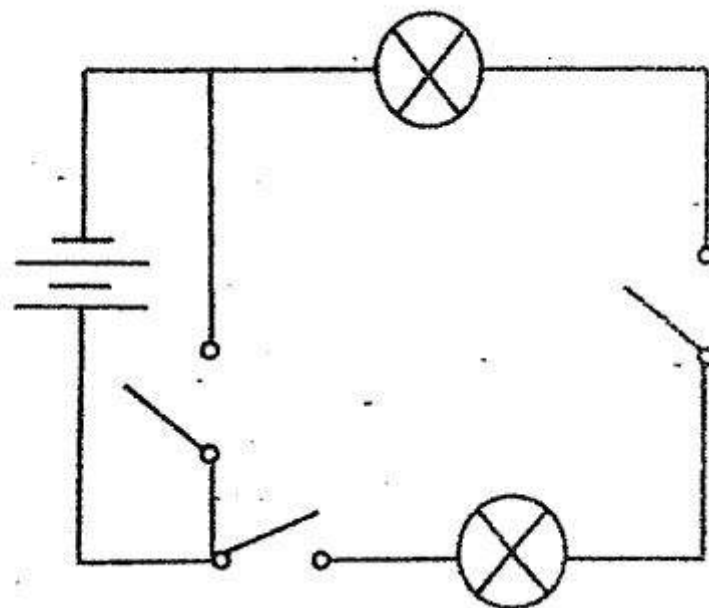
B)



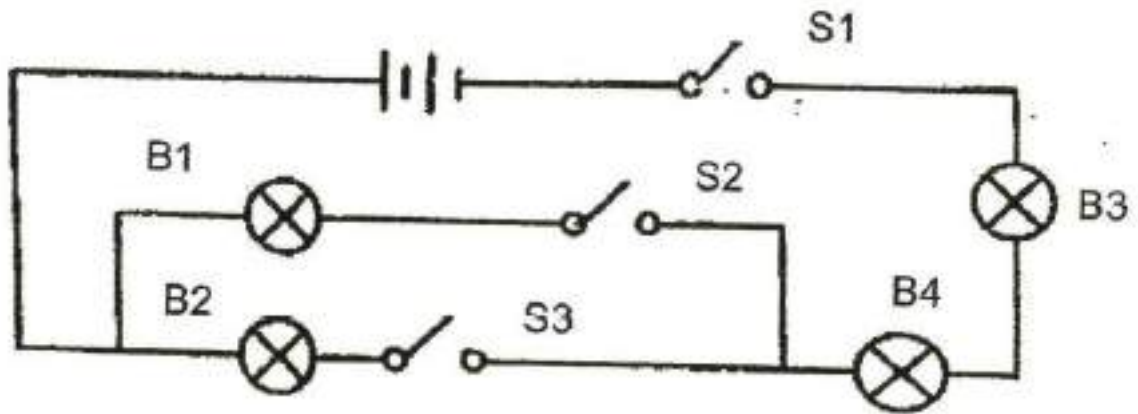
C)



D)



Study the circuit below.



Which one of the following is correct?

- A)

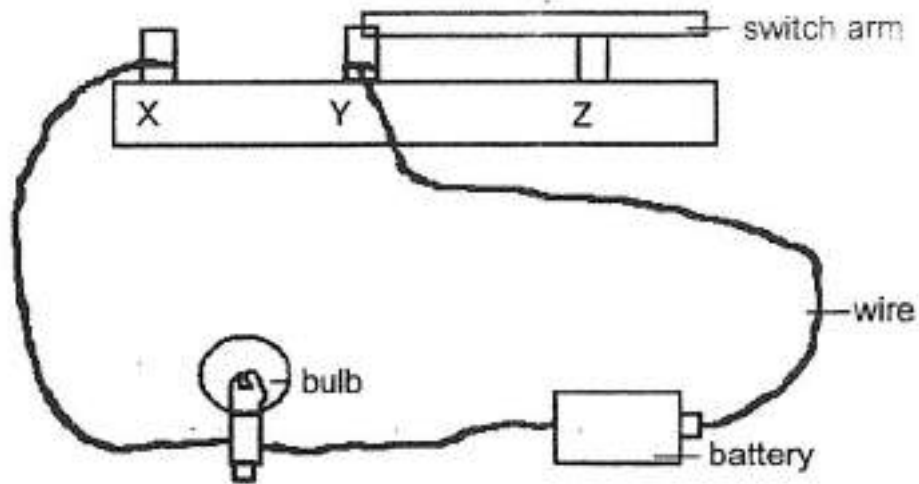
Switches closed	Bulbs that would light up
S1 only	B3 only
- B)

Switches closed	Bulbs that would light up
S1 and S3	B2, B3 and B4 only
- C)

Switches closed	Bulbs that would light up
S2 and S3	B1 and B2 only
- D)

Switches closed	Bulbs that would light up
S1, S2, S3	B1, B2 and B3 only

Keith connected the circuit as shown below using a battery, a bulb, a switch and some wires which were all in working condition. He observed that the bulb did not light up.

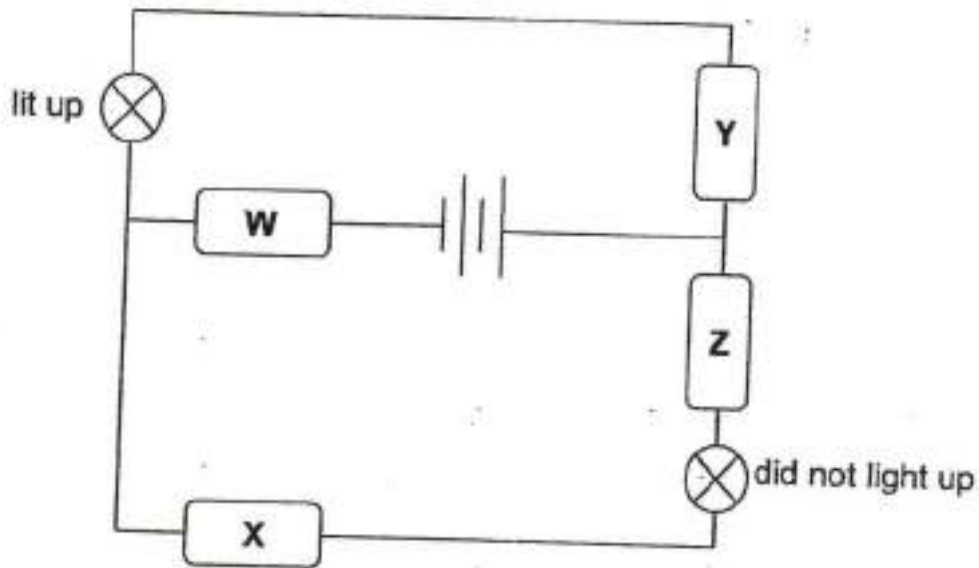


What should Keith do to get the bulb to light up?

