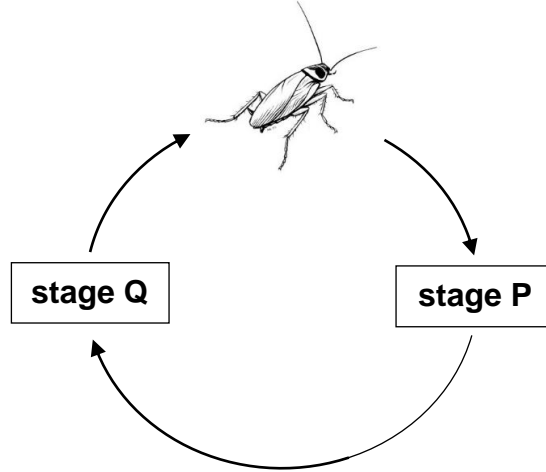


SECTION A: (18 × 2 MARKS)

For questions 1 to 18, four options are given. Choose the correct answer for each question and shade its appropriate answer in the Optical Answer Sheet (OAS) provided.

1. The diagram below shows the life cycle of a cockroach.

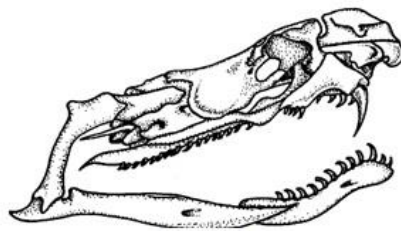


What are the stages P and Q?

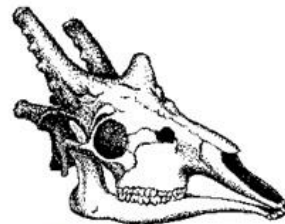
	P	Q
(1)	Pupa	Nymph
(2)	Nymph	Egg
(3)	Egg	Nymph

()

2. The diagram below shows the skulls of Animals S and T.



Animal S



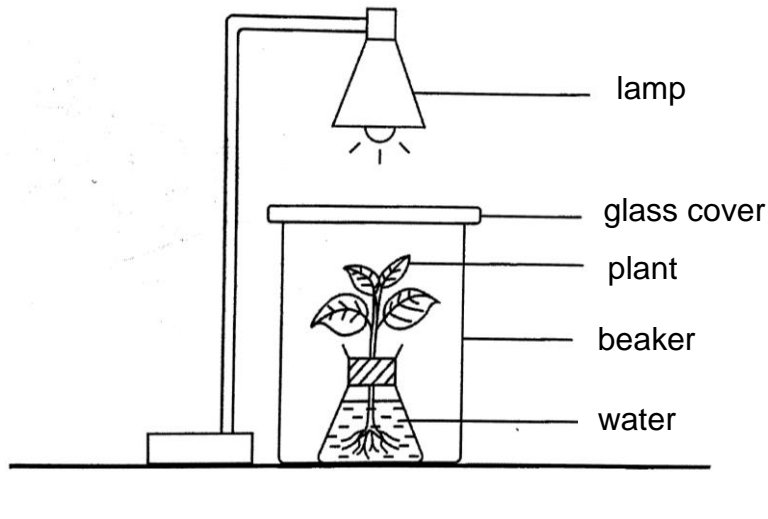
Animal T

What type of food do Animals S and T eat?

	Animal S	Animal T
(1)	Animals	Plants
(2)	Plants	Plants
(3)	Animals	Animals

()

3. Ansari placed a plant in a beaker under a lamp as shown below.

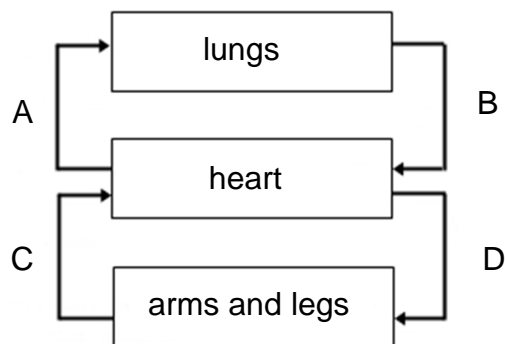


After a few hours, the amount of carbon dioxide in the beaker _____.

- (1) increases
- (2) decreases
- (3) remains the same

()

4. The diagram below represents how blood flows in the human body.

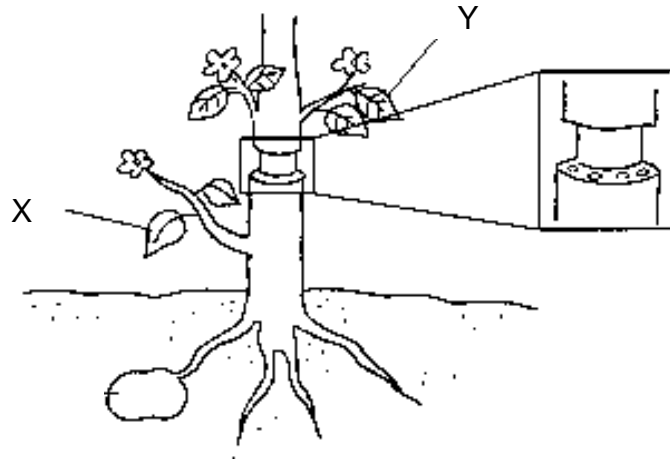


Which pair of blood vessels carries blood rich in oxygen?

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

()

5. A ring of stem was removed from a plant as shown below. As a result, the food-carrying and water-carrying tubes were removed.



Which of the following shows what happens to parts X and Y at the end of two weeks?

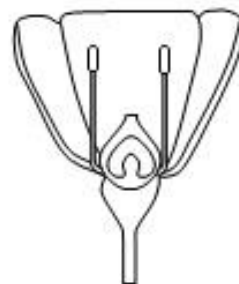
	Part X	Part Y
(1)	Can make food	Cannot make food
(2)	Cannot make food	Cannot make food
(3)	Can make food	Can make food

()

6. Jenab observed two flowers, P and Q with missing parts shown below.



Flower P



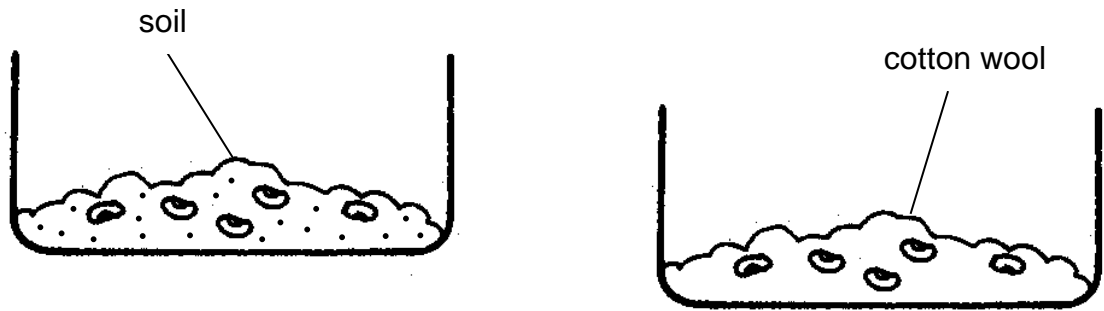
Flower Q

Which of the following statements is true?

