Rosyth School
Term Assessment 2025 (Term 2)
SCIENCE
Primary 6

Name: _____ _____

Total Marks: /56

Class: Pr 6- _____ Register No. _____

Date: 9 May 2025

Duration: Total time for Booklets A and B: 1 h 45 min

Booklet A

Instructions to Pupils:

1. Please do not turn this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. This paper consists of 2 booklets, Booklet A and Booklet B.
5. For questions 1 to 28 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.

This booklet consists of 20 printed pages (including this cover page).

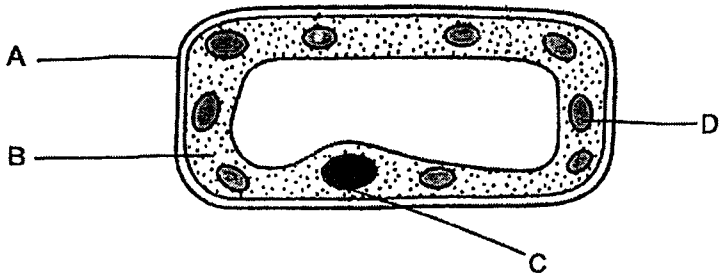
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For each question from 1 to 28, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Write the correct answer in the OAS provided.

(56 Marks)

1 The diagram shows a leaf cell.



Which part, A, B, C or D, contains chlorophyll?

(1) A

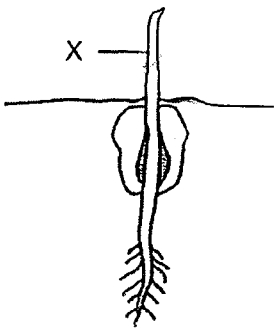
(2) B

(3) C

(4) D

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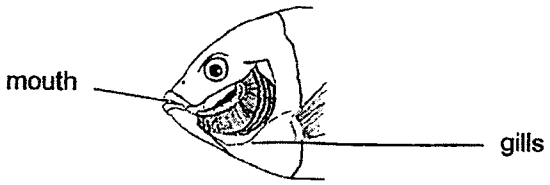
2 The diagram shows a seed growing into a young plant.



What is the direction of the transport of water and food at X?

	Water	Food
(1)	upwards	upwards
(2)	upwards	upwards and downwards
(3)	downwards	downwards
(4)	downwards	upwards and downwards

3 The diagram below shows the gills and the mouth of a fish.

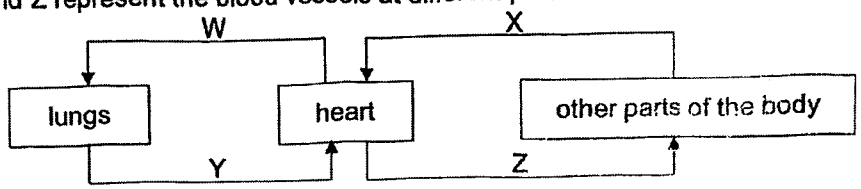


Which of the following about the gills of a fish is true?

(1) Gills and mouth carry out similar functions.
(2) Gills are part of the circulatory system of a fish.
(3) Gills are part of the respiratory system of a fish.
(4) Gills take in carbon dioxide and give out oxygen.

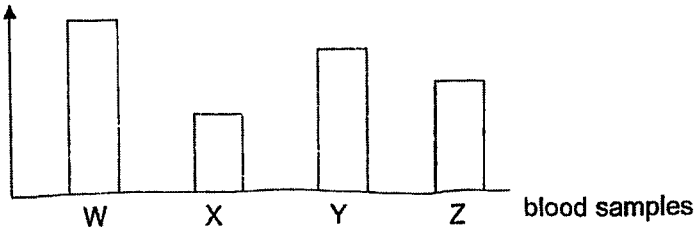
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4 The diagram below shows how blood flows in certain parts of the human body. W, X, Y and Z represent the blood vessels at different parts of the human body.

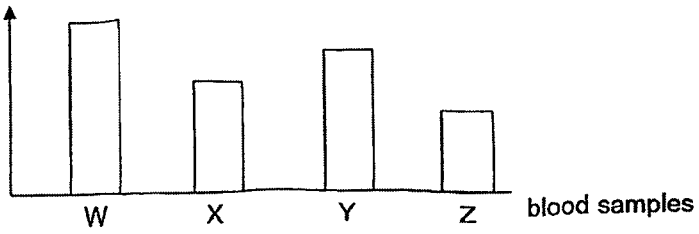


Which graph shows the amount of oxygen present in each blood sample correctly?

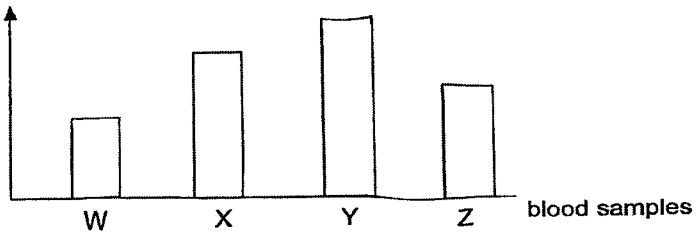
(1)



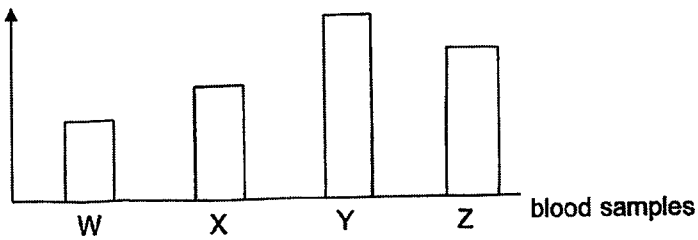
(2)



(3)

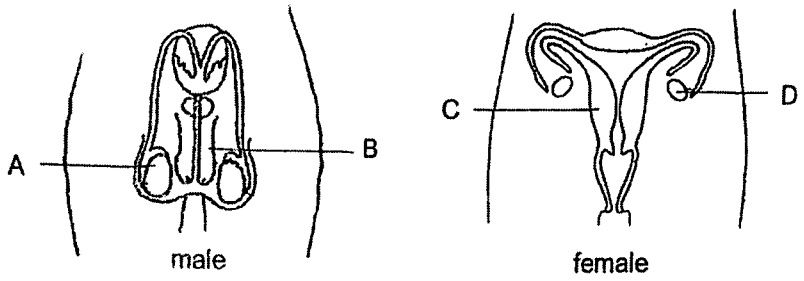


(4)



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5 The diagram below shows the human reproductive systems.



