

ANGLO-CHINESE SCHOOL
(PRIMARY)

END-OF-YEAR EXAMINATION 2006

SCIENCE

BOOKLET A

Name: _____ ()

Class: Primary 5 _____

Date: 2nd November 2006

Duration of paper: 1 h 45 min

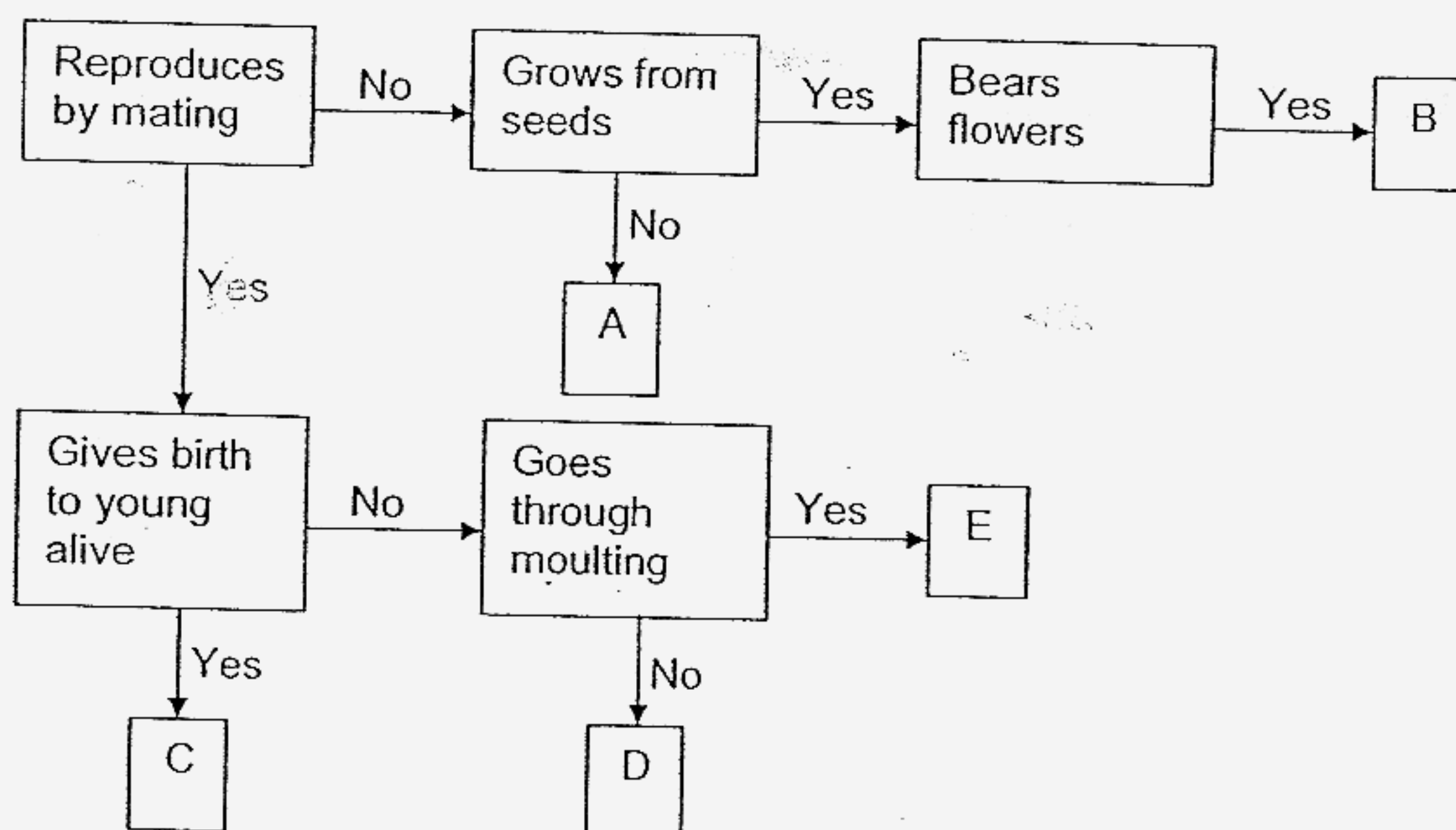
THIS BOOKLET CONTAINS 23 PAGES.
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FOLLOW ALL INSTRUCTIONS CAREFULLY.

PART I

For each of the following questions 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. Refer to the flowchart below to answer the question.



What could organisms A, C and E be?

	Organism A	Organism C	Organism E
(1)	Stag's Horn Fern	Platypus	Cockroach
(2)	Moss	Panda	Cat
(3)	Bird's Nest Fern	Shark	Cockroach
(4)	Chilli	Dolphin	Cockroach

2. The plants in an area growing near a volcano were covered by ash which settled on them after an eruption. These plants could not grow healthily because they were unable to take in _____.

A water
B oxygen
C carbon dioxide
D sunlight

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

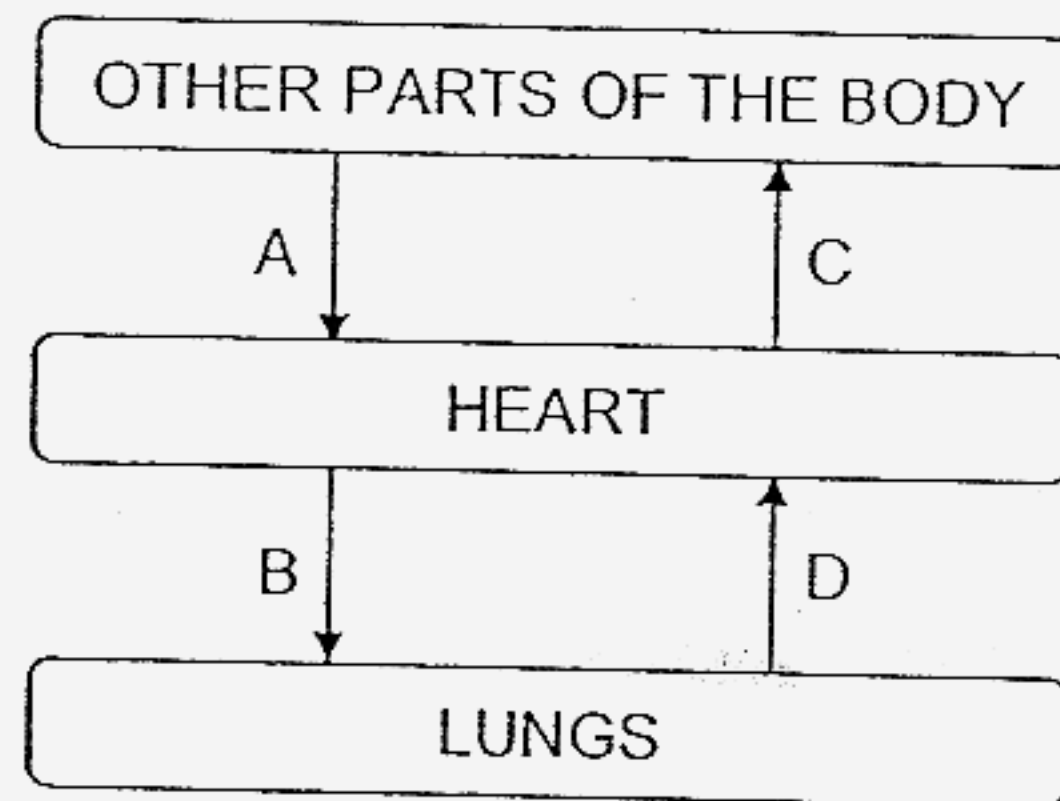
3. Each of the body systems, A, B, C and D below, contains one item which has been classified wrongly.

A stomach, heart, small intestine
B tricep, bicep, elbow
C ribcage, skull, brain
D gullet, windpipe, lungs

Which of the following shows the correct list of wrongly classified items?

- (1) heart, elbow, brain and gullet
(2) heart, elbow, ribcage and gullet
(3) small intestine, elbow, ribcage and gullet
(4) small intestine, elbow, brain and windpipe

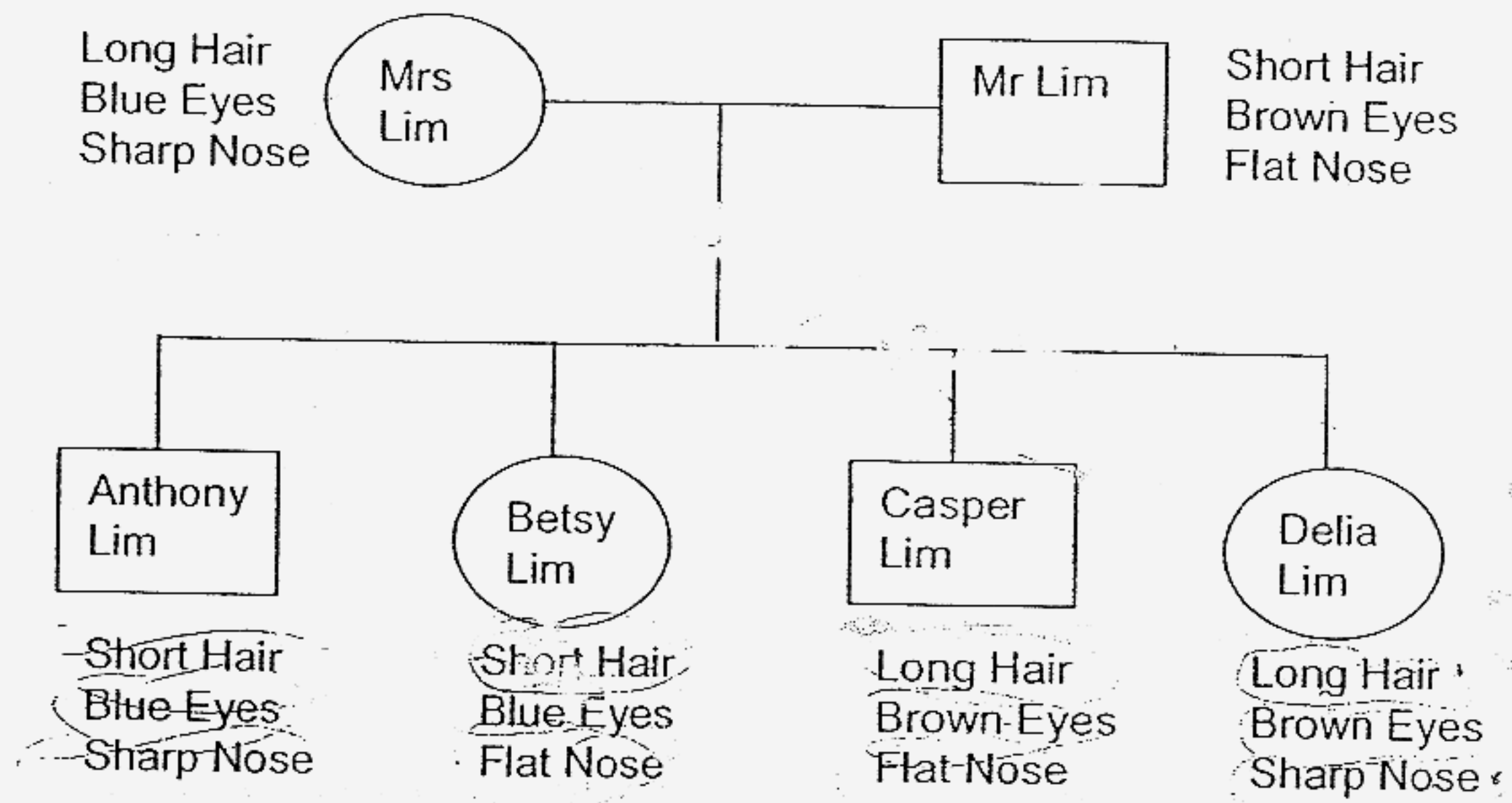
4. The arrows, A, B, C and D, represent blood vessels carrying blood to and from the lungs, heart and other parts of the body.



Which two blood vessels carry blood with more oxygen?

- (1) A and B
 - (2) A and C
 - (3) B and C
 - (4) C and D
5. How many generations of cell division must a paramecium cell undergo to produce 128 cells?
- (1) 6
 - (2) 7
 - (3) 64
 - (4) 128

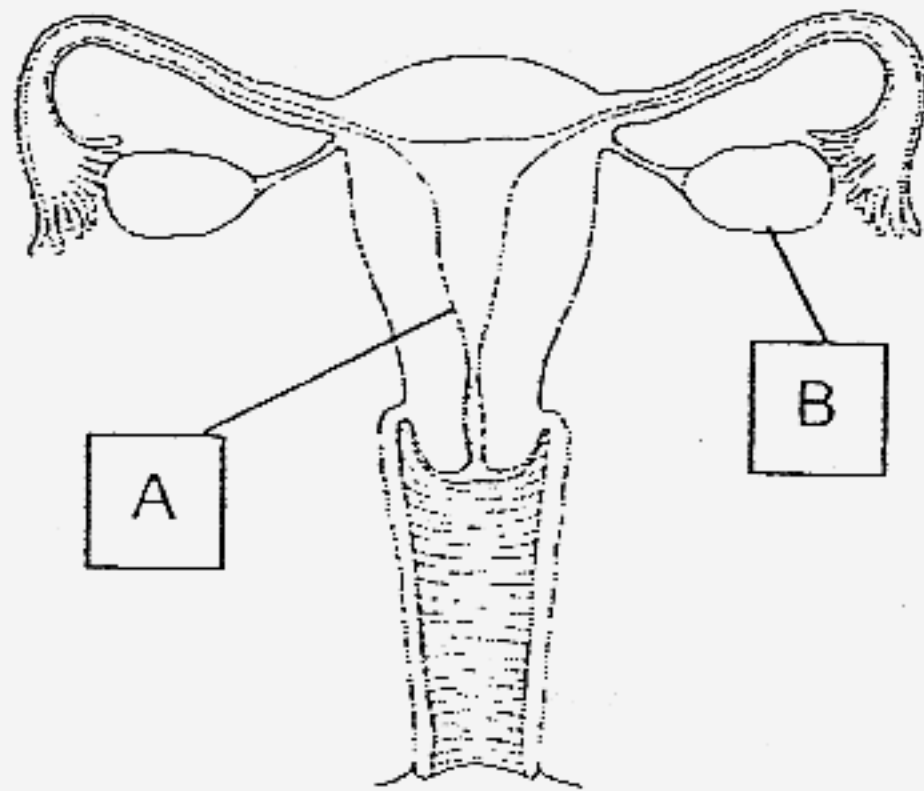
6. Study the family tree below. A brief description of the different family members is given.



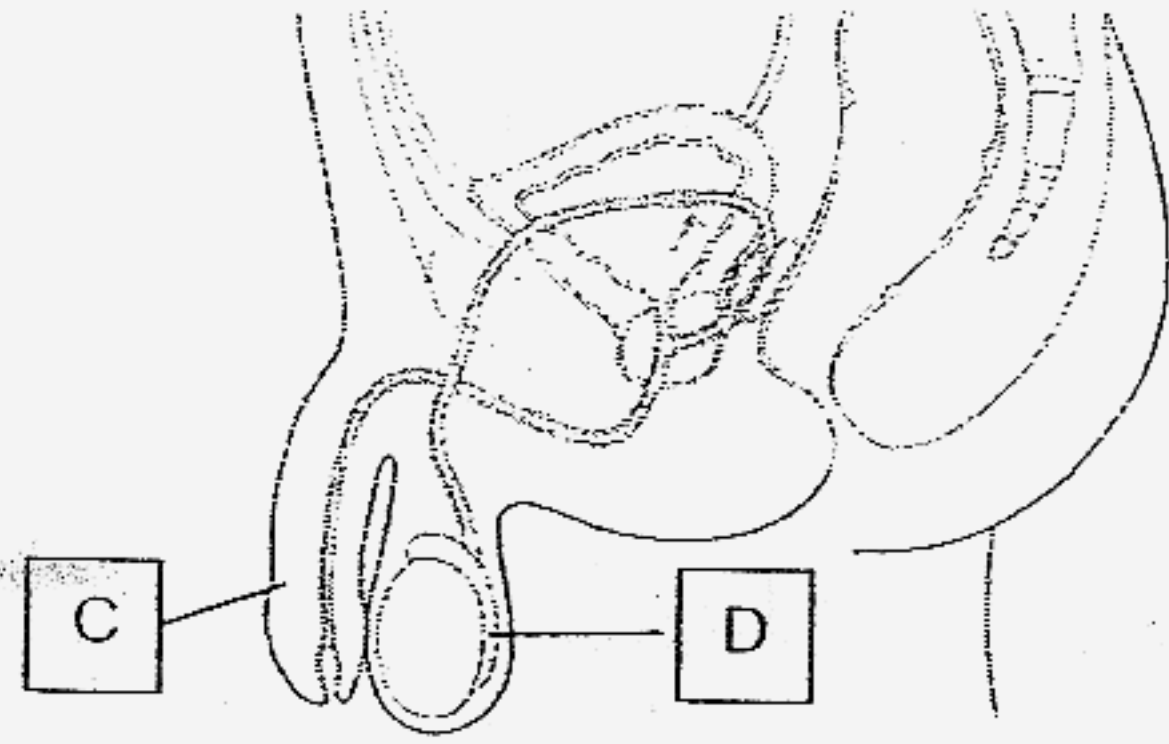
Which of the four children inherited more than one characteristic from one of their parents?

- (1) Anthony and Betsy
- (2) Anthony and Casper
- (3) Betsy and Casper
- (4) Anthony, Betsy, Casper and Delia

7. The diagrams below show the female and male human reproductive systems.



Front view of the female reproductive system

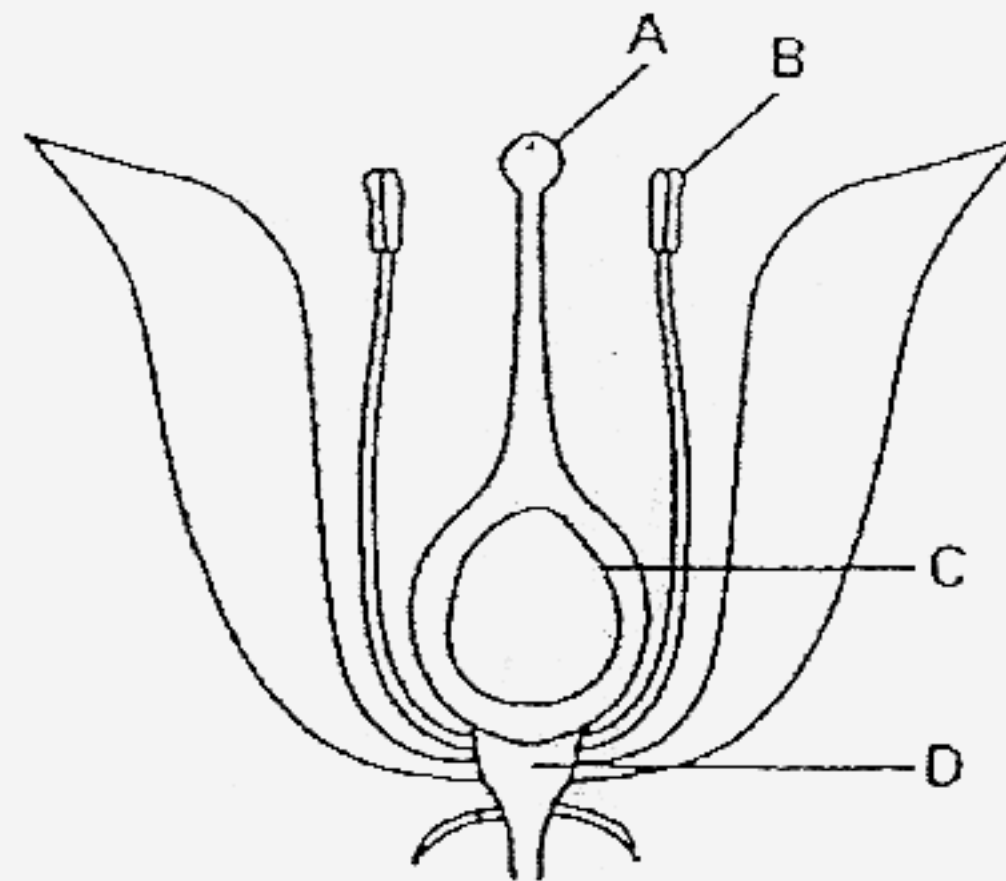


Side view of the male reproductive system

Which of the following correctly shows the organs that produce the reproductive cells?

