

PRELIMINARY PRACTICE PAPER

Science

Practice paper 2 · Booklet A and Booklet B · 41 questions · 100 marks · 1 h 45 min

Name: _____

Class: _____

Date: _____

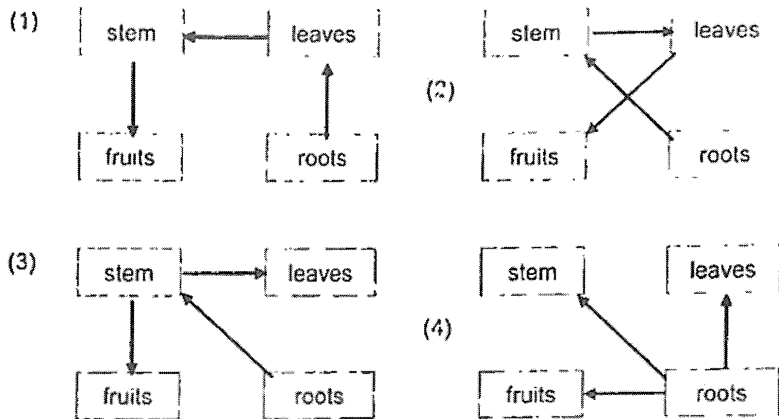
Answer all questions. Write your answers in this booklet. Booklet A: 30 multiple choice questions, 60 marks. Booklet B: open ended questions, 40 marks. Assembled by Holy Grail (grail.moe) from 2023 to 2025 preliminary examination questions, set out in the 2026 SEAB format.

Booklet A

Choose the correct answer (1), (2), (3) or (4).

1. Which of the following shows how water is transported in a plant? [2 marks]

Each option is a flow diagram linking the boxes stem, leaves, fruits and roots with arrows.



- (1) Leaves to stem, roots to leaves, stem to fruits
 (2) Stem to leaves, roots to stem, leaves to fruits
 (3) Roots to stem, stem to leaves, stem to fruits
 (4) Roots to stem, roots to leaves, roots to fruits [2]

2. Roy folded a piece of material to make a sailboat. It floated on water for a while before sinking.

[2 marks]

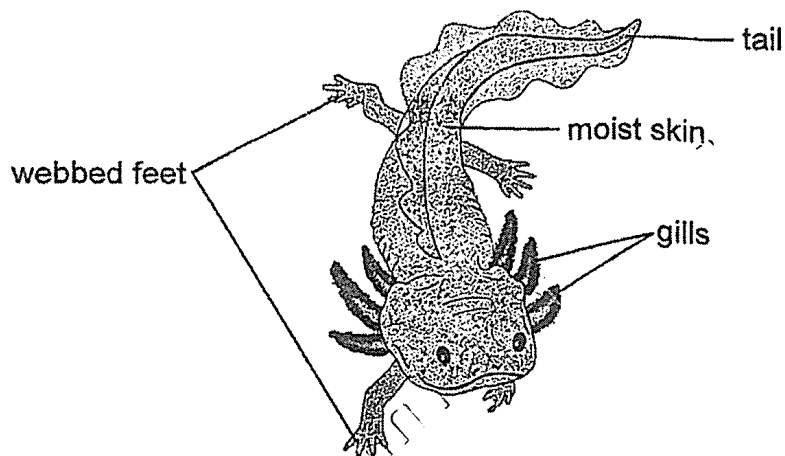
What are the properties of the material? In the table a tick means yes and a cross means no.

	flexible	waterproof
(1)	tick	tick
(2)	tick	cross
(3)	cross	cross
(4)	cross	tick

3. The diagram shows animal X, which has a tail, moist skin, webbed feet and gills.

[2 marks]

Which statement is correct?

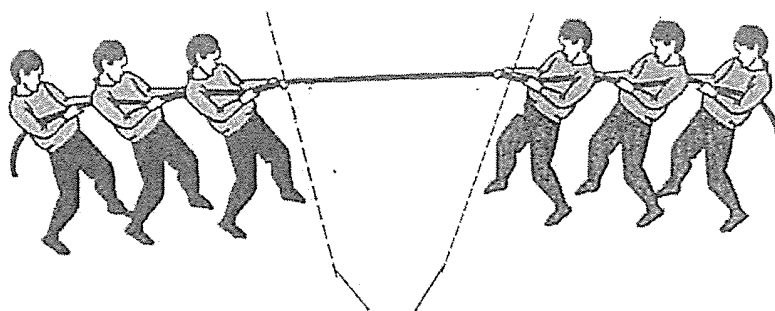


- (1) Animal X must be a fish. (2) Animal X must be a reptile. (3) Animal X must be a mammal. (4) Animal X must be an amphibian.

4. Two groups of people were in a tug-of-war as shown below, each group pulling one end of the same rope with starting lines marked on the floor for each group. [2 marks]

Neither of the groups was able to make the other group move to its side because

_____.



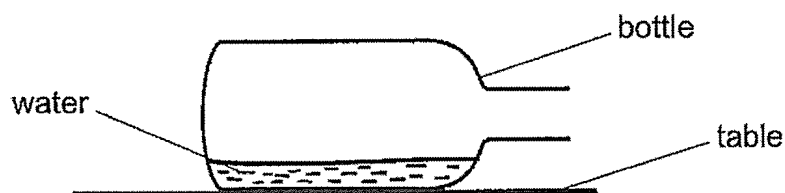
starting lines marked on the floor for each group

- | | | | |
|---|---|---|--|
| (1) the force they exerted was not great enough | (2) the friction between their feet and the ground prevented it | (3) each group exerted an equal and opposite force on the other group | (4) the gravitational force was greater than the pulling force exerted by each group |
|---|---|---|--|

5. Alexa placed a bottle of water on the table at room temperature, lying on its side so that a shallow layer of water covers the base of the bottle. [2 marks]

She wanted the water in the bottle to evaporate quickly.

Which of the following should Alexa do to speed up the rate of evaporation?



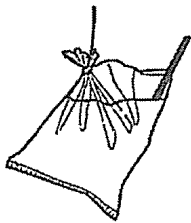
- | | | | |
|-------------------------------------|------------------------------------|---------------------------------------|---|
| (1) Place the bottle on a hot towel | (2) Place the bottle in a cupboard | (3) Place the bottle on a tray of ice | (4) Place the bottle in an upright position |
|-------------------------------------|------------------------------------|---------------------------------------|---|

6. Which statement about the large intestine is correct? [2 marks]

- | | | | |
|---------------------------------------|---|--|---|
| (1) Water is absorbed into the blood. | (2) Digestive juices are added to the food. | (3) It has the most amount of undigested food. | (4) Some food is broken down into simpler substances. |
|---------------------------------------|---|--|---|

7. The diagrams below show two ways tea can be served, tea in a plastic bag tied at the top and tea in a cup. [2 marks]

Which property of liquid does the diagrams show?



tea in a plastic bag



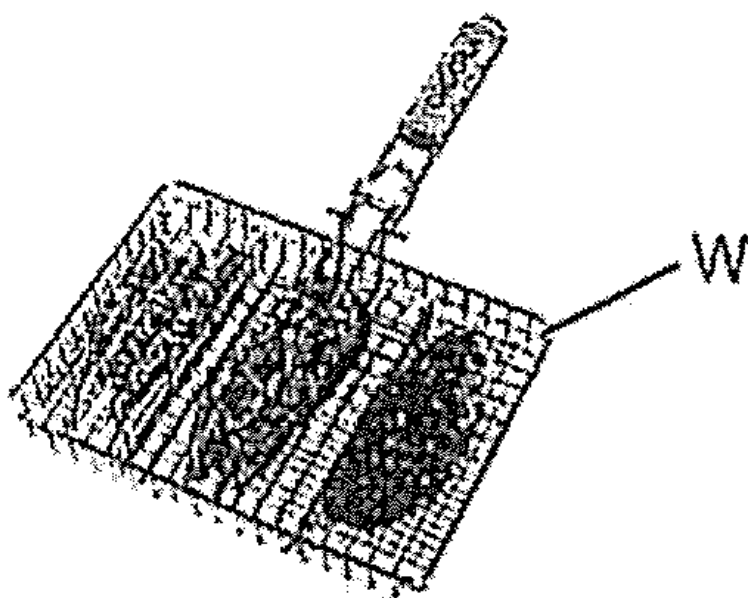
tea in a cup

- | | | | |
|------------------|----------------------------|---------------------------|-------------------------------------|
| (1) It has mass. | (2) It has a fixed volume. | (3) It can be compressed. | (4) It does not have a fixed shape. |
|------------------|----------------------------|---------------------------|-------------------------------------|

8. The diagram shows a barbecue grill in which part W is the metal mesh that food is placed on. The table shows the properties of four materials, A, B, C and D. A tick indicates the presence of the property in the material. [2 marks]

Which material, A, B, C or D, is suitable to make part W which is used for grilling of food?