Where are the human reproductive cells produced?

(1) A and C

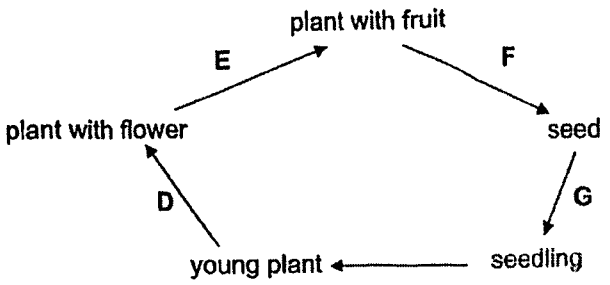
(2) B and D

(3) A and D

(4) B and C

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6 The diagram below shows the developmental stages of a flowering plant.



Which of the following identifies the processes of pollination, fertilisation and germination correctly?

	Pollination	Fertilisation	Germination
(1)	E	E	G
(2)	D	E	G
(3)	E	E	F
(4)	D	F	G

7 _____ is the primary source of energy.

(1) Sun

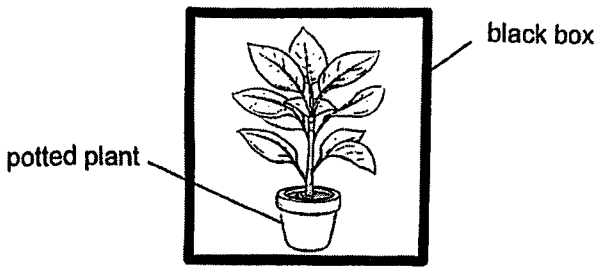
(2) Plant

(3) Animal

(4) Decomposer

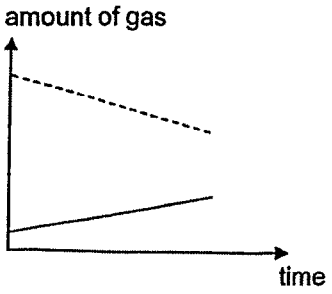
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8 A potted plant is placed in a black box. The amount of oxygen and carbon dioxide in the box is measured over a few hours.

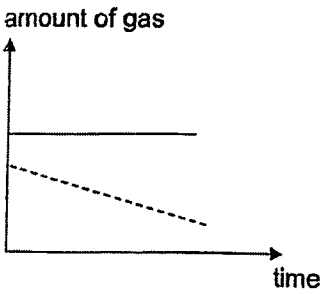


Which one of the following graphs correctly shows the amount of oxygen and carbon dioxide in the box over time?

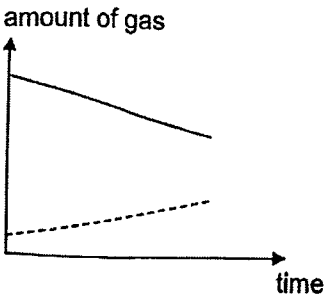
(1)



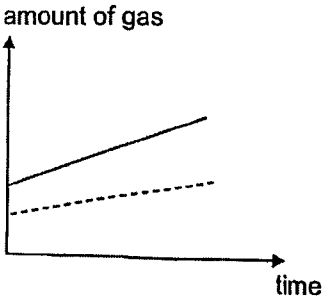
(2)



(3)



(4)



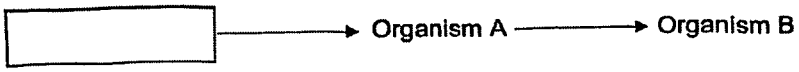
Key:

---------- oxygen

——— carbon dioxide

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9 Study the incomplete food chain.



Which of the following is needed to complete the above food chain?

(1) Sun
(2) Prey
(3) Producer
(4) Consumer

10 The same type of organisms living and reproducing in a particular place is called a/an _____.

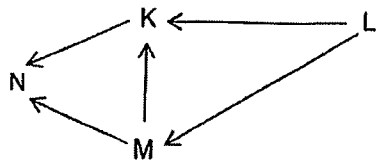
(1) habitat
(2) organism
(3) population
(4) community

11 All the water plants, mosquito larvae, frogs and toads in a pond form a _____.

(1) group
(2) habitat
(3) population
(4) community

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12 The food web below shows the food relationships between four living organisms.



Which one of the following classifications is correct?

	Producer	Prey	Predator	Prey and Predator
(1)	L	N	M	K
(2)	N	L	K	M
(3)	L	M	N	K
(4)	N	K	L	M

13 Study the food chain below.

Z ⟶ X ⟶ Y ⟶ W

Which one of the following is correct?

	Population size	Effect
(1)	Z increases.	X, Y and W will decrease.
(2)	Z decreases.	X, Y and W will decrease.
(3)	W increases.	X, Y and Z will decrease.
(4)	W decreases.	X, Y and Z will increase.

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14 Angie wanted to find out how a certain factor will affect the growth of the goldfish. She listed the following factors.

W: Amount of food
X: Size of fish tank
Y: Number of goldfish
Z: Temperature of water

She proposed several experiments which she would like to conduct in the table below.

Which one of the following experiments is possible to find out the effect of a certain factor on the growth of the goldfish?

	Aim of the experiment	Variables kept constant
(1)	To find out if overcrowding affects the growth of the goldfish	X, Y and Z only
(2)	To find out if temperature of water affects the growth of the goldfish	W, X and Y only
(3)	To find out if the size of the fish tank affects the growth of the goldfish	W, X and Y only
(4)	To find out if the amount of food given affects the growth of the goldfish	X and Z only

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15 Which of the following options shows the classification of behavioural and structural adaptations correctly?