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

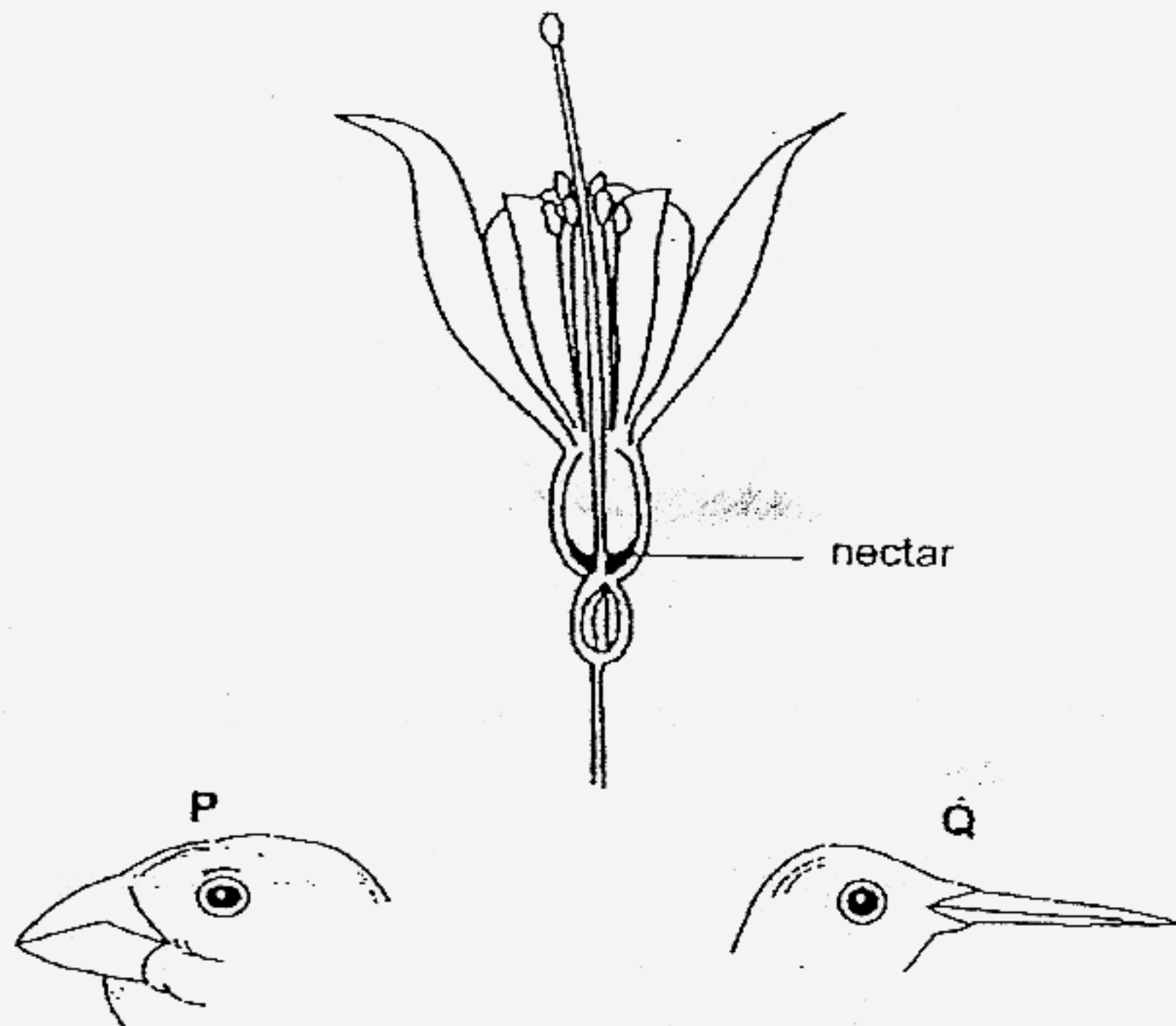
8. The diagram below shows the flower of a plant.



In which parts of the flower do the processes pollination and fertilisation take place?

	Pollination	Fertilisation
(1)	A	B
(2)	A	C
(3)	B	A
(4)	C	A

9. The diagrams below show a flower containing nectar and two birds, P and Q, with different types of beaks.

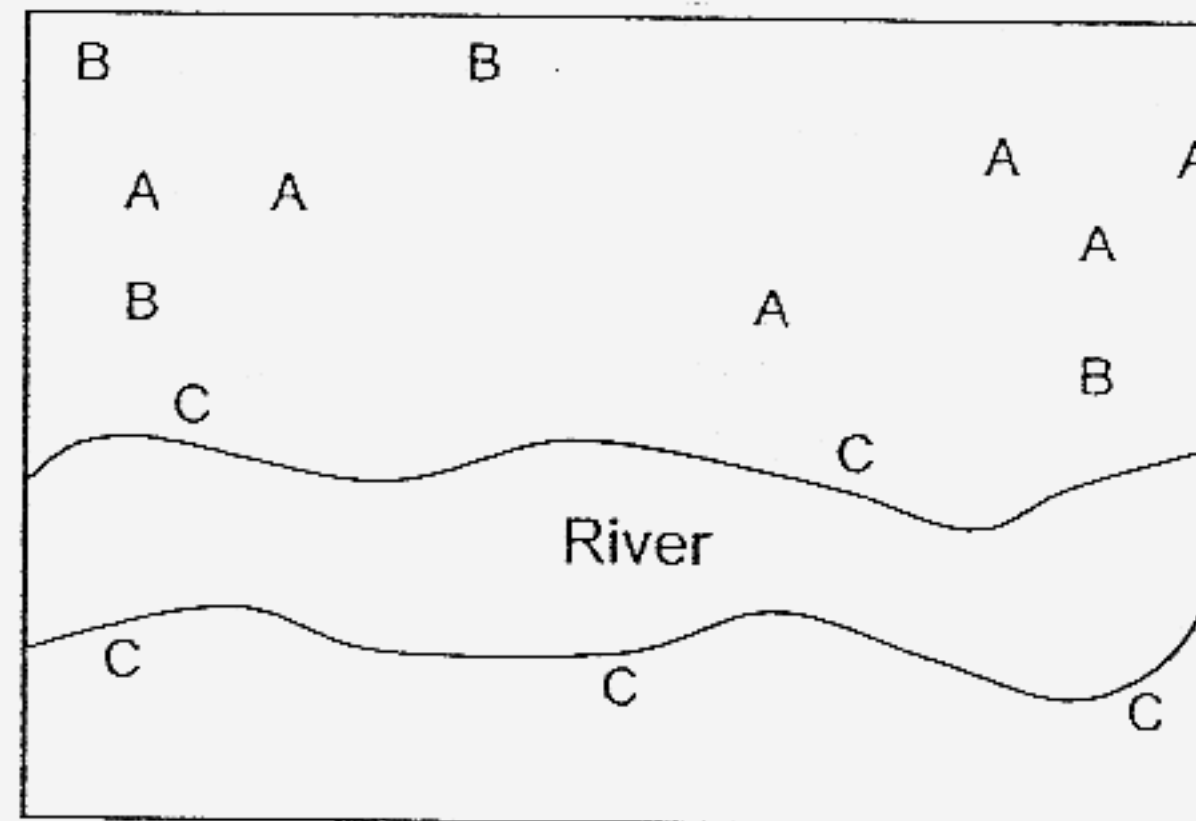


Which bird is more likely to be important to the flower and for what reason?

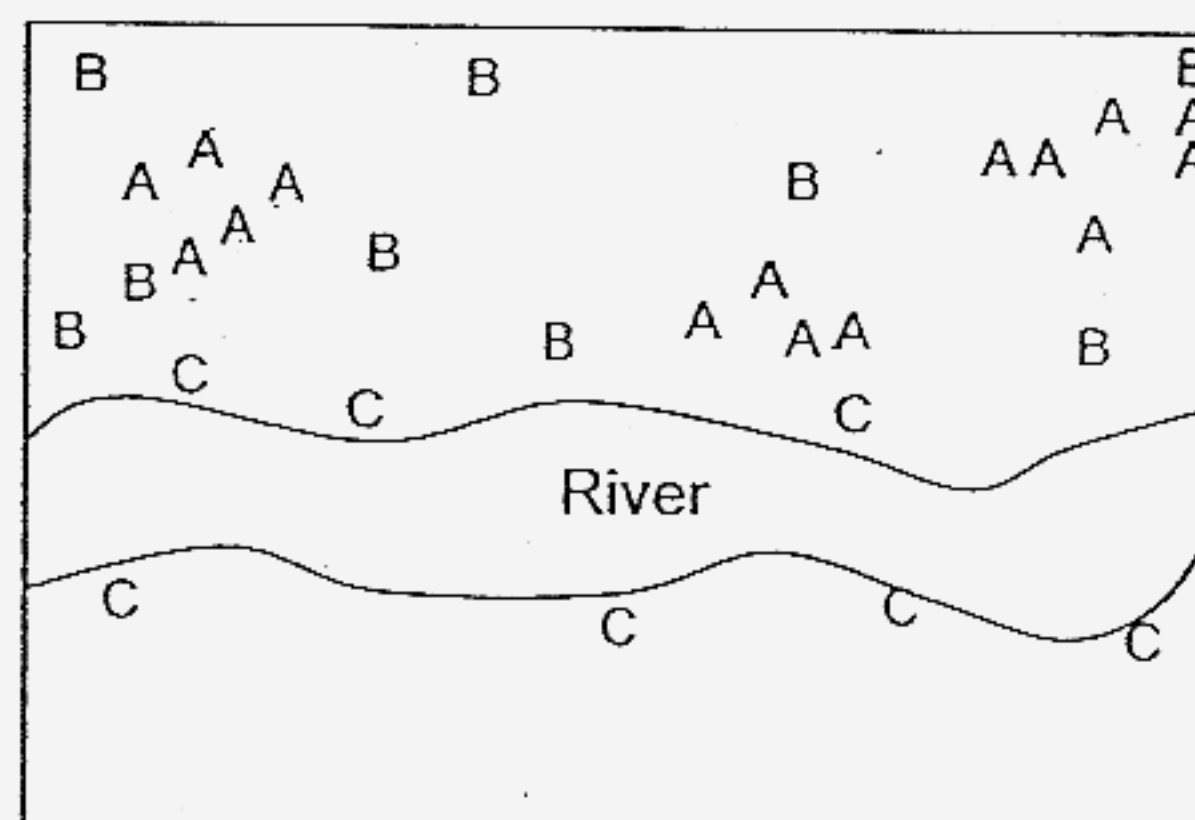
	Bird	Reason
(1)	P	Disperse its seeds after eating the flower
(2)	P	Pollinate the flower with pollen from another flower
(3)	Q	Transfer nectar to another flower
(4)	Q	Transfer pollen to another flower

10. The seeds of the trees A, B and C are dispersed using different methods. The following diagrams show the distribution of the 3 trees in 1995 and 2005 respectively.

In 1995



In 2005



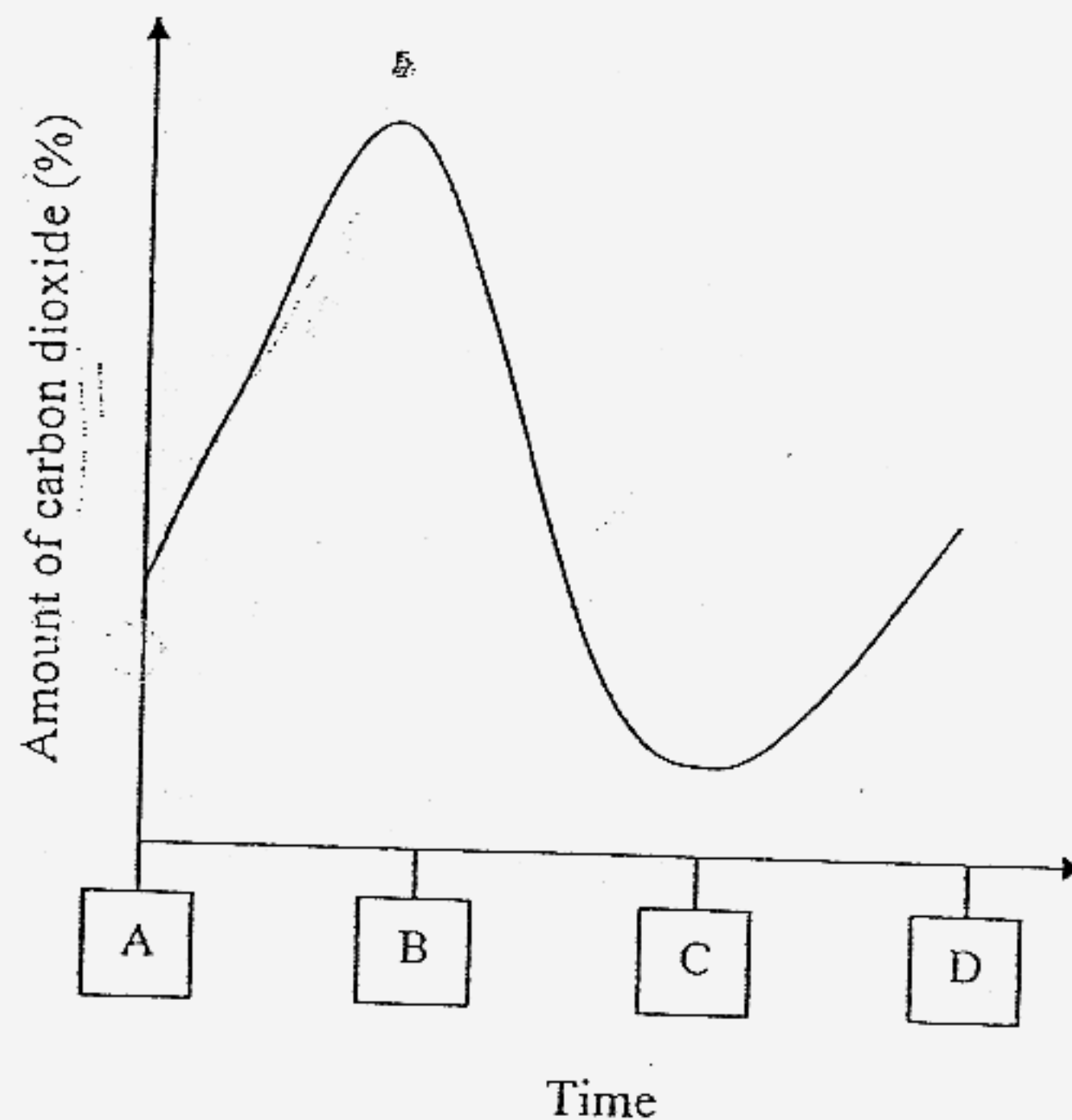
What is each tree most likely to be?

	A	B	C
(1)	Rubber	Nipah	Rambutan
(2)	Rambutan	Nipah	Rubber
(3)	Rubber	Rambutan	Nipah
(4)	Nipah	Rubber	Rambutan

11. More plants can be found near the surface rather than at the bottom of a deep pond. What is the main reason for this?

- (1) There is more air near the surface of the pond.
- (2) Pond organisms use the plants to hide from predators.
- (3) More sunlight can be obtained near the surface.
- (4) The pond water near the surface has more nutrients.

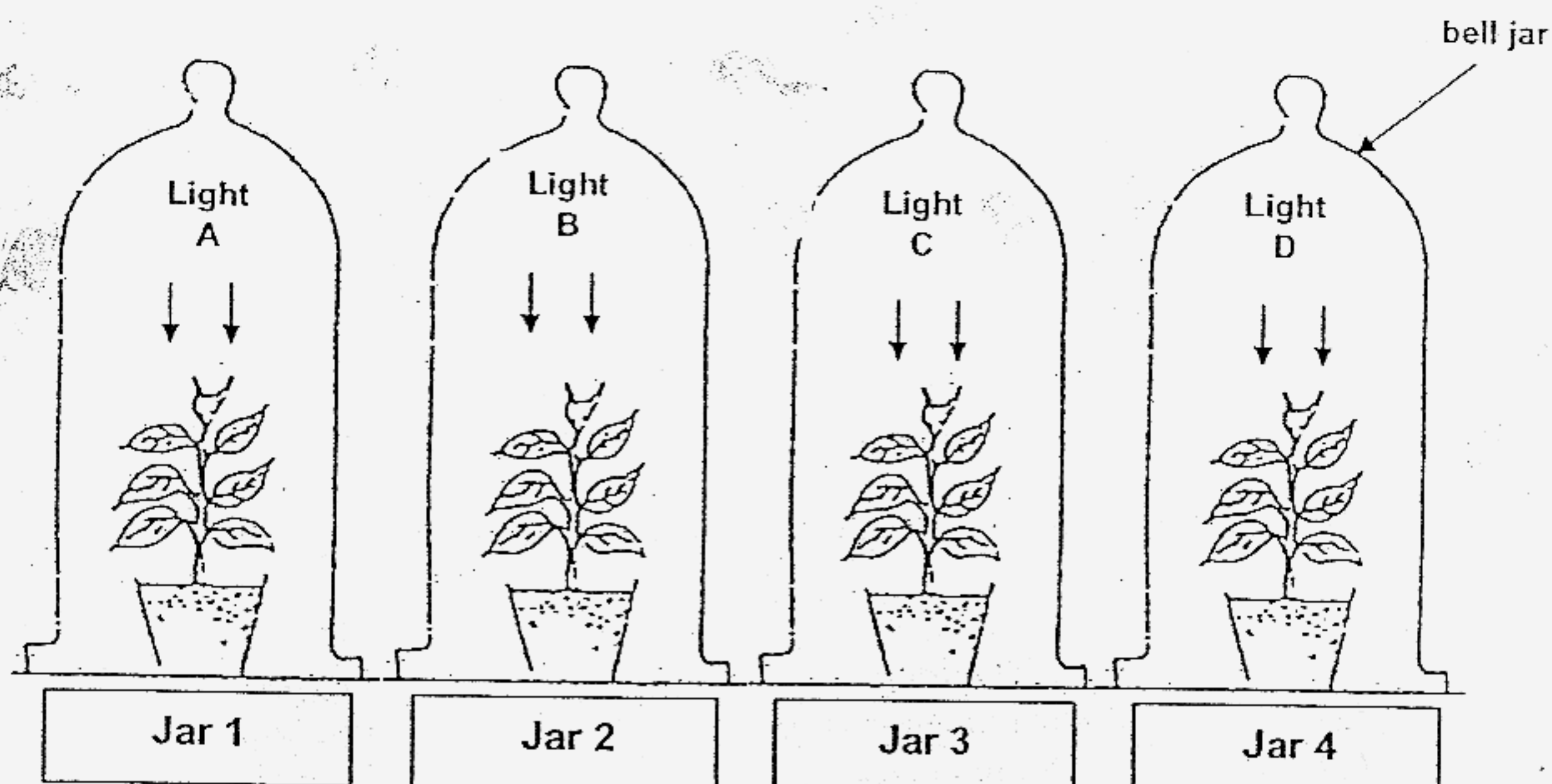
12. The graph below shows the amount of carbon dioxide in the air around an angsa tree over a 24-hour period.



Which of the following shows the correct times for A, B, C and D?

	A	B	C	D
(1)	6 a.m.	12 noon	6 p.m.	12 midnight
(2)	12 noon	6 p.m.	12 midnight	6 p.m.
(3)	6 p.m.	12 midnight	6 a.m.	12 noon
(4)	12 midnight	6 a.m.	12 noon	6 p.m.

13. 4 different coloured light bulbs (A, B, C and D) were used in an experiment shown below. The set-ups were left in a room for 24 hours. The percentage of oxygen in the bell jars before and after the experiment were measured and recorded in the table below.

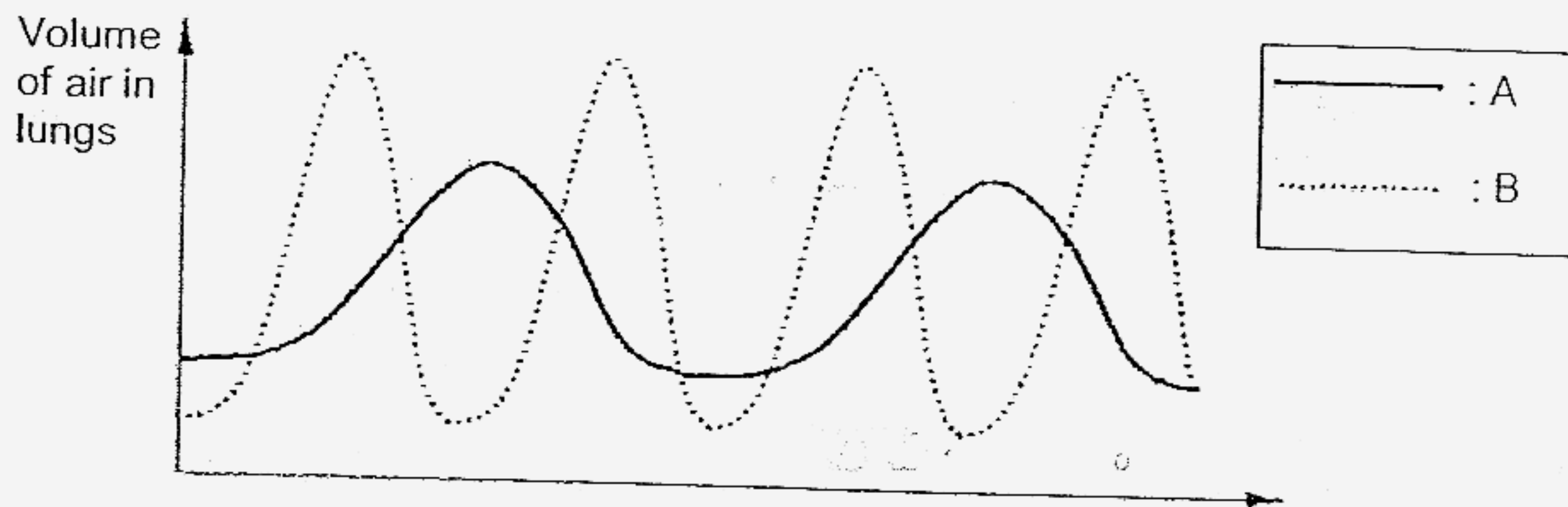


Jar	Light	Percentage of oxygen before the experiment	Percentage of oxygen after the experiment
1	A	21.00	21.20
2	B	21.00	21.40
3	C	21.00	21.60
4	D	21.00	21.80

What is the aim of the experiment?

