

Index Number:

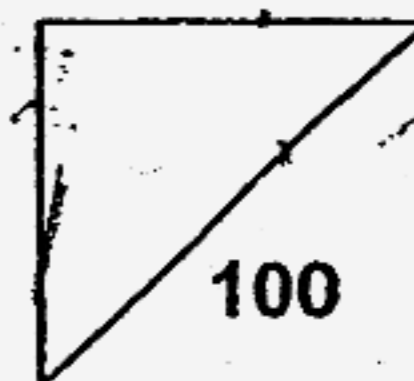
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**PEI CHUN PUBLIC SCHOOL**  
**PRELIMINARY EXAMINATION 1 – 2007**  
**PRIMARY 6 (merged stream)**  
**SCIENCE**  
**BOOKLET A**

**30 questions**

**Marks:**

**60 marks**



**Total Time for Booklets A and B: 1h 45 min**

Name : \_\_\_\_\_ (    )

Class : Primary 6 (    )

Date : 3 August 2007

Subject Teacher : \_\_\_\_\_

Parent's Signature: \_\_\_\_\_

**INSTRUCTIONS TO CANDIDATES**

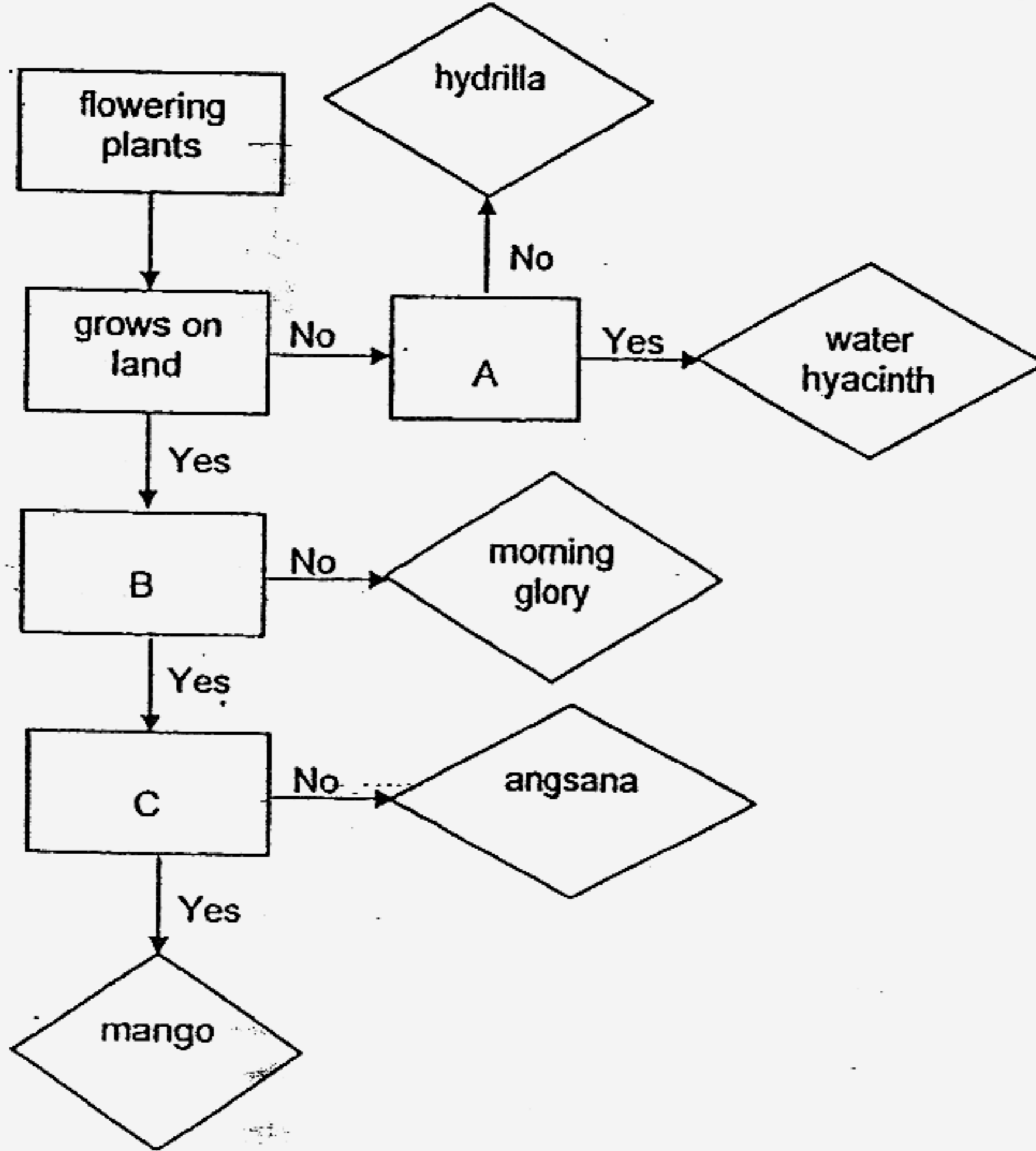
Do not open this booklet until you are told to do so.  
Follow all instructions carefully.  
Answer all questions.

**PART 1 (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.

(30 x 2 marks)

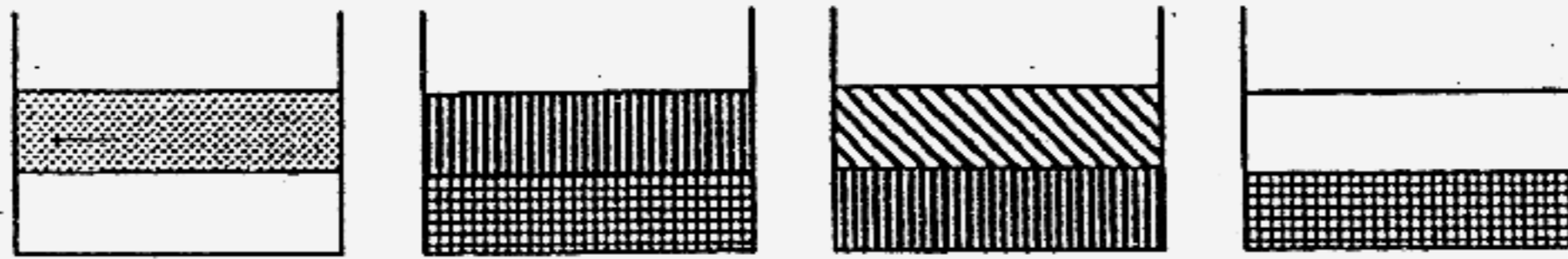
1. The flowchart below can be used to distinguish between some types of plants.



What do A, B and C in the flowchart represent?

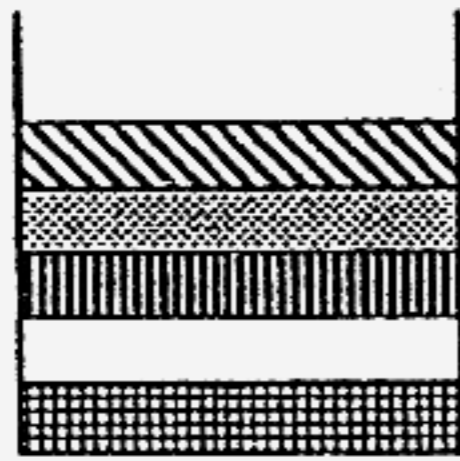
	A	B	C
(1)	has a fleshy stem	has a woody stem	has poisonous fruits
(2)	has spores	has a weak stem	has poisonous fruits
(3)	floats on water	has a woody stem	has fleshy fruits
(4)	has swollen leaf stalks	has a weak stem	has fleshy fruits

2. The diagram below shows the positions of 5 different liquids when placed together in containers.

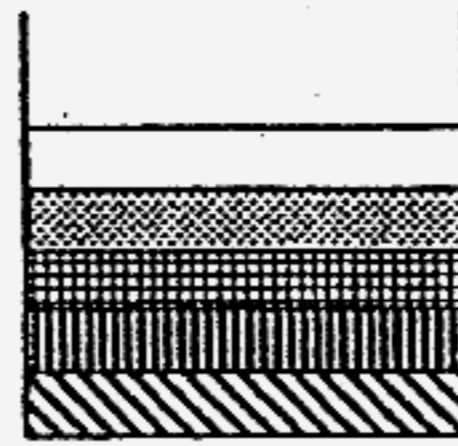


Which of the following shows correctly what will happen when they are in a container?

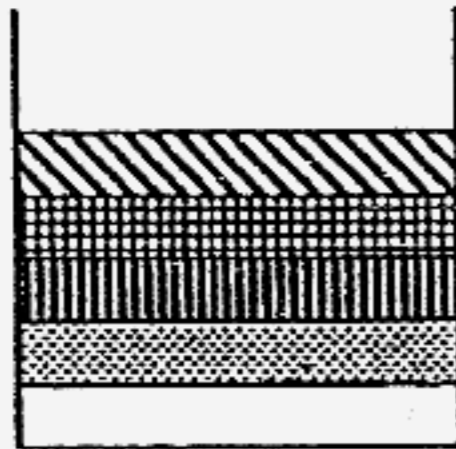
(1)



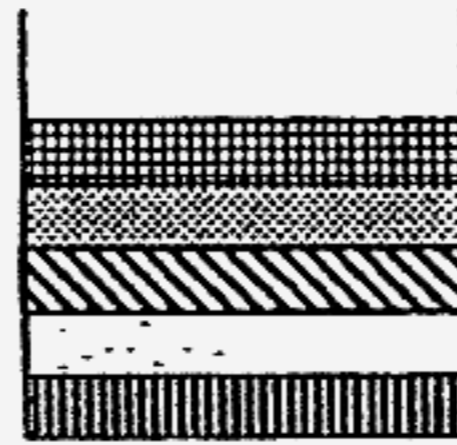
(2)



(3)



(4)



( )

3. The table below shows the melting and boiling points of substances P, Q and R.

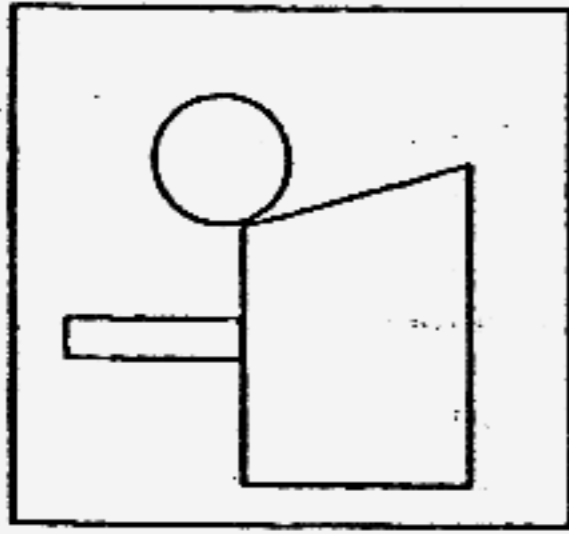
Substance	Melting point (°C)	Boiling point (°C)
P	42	78
Q	28	63
R	54	90

At which one of the following temperatures are the three substances in the same state?

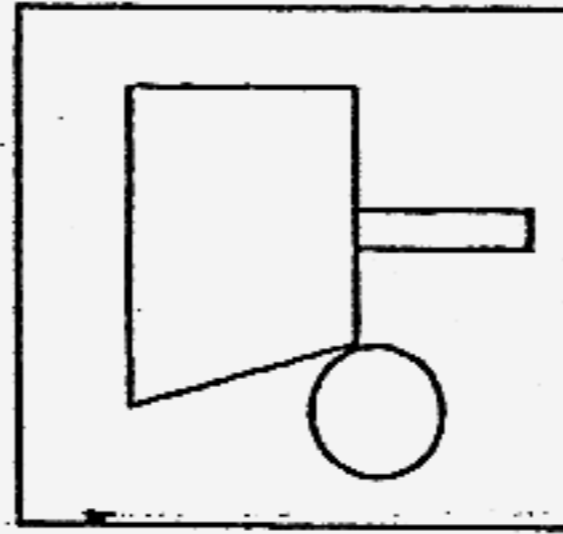
- (1) 30 °C
- (2) 49 °C
- (3) 60 °C
- (4) 80 °C

( )

4. Sandy holds up a picture card in front of a mirror. Her friend, Vinny, uses a pin-hole camera to look at the picture in the mirror and sees the image shown below.



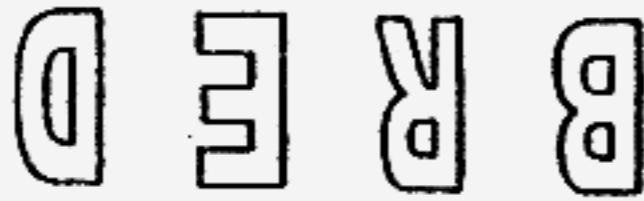
Sandy's picture card



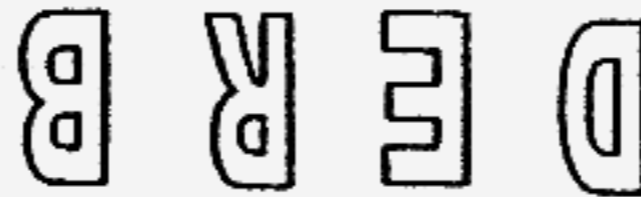
What Vinny sees through the pin-hole camera

Sandy then holds up a card with the words "BRED" printed on it in front of the mirror. Which of the images below would Vinny see through the pin-hole camera, assuming that she is using the camera to view the mirror image of the words like before?

(1)



(2)



(3)

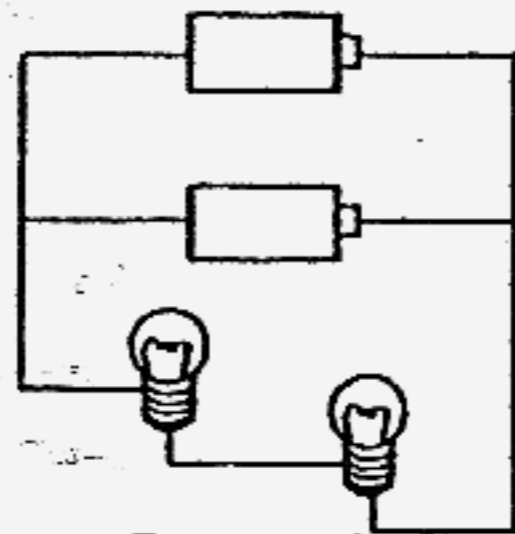


(4)

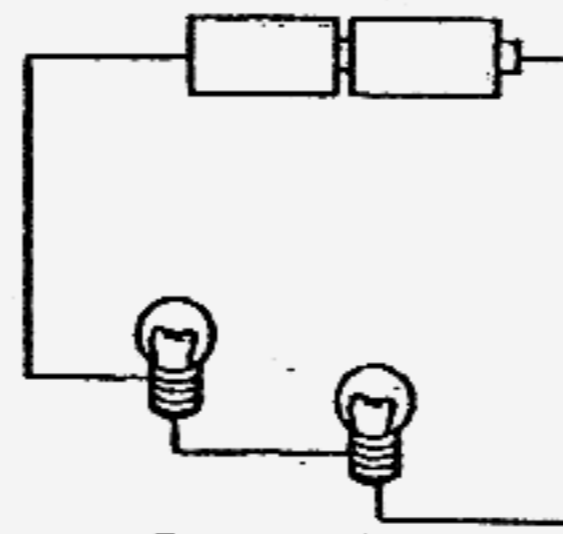


( )

5. Study the 2 set-ups below.



Set-up A



Set-up B

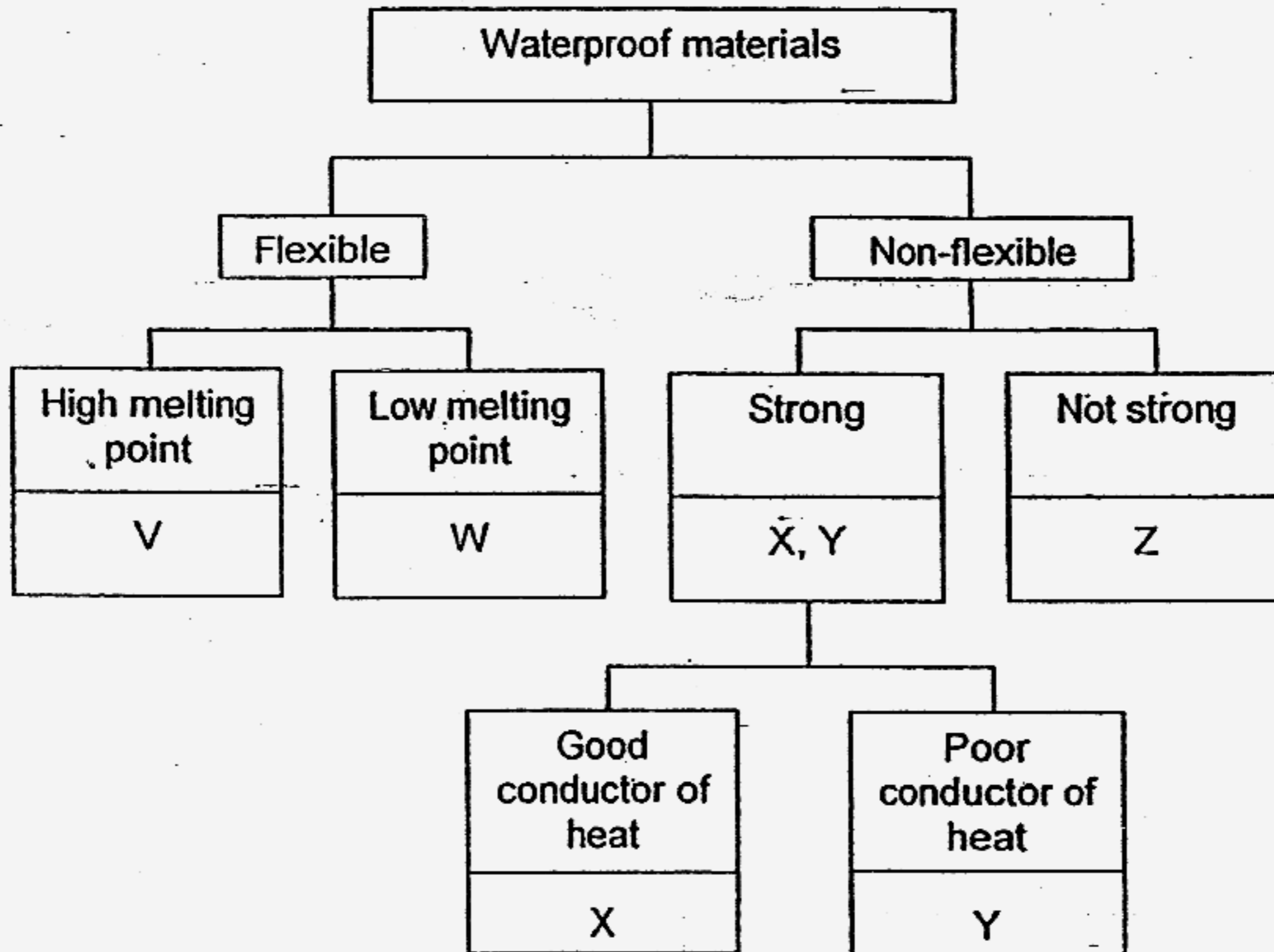
Which of the following statements are not true?

- A: The bulbs in Set-up A are brighter than the bulbs in Set-up B.
- B: Both the bulbs and batteries in Set-up B are arranged in series.
- C: The batteries in Set-up B will last longer than the batteries in Set-up A.
- D: If 1 of the bulbs in Set-up A is fused, the other bulb will not be able to light up.

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

( )

6. Rihana was told to select the best materials for making raincoats and helmets from the chart shown below. She was also told not to select the same materials for making the items.

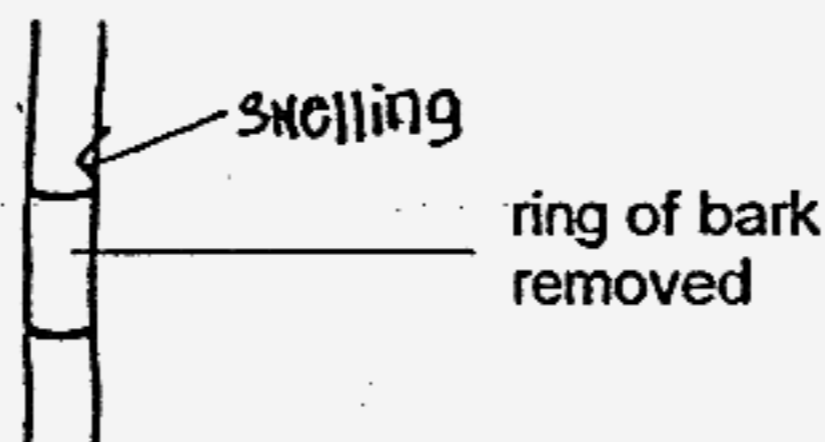


Based on the classification chart above, which of the following shows the best choice for making the raincoats and helmets?

	Raincoats	Helmets
(1)	V	Z
(2)	W	Y
(3)	X	Y
(4)	V	Y

( )

7. Derrick removes a small and thin ring of bark from a plant growing in an open field. A few days later, he notices a swelling above the ring of bark that was removed.

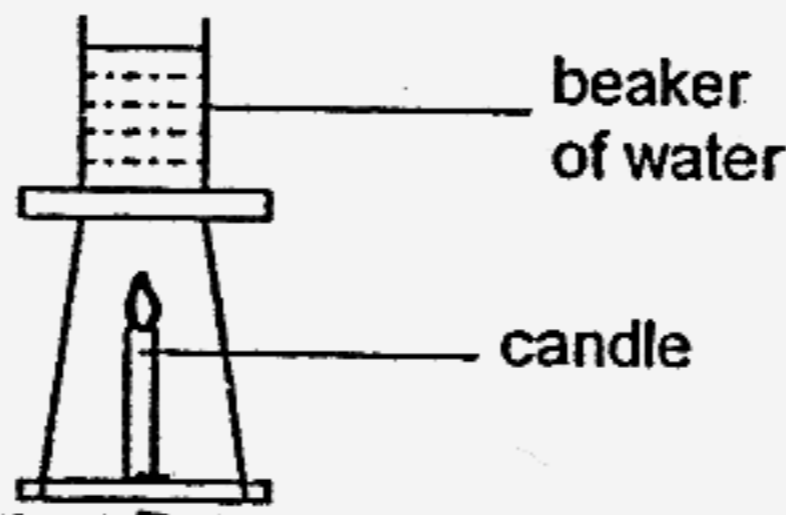


Which statement correctly explains the presence of the swelling?

- (1) Food travelling down the stem was trapped above the ring.
- (2) Water travelling up the stem was trapped above the ring.
- (3) Food travelling up the stem was trapped above the ring.
- (4) Water travelling down the stem was trapped above the ring.

( )

8. Albert set up the experiment as shown in the diagram below. After 30 minutes, he noted the volume of water that remained in the beaker.



He repeated the experiment with 2 identical candles, then with 3 identical candles and recorded the results in the table shown below.

Number of candles	Volume of water (in ml)	
	Before the experiment	After the experiment
1	50	47
2	50	42
3	50	37

The aim of Albert's experiment was to find out if \_\_\_\_\_

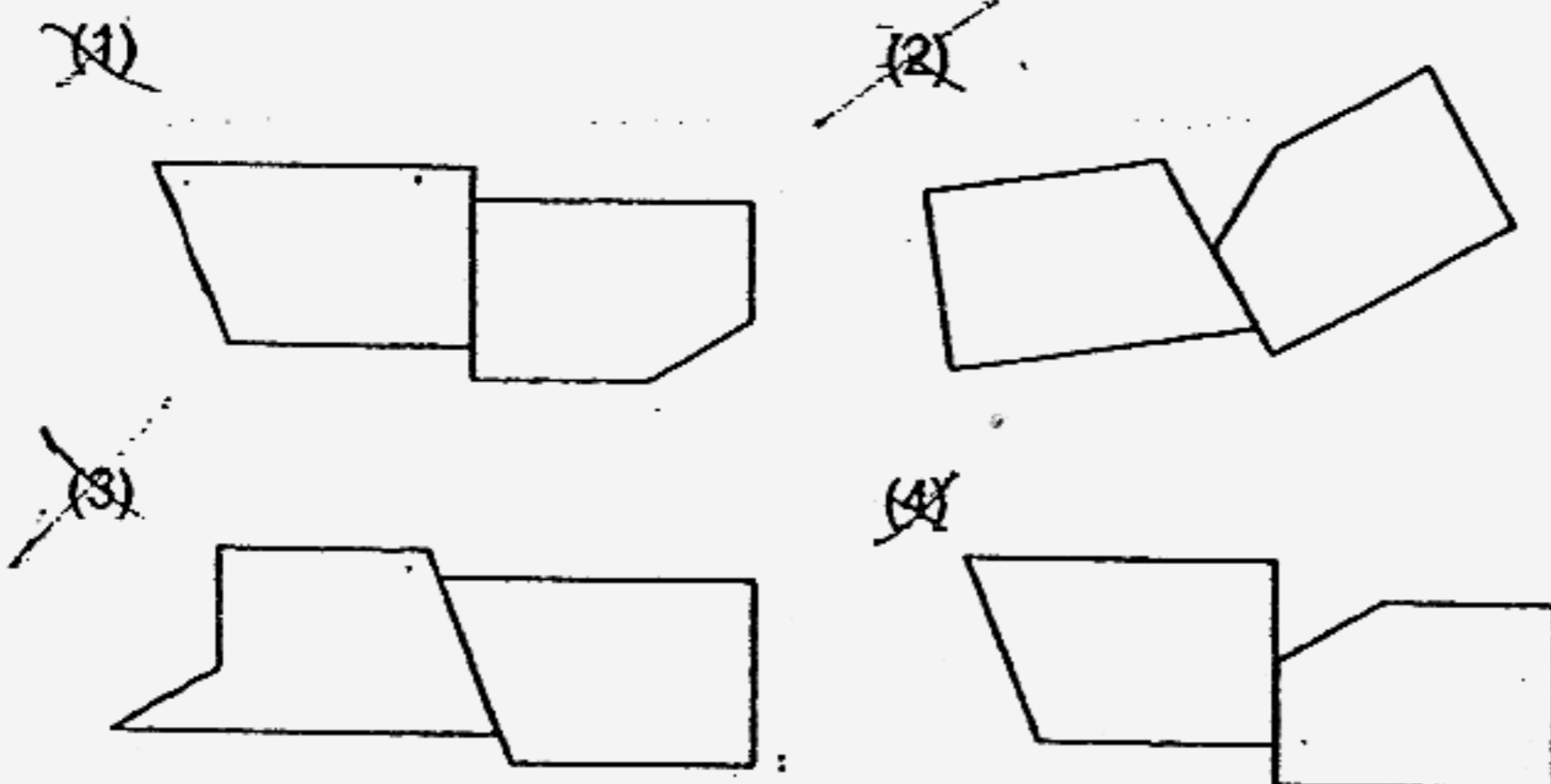
- (1) the rate of evaporation is affected by the exposed surface area of the water
- (2) the amount of heat received by the beaker of water is affected by the duration of the experiment
- (3) the rate of evaporation is affected by the amount of heat received by the beaker of water
- (4) the amount of heat received by the beaker of water is affected by the number of candles used

( . . )

9. Victoria broke a bar magnet into 3 pieces, A, B and C as shown below.

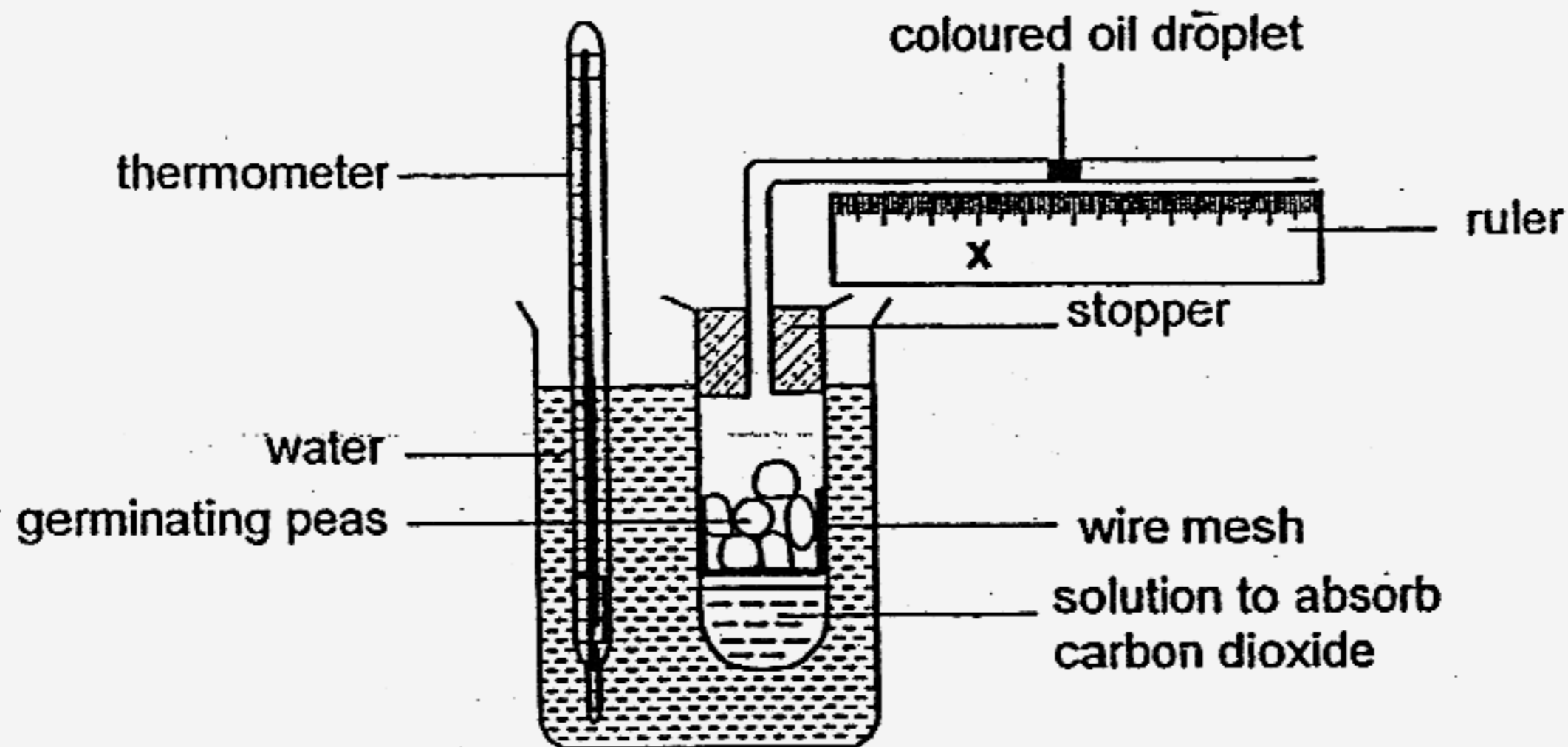


Which of the following is not possible when two broken pieces of the magnet are brought together?