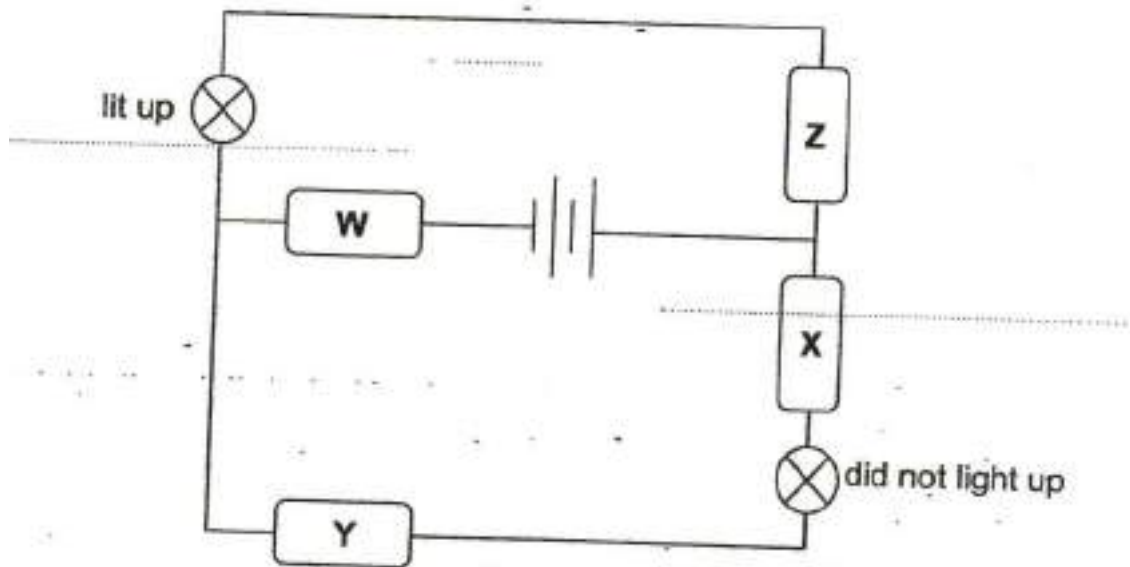
- A Swing the switch arm from point Z to X.
- B Connect the wire from point Y to point Z.
- C Connect one of the wires to the metal tip of the bulb instead of connecting both to the metal casing.

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

Emilie had four bars of different materials, W, X, Y and Z. She connected them in a circuit and recorded her observations as shown in the diagram below.



She then rearranged the positions of the 4 bars as shown in the diagram below and recorded her observations again.



Based on her results, which of the following show the possible materials that bars W, X, Y and Z could be made of?

- A)

Bar W	Bar X	Bar Y	Bar Z
aluminium	glass	copper	iron
- B)

Bar W	Bar X	Bar Y	Bar Z
plastic	rubber	glass	aluminium
- C)

Bar W	Bar X	Bar Y	Bar Z

glass	plastic	wood	iron
-------	---------	------	------

D)

Bar W	Bar X	Bar Y	Bar Z
copper	wood	iron	rubber

Question 21 of 64

Primary 5 Science (Term 4) 2 pts

Which one of the following statements is an example of safety in using electricity?

- A) Switch off the lights when not in use.
- B) Plug in multiple appliances into the same socket.
- C) Use energy-saving electrical appliances.
- D) Dry your hands before handling electrical appliances.

Question 22 of 64

Primary 5 Science (Term 4) 2 pts

The table below shows the amount of electricity used in one minute by an ordinary light bulb and a LED bulb to produce different degrees of brightness.

Brightness (units)	Amount of electricity used per minute	
	One ordinary light bulb (units)	One LED bulb (units)
450	40	10
800	60	15
1100	75	20

Based on the table above, which one of the following can be concluded?

- A) The ordinary light bulb is able to last longer than the LED bulb.
- B) The ordinary light bulb conserves more electricity than the LED bulb.
- C) The LED bulb is dimmer than the ordinary light bulb as it uses less electricity.
- D) The LED bulb produces the same brightness as the ordinary light bulb but it uses less electricity.

Study the following actions.

- A Push a 5 kg bag of flour up a slope over a distance of 2 m.
- B Push a 2 kg bag of flour on a flat ground over a distance of 2 m.
- C Push a 5 kg bag of flour on a flat ground over a distance of 2 m.
- D Push a 2 kg bag of flour in a trolley on a flat ground over a distance of 2 m.

Arrange the above actions according to the amount of force required to perform each action, starting with the action that uses the most amount of force.

- A)

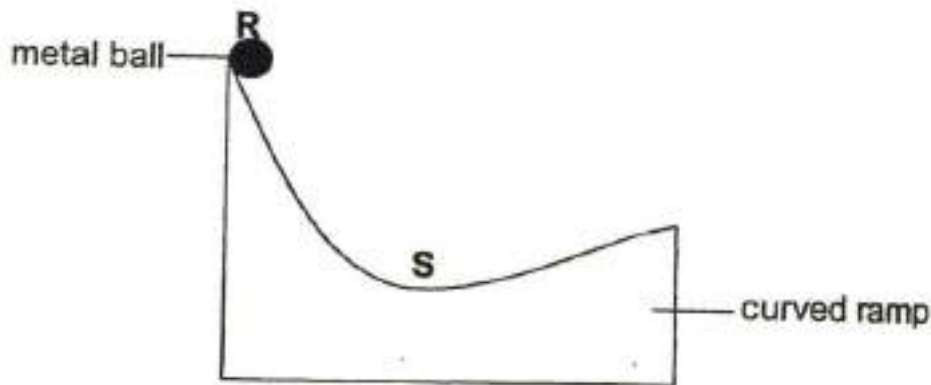
Most force			Least force
A	B	C	D
- B)

Most force			Least force
A	C	B	D
- C)

Most force			Least force
D	B	C	A
- D)

Most force			Least force
D	C	B	A

Mr Lim set up the experiment as shown in the diagram below to find out how liquids, A, B, C and D, will reduce the amount of friction between the ball and the surface of the curved ramp.



He coated the ramp with a certain amount of liquid A and released the metal ball from point R. The ball rolled up and down the curved ramp for some time before it came to rest at point S.

He repeated the test with liquids B, C and D, and recorded the time taken for the ball to come to rest in the table below.

Liquids	Time taken for the ball to come to rest (s)
A	10
B	9
C	26
D	38

Which liquid should Mr Lim choose to apply to a door hinge so that he could open the door most smoothly?

- A) A
- B) B
- C) C
- D) D

Wen Jun was playing with a piece of rubber tube as shown in diagram X below.



Diagram X



Diagram Y



Diagram Z

He bent and stretched the tube as shown in diagram Y and Z respectively.

Which of the following statements are correct about what has happened to the rubber tube?

- A Both pulling and pushing forces were applied on the tube.
- B Both pulling and pushing forces had changed the mass of the tube.
- C Both pulling and pushing forces had changed the shape of the tube.

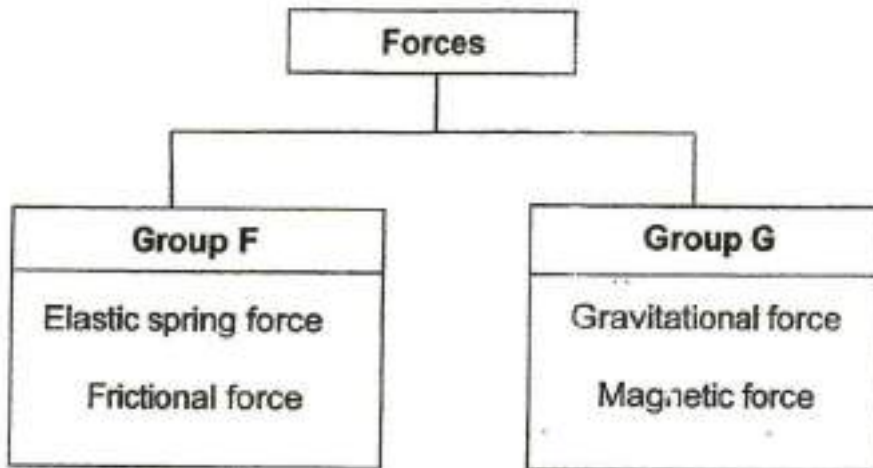
- A) A and B only
- B) A and C only
- C) B and C only
- D) A, B and C

Which of the following activities require friction to be present?