Material	strong	flexible	allows light to pass through	good conductor of heat
A			tick	
B			tick	
C	tick			tick
D			tick	tick



(1) A

(2) B

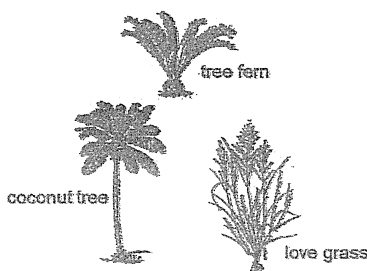
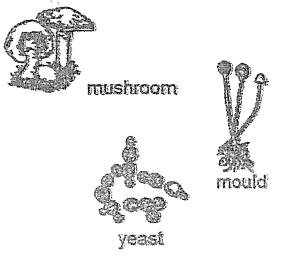
(3) C

(4) D

9. Study the classification table below carefully. Group X contains a tree fern, a coconut tree and love grass. Group Y contains a mushroom, mould and yeast. [2 marks]

Which of the following statement(s) is/are correct?

- A: The organisms in Group X and Group Y are non-flowering plants.
B: The organisms in Group X and Group Y are reproduced by spores.
C: The organisms in Group X contain chlorophyll but not those in Group Y.
D: The organisms in Group Y are micro-organisms but not those in Group X.

Group X	Group Y
 tree fern coconut tree love grass	 mushroom yeast mould

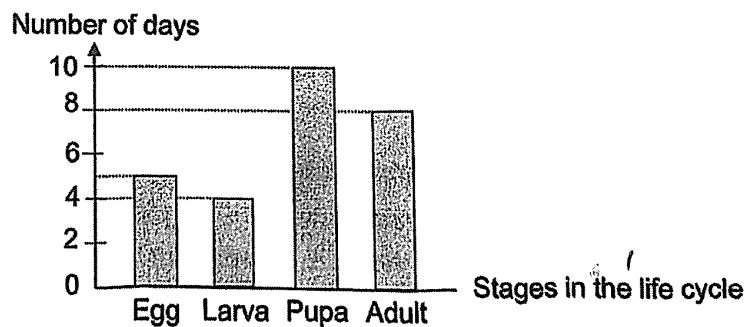
- (1) C only (2) A and B only (3) C and D only (4) A, B and D only

10. Andy wanted to find out if overcrowding affects the growth of a plant. Which three set-ups should he use for his experiment? [2 marks]

Set-up	Number of plant	Type of soil	Size of pot
A	3	clayey	small
B	3	garden	big
C	5	garden	small
D	5	garden	big
E	5	clayey	small
F	10	garden	big

- (1) A, C and E (2) C, D and E (3) A, B and F (4) B, D and F
11. The graph shows the duration of each stage of the life cycle of an organism. The egg stage lasts 5 days, the larva stage 4 days, the pupa stage 10 days and the adult stage 8 days. [2 marks]

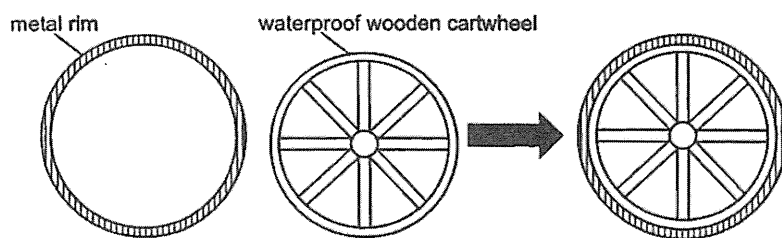
Using the information from the graph above, at which stage of development will the organism be on the 6th day after it has hatched?



- (1) Egg (2) Larva (3) Pupa (4) Adult

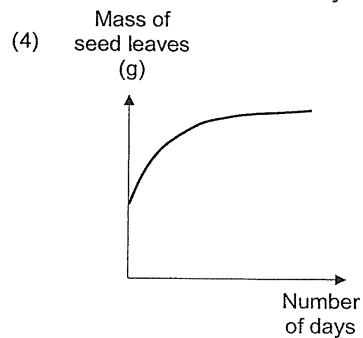
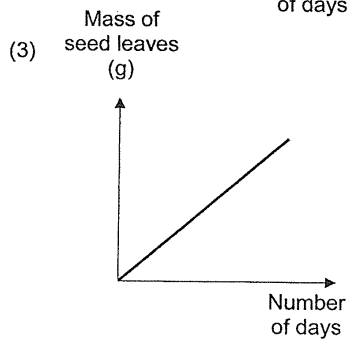
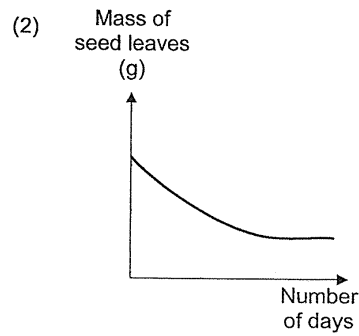
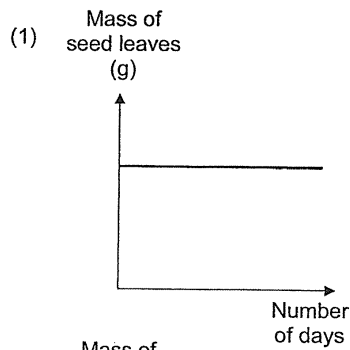
12. Ansel wanted to fit a metal rim tightly round a waterproof wooden cartwheel. The metal rim was too small to fit around the waterproof wooden cartwheel. [2 marks]
- was too small to fit around the waterproof wooden cartwheel.

Which of the following two steps would allow Ansel to fit the rim tightly around the cartwheel?



- | | | | |
|---|---|---|--|
| (1) Step 1: Put the cartwheel in cold water; Step 2: Put the rim and cartwheel in hot water | (2) Step 1: Heat the rim evenly over a fire; Step 2: Put the rim and cartwheel in hot water | (3) Step 1: Put the cartwheel in hot water; Step 2: Put the rim and cartwheel in cold water | (4) Step 1: Heat the rim evenly over a fire; Step 2: Put the rim and cartwheel in cold water [2] |
|---|---|---|--|

13. Which of the following graphs correctly represents the change in mass of seed leaves as a seed germinates over a few days? Each option graph in the figure has Mass of seed leaves in grams on the vertical axis and Number of days on the horizontal axis. [2 marks]



(1) a horizontal line showing no change

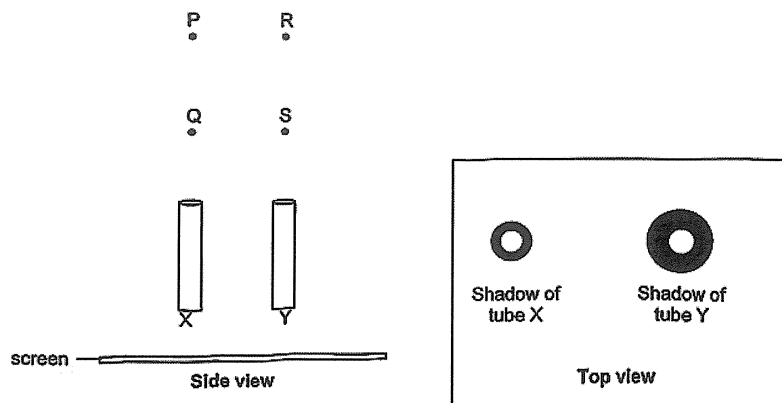
(2) a curve starting high and falling, then levelling off near the bottom

(3) a straight line rising steadily from the origin

(4) a curve starting low and rising steeply, then levelling off near the top

14. The diagram shows four points, P, Q, R, and S, where light sources can be placed directly above two identical wooden tubes, X and Y. Points P and R are higher up, while points Q and S are lower down and nearer the tubes. The top view shows that the shadow of tube X is a small ring and the shadow of tube Y is a larger ring. [2 marks]

At which two points, P, Q, R and S, should the light sources be placed, for the shadows of tubes X and Y to be cast as shown, when viewed from the top?