( . . )

10. Tommy sets up the experiment shown in the diagram below in a dark room.



What will Tommy observe about the oil droplet and what is a possible explanation for this?

- (1) It shifts toward X, because the germinating peas take in oxygen.
- (2) It will not move because germination cannot take place in a dark room.
- (3) It shifts away from X, because the germinating peas give out carbon dioxide.
- (4) It will not move because the germinating peas take in oxygen and give out carbon dioxide.

( )

11. Jenna has 4 similar objects, E, F, G and H, which are made of different materials. The table below shows the materials that the objects are made of.

Objects	E	F	G	H
Material	iron	steel	aluminium	copper

She places two of the objects together in the combinations shown below, then tries separating them from each other by using a magnet.

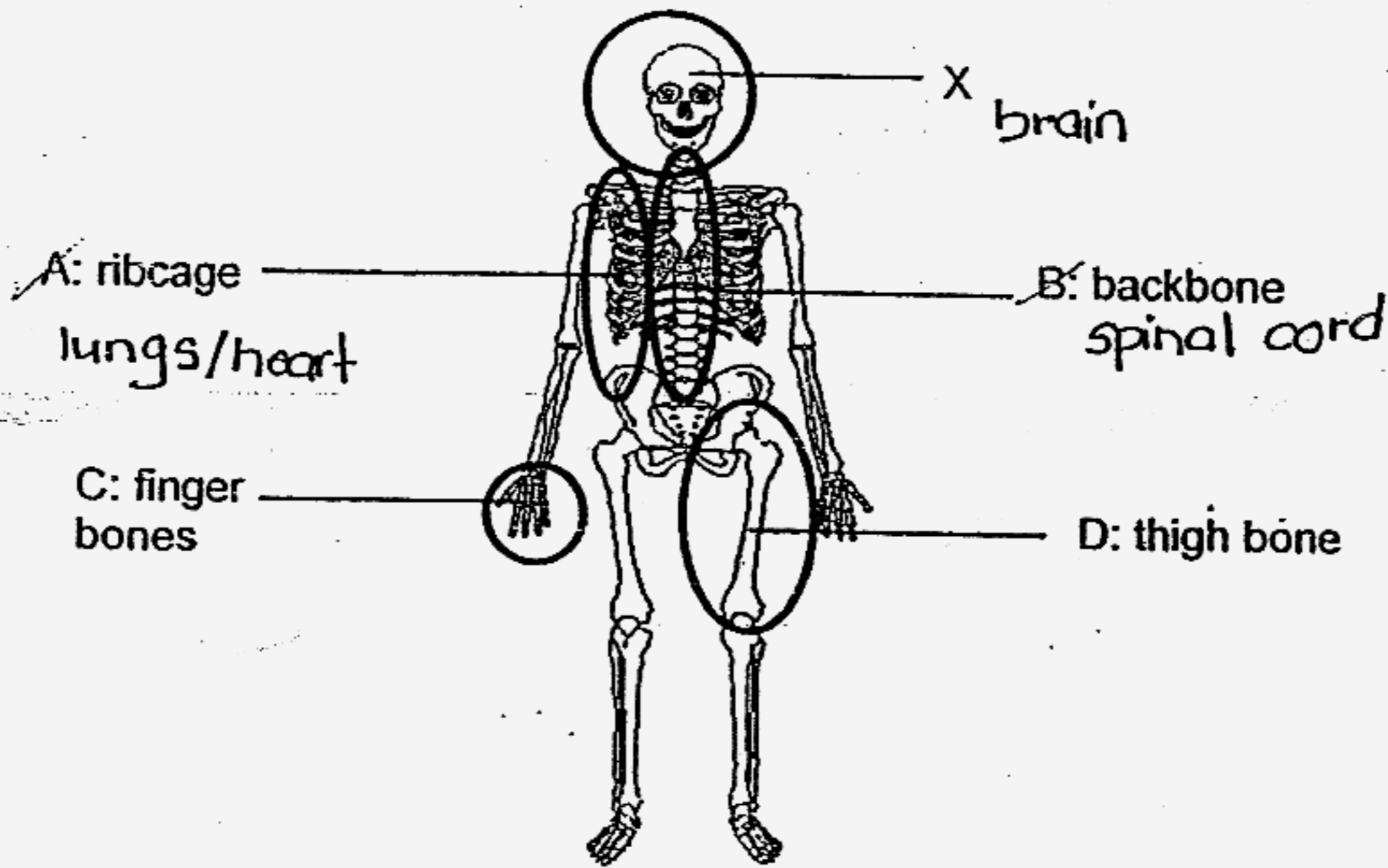
- ~~A~~: Objects E and F
- ~~B~~: Objects F and G
- ~~C~~: Objects F and H
- ~~D~~: Objects G and H

In which of these was she successful?

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

( )

12. X protects an important and delicate part of the human body. Which of the following bones do the same?



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

( )

13. Some inventions imitate the adaptations of animals. The diagram below shows a man in snorkelling gears and flippers under water.



From which animals did Man get the idea of snorkelling gears and flippers?

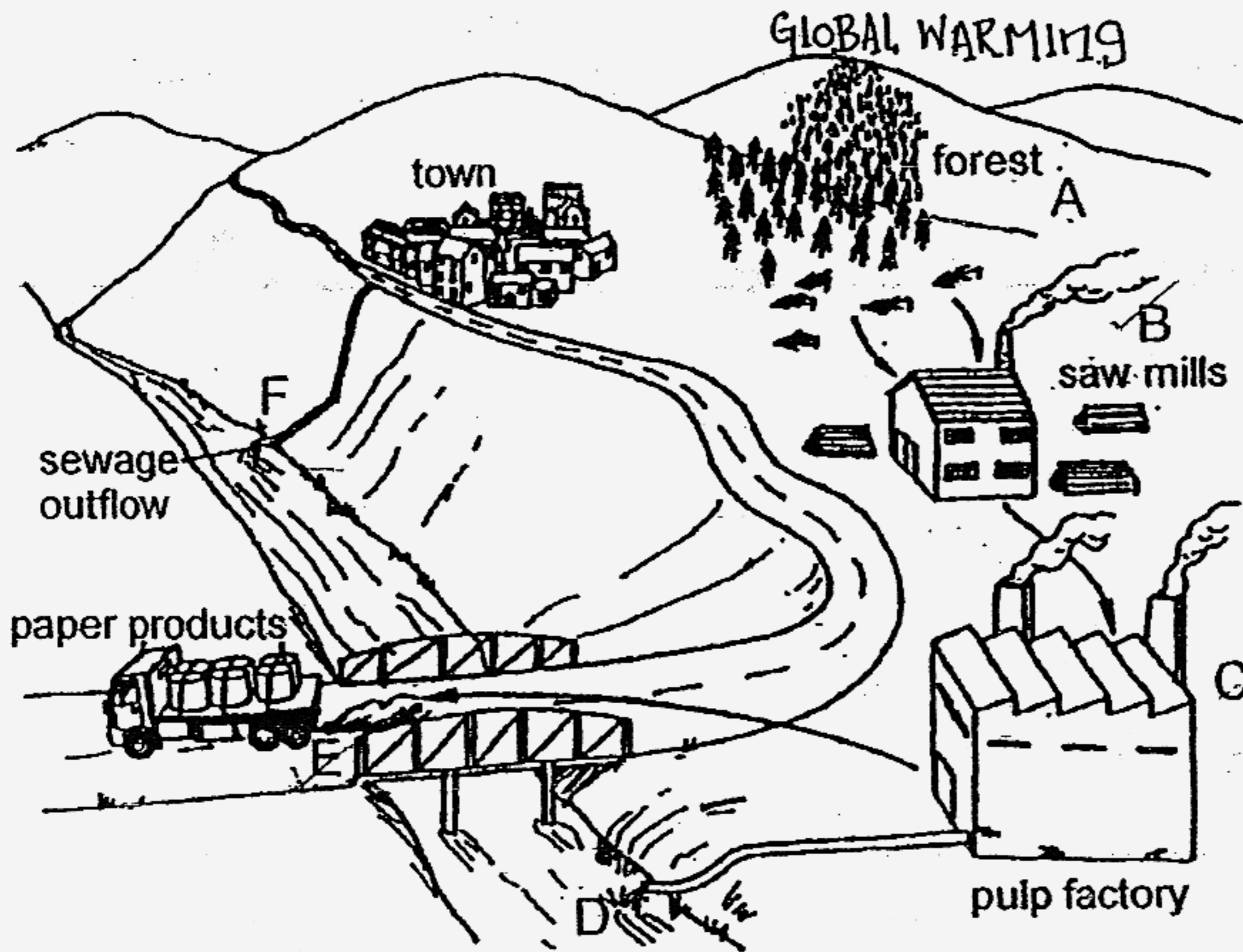
- A: Frog  
 B: Great diving beetle  
 C: Water stick insect  
 D: Tadpole

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

( )



14. The diagram below shows some human activities which affect the environment.

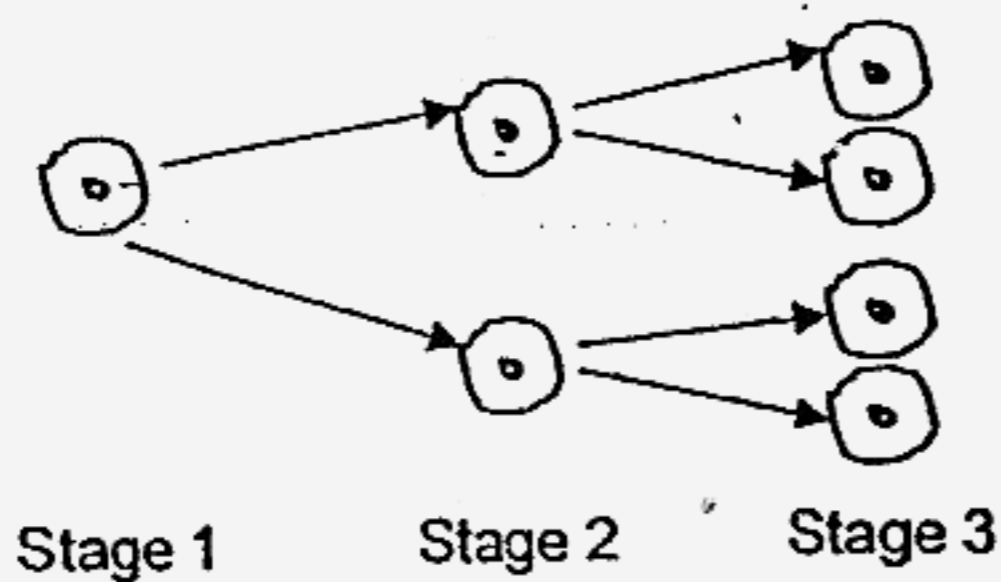


Based on the diagram, what are the activities that cause air pollution?

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

( )

15. The diagram below shows the first few stages of cell division for a particular cell.

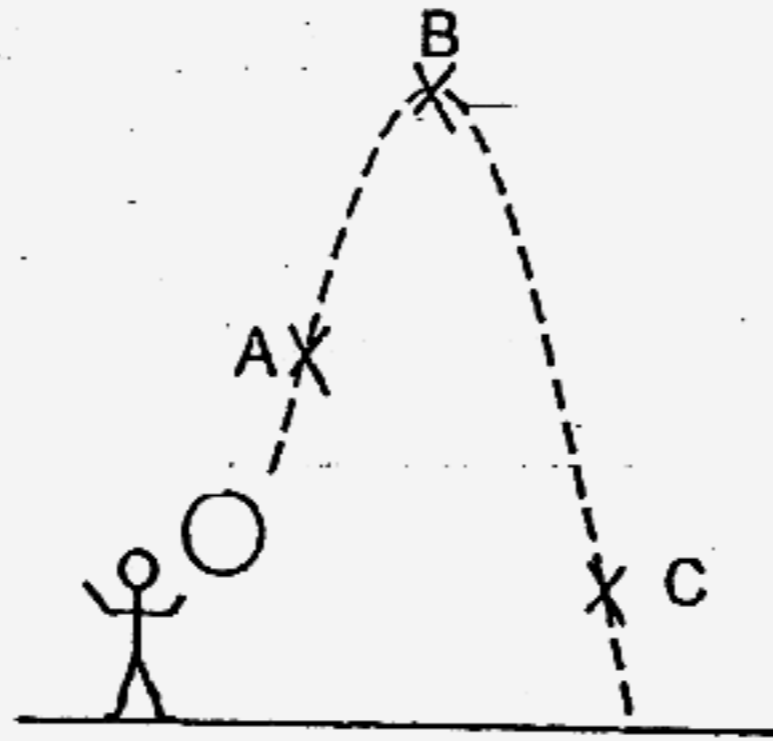


At the fifth stage, how many cells would there be?

- (1) 16
- (2) 32
- (3) 64
- (4) 128

( )

16. Jared threw a ball up into the air as shown in the diagram below. At various points of the path, the ball possessed potential energy, kinetic energy, or a combination of both.



What were the type(s) of energy the ball possessed at Points A, B and C?

~~(N)~~

Position	Type of energy		
	PE	KE	PE + KE
A			✓
B	✓		
C			✓

~~(B)~~

Position	Type of energy		
	PE	KE	PE + KE
A			✓
B		✓	
C			✓

~~(C)~~

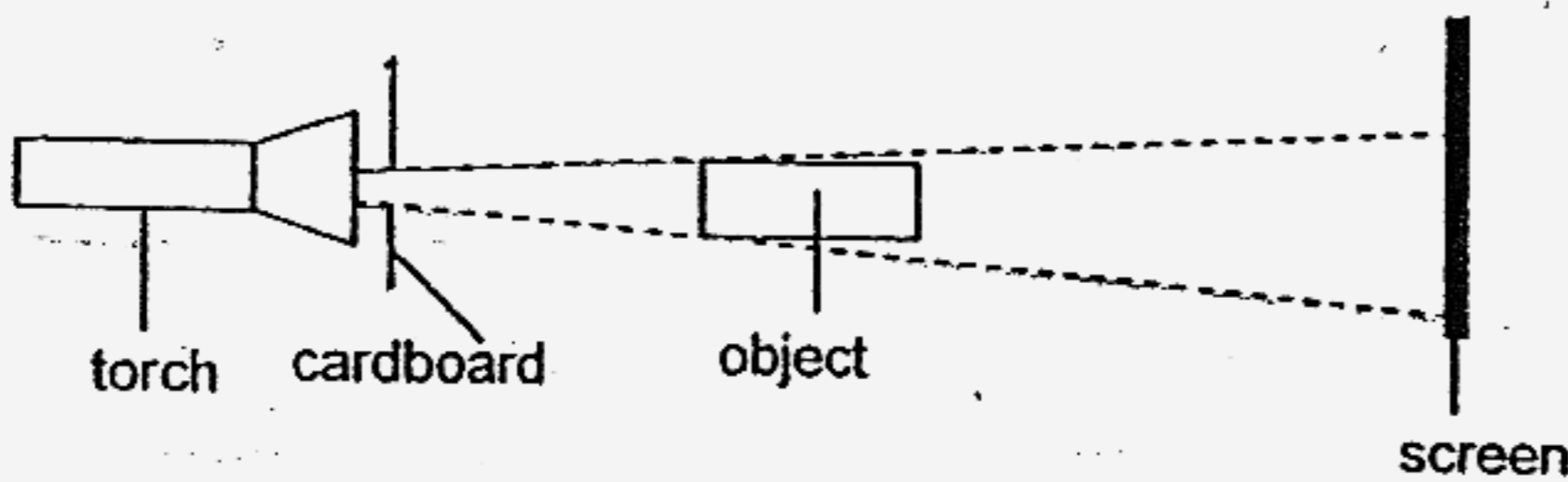
Position	Type of energy		
	PE	KE	PE + KE
A		✓	
B	✓		
C			✓

~~(A)~~

Position	Type of energy		
	PE	KE	PE + KE
A			✓
B	✓		
C		✓	

( )

17. Lilian sets up a simple experiment as shown below.



What can she do to make the shadow on the screen smaller?

- ~~A:~~ Move the torch and cardboard nearer to the object.
- ~~B:~~ Move the object nearer to the screen.
- ~~C:~~ Move the screen towards the object.
- ~~D:~~ Move the screen away from the object.













- ~~(X)~~ B only
- ~~(B)~~ A and D only
- ~~(B)~~ B and C only
- ~~(A)~~ A, B and D only

( )

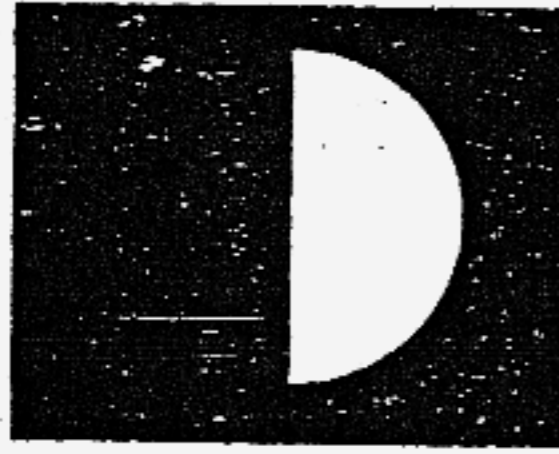
18. Joshua wants to find out how the wing-like structure of an angšana fruit affects the time it takes to reach the ground when dropped from a certain height. He selects 3 similar angšana fruits and cuts the wing-like structure of the fruits to different sizes. Then, he records the time taken for each fruit to reach the ground when dropped from a certain height in the table below.

Fruit	Time taken for the angšana fruit to reach the ground (seconds)		
	1 <sup>st</sup> try	2 <sup>nd</sup> try	3 <sup>rd</sup> try
W	6.9	6.4	6.0
X	2.8	2.4	2.6
Y	4.3	4.6	5.1

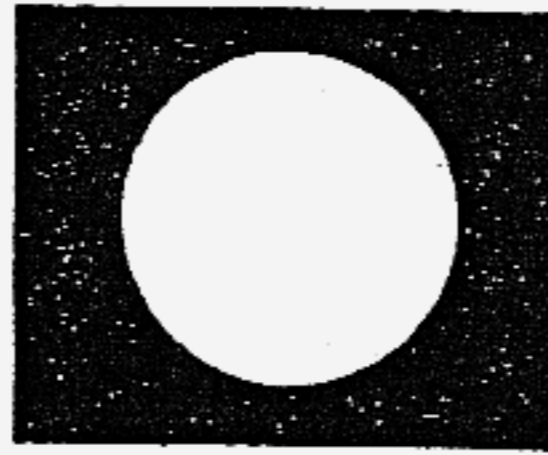
Which of the following correctly represents the angšana fruits W, X and Y?

	W	X	Y
(1)			
(2)			
(3)			
(4)			

19. Alice observed the shapes of the Moon on 7<sup>th</sup> March and 14<sup>th</sup> March.



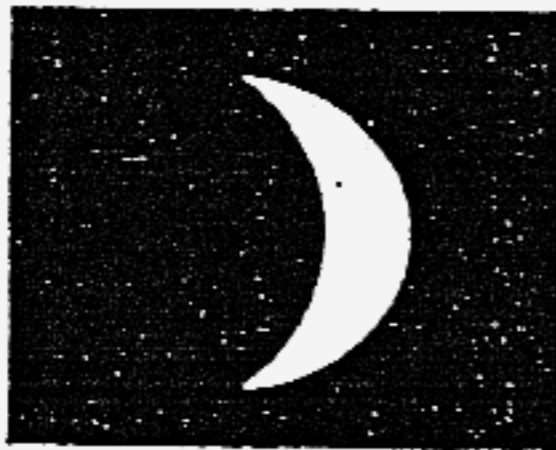
7<sup>th</sup> March



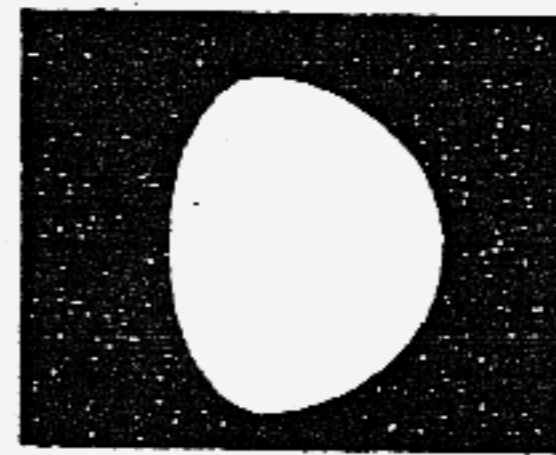
14<sup>th</sup> March

What would the shape of the Moon be on 24<sup>th</sup> March?

(1)



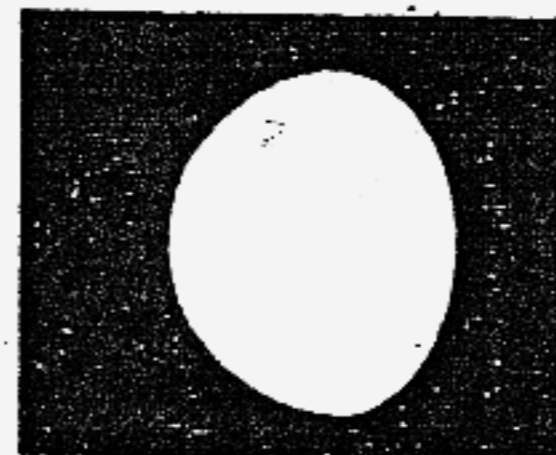
(2)



(3)

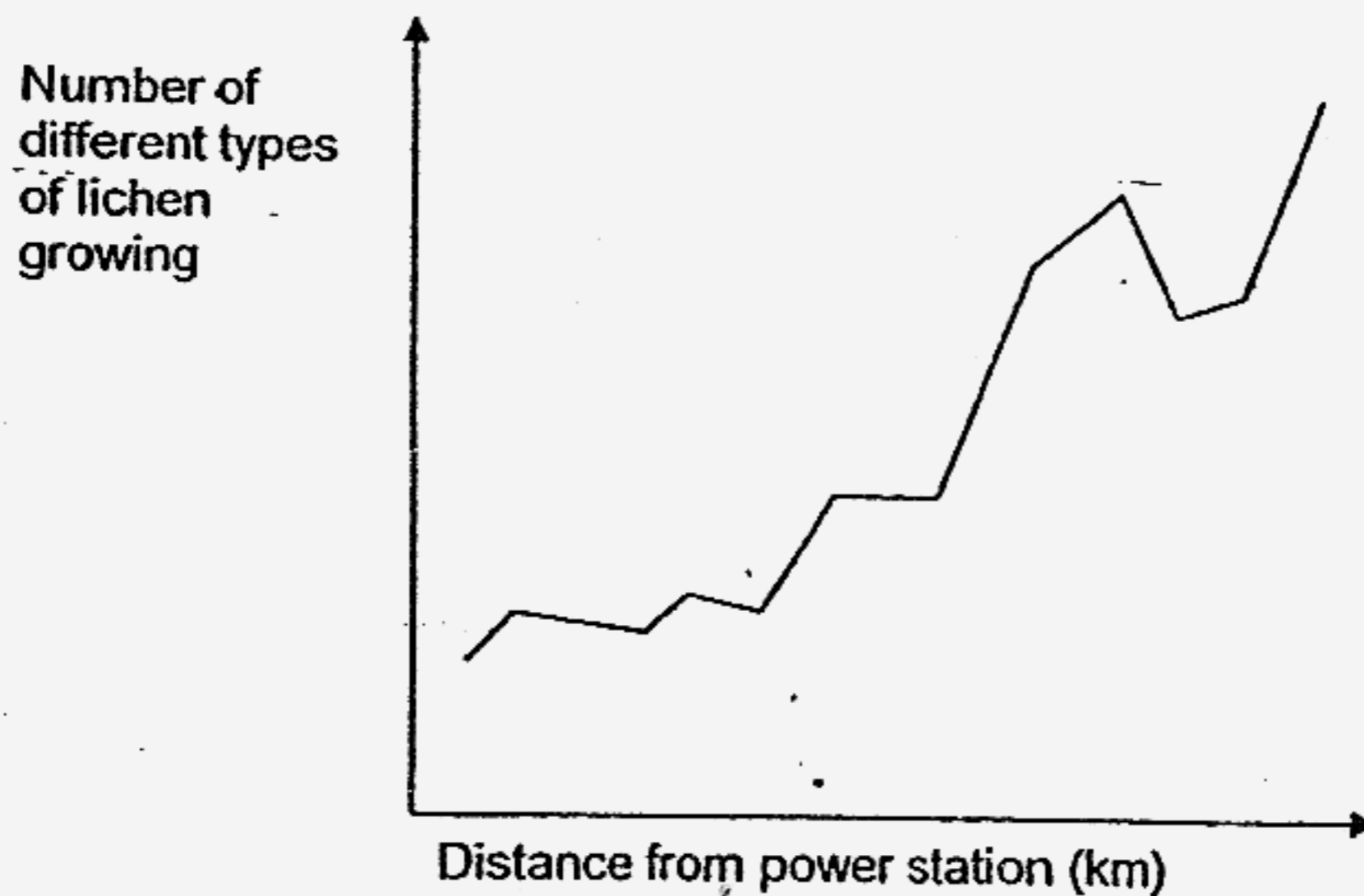


(4)



( )

20. Lichens are organisms which are very sensitive to air pollution. The graph below shows how the distance from a power station affects the number of types of lichen growing around the power station.