- (1) Flower Q can turn into a fruit.
- (2) The stigma on flower P is removed.
- (3) The pollen grains can be carried from flower Q to flower P.

()

7. Mariam carries out an experiment using similar seeds with the set-up shown below.



She pours 80 ml of water into each container and observes the seed each day.

Wen Jun wants to find out whether the seeds will germinate faster _____.

- (1) in soil or in cotton wool
- (2) when water is added
- (3) when there are five seeds

()

8. Study the food chain shown below.

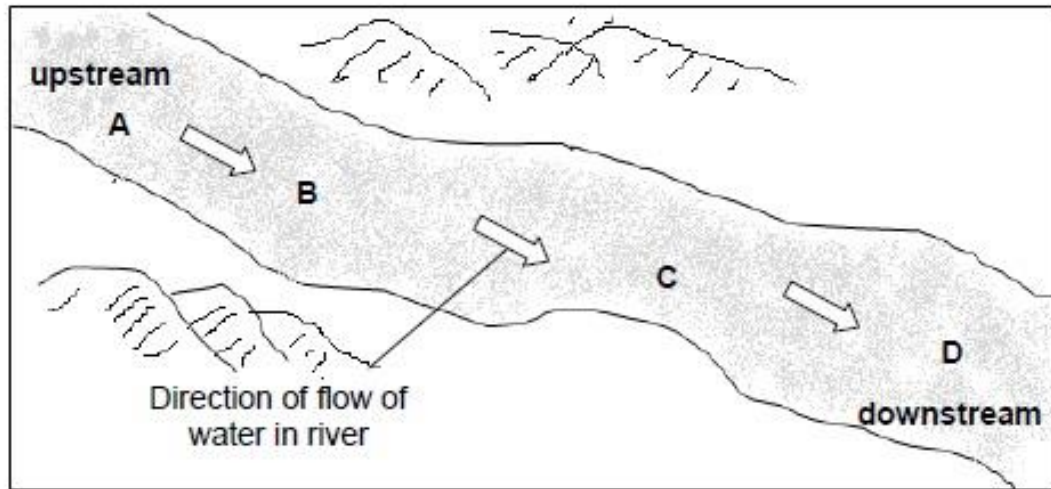
Plant → Rabbit → Snake → Eagle

A disease caused the population of snakes to decrease. Which population would also decrease?

- (1) plant and rabbit
- (2) plant and eagle
- (3) rabbit and eagle

()

9. Four cages, A, B, C and D, containing the same type of fish were placed in different parts of a river as shown below.



After a few months, the number of fish at the start and end of the experiment were recorded.

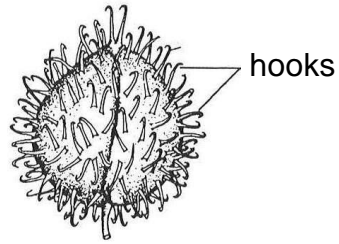
	Cage A	Cage B	Cage C	Cage D
Number of fish at the start	40	40	40	40
Number of fish at the end	37	24	25	11

Based on the results, which of the following conclusions is correct?

- (1) The water upstream is the least polluted.
- (2) The water downstream is the least polluted.
- (3) The water upstream is as polluted as the water downstream.

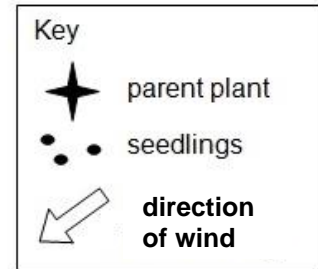
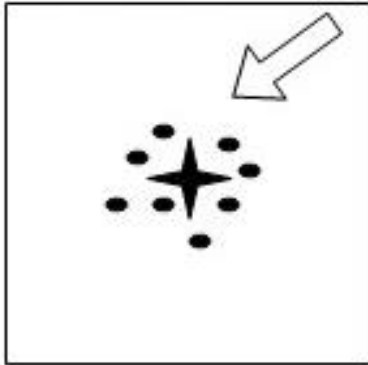
()

10. The diagram below shows the fruit of a plant.

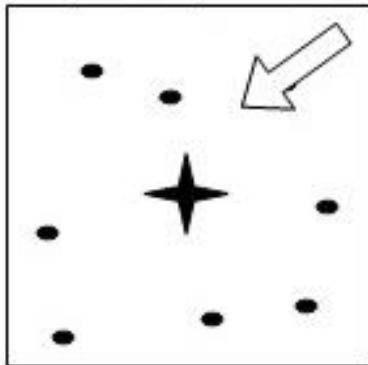


Which of the following diagrams shows how the fruit is dispersal?

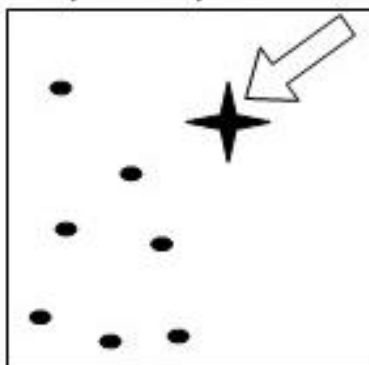
(1)



(2)



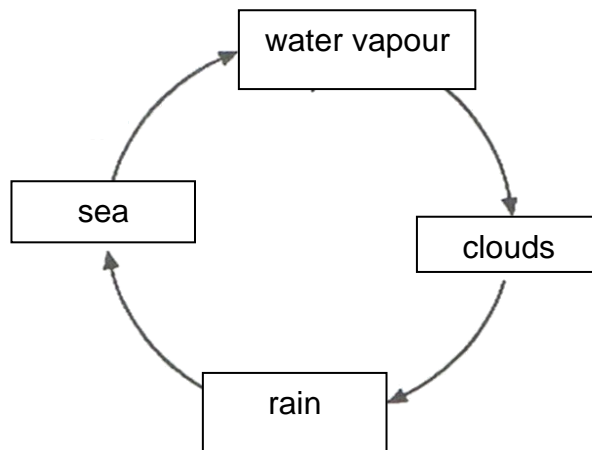
(3)