(1) P and R

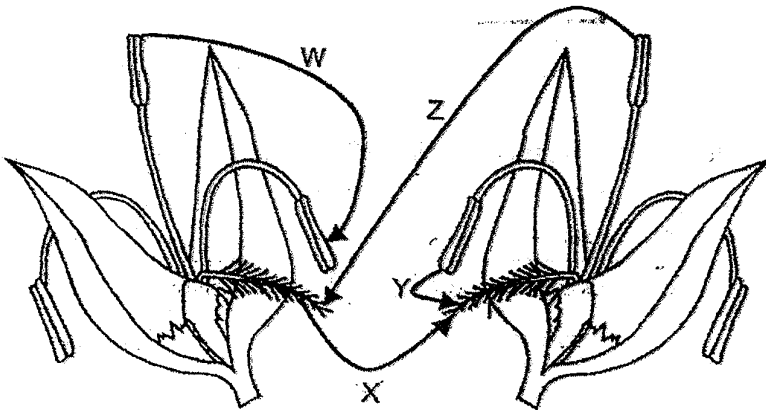
(2) P and S

(3) Q and R

(4) Q and S

15. The diagram shows two flowers from the same plant, with four arrows labelled W, X, Y and Z drawn between and within the flowers. [2 marks]
- Z drawn between and within the flowers.

Which of the arrows show(s) pollination taking place?



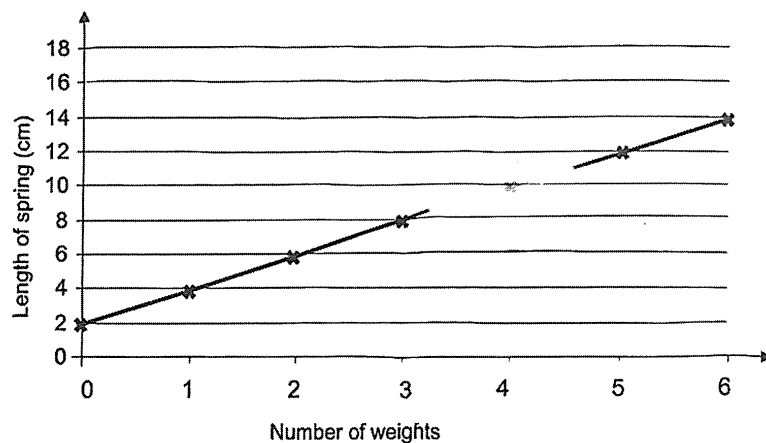
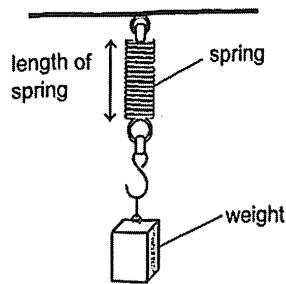
- (1) Y only (2) W and Y only (3) X and Z only (4) Y and Z only

16. Emma hung a spring from a support and attached weights to it, as shown in the diagram. [2 marks]

She hung different numbers of weights on the spring and measured the length of the spring, then plotted a graph of the length of spring in cm against the number of weights. The graph is a straight line passing through 2 cm at zero weights, 4 cm at one weight, 6 cm at two weights, 8 cm at three weights, 12 cm at five weights and 14 cm at six weights.

Using her results, she calculated the extension of the spring, where extension equals new length of spring minus original length of spring.

If the extension of the spring is 4 cm, how many weights did she use?



(1) 1

(2) 2

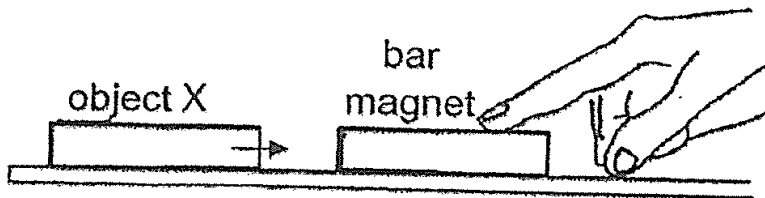
(3) 3

(4) 0

17. Object X moved towards the bar magnet when brought near to one end of the magnet, as shown in the diagram. [2 marks]

Which of the following can be concluded from the results?

A Object X is a magnet. B Object X is made of a magnetic material. C The North pole of the bar magnet is attracting object X.

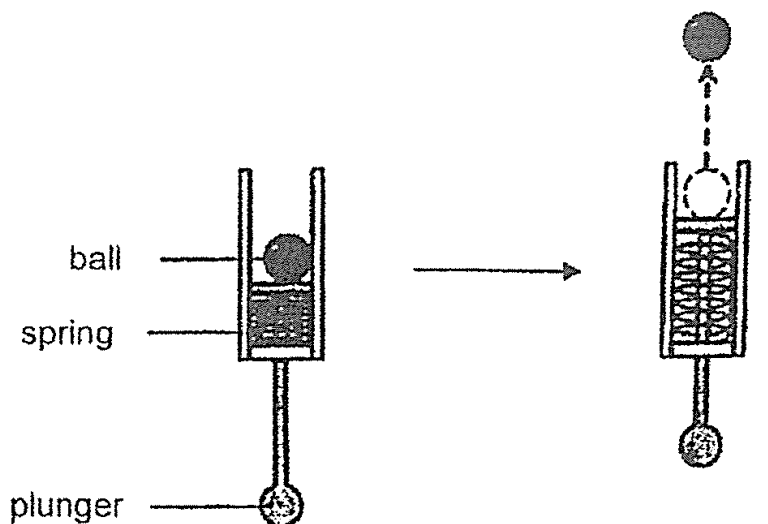


- (1) A only (2) B only (3) A and C only (4) B and C only

18. Jing Jing pulled down the plunger of a device and after she released it, the ball moved upwards as shown. The device is a tube holding a ball resting on a spring, with a plunger below the spring. [2 marks]

Which of the following will enable the ball to move a greater distance?

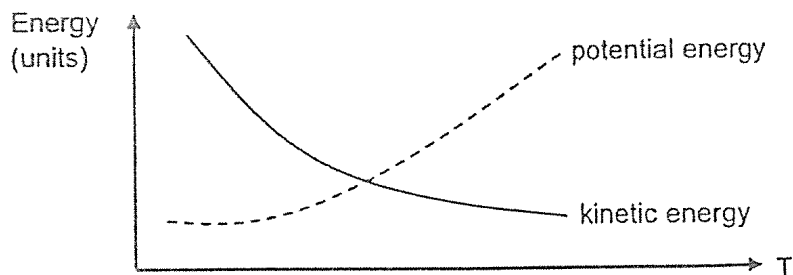
- A: Use a less elastic spring
- B: Use a ball with a smaller mass
- C: Decrease the distance that the plunger is pulled



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

19. The graph shows the energy conversion of an action. The kinetic energy line starts high and falls while the potential energy line starts low and rises. [2 marks]

Which of the following actions would show the same energy conversion as above?



- (1) throwing a ball upward (2) an apple falling off a tree (3) rolling a ball across a flat ground (4) a battery-operated fan that is turned on

20. Study the food chain shown below. [2 marks]

$$K \rightarrow L \rightarrow M$$

Which of the following about the food chain is correct?

