

**Test:** Primary 5 Science (Term 2) - Catholic High

**Points:** 64 points

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

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

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

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

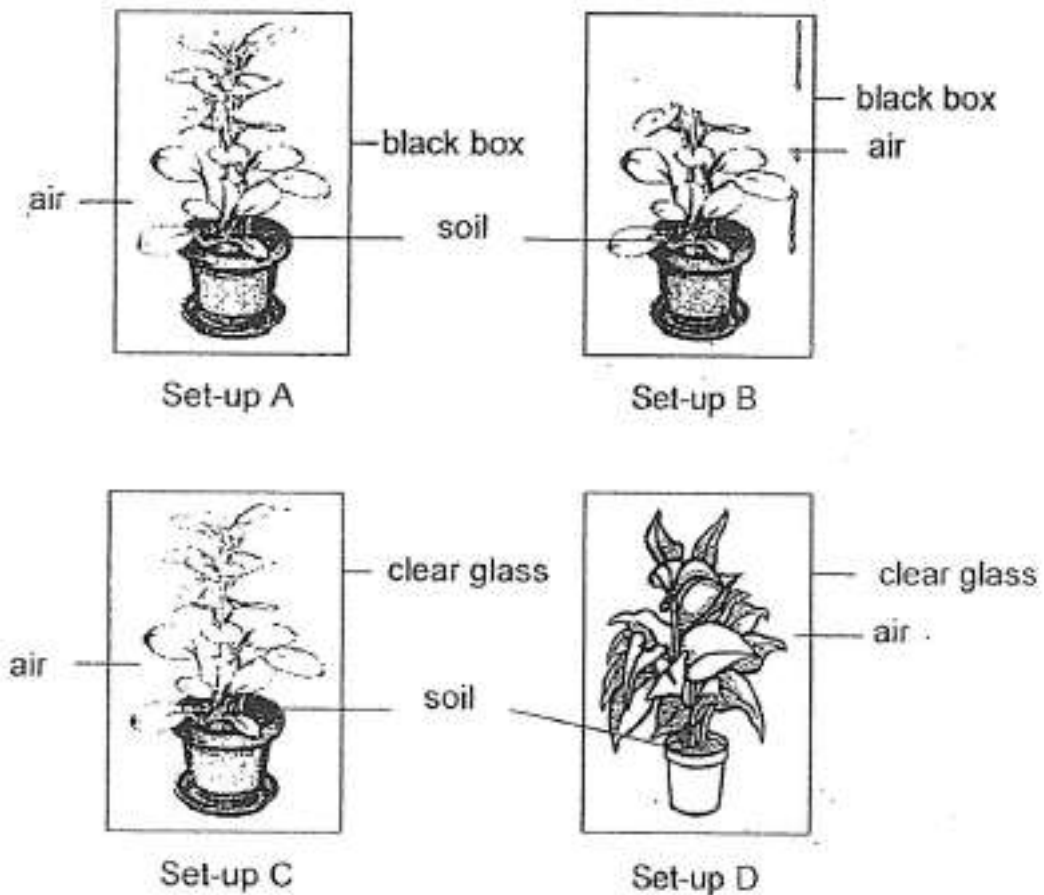
Select multiple choice answers with a cross or tick:

Only select one answer

Can select multiple answers

For each question, four options are given. One of them is the correct answer. Make your choice and choose the correct answer. (56 marks)

Dean prepared four set-ups, A, B, C and D. At the start of the experiment, he added 200 ml of water to each of the set-ups.



Which two set-ups should be used to find out if sunlight is needed for plants to grow?

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

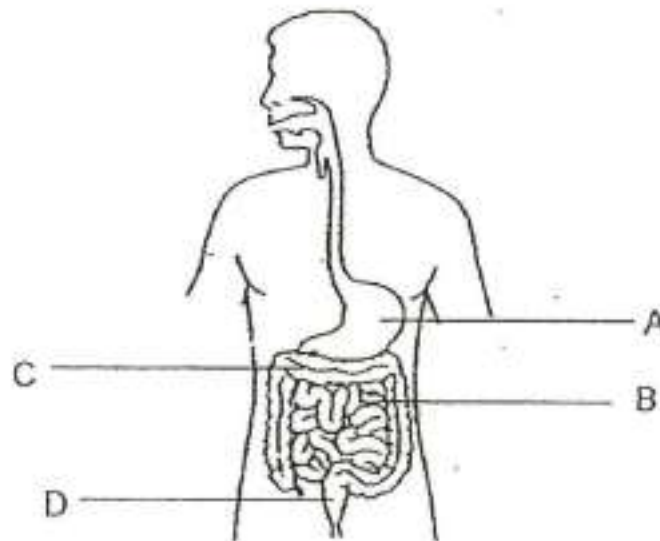
Four pupils made the following statements about the characteristics of yeast.

- Tim        Yeast is microscopic.  
Muthu     Yeast and bacteria are fungi.  
Wendy     Yeast only needs water and air to grow.  
Joe        Yeast and bacteria belong to the same animal group.

Which pupil(s) is/are correct?

- 
- A) Tim only  
 B) Muthu and Joe only  
 C) Joe and Wendy only  
 D) Muthu and Wendy only

The diagram below shows the human digestive system.



Which part of the human digestive system, A, B, C or D, absorbs water and mineral salts from undigested food?

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

Which of the following functions cannot be performed if the roots of a plant are damaged?

- A absorbing sunlight
- B taking in water and mineral salts
- C holding the plant firmly to the ground

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

Jenny observed three animals, A, B and C. She drew a table and placed a tick (✓) in the box when she made the observations. The completed table is as follows.

Observation	Animal		
	A	B	C
4 stages in the life cycle	✓		
Gives birth to young alive		✓	
Young resembles the adult		✓	✓
Moult several times at one stage of its life cycle	✓		✓

Which one of the following correctly represents animals A, B and C?

- A)
 

A	B	C
cockroach	elephant	butterfly
- B)
 

A	B	C
cockroach	butterfly	elephant
- C)
 

A	B	C
butterfly	cockroach	elephant
- D)
 

A	B	C
butterfly	elephant	cockroach

Study the diagram below.



Which one of the following statements is correct about the male part of a flower?

- 
- A) It is made up of only the stigma.
  - B) It is made up of only the filament.
  - C) It is made up of the stigma and style.
  - D) It is made up of the anther and the filament.

The statements below describe the different stages of sexual reproduction in flowering plants.

- A The seed develops.
- B The anther releases pollen grains.
- C Pollen grains are transferred to the stigma.
- D The male sex cell moves along the pollen tube towards the ovary.
- E The male sex cell fuses with the female sex cell.

Which of the following shows the correct order of the stages?

- 
- A) A → B → D → C → E
  - B) B → C → D → E → A
  - C) B → D → A → E → C
  - D) C → B → D → A → E

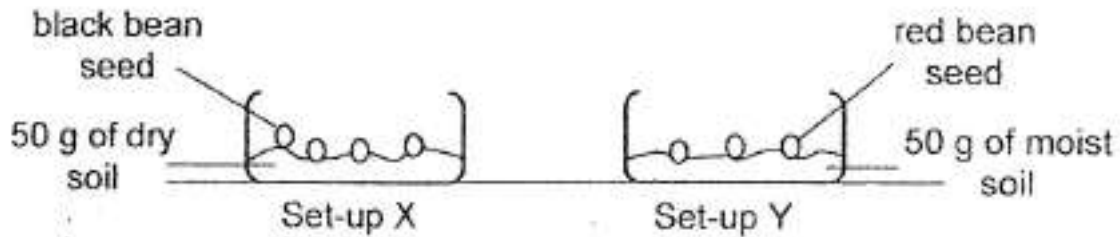
Study the diagram below.



What is the dispersal method for the fruit above?

- 
- A) by wind
  - B) by water
  - C) by animals
  - D) by explosive action

Joey conducted an experiment to find out if the presence of water would affect seed germination. She prepared the set-ups as shown below.



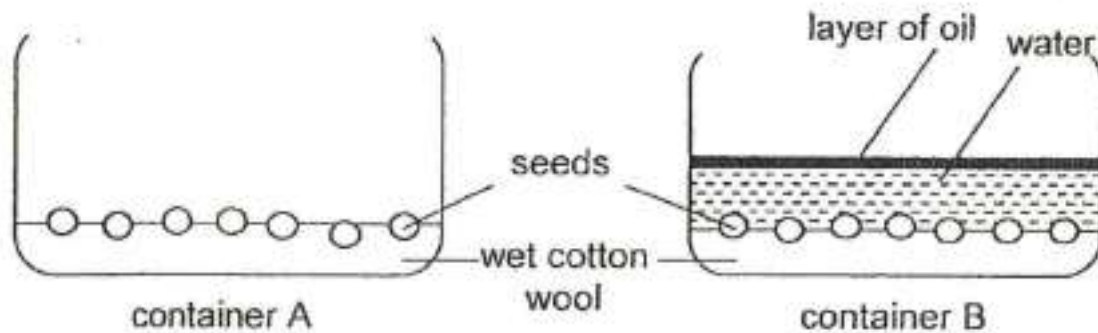
Her classmates commented that her experimental set-ups were incorrect. Which of the following should she do to ensure a fair test?

- A Add one more seed to set-up Y.
- B Add water to the ~~cotton wool~~ <sup>dry soil</sup> in set-up X.
- C Reduce the amount of ~~cotton wool~~ <sup>dry soil</sup> in set-up X.
- D Replace the black bean seed in set-up X with red bean seeds.

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



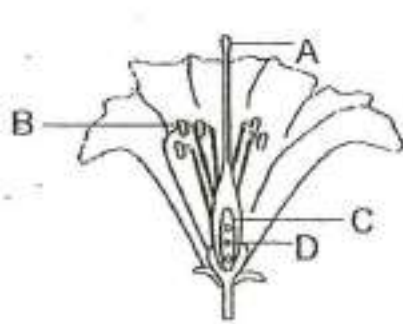
Minah carried out an experiment on the germination of seeds using two containers, A and B, as shown below.



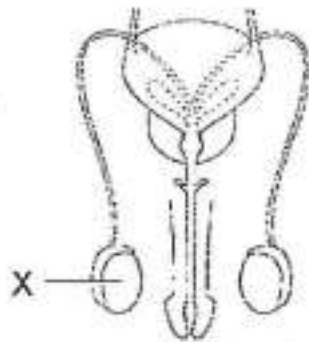
After three days, the seeds in container A germinated but the seeds in container B did not. Based on this experiment, which one of the following caused the seeds in container A to germinate but not the seeds in container B?

- 
- A) air
  - B) light
  - C) water
  - D) temperature

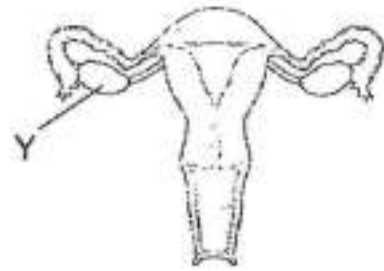
Study the diagrams below.



plant reproductive system



male reproductive system



female reproductive system

Which of the following represents the parts of the flower which have the same functions as parts X and Y respectively?