- A Climbing the stairs
- B Driving on the road
- C Running on the track

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

Study the classification chart below.



Which of the following is the most suitable heading to represent Groups F and G?

- A)

Group F	Group G
Cause objects to have mass	Cause objects to have weight
- B)

Group F	Group G
Contact forces	Forces act a distance
- C)

Group F	Group G
Do not produce heat	Produce heat
- D)

Group F	Group G
Push force	Pull force

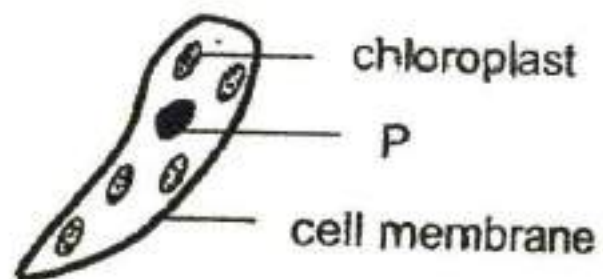
The diagram below shows a man surfing.



Which one of the following changes cannot be caused by the waves on the surfboard?

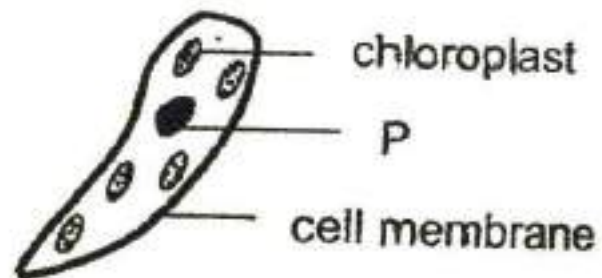
- A) Change in mass
- B) Change in speed
- C) Change in position
- D) Change in direction of movement

The diagram below shows a single-celled organism.



Part P controls all cell activities. Identify part P.

The diagram below shows a single-celled organism.

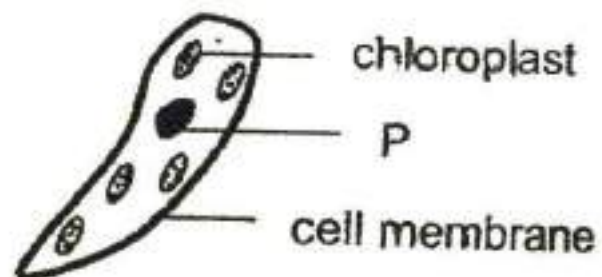


Other than the function stated in the previous question, state another function of part P. (1 mark)

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.

The diagram below shows a single-celled organism.



State one difference between the organism above and a leaf cell. (1 mark)

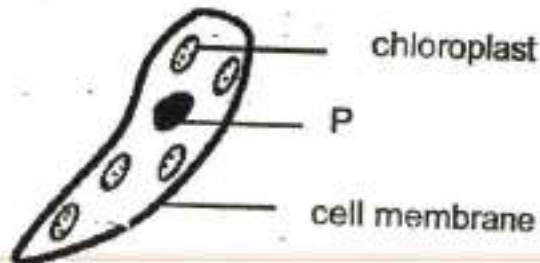
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Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.

Study the diagram below.

[1]

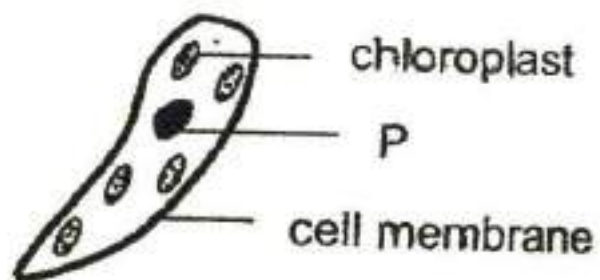
(i) Label the cytoplasm, in the diagram below.



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.

The diagram below shows a single-celled organism.



State the function of the cell membrane. (0.5 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.

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 34 of 64

Primary 5 Science (Term 4) 0 pts

Mrs Lim measured Elaine's heart rate after Elaine had engaged in two different activities for 10 minutes. They repeated each activity 3 times and recorded the results in the table below.

Activities	Heart rate (beats per minute)		
	1 st try	2 nd try	3 rd try
Reading	68	70	71
Cycling	95	100	120

State the aim of their 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 35 of 64

Primary 5 Science (Term 4) 0 pts

Mrs Lim measured Elaine's heart rate after Elaine had engaged in two different activities for 10 minutes. They repeated each activity 3 times and recorded the results in the table below.

Activities	Heart rate (beats per minute)		
	1 st try	2 nd try	3 rd try
Reading	68	70	71
Cycling	95	100	120

Based on the results above, compare and explain the differences in Elaine's heart rate during the two activities. (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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Mrs Lim measured Elaine's heart rate after Elaine had engaged in two different activities for 10 minutes. They repeated each activity 3 times and recorded the results in the table below.

Activities	Heart rate (beats per minute)		
	1 st try	2 nd try	3 rd try
Reading	68	70	71
Cycling	95	100	120

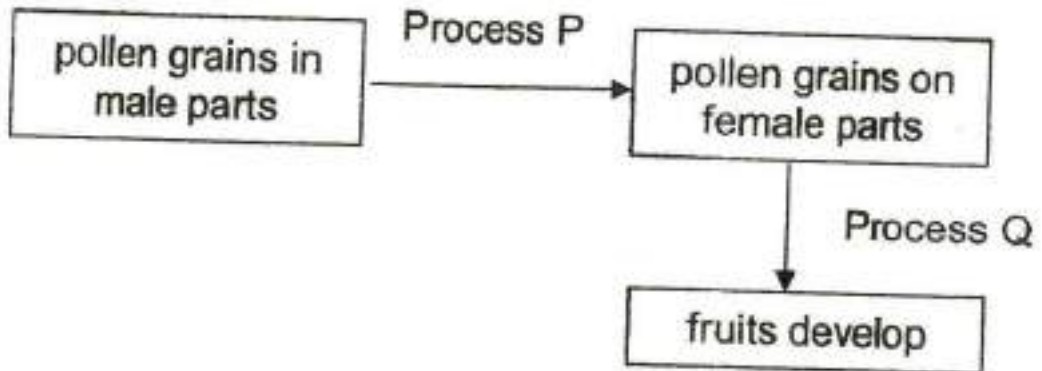
Elaine went on a holiday to City X. The air in City X contains lower oxygen level than the air in Singapore. When she reached City X, she realised that her breathing rate had increased.

Based on the information above, explain why Elaine's breathing rate had to increase when she reached City X. [1]

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.