	Behavioural Adaptation	Structural Adaptation
(1)	Animals in desert search for food at night to avoid the heat from the sun.	Animals in desert hide in the shade to avoid the heat from the sun.
(2)	Some birds have colourful large feathers to attract mates.	Some birds dance to attract mates.
(3)	Predators have sharp teeth to tear the flesh of prey.	Predators usually hunt in groups to catch a prey that is larger.
(4)	Some insects pretend to be dead to prevent predators from attacking.	Some insects have toxic spines to kill their predators.

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16 The graph below shows the amount of water and sugar in nectar and honey. Bees flap their wings above a honeycomb to turn the nectar into honey.

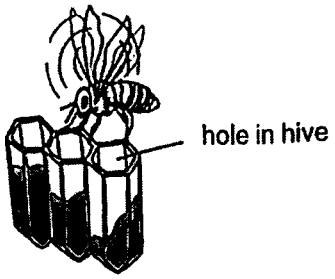


diagram 1

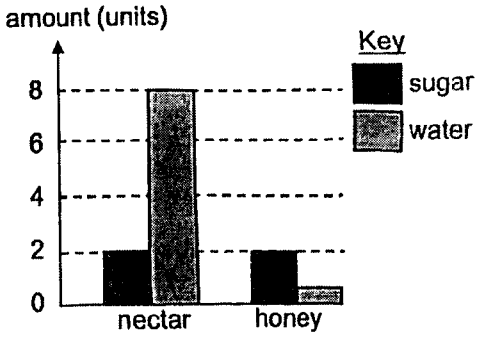


diagram 2

The flapping of the wings causes _____.

(1) the sugar to evaporate faster

(2) the water to evaporate faster

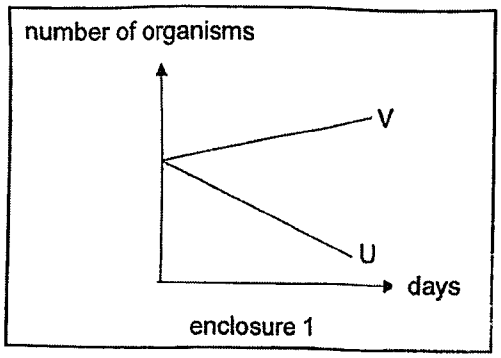
(3) the amount of sugar to increase

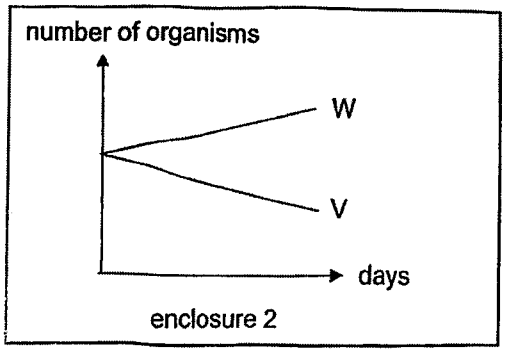
(4) the amount of water to remain the same

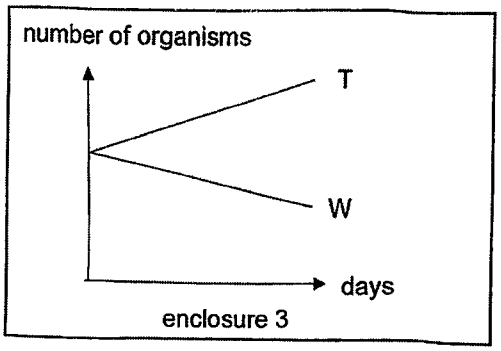
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17 Four different organisms T, U, V and W, belonging to the same food chain are grouped differently in three enclosures, 1, 2 and 3 as shown below. One of the organisms is a food producer in the food chain.

The graphs below show the changes in the number of organisms after a period of time. There were no dead organisms in the enclosures.





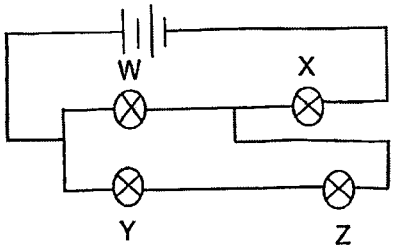


From the graphs, which one of the following is correct?

	Prey	Predator	Both a prey and a predator
(1)	U	T	W
(2)	U	V	T
(3)	V	T	W
(4)	V	W	U

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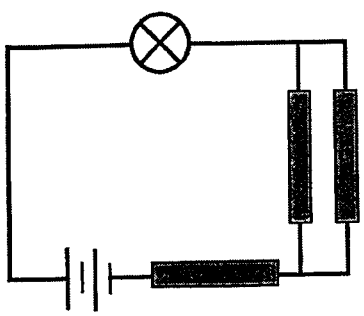
18 Study the circuit.



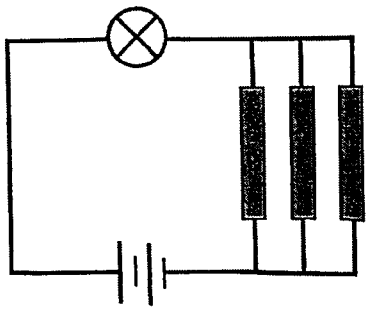
Which bulb when fused will allow the other three bulbs to remain lit?

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

19 Mikey arranged a copper rod, a glass rod and a wooden rod differently in each of the circuits, P and Q as shown below.



circuit P



circuit Q

In which of the above circuits would the bulb light up?

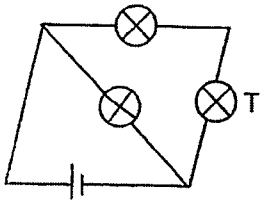
(1) P only
(2) Q only
(3) P and Q
(4) None of the circuits

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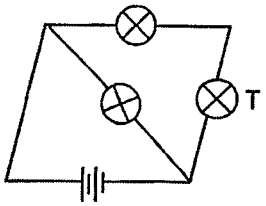
20 Jerry set up four different circuits using identical bulbs and batteries as shown.

In which circuit would bulb T be the brightest?