- (1) To find out how different colours of light affect the rate at which plants make food
- (2) To find out if plants require oxygen to make food in the presence of coloured light
- (3) To find out how the amount of oxygen affects the rate at which plants make food
- (4) To find out how the amount of coloured light affects the rate at which plants make food

14. The graph below shows how the volume of air in Raji's lungs changes during two activities, A and B.



Which of the following correctly shows the two activities, A and B?

	Activity A	Activity B
(1)	Reading	Jogging
(2)	Watching television	Reading
(3)	Skipping rope	Jogging
(4)	Skipping rope	Reading

15. Four pupils were asked to complete a table about photosynthesis and respiration. Their responses were shown below.

Agnes		Takes place in the day	Takes place at night
	Photosynthesis	✓	
	Respiration		✓

Bruce		Takes place in the day	Takes place at night
	Photosynthesis		✓
	Respiration	✓	

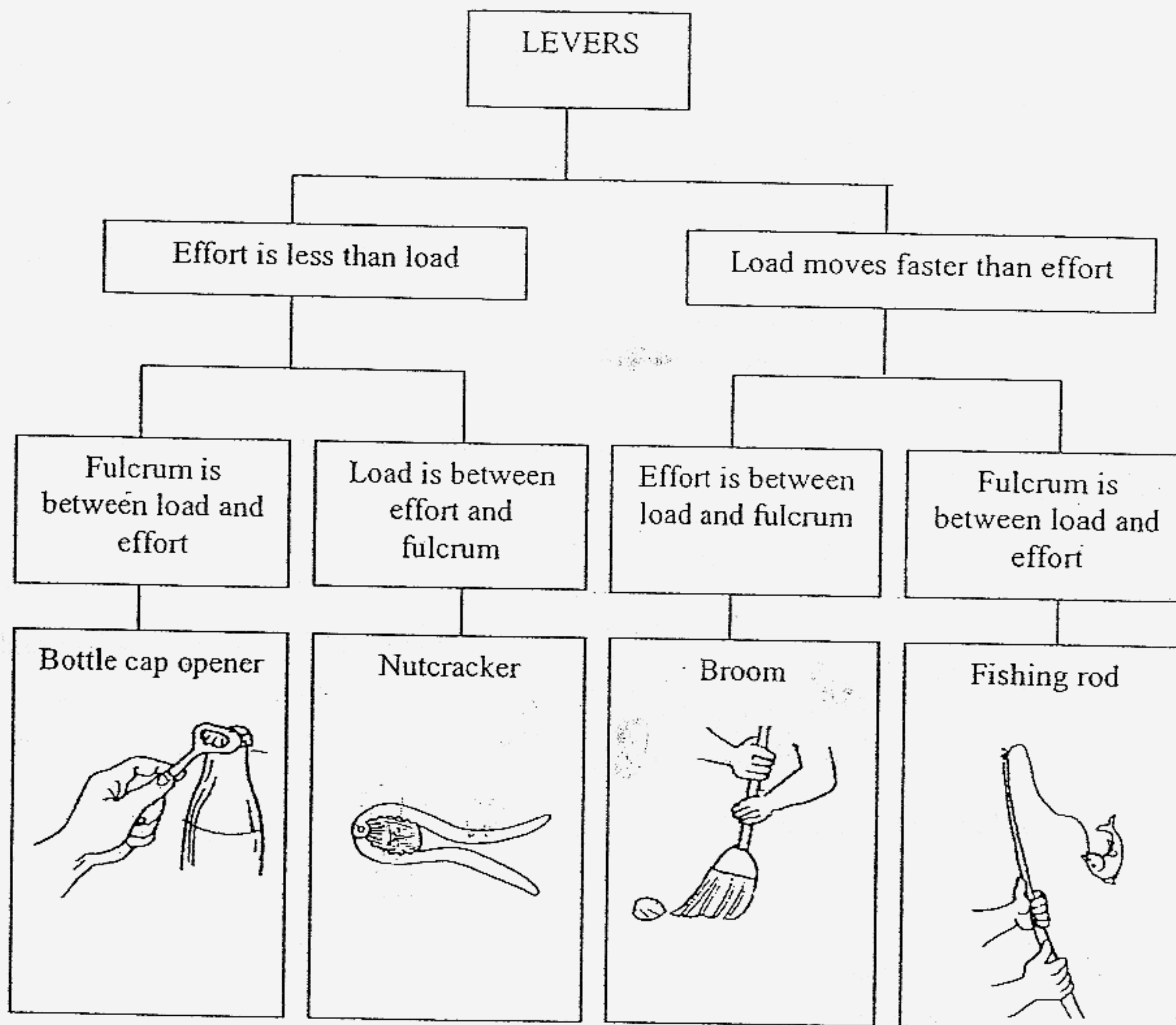
Charlie		Takes place in the day	Takes place at night
	Photosynthesis	✓	
	Respiration	✓	✓

Diana		Takes place in the day	Takes place at night
	Photosynthesis	✓	✓
	Respiration	✓	✓

Which pupil completed the table correctly?

- (1) Agnes
- (2) Bruce
- (3) Charlie
- (4) Diana

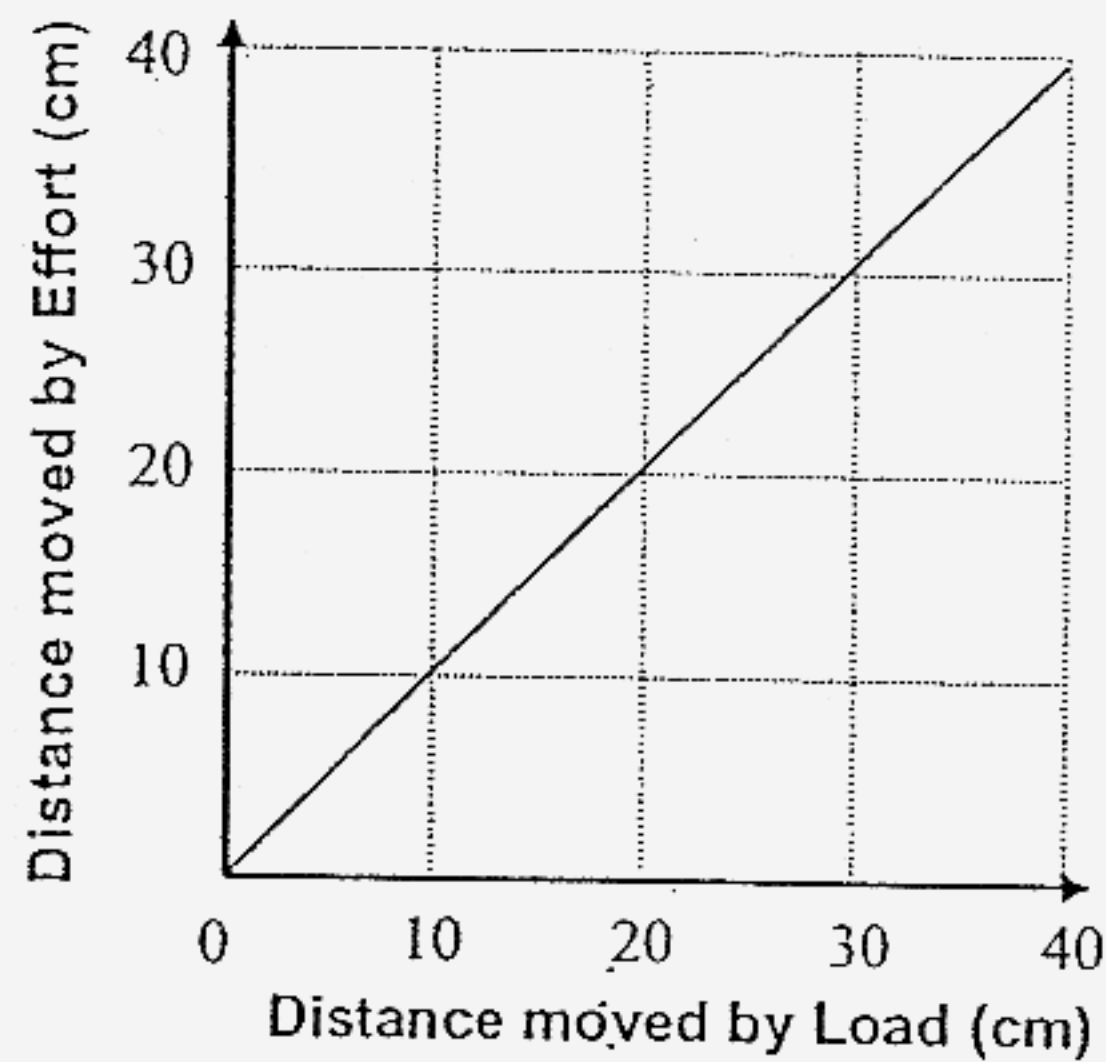
16. Study the classification chart below carefully.



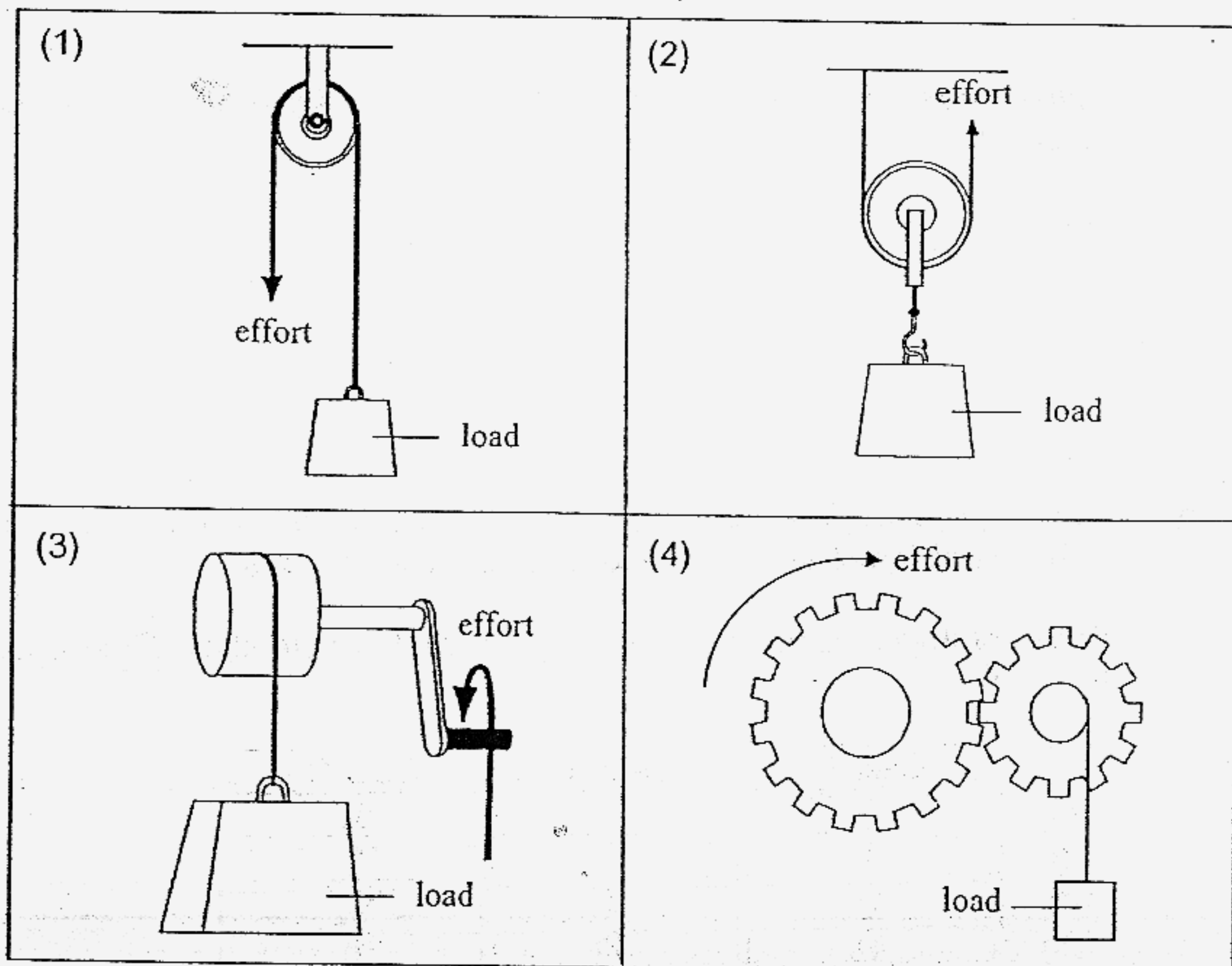
Which of the following machines are classified wrongly?

- (1) nutcracker and broom only
- (2) fishing rod and nutcracker only
- (3) broom and bottle cap opener only
- (4) fishing rod and bottle cap opener only

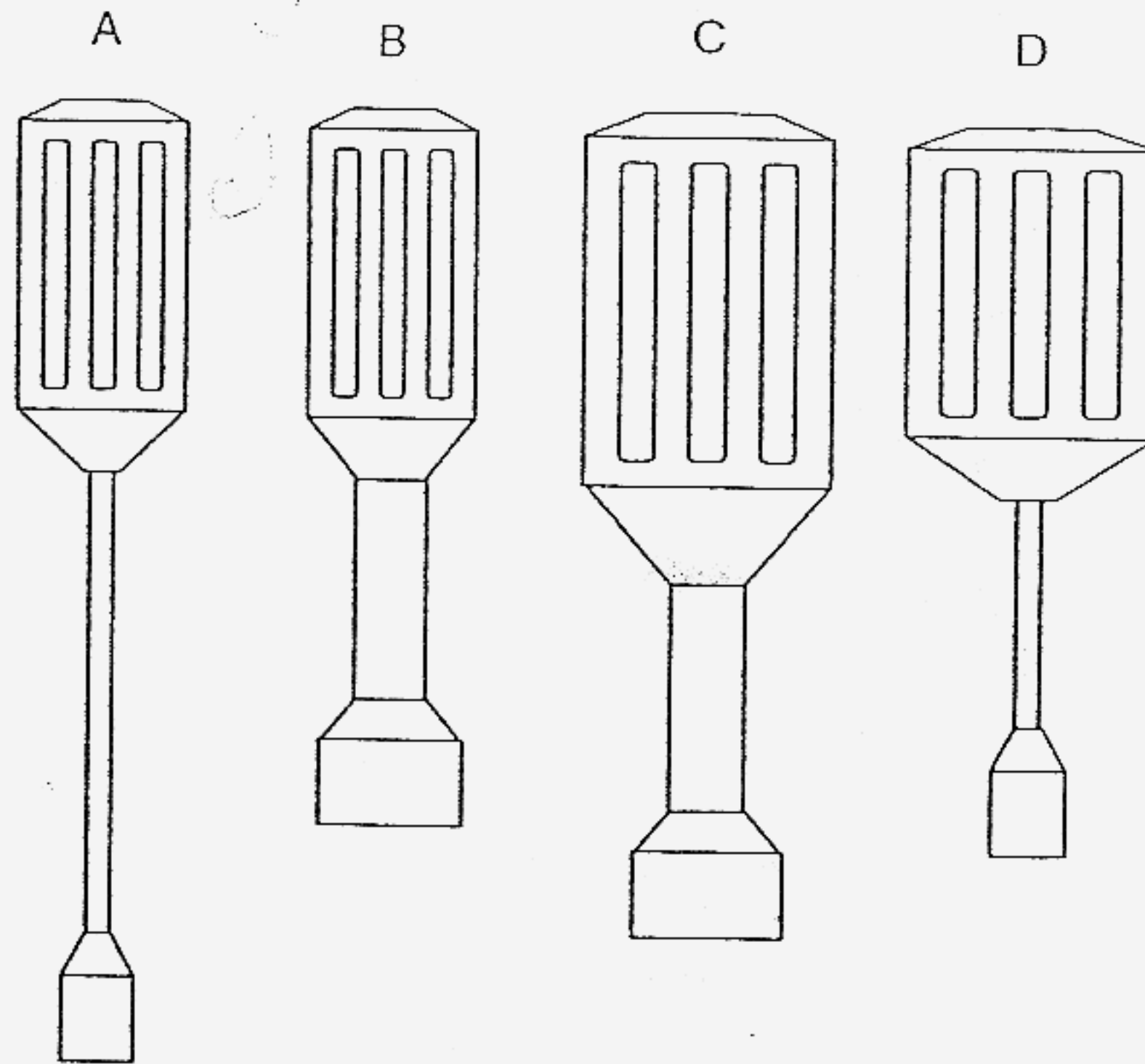
17. The graph below shows the relationship between the distances moved by the effort and the load of a simple machine X.



Which of the following is simple machine X?



18. The diagram below shows 4 different screw drivers, A, B, C and D.



Which one of them reduces the most amount of effort when used to remove a screw?

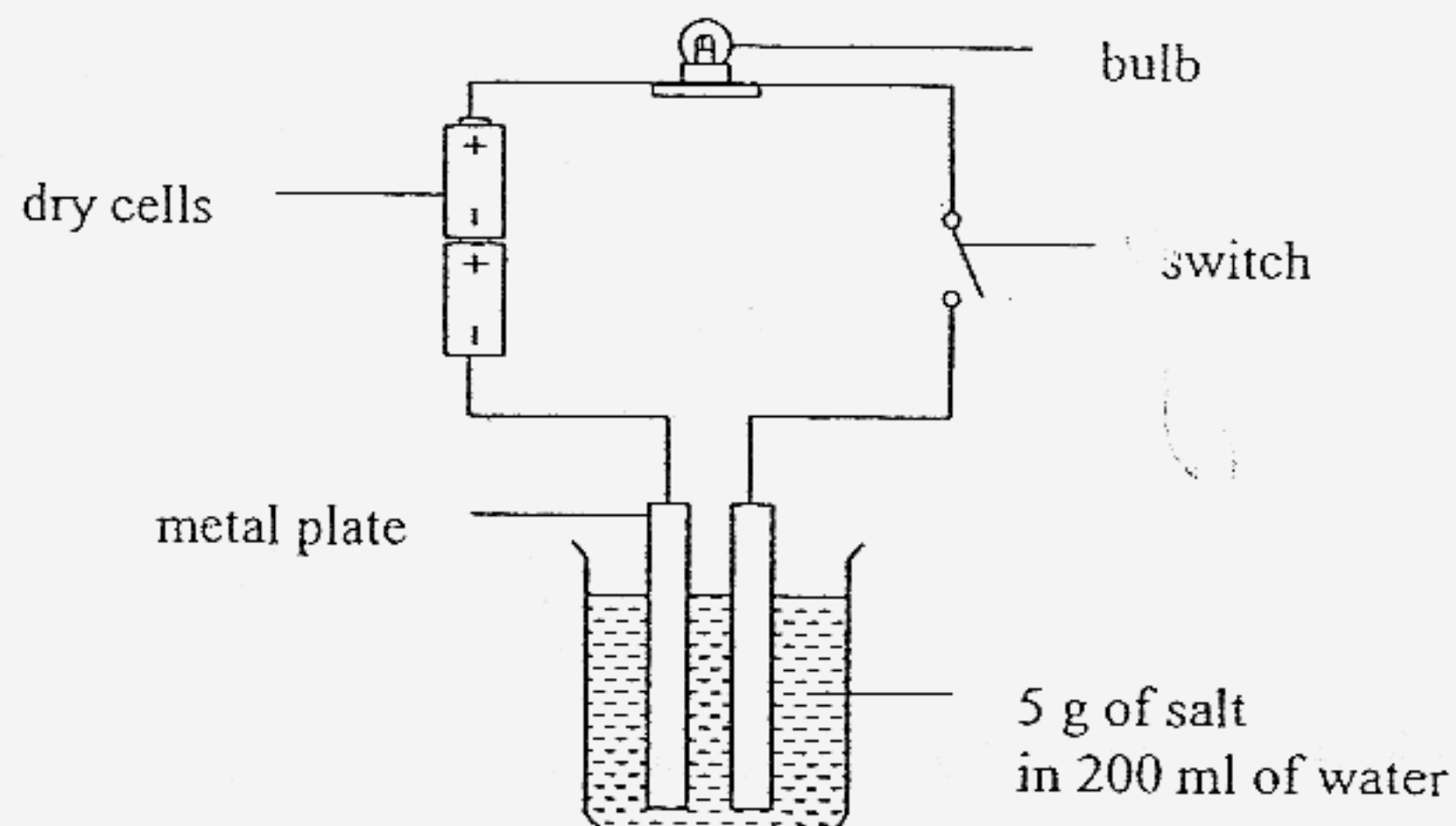
- (1) A
- (2) B
- (3) C
- (4) D

19. A, B and C are 3 interlocking gears in a gear system. When Gear A makes 4 turns, Gear B makes 2 turns and Gear C makes 8 turns.