- A) 

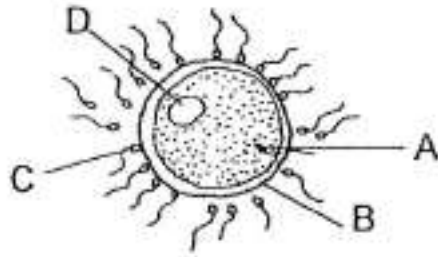
Part X	Part Y
A	D
- B) 

Part X	Part Y
B	D
- C) 

Part X	Part Y
B	C
- D) 

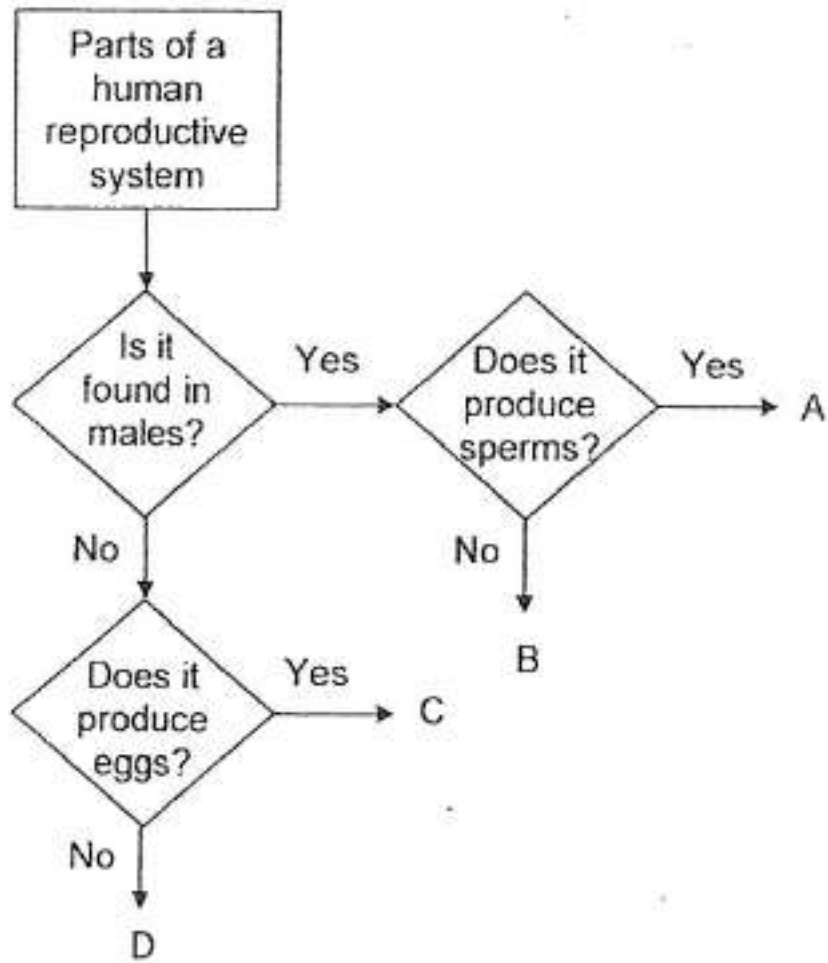
Part X	Part Y
C	A

The diagram below shows fertilisation taking place in human reproduction. Which of the labelled parts, A, B, C and D, will fuse and eventually develop into a foetus?



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

Study the diagram below.



Which one of the following correctly identifies organs A, B, C and D?

- A) 

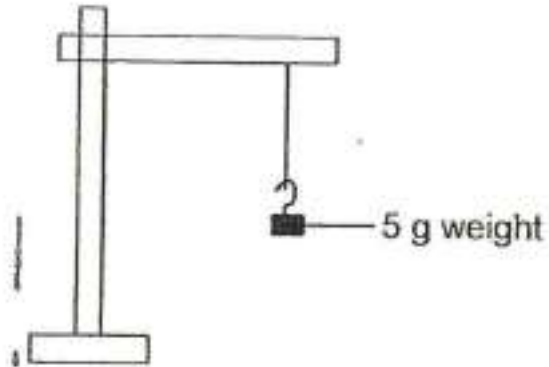
A	B	C	D
vagina	ovary	testis	penis
- B) 

A	B	C	D
testis	vagina	penis	ovary
- C) 

A	B	C	D
penis	testis	vagina	ovary
- D) 

A	B	C	D
testis	penis	ovary	vagina

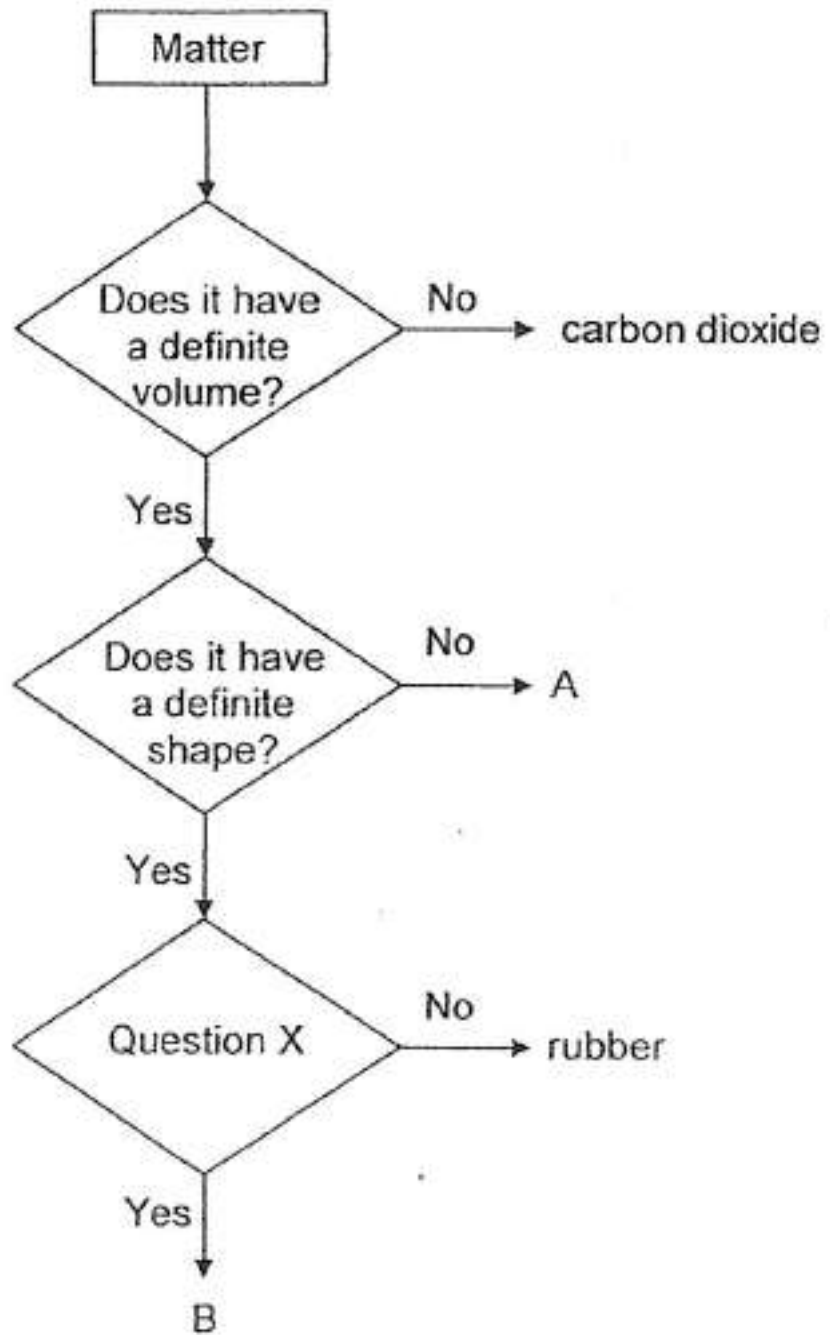
Muthu hung a 5 g weight onto three strings of different materials. The strings were of the same length and thickness. He continued to add more 5 g weights onto each of the strings and recorded the maximum number of weights each string could hold before it snapped.



Which property of materials was Muthu testing?

- 
- A) strength
  - B) flexibility
  - C) waterproof
  - D) transparency

Study the diagram below.



What could A, Question X and B be?

- A)
 

A	Question X	B
water	Is it a magnetic material?	iron
- B)
 

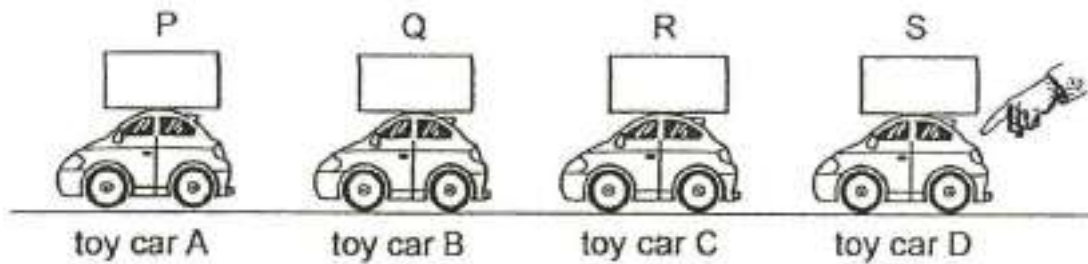
A	Question X	B
air	Is it a good conductor of heat?	aluminium
- C)
 

A	Question X	B
oxygen	Does it conduct electricity?	iron

D)

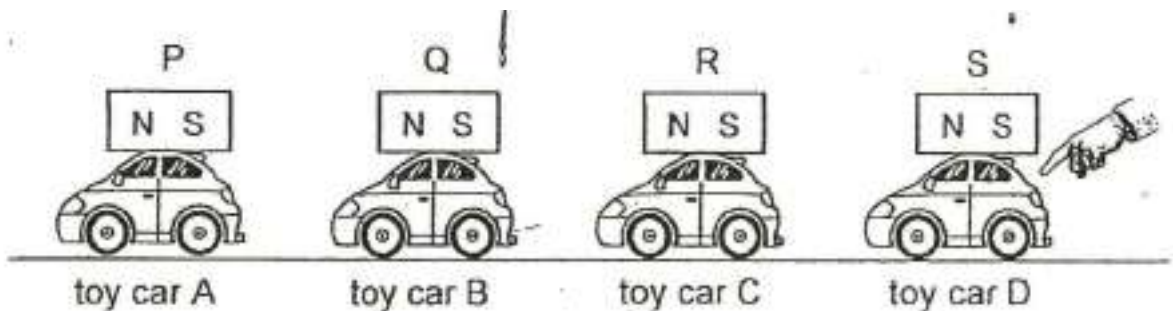
A	Question X	B
oil	Is it a magnetic material?	aluminium

Iman attached Magnets P, Q, R and S on top of each toy car A, B, C and D as shown below.

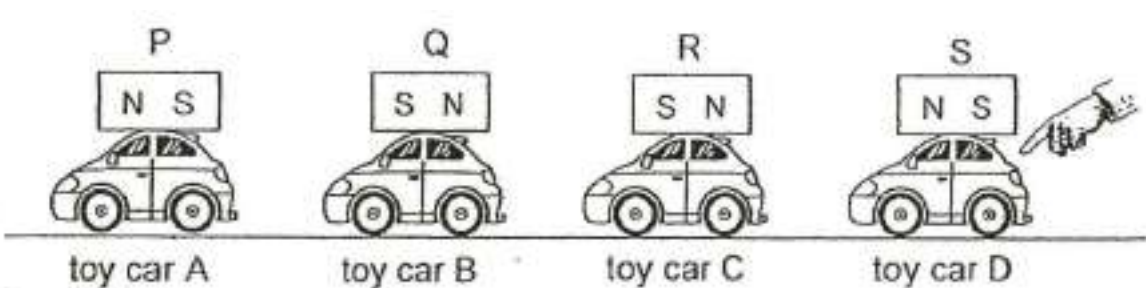


The toy cars moved at a distance away from each other when Iman pushed only toy car D. Which one of the following diagrams below shows how the magnet on each car was arranged?