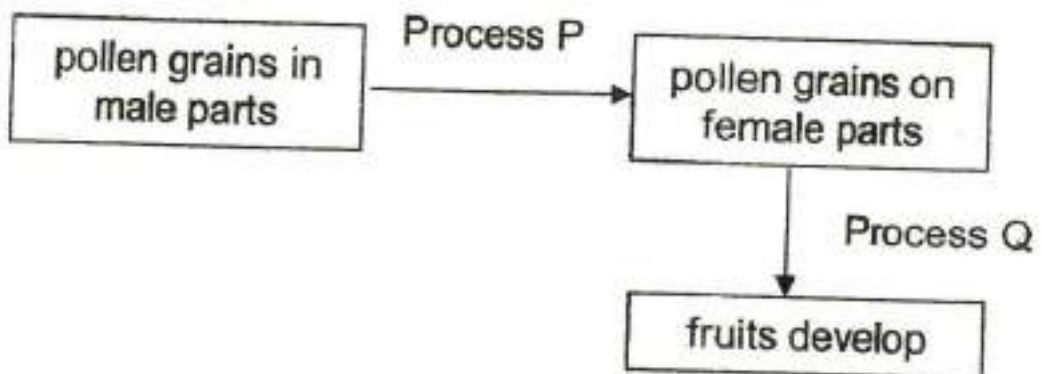
Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.

Study the diagram below.



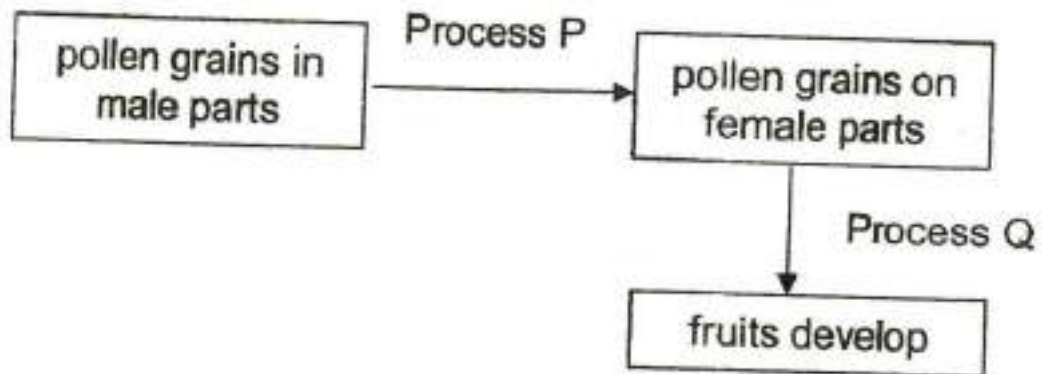
Identify process P.

Study the diagram below.



Identify Process Q.

Study the diagram below.

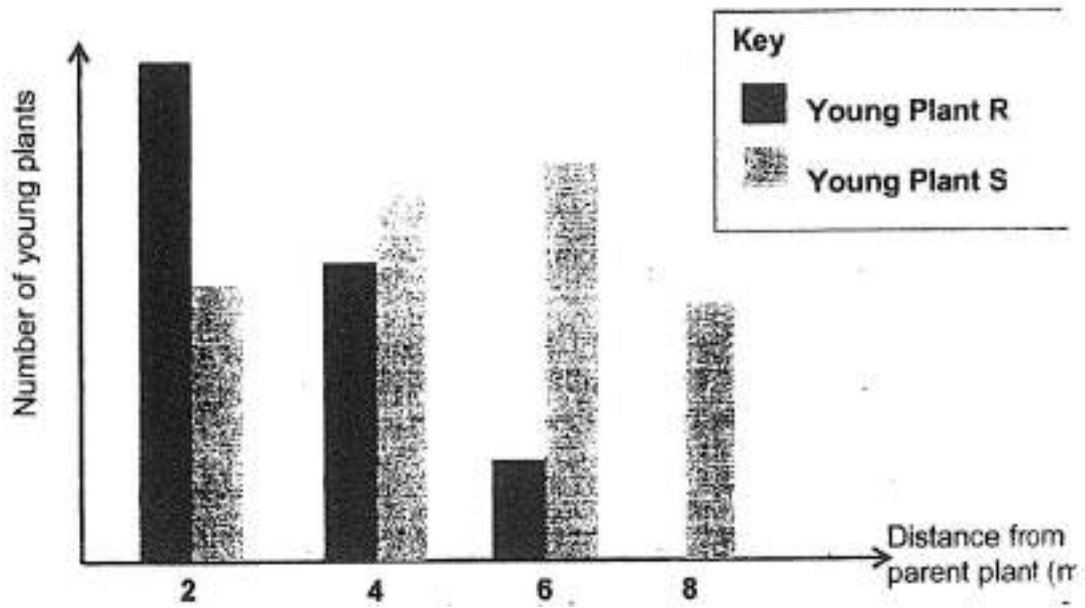


Describe what happen during processes P and Q. (2 marks)

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.

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.

Jun Qi carried out an experiment with two types of young plants, R and S. She measured the number of young plants at different distance from their parent plants in a garden. The results are shown in the graph below.



Choose the answer that most likely represents the fruit of Plant R.

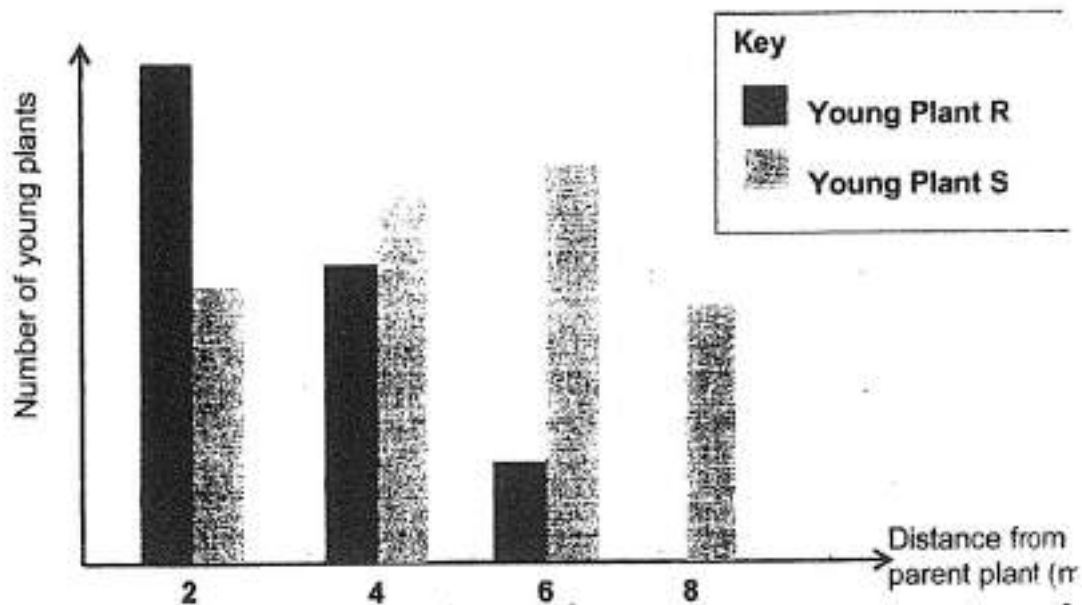
A)



B)



Jun Qi carried out an experiment with two types of young plants, R and S. She measured the number of young plants at different distance from their parent plants in a garden. The results are shown in the graph below.