	Prey(s)	Predator(s)	Amount of energy as it passes through the food chain
(1)	L	M	increases
(2)	L	M	decreases
(3)	K and L	L and M	increases
(4)	K and L	L and M	decreases

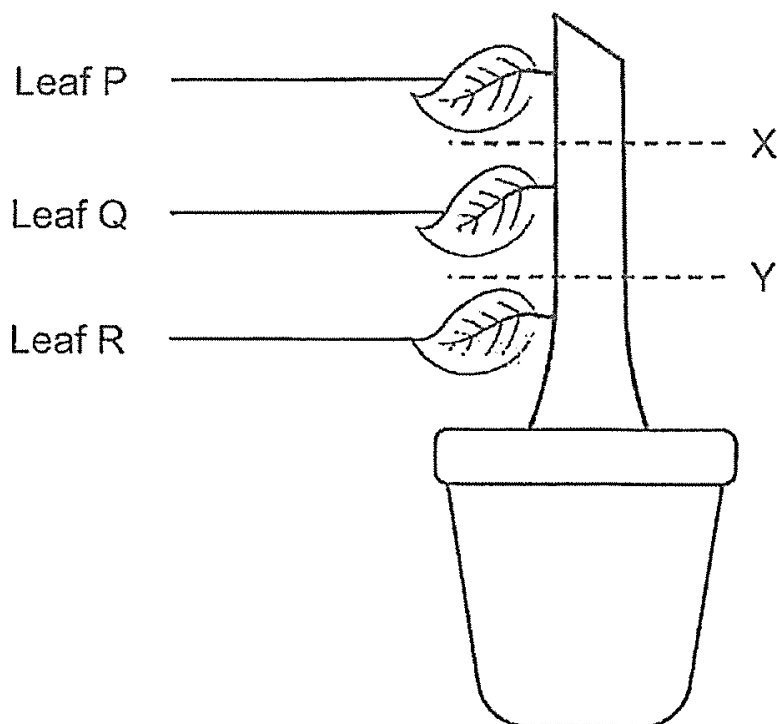
21. Two rings were cut and removed from the stem of a plant at parts X and Y as shown below. [2 marks]

The plant was placed near an open window and watered daily. After a week, only leaves P and Q turned brown and withered. Leaf P is the highest leaf, part X is below leaf P, leaf Q is below part X, part Y is below leaf Q and leaf R is the lowest leaf.

The table below shows the possible type(s) of tube(s) removed at parts X and Y.

Option	Part X	Part Y
(A)	food-carrying and water-carrying	food-carrying and water-carrying
(B)	food-carrying	food-carrying and water-carrying
(C)	food-carrying and water-carrying	food-carrying
(D)	food-carrying	food-carrying

Which of the following could lead to leaves P and Q turning brown and withered?



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

22. The table shows the state of three substances, X, Y and Z, at different temperatures.

[2 marks]

Substance	State at 20 °C	State at 50 °C	State at 80 °C
X	solid	liquid	liquid
Y	liquid	liquid	gas
Z	liquid	gas	gas

Which statement can be concluded about X, Y and Z?

- (1) X has the lowest freezing point. (2) Y has a lower melting point than Z. (3) Y has a higher boiling point than X. (4) Z has the lowest boiling point.

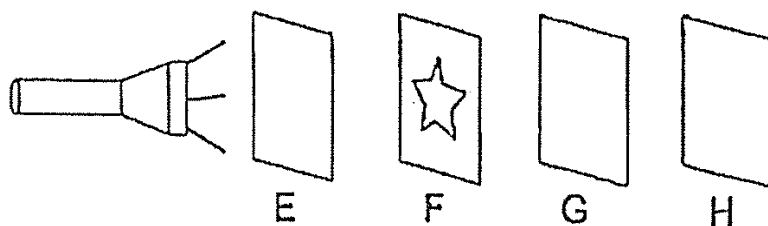
23. Aileen made a star-shaped cut-out on sheet F and arranged the four sheets E, F, G and H made of different materials in front of a torch as shown in the diagram, in the order E, F, G, then H.

[2 marks]

She observed that a bright patch of star-shaped light can be seen on sheet G only.

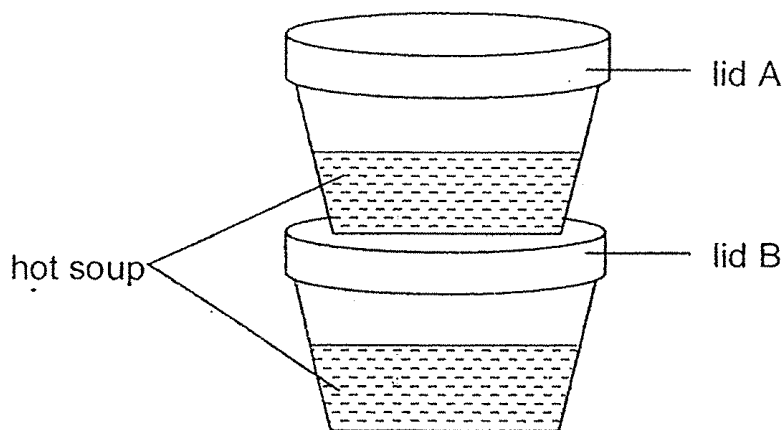
Which of the following correctly describes the transparency of the four sheets of materials?

Option	Transparent	Opaque	Not possible to tell
(1)	E and F	G	H
(2)	G and H	F	E
(3)	E	F and G	H
(4)	F and G	H	E



24. Mrs Tan bought two containers of steaming hot soup from the food court for dinner that evening. They were stacked on top of each other as shown in the diagram below, with lid A closing the upper container and lid B closing the lower container that the upper container rests on. [2 marks]

Mrs Tan found water droplets under each lid two hours later. Which of the following shows the water droplets that were formed under each lid after two hours?



- | | | | |
|--|---|--|---|
| (1) Lid A covered with water droplets over its inner area and lid B covered with water droplets over its inner area. | (2) Lid A with no water droplets and lid B covered with water droplets over its inner area. | (3) Lid A covered with water droplets over its inner area and lid B with water droplets only around its rim. | (4) Lid A covered with water droplets over its whole underside and lid B with water droplets only around its rim. |
|--|---|--|---|

25. Aileen had three rods P, Q, and R, of unknown materials. She placed them in various positions, A, B and C, as shown in the circuit below. Bulb L1 sits in series with position A on one branch, position B leads to a branch carrying bulb L2, and position C sits on a further branch carrying bulb L3.

She observed if bulbs L1, L2 and L3 lit up and recorded her observations in the table below.

	Rod P	Rod Q	Rod R
Positions where rods were placed	A	B	C
Bulbs	L1	L2	L3
Did bulb light up?	No	Yes	Yes

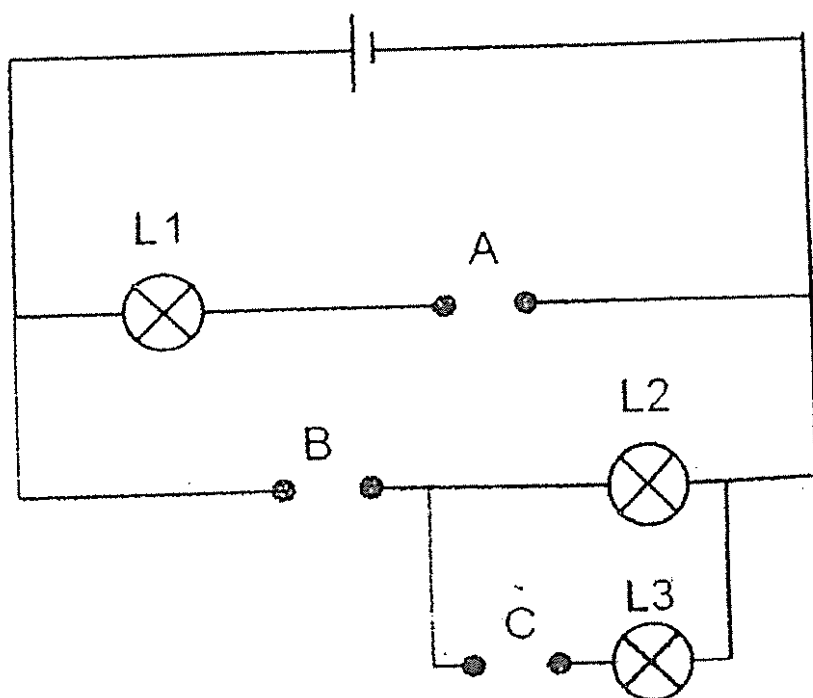
She repeated the experiment by placing the rods at different positions as shown in the table below.

	Rod P	Rod Q	Rod R
Positions where rods were placed	B	A	C

Which one of the following would show the correct result?