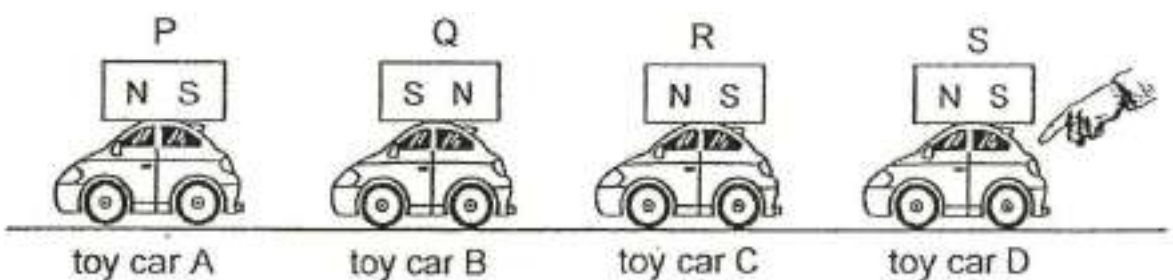
A)



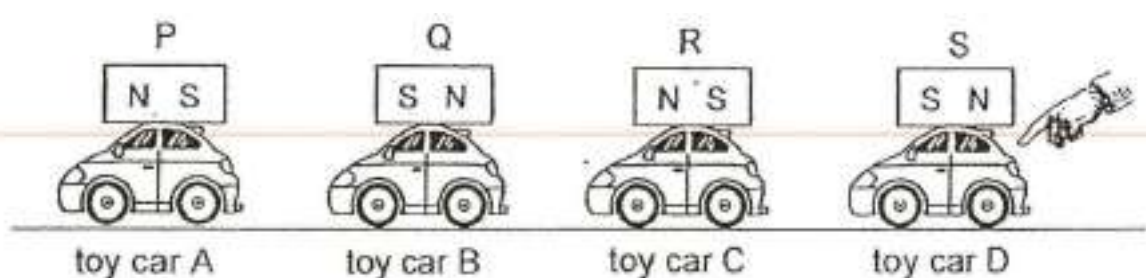
B)



C)

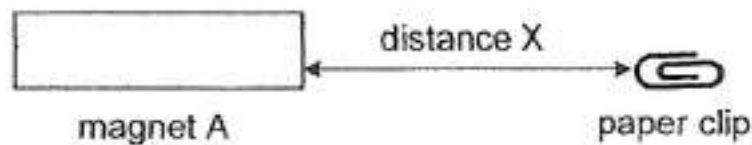


D)



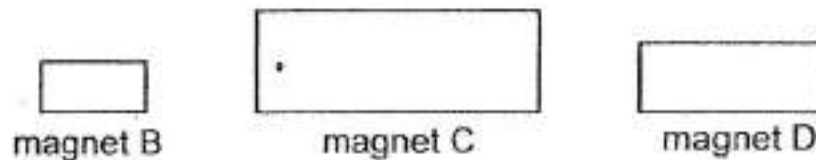


Lixin placed magnet A at a starting point and a paper clip at a distance away from the magnet, as shown below.



Lixin moved the paper clip slowly towards magnet A. She recorded distance X, the greatest distance at which the magnet attracted the paper clip.

She repeated her experiment with three other magnets, B, C and D, as shown below.



The table below shows the results of her experiment.

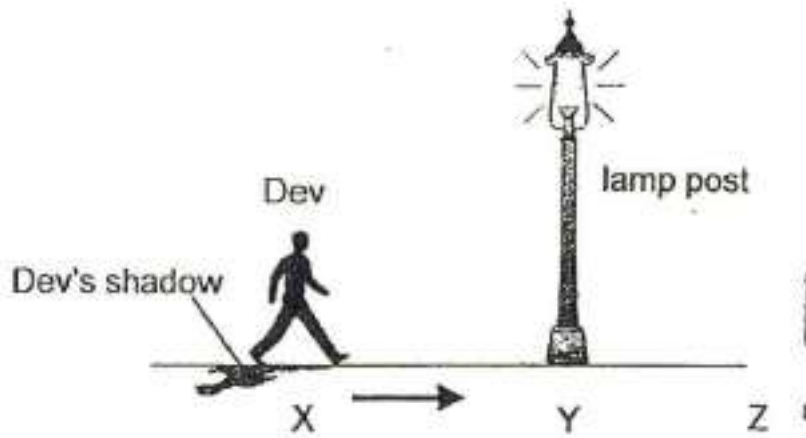
Magnet	A	B	C	D
Distance X (cm)	2	7	5	8

Based on the results, which of the following statements are correct?

- A Magnet D is stronger than magnet B.
- B Magnet A is the strongest among all the magnets.
- C The strength of the magnet is not affected by its size.
- D Only magnet C can attract paper clips which are 5 cm away.

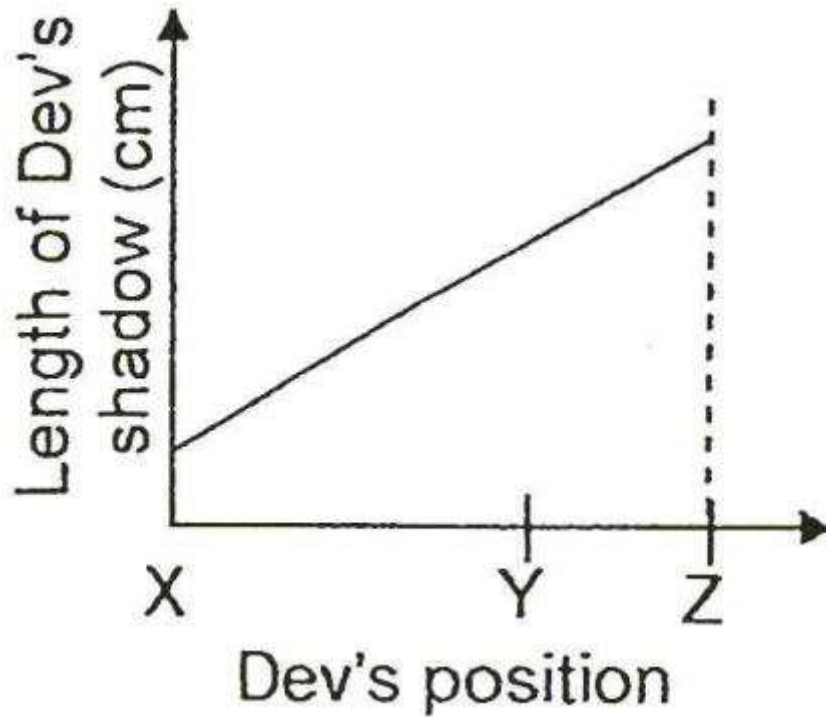
- A) A and C only
- B) B and C only
- C) B and D only
- D) A, C and D only

Dev was walking along a dark street on a moonless night. He noticed that the length of his shadow changed as he walked in the direction of the arrow shown in the diagram below.

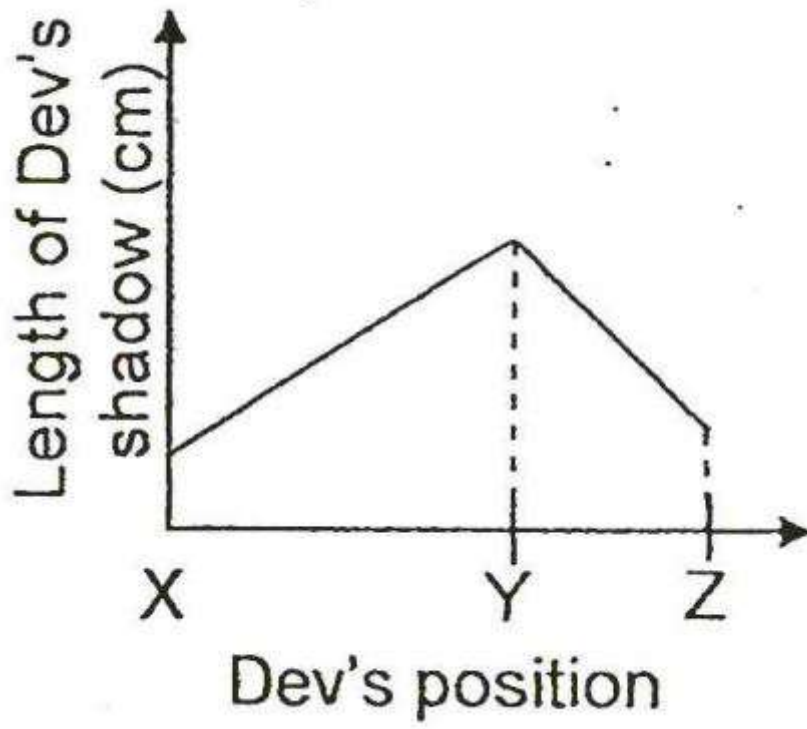


Which one of the following graphs correctly shows the changes in the length of Dev's shadow as he walked from point X to point Z?

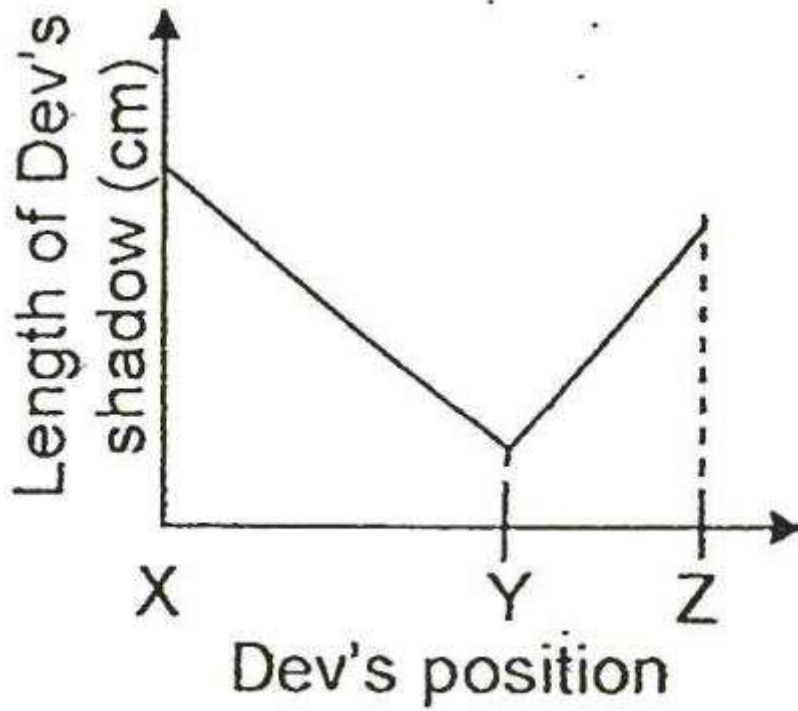
A)