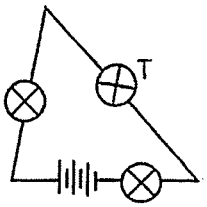
(1)



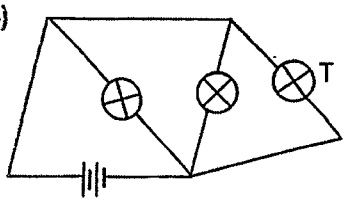
(2)



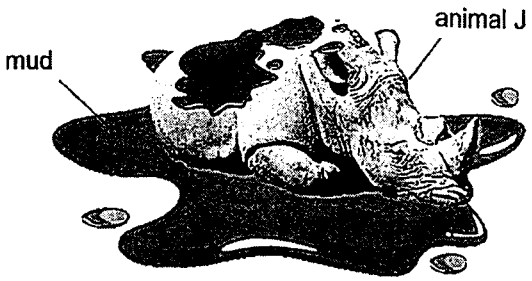
(3)



(4)



21 Animal J lives in a warm environment and it likes to cover itself with mud.



Which of the following explains how the mud helps animal J?

(1) Animal J loses heat to the mud faster.

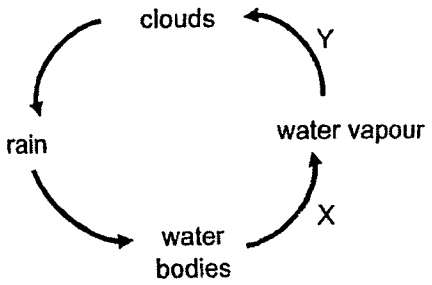
(2) Animal J gains heat from the mud slower.

(3) The mud loses heat to the surrounding air slower.

(4) The mud reduces heat loss from animal J to the air.

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22 The diagram below shows a water cycle. X and Y represent processes in the water cycle.



Which of the following statement is correct?

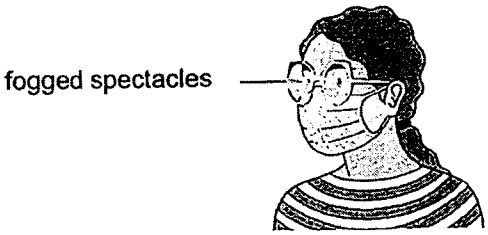
(1) X occurs at a fixed temperature.

(2) X occurs when water in water bodies loses heat.

(3) Y occurs when there is no temperature difference.

(4) Y occurs when water vapour loses heat to surrounding air.

23 Mrs Tan observes that her spectacles fog up when she wears her mask as shown.

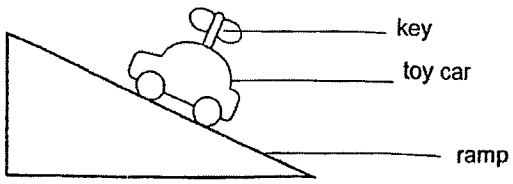


Which of the following correctly shows where the fogging up takes place and the source of water vapour that causes it?

	Fogging up takes place on the _____ surface of spectacles	**Source of water vapour**
(1)	inner	Mrs Tan's breath
(2)	outer	Mrs Tan's breath
(3)	inner	the surrounding air
(4)	outer	the surrounding air

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24 A toy car is stationary on a slope as shown below.



What force(s) is/are acting on the toy car when it is stationary on the slope?

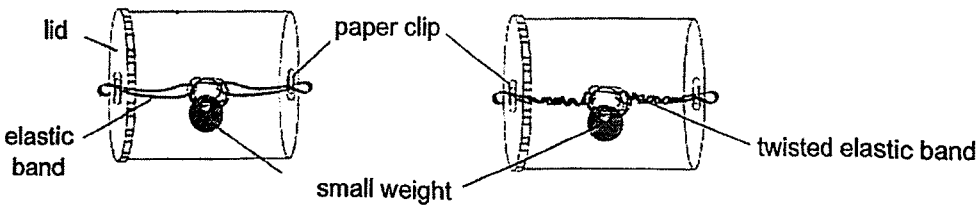
(1) frictional force only

(2) gravitational force only

(3) frictional force and gravitational force only

(4) frictional force, gravitational force and elastic spring force

25 Ahmad made a toy as shown in the diagram below. He placed the toy on a table to play with it.



After rolling the toy backwards and before releasing it

He has to first roll the toy backwards. After he releases the toy, it will move forward for a distance before rolling back to the player on its own again.

What force(s) is /are acting on the toy when it is rolling forward?

(1) Frictional force only

(2) Elastic spring force only

(3) Elastic spring force and gravitational force only

(4) Elastic spring force, gravitational force and frictional force

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26 Ravi placed a book on a wooden plank as shown in diagram 1. He raised the wooden plank till the book starts to slide down and then he measured the angle of plank as shown in diagram 2.

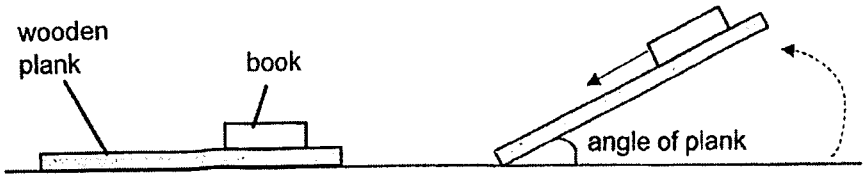


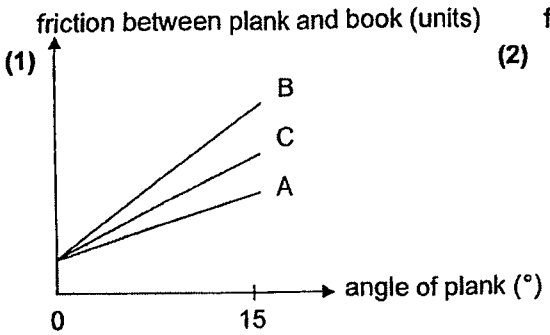
diagram 1 diagram 2

The table below shows the results for different types of wooden planks, A, B and C.