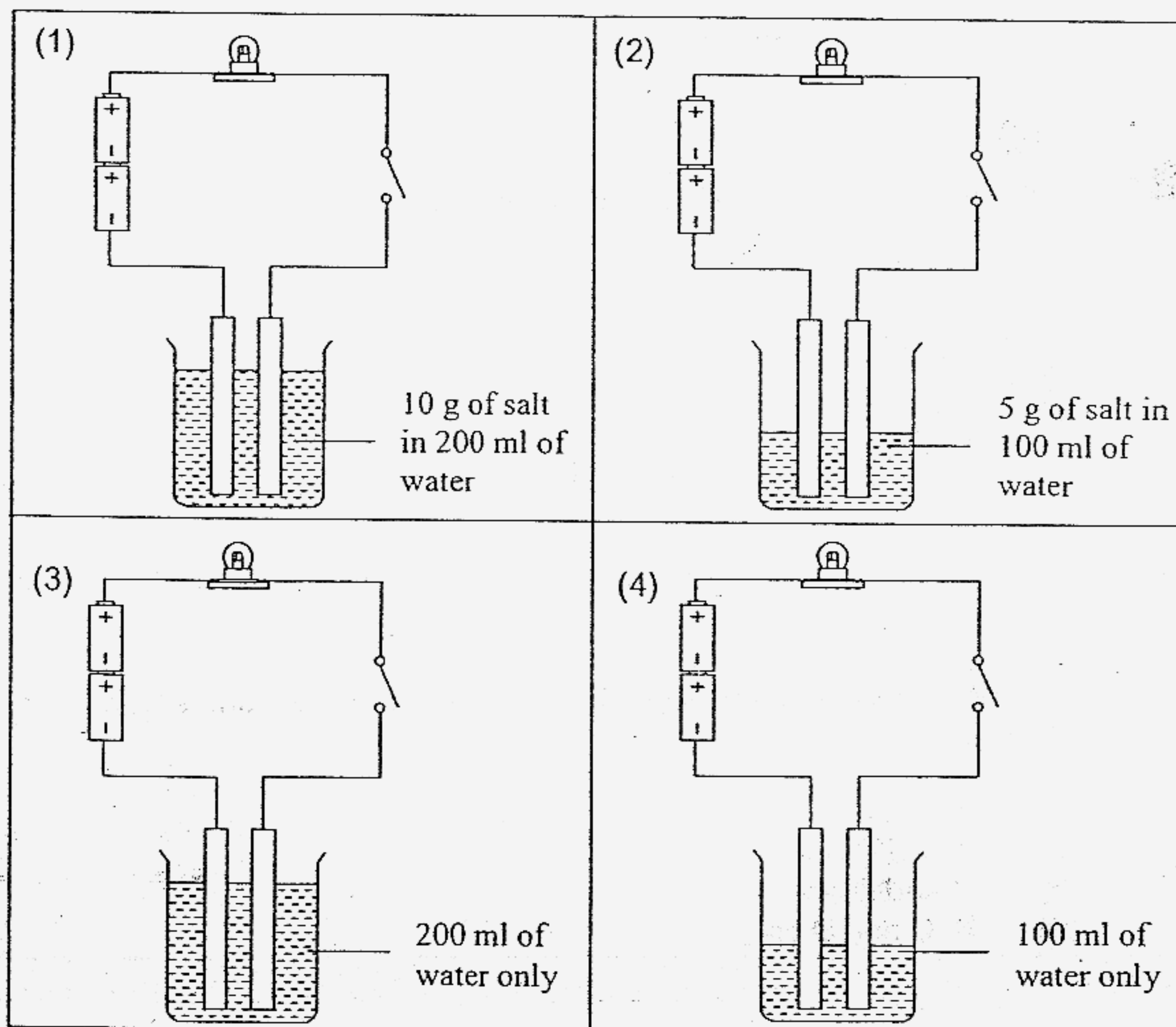
Which of the following shows the correct number of teeth for Gears, A, B and C?

	Gear A	Gear B	Gear C
(1)	4	2	8
(2)	8	4	16
(3)	8	16	32
(4)	16	32	8

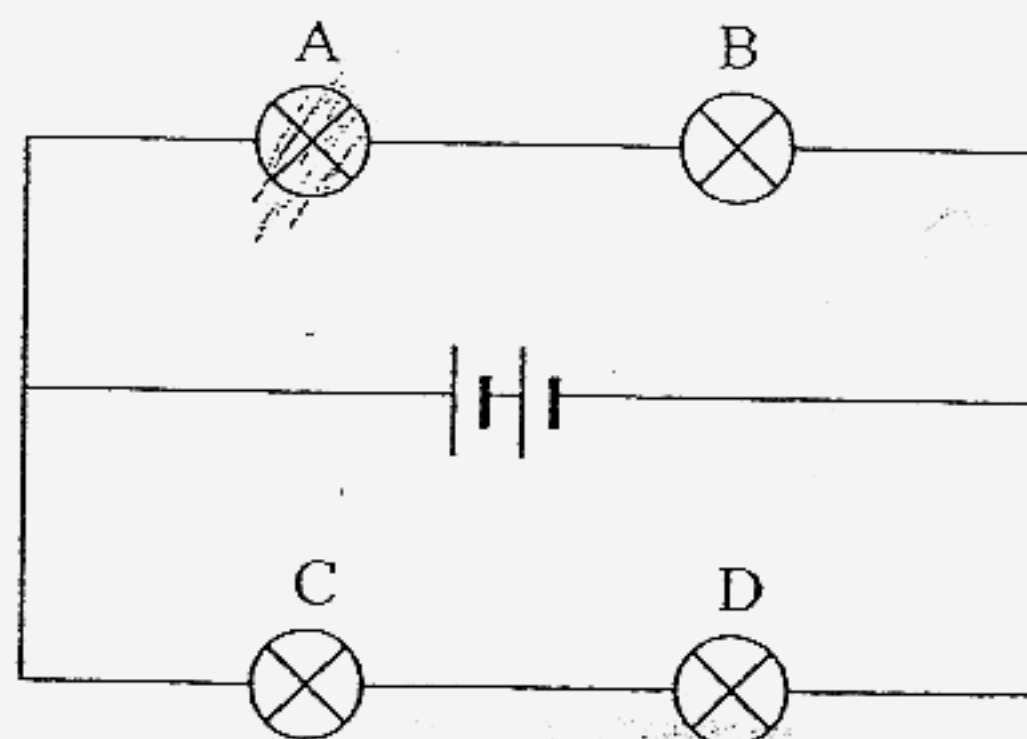
20. Wendy wanted to find out whether water conducts electricity when common salt is dissolved in it. She used the set-up below.



Which one of the following shows the most suitable set-up for a control to her experiment?

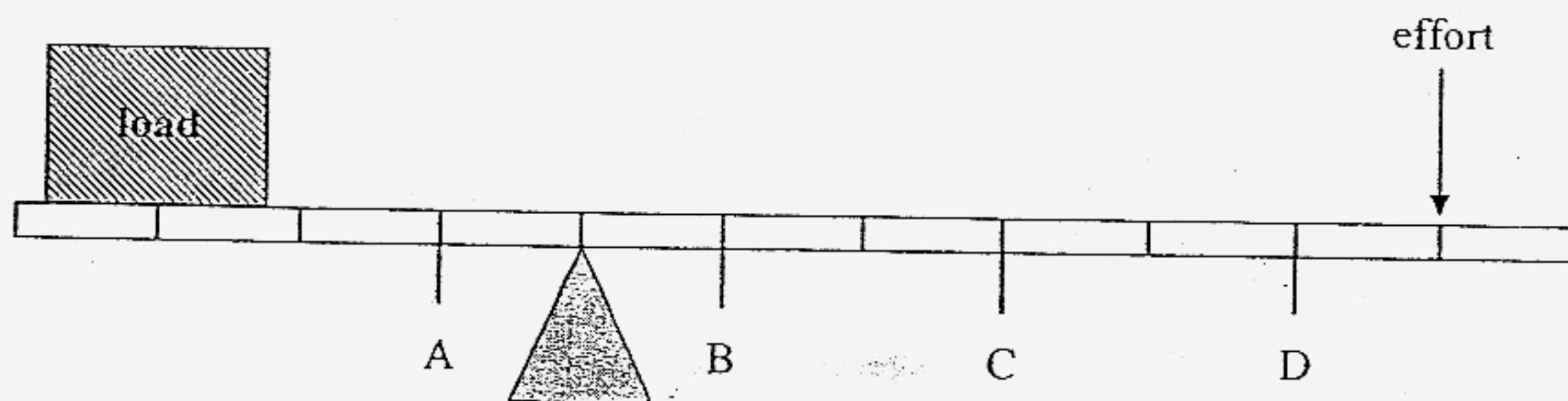


21. Study the circuit below.



If bulb A fuses, which of the other bulbs will remain lit?

- (1) B only
 - (2) C and D only
 - (3) B, C and D only
 - (4) None of the bulbs
22. An effort is applied at the end of a lever to lift a load.



The effort needed will be more than the load if the fulcrum is moved to position (s)_____.

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

23. Diagram 1 shows 2 bulbs, X and Y, connected to two dry cells. When the switch is closed, the two bulbs light up.

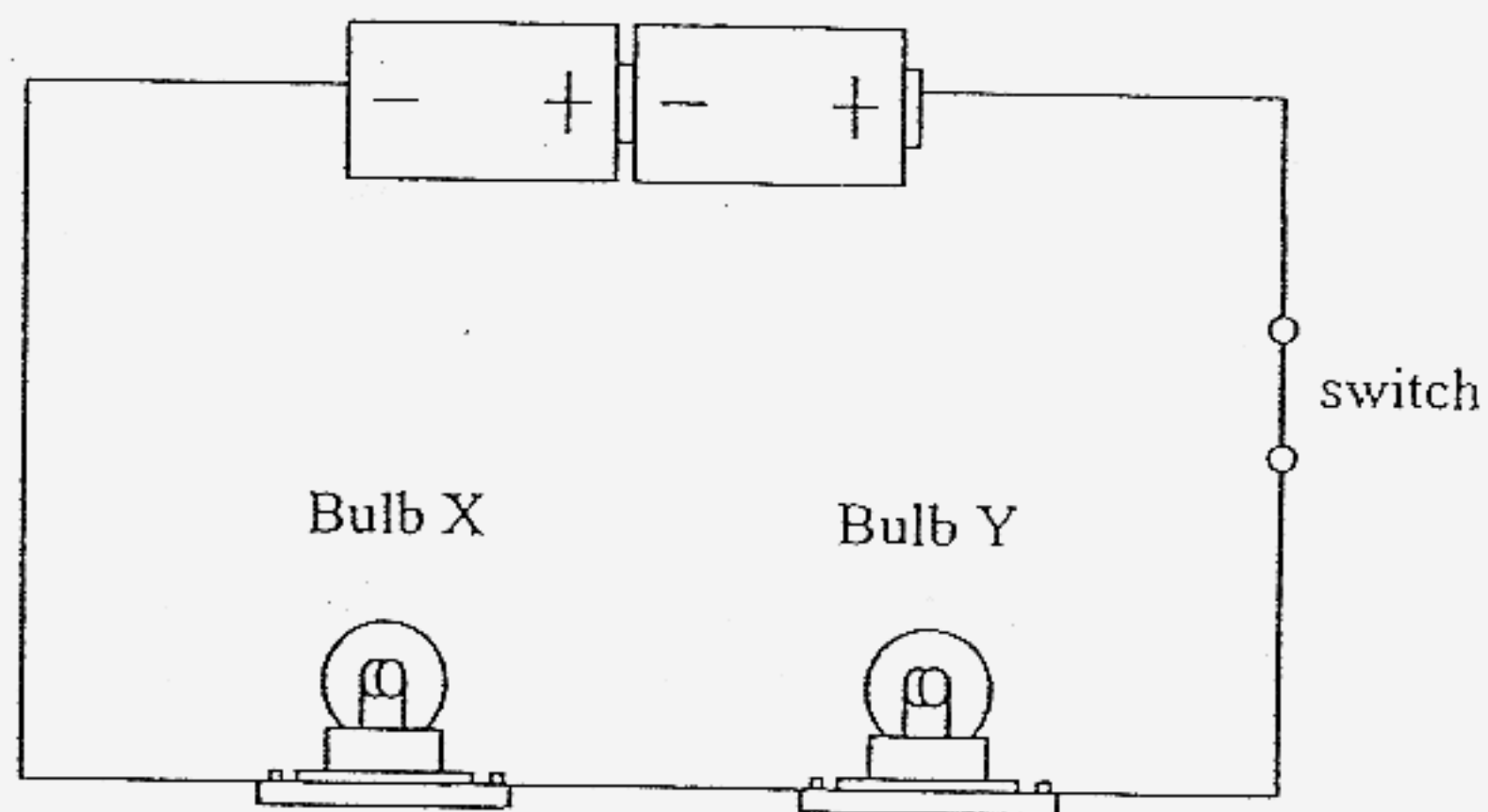


Diagram 1

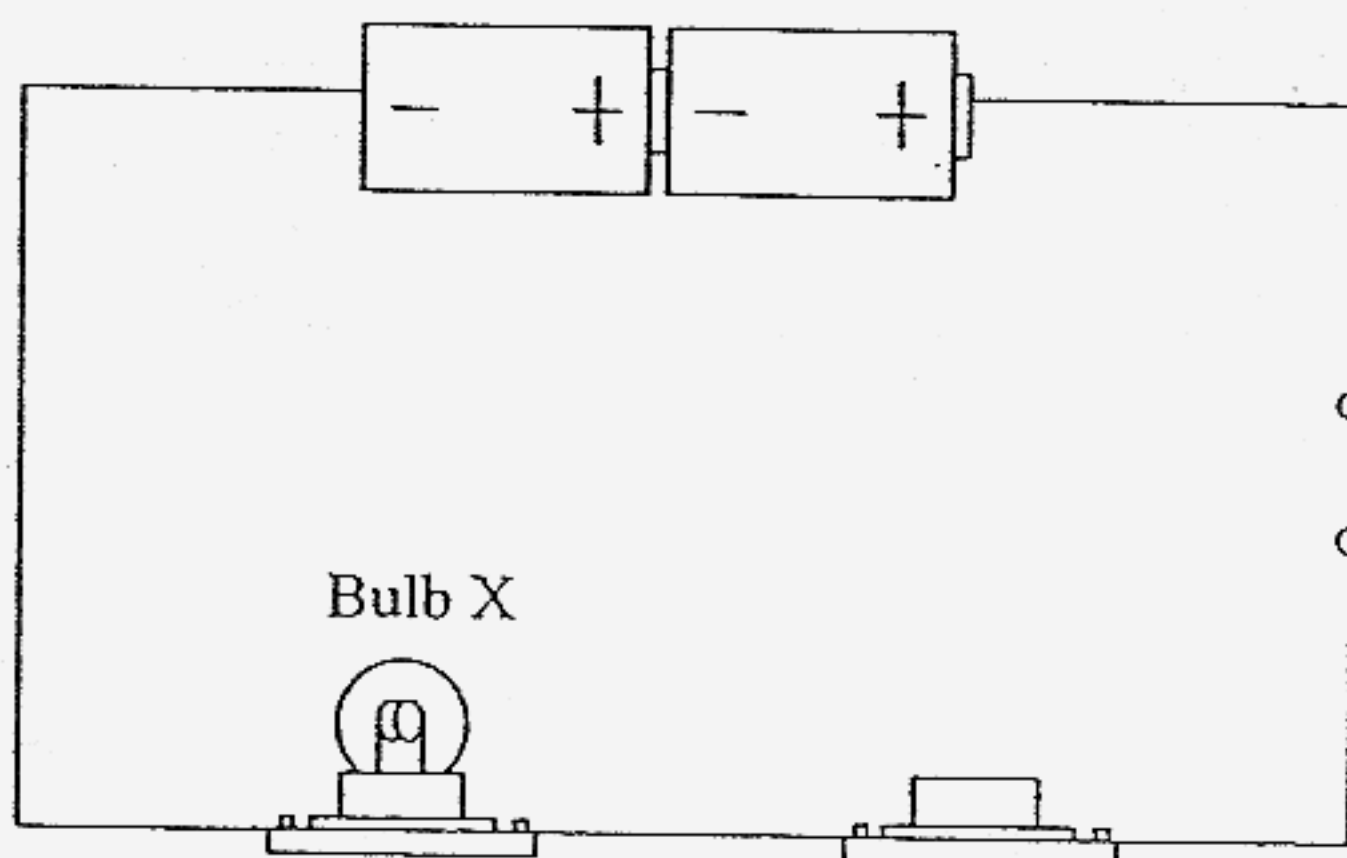
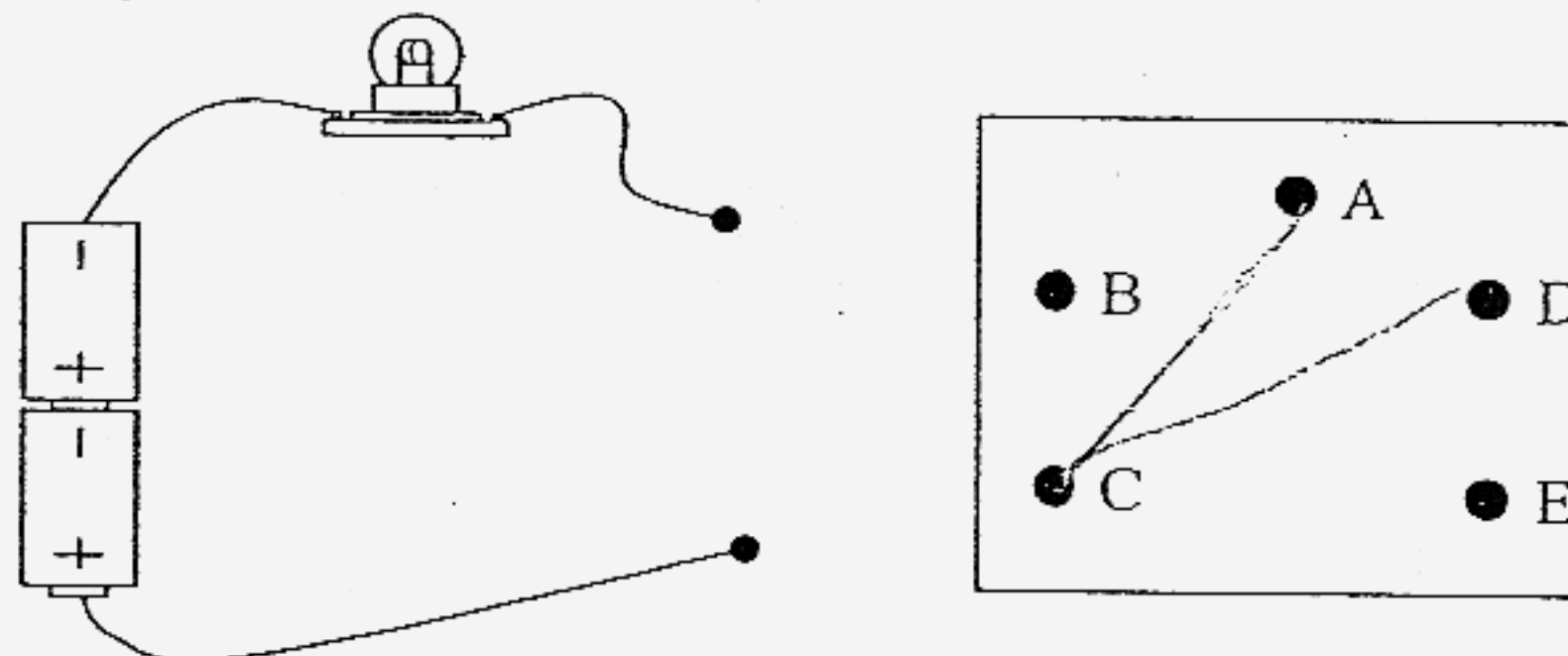


Diagram 2

What will happen to Bulb X if Bulb Y is removed as shown in diagram 2?

- (1) Bulb X will not light up.
- (2) Bulb X gives out a dimmer light.
- (3) Bulb X gives out a brighter light.
- (4) Bulb X is as bright as it was before.

24. The diagram below shows a circuit tester and a circuit card consisting of 5 metal thumbtacks, A, B, C, D and E. The thumbtacks may or may not be connected by wires.



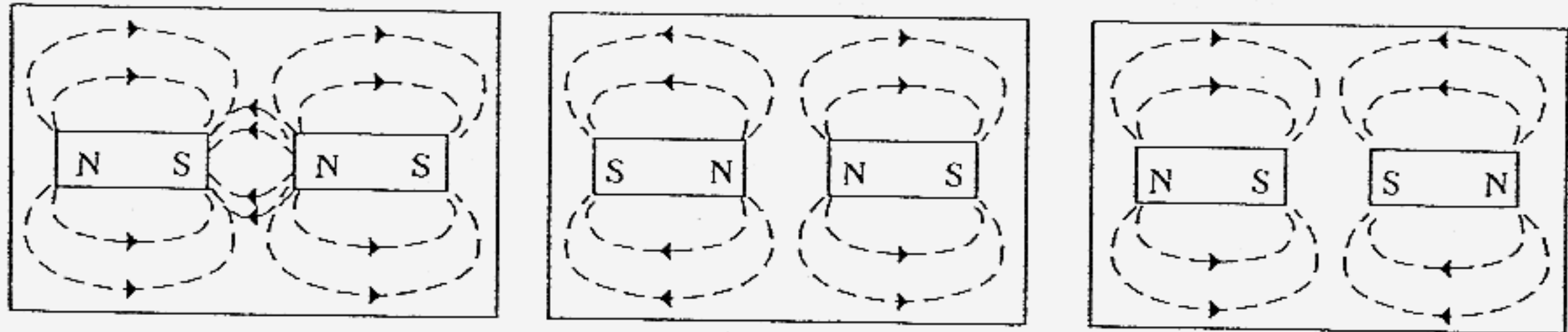
The ends of the circuit tester are connected to two thumbtacks at a time. The table below shows the results of the connections.