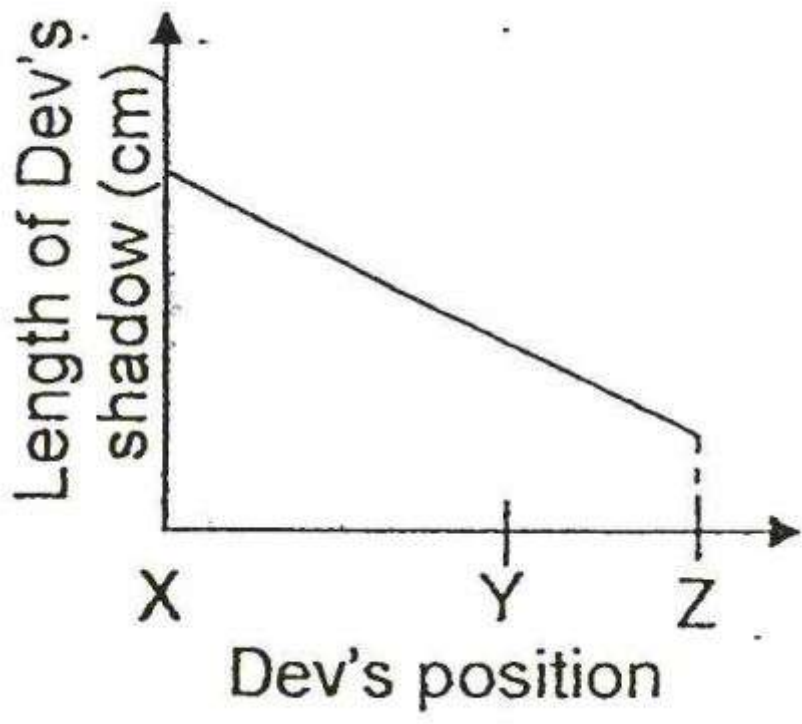
B)



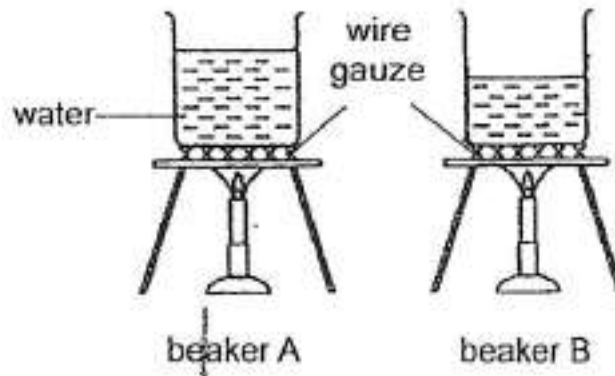
c)



d)



Two beakers containing different volumes of water at room temperature were heated until both beakers of water reached  $50^{\circ}\text{C}$ .

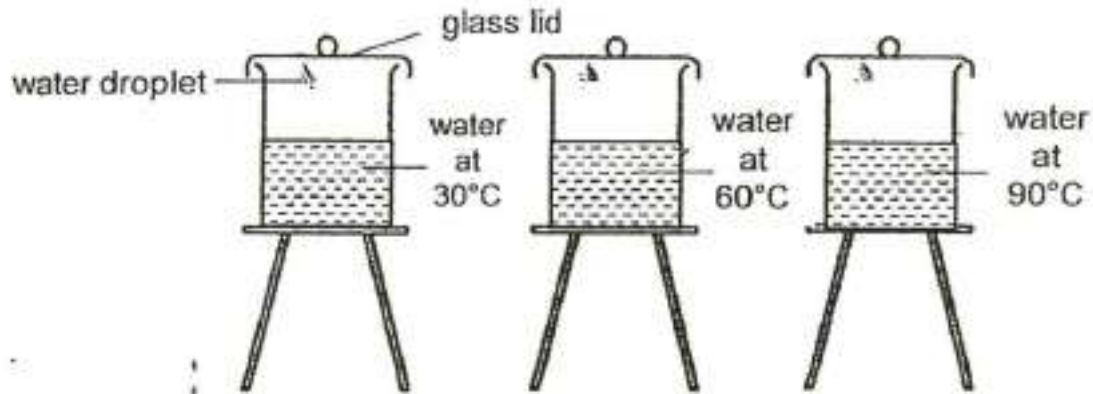


Which of the following statements is/are correct?

- A The water in beaker B took a shorter time to be heated to  $50^{\circ}\text{C}$ .
- B The water in beakers A and B had the same amount of heat energy.
- C The water in beaker A had more heat energy than the water in beaker B.
- D The water in beaker A had gained heat faster than the water in beaker B.

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

Sanjay conducted an experiment as shown below. The set-up consisted of three beakers containing the same amount of water at different temperatures. He recorded the time taken for the first water droplet to fall from the glass lids.



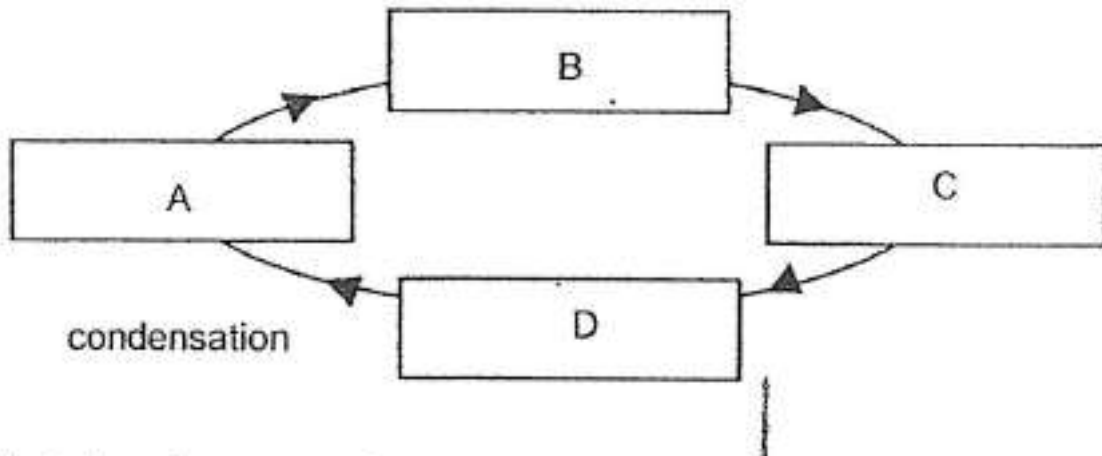
The table below shows the observations made by Sanjay.

Temperature of the water (°C)	Time taken for the first water droplet to fall (min)
30	3.5
60	1.5
90	0.5

What is the aim of Sanjay's experiment?

- A) To find out how the amount of water in the beakers affects the rate of evaporation of the water.
- B) To find out whether the size of the glass lid affects the time taken for the water droplets to form.
- C) To find out how the room temperature affects the rate of condensation of the water vapour.
- D) To find out how the temperature of water in the beaker affects the time taken for the first water droplet to fall.

The diagram below shows the water cycle.



What does A represent?

- A) rain
- B) clouds
- C) water vapour
- D) water on earth

Sharmane has a container with two solid substances, X and Y. The table below shows the melting point and boiling point of the two substances.

Substance (°C)	Melting point (°C)	Boiling point (°C)
X	42	78
Y	28	63

At which temperature should Sharmane heat the mixture such that one substance becomes a liquid and the other substance remains as a solid?

- A) 32°C
- B) 60°C
- C) 75°C
- D) 80°C



Process A takes place when an ice cube is left in the room unattended.

Process B takes place when a bottle of ice water is placed in a freezer.

Which of the following correctly describes Processes A and B?

- A) 

Process A	Process B
The ice cube loses heat to the warmer surroundings and melts.	Water loses heat to the colder surroundings and freezes.
- B) 

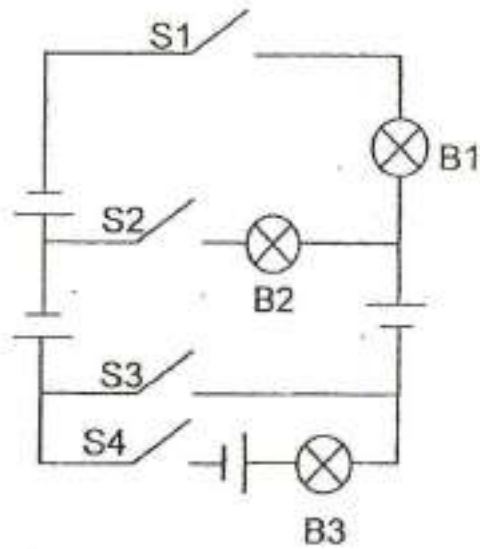
Process A	Process B
The ice cube loses heat to the warmer surroundings and melts.	Water gains heat from the colder surroundings and freezes.
- C) 

Process A	Process B
The ice cube gains heat from the warmer surroundings and melts at 0°C.	Water loses heat to the colder surroundings and freezes at 0°C.
- D) 

Process A	Process B
The ice cube gains heat from the warmer surroundings and melts at 0°C.	Water gains heat from the colder surroundings and freezes at 0°C.



A circuit comprising identical bulbs, batteries and switches was set up as shown in the diagram below.

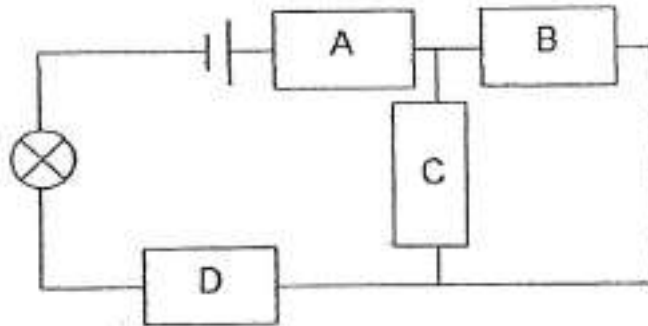


Which of the following pairs of switches, when closed, would cause only one bulb to light up?

- A S1 and S3
- B S1 and S4
- C S2 and S3
- D S2 and S4

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

The diagram below shows an electrical circuit that consists of four objects, A, B, C and D, made of different materials.



It was observed that the bulb lit up. Which one of the following correctly represents the materials that A, B, C and D could be made of?

- A) 

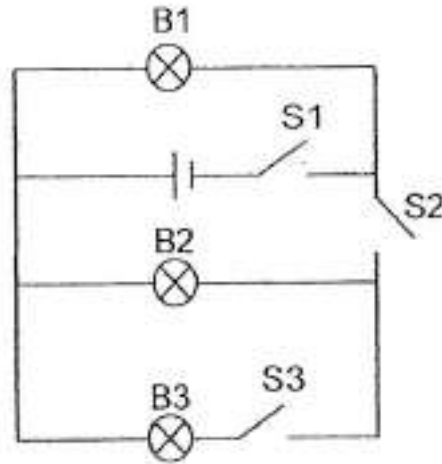
A	B	C	D
iron	paper	wood	copper
- B) 

A	B	C	D
copper	aluminium	iron	paper
- C) 

A	B	C	D
paper	copper	iron	wood
- D) 

A	B	C	D
aluminium	iron	wood	copper

Bulbs B1, B2 and B3, and switches S1, S2 and S3 are connected in a circuit as shown. All the bulbs are working properly.



Which one of the following is correct?

- A) Switches Do the bulbs light up?

S1	S2	S3	B1	B2	B3
closed	open	closed	yes	no	yes

- B) Switches Do the bulbs light up?

S1	S2	S3	B1	B2	B3
open	open	closed	no	no	yes

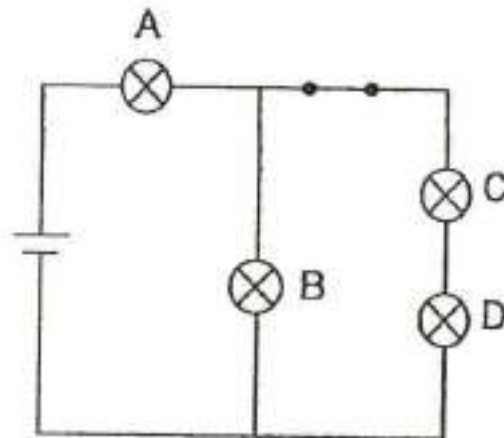
- C) Switches Do the bulbs light up?