	L1	L2	L3
(1)	Yes	Yes	No
(2)	Yes	No	No
(3)	No	Yes	Yes
(4)	Yes	Yes	Yes

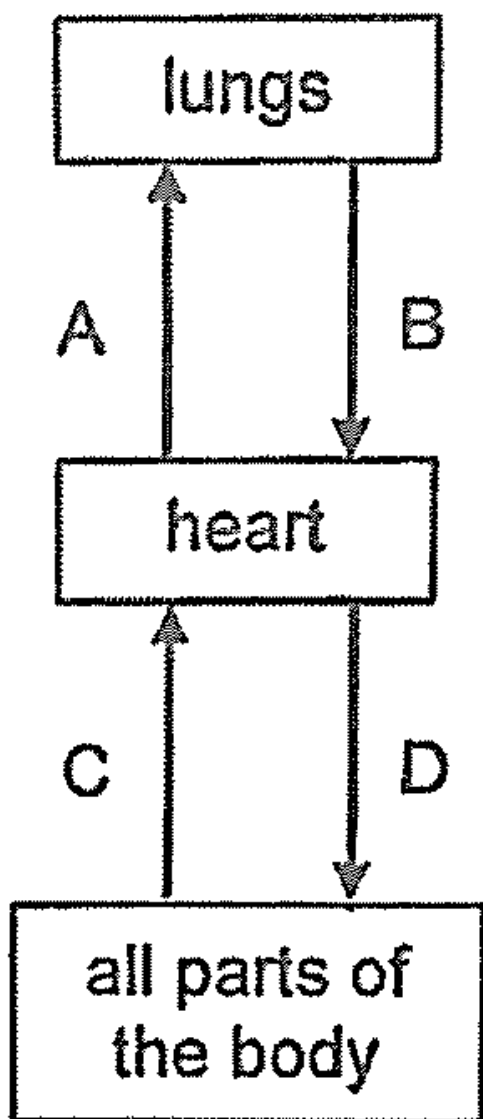
[2 marks]



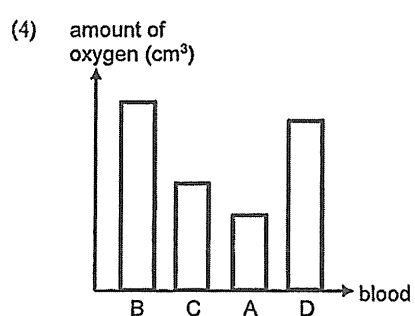
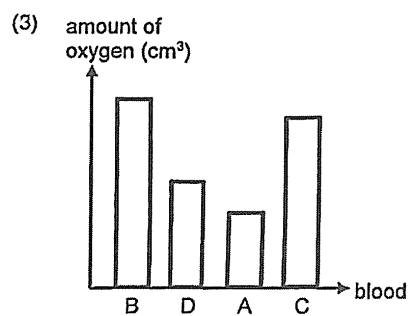
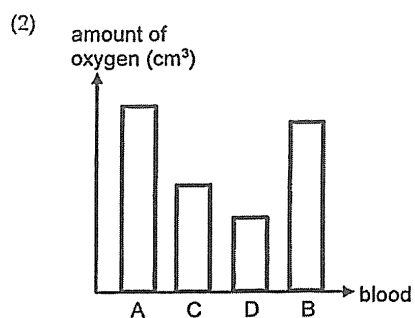
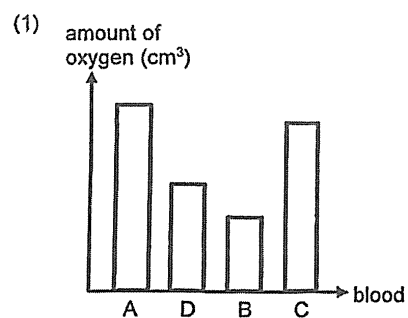
26. Ken was jogging in the park. The diagram below shows the direction of blood flow in some parts of his body. Blood flows from the heart to the lungs along A, from the lungs to the heart along B, from all parts of the body to the heart along C, and from the heart to all parts of the body along D.

Which graph shows the amount of oxygen in his blood at different parts of the body as indicated in the above diagram?

The four graphs are given as options (1) to (4) in the second figure. Every graph shows the same four bar heights, a tall bar, a slightly shorter bar, the shortest bar and a tall bar, but the blood at A, B, C and D is placed along the horizontal axis in a different order:



[2 marks]



(1) A, D, B, C

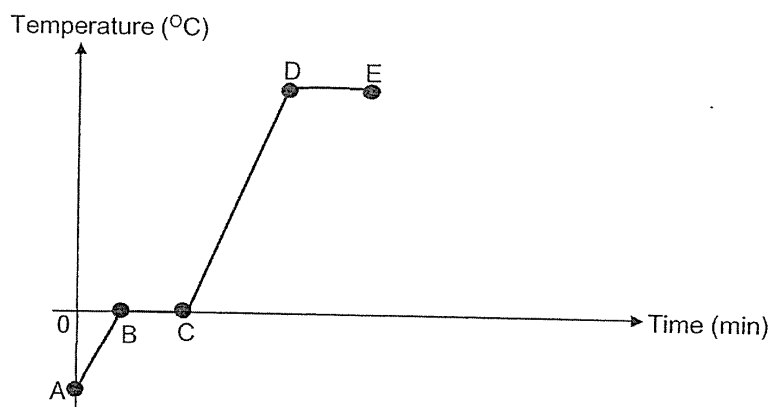
(2) A, C, D, B

(3) B, D, A, C

(4) B, C, A, D

27. Paul melted a container of ice cubes. The starting temperature of the ice cubes was below 0°C . He measured the temperature of the content in the container over a period of time and plotted a graph of temperature against time. The graph starts at point A below 0°C , rises to point B at 0°C , stays level from B to point C at 0°C , rises steeply from C to point D, and then stays level from D to point E.

Which of the following statements is **not** correct?



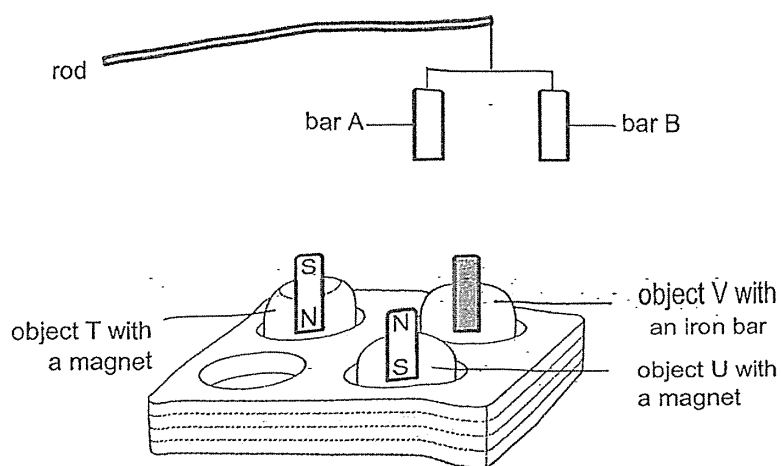
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|-----------------------------|---|--|---|
| (1) Ice melted from A to C. | (2) Evaporation took place from C to D. | (3) Water gained heat between D and E. | (4) Water has reached its boiling point at D. |
|-----------------------------|---|--|---|

28. Anjay made a game as shown below. A rod carries two hanging bars, bar A and bar B. On the board there are three objects: object T with a magnet whose upper pole is marked S, object U with a magnet whose upper pole is marked N, and object V with an iron bar. [2 marks]

The rod with bars A and B were used to pick up objects, T, U and V. Anjay made the following observations:

- bar A could pick up objects T and V only
- bar B could pick up objects T and U only

Which of the following correctly shows what bars A and B are?