Thumbtacks connected	Does the bulb in the circuit tester light up?
A and C	yes
A and B	no
D and E	no
C and D	yes

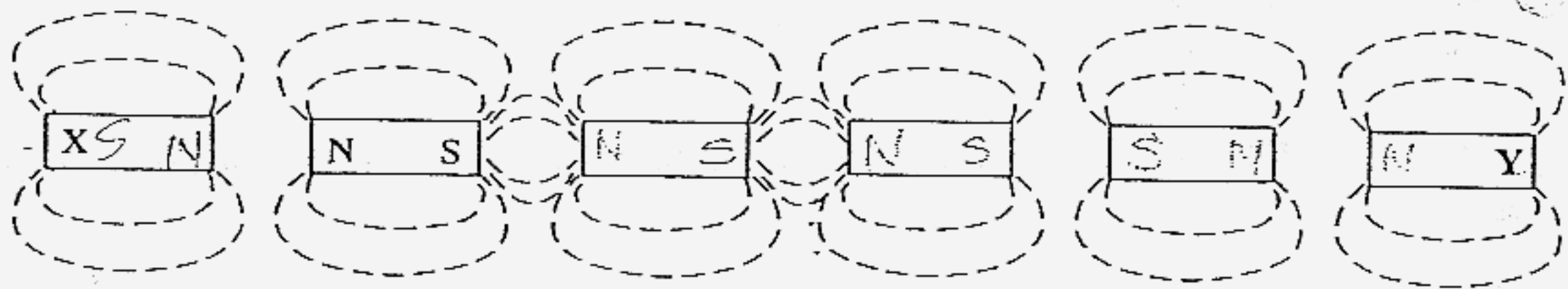
Which one of the following shows how the wires are connected in the circuit card?

<p>(1)</p>	<p>(2)</p>
<p>(3)</p>	<p>(4)</p>

25. The magnetic field lines between the poles of magnets are shown below.



The following diagram shows a series of magnets and the magnetic field lines between these magnets.



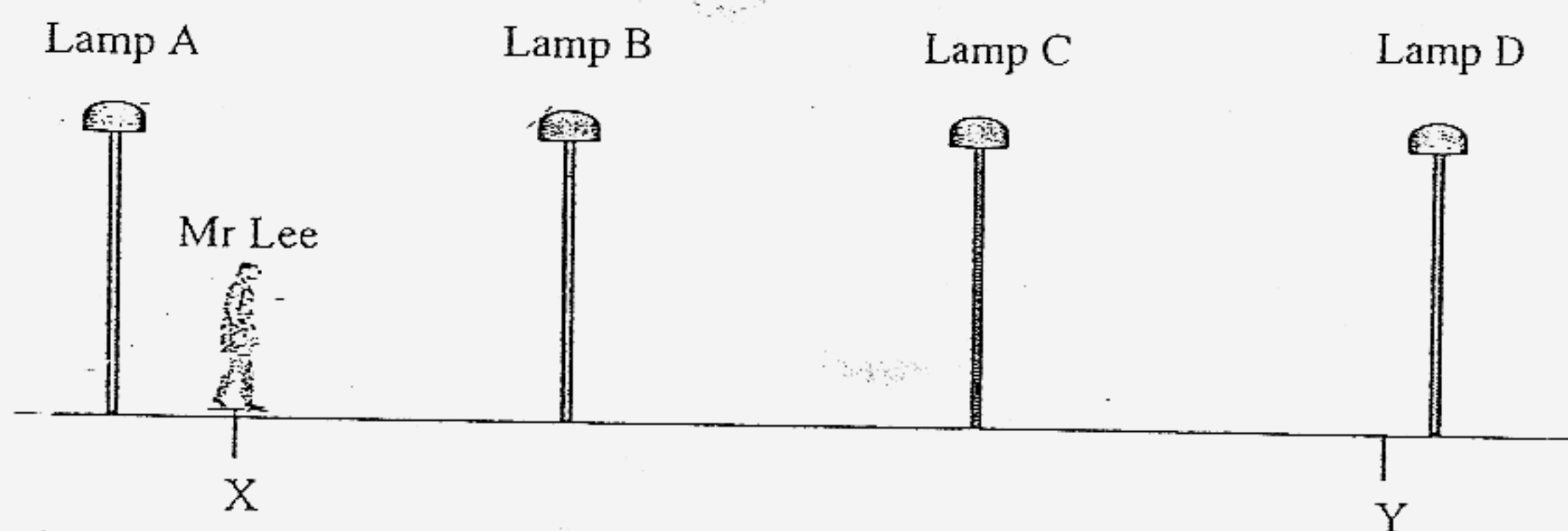
What are the poles of the magnets at X and Y?

	X	Y
(1)	North	South
(2)	South	North
(3)	North	North
(4)	South	South

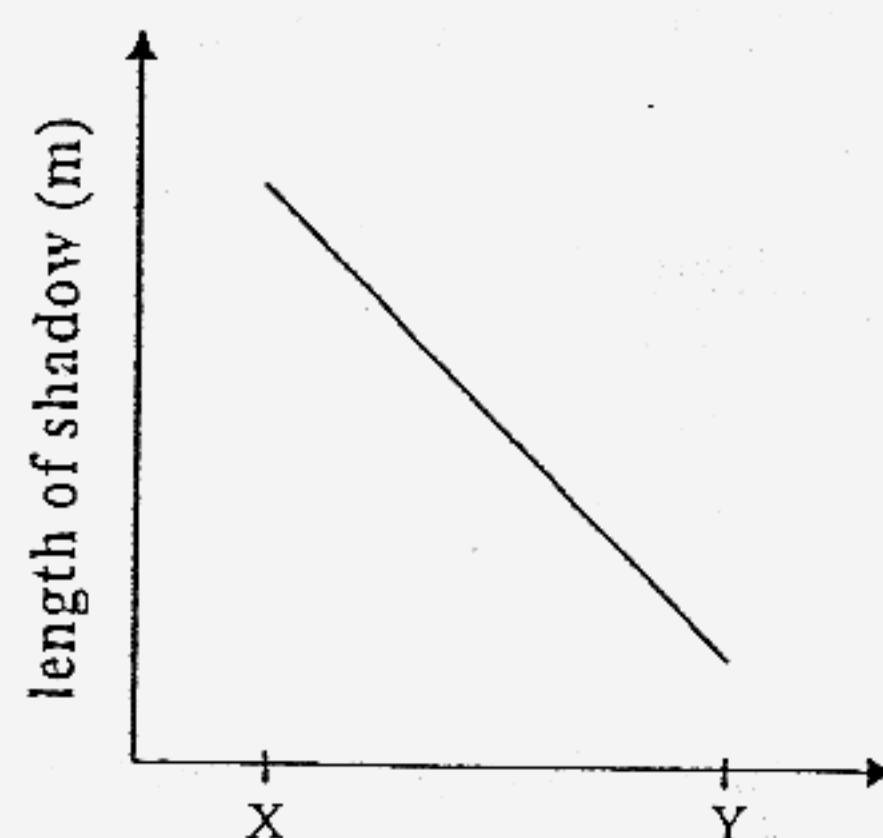
26. Which one of the following changes would most likely to occur if the Earth were to rotate twice as fast as it does now?

- (1) A day would be about 48 hours.
- (2) There would be more days in a year.
- (3) Two winters would occur in the same place in a year.
- (4) A full moon would be observed twice in about 28 days.

27. One dark night, Mr Lee walked down a street from Point X to Point Y as shown in the diagram below. There were 4 street lamps along the street but only one lamp was working



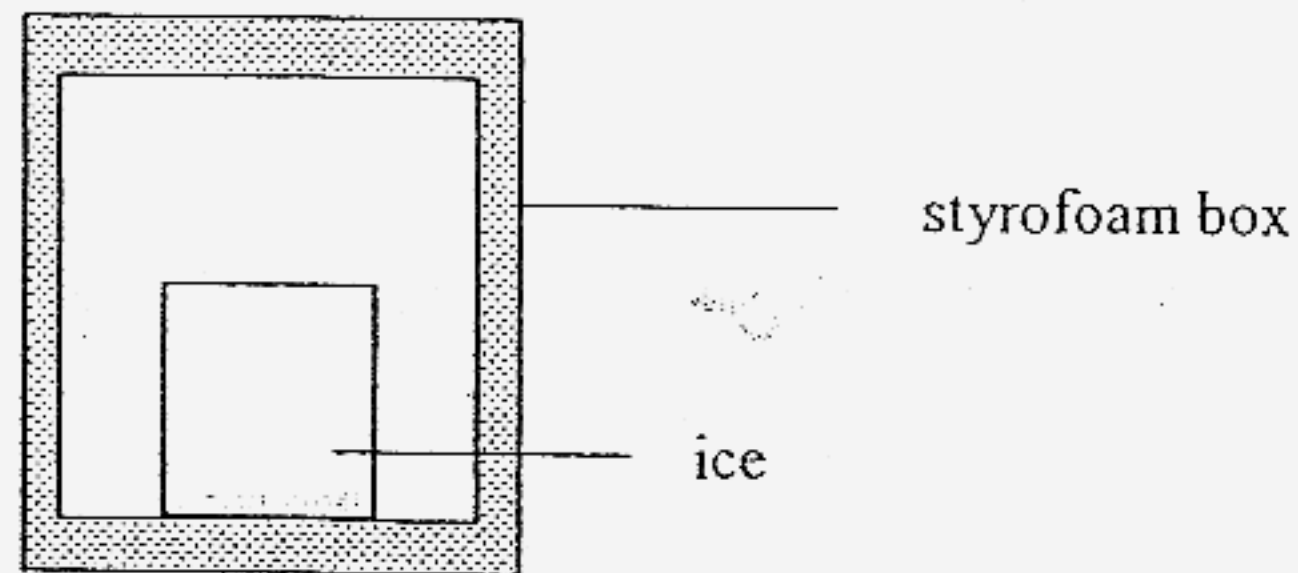
The graph below shows how the length of his shadow changes from Point X to Point Y.



Based on the graph, which one of the lamps, A, B, C or D was lighting up the street?

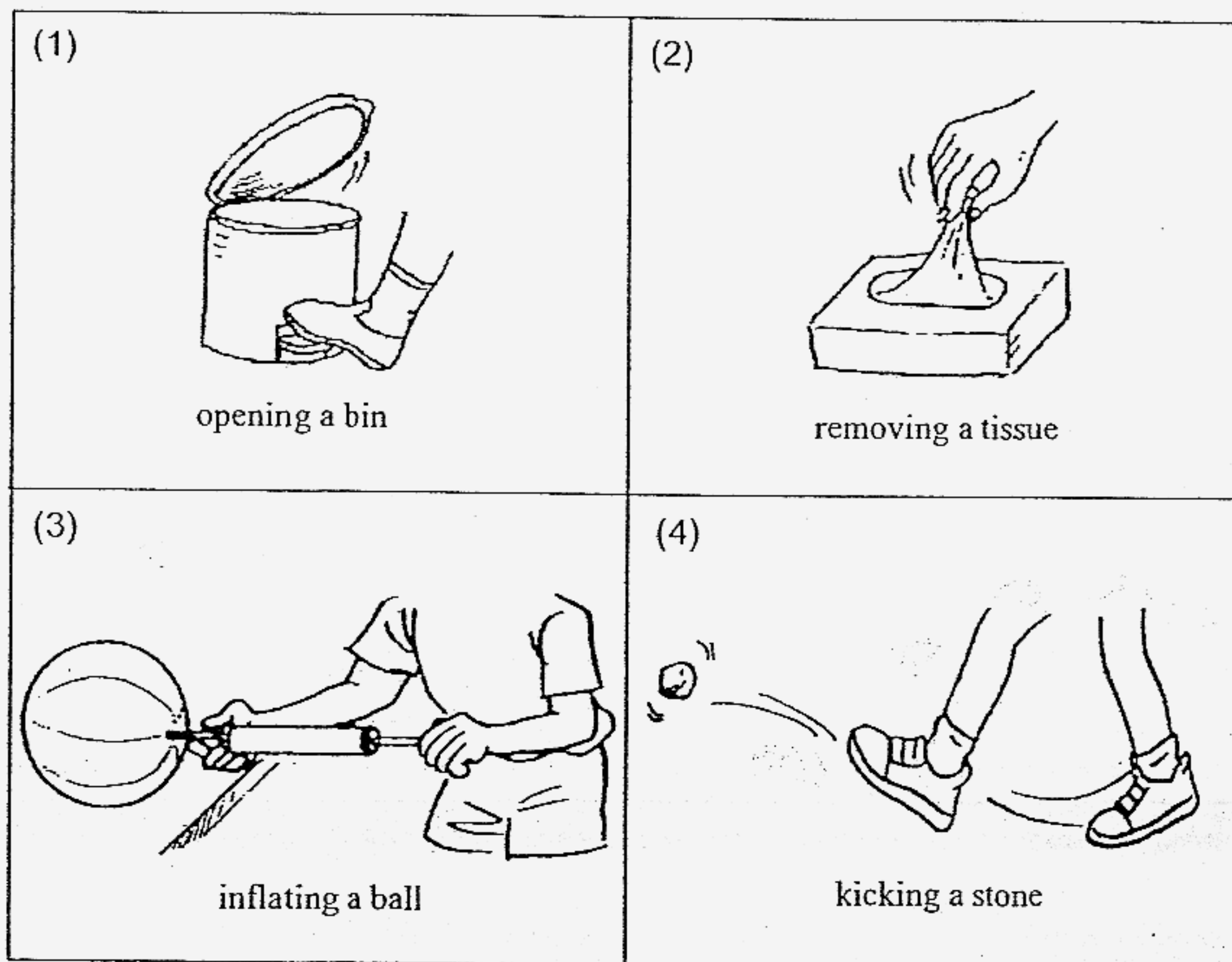
- (1) A
- (2) B
- (3) C
- (4) D

28. A piece of ice is put into a styrofoam container as shown below.

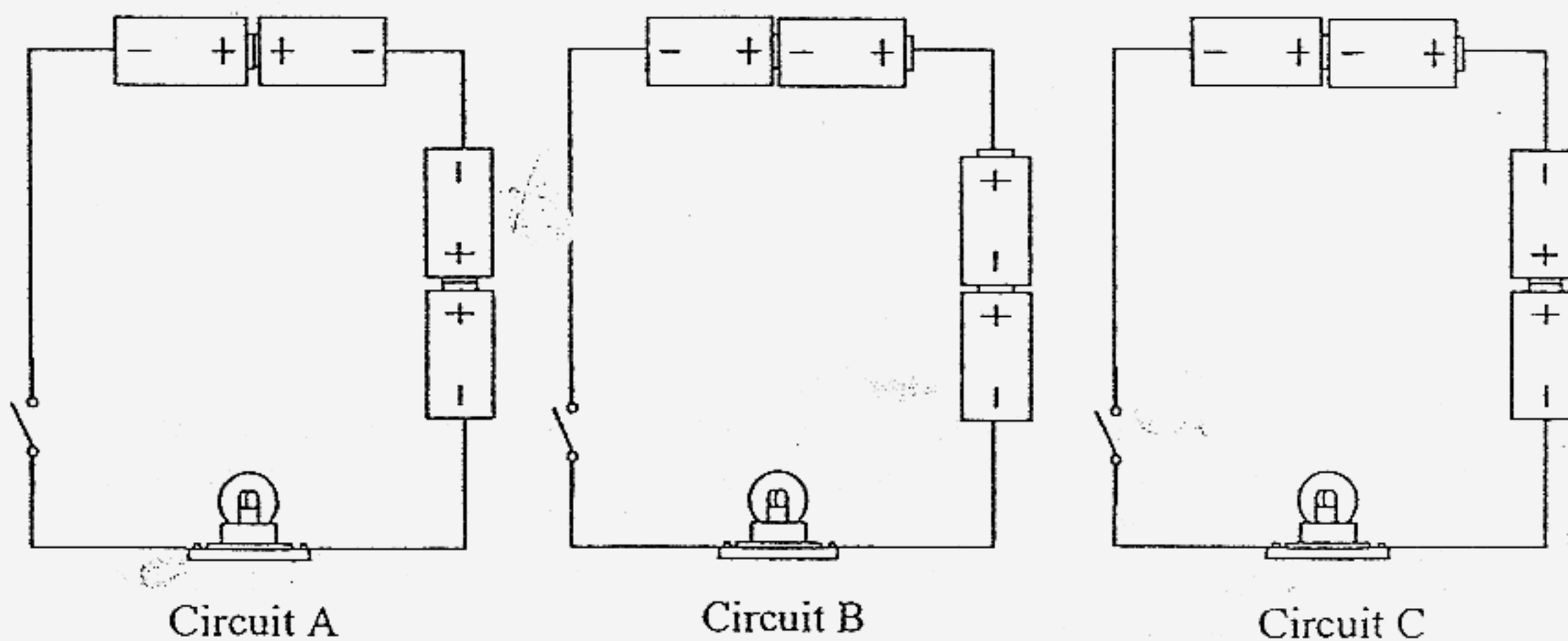


What will happen to the ice, and why?

- (1) The ice will melt more quickly as the heat in the box is trapped.
 - (2) The ice will not melt as the box stops the ice from gaining heat from the surroundings.
 - (3) The ice will melt more slowly as the coldness cannot escape into the surrounding air.
 - (4) The ice will melt more slowly as the box reduces the heat gained by the ice.
29. Which of the following actions requires a push and a pull?



30. Four 1.5 volt-dry cells are connected to one 3.8 volt-bulb in each of the circuits below.



In which circuit(s), A, B or C, will the bulb light up when the switch is closed?

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

ANGLO-CHINESE SCHOOL
(PRIMARY)

END-OF-YEAR EXAMINATION 2006

SCIENCE

BOOKLET B

Name: _____ ()

Class: Primary 5 _____

Date: 2nd November 2006

Duration of paper: 1 h 45 min

Parent's Signature

Booklet	Maximum marks	Marks obtained
A	60	
B	40	
Total	100	

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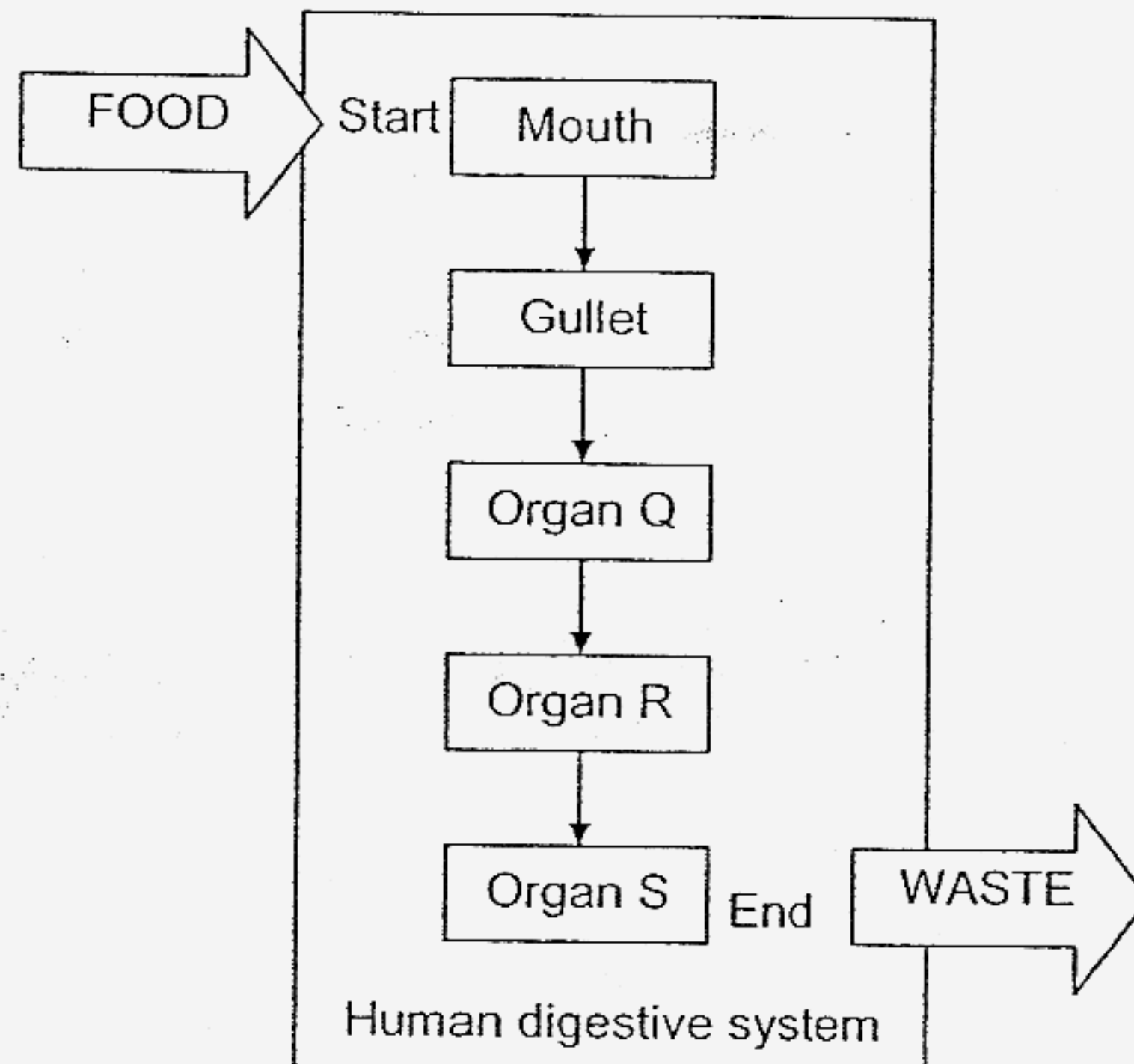
PART II

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

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

(40 marks)

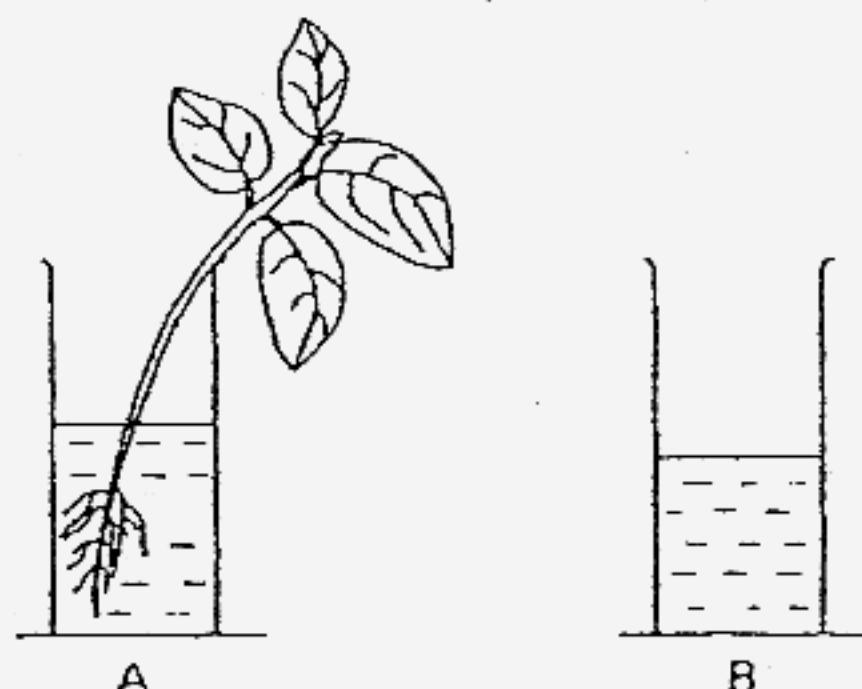
31. The flow chart below shows the digestive process carried out in a human.