S1	S2	S3	B1	B2	B3
closed	closed	open	yes	yes	no

- D) Switches Do the bulbs light up?

S1	S2	S3	B1	B2	B3
open	closed	open	no	yes	no

Devon set up the circuit as shown below.



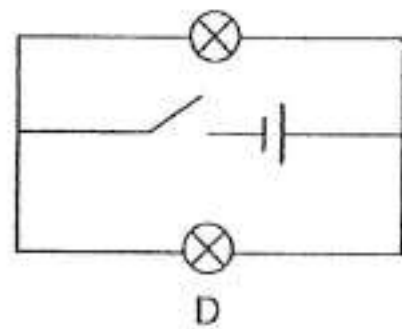
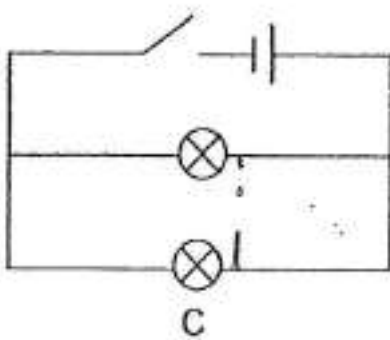
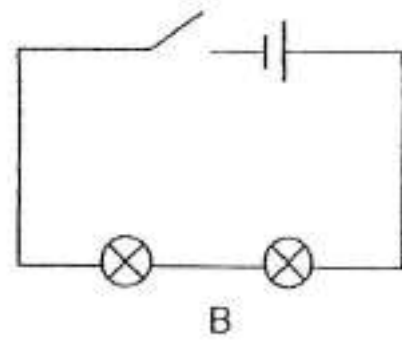
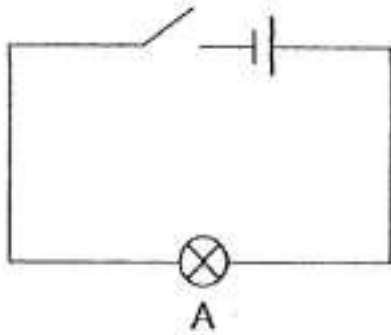
He made the following statements about the circuit.

- A Bulb C and Bulb D are in series.
- B Bulb A and Bulb B are in parallel.
- C Bulb B and Bulb D are in parallel.
- D If the switch is turned off, only Bulb A and Bulb B will light up.

Which statement(s) is/are correct?

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

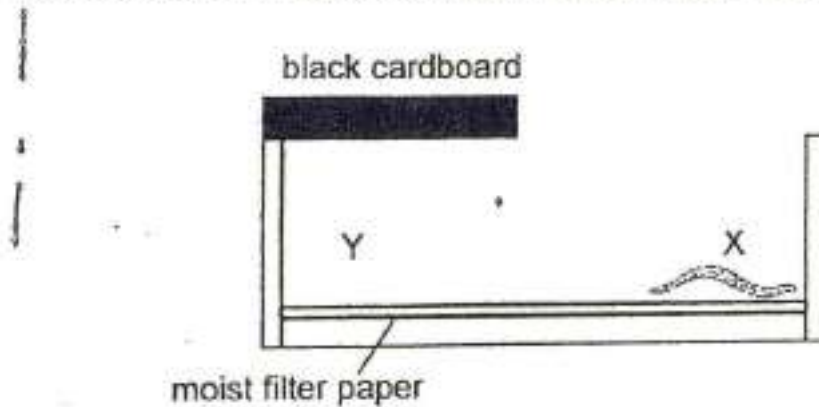
Study the four electrical circuits as shown below. All the batteries and bulbs are similar.



In which circuits will the bulbs be of the same brightness?

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

Kim conducted an experiment as shown below. She placed the mealworm on side X of the tray. The tray was left in a brightly lit room for five minutes. She then observed that the mealworm moved towards side Y.



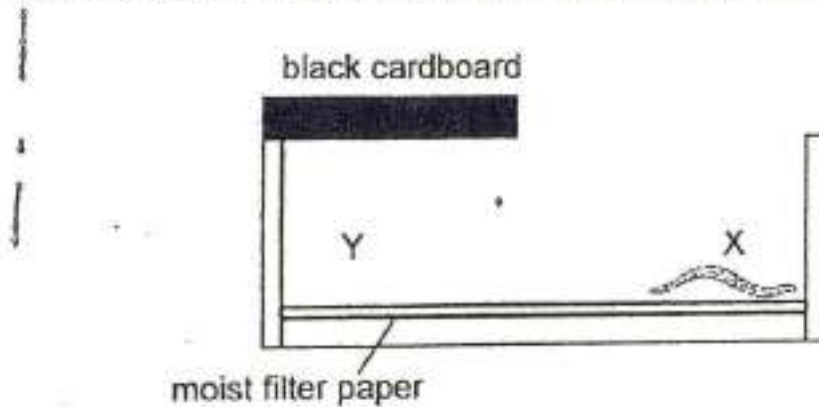
If Kim moved the black cardboard over to side X, describe what she would likely observe after ten minutes. (1 mark)

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

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

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Kim conducted an experiment as shown below. She placed the mealworm on side X of the tray. The tray was left in a brightly lit room for five minutes. She then observed that the mealworm moved towards side Y.



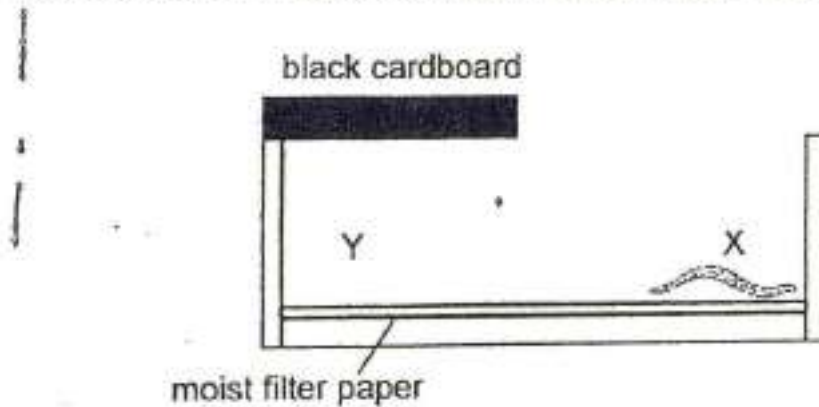
Based on Kim's observation, state one characteristic of living things. (1 mark)

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Kim conducted an experiment as shown below. She placed the mealworm on side X of the tray. The tray was left in a brightly lit room for five minutes. She then observed that the mealworm moved towards side Y.



What would happen to the mealworm after two days if the moist filter paper was removed? Give a reason for your answer. (1 mark)

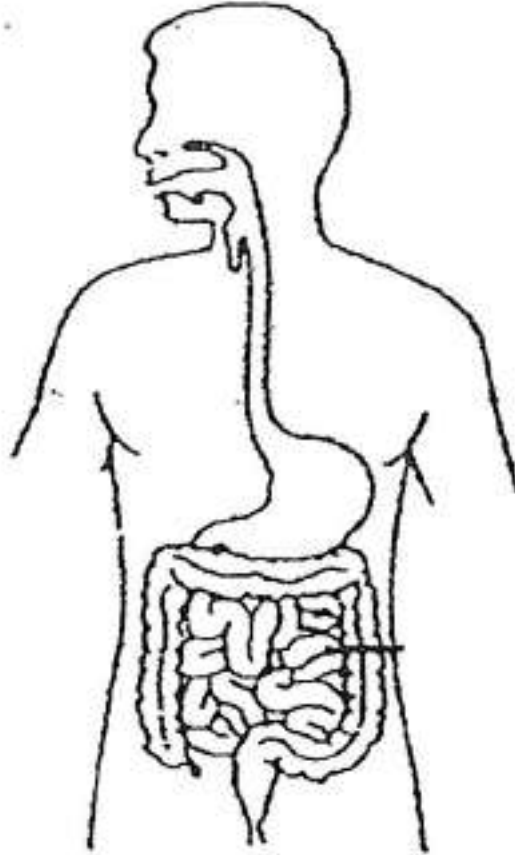
*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

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The diagram below shows the human digestive system.



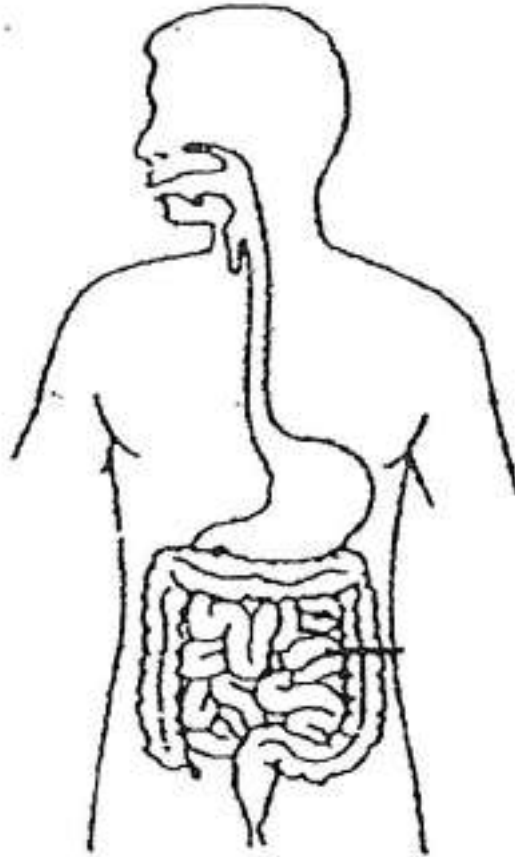
On the diagram, label and name the part of the system where most of the digested food is absorbed into the body. (1 mark)

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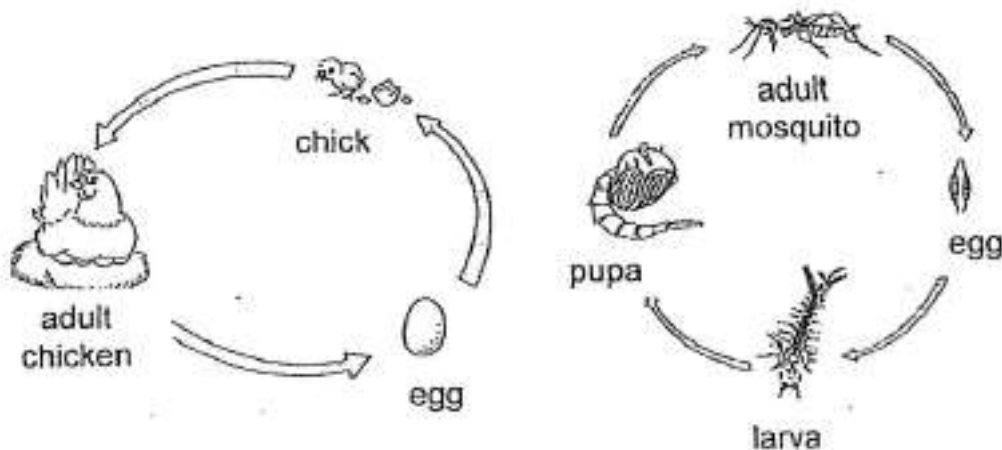
State how our digestive system and circulatory system work together to supply digested food to our body parts. (2 marks)

*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.*

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Study the life cycles of a chicken and a mosquito as shown below.



Based on the diagram above, state one similarity and one difference [2] between the life cycle of a chicken and a mosquito.

*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 one of the shorea fruits which Vince had.



How does part X help the shorea fruit to disperse its seed? (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.*

The diagram below shows one of the shorea fruits which Vince had.