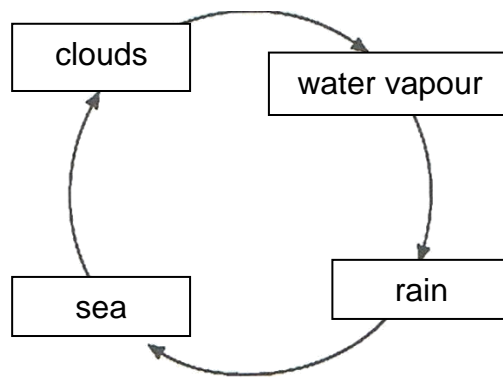
()

11. Which one of the following shows the correct order of the water cycle?

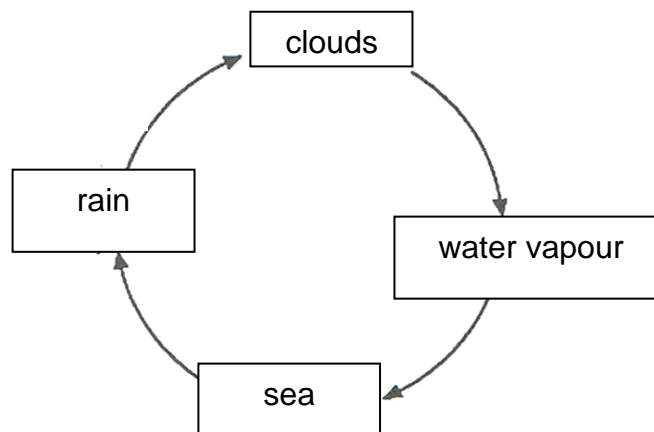
(1)



(2)



(3)

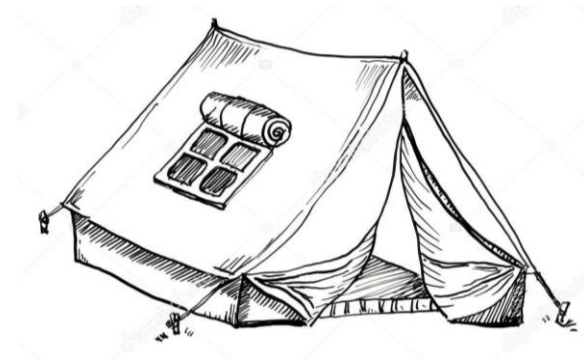


()

12. Ghani tested the properties of different materials and recorded his results in the table below.

Property	Material S	Material T	Material U
Waterproof	yes	no	yes
Strong	yes	yes	no

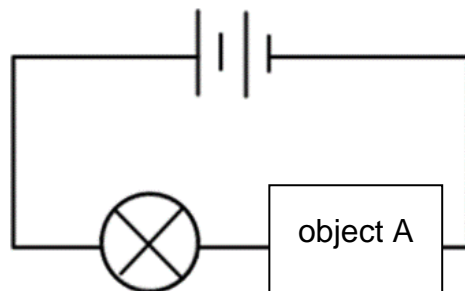
Which of the following materials is most suitable for making the camping tent?



- (1) S
- (2) T
- (3) U

()

13. Wendy set up an electric circuit as shown below.

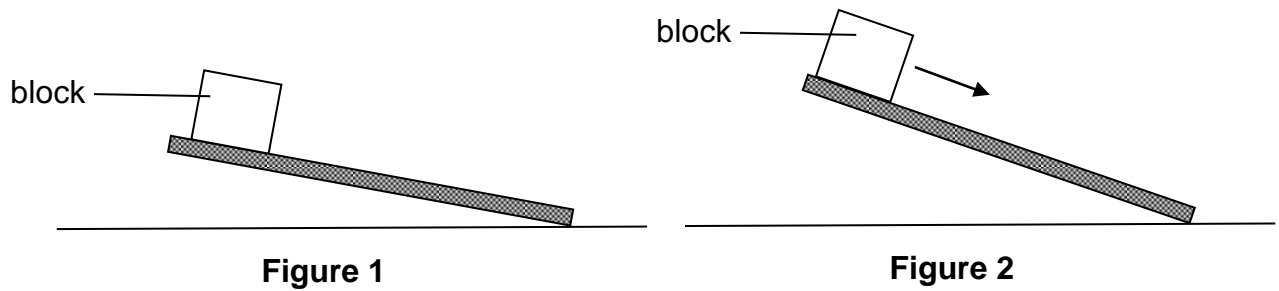


When she placed object A as shown, the bulb lighted up.
What could object A be?

- (1) an eraser
- (2) a metal rod
- (3) a plastic ruler

()

14. Dyn raised the end of a piece of wood as shown in Figure 1 but the block did not slide down. When he raised higher, the block started to slide down as shown in Figure 2.

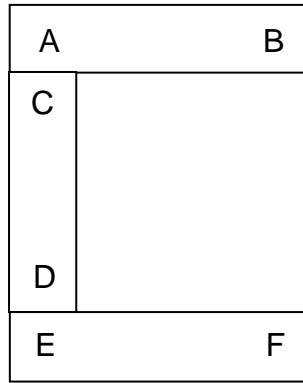


Which of the following statements is correct?

- (1) There is no frictional force acting on the block in Figure 1.
- (2) The frictional force acted on the block is greater than gravity in Figure 2.
- (3) The frictional force acted on the block is greater than gravity in Figure 1.

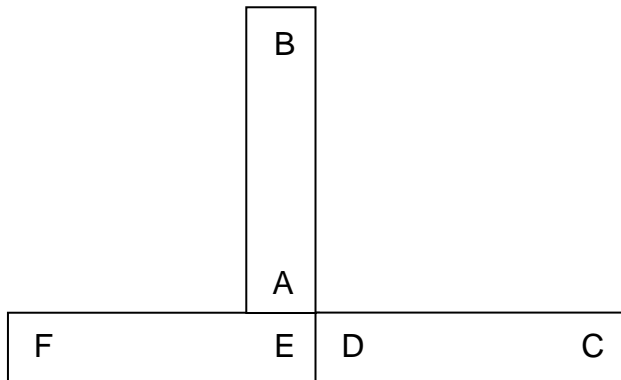
()

15. Kelvin arranged three magnets with poles labelled as shown below.

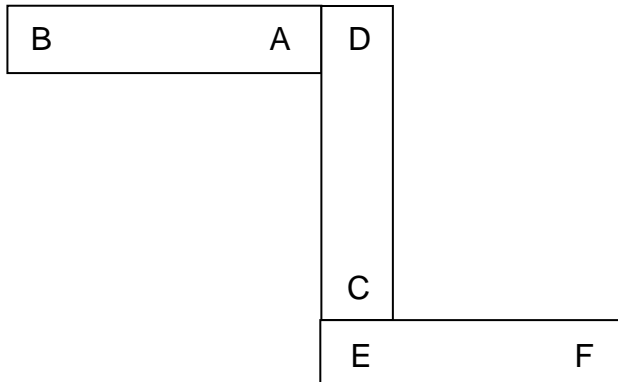


Which of the following is another possible arrangement of the magnets?