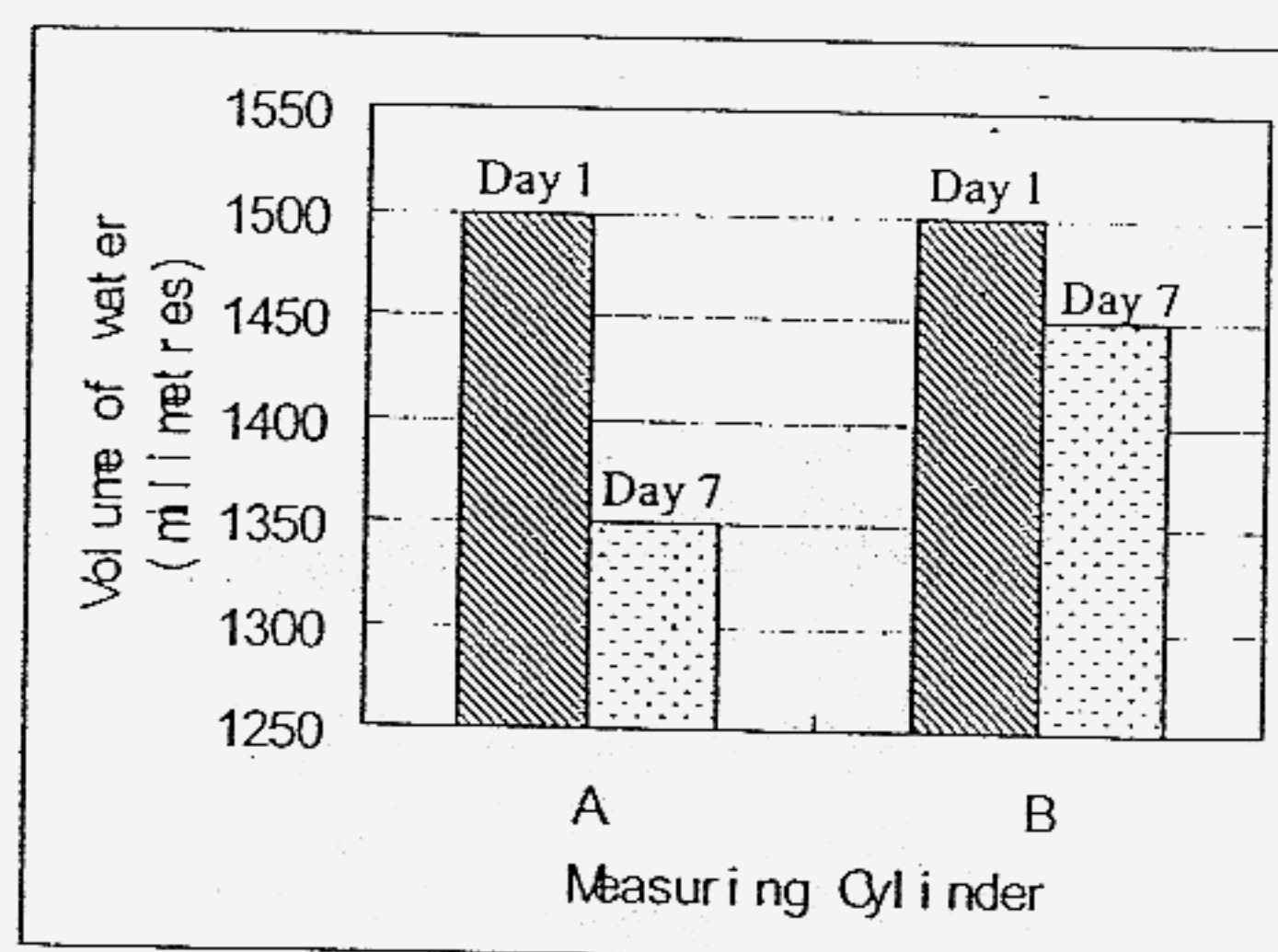
(a) Name the organ R. [1]

(b) What is the substance absorbed at organ S? [1]

32. Linus wanted to find out the volume of water taken in by a plant. He placed a plant in measuring cylinder A and set up measuring cylinder B as a control to ensure a fair test. The measuring cylinders were left in the open for a week.



The bar graph below shows the volume of water in A and B on Day 1 and Day 7 of the experiment.



- (a) Why did the volume of water in B decrease? [1]

- (b) What was the volume of water taken in by the plant? [1]

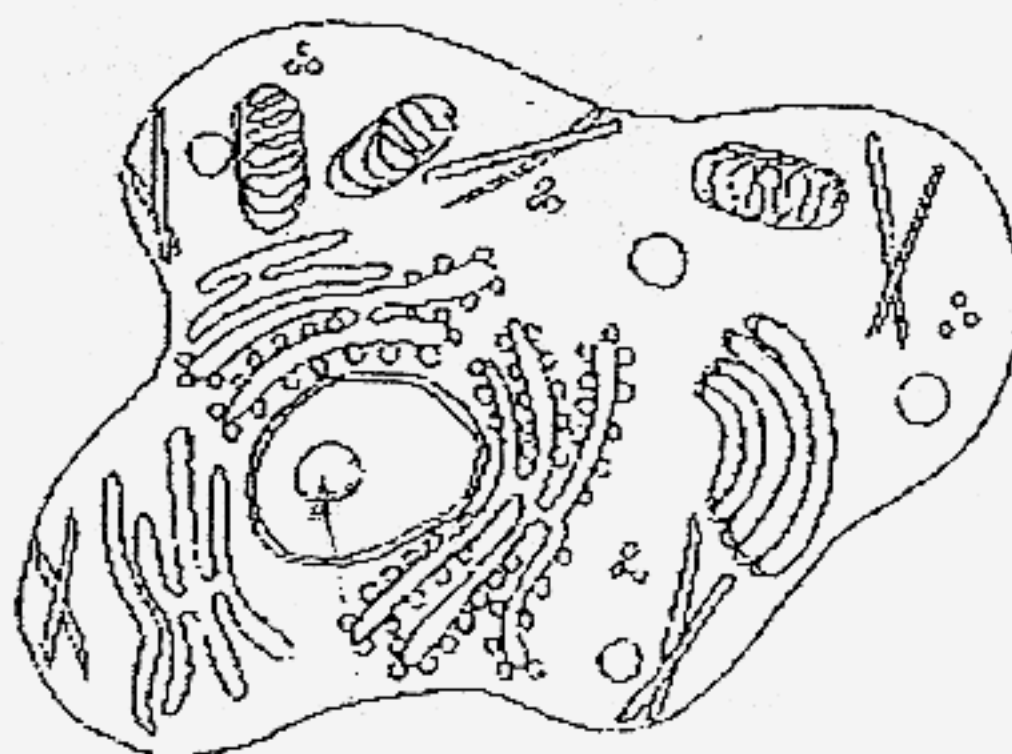
- (c) What can Linus do with A to get an accurate result without setting up B? [1]

33. Dengue fever, which is transmitted by the Aedes mosquito, became a problem in Singapore recently. Removing stagnant water is one method to help fight the problem.

(a) How does removing stagnant water help to fight this problem? [1]

(b) State one difference between the life cycle of a mosquito and the life cycle of a cockroach. [1]

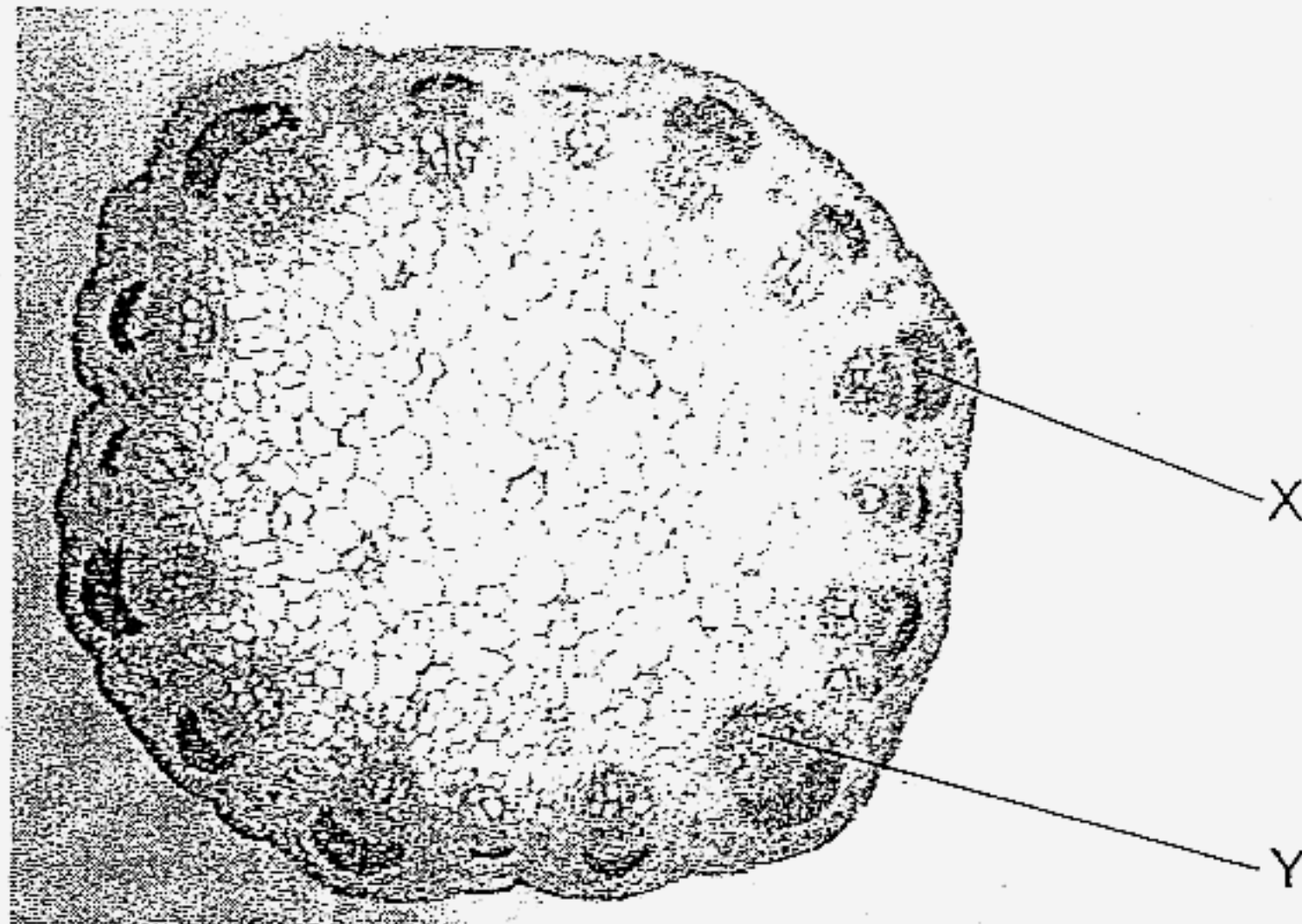
34. Study the cell below.



(a) State whether it is an animal cell or a plant cell and give a reason for your answer. [1]

(b) On the diagram above, label the part of the cell which contains the information that is passed from one generation to the next. [1]

35. The diagram below shows a cross-section of a stem.



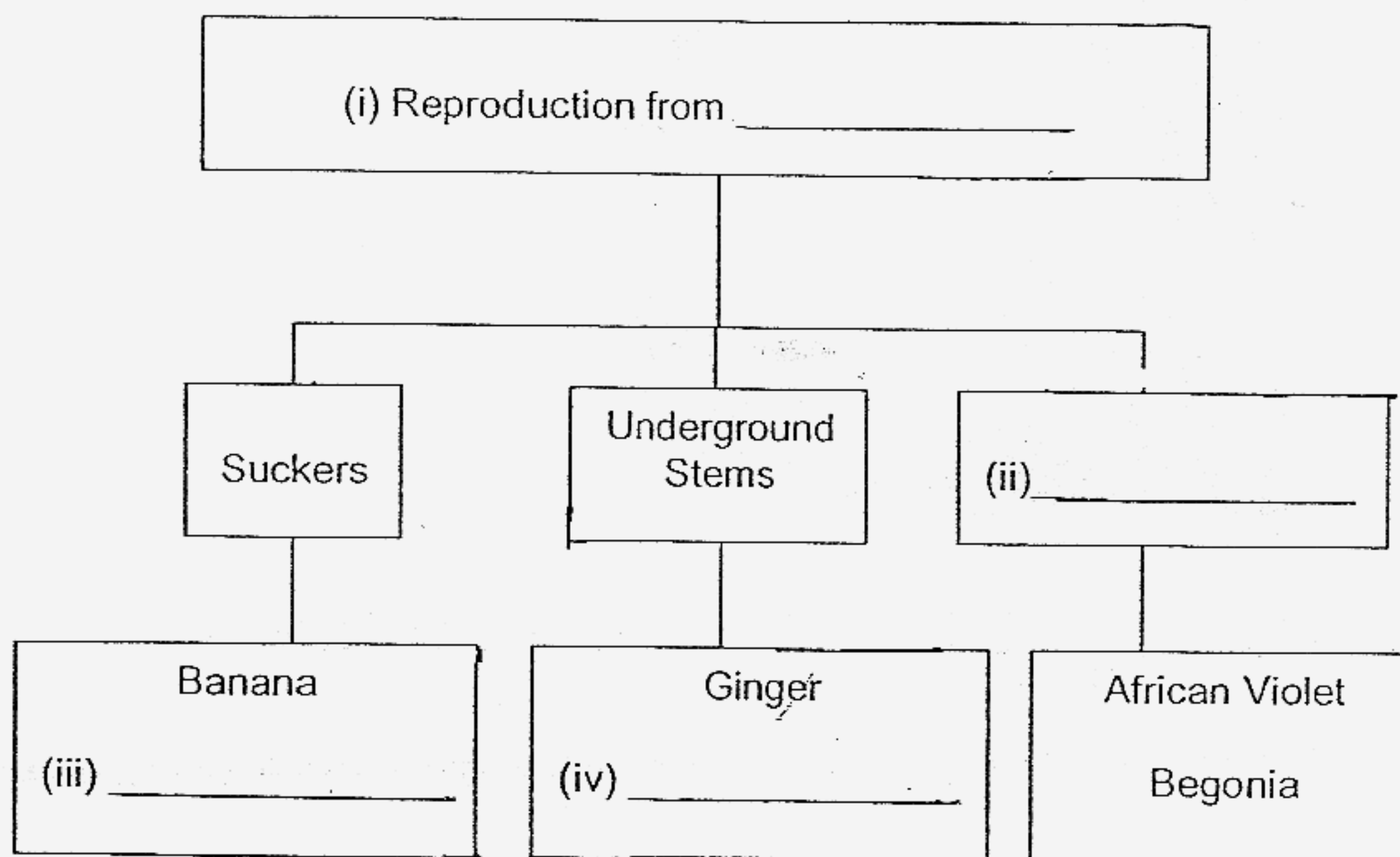
Tubes X and tubes Y are used for transporting materials from one part of the plant to another.

Complete each blank in the sentences below using a suitable word or phrase. [3]

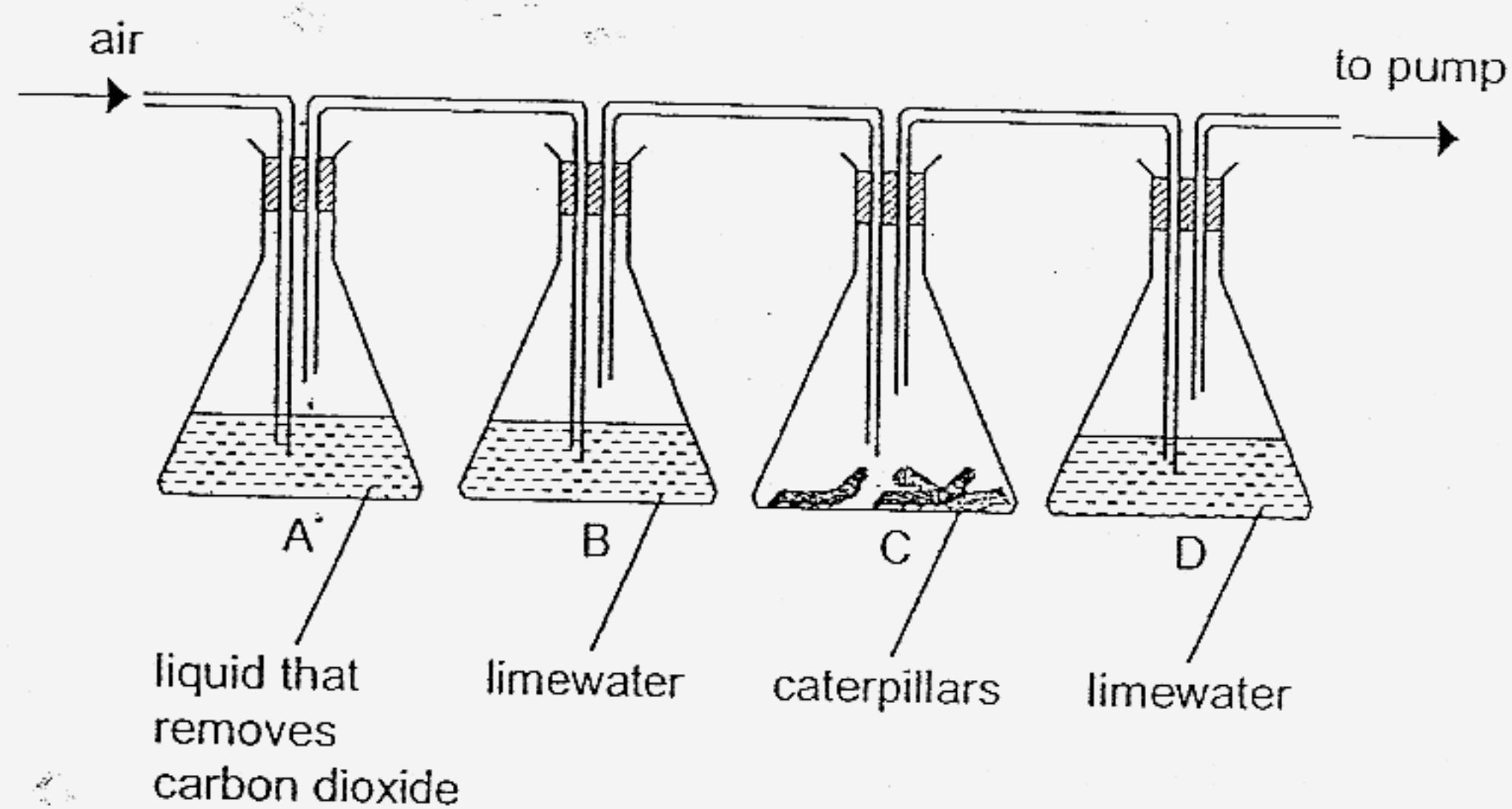
(a) Tubes X transport _____ from the _____ to the _____

(b) Tubes Y transport _____ from the _____ to the _____

36. Fill in the 4 blanks with appropriate words to complete the classification chart below. [2]



37. Moses set up the experiment shown below.



He observed the limewater in B and D after a few hours.