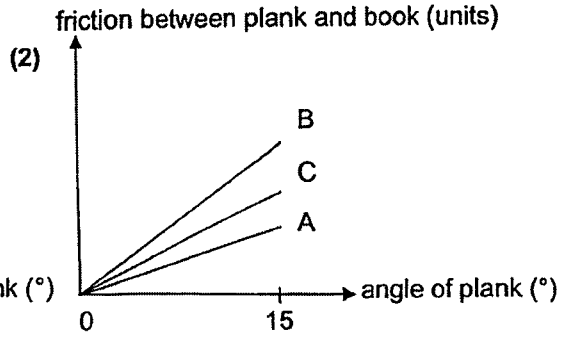
Wooden Plank	Angle of plank (°)
A	20
B	70
C	50

Which of the following correctly shows the relationship between the angle of plank and the amount of friction between the plank and the book?

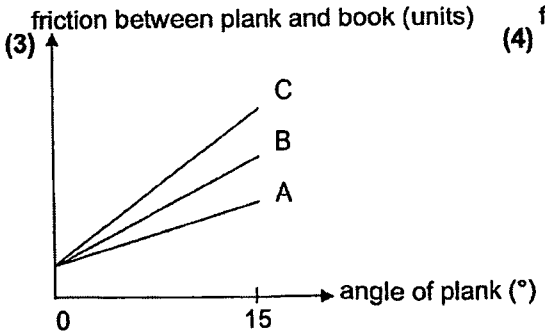
(1)



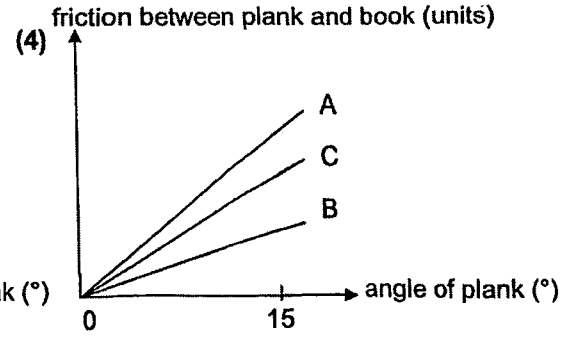
(2)



(3)

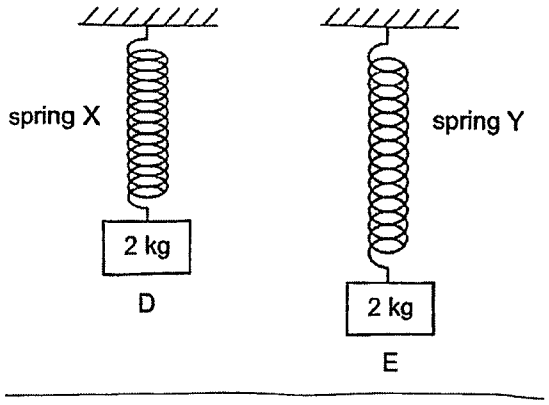


(4)



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27 Two objects, D and E, of 2 kg each, are hung on two springs, X and Y, as shown below.



Based on the diagram above, which of the statements is definitely true?

(1) There is more gravitational force acting on object E than object D.

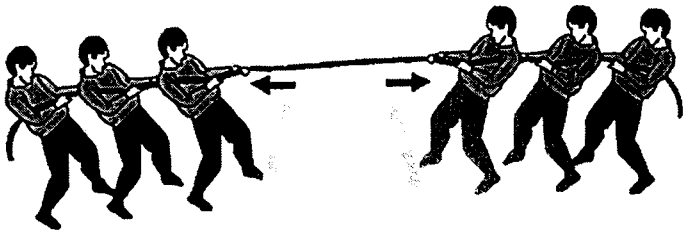
(2) There is more elastic spring force acting on object D than object E.

(3) Spring Y will not return to its original length when object E is removed.

(4) More force is needed to extend spring X to the same length as spring Y.

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28 Two groups of people were in a tug-of-war as shown below.



starting lines marked on the floor for each group

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

(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

Go to Booklet B

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Rosyth School
Term Assessment 2025 (Term 2)
SCIENCE
Primary 6

Name: _____ Total Marks: /44

Class: Pr 6-_____ Register No. _____

Date: 9 May 2025 Parent's Signature: _____

Duration: Total time for Booklets A and B: 1 h 45 min

Booklet B

Instructions to Pupils:

1. Please do not turn this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
5. Do not use correction fluid/tape or highlighters.

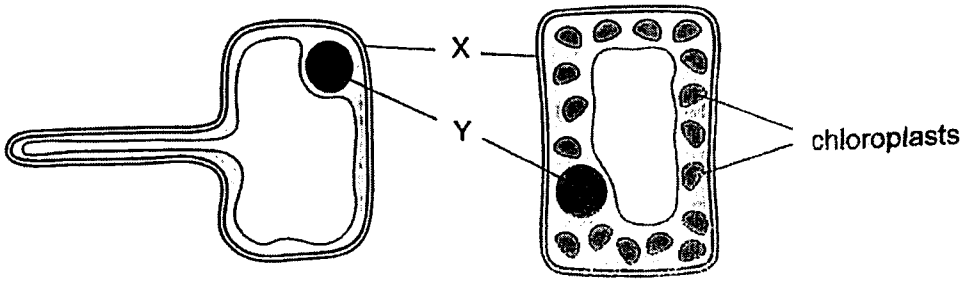
	Maximum	Marks Obtained
Booklet A	**56 marks**	
Booklet B	**44 marks**	
Total	**100 marks**	

* This booklet consists of 14 printed pages (including this cover page).