Vince wanted to investigate how the length of part X of the shorea fruit affects the time taken for it to reach the ground. He dropped each of the following shorea fruits from a height. The table below showed what he did to the shorea fruits B and C.

shorea fruit A	shorea fruit B	shorea fruit C
		
No change	1 cm of part X was trimmed off	2 cm of part X was trimmed off
Took 15 seconds to reach the ground	Took 9 seconds to reach the ground	Took 5 seconds to reach the ground

What is the relationship between the length of part X of the shorea fruit and the time taken for it to reach the ground? (1 mark)




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The diagram below shows one of the shorea fruits which Vince had.



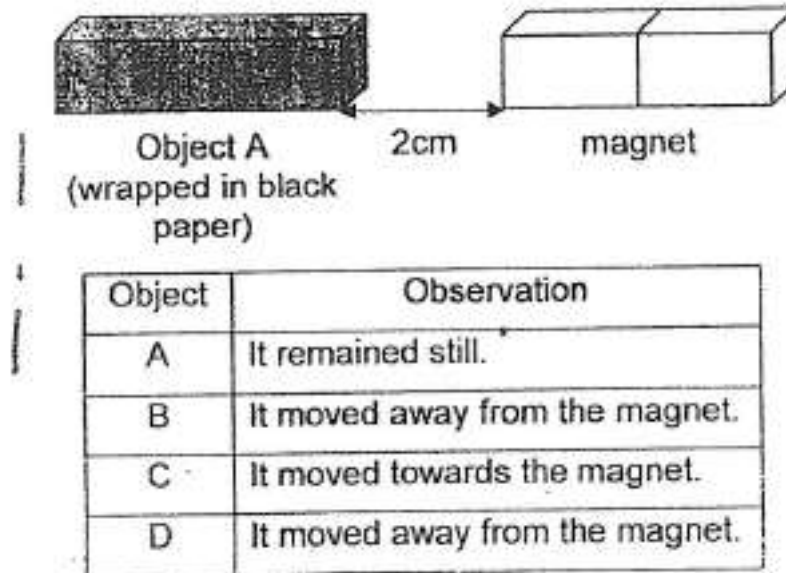
Vince wanted to investigate how the length of part X of the shorea fruit affects the time taken for it to reach the ground. He dropped each of the following shorea fruits from a height. The table below showed what he did to the shorea fruits B and C.

shorea fruit A	shorea fruit B	shorea fruit C
		
No change	1 cm of part X was trimmed off	2 cm of part X was trimmed off
Took 15 seconds to reach the ground	Took 9 seconds to reach the ground	Took 5 seconds to reach the ground

State two variables which he should keep constant for his experiment to be a fair test. (1 mark)

---

Gary was given four similar-sized unknown objects, A, B, C and D, individually wrapped in black paper. He then held a magnet about 2 cm away from Object A as shown in the diagram below. He repeated the experiment with objects B, C and D. He recorded his observations in the table below.



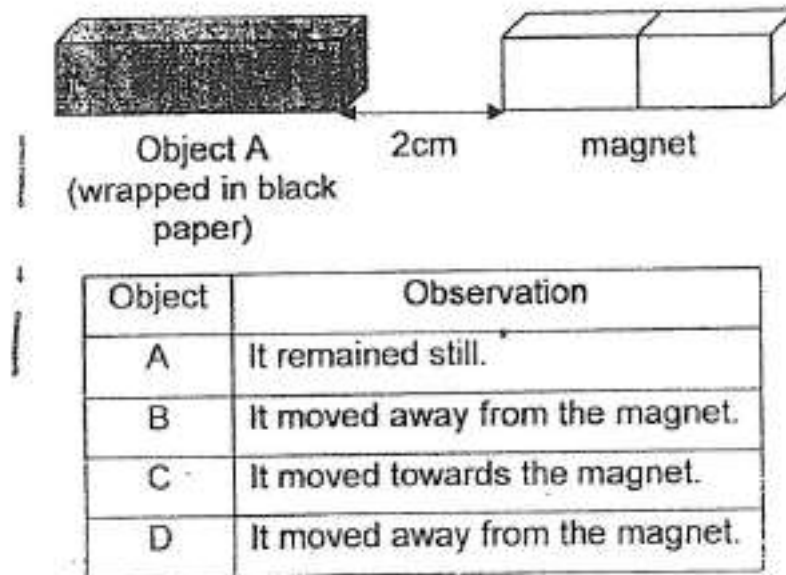
Which one of the objects, A, B, C or D could be made of plastic? Explain your choice. (1 mark)

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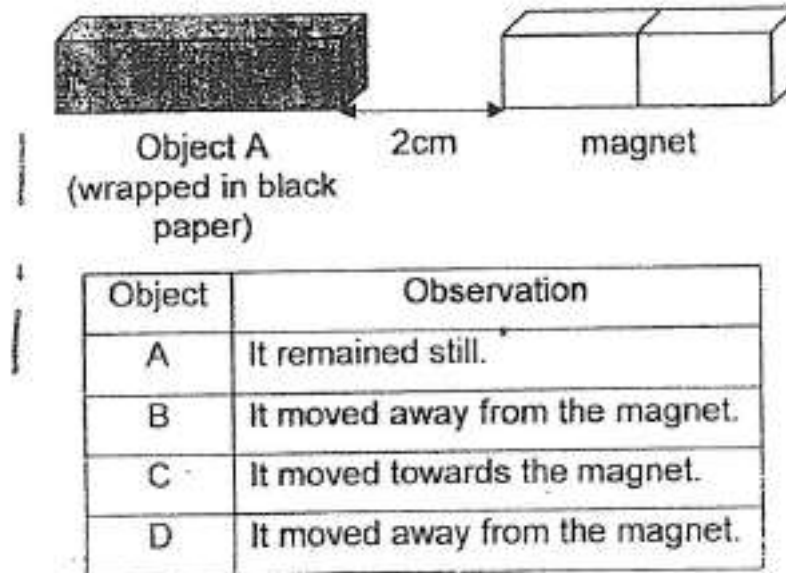
Without having to carry out further testing, and based on the observations recorded, Gary concluded that objects B and D are magnets. Is his conclusion correct? Explain why. (1 mark)

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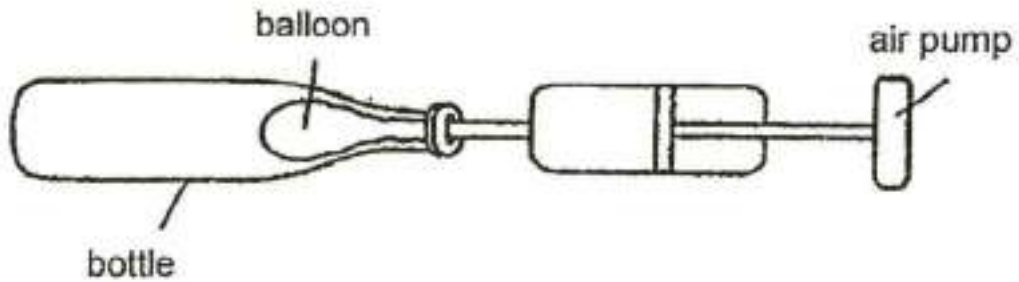
Gary's friend, Tommy, pointed out that Gary should carry out further testing on Object C to determine if Object C is a magnet. Without adding in more apparatus or equipment, what should Gary do to determine whether Object C is a magnet? (1 mark)

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Alex placed a balloon into a plastic bottle as shown below.



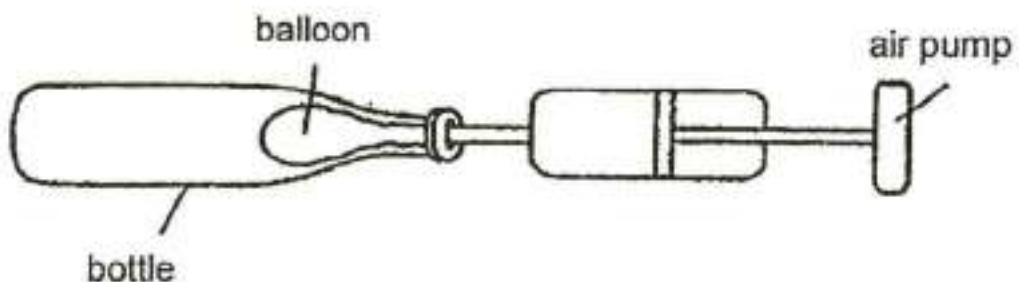
Alex tried inflating the balloon using the air pump but found it difficult to do so. Explain why. (1 mark)

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---

Alex placed a balloon into a plastic bottle as shown below.



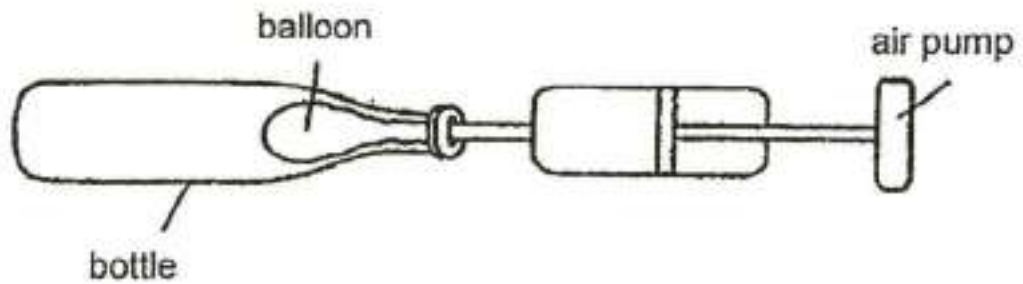
What can Alex do to make it easier for him to inflate the balloon within the plastic bottle? (1 mark)

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---

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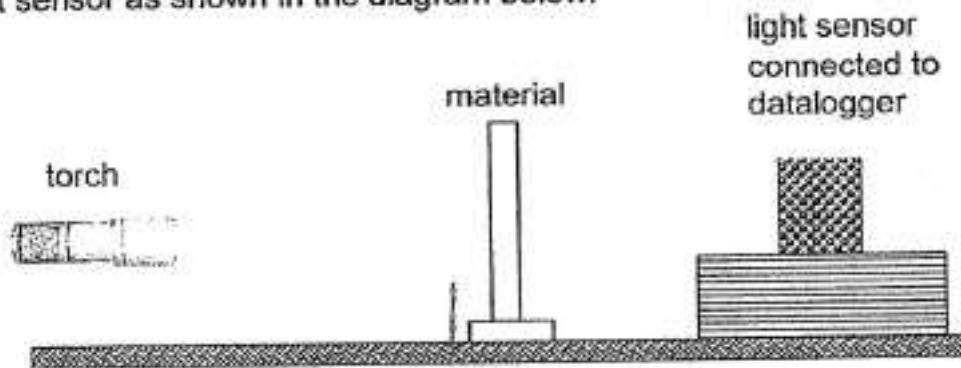
Explain your answer in the previous question. (1 mark)

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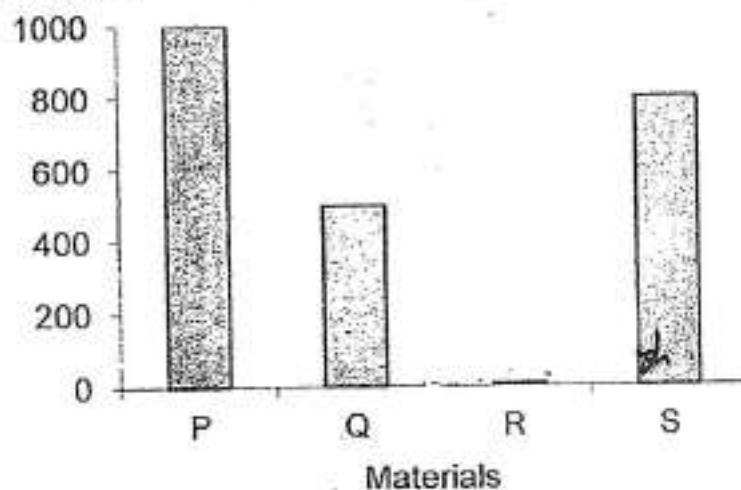
---

John conducted an experiment to find out how much light can pass through four different materials P, Q, R and S using a datalogger with a light sensor as shown in the diagram below.