(a) Describe the difference between the limewater in B and D. [1]

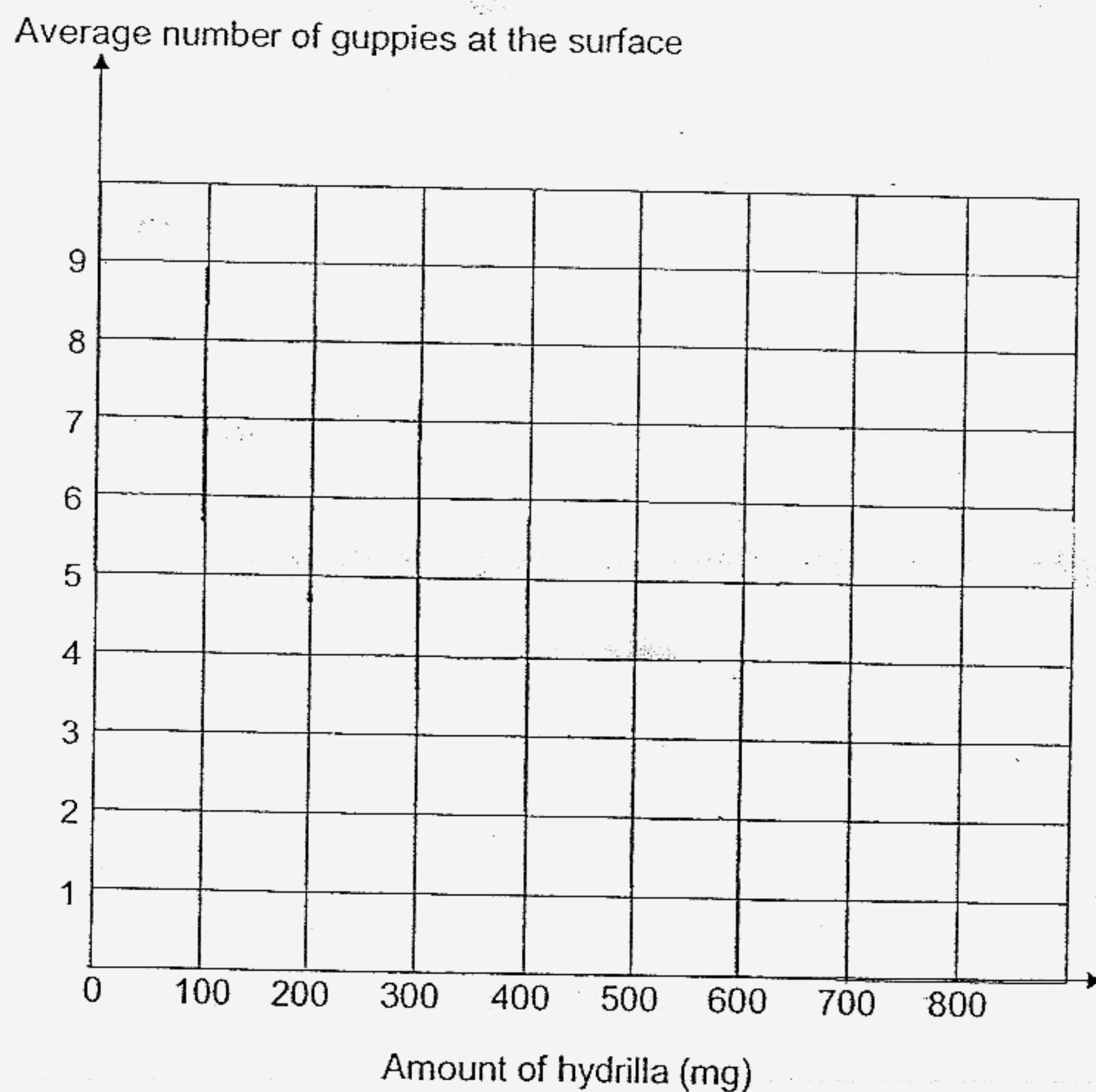
(b) Give a reason for the difference. [1]

38. June noticed that the guppies in her aquarium tend to swim near the surface of the water. She added some hydrilla and found that fewer guppies swam near the surface, and conducted an experiment every afternoon to investigate further. The table below shows her findings:

Tank	Number of guppies	Amount of hydrilla (mg)	Average number of guppies swimming near the surface
A	10	0	9
B	10	100	8
C	10	200	7
D	10	400	5
E	10	700	2

- (a) Using the information in the table, draw a line graph to show her observations for the five tanks.

[1]



- (b) State the relationship between the number of guppies swimming near the surface and the amount of hydrilla in the tank. [1]

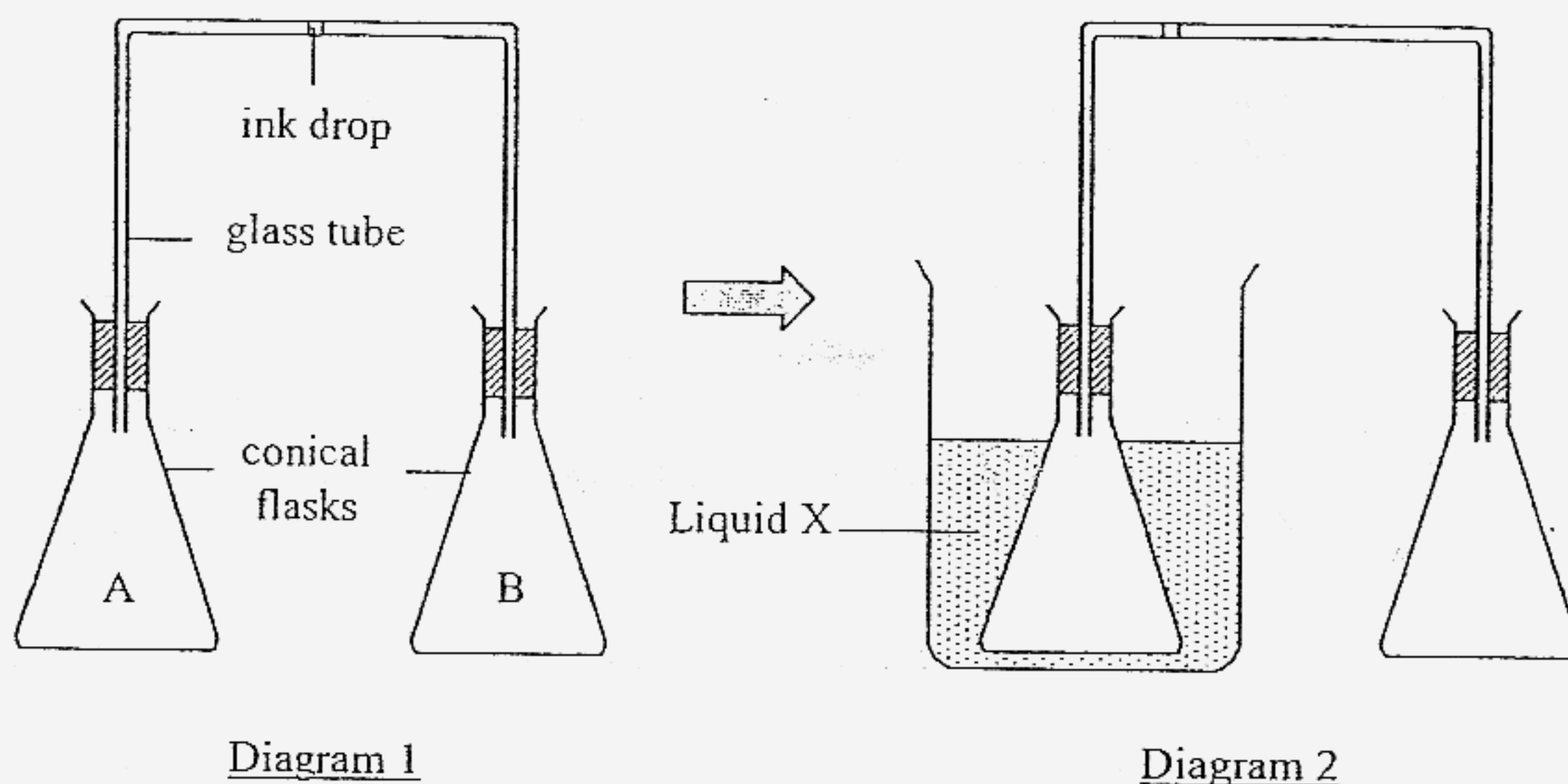
- (c) Tank A was used as a control in June's experiment. State the purpose of the control. [1]

- (d) How would the results of the experiment be affected if June did her experiment at night? [1]

39. Fill in the each of the blanks with a suitable word. [2]

The moon is Earth's natural _____; It takes about 28 days for the moon to make one _____ around the Earth. The moon does not produce light of its own. We can see the moon because it _____ light from the _____.

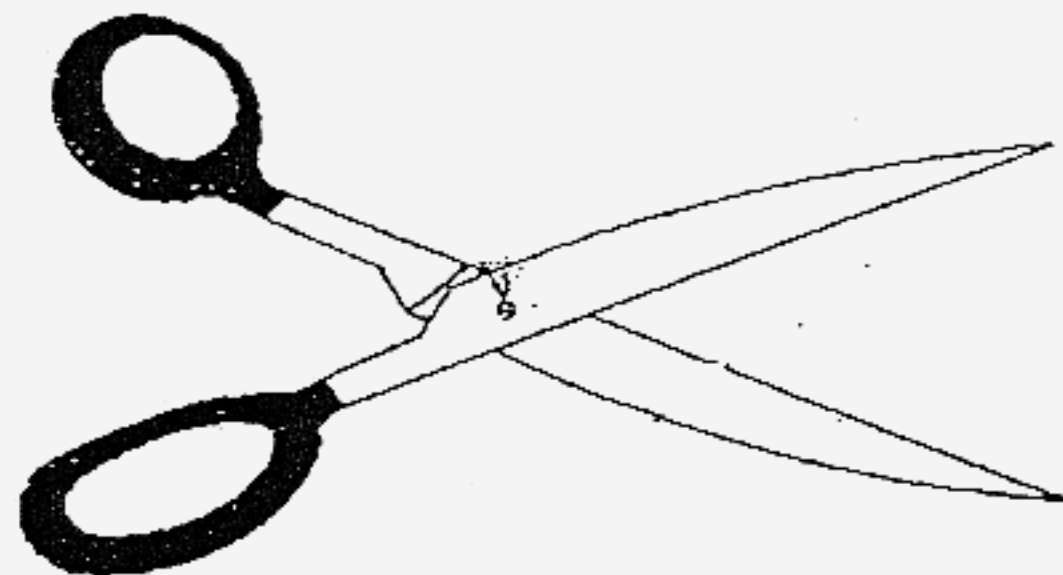
40. Diagram 1 shows 2 conical flasks, A and B, connected by a glass tube. There is a drop of ink in the centre of the tube. Diagram 2 shows what happens to the drop of ink when one of the flasks was put into a beaker containing liquid X.



Explain why the drop of ink moves towards flask A.

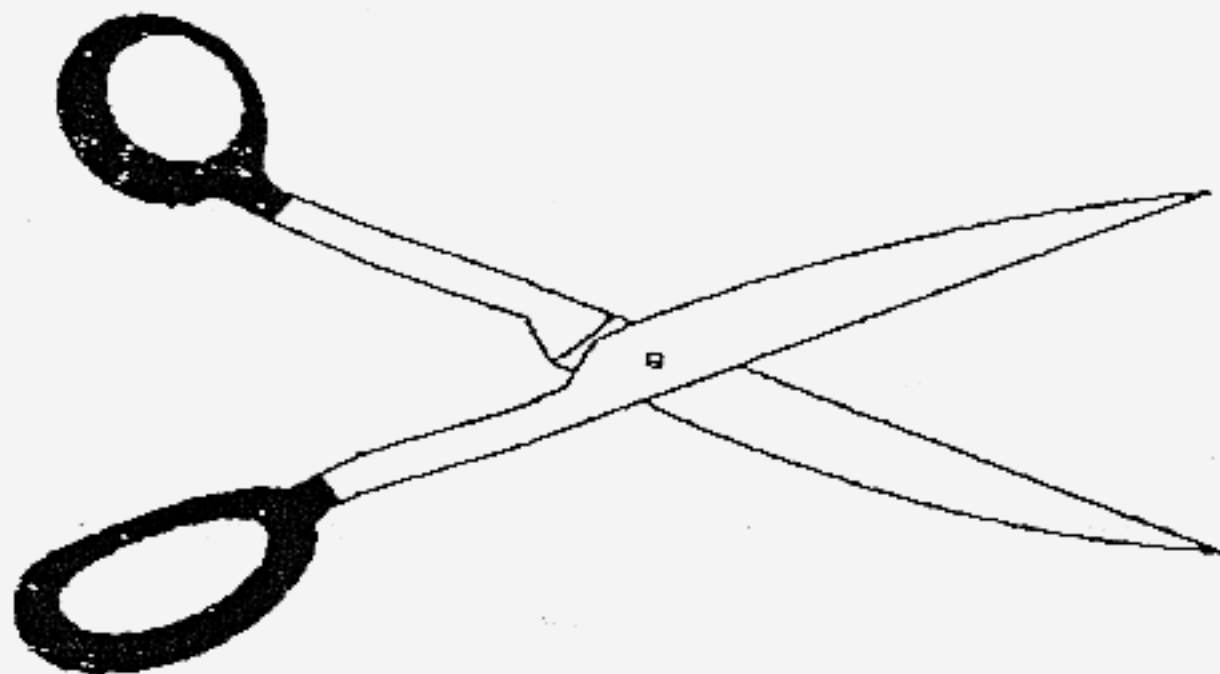
[2]

41. The diagram below shows a pair of scissors.



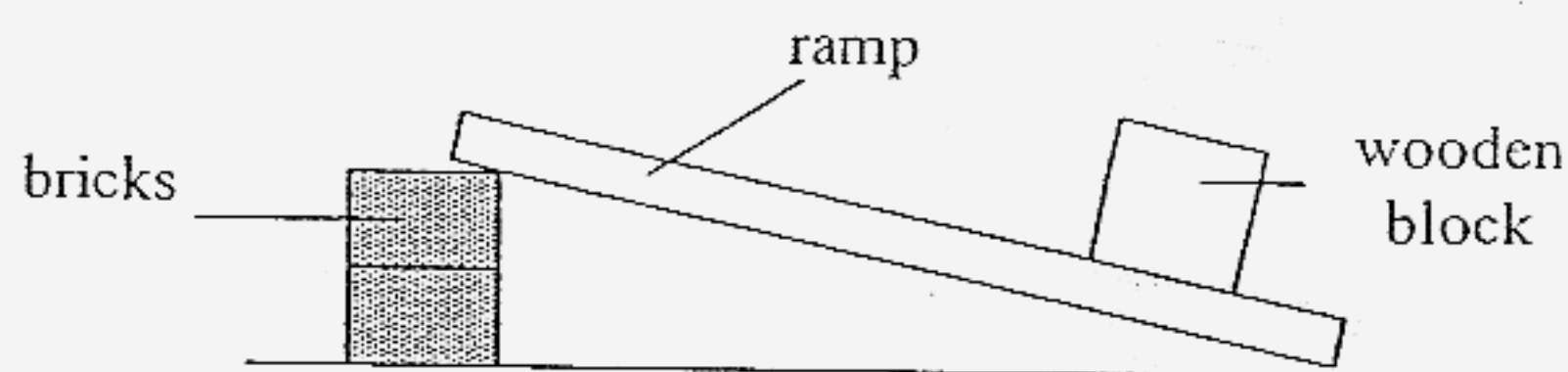
- (a) Label on the diagram the fulcrum of the scissors [1]
- (b) Peter says that the scissors above is a combination of simple machines. Do you agree with him? Give a reason for your answer. [1]

The diagram below shows a similar pair of scissors. However, the handles have been made longer.



- (c) How will the effort needed to cut an object using the scissors be affected when the handles are longer? [1]

42. John used the following set-up to carry out an investigation.



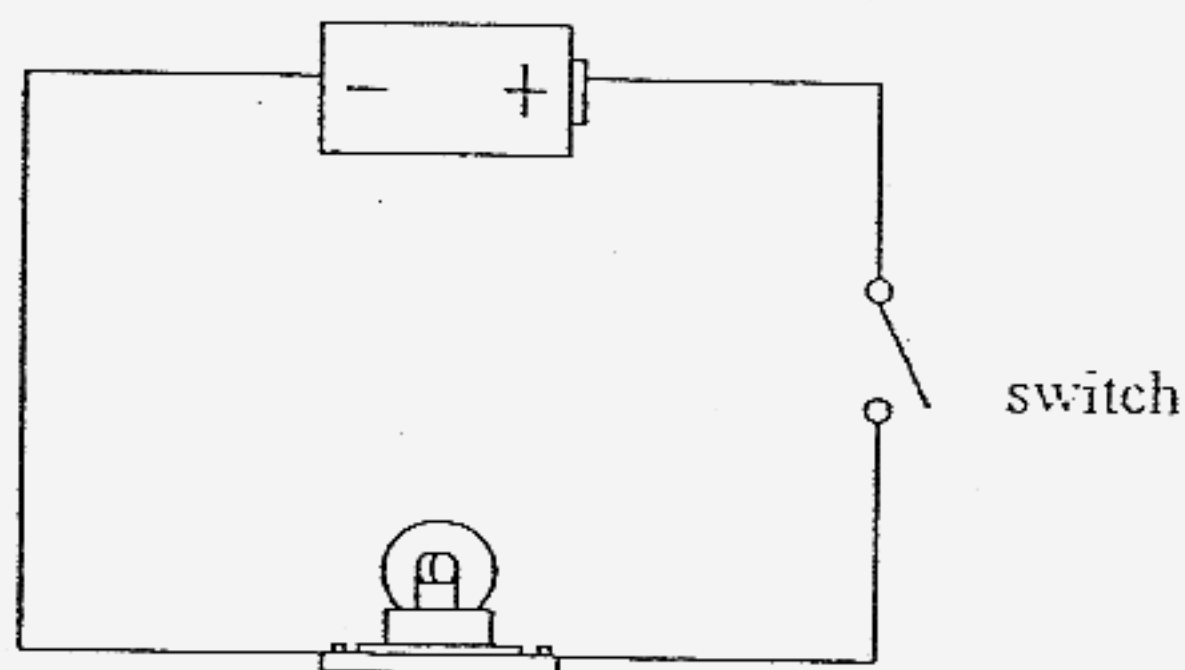
He pulled a block of wood weighing 1 kg up the ramp and measured the force needed. He repeated the experiment using slopes of different angles.

- (a) Suggest a suitable instrument that John could have used to measure the force to pull the block up. [1]

- (b) What was the variable that John had to change in order to vary the angle of the slope? [1]

- (c) Write an aim for the above experiment. [1]

43. Raju wanted to find out whether the brightness of a bulb is affected by the number of dry cells connected in series. Using the circuit below, he closed the switch and then used an instrument to measure amount of light given out by the bulb.