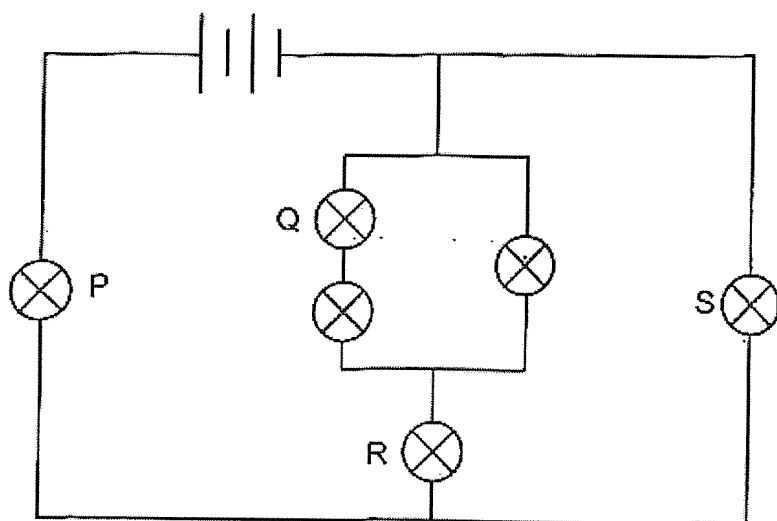


- | | | | |
|--|---|---|--|
| (1) A is a magnet with S at the top and N at the bottom, and B is a magnet with S at the top and N at the bottom | (2) A is a magnet with S at the top and N at the bottom, and B is an iron bar | (3) A is a magnet with N at the top and S at the bottom, and B is an iron bar | (4) A is an iron bar and B is a magnet with N at the top and S at the bottom |
|--|---|---|--|

29. Study the circuit shown. The batteries and bulbs are all working properly. Bulb P is on the left branch, bulb S is on the right branch, and a middle branch contains a group of bulbs including Q arranged in parallel with bulb R below them. [2 marks]

Which one of the following correctly states the number of bulbs that would still be lit when one bulb is blown?

	Bulb that is blown	Number of bulb(s) still lit
(1)	P	5
(2)	Q	2
(3)	R	2
(4)	S	0

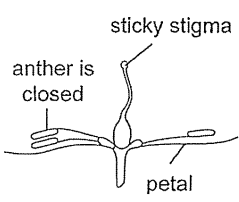
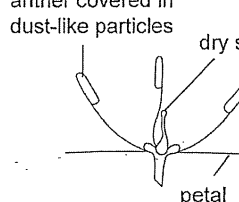
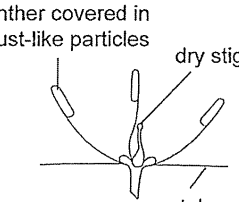
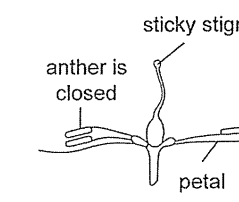


30. Trees A and B are of the same type. The flowers behave differently throughout the day as shown in the pictures below. In the morning, tree A has a closed anther and a sticky stigma, while in the afternoon its anther is covered in dust-like particles and its stigma is dry. In the morning, tree B has an anther covered in dust-like particles and a dry stigma, while in the afternoon its anther is closed and its stigma is sticky. [2 marks]

The flowers are visited by pollinators throughout the day. A farmer grew trees A and/or B on three similar plots of land, L, M and N as shown below.

Plot L	Plot M	Plot N
tree A minus 20	tree B minus 20	tree A minus 10 and tree B minus 10

Based on the information above, which option shows the correct order of plots, starting with the one having the most number of flowers pollinated between 7 am and 7 pm?

tree A	<u>morning</u> 	<u>afternoon</u> 
tree B	<u>morning</u> 	<u>afternoon</u> 

- (1) L, N, M (2) L, M, N (3) M, L, N (4) N, M, L

- 31.** The diagrams show the life cycles of organisms P and Q. Organism P is a frog whose cycle runs from a mass of eggs in water, to a young stage in water, to the adult frog. Organism Q is a butterfly whose cycle runs from an egg, to a caterpillar, to a pupa, to the adult butterfly. [4 marks]

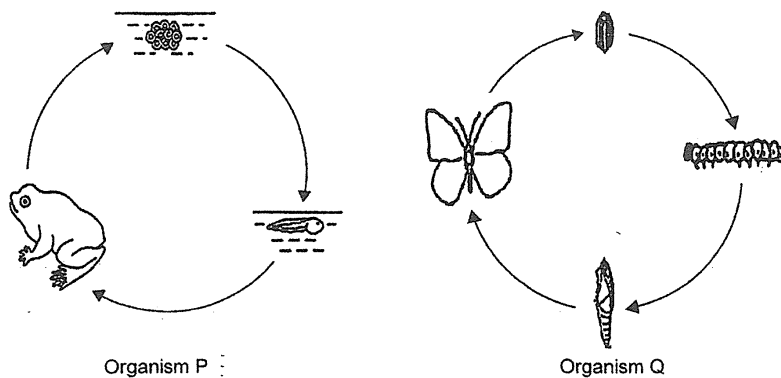
(a) Based on the diagrams, state one similarity and one difference based on what you can observe about the life cycles of organisms P and Q as shown above. [2]

(i) Similarity:

(ii) Difference:

(b) Both organisms P and Q lay many eggs at a time. Explain the advantage of laying many eggs at a time. [1]

(c) How do the adult of organism P and its young breathe in water? [1]



- 32.** Kumar wanted to investigate the property of three materials, R, S and T. He placed material R in a wooden box as shown in the set-up and recorded the amount of light detected by the light sensor. A torchlight shines at the material from outside the box and the light sensor is at the far end inside the box. [4 marks]

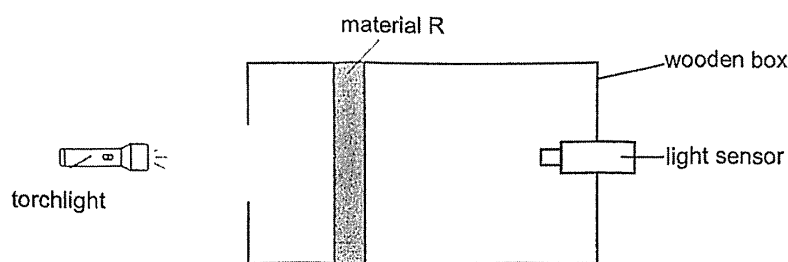
He repeated the experiment with materials S and T of the same thickness. The amount of light detected by the light sensor is recorded in the table.

Material	Amount of light detected (units)
R	0
S	350
T	100

(a) What property of materials is Kumar investigating? [1]

(b) A greenhouse is a place where plants are grown. If a farmer wants to build a greenhouse, which material, R, S or T, is the most suitable? Explain your answer. [2]

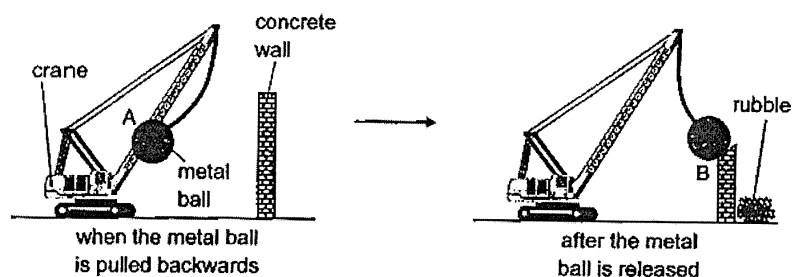
(c) To ensure a fair test, the experiment was conducted in a dark room. Explain why. [1]



- 33.** At a construction site, a crane with a heavy metal ball is used to demolish large brick or concrete walls. To demolish a wall, the crane pulls the metal ball backwards to position A and then releases it to hit the wall as shown below. After the ball is released it swings down to position B and strikes the wall, which breaks into rubble. [3 marks]

(a) State the main energy changes that take place in the above observation, filling in the four boxes for the energy of the metal ball at A, the energy while swinging to B, and the two forms of energy of the metal ball at B. [1]

(b) Without swinging the metal ball higher or faster, state one change to the metal ball that will enable the wall to be demolished faster. Explain your answer in terms of energy conversion. [2]