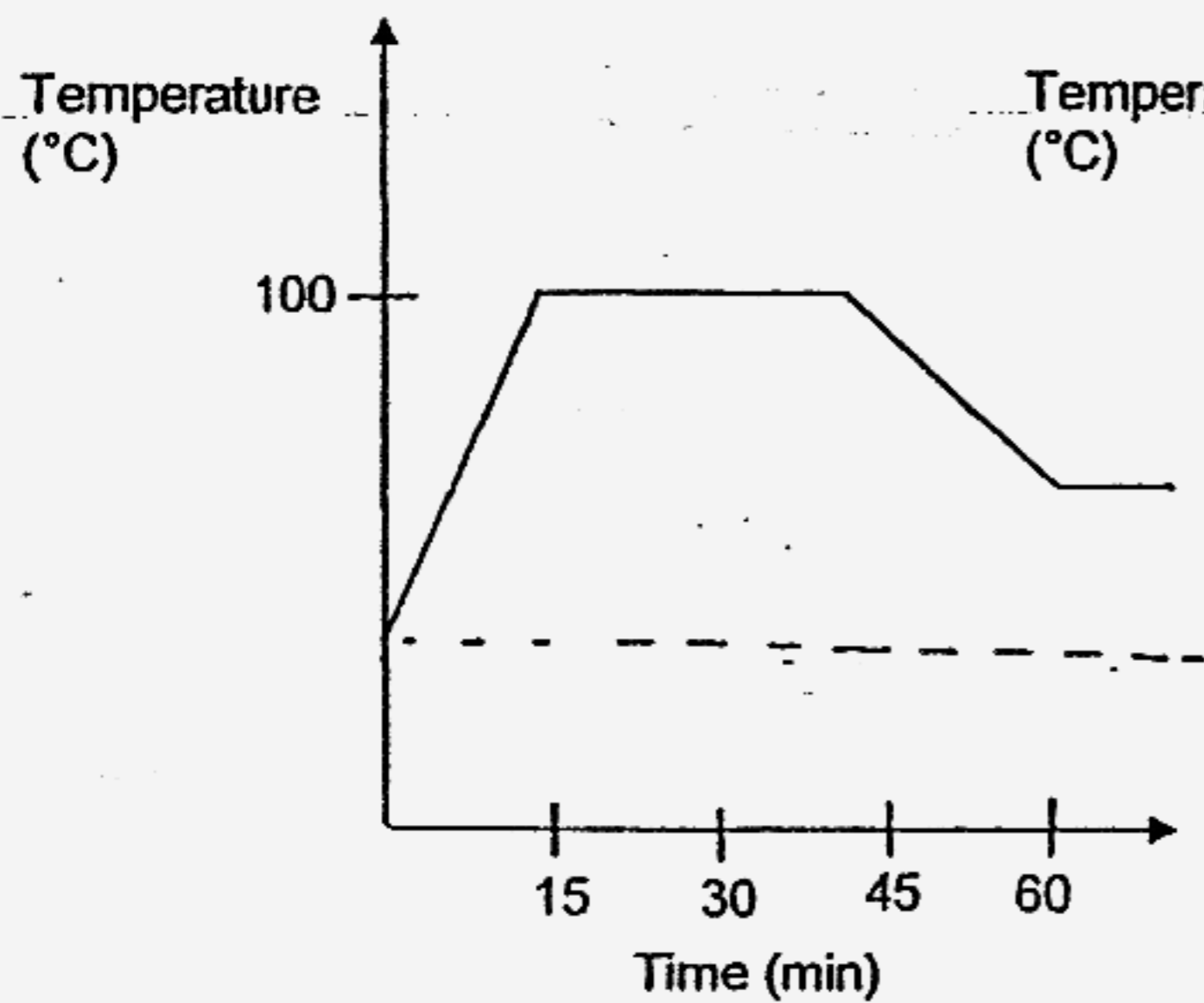
Which one of the following conclusions can be drawn from the graph above?

- (1) There are fewer types of lichens growing near the power station.
  - (2) Less types of lichens grow in areas further away from the power station.
  - (3) As the distance from the power station increases, air pollution increases.
  - (4) The number of types of lichens growing decreases when the distance from the power station increases.
- ( )

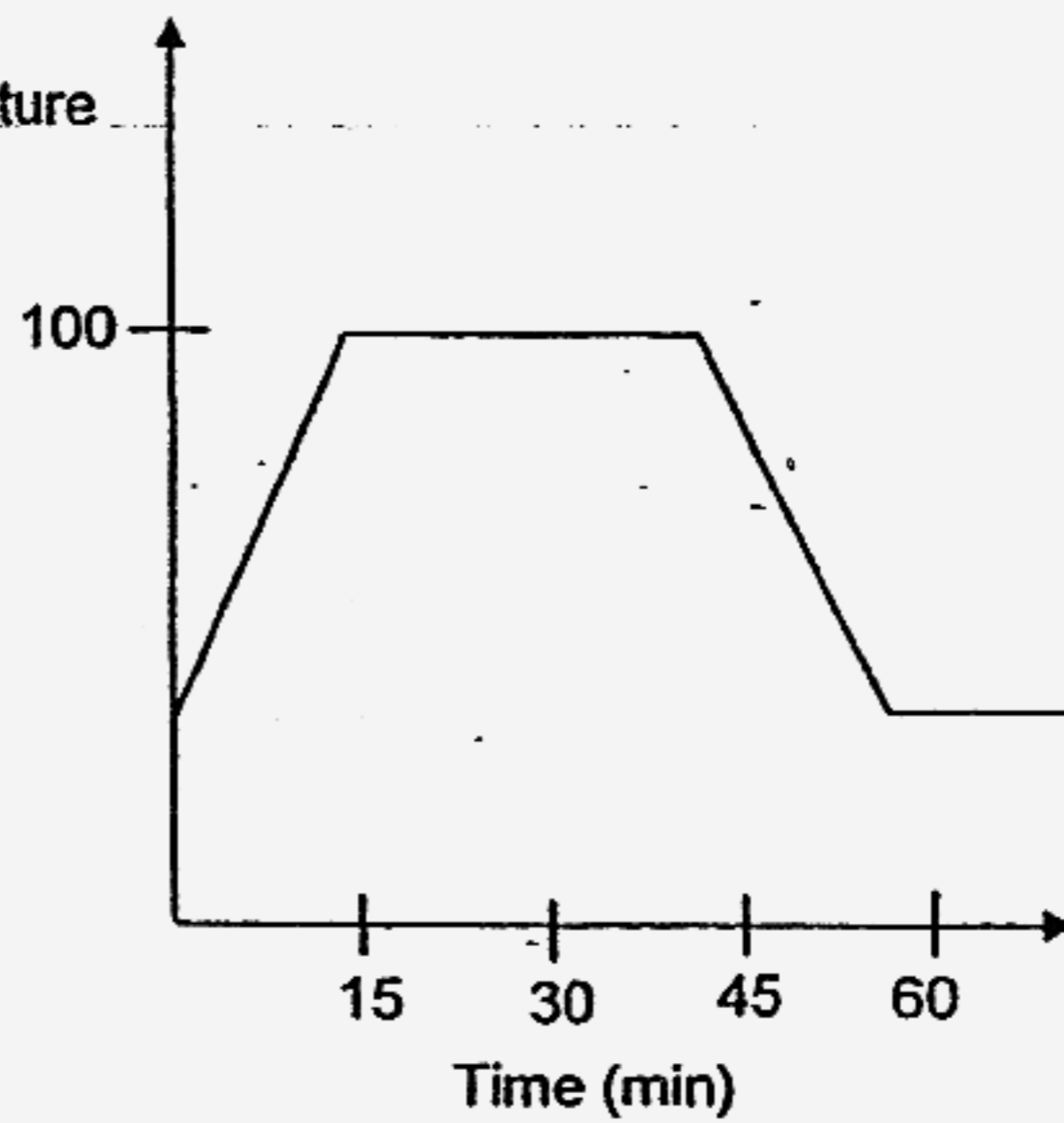
21. Helen heated a pot of tap water till it boils. After the water has boiled for some time, she placed it on the table and allowed it to cool.

Which of the following best shows the changes in the temperature of the water?

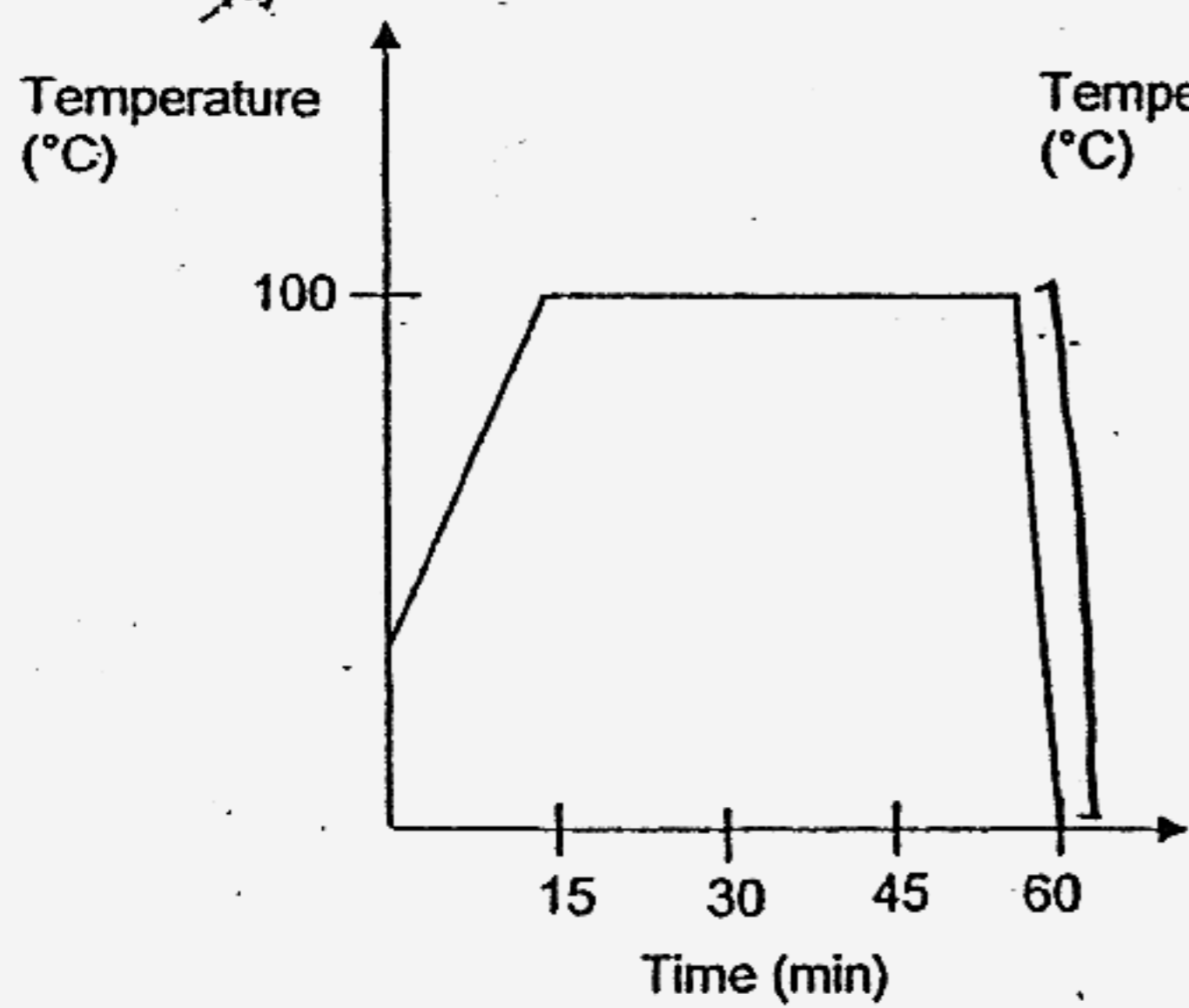
(1)



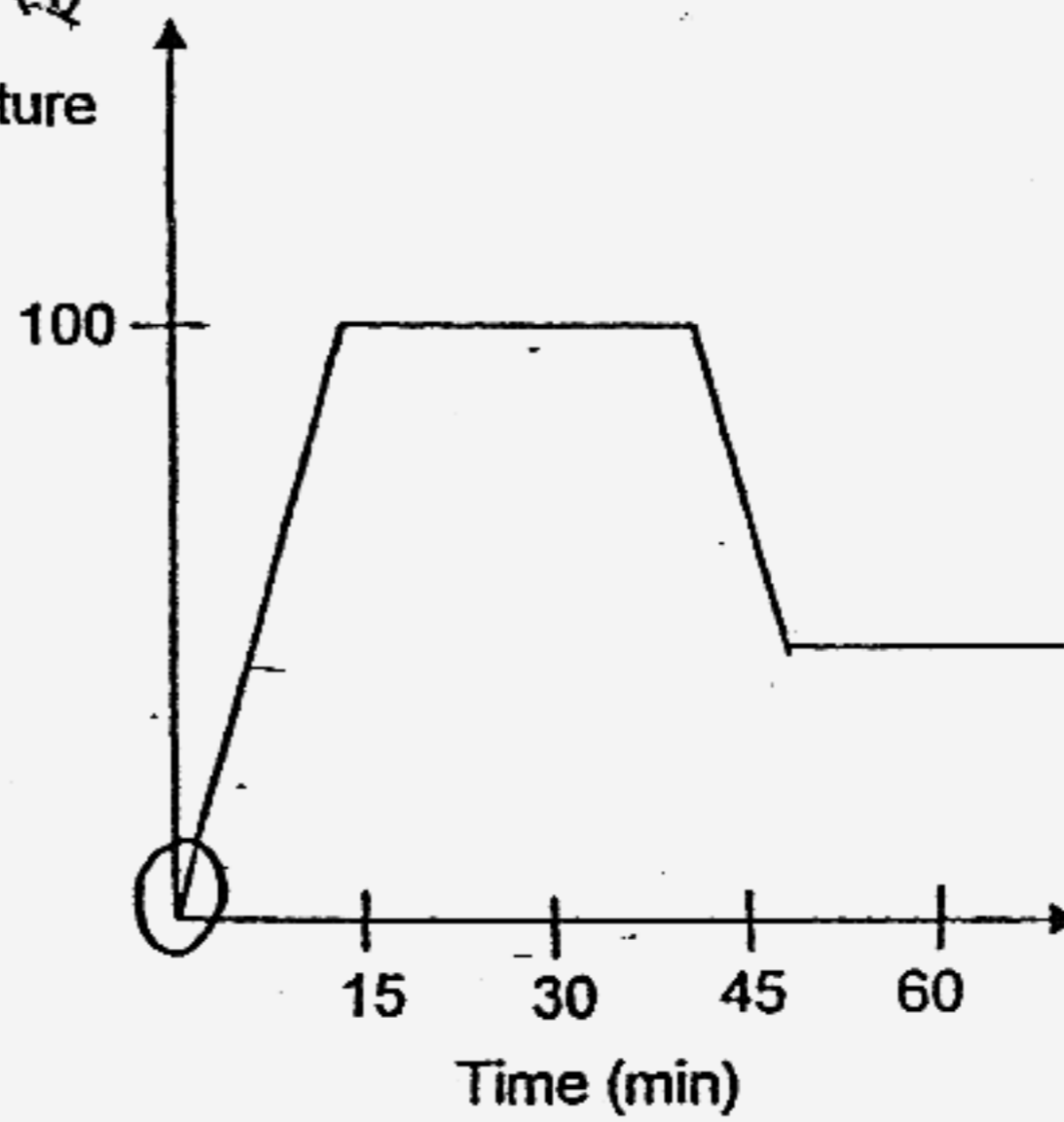
(2)



(3)

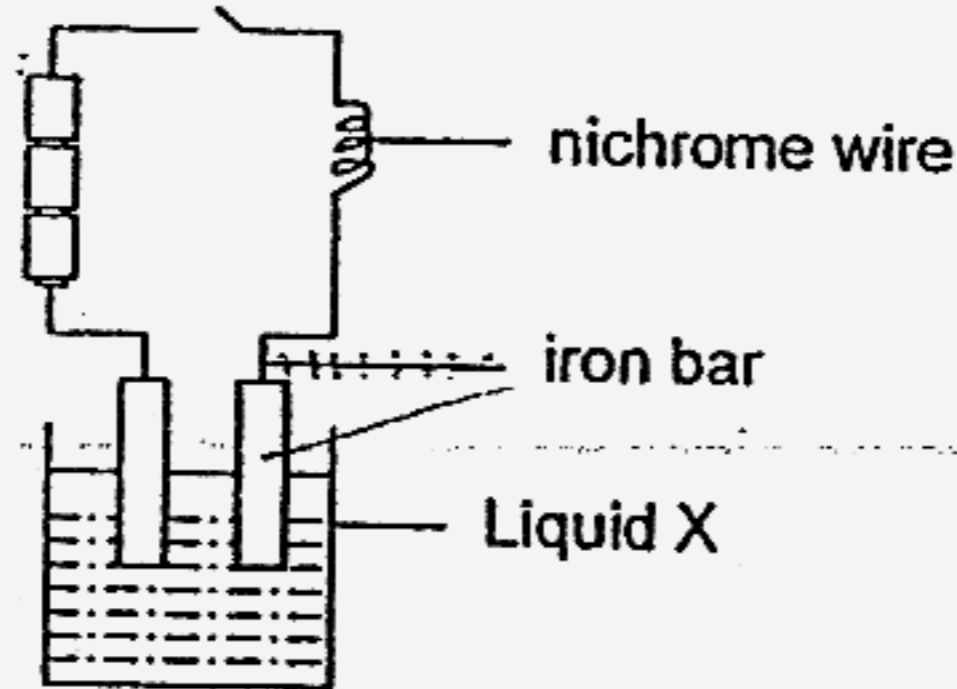


(4)



( )

22. Connor set up an experiment as shown below. When the circuit was closed, he observed that the nichrome wire was red hot.



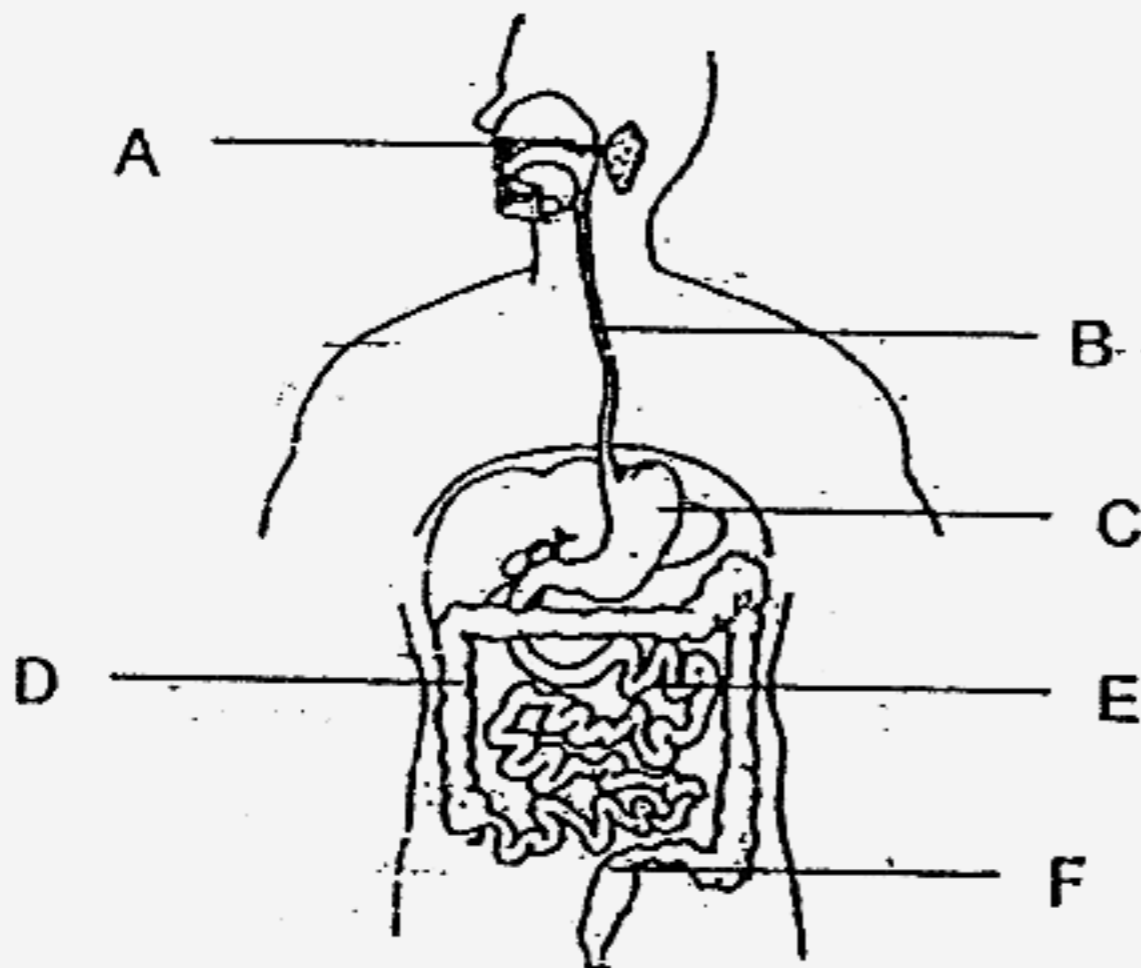
Which of the following statements are possible deductions that can be concluded from Connor's experiment?

- A: Heat can pass through Liquid X.
- B: Electricity can pass through Liquid X.
- C: The greater the number of batteries in the circuit, the hotter the nichrome wire.
- D: Electrical energy in the circuit is converted to heat energy and light energy in the nichrome wire.

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

( )

23. The diagram below shows the human digestive system.

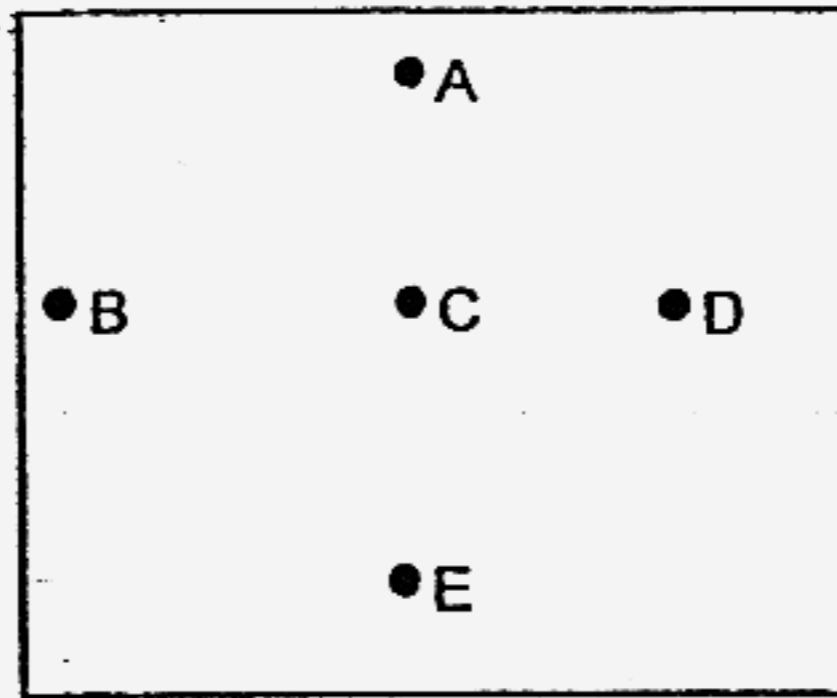


In which of the parts, A, B, C, D, E and F are digestive juices added?

- (1) A, D and E only
- (2) C, D and E only
- (3) A, C and E only
- (4) A, C and F only

( )

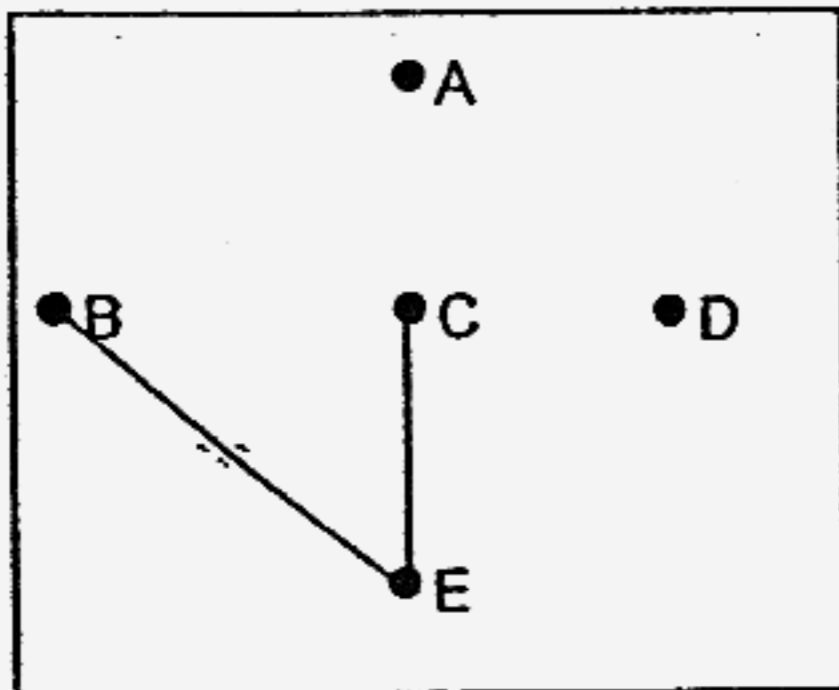
24. John wanted to find out how the wires behind the circuit card shown below were connected. He joined the two ends of a circuit tester to the different points of the card each time and recorded the results he observed in a table.