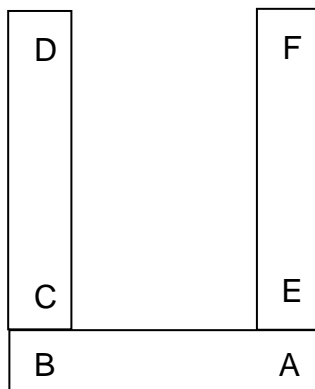
(1)



(2)

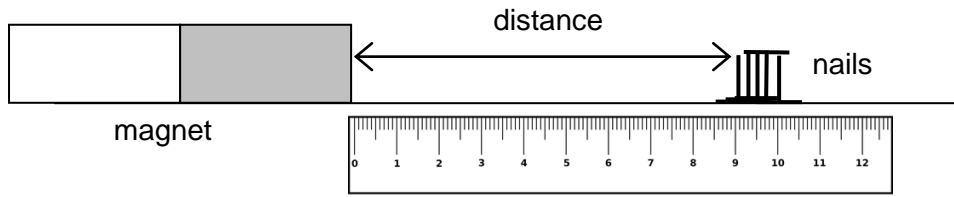


(3)

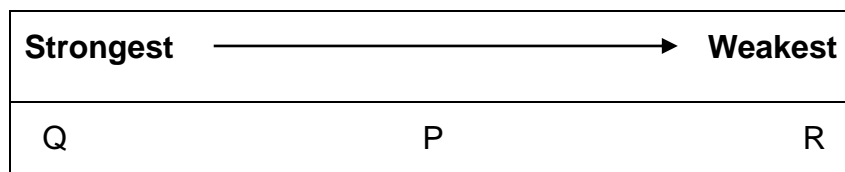


()

16. Susan wanted to find out the strength of magnets, P, Q, and R. She placed each magnet at a distance of 9cm. She pushed the nails closer and measured the distance when the nails were first attracted.



She arranged the strength of the magnets as shown below.

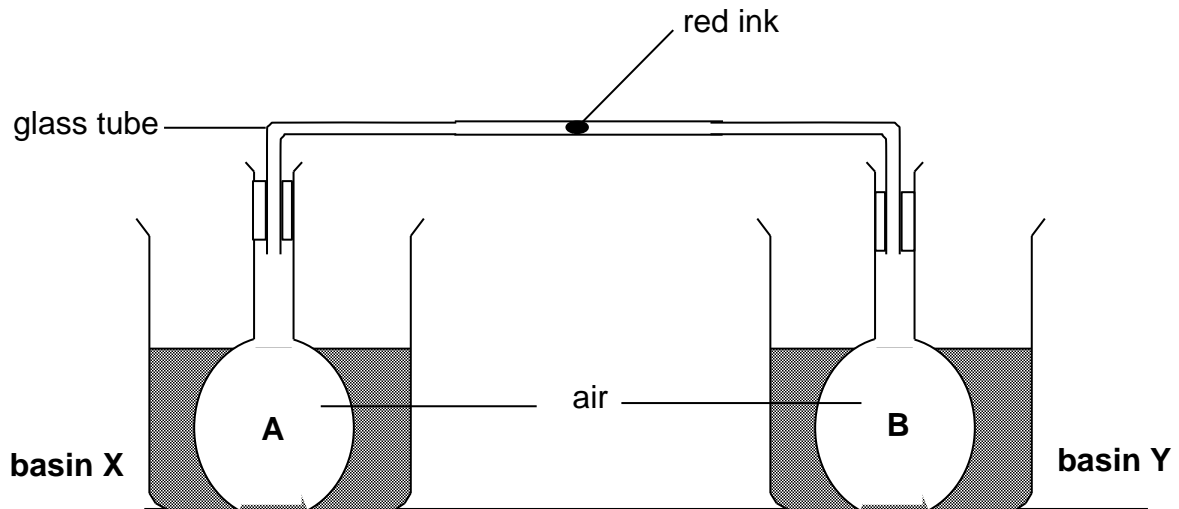


Which of the following shows the distance (cm) when the nails were first attracted?

	P	Q	R
(1)	6	4	2
(2)	2	4	6
(3)	4	6	2

()

17. The set-up below shows a drop of red ink in the glass tube connected by two similar flasks, A and B.

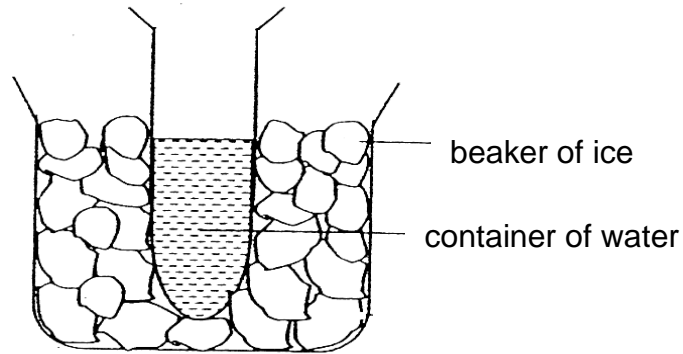


Each flask is placed in a basin of water. What are the temperatures of water in the basins that will make the red ink move towards Flask B after a few minutes?