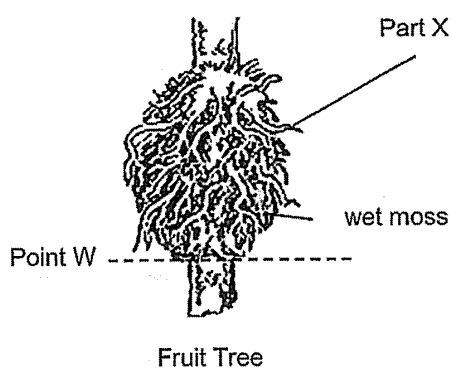
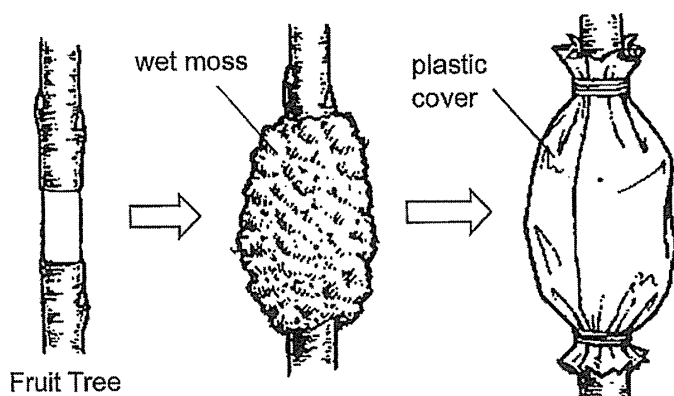
34. A farmer removed the bark around a branch of a fruit tree and wrapped wet moss around the branch and covered it with a plastic cover as shown below.

Months later, he removed the plastic cover and observed that Part X has developed around the wet moss. Point W is marked on the branch just below the wet moss.

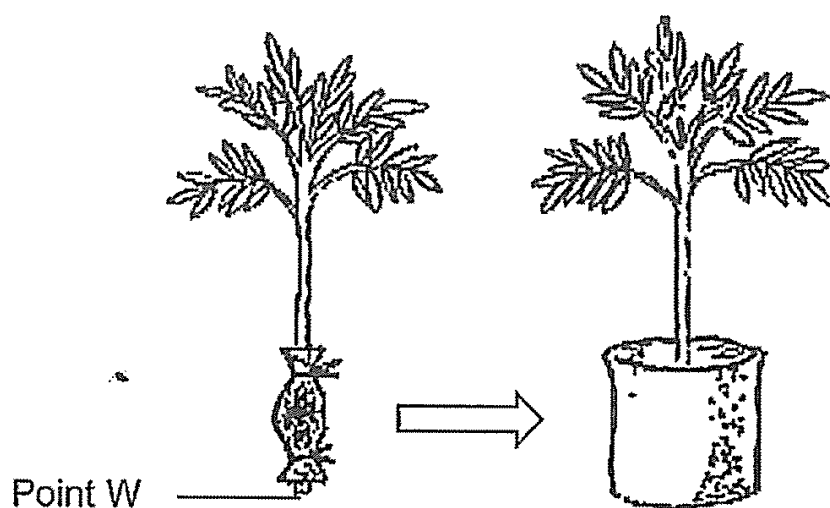
- (a) Part X has absorbed water from the wet moss for the survival of the Fruit Tree. What is Part X? [1]

The branch is cut off at Point W and planted in a pot as shown in the diagram.

- (b) What advantage does this method have compared to growing the fruit tree from a seed? [1]



[2 marks]



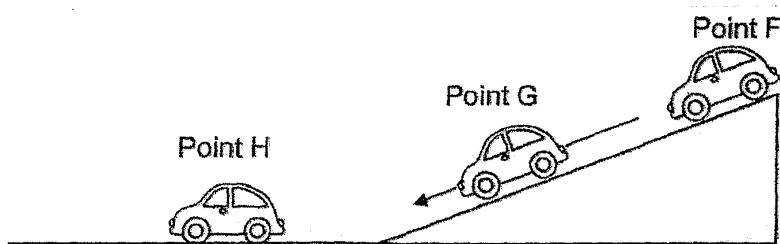
35. Muthu and Arthur wanted to investigate how the mass of a toy car affects the distance moved by it. They released a toy car from a slope at the same point, point F, and measured the distance moved by the car on the flat ground, past point G on the slope to point H on the flat ground. The length of the car is 4 cm. [2 marks]

They repeated this experiment using the same slope and a toy car of similar size. Their results are shown in the table below.

	Muthu	Arthur
Distance moved by car (cm)	5	9

(a) Given that there was no reading error, explain why Muthu and Arthur obtained different results for the distance moved by the car. [1]

(b) The bar graph shows the amount of gravitational force acting on the toy car at point G. Complete the graphs for the amount of gravitational force acting on the toy car at points F and H. [1]



36. Sylvia boiled some water in a pot on a stove. She wanted to cook some fishballs that she just took out from the refrigerator. When the water had boiled, she added the fishballs into the pot. She measured the temperature of the water for 60 minutes and recorded her results. The graph of temperature in degrees Celsius against time in minutes rises from 30 to 100 degrees Celsius, stays at 100 for a short while, drops to about 55 degrees Celsius at around 35 minutes, then rises again towards 100 degrees Celsius. [4 marks]

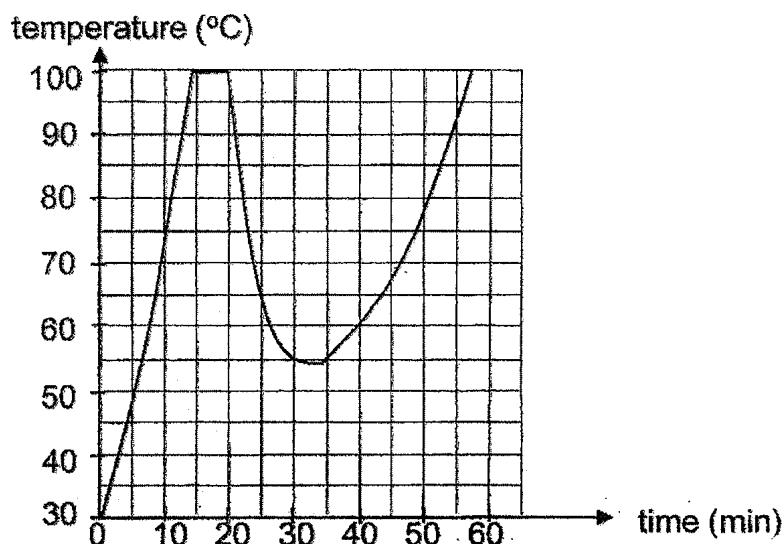
(a) State what is temperature. [1]

(b) State the time Sylvia added the fishballs into her pot. [1]

After the fishballs were cooked, Sylvia scooped 3 fishballs and some soup from the pot into two identical bowls, G and H, which stand on a thick glass table top. Bowl G contains more soup than bowl H.

(c) In which bowl, G or H, would the fishball cool down faster? Why? [1]

(d) The table top cracked after some time. Explain why. [1]



37. Compressed towels are compact and designed for use by travellers to minimise packing space in their luggage. The diagram shows a compressed towel sealed inside a wrapper.

(a) What property must the towel have so that it can be compressed and placed in the wrapper? [1]

Isabelle placed the compressed towel into a beaker of water as shown in Diagram 1, where the water level read 100 cm^3 . Next, she removed the towel from the beaker as shown in Diagram 2, where the water level read 20 cm^3 .

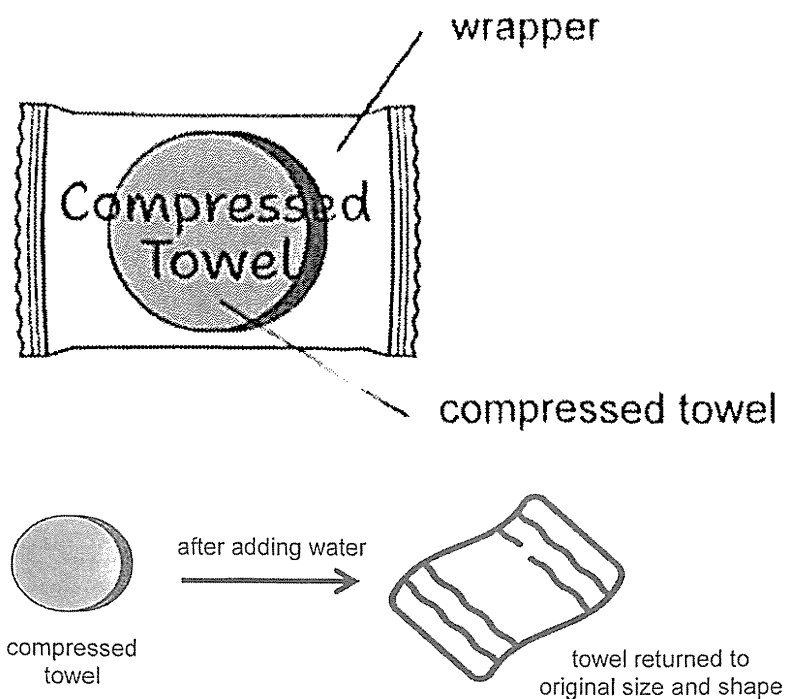
(b)(i) What is the volume of the towel? Put a tick in the correct box below. [1]

- 20 cm^3
- 80 cm^3
- 100 cm^3
- Not possible to tell

(b)(ii) Explain your answer in b(i). [1]

The diagram below shows the compressed towel after adding water; the towel returned to its original size and shape.