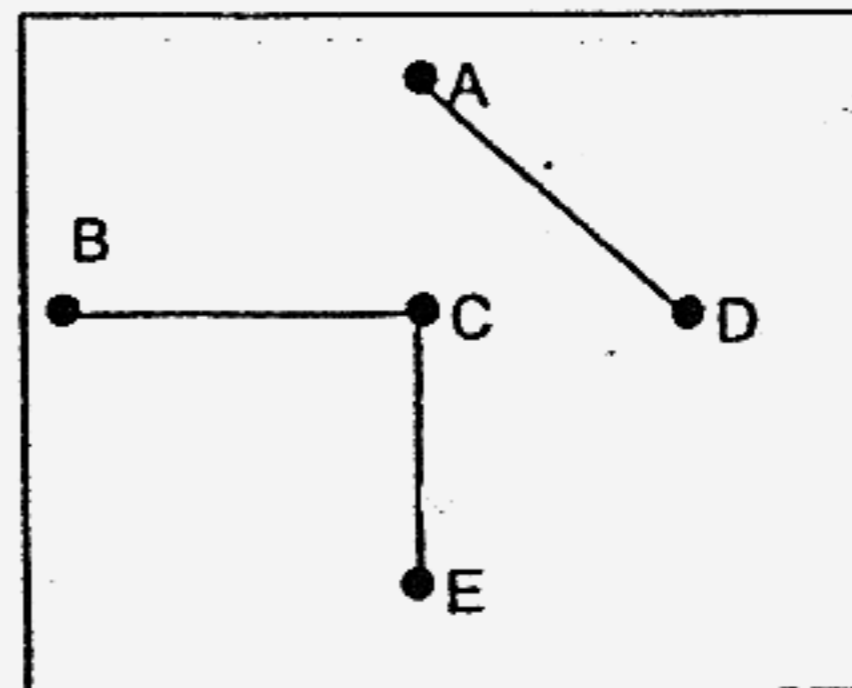
Points joined to the circuit tester	Did the bulb light up?
A and B	No
A and E	Yes
B and D	No
C and E	Yes

Based on the results of John's experiment, which of the following shows the correct arrangement of the wires behind the circuit card?

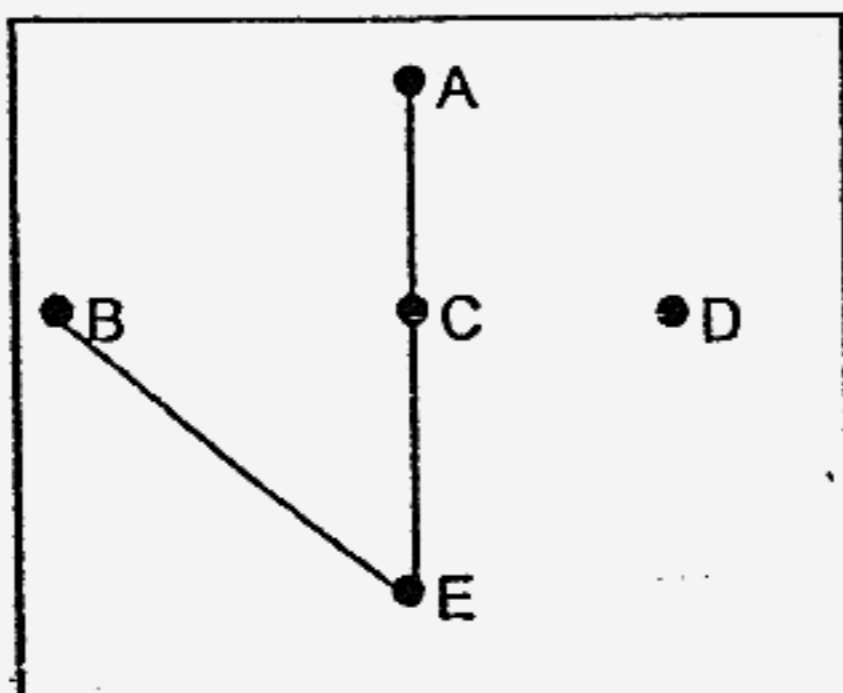
~~(1)~~



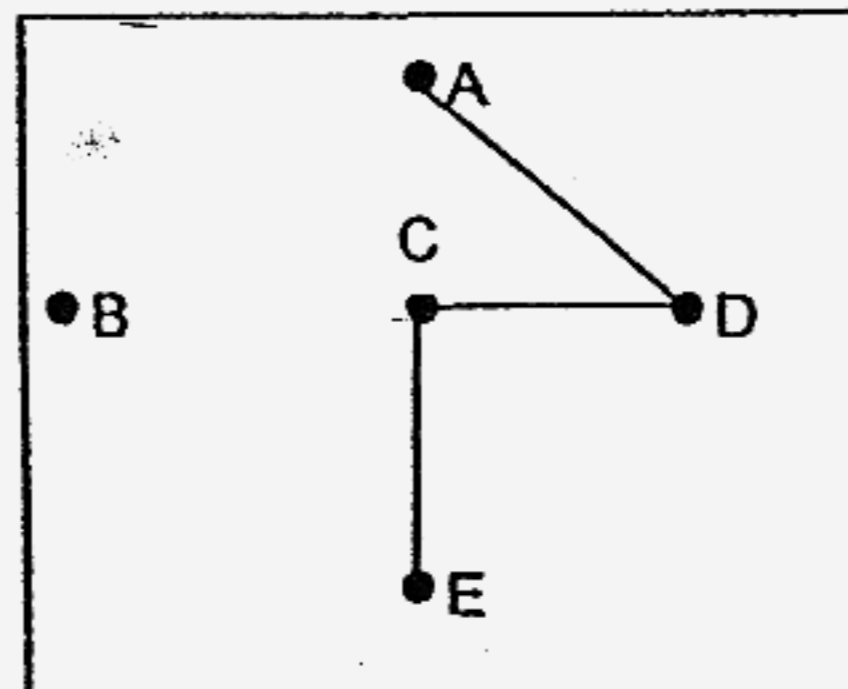
~~(2)~~



(3)

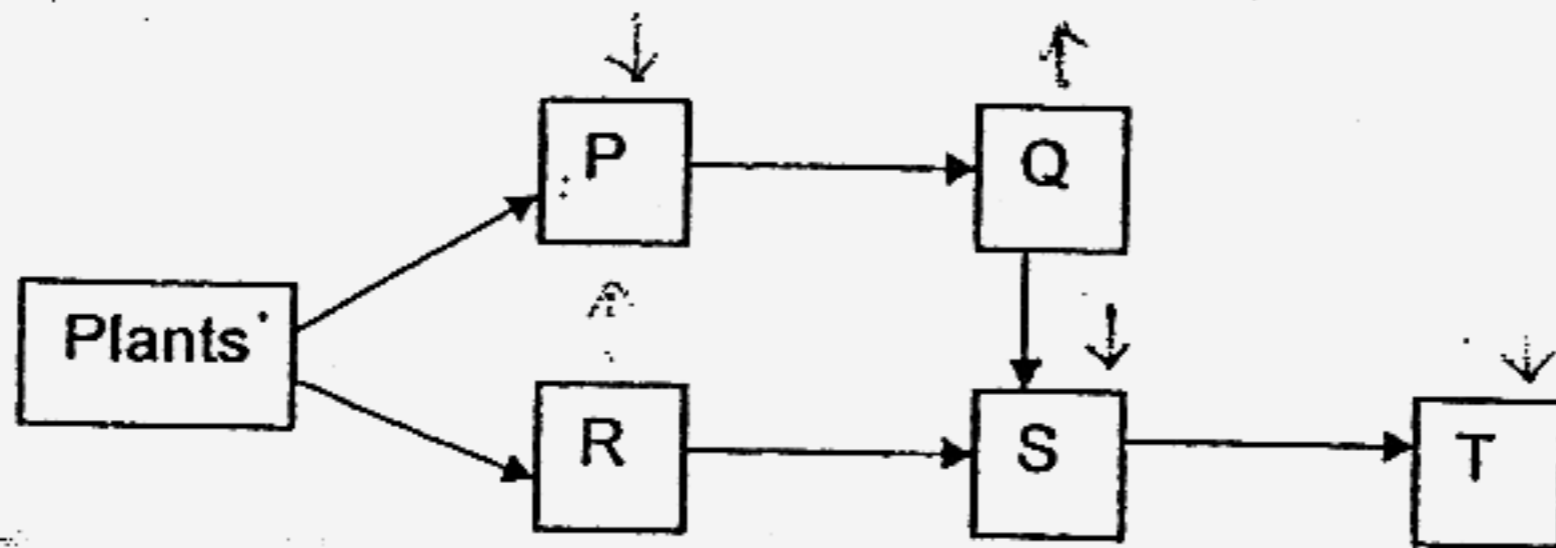


(4)

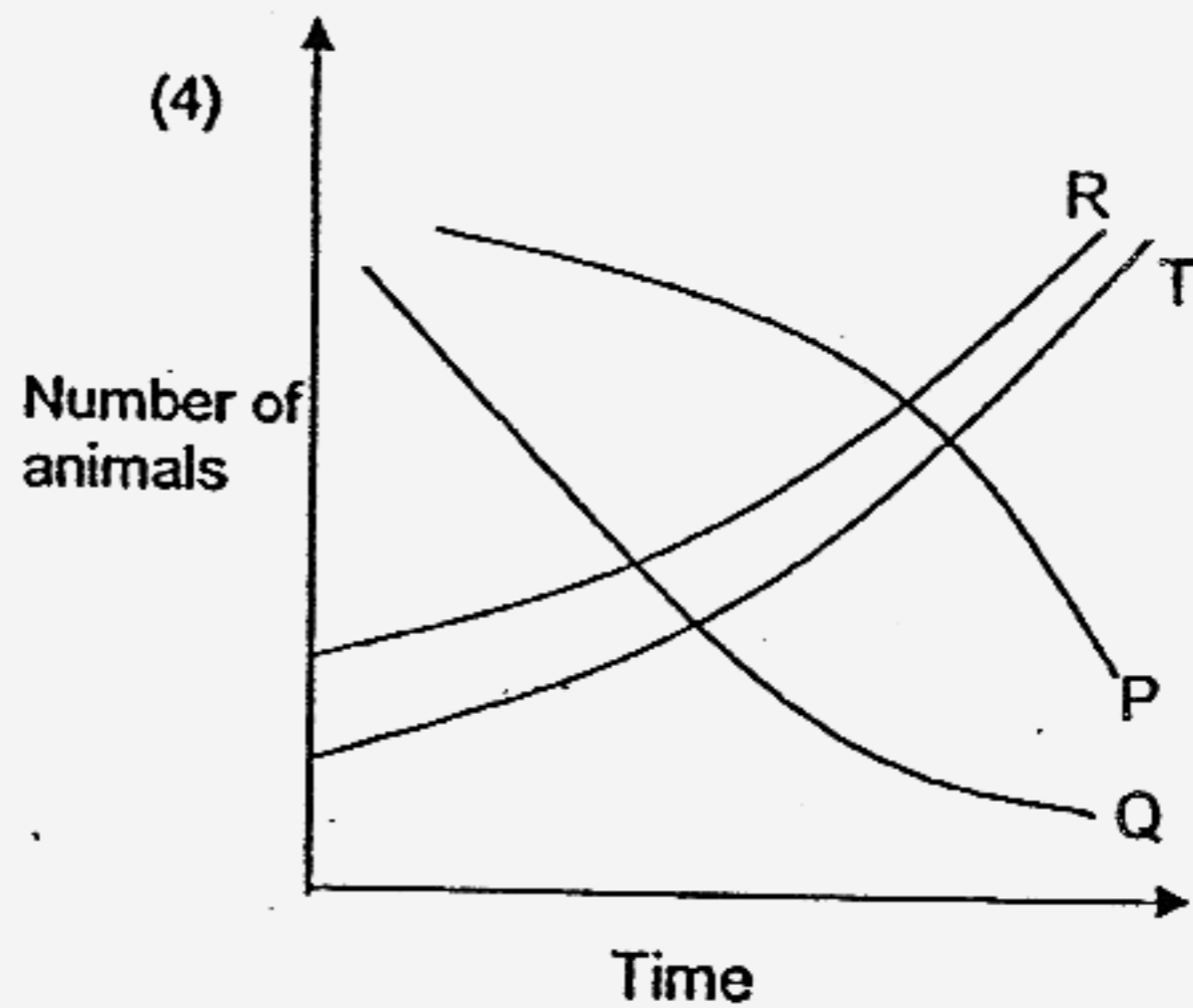
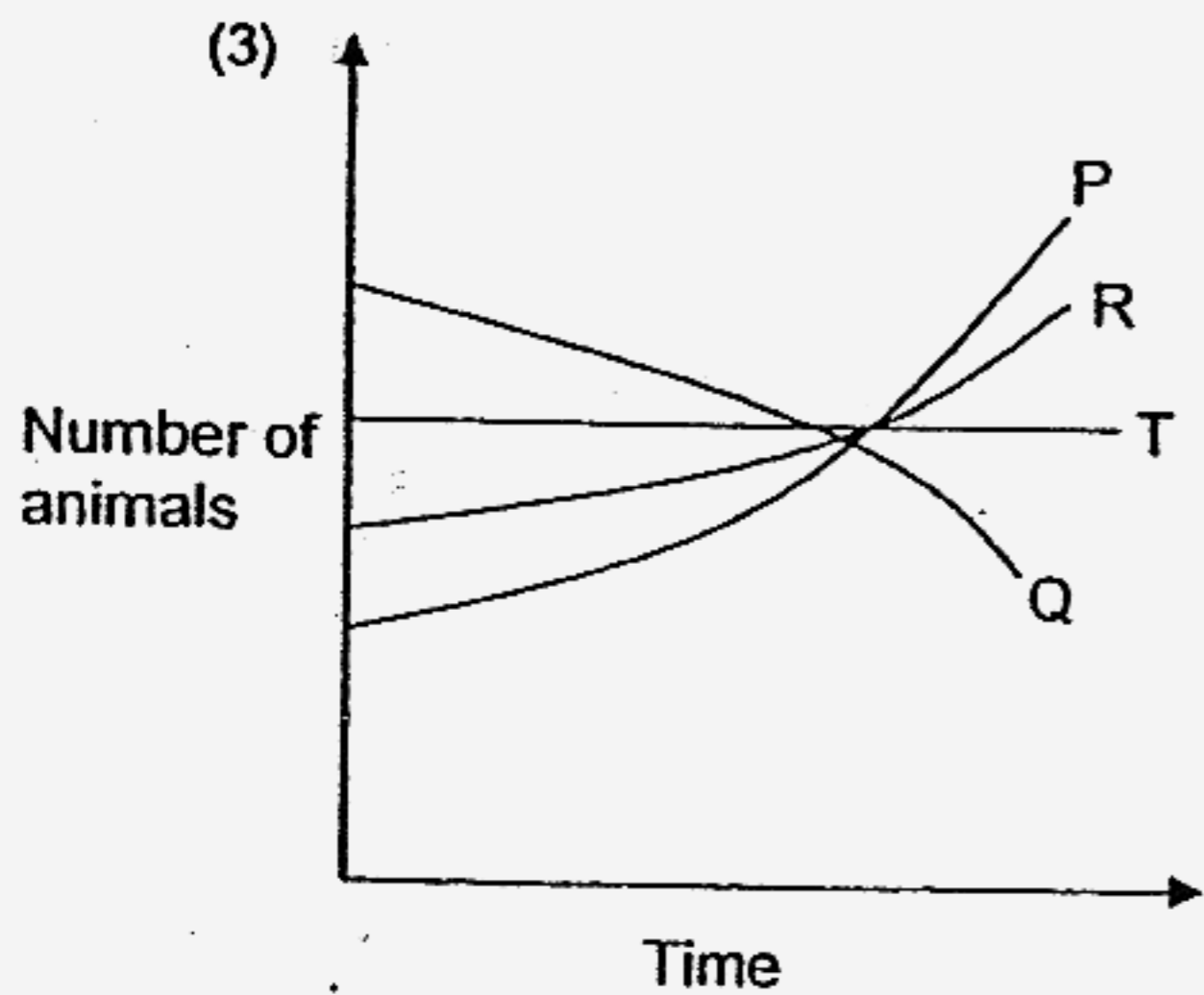
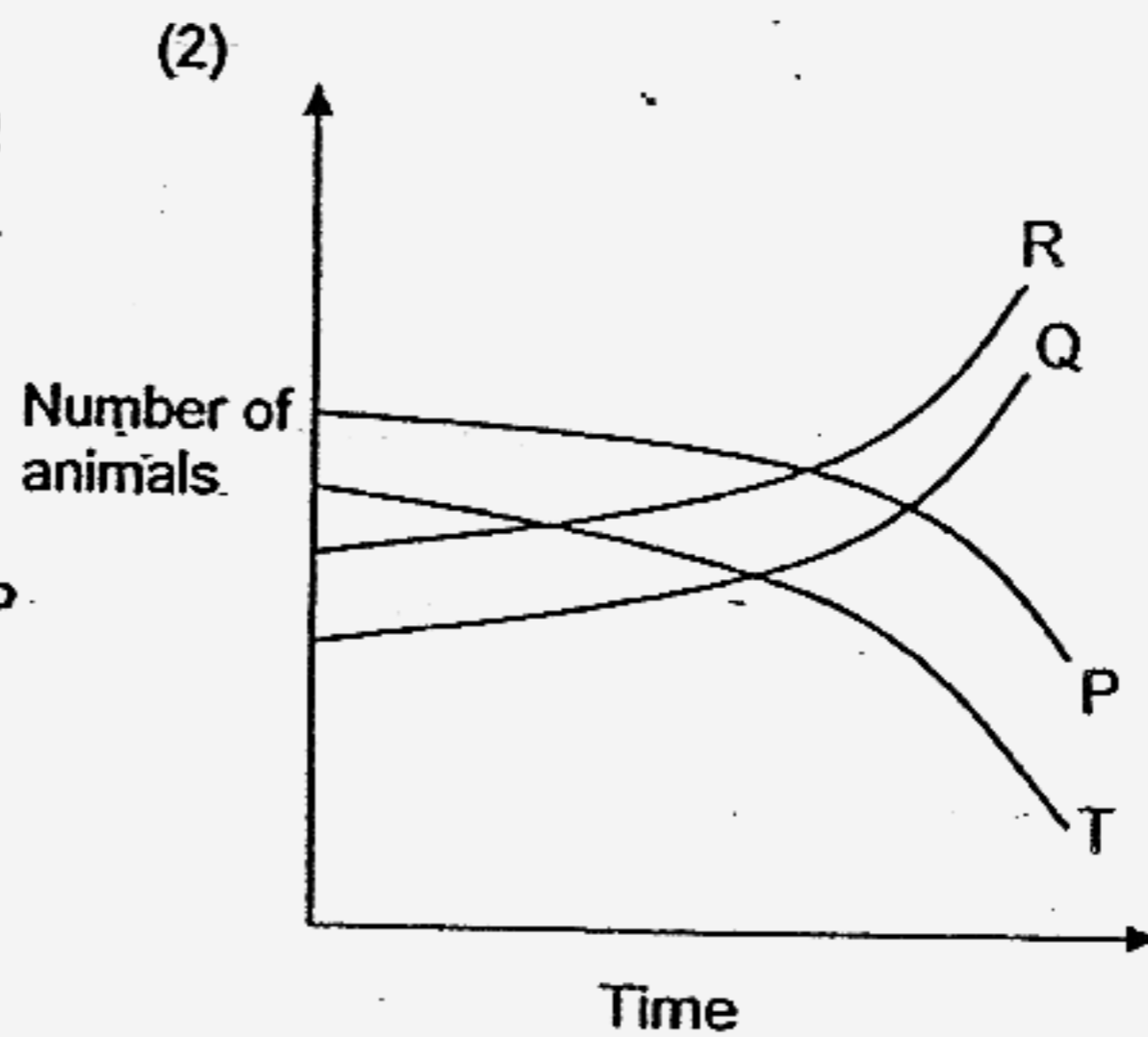
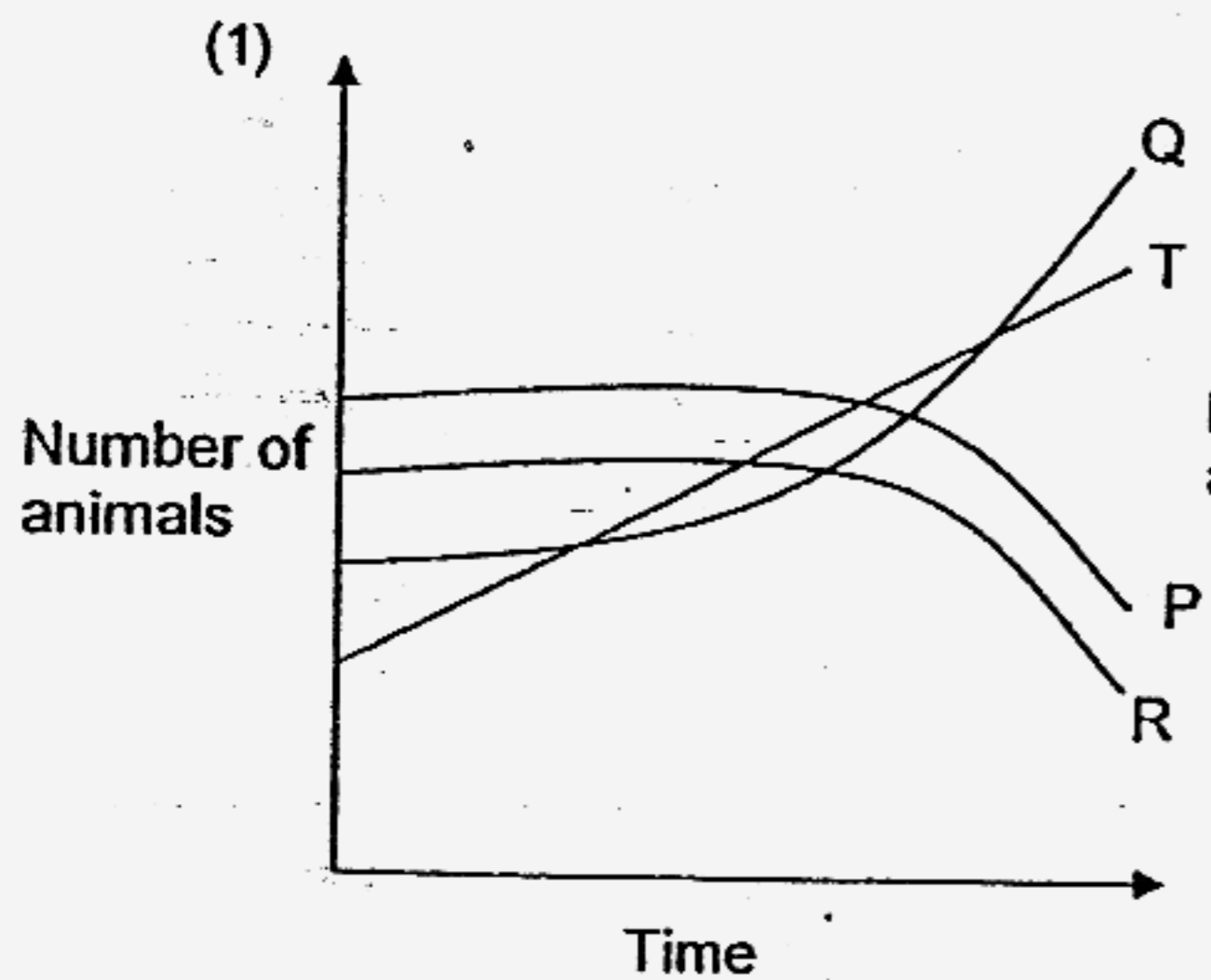


( )

25. In the food web shown below, P, Q, R, S and T represent animals.

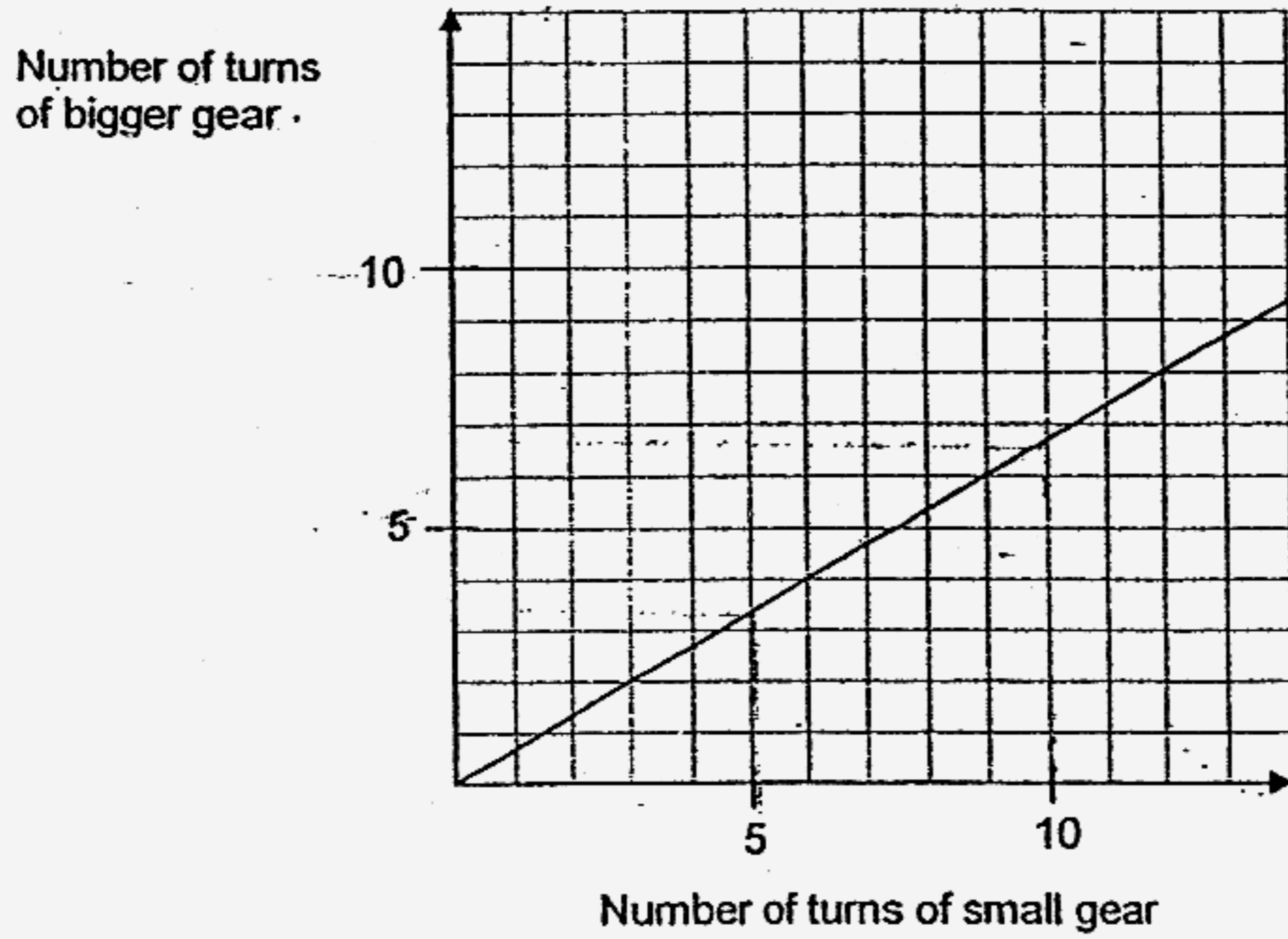


Which one of the following shows how the populations of P, Q, R and T are likely to be affected immediately if there is a decrease in the population of S in a habitat?