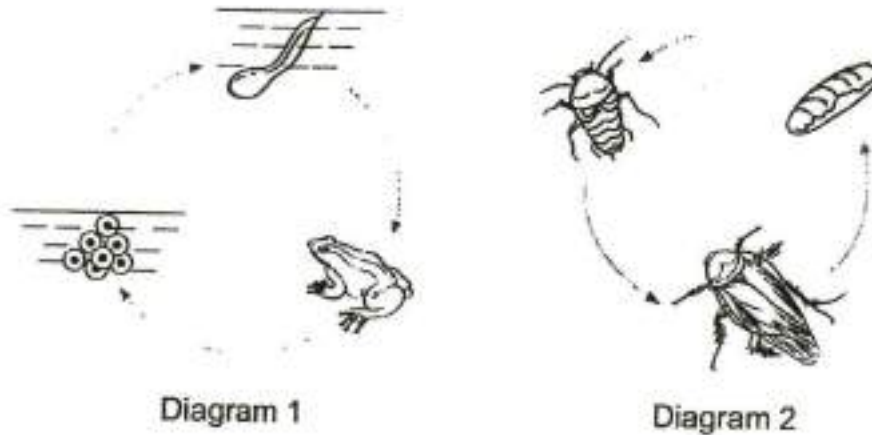


Using the results shown in the graph above, explain your answer in the previous question. (1 mark)

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The life cycles of a frog and a cockroach are shown in diagrams 1 and 2 below.



Based on the diagrams above, state one similarity between the life cycle of the frog and the life cycle of a cockroach. (1 mark)

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The life cycles of a frog and a cockroach are shown in diagrams 1 and 2 below.

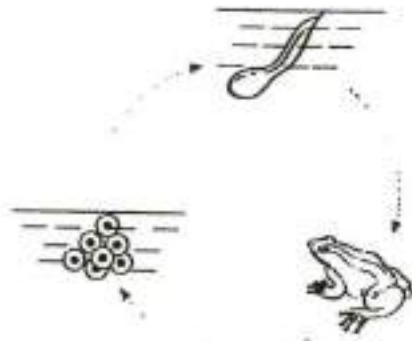


Diagram 1

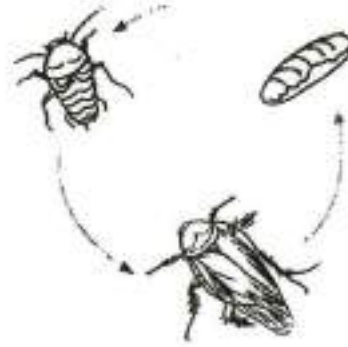


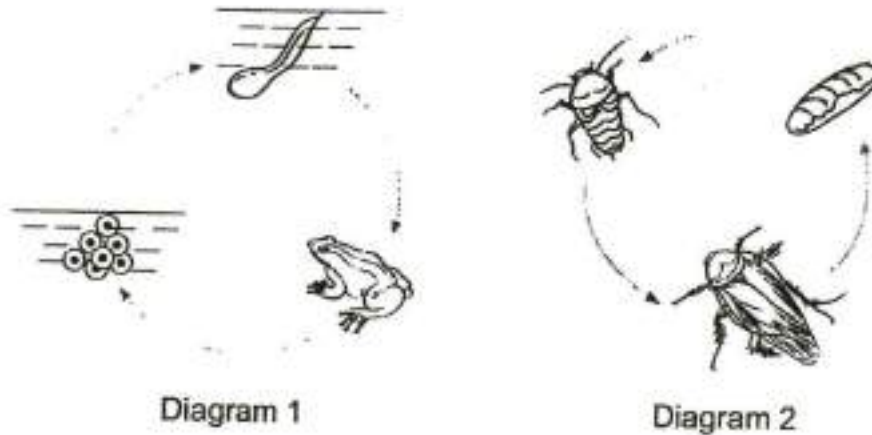
Diagram 2

Based on the diagrams above, state two differences between the life cycle of the frog and the life cycle of a cockroach. (2 marks)

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The life cycles of a frog and a cockroach are shown in diagrams 1 and 2 below.



In what way is the life cycle of the cockroach different from the life cycle of a mosquito? (1 mark)

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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.

Shi Qi carried out the following steps for her Science project.

Step	Method
1	Put the same type and amount of soil into five similar pots
2	Plant five soya bean seedlings in each pot
3	Place the pots in the same area in her garden
4	Water each pot with the same amount of water each day

Shi Qi added different amount of fertilisers to each of the pots daily. She then measured and recorded the height of the seedlings in each pot on the tenth day.

The table below shows the results.

Pot	A	B	C	D	E
Amount of fertiliser given per day (ml)	10	20	30	40	50
Average height of seedlings in each pot (cm)	8	11	14	10	7

What was the changed variable in Shi Qi's 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.

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The table below shows the results.

Pot	A	B	C	D	E
Amount of fertiliser given per day (ml)	10	20	30	40	50
Average height of seedlings in each pot (cm)	8	11	14	10	7

Using the table above, state the relationship between the average height of seedlings in each pot and the amount of fertiliser given per day? (2 marks)

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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.

The diagram below shows Kelly brushing her teeth.

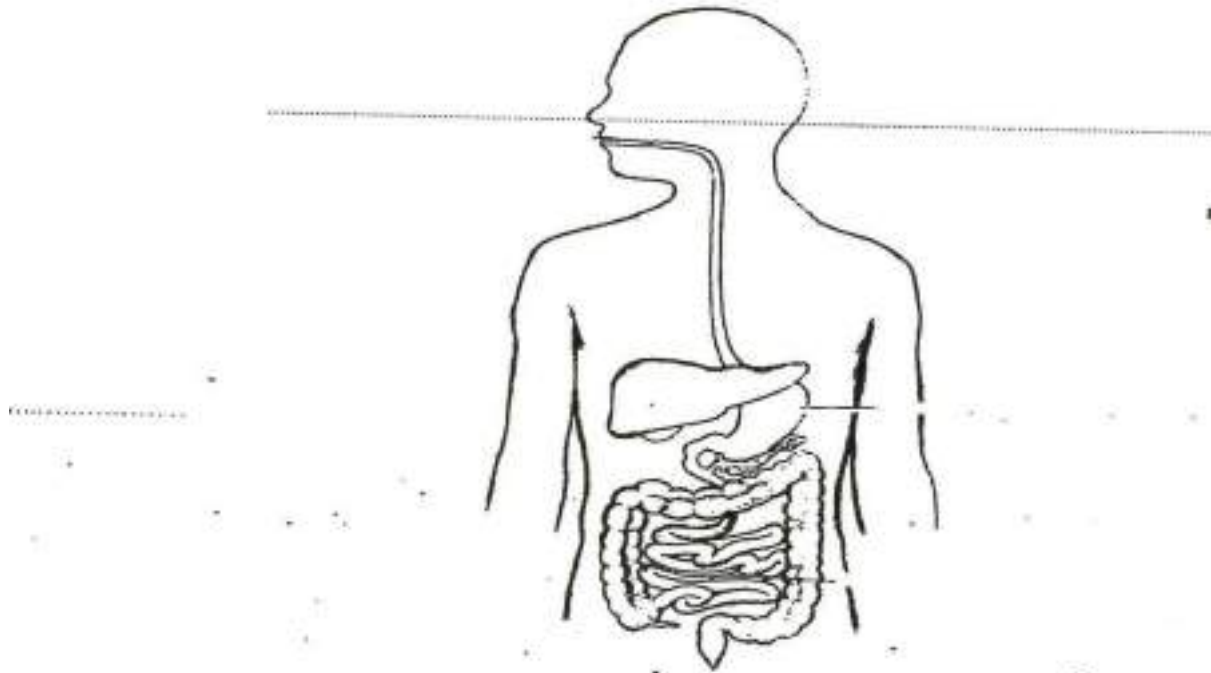


Explain how the muscular system and skeletal system work together to enable Kelly to brush her teeth. [2]

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.