He tested each material one at a time and recorded the amount of light detected by the datalogger. He recorded his results and plotted the graph as shown below.

Amount of light (unit)

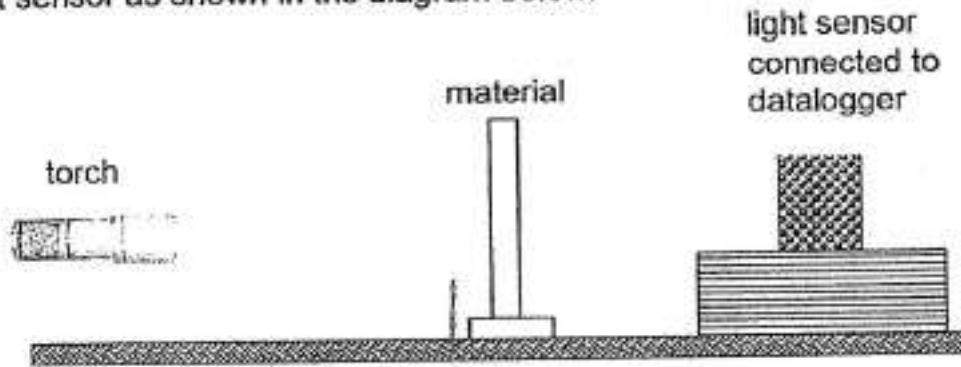


The sun comes directly into John's bedroom every morning. He wants to make his room the dimmest.

Based on the results, which material P, Q, R or S is most suitable to be used as curtains for his windows? Give a reason for your choice.

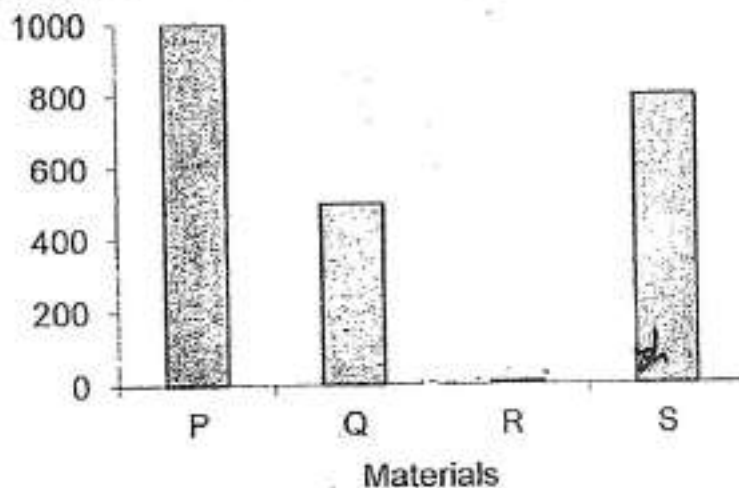
[1]

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He tested each material one at a time and recorded the amount of light detected by the datalogger. He recorded his results and plotted the graph as shown below.

Amount of light (unit)



Give a reason why John should conduct his experiment in a completely dark room to ensure a fair test. (1 mark)

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---

Cups A and B, each made of different materials, were filled with the same amount of water at  $3^{\circ}\text{C}$  at the same time. Cup B felt colder than cup A when touched and water vapour condensed on cup B more quickly than on A.



Both cups were left in a room at  $30^{\circ}\text{C}$ . The temperature of water in both cups was measured every five minutes.

The table below shows the changes in the temperature of water in cup A over a period of 20 minutes.

Time (min)	0	5	10	15	20
Temperature of water ( $^{\circ}\text{C}$ )	3	10	12	16	19

Would the temperature of the water in cup B be higher, lower than or the same as  $19^{\circ}\text{C}$  at the 20<sup>th</sup> minute? Explain your answer. (2 marks)

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The table below shows the changes in the temperature of water in cup A over a period of 20 minutes.

Time (min)	0	5	10	15	20
Temperature of water ( $^{\circ}\text{C}$ )	3	10	12	16	19

Which cup A or B would be more suitable to use for keeping coffee warm? Explain your answer. (2 marks)

---

The table below shows the freezing point and boiling point of three substances, X, Y and Z.

Substance	Freezing point (°C)	Boiling point (°C)
X	20	120
Y	150	300
Z	0	10

Rina worked in a laboratory with a room temperature of 30°C. She was able to store 2000 cm<sup>3</sup> of a substance into a container with a capacity of 1000 cm<sup>3</sup>.

Which substance, X, Y or Z did she use? Explain your answer.

---

The table below shows the freezing point and boiling point of three substances, X, Y and Z.

Substance	Freezing point (°C)	Boiling point (°C)
X	20	120
Y	150	300
Z	0	10

Rina worked in a laboratory with a room temperature of 30°C. She was able to store 2000 cm<sup>3</sup> of a substance into a container with a capacity of 1000 cm<sup>3</sup>.

Rina had a wire mesh basket as shown below.



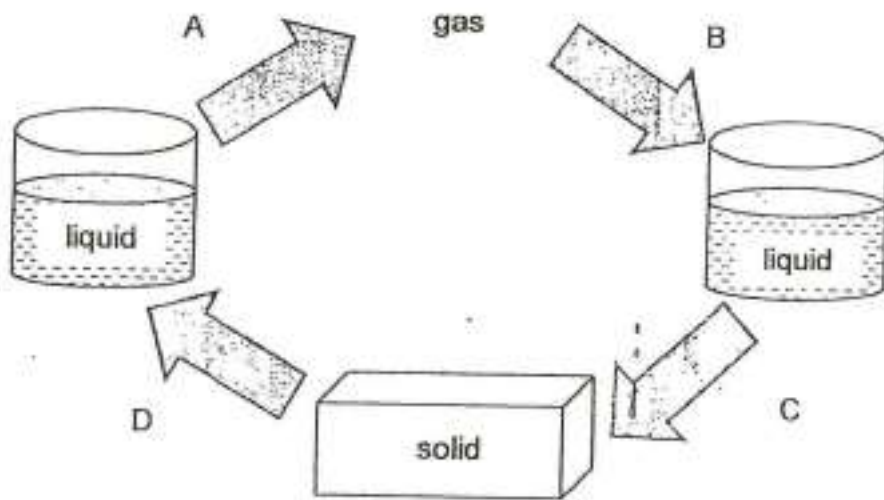
Would she be able to store substances X and Y into the wire mesh basket at room temperature? Explain your answer. [2]

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The diagram below shows the three states of a substance.



Put a tick (✓) in the appropriate boxes below.

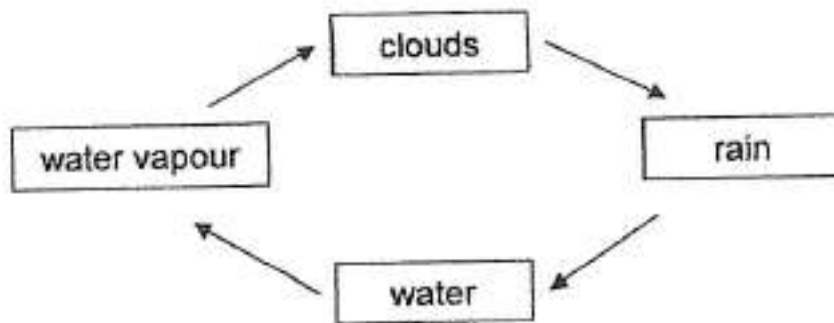
[2]

Processes	Heat gain	Heat loss
A		
B		
C		
D		

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The diagram below shows how the water cycle recycles the water from the earth. The arrows show the different stages of water in motion.



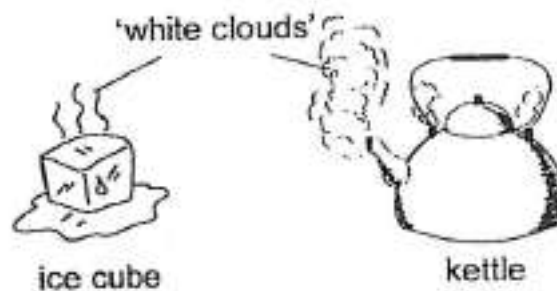
Explain how plants can be part of the water cycle. (2 marks)

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Jessie took out some ice cubes from the freezer and boiled some water in a kettle.

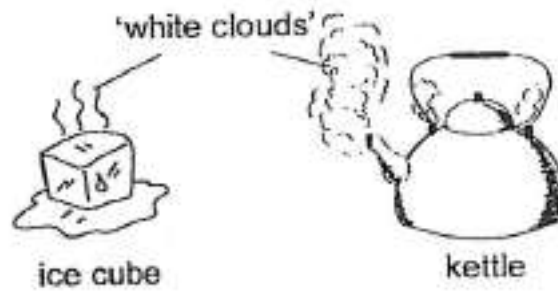


She noticed 'white clouds' forming above the ice cube and spout of the kettle.

Name the process that caused the 'white clouds' to form.

---

Jessie took out some ice cubes from the freezer and boiled some water in a kettle.



She noticed 'white clouds' forming above the ice cube and spout of the kettle.

Explain how the 'white clouds' were formed above the ice cube and the kettle. (2 marks)

Ice Cube: \_\_\_\_\_

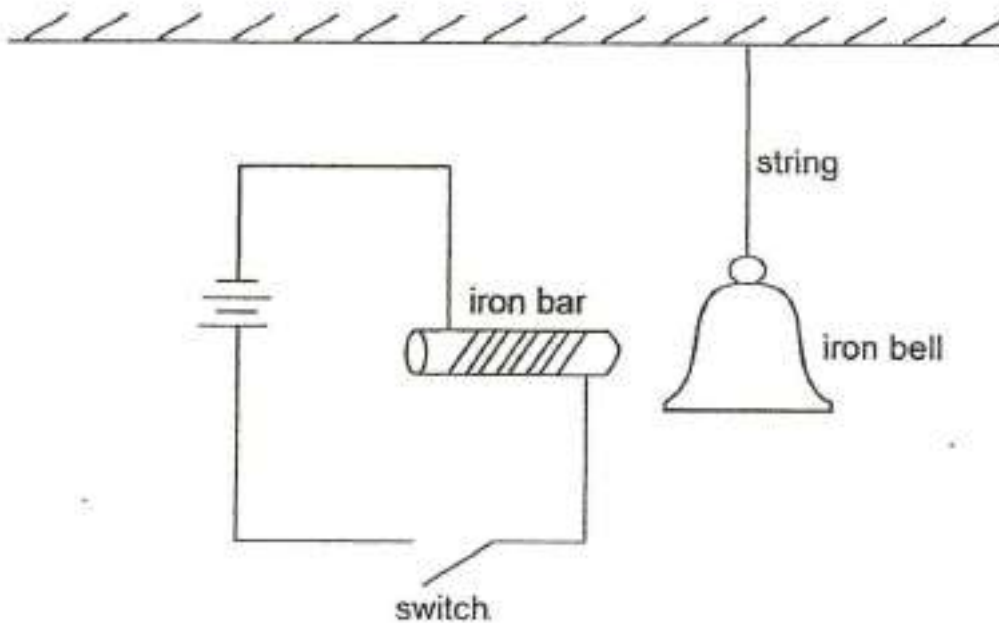
Kettle: \_\_\_\_\_

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---

William hung an iron bell near an iron bar as shown in the diagram below. When William closed the switch, the iron bell rang.