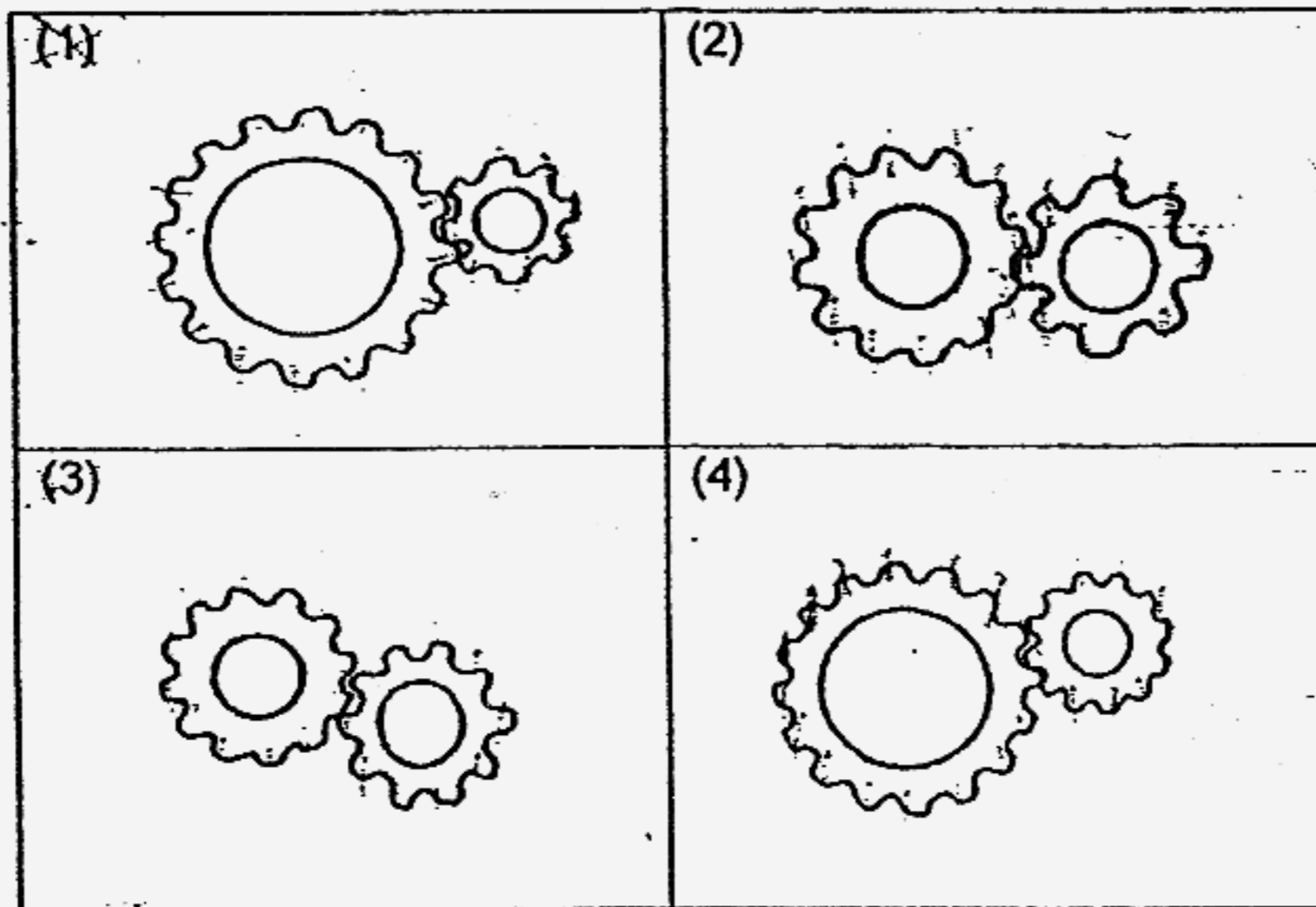




26. A gear system consists of a bigger gear and a smaller gear. The relationship between the number of turns of the bigger gear and the smaller gear is shown in the graph below.

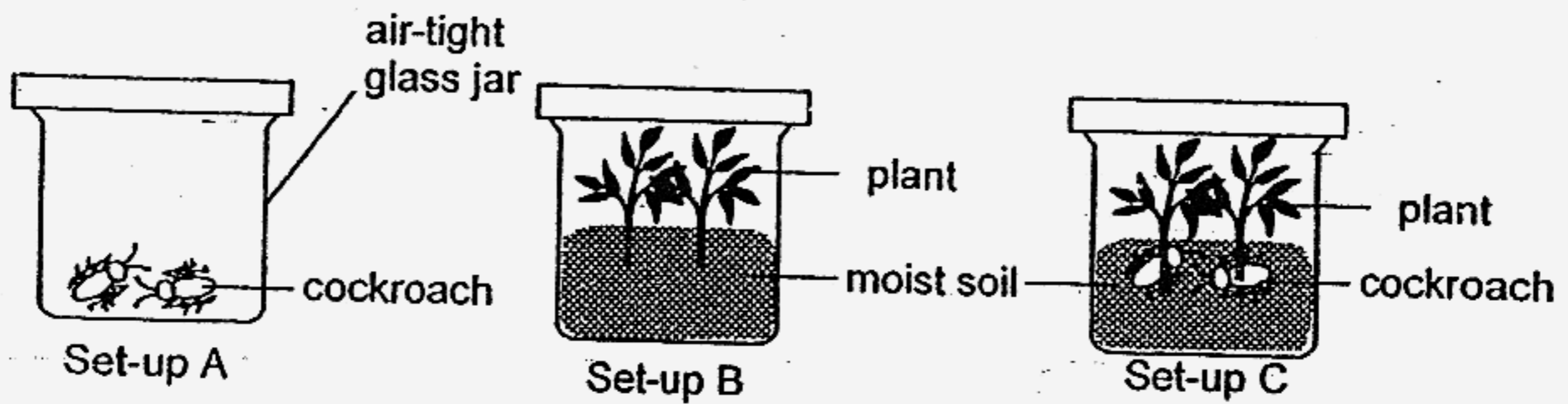


Which one of the following figures shows this pair of gears?



( )

27. 4 boys put some organisms into 3 identical containers as shown below. They left the set-ups in a sunny part of a field from 8 am to noon.



Ian and his friends made the following statements about the amount of oxygen in the set-ups.

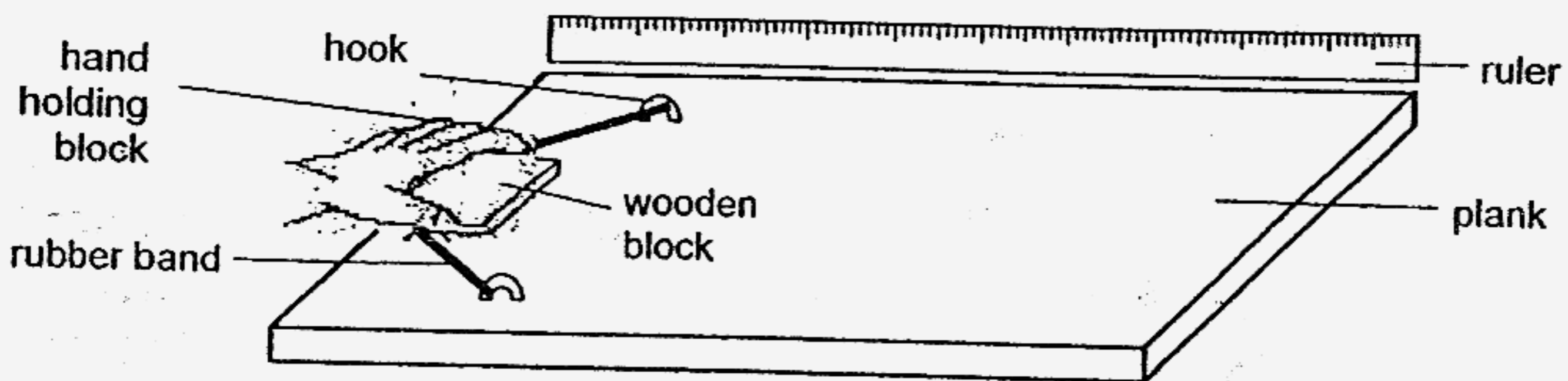
- Ian : There was an equal amount of oxygen at noon in all the set-ups.
- Andrew : Set-up C had the most amount of oxygen at the end of the experiment.
- David : Set-up A had the least amount of oxygen at the end of the experiment.
- Collin : There was more oxygen in Set-up B than in C at the end of the experiment.

Which of them was correct?

- (1) Collin only
- (2) Andrew and David
- (3) Ian and Andrew
- (4) David and Collin

( )

28. Jolene sets up the experiment as shown below. She covers the surface of the plank with sheets made of different materials and measures the distance that the block travels upon the different surfaces after it is released from the position as shown in the diagram.



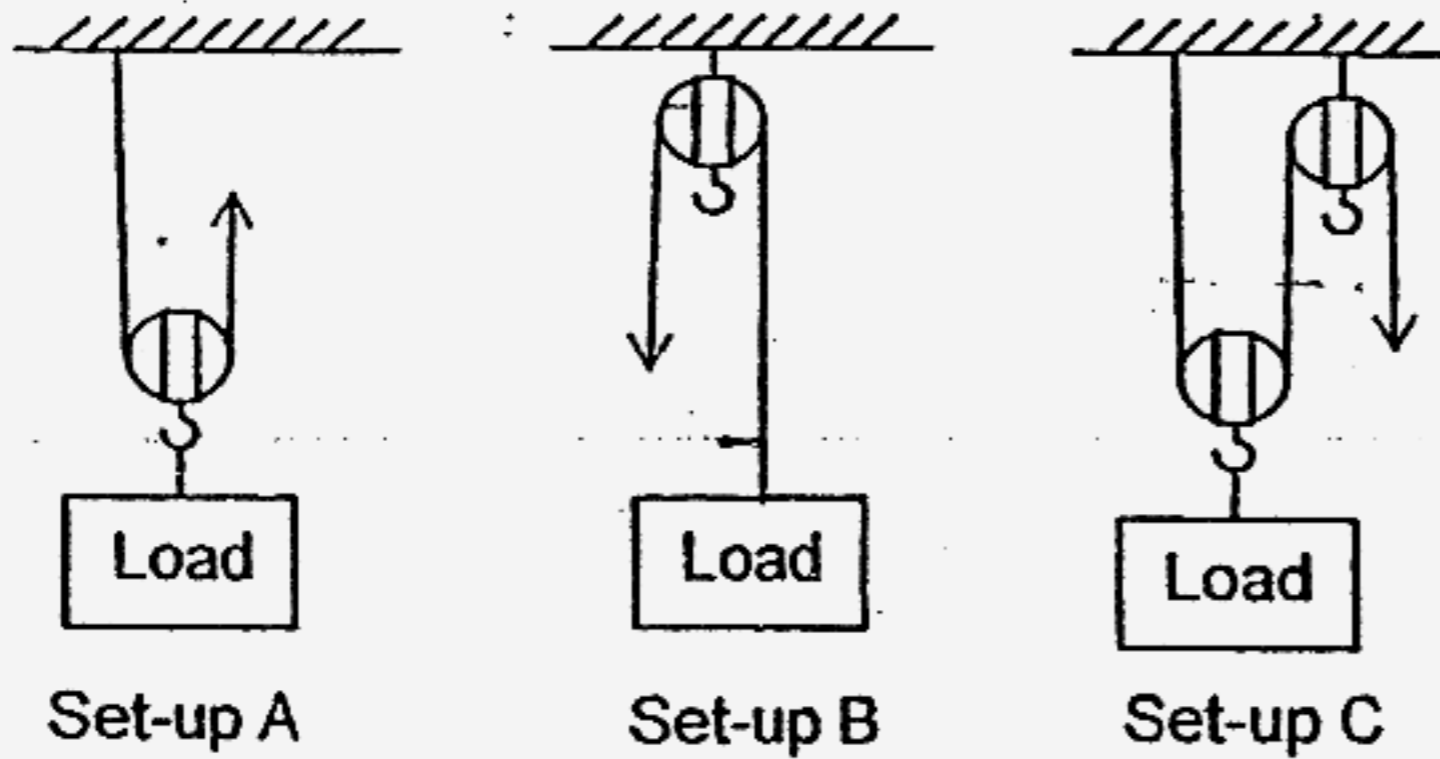
Sheets	Distance travelled (cm)		
	1 <sup>st</sup> try	2 <sup>nd</sup> try	3 <sup>rd</sup> try
A	27.8	29.8	28.2
B	11.2	12.3	9.3
C	19.8	18.2	17.3

Which of the following best represents the materials that sheets A, B and C are made of?

	A	B	C
(1)	flannel	plastic	sandpaper
(2)	plastic	sandpaper	flannel
(3)	sandpaper	flannel	plastic
(4)	flannel	sandpaper	plastic

( )

29. Fatimah lifted Load P with one of the set-ups shown below and lifted Load Q using another of the set-ups. She recorded her results in a table shown below. However, Fatimah accidentally spilt some ink on her completed table as shown below:



Load	Distance moved by load (cm)	Distance moved by effort (cm)	Force needed (N)	Set-up used
P	15	30	<del>          </del>	<del>          </del>
Q	20	<del>          </del>	120	<del>          </del>

Given that Load P weighs 400g and Load Q weighs 120g, which of the following was her original table?

(1)

Load	Distance moved by load (cm)	Distance moved by effort (cm)	Force needed (N)	Set-up used
P	15	30	400	A
Q	20	20	120	B

(2)

Load	Distance moved by load (cm)	Distance moved by effort (cm)	Force needed (N)	Set-up used
P	15	30	200	C
Q	20	20	120	B

(3)

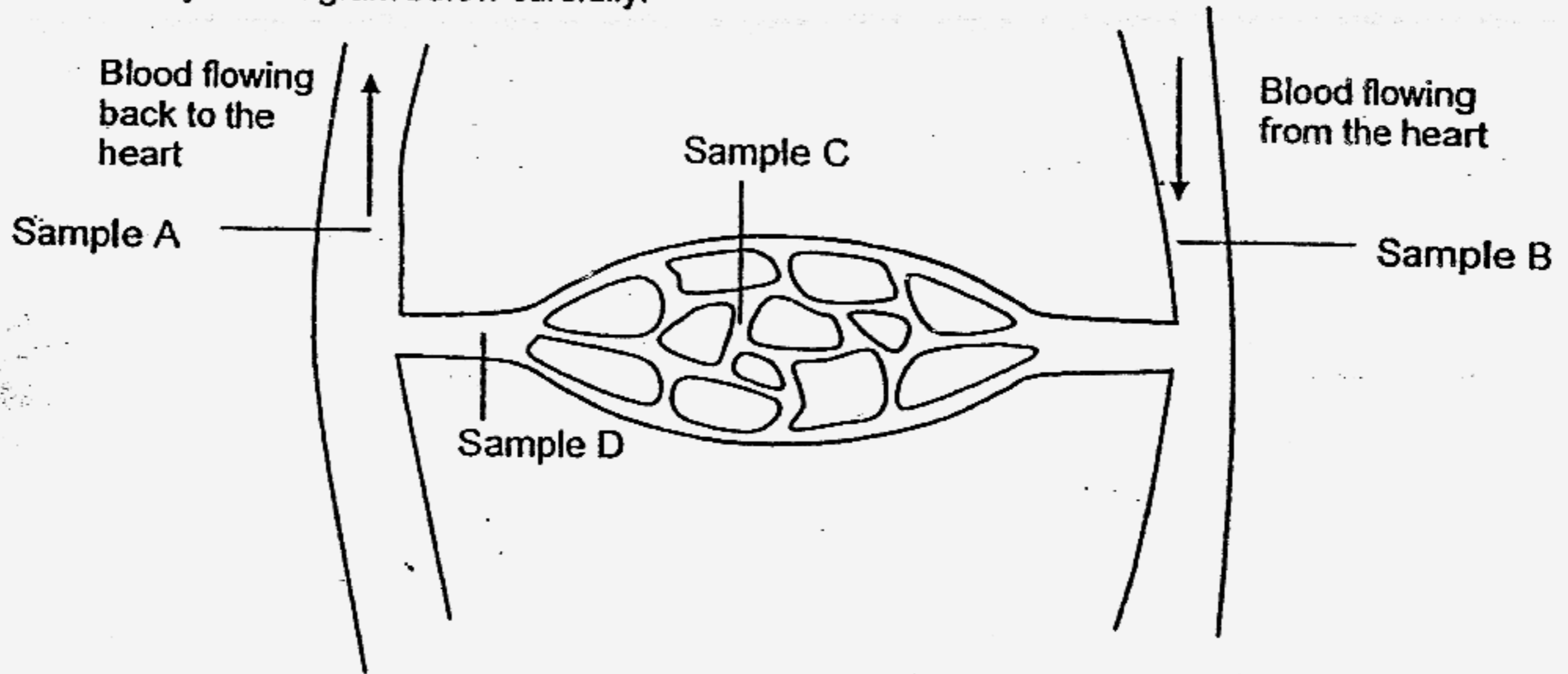
Load	Distance moved by load (cm)	Distance moved by effort (cm)	Force needed (N)	Set-up used
P	15	30	200	A
Q	20	40	120	B

(4)

Load	Distance moved by load (cm)	Distance moved by effort (cm)	Force needed (N)	Set-up used
P	15	30	200	B
Q	20	20	120	C

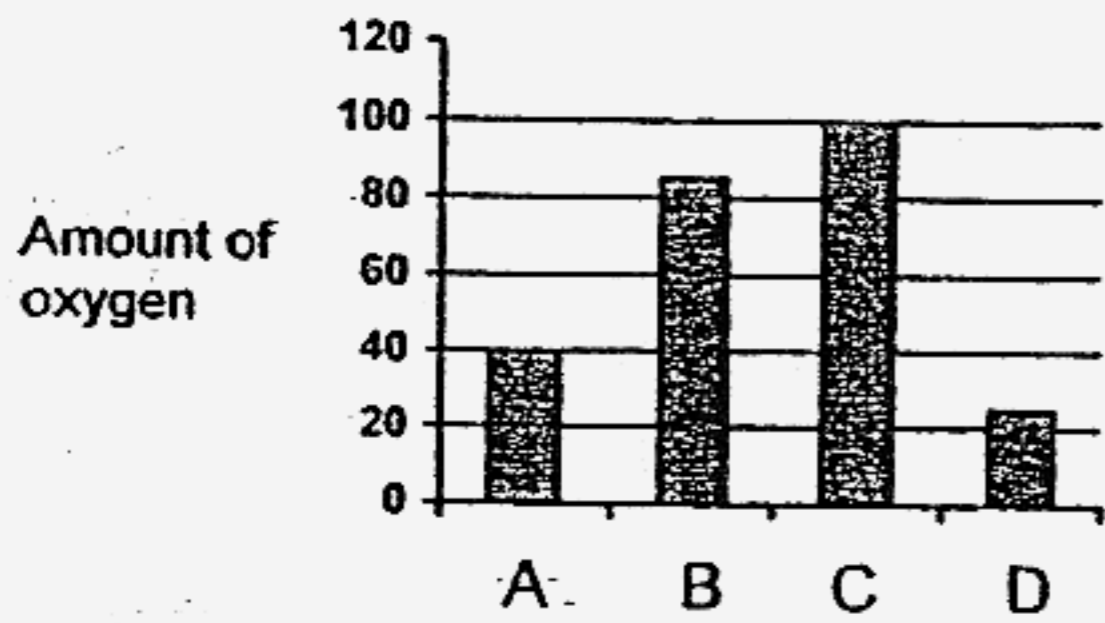
( )

30. Study the diagram below carefully.

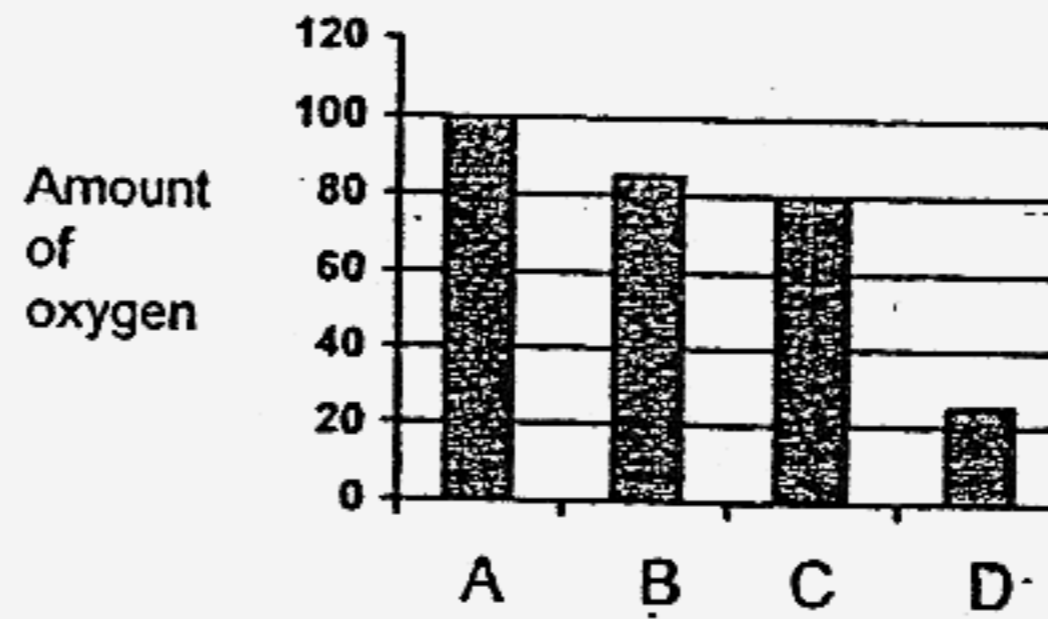


Blood samples A, B, C and D were taken from different blood vessels in the body. Which graph most appropriately shows the amount of oxygen in the blood samples?

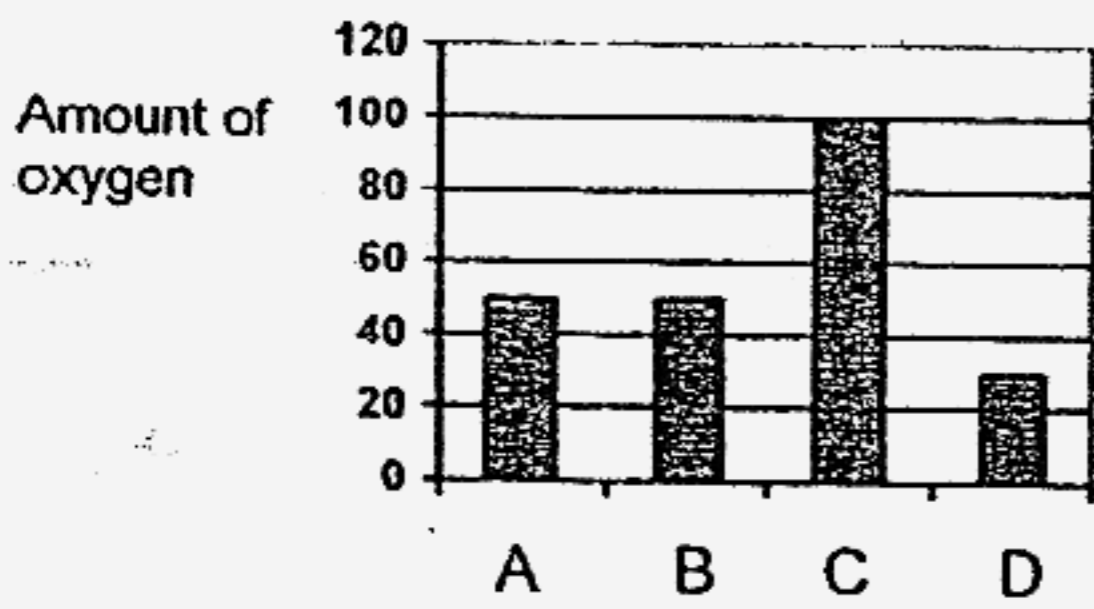
(1)



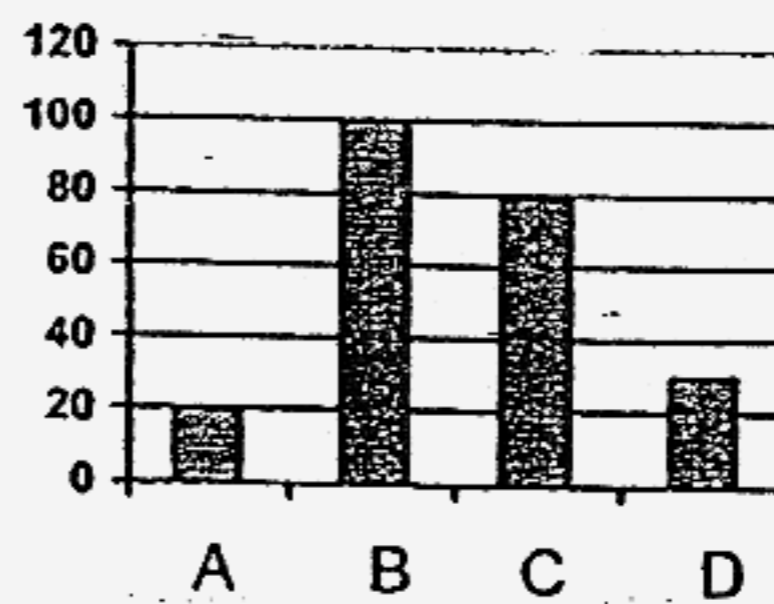
(2)



(3)



(4)



( )

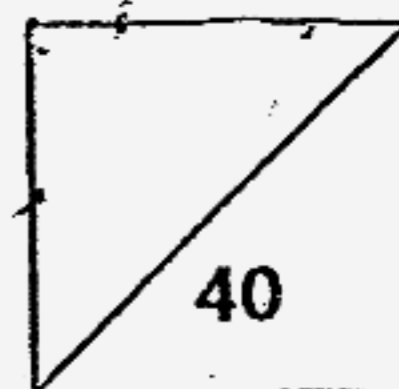
Index Number:   -

**PEI CHUN PUBLIC SCHOOL**  
**PRELIMINARY EXAMINATION – 2007**  
**PRIMARY 6 (merged stream)**  
**SCIENCE**  
**BOOKLET B**

**16 questions**

**Marks:**

**40 marks**



**Total Time for Booklets A and B: 1h 45 min**

Name : \_\_\_\_\_ ( )

Class : Primary 6 ( )

Date : 3 August 2007

Subject Teacher : \_\_\_\_\_

Parent's Signature: \_\_\_\_\_

**INSTRUCTIONS TO CANDIDATES**

Do not open this booklet until you are told to do so.  
Follow all instructions carefully.  
Write your answers in this booklet.