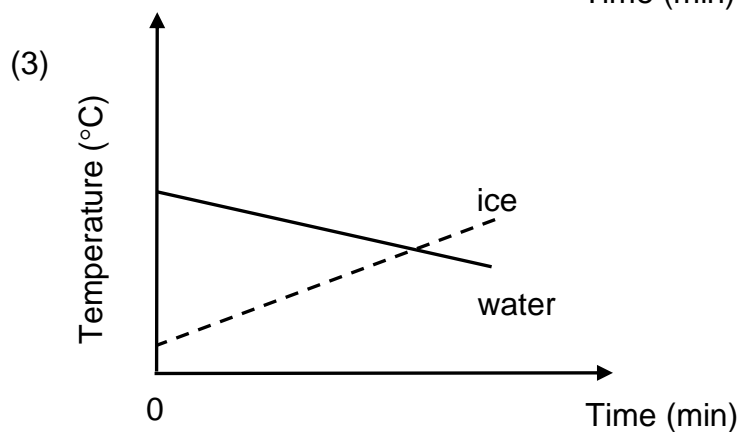
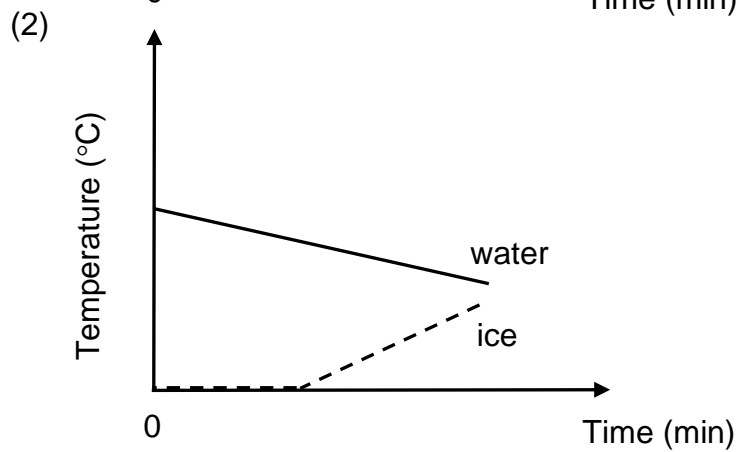
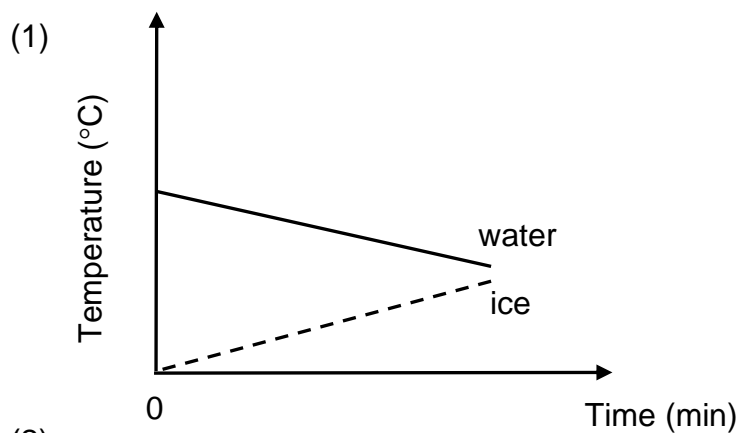
	Basin X	Basin Y
(1)	water at 10°C	water at 70°C
(2)	water at 30°C	water at 30°C
(3)	water at 70°C	water at 10°C

()

18. The diagram below shows a beaker of ice and a container of water.



Which graph shows how the temperatures of ice in the beaker and water in the container change with time?



()

SECTION B: (34 MARKS)

Write your answers in the blank spaces provided.

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

19. Look at the organisms below.

[2]



Organism A



Organism B



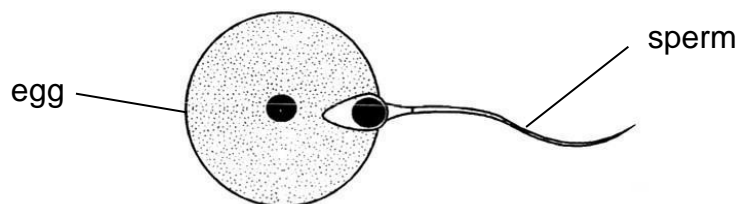
Organism C

Classify the organisms according to their methods of reproduction below.

Reproduce from spores	Reproduce from seeds

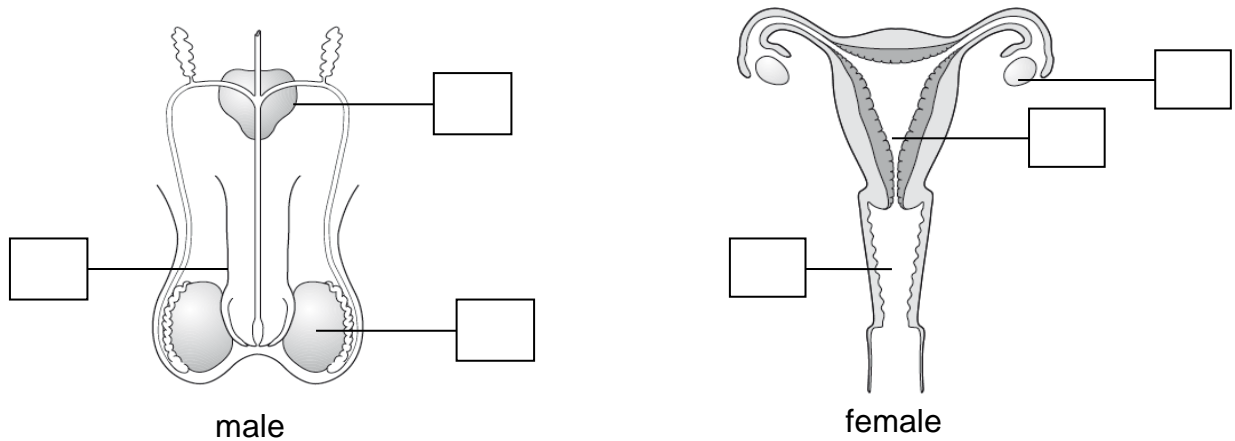
20. The diagram below shows a sperm fusing with an egg.

[1]

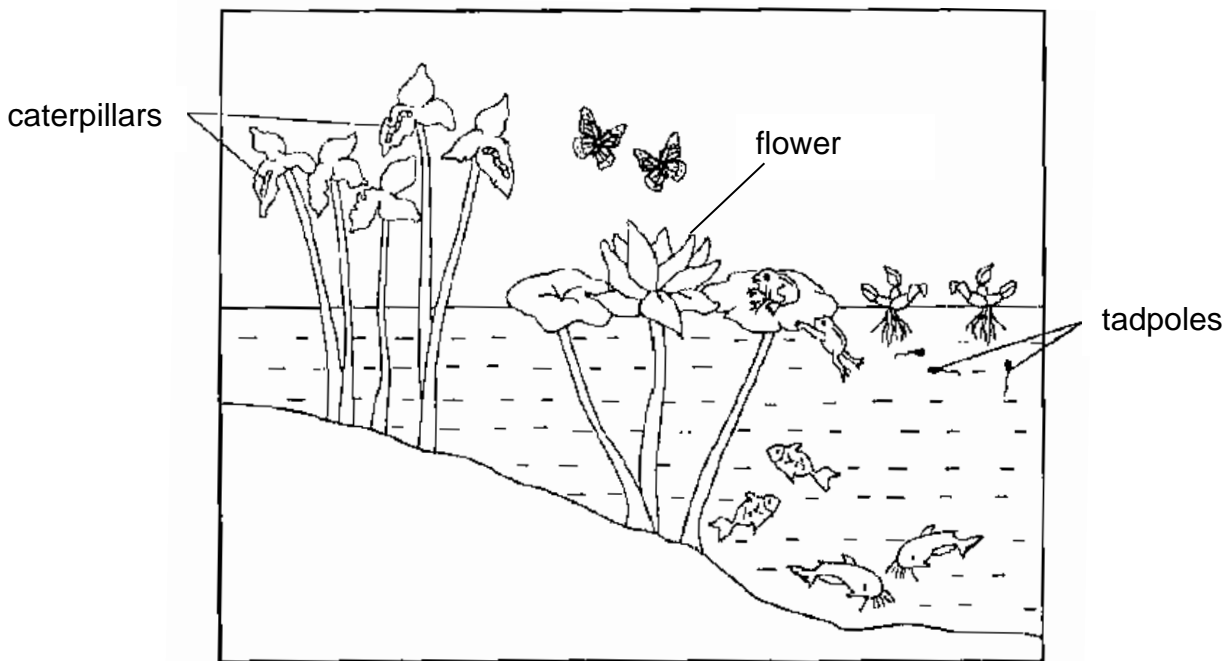


(a) The process is called _____.