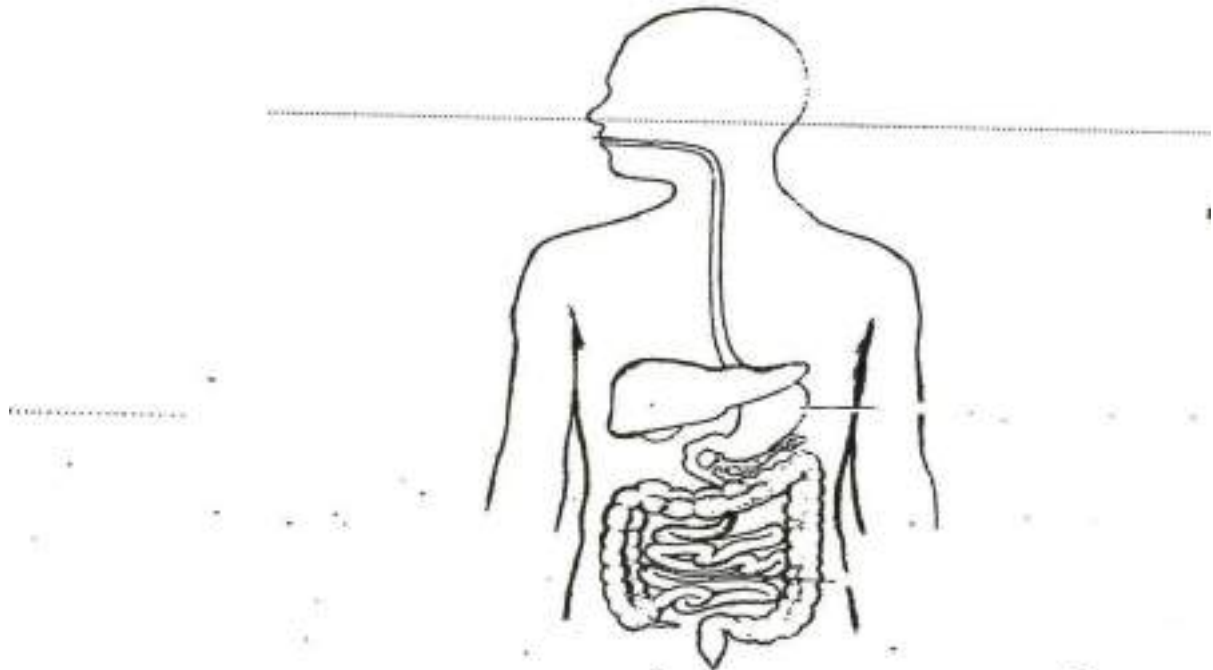
Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.

The diagram below represents the human digestive system.



In the diagram above, label all the parts to show where digestion takes place. (2 marks)

The diagram below represents the human digestive system.



State what happens to the digested food when digestion had been completed. (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.

A baby's digestive system is not fully developed. ~~Many baby food~~ ^{Baby food} are cut ^{is cut} into smaller pieces before feeding them to the baby.

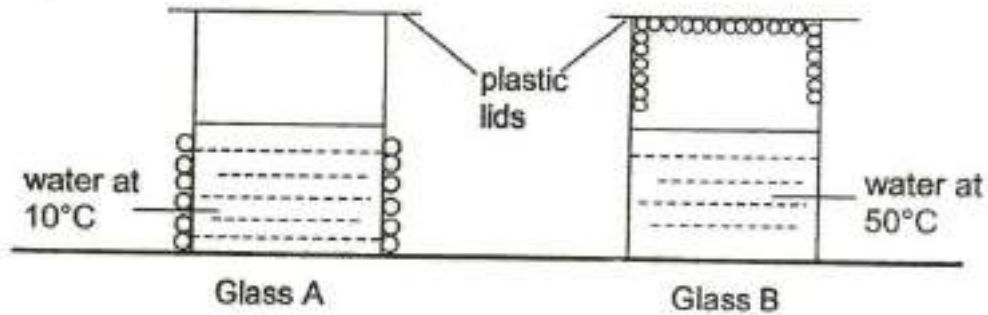


Explain how cutting the food into smaller pieces help in their digestion. [1]

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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.

Mark put two identical glasses, A and B, on the table in his garden. He poured the same amount of water into each glass. The temperatures of the water in glasses A and B were 10°C and 50°C respectively. After 10 minutes, he observed that there were tiny water droplets as shown in the diagram below.

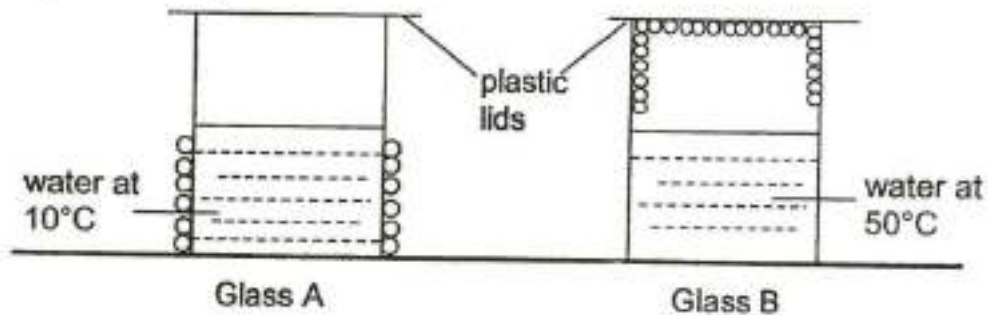


Based on his observation, state a possible surrounding temperature in his garden. (1 mark)

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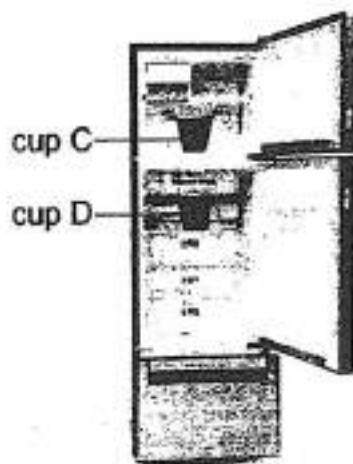
Based on your answer in the previous question, explain how the water droplets in glass A and B were formed. (2 marks)

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.

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.

Mary has two identical cups of water, C and D, as shown in the diagram below. She placed cup C in the freezer and cup D in the chiller compartment of the refrigerator.

After five hours, she observed that the water in cup C turned into ice while the water in cup D remained in the liquid state.

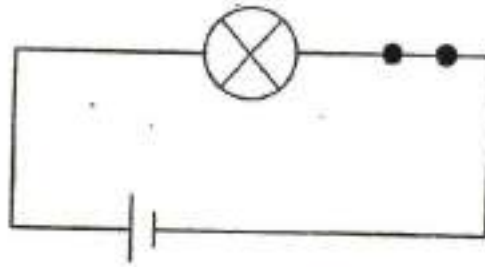


Explain why the water in cup C turned into ice while the water in cup D remained in the liquid state. [1]

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.