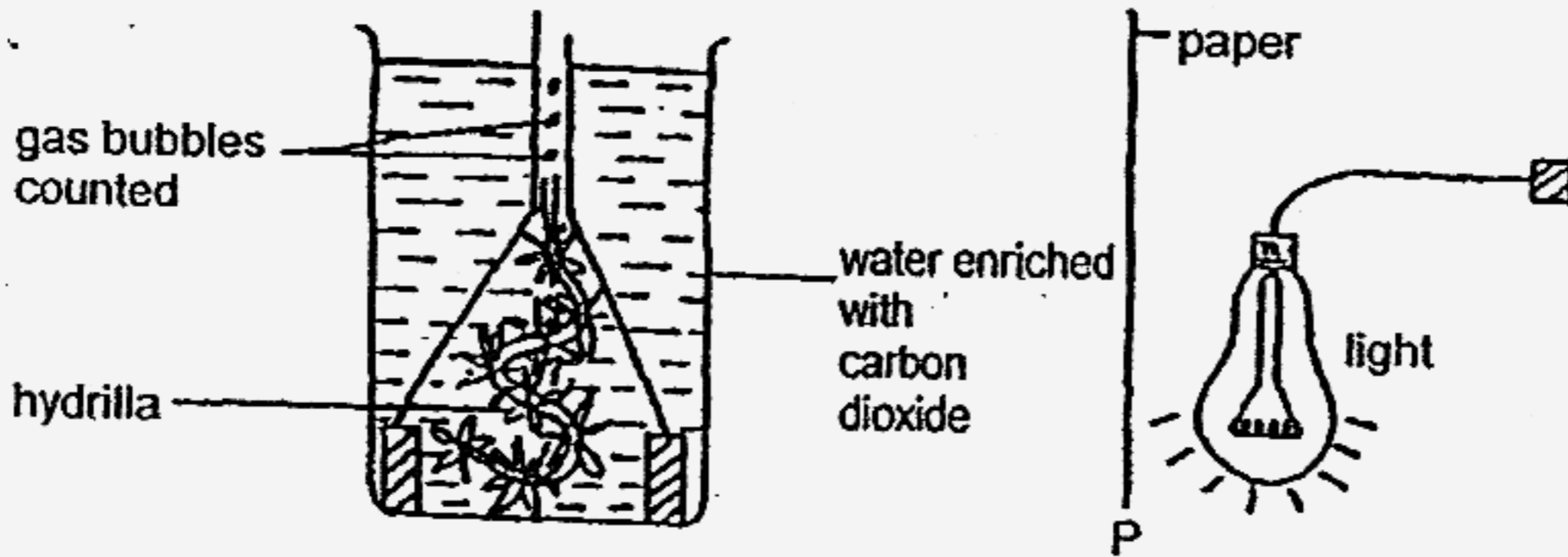
PART II

For questions 31 to 46, write your answers in this booklet.

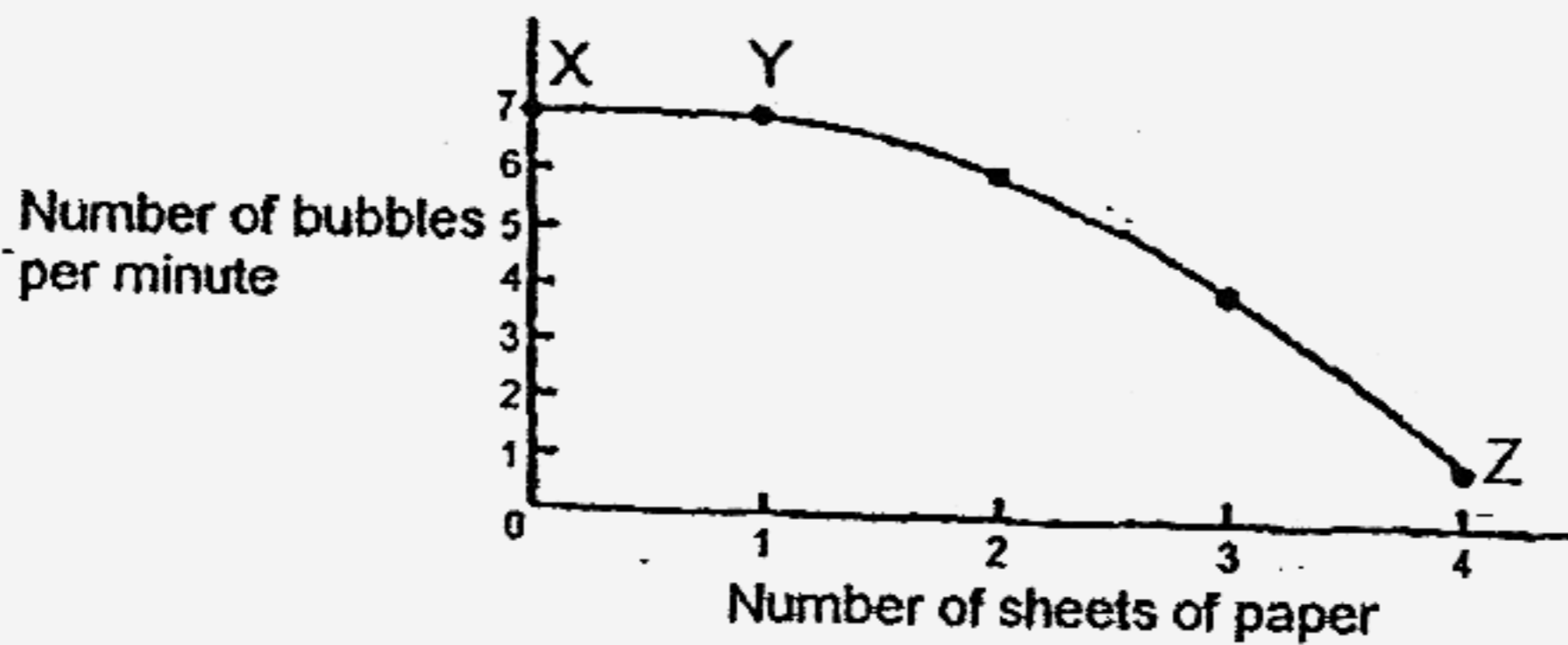
The number of marks available is shown in the brackets [ ] at the end of each question or part question.

(40 marks)

31. An experiment was set up using a hydrilla plant and an electric light bulb as shown below. Bubbles of oxygen produced by the plant in one minute were counted. Then, a very thin sheet of paper was placed at position P and the experiment was repeated. The experiment was repeated another three times. One more sheet of the thin paper was added at P each time.



The results of the experiment were recorded as shown below.



- (a) What was the purpose of placing paper at P? [1]

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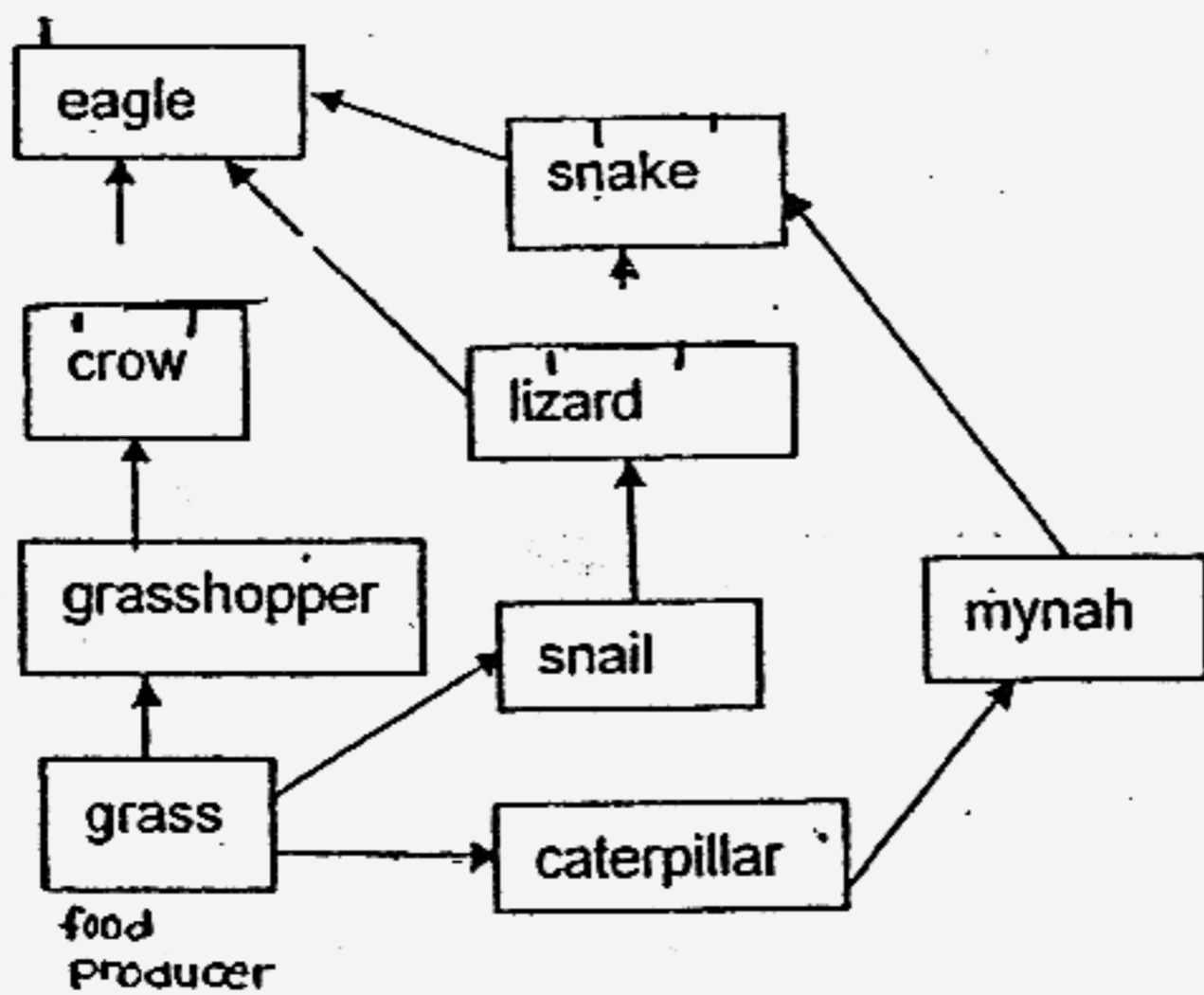
- (b) Without removing the four sheets of paper, what can you do to increase the number of bubbles from Point Z? [1]

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32. Study the food web shown below.



(a) How many complete food chains are there in this food web? [1]

---

(b) List all the organisms which are both a prey and a predator. [1]

---

33. A diagrammatic representation of the circulatory system is shown below.

Lungs

Heart

Other parts of the body

Key:  
—— Blood rich in oxygen  
----- Blood rich in carbon dioxide

(a) Use the key provided. Draw lines with arrows to connect the heart and lungs. Your arrows must indicate the flow of blood in our circulatory system. [1]

(b) What is the difference between the blood entering the lungs and the blood leaving the lungs? [1]

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(c) Why does our heart beat faster when we are exercising? [1½]

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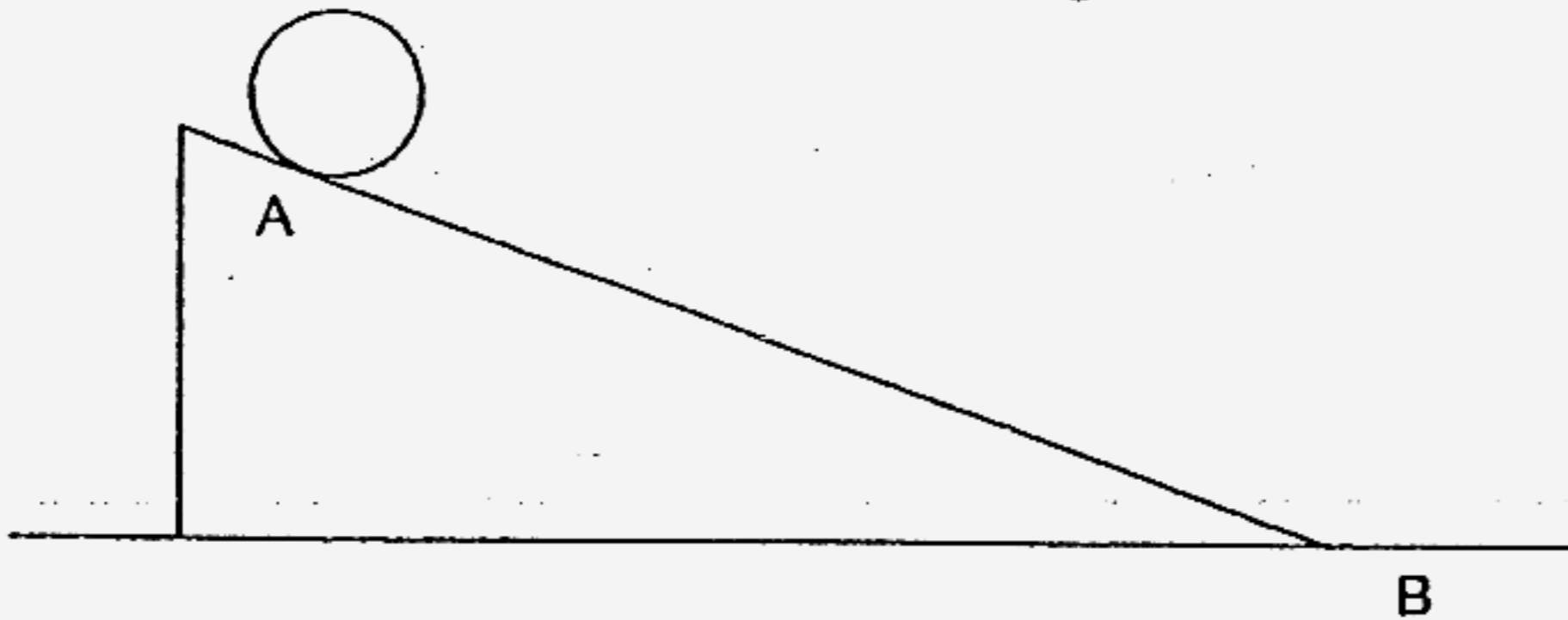
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34. Grace set up an experiment as shown in the diagram below.



Grace covered the surface of the ramp entirely with each of the three different types of materials : plastic, sandpaper and wood. For each material, she released the ball in the same way at A and measured the time taken for the ball to travel to B on the ramp. She did this three times for each material.

She recorded her results in the table below.

Material covering slope	Time taken for the ball to travel from A to B (s)			
	1 <sup>st</sup> try	2 <sup>nd</sup> try	3 <sup>rd</sup> try	Average
plastic	5	6	3	5
sandpaper	7	8	6	7
wood	6	7	5	6

(a) What are the possible aims of Grace's experiment? [1]

Aims	Tick
(a) To find the time taken for the ball to travel down the ramp	<input type="checkbox"/>
(b) To find out which material creates the most friction	<input type="checkbox"/>
(c) To find out how the materials used to cover the surface of the ramp would affect the time taken for the ball to travel from A to B	<input checked="" type="checkbox"/>
(d) To find out which material requires the most effort for the ball to roll down the ramp	<input type="checkbox"/>
(e) To find out which type of material, when used to cover the surface of the ramp, would allow the ball to travel down the ramp the fastest.	<input type="checkbox"/>

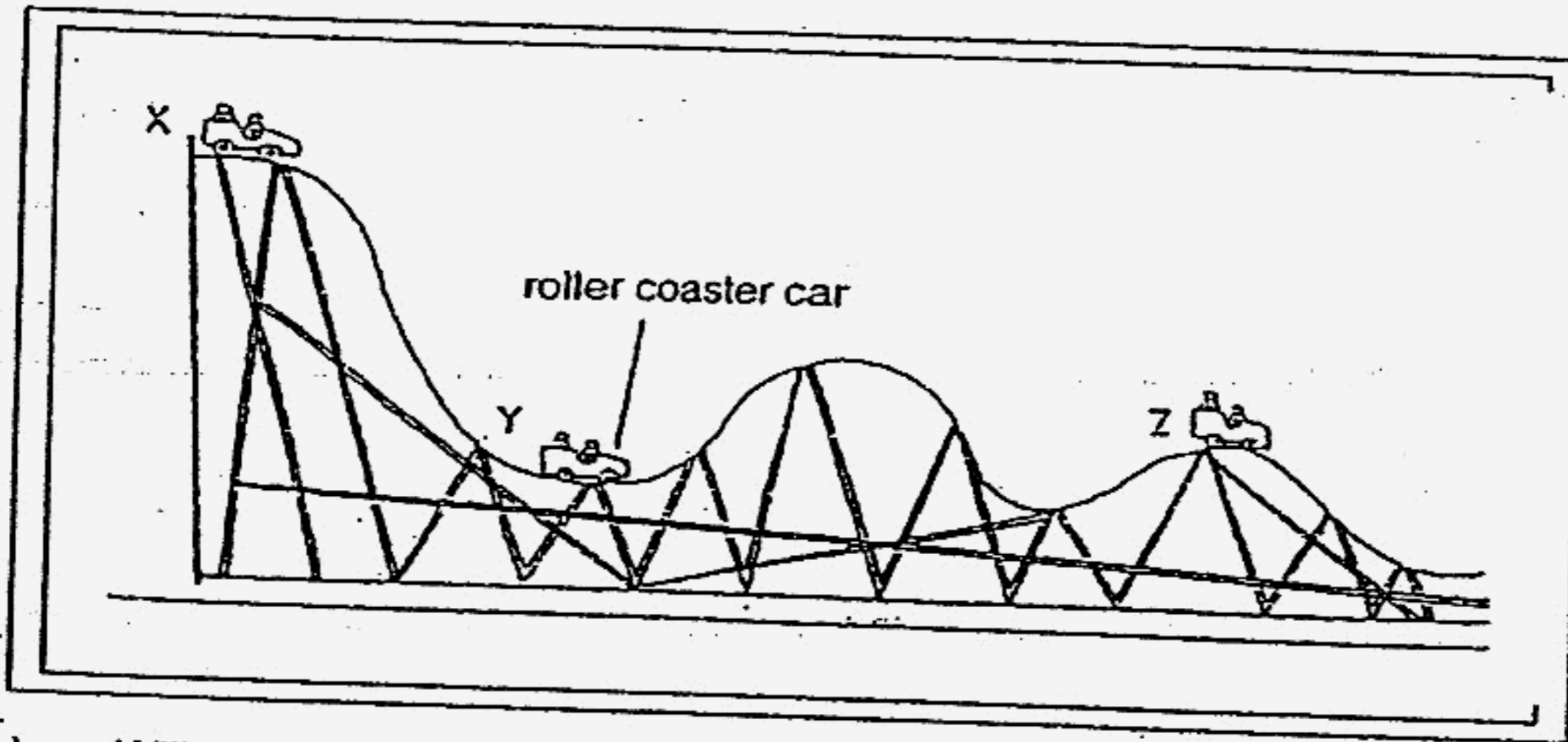
(b) Why did Grace perform the experiment three times for each type of material? [1]

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35. A roller coaster car moves along the path as shown below.



(a) Will the amount of kinetic energy in the roller coaster car at Y be more or less if the slope surface is rougher? Provide a reason for your answer. [1]

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(b) Write down the energy conversion that takes place when the car at the top of the roller coaster moves down from Point X to Point Y. [1]

Gravitational potential energy of the roller coaster

→  +  +

36. Felix wanted to find out the factors affecting the rate of evaporation of water. He had seven set-ups, P, Q, R, S, T, U and V, using containers of the same material. He conducted two different tests with three set-ups each time. The table below provides details on the set-ups that he used in his experiment.

Set-Up	P	Q	R	S	T	U	V
Volume of water (ml)	400	200	400	200	200	400	200
Temperature of water (°C)	30	55	30	35	60	30	70
Exposed surface area (cm <sup>2</sup> )	100	150	150	150	100	200	150

(a) What would be the aim of one of his tests if he had used set-ups P, R and U? [1]

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(b) If he wanted to find out whether the temperature of water affected the rate of its evaporation, which 3 set-ups could be used? [1]

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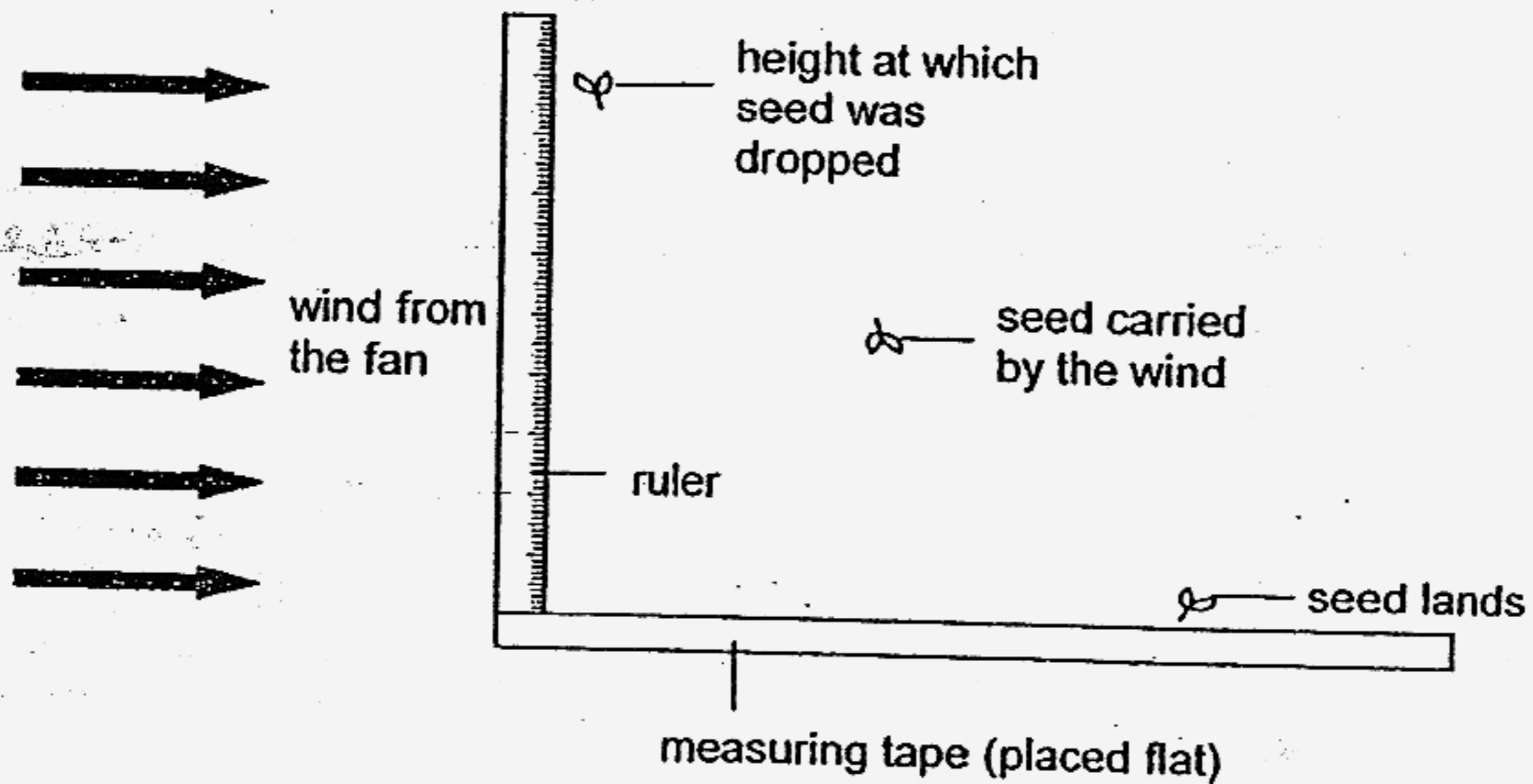
(c) What other variable should be kept constant when Felix conducted this experiment? [1]

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37. Damien carried out the experiment as shown below with a wind dispersed seed. He dropped the wind dispersed seed from various heights in front of a fan and recorded the horizontal distance travelled by the seed in a table.



Height at which seed was dropped (cm)	Horizontal distance travelled by seed (cm)		
	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading
5	7	12	11
10	24	19	17
15	27	29	34
20	41	43	36
25	49	54	47

- (a) What pattern can Damien observe from this experiment?