- (b) The diagram below shows the male and female reproductive systems. Tick (✓) in the boxes below where the sperm and egg are produced. [1]

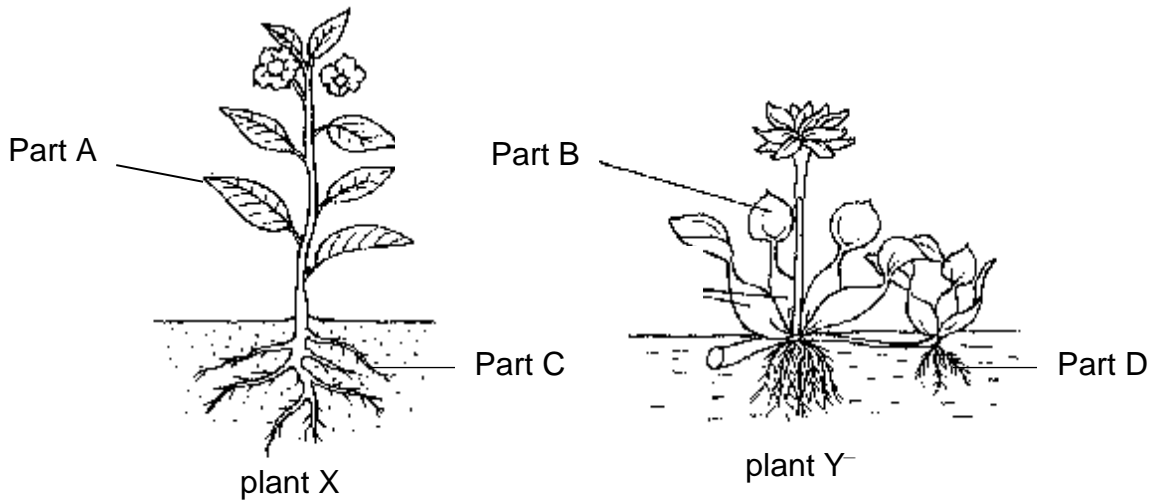


21. Shamy saw some organisms in the pond below. [3]



- (a) The pond is a _____ for the organisms.
 (b) There are _____ populations of producers.
 (c) There are _____ populations of consumers.

22. Raju found two plants, X and Y. Plant X can be found in the garden and plant Y can be found in the pond.



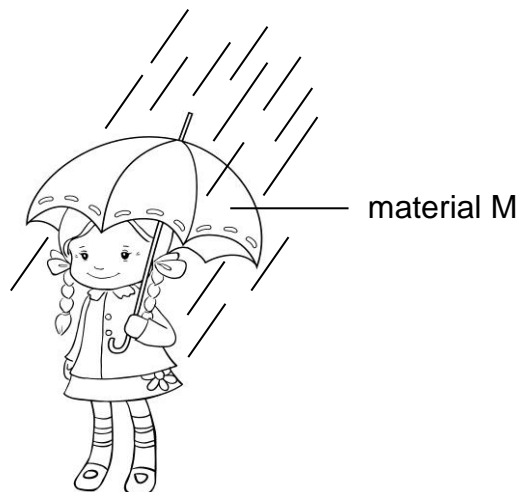
Read the function below and match the parts to the function.

[2]

Function	Part(s)
To make food	
To hold the plant firmly	

23. Siti opened up an umbrella made of material M to keep out the rain as shown below.

[2]



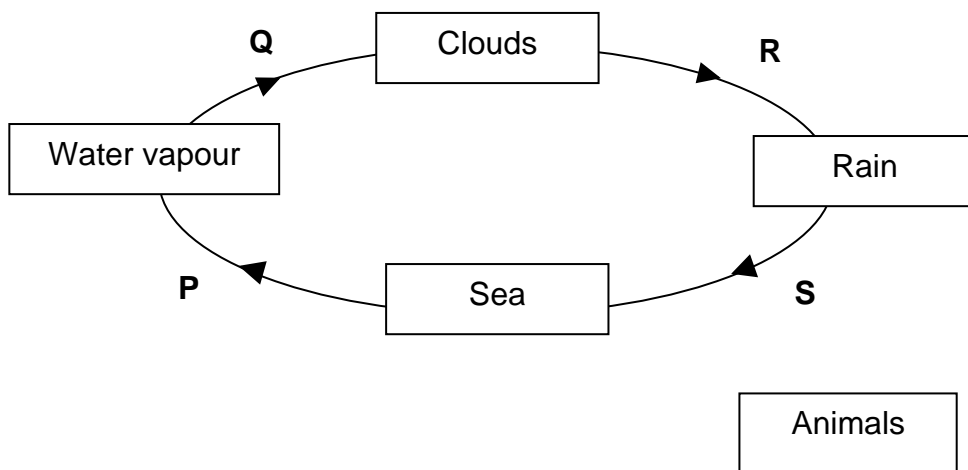
List two properties of material M.

(i) _____

(ii) _____

24. The diagram below shows the water cycle.

[3]



(a) Name Process P.

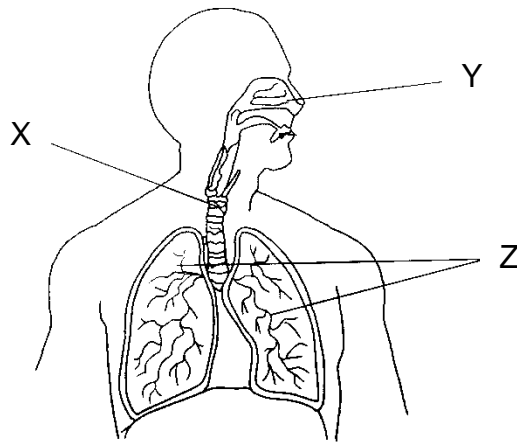
(b) Condensation takes place at _____.

(c) Draw arrow in the diagram **above** to show how animals can contribute to the water cycle.

Write your answer in the blank spaces provided.