(c) Based on Isabelle's observation, what is the state of matter of the compressed towel? Give a reason for your answer. [1]



[4 marks]

38. Plants, F and L, are found in the same pond as shown below. Plant F floats at the surface of the water and plant L grows on the bed of the pond, under the water.

When there are heavy rains, soil is washed into the pond, increasing the amount of mineral salts in the water, causing the population of plant F to increase quickly.

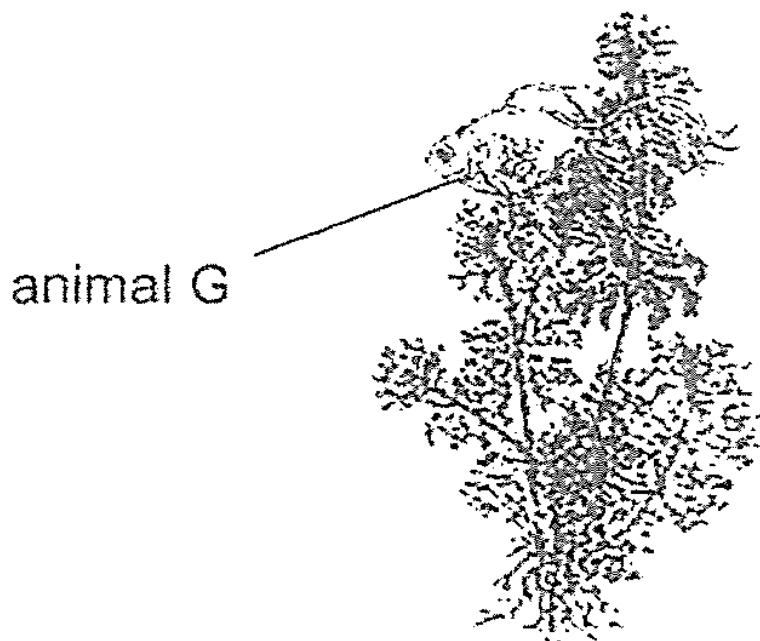
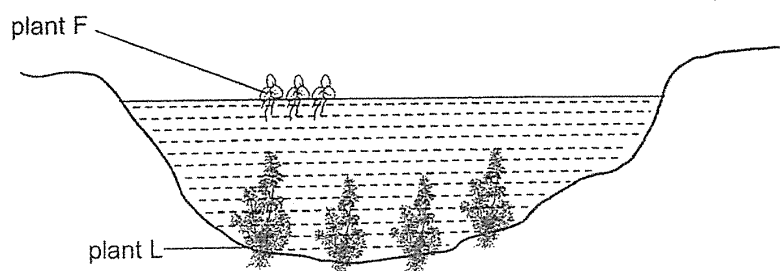
- (a) An increase in the population of plant F will cause a decrease in the population of plant L. Explain why. [2]

Animal G lives among the leaves of plant L as shown. Animal G feeds on the leaves of plant L.

- (b) Besides food, state two other benefits plant L can provide for animal G to ensure its survival. [2]

The graph below shows the population of plant L falling steadily over time.

- (c) In the graph below, add another line to show the number of animal G over the same period. Label the graph. [1]



[5 marks]

39. The diagram shows the flower of plant M with part P and part N labelled. Part P produces pollen grains while part N secretes nectar.

A second diagram shows parts of the human reproductive system. In the male system, part A and part B are labelled. In the female system, parts C, D and E are labelled.

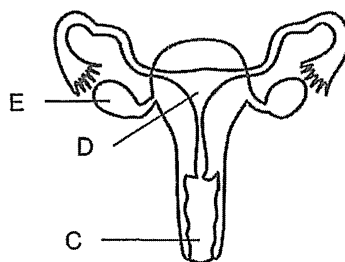
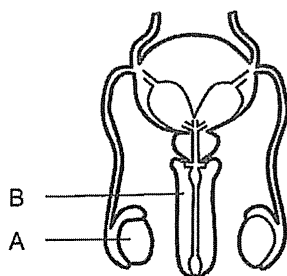
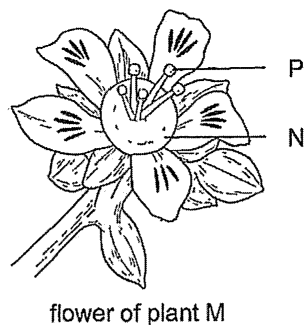
(a) Which part (A, B, C, D or E) in the human reproductive system is similar in function to part P of the flower? [1]

(b) Animal F is known to feed on nectar and fruit of plant M. Based on the information above, explain how animal F helps plant M with pollination. [2]

In addition to animal F and plant M, a scientist made the following observations of organisms R, S and T.

- F feeds on nectar and fruit of M.
- T feeds on M.
- F are eaten by R.
- R builds their nests on M.
- S eats both R and T.

(c) Draw a food web in the space below to show the relationships among all the organisms (F, M, R, S and T) above. [2]



[5 marks]

40. Shaoguang conducted an experiment in a dark room using the set-up below. A lit torch on wooden supports shines at material P placed upright at position X, and a light sensor connected to a datalogger is placed beside the torch facing the material. The light sensor detects a reading of 50 units when material P was placed at position X. [3 marks]

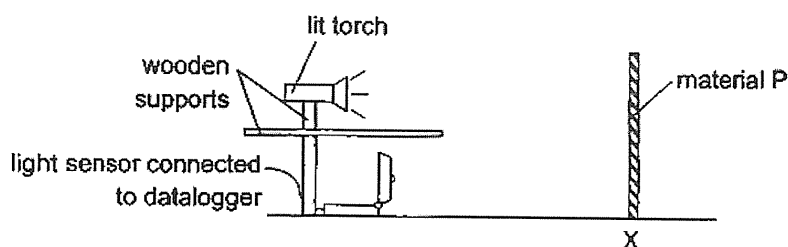
He repeated the experiment using materials Q and R and recorded his results in the table below.

Material	Amount of light detected (units)
P	50
Q	250
R	100

(a) Based on the results, arrange materials P, Q and R according to the transparency of the materials, from greatest transparency to least transparency. [1]

(b) The diagram below shows a high visibility vest worn by traffic police officers when they go out patrolling at night. These vests have highly reflective stripes sewn on them as shown by part Z below.

The reflective stripes keep the police officers safe while they are on duty at night. Which material P, Q or R should be used to make part Z of the vest above? Explain your answer. [2]



- 41.** Jaffar found two living things, P and Q, in a pond. He wanted to find out whether they were animals or plants. He filled four containers 1, 2, 3 and 4 with pond water. He placed living thing P in containers 1 and 2 and living thing Q in containers 3 and 4. Containers 1 and 3 were placed in the light and containers 2 and 4 were placed in the dark. [4 marks]

(a) Observe the experimental set-ups shown. Suggest one way Jaffar has ensured that the experiment is a fair test. Explain your answer. [2]

Jaffar added a drop of liquid X in each container. Liquid X turns blue when more oxygen is present and yellow when more carbon dioxide is present.

At the end of two hours, the following results were obtained.

Container	Colour of liquid X
1	yellow
2	yellow
3	blue
4	yellow

Based on the results, Jaffar concluded that P was an animal.

(b) Is Jaffar's conclusion correct? Explain your answer. [2]