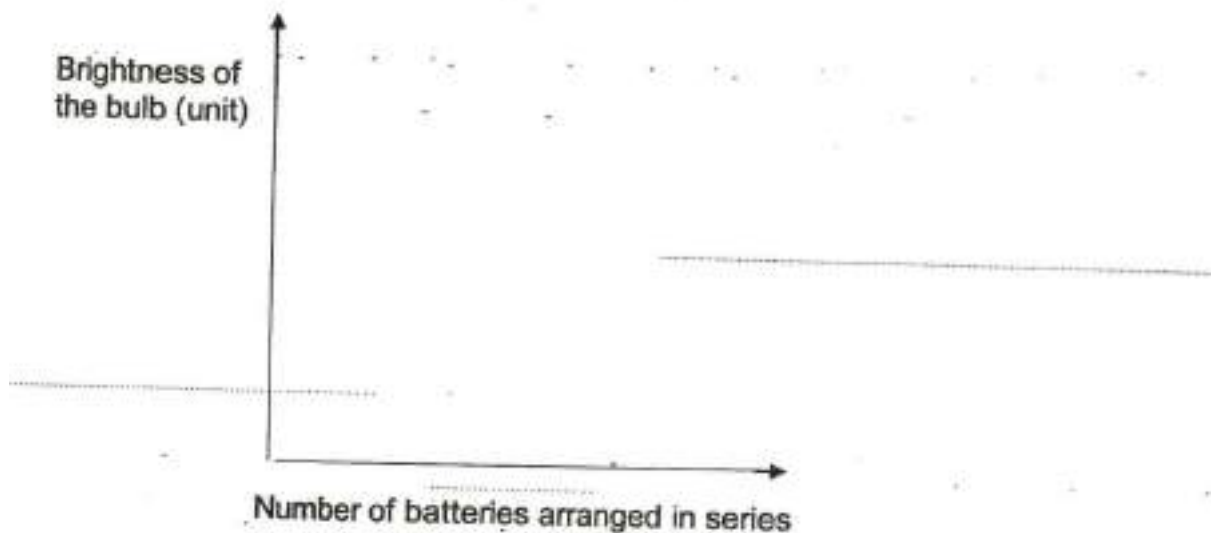
Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.

Keshia set up the circuit as shown below.



She added one battery at a time, in series, to the circuit. She measured the brightness of the bulb with a datalogger and light sensor until she had used four batteries in total. The datalogger still detected light at this point.

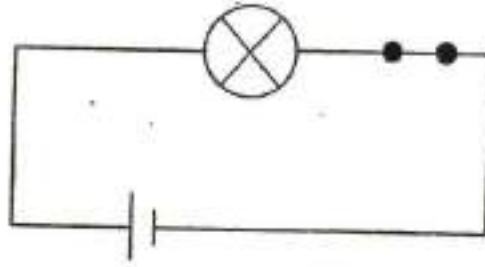
Draw a line graph below to show the relationship between the number of batteries arranged in series in the circuit and the brightness of the bulb. [1]



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Keshia set up the circuit as shown below.



She added one battery at a time, in series, to the circuit. She measured the brightness of the bulb with a datalogger and light sensor until she had used four batteries in total. The datalogger still detected light at this point.

When she added the fifth battery, the brightness of the bulb became zero. Explain her observation. (1 mark)

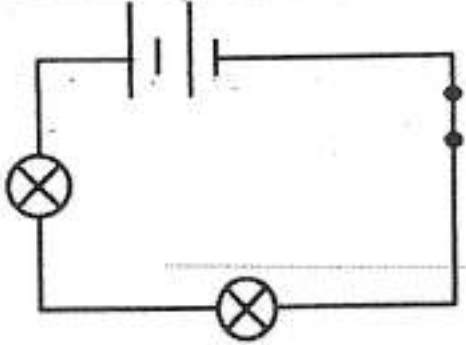
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During a Science competition, students were asked to construct circuit B such that:

- all the bulbs, batteries and switch are used in the circuit
- the brightness of each bulb in circuit B is the same as each bulb in circuit A.

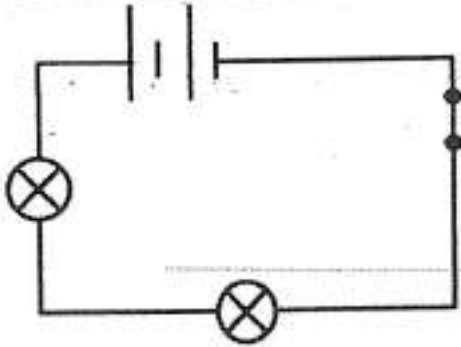
Using symbols, draw a circuit diagram in the box below to represent circuit B. [2]

Circuit A	Circuit B
Items given: <ul style="list-style-type: none"> • two batteries • two bulbs • some wires • one switch 	Items given: <ul style="list-style-type: none"> • two batteries • four bulbs • some wires • one switch
	(a)

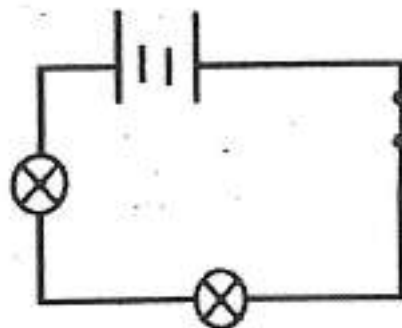
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Using symbols, draw a circuit diagram in the box below to represent circuit B. [2]

Circuit A	Circuit B
Items given: <ul style="list-style-type: none"> • two batteries • two bulbs • some wires • one switch 	Items given: <ul style="list-style-type: none"> • two batteries • four bulbs • some wires • one switch
	(a)

Circuit A was re-arranged to form circuit C as shown in the diagram below.



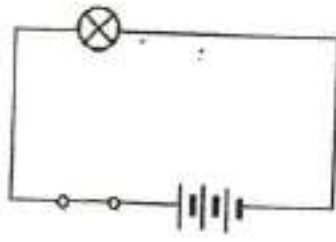
Circuit C

Give a reason why the bulbs in circuit C did not light up. [1]

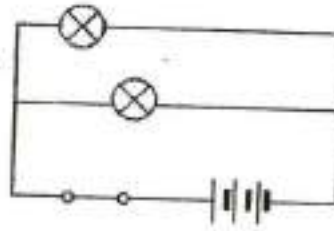
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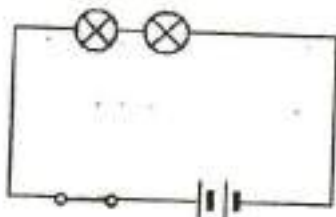
Four electric circuits, A, B, C and D, using identical batteries and bulbs are shown below.



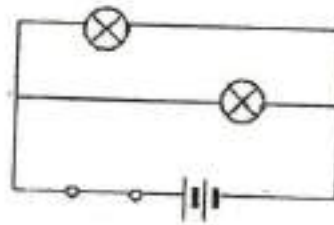
Change A circuits



Change B circuit



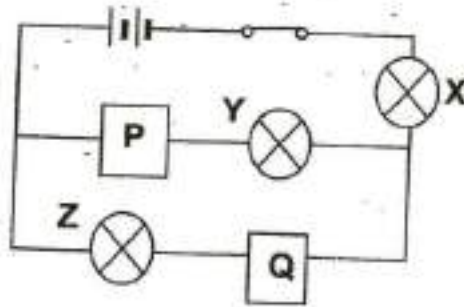
Change C circuit



Change D circuit

Based on the diagram above, which two electrical circuits are the bulbs of equal brightness?