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For questions 29 to 40, write your answers in the space provided. **(44 Marks)**

29 The diagrams below show two plant cells found in different parts of the plant.



(a) Name the parts, X and Y. [2]

X: _____

Y: _____

(b) Which cell, A or B, is likely to be taken from the roots? Explain why. [1]

_____

_____

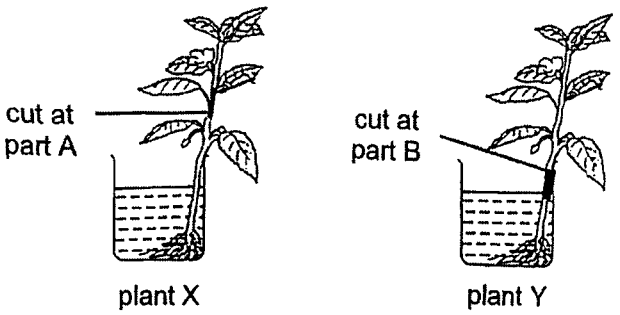
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30 Ron conducted an experiment with two similar plants, X and Y. He made a cut at part A and B to remove the food-carrying tubes from X and Y. Next, he placed them in beakers containing the same amount of water as shown below.



After three days, Ron recorded his observations of X and Y in the table below.

Plants	Observations made after three days
X	• The stem above and below the cut area is swollen.
	• The roots look healthy.
Y	• Only the stem above the cut area is swollen.
	• The roots look unhealthy.

(a) What is stored in the swollen part of the stem? [1]

_____

(b) Based on the observation in the table, explain why the roots of plant X remained healthy. [2]

_____

_____

_____

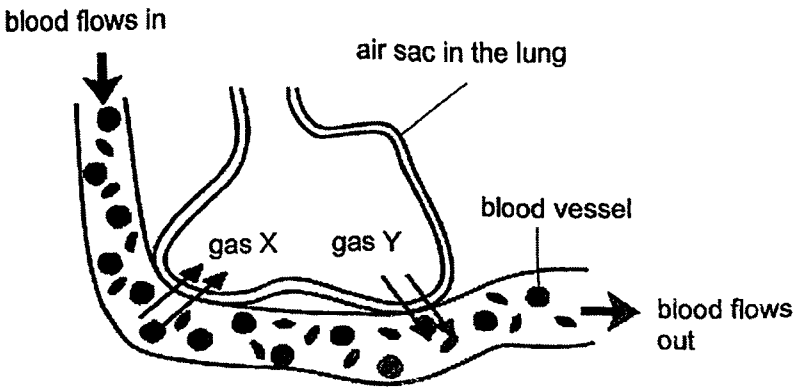
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31 The human lungs have many tiny air sacs to increase the efficiency of gaseous exchange. The diagram below shows the exchange of gases as blood flows through the blood vessel.



(a) Based on the diagram above, identify gases X and Y. [1]

Gas X: _____ Gas Y: _____

It is found that cigarette smoke damages the walls of the air sacs and thus reduces the number of air sacs. The table shows the average breathing rate of a smoker and a non-smoker and the average number of air sacs found in a part of their lungs respectively.

	Average breathing rate (breaths per min)	Average number of air sacs found in a part of the lung
Non-smoker	15	20
Smoker	25	3

(b) What is the relationship between the average number of air sacs in the lungs and the average breathing rate? [1]

_____

_____

(c) Explain why a smoker's breathing rate is higher than a non-smoker. [2]

_____

_____

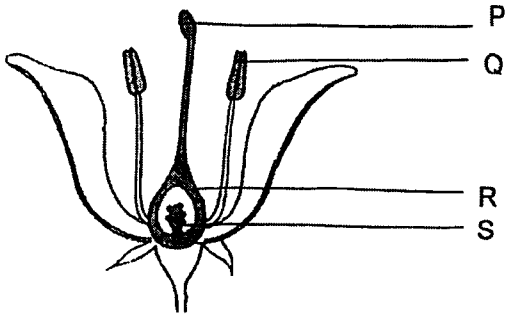
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32 The diagram below shows the plant reproductive system.



(a) State the function of part P. [1]

(b) Which part, Q, R or S, of the flower will develop into a fruit after fertilisation? State the function of a fruit. [1]

Scientists carried out an experiment with flowers from plant X and found out that within three minutes of exposure to the sound of bees, the flowers increased the amount of sugar in their nectar by twenty times.

(c) Explain how the above behaviour of the flowers can benefit plant X. [1]

When the above experiment was carried out, the scientists had two groups of flowers. One group was exposed to the sound of bees while the other was exposed to some other sound.

(d) Do you think it is necessary to expose one group to the sound of bees and the other group to another sound? Explain why. [1]

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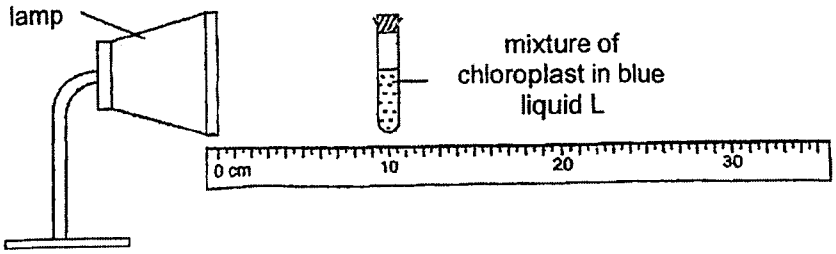
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33 Which of the following are needed for photosynthesis to take place? Tick (✓) the correct box. [2]

☐	Water	☐	Mineral salts
☐	Oxygen	☐	Light energy
☐	Carbon dioxide	☐	Chlorophyll

34 Jane had three tubes, S, T and U, containing equal amount of chloroplasts mixed in the same amount of blue liquid L. The blue mixture turns green after photosynthesis has taken place..

Jane placed tube S at a distance of 10 cm from the lamp.



She switched on the lamp and recorded the time taken for the mixture to turn green. She repeated the experiment with tubes T and U at various distances from the lamp as shown.

Tubes	Distance of the tube from the lamp (cm)	Time taken for mixture to turn green (s)
S	10	9
T	20	22
U	30	36

(a) State the aim of Jane's experiment. [1]

_____

_____

Question 34 is continued on the next page

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(b) As the distance of the tube from the lamp increases, the time taken for the mixture to turn green increases. Explain why. [2]

Jane repeated the experiment with a fourth tube W. W had more chloroplasts than S. She placed W at a distance of 10 cm from the lamp.