[1]

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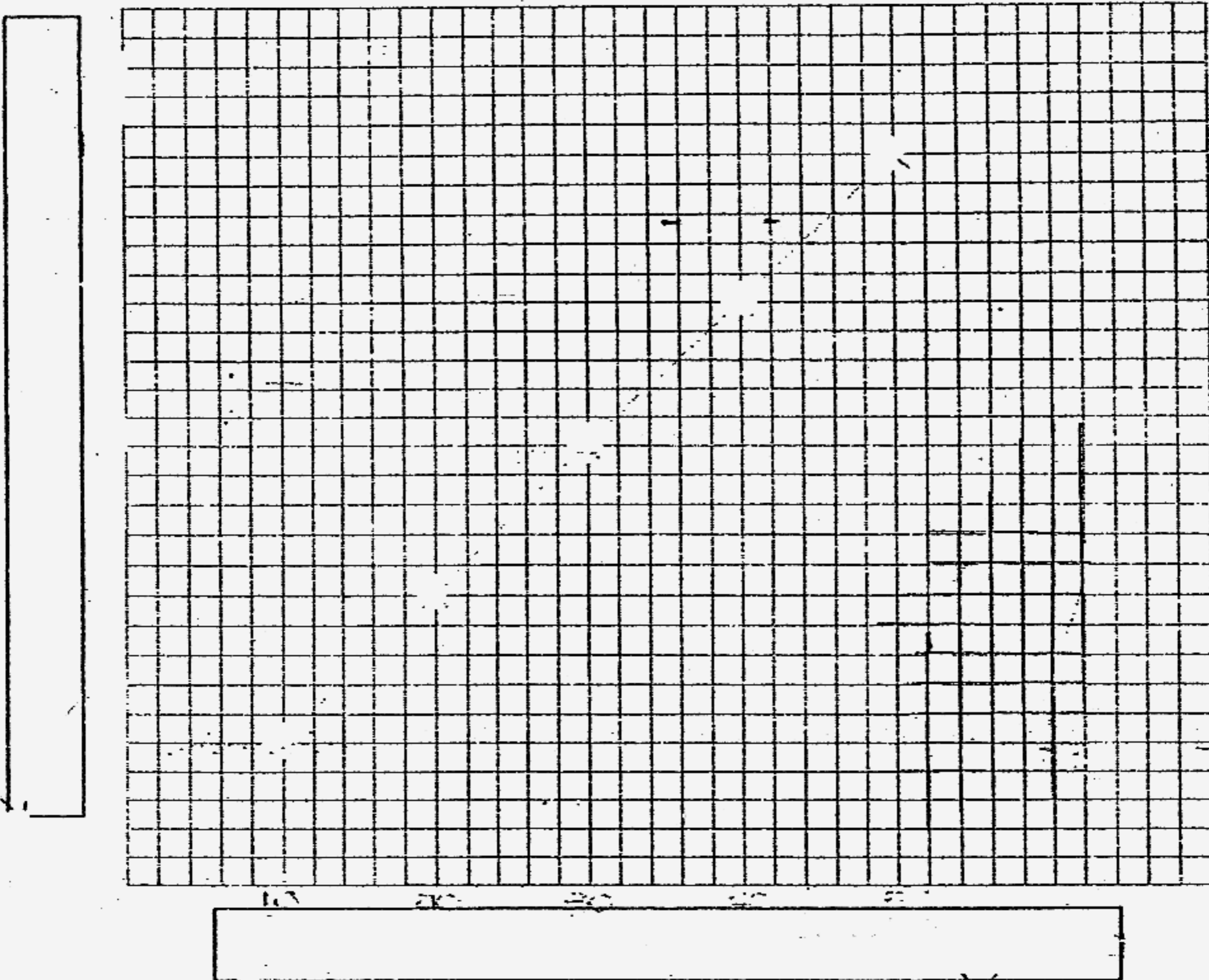


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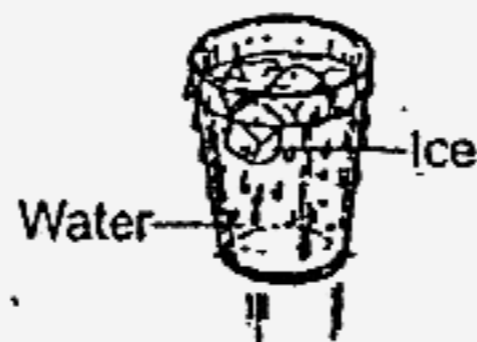


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- (b) Based on the results given in the table, plot a line graph of the height above the ground at which the seed was released against the average horizontal distance travelled by the seed. [2]



38. Cassandra left a glass of water with ice cubes in it on the dining table. After a few minutes, she returned and saw that the outside of the glass was wet.



Explain what had caused the outside of the glass to be wet. [2]

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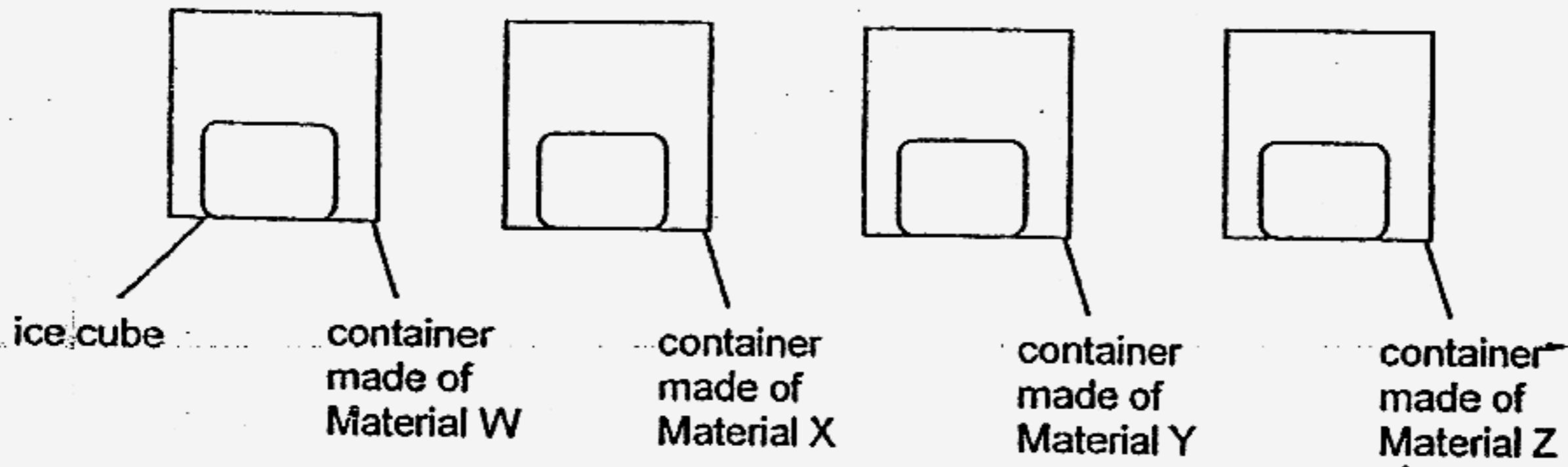


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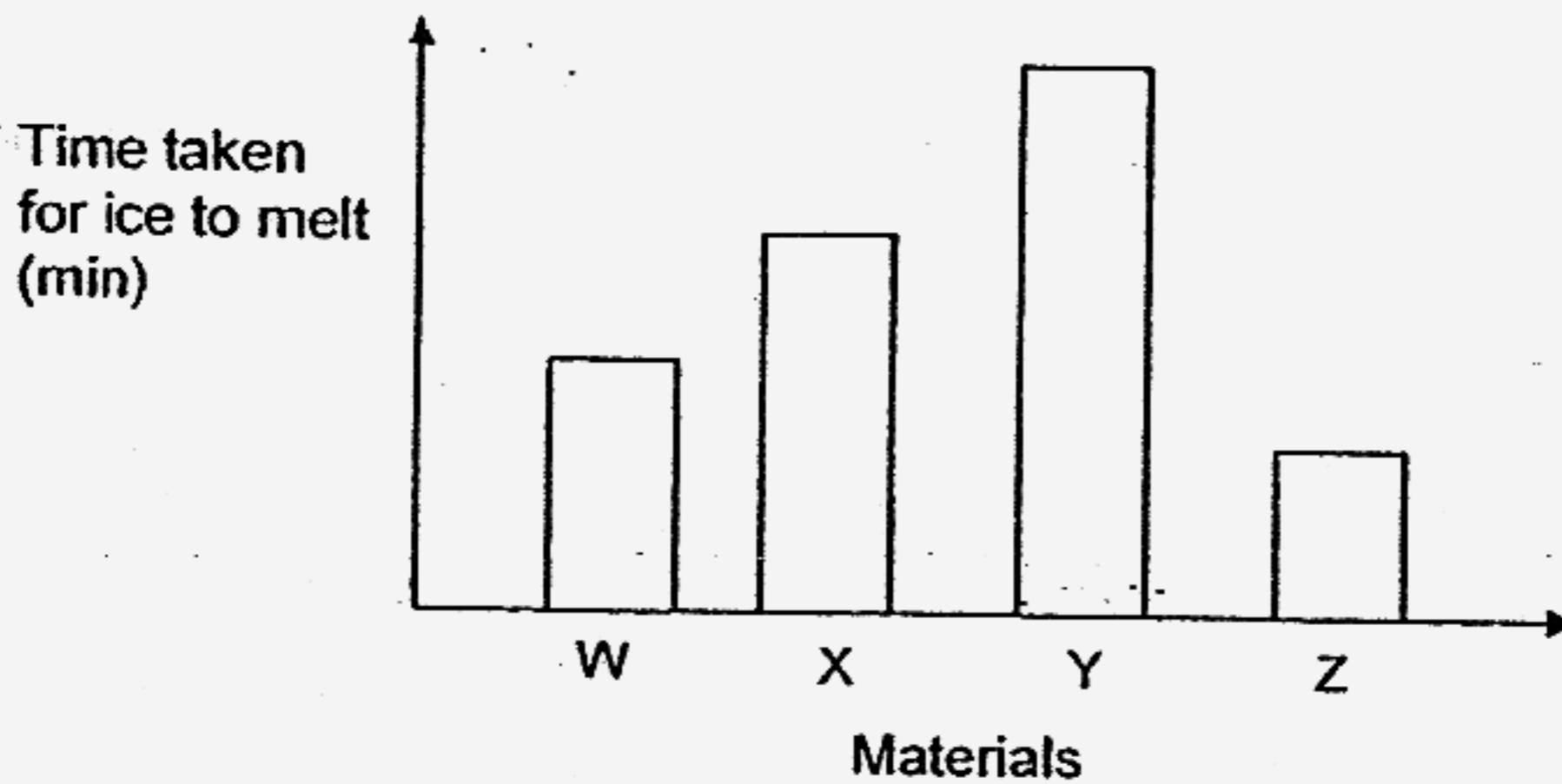


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39. An ice cube was placed and sealed in each of four containers made of different materials of equal thickness. The containers are identical in size.



The graph below shows the time taken for the ice in each container to melt completely.



- (a) Based on the graph provided, which material is least suitable for making containers for keeping food warm? [1]

---

- (b) State a property of this material which makes it the least suitable for making containers for keeping food warm. Explain. [1½]

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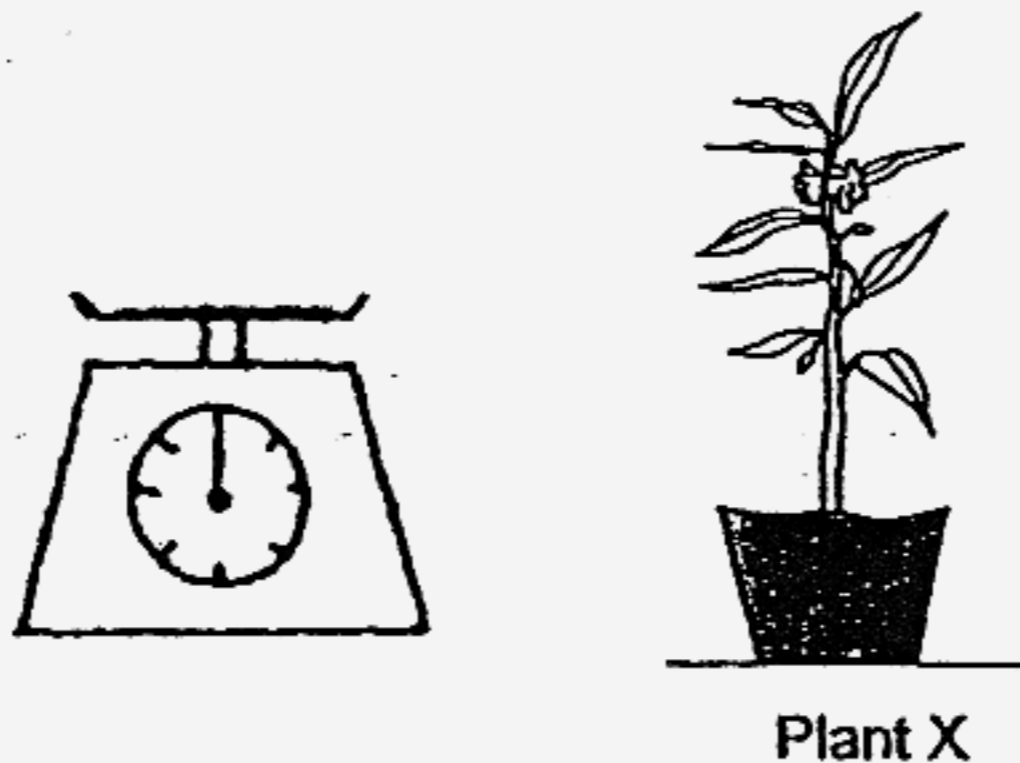


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40. Joachim wishes to find out how much water Plant X loses over 24 hours through transpiration. He is given Plant X and a weighing scale as shown below.



He would not be able to conduct a fair experiment with just the two items shown above.

- (a) What else would be needed for Joachim to conduct the experiment?  
Why would he need this? [1]

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- (b) What are the steps that Joachim could take to find out how much water Plant X loses in 24 hours? [1½]

Step 1 : \_\_\_\_\_

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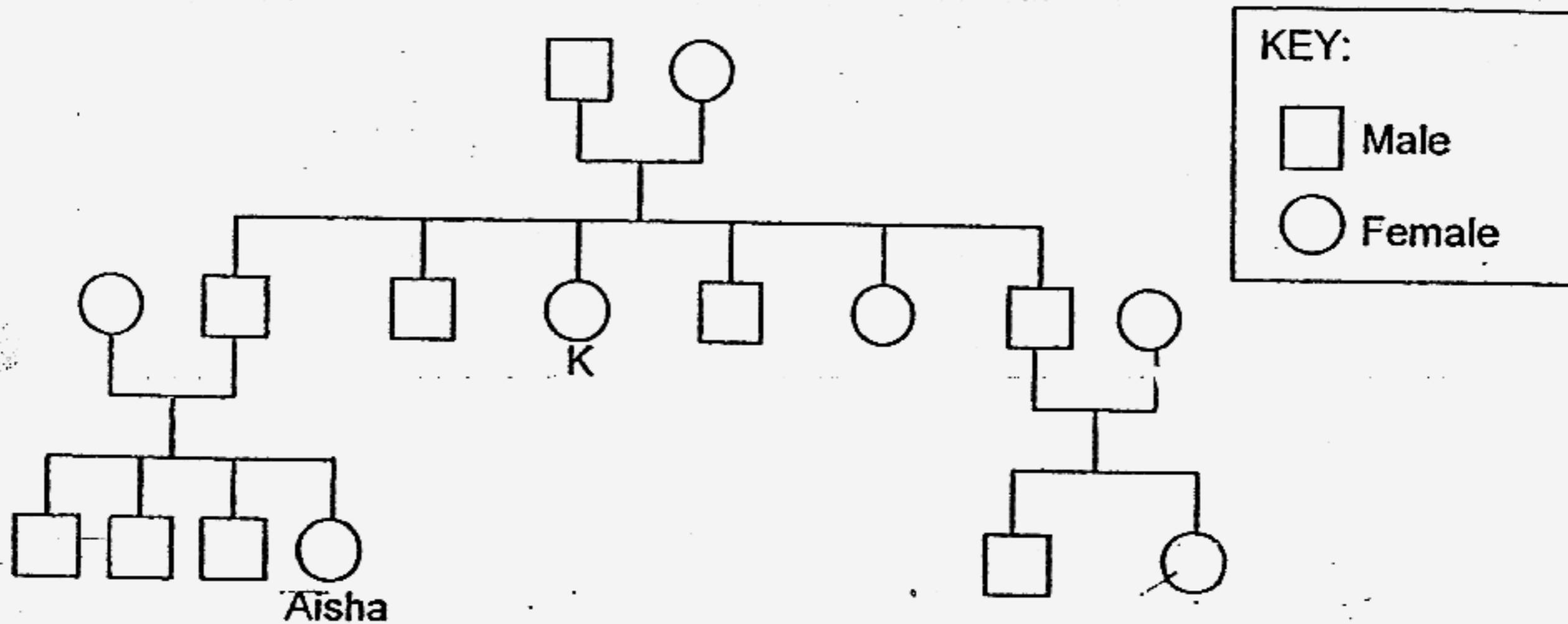
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41. Aisha completed her family tree below before her cousin got married.



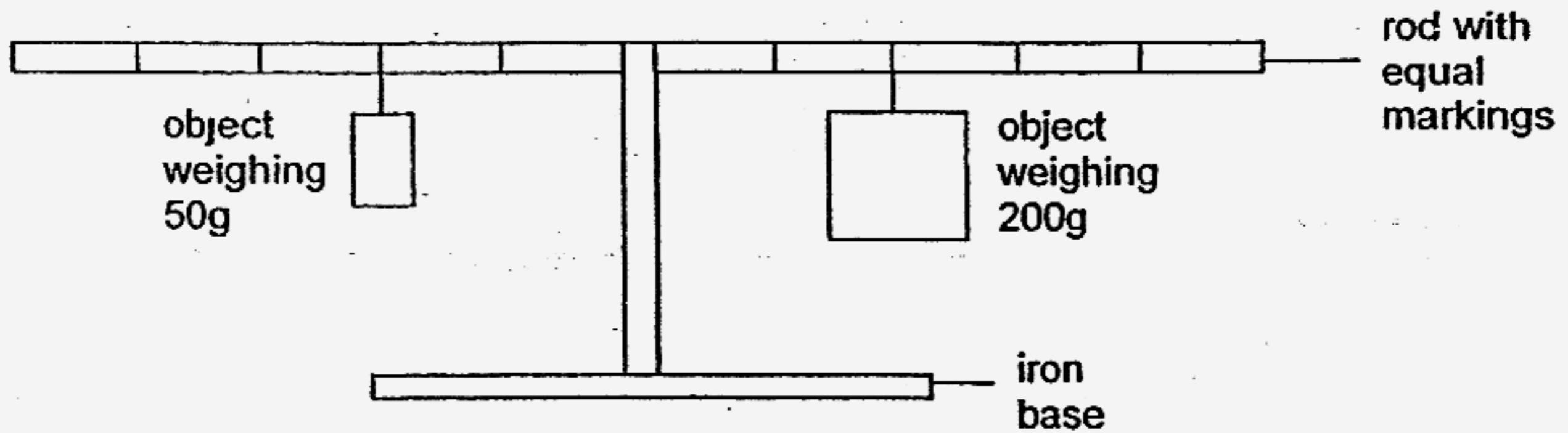
(a) Read the following statements. Decide whether they are true, false or not possible to tell. Put a tick (✓) in the appropriate boxes. [1½]

Statement	True	False	Not possible to tell
(i) Aisha has 3 uncles.		✓	
(ii) Aisha has 3 brothers.		✓	
(iii) Aisha is younger than her relative marked with a 'K'.			

(b) Aisha's female cousin got married last year and recently became the mother of twin boys. Complete the family tree above to show the new additions to the family. [1]



42. Mei Qing set up an experiment as shown below. She balanced the rod with an object weighing 50g on one end and an object weighing 200g on the other. The rod had equal markings on it.



- (a) What is the object weighing 50g likely to be? [1]

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- (b) Explain why the rod was balanced even though the objects were of different weights [1]

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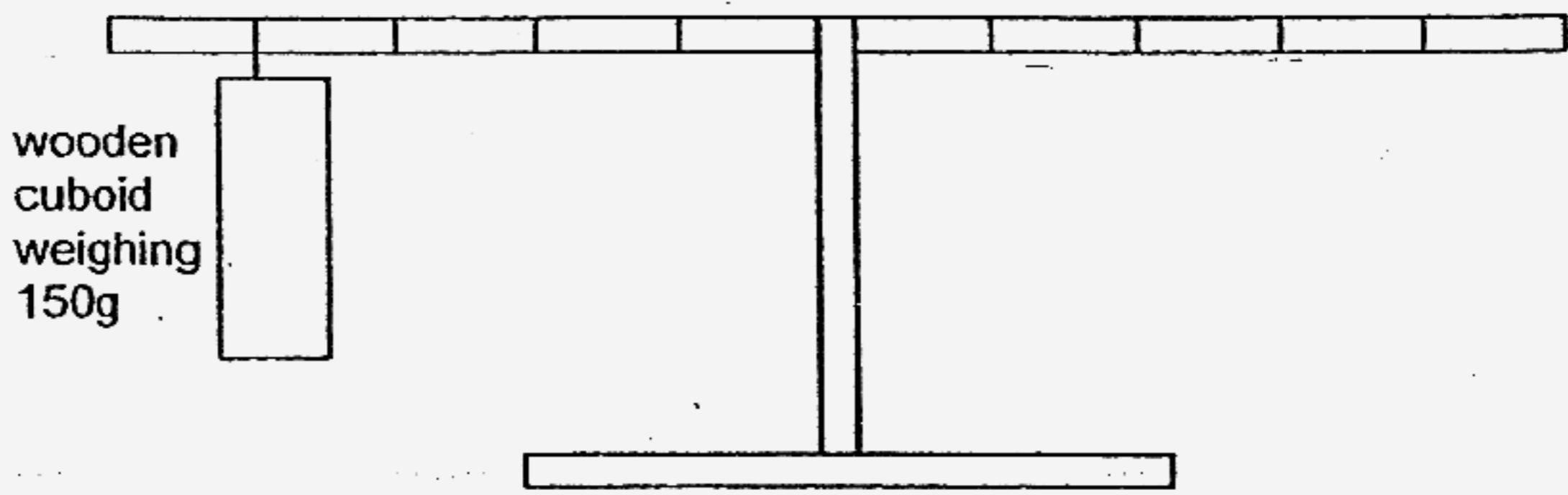


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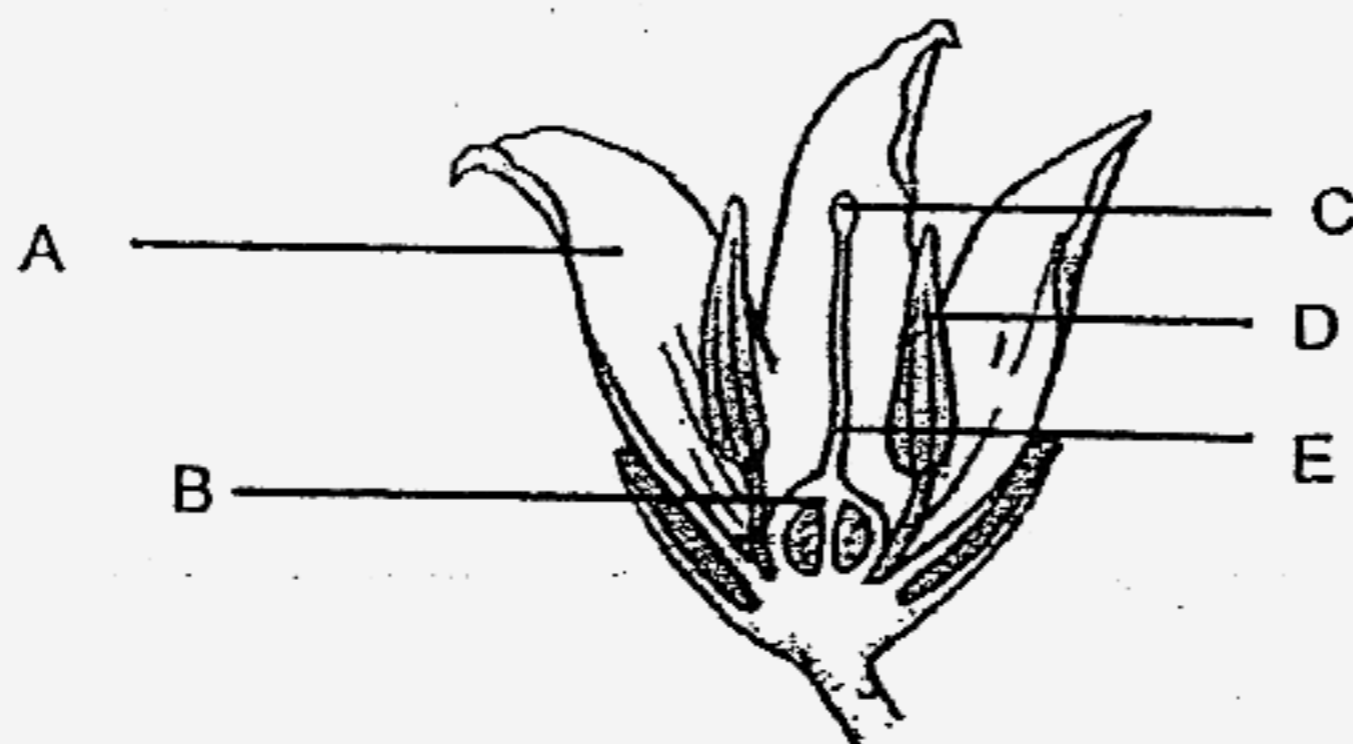


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- (c) Mei Qing replaced the object weighing 50g with a wooden cuboid as shown below. Draw in where the object weighing 200g should be placed in order for the rod to be balanced. [1]



43. The diagram below shows the cross section of a flower.



(a) The table below shows the functions of the different parts of the flower labelled A, B, C, D and E in the given diagram. Complete the table by writing in the correct letters, A, B, C, D and E next to each function. [2]

Function of the flower parts	Part
(i) Attracts insects	
(ii) Protects the ovules	
(iii) Contains pollen sacs	
(iv) Catches pollen grains	

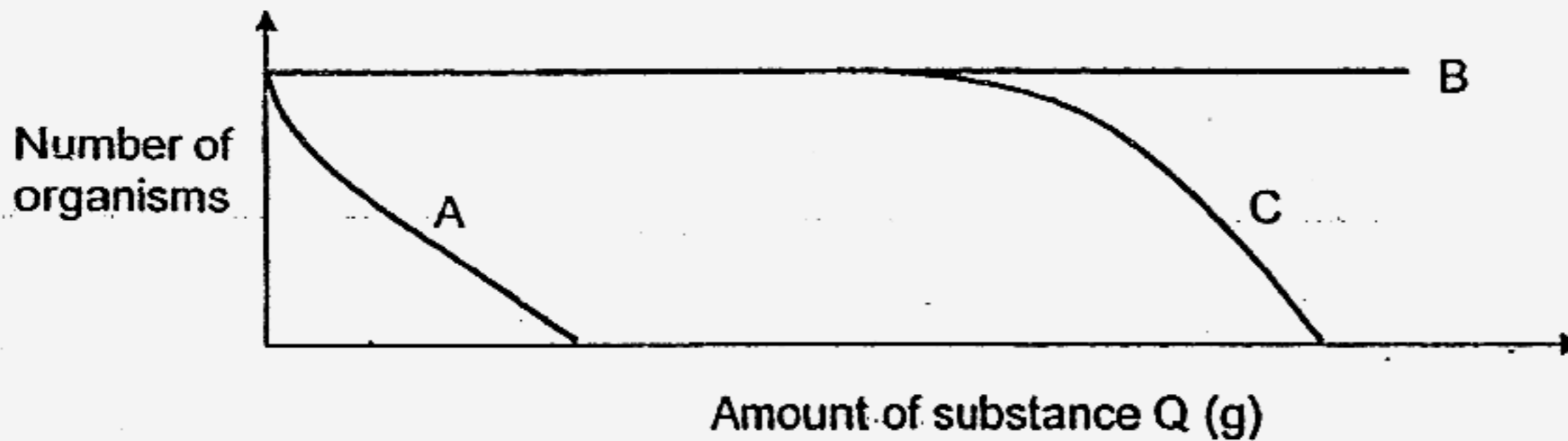
(b) What change would take place at B several days after the male cell has fused with the egg? [1]

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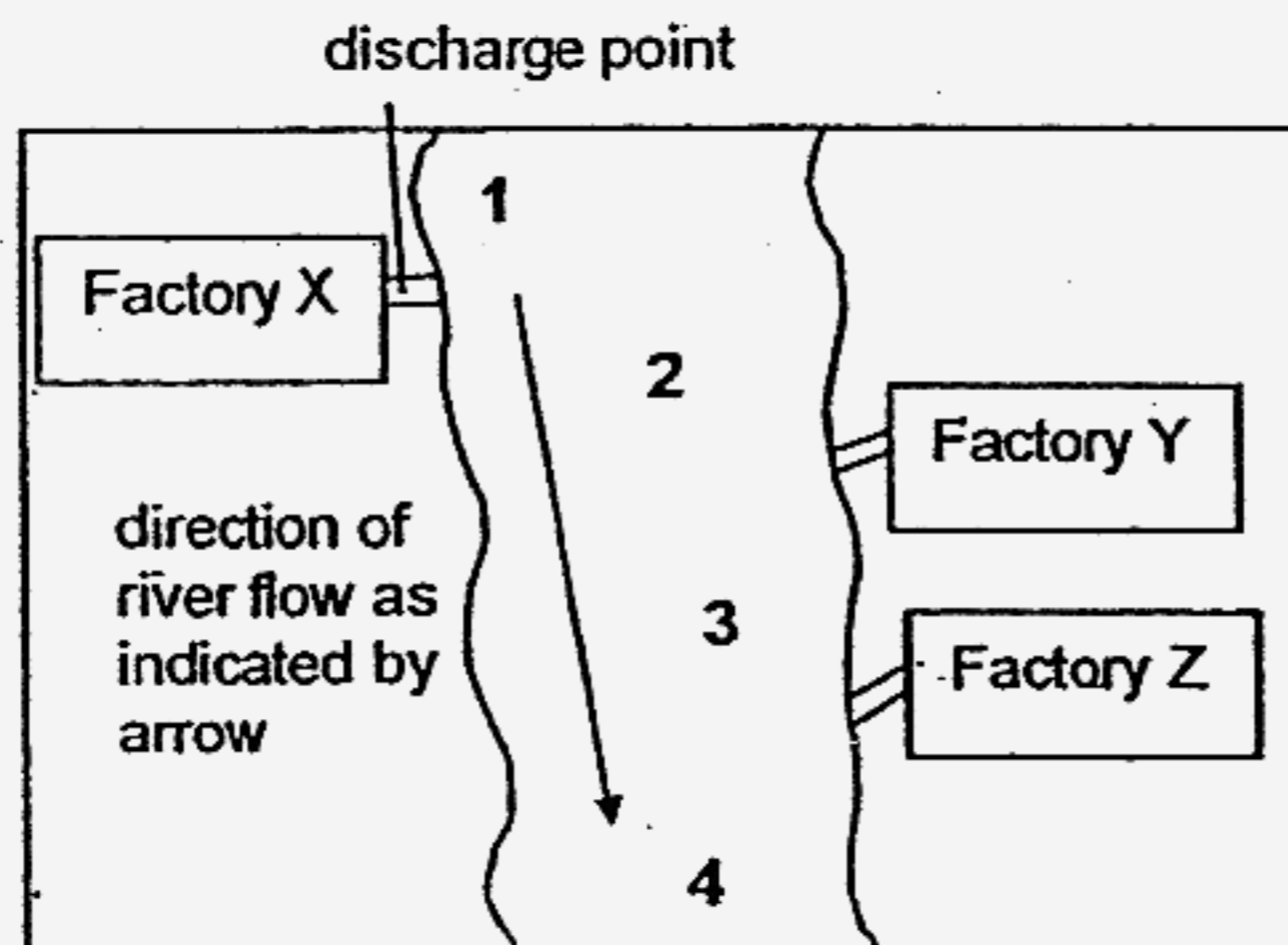
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44. Ming Hui wanted to find out if Q, a substance commonly disposed of by factories into rivers, affects organisms A, B and C. He prepared ten beakers, each containing 500 ml of clean river water and the same number of organisms A, B and C. He added different amounts of substance Q to each of the ten beakers. After a day, he counted the number of each type of organism still alive in the beakers. The graph below shows his results.