He repeated the steps using 2, 3 and 4 dry cells. The table below shows the results of his experiment

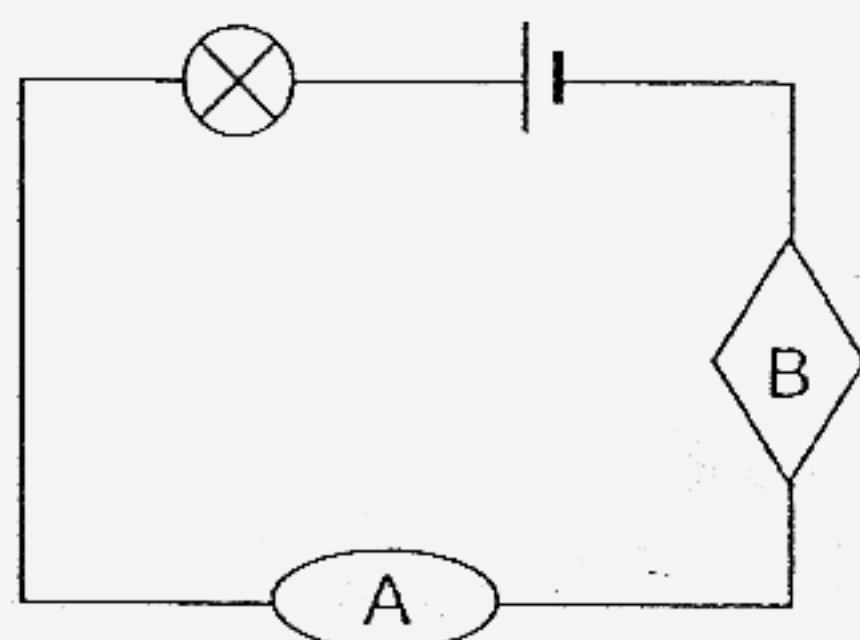
Number of dry cells	Brightness of bulb (unit of light)
1	800
2	900
3	1000
4	1100

- (a) Based on the results, what can Raju conclude? [1]

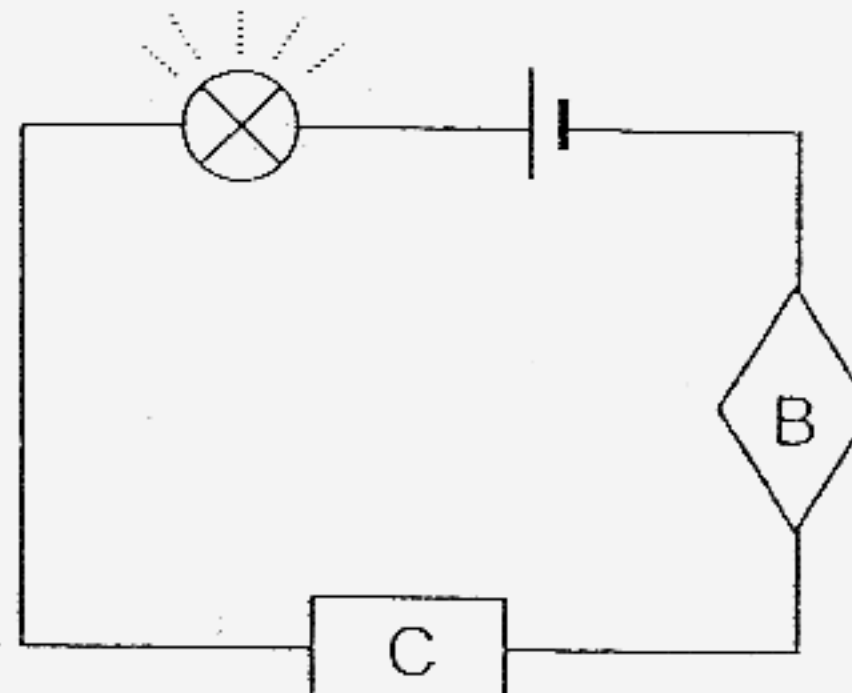
- (b) When Raju connected 5 dry cells in series and closed the switch, the bulb lit up for a short while and went off. Explain what had happened to the bulb. [1]

44. The circuits below show the outcome of connecting objects A, B and C, to a 3.8-volt bulb and a 3-volt battery.

bulb does not
light up



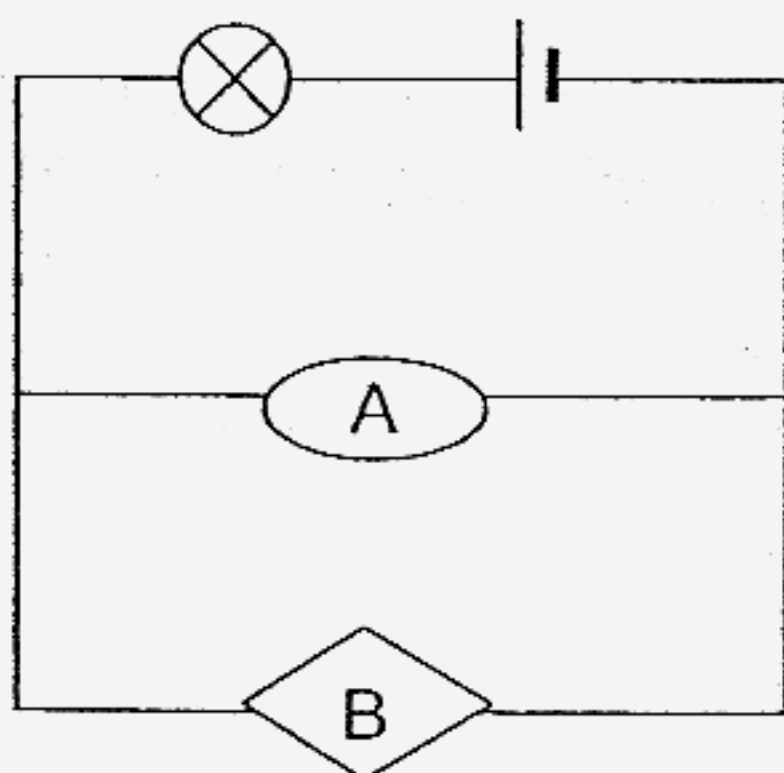
bulb lights up



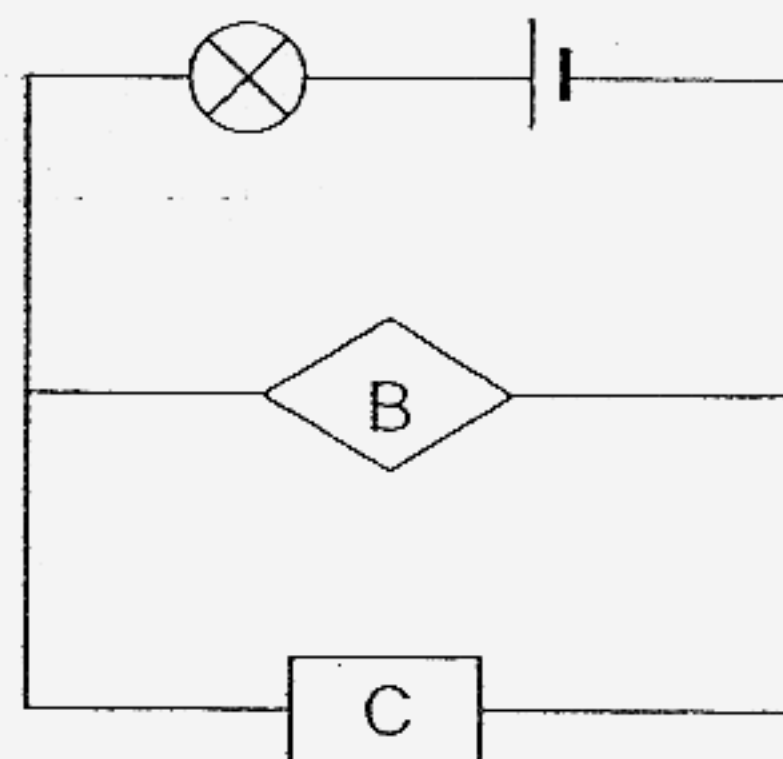
- (a) Using information from the 2 circuits, decide if the following statements are true or false. Put a tick in the appropriate box next to each statement. [2]

STATEMENTS	TRUE	FALSE
A is a good conductor of electricity		
B is a good conductor of electricity		
C is a good conductor of electricity		

- (b) Objects A, B and C are used again to form the circuits below. Will the bulbs in the following circuits light up? Write your answer in the box below each circuit. [2]

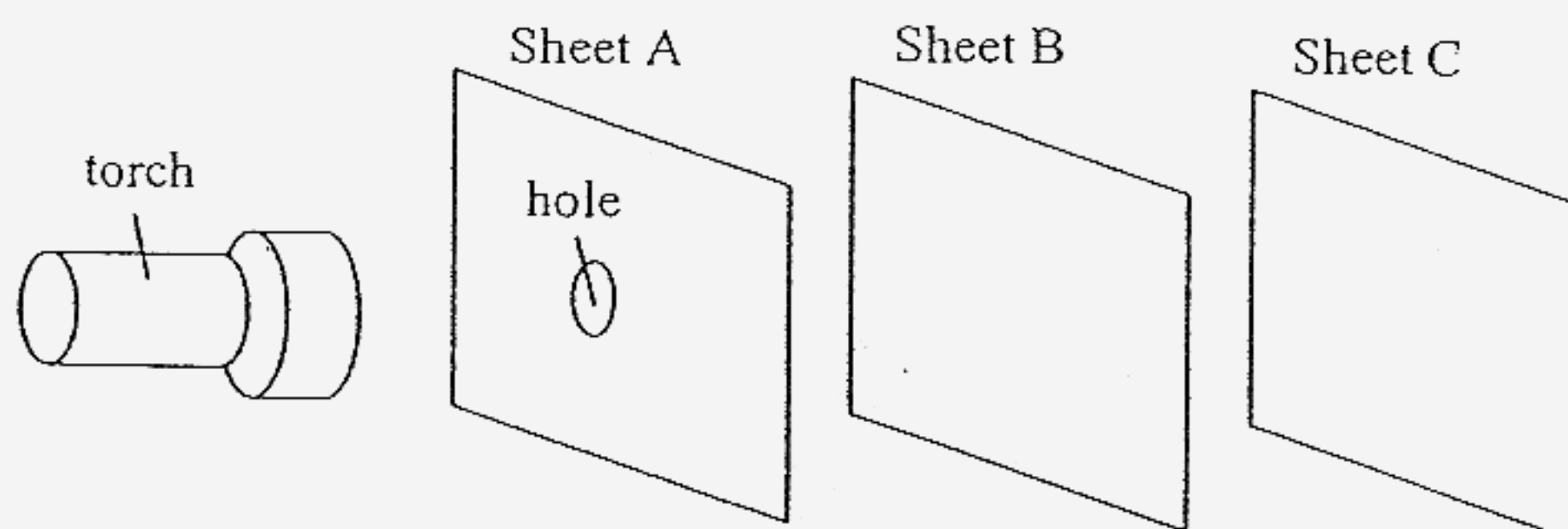


answer:



answer:

45. The diagram below shows 4 similar sheets, A, B, C and D, made from different materials.

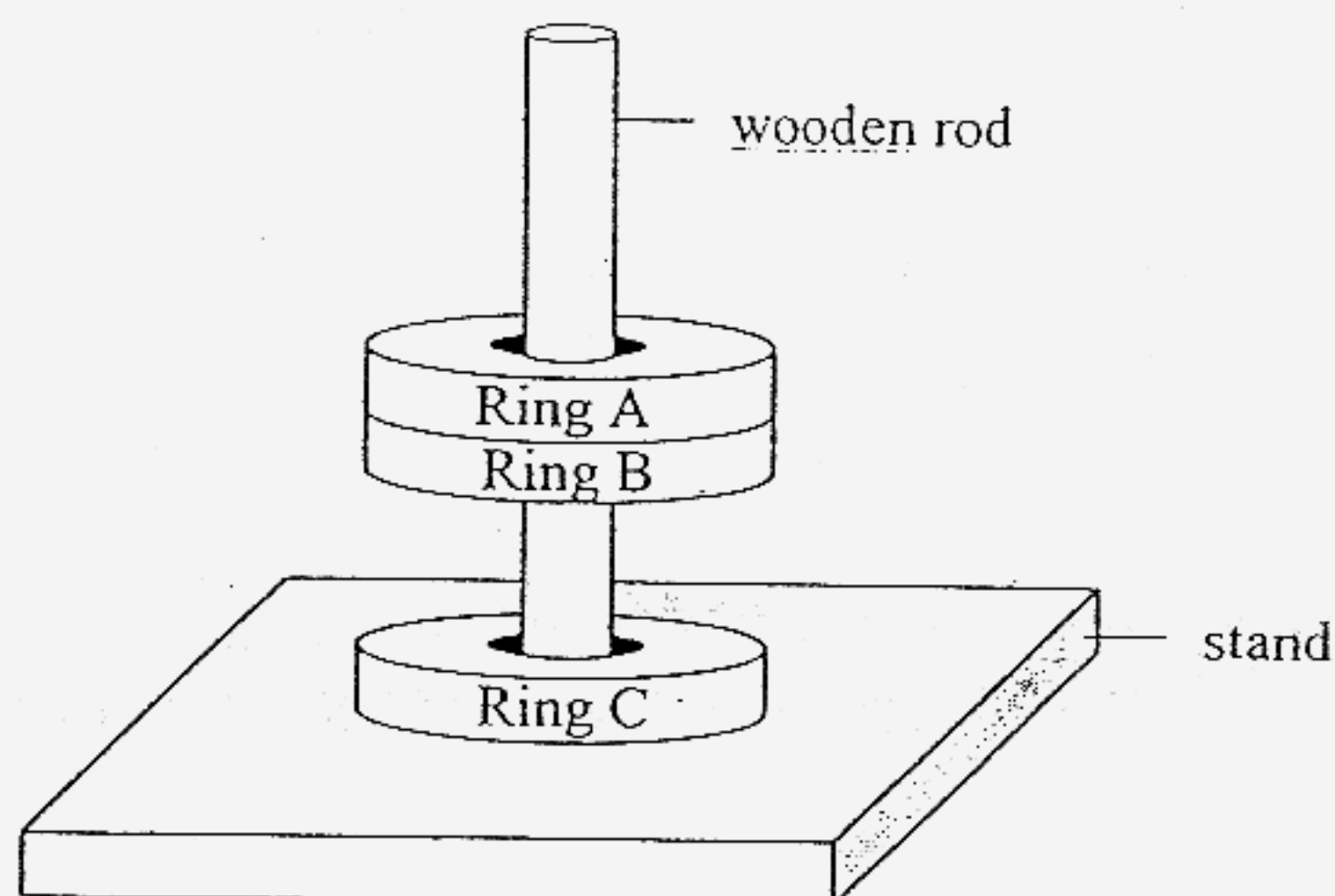


The sheets are arranged in a straight line inside a dark room. When the torch is switched on, a round-shaped patch of light is seen on Sheet C.

- (a) What is a difference between the properties of the materials used to make sheets A and B? [1]

- (b) If sheet C is replaced with a piece of clear glass, how will it affect the result of the experiment? [1]

46. Tom placed two ring magnets and a light plastic ring over a wooden rod supported by a stand. The diagram below shows the results he obtained.



Based on the results, decide if the following statements are "TRUE", "FALSE" or "NOT POSSIBLE TO TELL" by putting a tick (✓) in the appropriate box. [2]

	STATEMENTS	TRUE	FALSE	NOT POSSIBLE TO TELL
(i)	Ring A is a magnet.			
(ii)	Ring B is the plastic ring.			
(iii)	Ring B and Ring C are made from magnetic substances.			
(iv)	Ring B and Ring C are made from nickel.			

THE END

Anglo Chinese Primary School

SECTION A : (60 MARKS)

Qn no.	Ans
1	3
2	3
3	1
4	4
5	2
6	2
7	4
8	2
9	4
10	3

Qn no.	Ans
11	3
12	4
13	1
14	1
15	3
16	4
17	1
18	4
19	4
20	3

Qn no.	Ans
21	2
22	3
23	1
24	2
25	4
26	2
27	4
28	4
29	3
30	2

SECTION B (40 MARKS)

Qn No.	Answers
31a	Small intestine
31b	Water

32a	Due to evaporation.
32b	100ml
32c	Linus can put a layer oil into cylinder A

33a	To decrease the places for the Aedes mosquitoes to breed.
33b	The mosquito as a 4 stages life cycle while the cockroach has 3 stages

34a	It is an animal cell. The cell does not have a regular shape
34b	Nucleus.

35a	Tubes X transport <u>food</u> from the <u>leaves</u> to the <u>all parts</u> of the <u>plant</u> .
35b	Tubes Y transport <u>water</u> from the <u>roots</u> to the <u>leaves</u> .

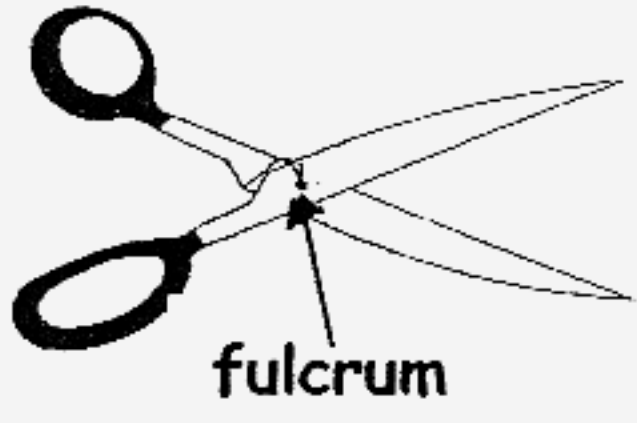
Qn No.	Answers
36	<div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: 80%;">(i) Reproduction from <u>other plant parts</u></div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px;">Suckers</div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Banana (iii) — <u>pineapple</u> —</div> </div> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px;">Underground Stems</div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Ginger (iv) — <u>potato</u> —</div> </div> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px;">(ii) — <u>leaves</u> —</div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">African Violet Begonia</div> </div> </div> </div>

37a	Both limewater in B and limewater in D turned chalky.
37b	Limewater in D turned chalky because as the caterpillars respire, they produce carbon dioxide which turns into to chalky.

38a	<table border="1" style="margin-top: 10px;"> <caption>Data points from the graph</caption> <thead> <tr> <th>Amount of hydrilla (mg)</th> <th>Number of guppies swimming near the surface</th> </tr> </thead> <tbody> <tr><td>0</td><td>9</td></tr> <tr><td>100</td><td>8</td></tr> <tr><td>200</td><td>7</td></tr> <tr><td>300</td><td>6</td></tr> <tr><td>400</td><td>5</td></tr> <tr><td>500</td><td>4</td></tr> <tr><td>600</td><td>3</td></tr> <tr><td>700</td><td>2</td></tr> </tbody> </table>	Amount of hydrilla (mg)	Number of guppies swimming near the surface	0	9	100	8	200	7	300	6	400	5	500	4	600	3	700	2
Amount of hydrilla (mg)	Number of guppies swimming near the surface																		
0	9																		
100	8																		
200	7																		
300	6																		
400	5																		
500	4																		
600	3																		
700	2																		
38b	The more hydrilla in the tank the lesser the amount of guppies swimming near the surface.																		
38c	To compare with the other tanks if the hdyrilla affects the number of guppies swimming at the surface.																		
38d	The number of guppies swam to the surface at night increased compared in the day.																		

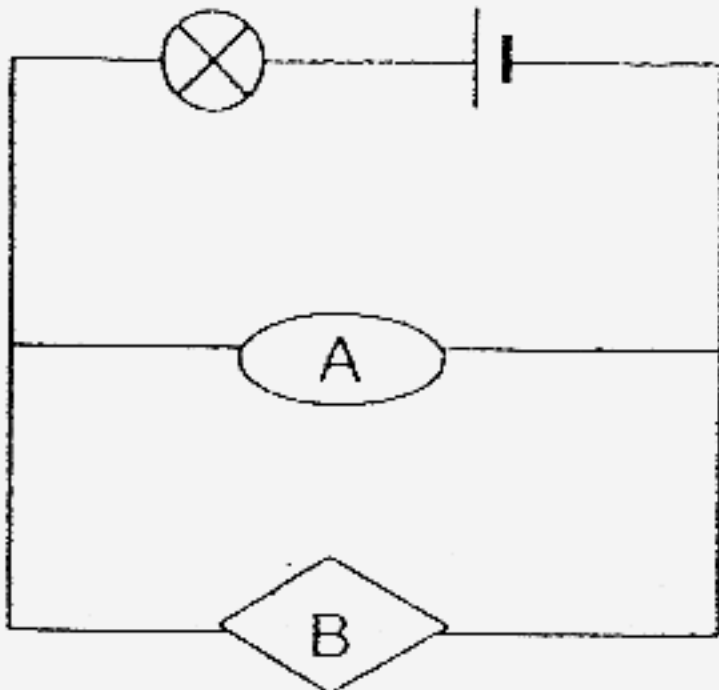
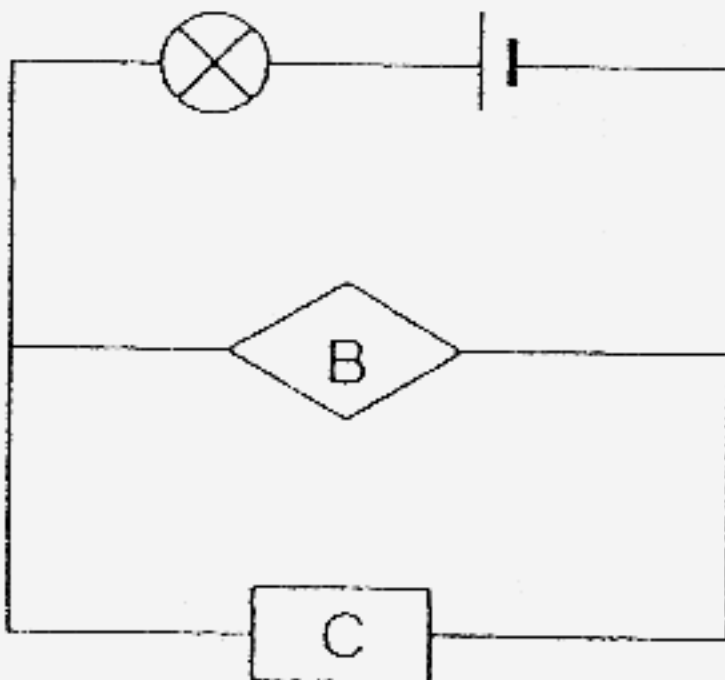
Qn No.	Answers
39	The moon is Earth's natural <u>satellite</u> . It takes about 28 days for the moon to make one <u>revolution</u> the Earth. The moon does not produce light of its own. We can see the moon because it <u>reflects</u> light from the <u>sun</u> .

40	Liquid X is colder than its surrounding therefore it contracts, forcing the ink drop toward Conical flask A.
----	--

41a	
41b	Yes. The scissors consists with an incline plane and a lever.
41c	He needs a lesser effort.

Qn No.	Answers
42a	A spring balance.
42b	Increase the number of bricks.
42c	To find out the angle of the slope effects the force needed to pull the block of wood.

43a	The more dry cell he adds, the brighter the bulbs.
43b	The bulb fused because the flow of current was too strong.

Qn No.	Answers												
44a	<table><tr><th>STATEMENTS</th><th>TRUE</th><th>FALSE</th></tr><tr><td>A is a good conductor of electricity</td><td></td><td>✓</td></tr><tr><td>B is a good conductor of electricity</td><td>✓</td><td></td></tr><tr><td>C is a good conductor of electricity</td><td>✓</td><td></td></tr></table>	STATEMENTS	TRUE	FALSE	A is a good conductor of electricity		✓	B is a good conductor of electricity	✓		C is a good conductor of electricity	✓	
STATEMENTS	TRUE	FALSE											
A is a good conductor of electricity		✓											
B is a good conductor of electricity	✓												
C is a good conductor of electricity	✓												
44b	<div><div><p style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Light Up</p></div><div><p style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Light up</p></div></div>												

45a	Sheet A is opaque while Sheet B is transparent.
45b	It will not have any round-shaped patch of light in Sheet C.

46

	STATEMENTS	TRUE	FALSE	NOT POSSIBLE TO TELL
(i)	Ring A is a magnet.		✓	
(ii)	Ring B is the plastic ring.		✓	
(iii)	Ring B and Ring C are made from magnetic substances.	✓		
(iv)	Ring B and Ring C are made from nickel.			✓