(c) Predict the time taken for the mixture to turn green. Explain your answer. [2]

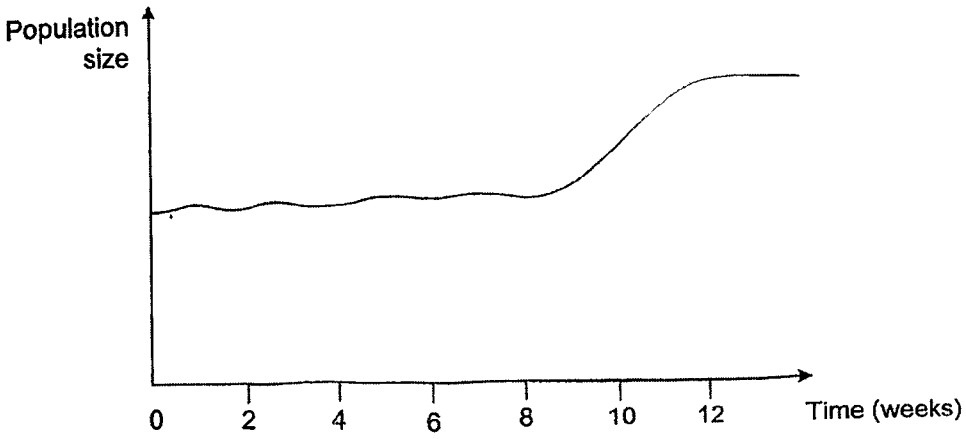
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35 The graph below shows the changes in the population size of plant P in a field.



(a) State two physical characteristics of the environment that can affect the population size of plants. [1]

_____

At week 8, there was an increase in the population of a certain type of bird.

(b) Suggest two reasons how this has affected the population size of plant P. [2]

Reason 1: _____

_____

Reason 2: _____

_____

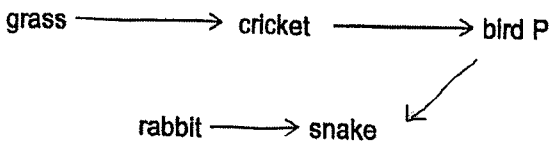
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36 Study the food web below.



(a) Identify one food chain from the above food web. [1]

(b) Explain why grass is important to all the organisms in the above food web. [2]

(c) A population of bird Q was introduced into the habitat. James said that due to this introduction, the bird P population will decrease while Kelvin said that bird P population will increase.

(i) Explain how it is possible for James to say that bird P population will decrease. [1]

(ii) Explain how it is possible for Kelvin to say that bird P population will increase. [1]

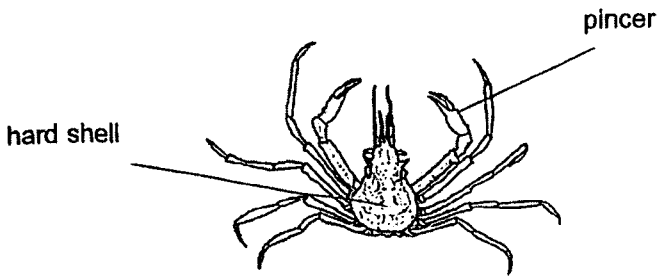
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37 Study the picture of animal X shown below.



(a) Animal X has a pair of pincers and a hard shell. Explain how these physical characteristics would benefit it. [2]

(i) pincers:

_____

_____

(ii) hard shell:

_____

_____

(b) Animal X 'decorates' itself in the sea using water plants as shown below.



Explain clearly how animal X protects itself by decorating itself with water plants. [1]

_____

_____

Question 36 is continued on the next page

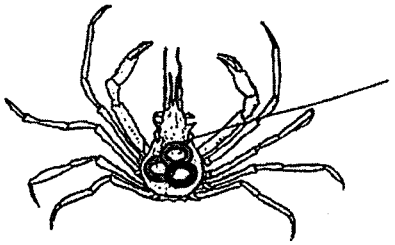
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(c) Animal Z is small and moves slowly from one place to another. It is hunted by different organisms for food. Animal Z is often found growing on animal X.



Explain why it is an advantage for animal Z to grow on animal X. [1]

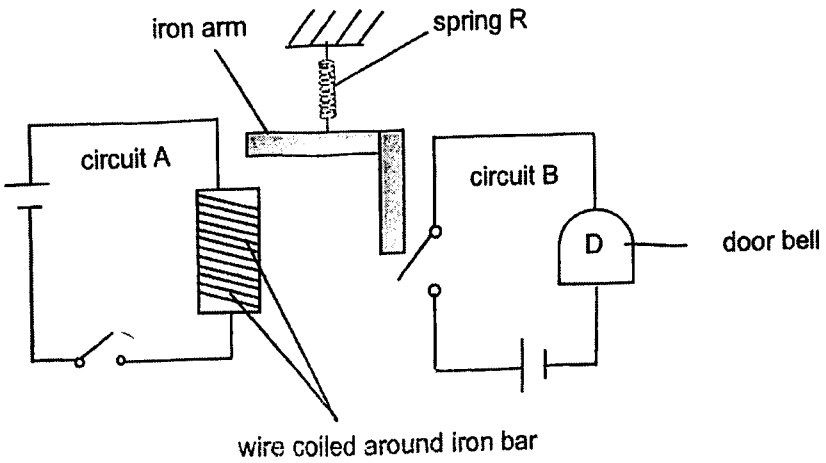
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38 Tom set up doorbell D using two circuits containing two switches as shown.



(a) Explain how the doorbell rang when Tom closed circuit A. [2]

Tom replaced spring R with spring S which is of the same length. He observed that the doorbell did not ring when circuit A was closed.