[20]

25. The diagram below shows parts of a human system.

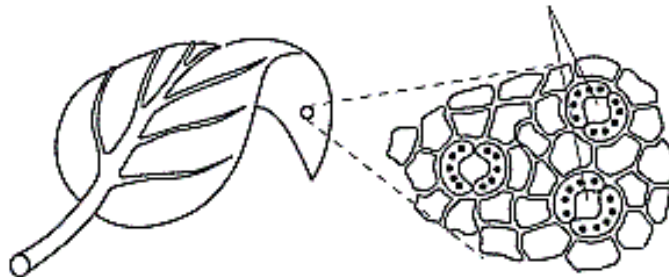


(a) Circle the name of the system shown in the diagram.

[1]

(respiratory / circulatory / digestive)

Han Ming used a microscope to view the underside of a leaf. He saw tiny openings as shown below.



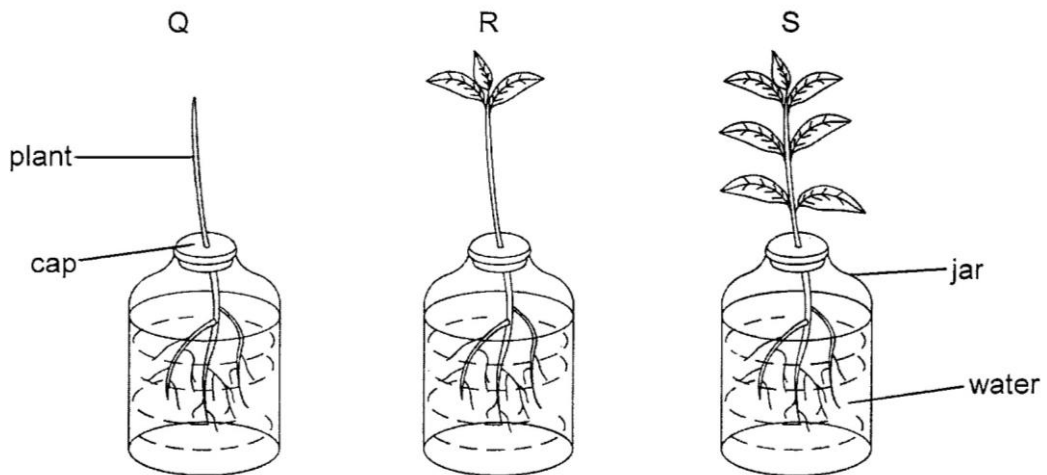
(b) Which part of the human system, X, Y or Z has the same function as the tiny openings on a leaf?

[1]

(c) Name one gas that is given out by both plant and human.

[1]

26. Micheal wanted to find out if the number of leaves affect the amount of water taken in by a plant. He removed some leaves from three similar plants and set up the experiment below.



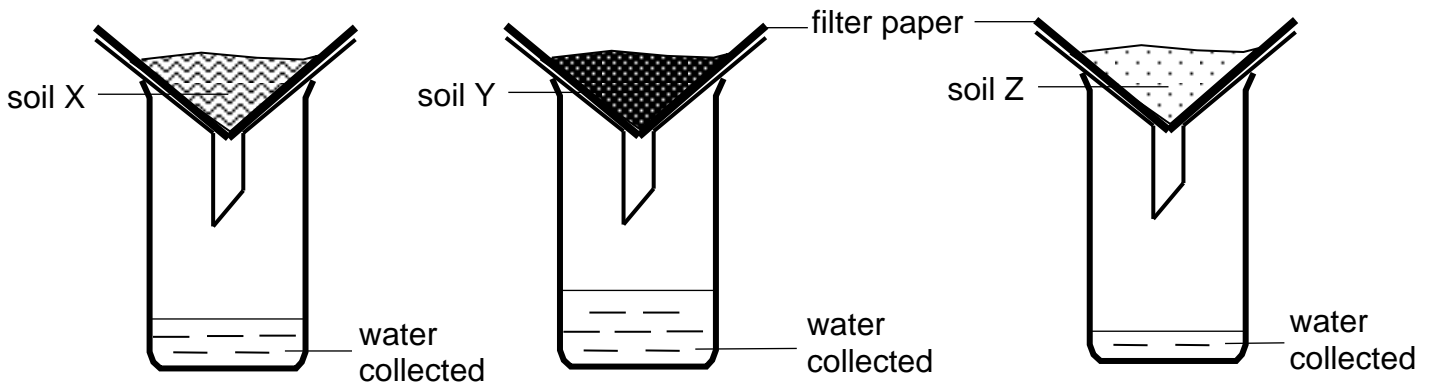
After two days, he measured the amount of water left in each jar. His results are shown below.

plant	number of leaves	Amount of water in jar (cm ³)	
		start of experiment	after two days
Q	0	200	192
R	3	200	180
S	7	200	156

- (a) What is the relationship between the number of leaves and the amount of water taken in by the plant? [1]

- (b) Which plant took in the most amount of water? Explain why. [1]

27. A farmer wanted to find out how different soils will affect the amount of water passing through. He poured 80 ml of water into each soil, X, Y and Z in the set-ups and the results are shown below.



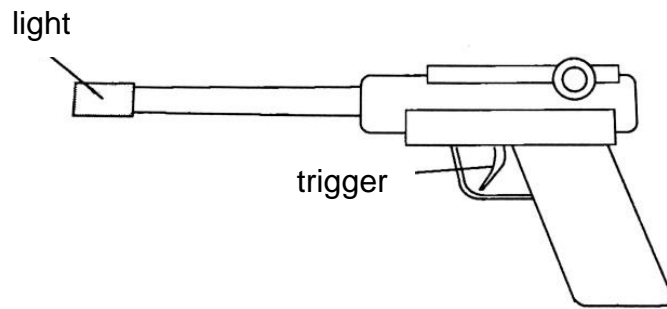
(a) State the property of the filter paper. [1]

(b) Give one reason why filter paper is used in the set ups. [1]