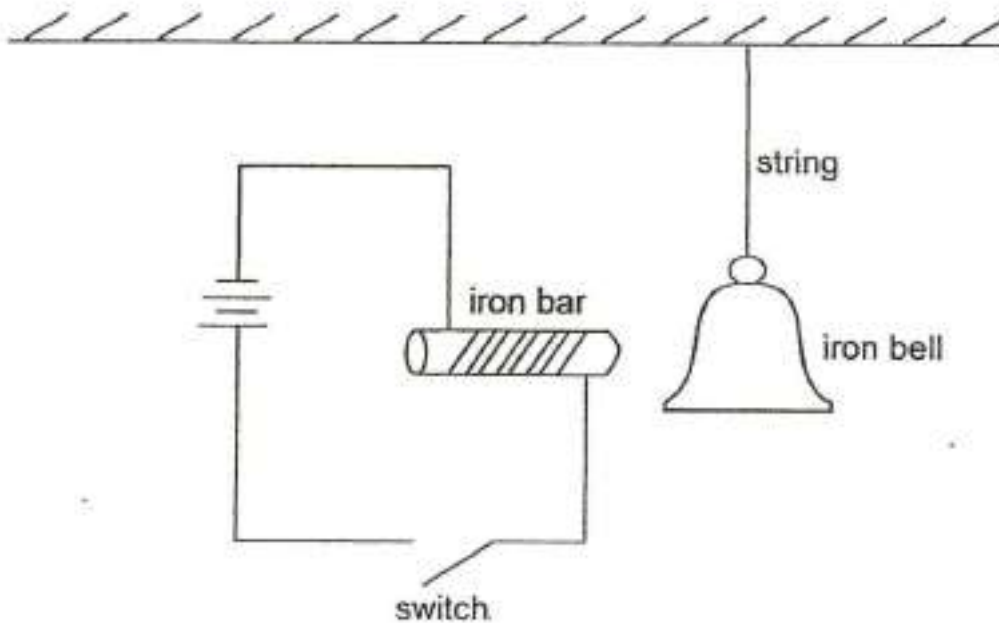
Explain why the iron bell rings each time the switch is turned on. (2 marks)

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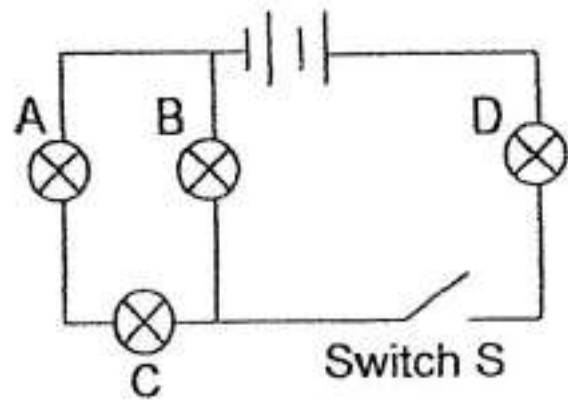
William hung an iron bell near an iron bar as shown in the diagram below. When William closed the switch, the iron bell rang.



William replaced the iron bar with another bar Q. When he closed the switch, the iron bell did not move at all. Based on the above result, state one property of the material of bar Q.

---

Ethan set up Circuit 1 as shown below.

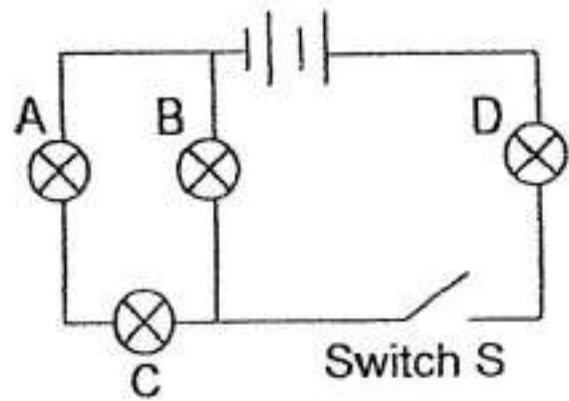


Circuit 1

He then closed Switch S and all the bulbs lighted up. One of the bulbs then fused and all the bulbs went off. Which bulb might have fused? (1 mark)

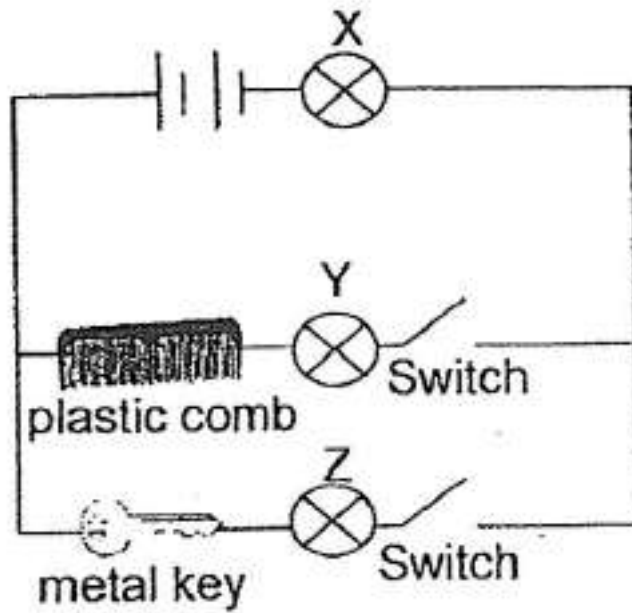
---

Ethan set up Circuit 1 as shown below.



Circuit 1

Ethan then set up Circuit 2 as shown below.



Circuit 2

Complete the table below to show which bulbs will light up when different switches are open or closed. Put a tick (✓) if the bulb lights up or a cross (X) if the bulb does not light up in the appropriate boxes below. [1]

Switch 1	Switch 2	Bulb X	Bulb Y	Bulb Z
open	open	X	X	X
open	closed			
closed	open			

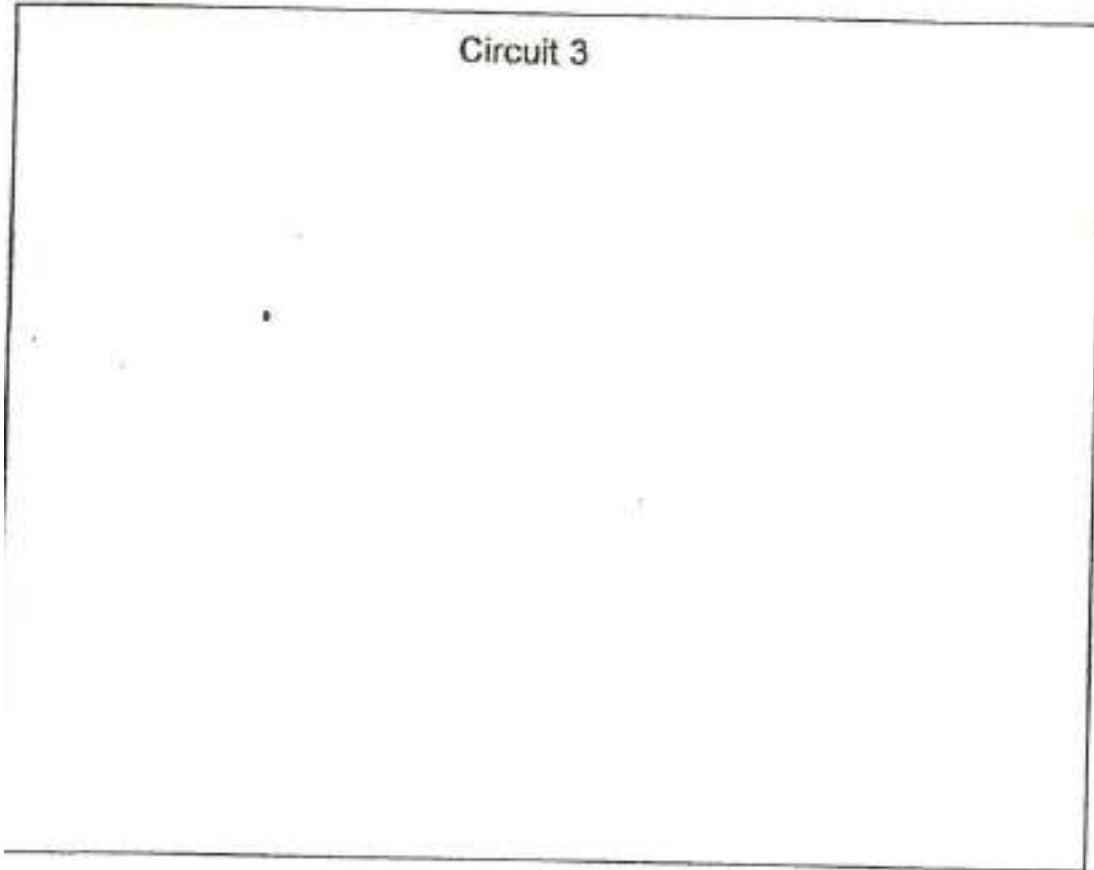
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Using only 2 batteries, 3 bulbs, 1 switch and some wires, Ethan then set up Circuit 3 which allows the switch to control all the bulbs at the same time, and yet if one bulb fuses, the other bulbs can still light up. Draw a circuit diagram to represent Circuit 3 in the box below. [2]

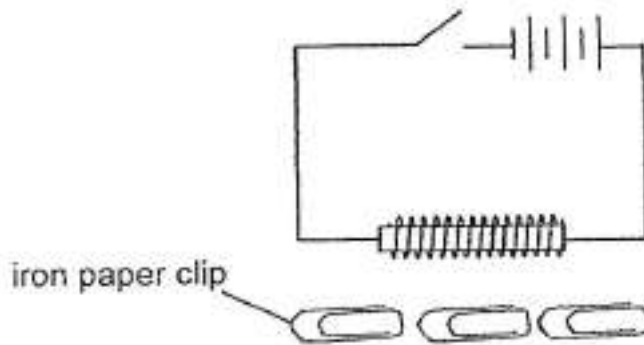


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---

Kelly set up a circuit as shown below. She placed some iron paper clips at equal distance below the electromagnet.

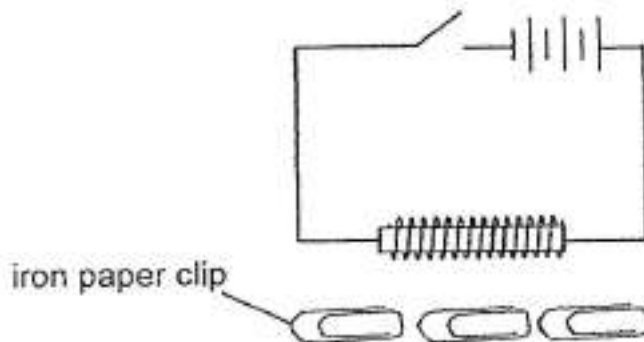


What would happen to the number of paper clips attracted if the number of batteries was decreased? Give a reason for your answer. (2 marks)

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Kelly set up a circuit as shown below. She placed some iron paper clips at equal distance below the electromagnet.



Kelly replaced the iron paper clips with aluminium paper clips. Describe what she would observe when she closed the switch. (1 mark)

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