Malcom constructed another circuit with two rods, P and Q, of unknown materials as shown in the diagram below. He observed that bulb X and Z lighted up but bulb Y did not light up.



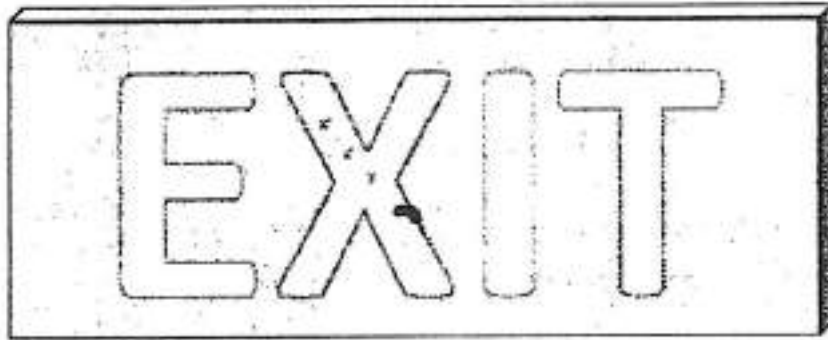
Based on the Malcom's observations, state a possible reason why bulb Y did not light up. [1]

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Based on your answer in the previous question, state the possible material of rod P.

While shopping, Malcom saw a sign with a faulty signboard as shown in the diagram below. Only letters 'E', 'I' and 'T' lit up but letter 'X' was not lit up.

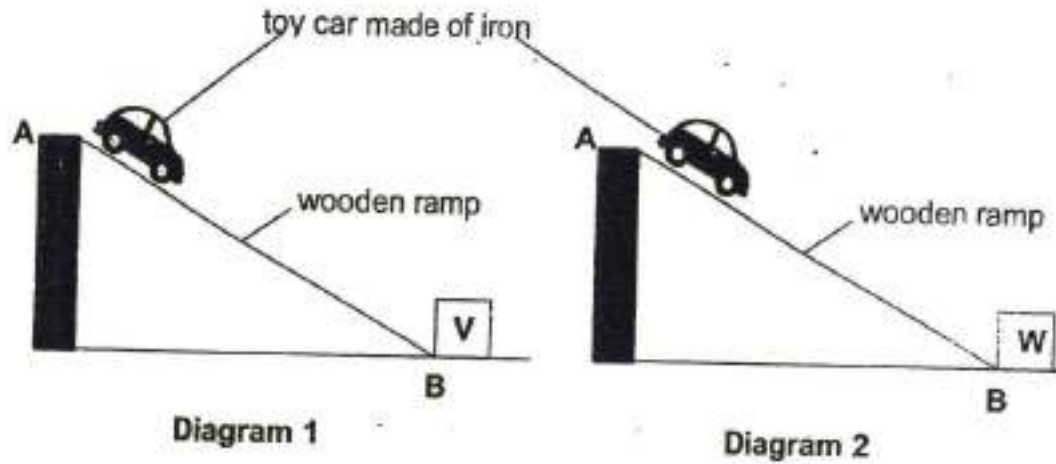


Explain, based on circuit arrangement, how the three letters, 'E', 'I' and 'T' could light up even though X did not light up. [2]

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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.

Lily conducted an experiment, as shown below, to show the effects of different type of forces. Object V and W were made of different materials.

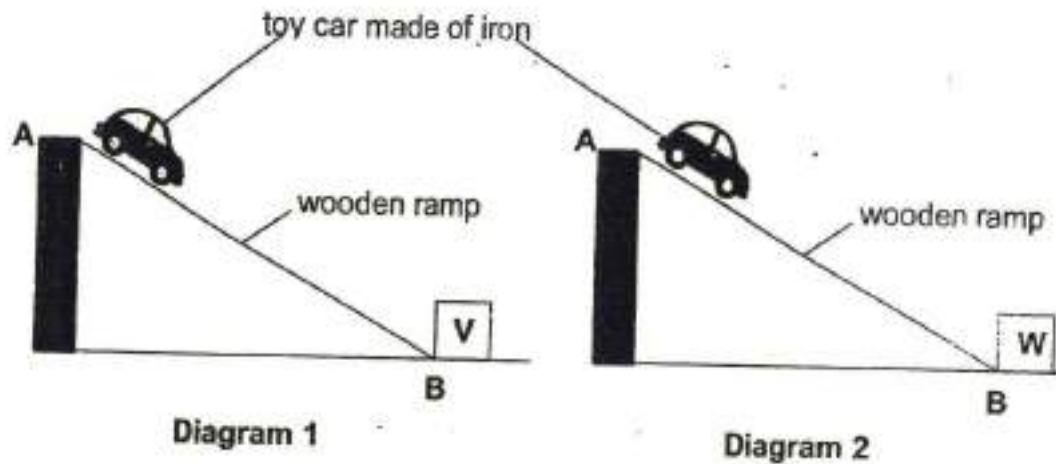


She released the toy cars from the top of the ramp and recorded the time taken for the toy car to move from A to B.

	Time taken (s)		
	1 st try	2 nd try	3 rd try
Diagram 1	10	11	10
Diagram 2	8	7	7

State all the forces acting on the toy car in Diagram 1 when it was placed at the top, moving down the ramp. (1 mark)

Lily conducted an experiment, as shown below, to show the effects of different type of forces. Object V and W were made of different materials.



She released the toy cars from the top of the ramp and recorded the time taken for the toy car to move from A to B.

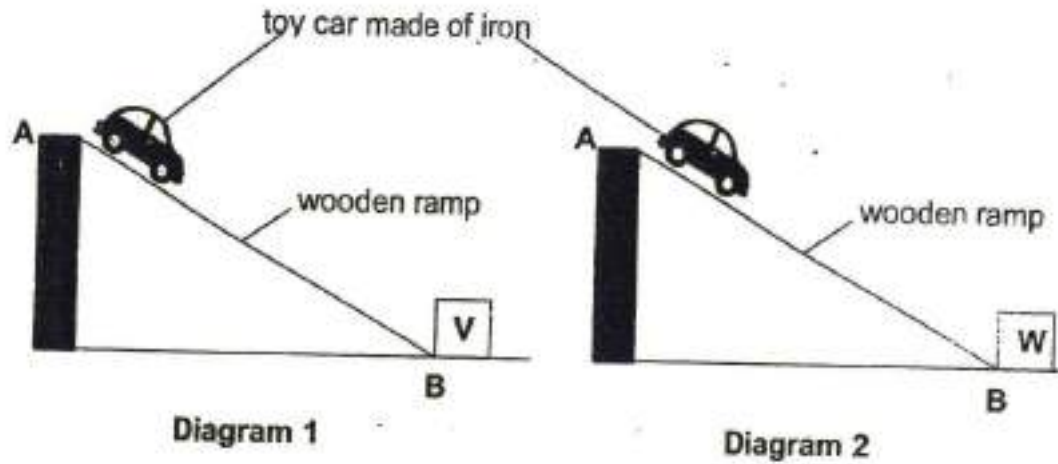
	Time taken (s)		
	1 st try	2 nd try	3 rd try
Diagram 1	10	11	10
Diagram 2	8	7	7

Explain, in terms of forces, the difference in the time taken for the toy car to travel from A to B in Diagram 1 and 2. (2 marks)

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	Time taken (s)		
	1 st try	2 nd try	3 rd try
Diagram 1	10	11	10
Diagram 2	8	7	7

Suggest what object W could be.