(a) Which organism(s) was/were affected by substance Q? [1]

Ming Hui then took water samples from 4 points as numbered in the map below.

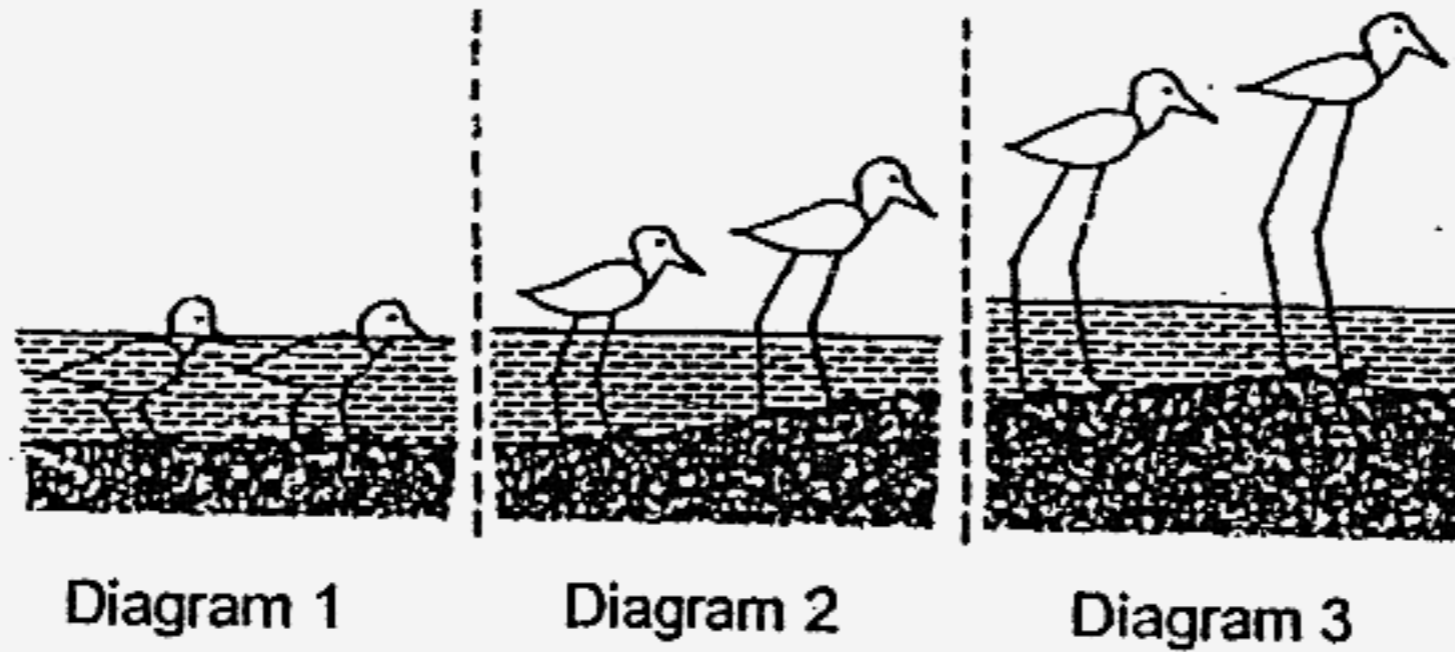


He counted the number of organisms, A, B and C, in each water sample and the results are shown in the table below.

	1	2	3	4
A	Many	Many	Few	None
B	Many	Many	Many	Many
C	Many	Many	Many	Few

(b) Which factory, Y or Z gave out more of substance Q? Provide a reason for your answer. [1]

45. Birds which wade in water must have adaptations to survive in that kind of environment. They must have the adaptations to wade in the water and to pick food off the water with their beaks. Study the 3 diagrams below of wading birds.



(a) Which diagram shows birds which are best suited to live in such an environment?[1]

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(b) Give reasons why the birds in the other 2 diagrams are not suited to live in that kind of environment. [2]

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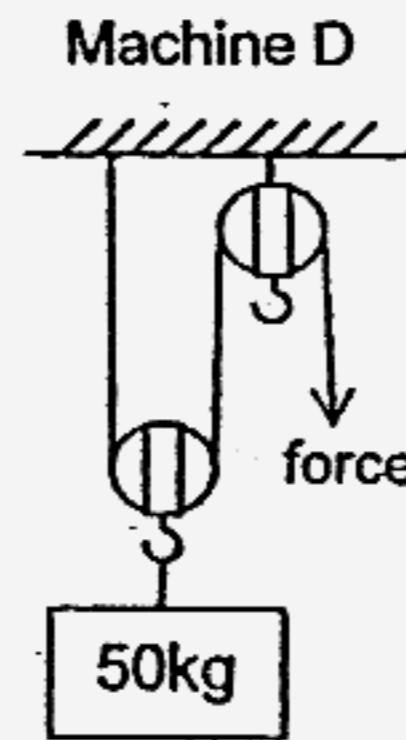
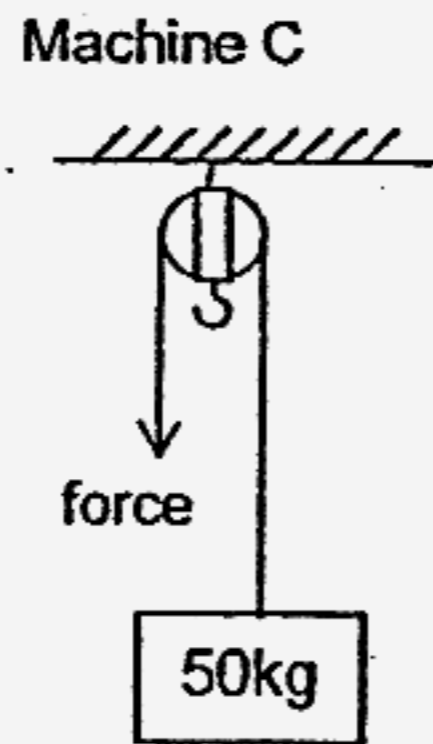
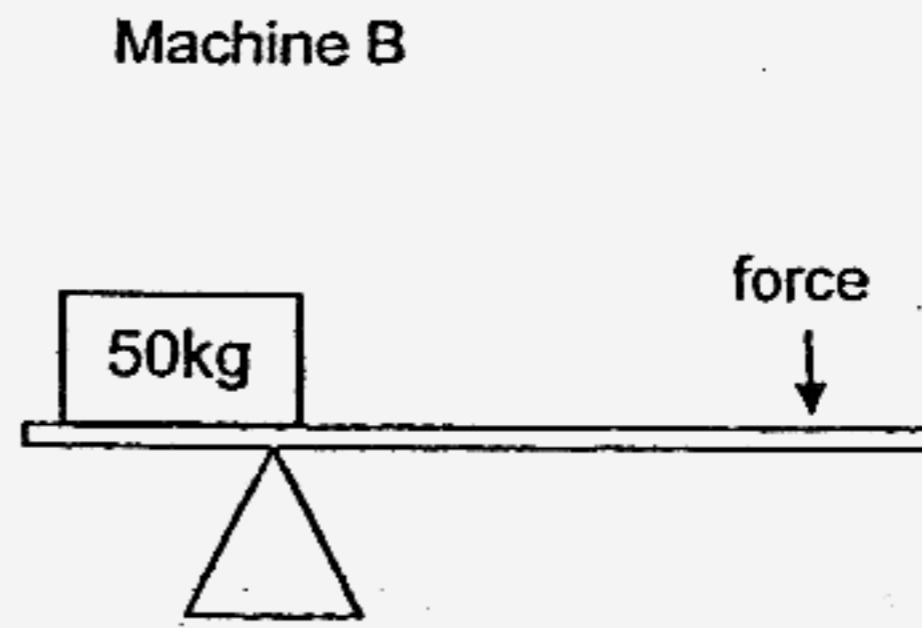
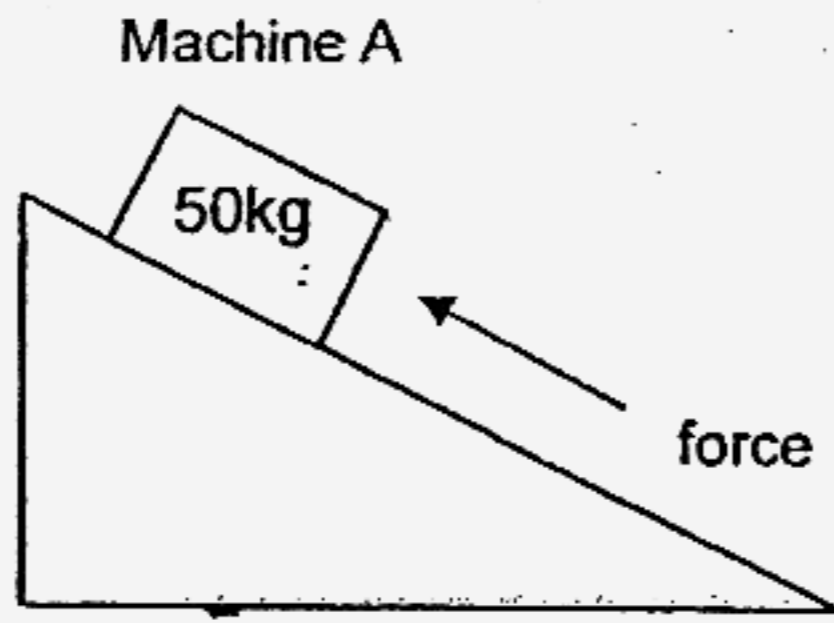
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46.



- (a) Which one(s) of the four machines, A, B, C or D use(s) a force of less than 50kg to lift up the load shown? [1]

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- (b) What is the difference in using Machine A as compared to B, C and D? [1]

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Set by:  
Vetted by:

*[Faint signature]*

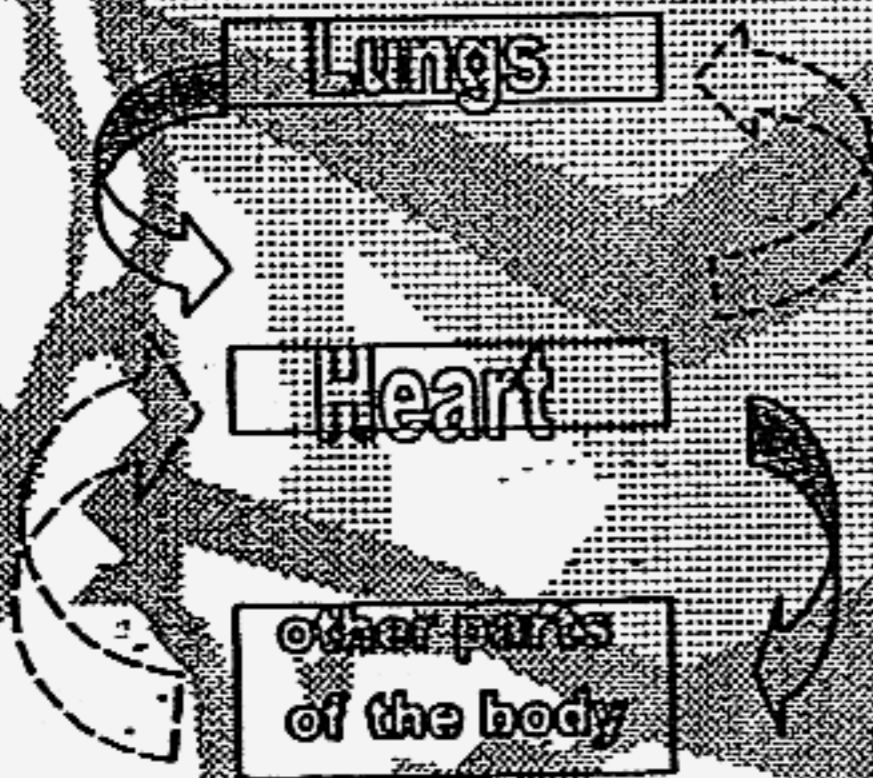
- 1)3      2)1      3)3      4)1      5)2      6)4
- 7)1      8)3      9)4      10)1      11)3      12)1
- 13)1      14)4      15)1      16)1      17)3      18)4
- 19)3      20)1      21)2      22)2      23)3      24)4
- 25)2      26)2      27)4      28)2      29)2      30)4

31)a. to reduce the amount of light getting to the plant.

31)b. Use a brighter light bulb.

32)a. Four food chains.      b. Snake, lizard, crow and mynah

33)a.



33)b. The blood entering the lungs is rich in carbon dioxide while the blood leaving the lung is rich in oxygen.

33)c. To transport more digested food and oxygen to all parts of the body to produce more energy.

Oxygen + digested food → (respiration) → energy + carbon dioxide + water.

34)a. B.C.E

34)b. She wanted to get a more reliable result.

35)a. It would be less. There would be more friction between the wheels of the roller coaster and the slope and more kinetic energy is used to overcome friction

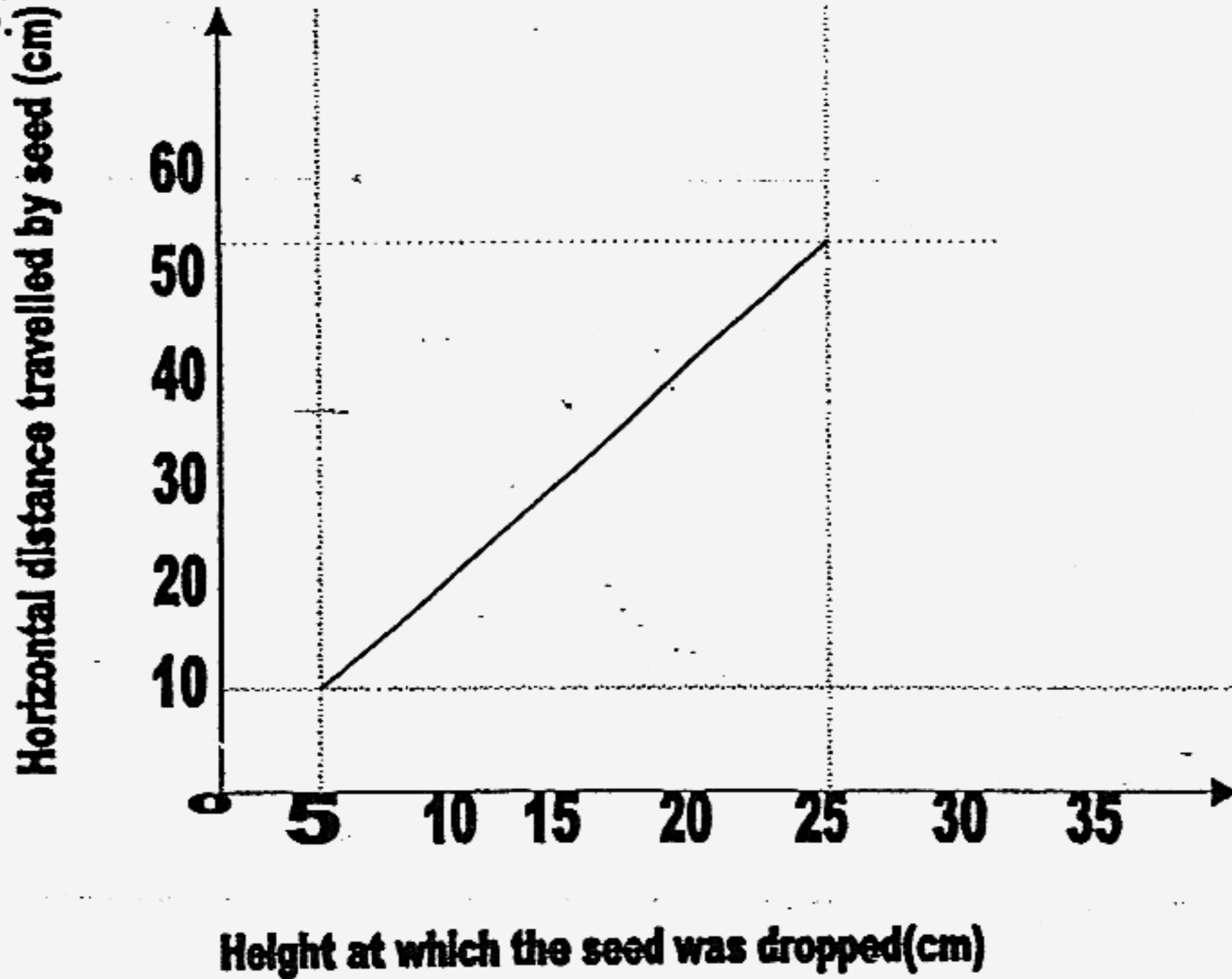
35)b. Gravitational potential energy of the (RC) roller coaster → kinetic energy + Heat energy + Sound energy

36)a. To find out how the exposed surface area of water affects the rate of evaporation of water.      36)b. Set-up Q, S and V.

36)c. The place where containers are placed.

37)a. He can observe that the higher the height at which the seed was dropped, the further the horizontal distance traveled by the seed.

37)b.



38) Warm water vapour from the surrounding air condenses on the cooler surface of the glass of water to form water droplets.

39)a. Material Z. 39)b. It is a good conductor of heat to pass through it the most easily in the fastest time.

40)a. It is to prevent heat loss from the soil.

40)b. step 1: seal the pot of soil with a plastic bag.

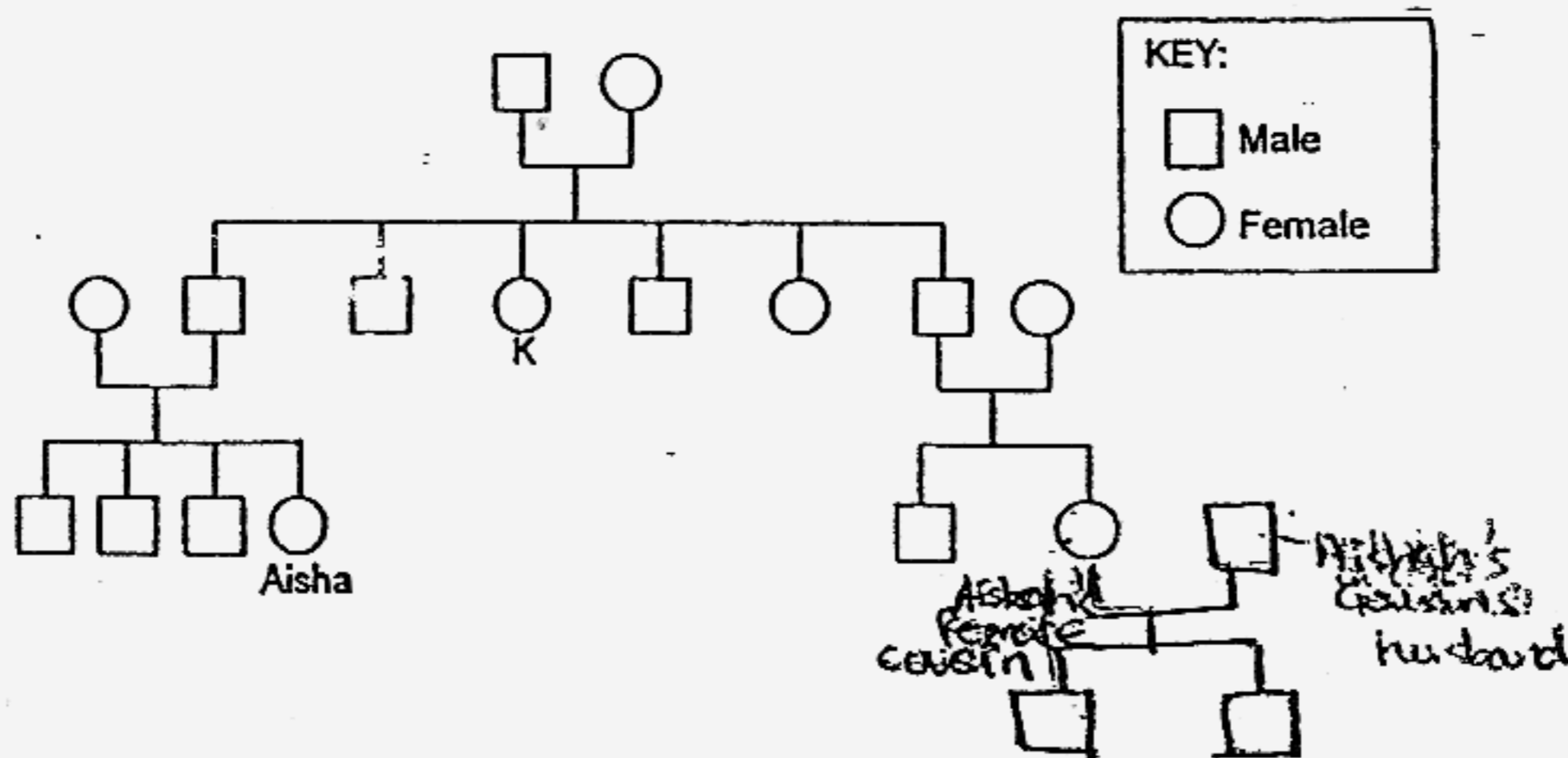
Step 2: place the potted plant on a weighing scale and record its mass.

Step 3 : Read the mass at the end of the experiment. Compare the results.

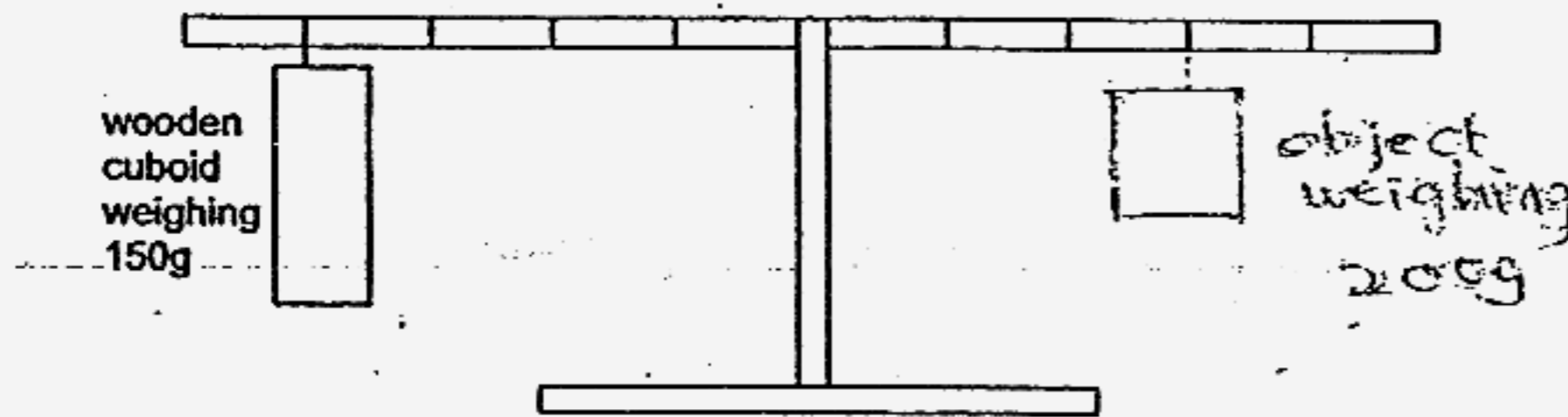
41)a. i True ii. True iii. Not possible to tell.

41. Aisha completed her family tree below before her cousin got married.

41)b.



42)a. A magnet \_\_\_\_\_ b. There were forces of attraction between the magnet and the iron base and this caused the magnet to be pulled downwards.



43)a. i. A    ii. B    iii. D    iv. C    b. It will swell and become a fruit.

44)a. A and C.    b) Factory Z because the number of organism C which was affected by greater amounts of substance Q from point 3 to point 4.

45)a. Diagram 2    b. Birds in diagram 3 have legs that are too long and they cannot reach the food in the water with their beaks.

46)a. Machine A, B and D    b. The load will move in the same direction as the effort for machine A but the load will move in an opposite direction