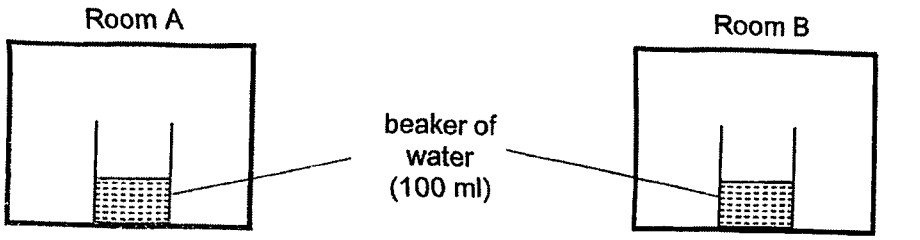
(b) Suggest a possible reason for his observation. [1]

(c) Without changing spring S, what can Tom do if he wants the doorbell to ring when circuit A is closed? [1]

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39 Jessy placed a beaker of water into two separate rooms. She filled each beaker with 100 ml of water.



Temperature of room = 18 °C

Temperature of room = 37 °C

Jessy measured the amount of water left in each beaker at the end of each day. She scribbled her results on two pieces of paper as shown below.

<u>Room A</u>
Day 1 – 95 ml
Day 2 – 90 ml
Day 3 – 87 ml

<u>Room B</u>
Day 1 – 80 ml
Day 2 – 75 ml
Day 3 – 70 ml

(a) Explain the difference in the amount of water left at the end of Day 3? [2]

Besides the starting volume of water used, suggest one other variable that should be kept constant for the experiment to be fair. [1]

(c) State one way that freezing and condensation are similar. [1]

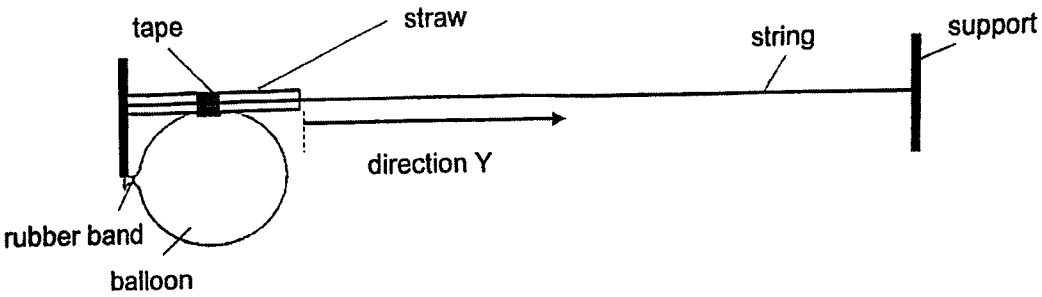
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40 A string is passed through a straw. A balloon is then taped firmly to the straw as shown below.



When the rubber band is removed, air rushed out of the balloon, producing a force that moved the straw with the balloon in direction Y by 100 cm.

Muthu prepared two similar set-ups. In the first set-up, he coated the string with substance T. He released the rubber band and measured the distance the straw moved for the two tries. He then repeated the experiment using substance V for the second set-up. The results are shown in the table below.

Substance coated on the string	Distance travelled by the straw (cm)	
	1st try	2nd try
T	154	140
V	160	161

(a) Based on the results above, explain how substance V has affected the distance travelled by the straw compared to substance T. [2]

(b) For substance T, the distance travelled by the straw was different for each try. What could he do to obtain a more reliable result? [1]

End of Paper

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SCHOOL : ROSYTH PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : SCIENCE
TERM : WA2 2025

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	1	3	4	3	1	1	1	3	3
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
4	3	2	2	4	2	3	1	2	4
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28		
1	4	1	3	4	2	4	3		

PAPER 2

Q29)	a)X: cell wall Y: nucleus b)A. The roots cannot make food by itself hence, does not need chloroplast which contain chlorophyll to trap light and make food and in A there is no chloroplast.
Q30)	a) food made by the leaves,sugar. b) In X, below the cut there was still leaves to make food and is able to transport it to the roots of X .
Q31)	a)Gas X: Carbon dioxide Gas Y: Oxygen b)As the average number of air sacs in the lugs increase, the average breathing rate decreases. c)The smoker's lungs will have less air sacs. Hence, less oxygen will be exchanged with carbon dioxide and the smoker have to breathe faster to obtain enough oxygen.
Q32)	a) To stick the pollen grains on it for pollination and fertilisation. b) R. It contains seeds so that when an animal east it, it will help to disperse the seed and ensure the continuity of its kind.

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	c) When X produces more sugar, it will attract more bees to suck nectar and while doing that, the bees will help to pollinate move the flower so fertilisation can also occur. d) Yes. By doing that the scientists can confirm whether is makes more sugar, when expose to sound of bees or it just produce more to any sound.
Q33)	Water , Carbon dioxide, Light energy, Chlorophyll
Q34)	a) To find out if the distance of the tube from the lamp affects the time taken for the mixture to turn green. b) When the distance increase, the light intensity will decrease, hence, less light is trapped for the plant to make food, causing the time taken for the mixture to turn green to increase. c) 5 S. In W there is more chloroplast, hence, when it is placed at the same distance as S, it will be able to trap more light causing the mixture to turn green faster.
Q35)	a) Temperature and amount water. b) Reason 1: the bird feeds on the consumer of P Reason 2: the birds droppings provide as nutrients for P.
Q36)	a) grass→cricket→bird P→snake b) The grass is directly and indirectly a food source to the organism. c) i)Bird Q feeds on bird P ii)Bird Q feeds on the snake less predators of P.
Q37)	a)i)It helps X to grab the prey easily. ii)Protects itself from predators. b)When X 'decorates' itself, X will camouflage with the surroundings and other animals will think that it is just a water plants protecting itself. c) Animal Z can move faster from one place to another and also feed on left over of X.
Q38)	a) When A was closed the iron bar, electricity can flow was magnetises into an electromagnet causing it to attract the iron arm and R extends, while doing that caused closed the other end of the arm strikes the switch of circuit B causing a closed circuit. b) Spring S was a stiffer spring than R so more force for the spring to stretch. c) Add more butteries.
Q39)	a)At the and of Day 3, more water vapourated in B than A, as the temperature in b was higher hence gaining more heat to evaporate faster, so there B less water left in the beaker. b)They size of the beaker. c)They both lose heat for it to occur.
Q40)	a) Substance V reduces more frictional force between the straw and the string that T causing the straw to travel a greater distance when V was used. b) Repeat the experiment a few more times and calculate it average.

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