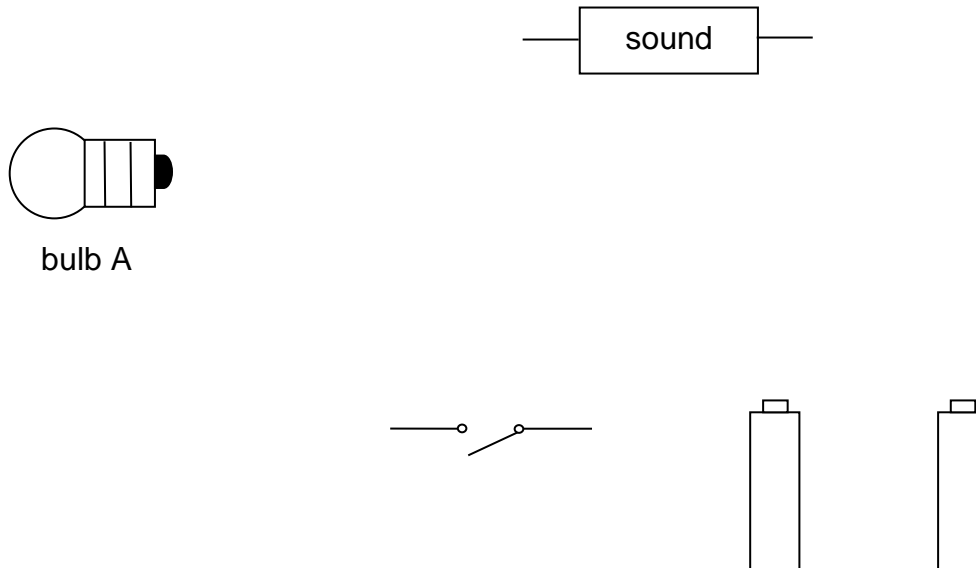
(c) Which soil, X, Y or Z contains the least air spaces? [1]

(d) A farmer has a plant with many roots. How will this plant affect the amount of water collected if soil Y is used? [1]

28. Yasmin designed a toy gun that works on batteries. The toy gun gives out light and sound when he pulled the trigger.



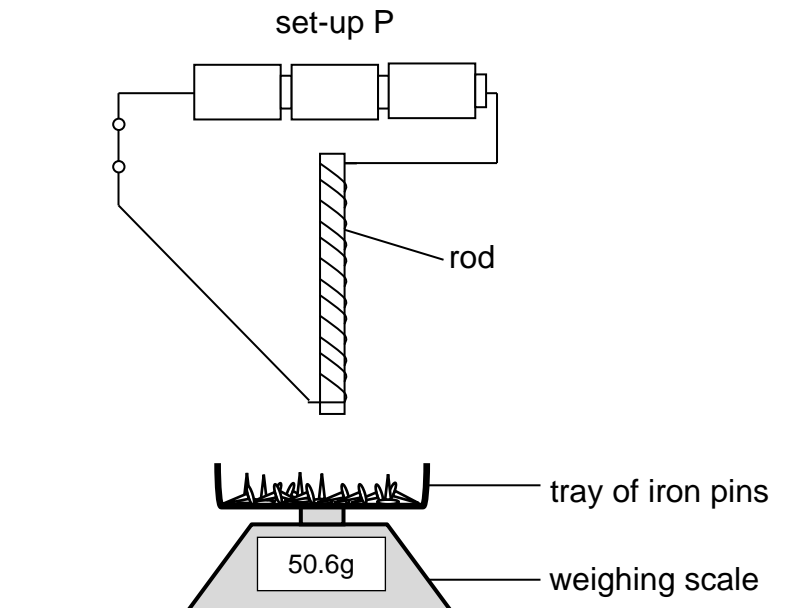
(a) Connect the different parts in the circuit below so that the toy gun works. [2]



(b) What happens to the brightness of bulb A when Yasmin connects another bulb to the circuit? [1]

SCORE:	3
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29. Devi put some iron pins on a weighing scale and placed set up P above the tray as shown below.



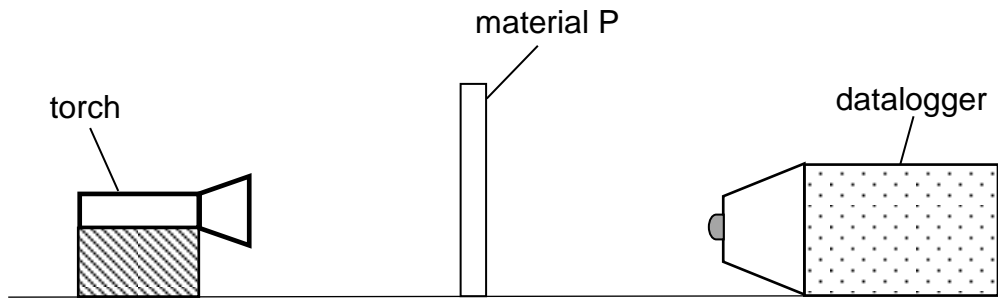
(a) When the switch is closed, will the reading on the weighing scale increase, decrease or remain the same? [1]

(b) Give a reason for your answer in (a). [1]

(c) After 5 minutes, Devi found that some iron pins were still left on the tray. Why is this so? [1]

(d) If Devi did not want any iron pins on the tray, what should she do? [1]

30. Jamilah wanted to find out if the materials, P, Q, R allow light to pass through. She conducted her experiment in a brightly lit classroom as shown below.



- (a) Tick (✓) the variable(s) that Jamilah should keep the same when conducting the experiment. [1]

Variables	Tick (✓)
Distance between torch and material	
Types of material	
Thickness of materials	

- (b) Her teacher, Mrs Goh told her that the results of the experiment will not be accurate. Why did Mrs Goh say that? [1]

- (c) How should Jamilah improve her experiment? [1]

After making improvement, Jamilah conducted her experiment and recorded her results as shown below.

Material	Amount of light recorded by datalogger (units)
P	35
Q	175
R	10

- (d) Which material is the most suitable to make a projector screen in the classroom?
Explain your answer. [1]

SOME USEFUL WORDS*

1	anus	44	light
2	attract / repel	45	liquid
3	battery	46	lung
4	blood (vessel)	47	magnet / magnetic material
5	boiling	48	mammal
6	breathe	49	mass / weight
7	bulb	50	measuring (cylinder)
8	butterfly	51	melting
9	carbon dioxide	52	metal
10	chicken	53	mouth
11	circulation	54	muscles
12	cockroach	55	mushroom
13	condense / condensation	56	nitrogen
14	conductor / insulator	57	(north / south / like) poles
15	contract / contraction	58	nose
16	(electric) current	59	oxygen
17	deforestation	60	plastic / rubber / wood
18	digestion	61	pollinate / pollination
19	earth	62	pollute / pollution
20	electricity / electrical circuit	63	predator
21	energy	64	prey
22	evaporate / evaporation	65	producer
23	expand / expansion	66	push/pull
24	fertilise / fertilisation	67	reflect
25	flexible	68	reproduce
26	float /sink	69	respiration
27	flower food(chain)	70	root
28	force	71	seed (dispersal)
29	freezing	72	shadow
30	friction	73	shape
31	frog	74	skeleton
32	fungi	75	solid
33	gas	76	space
34	germinate / germination	77	spore
35	global warming	78	spring balance
36	gravity	79	steam
37	gravitational force	80	steel
38	heart	81	stem
39	heat (gain / loss)	82	stomach
40	insect	83	switch
41	(large/small) intestine	84	temperature / thermometer
42	iron	85	volume
43	leaf	86	water (vapour)

- *This list is not exhaustive. Candidates may be required to use words not found in the list.*