Nan Hua Primary School
Primary 5 Science
Term 3 Weighted Assessment 2022

Marks	
Section A:	/10
Section B:	/10
Total:	/20

Name:_____ ( )

Class: Primary 5S _____

Date: _____

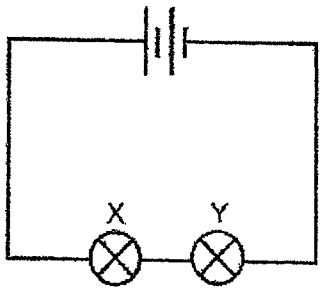
Duration: 30 minutes

Parent's Signature:

Answer all questions.

Section A: (5 x 2 marks = 10 marks)
For each question from 1 to 5, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and write your answer in the bracket provided.

1 The diagram below shows an electric circuit.



Which of the following action(s) will increase the brightness of bulb X?

A add a switch to the circuit
B add another bulb in series
C remove bulb Y from the circuit

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

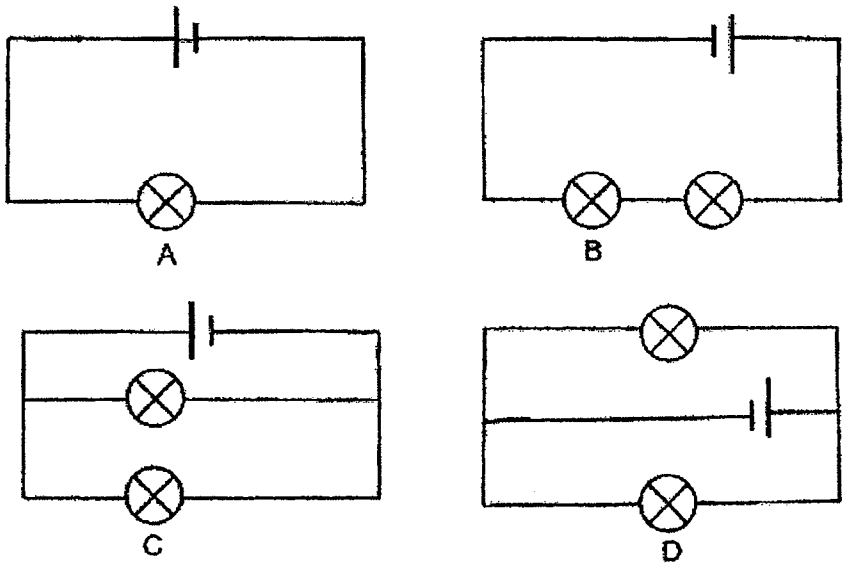
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2 Study the four circuits below. All the batteries and bulbs are identical. All the bulbs are lit.



Which of the following correctly compares the brightness of bulbs A, B, C and D?

(1) Bulb A is as bright as bulb B.
(2) Bulb A is as bright as bulb D.
(3) Bulb B is brighter than bulb C.
(4) Bulb C is dimmer than bulb D. ( )

3 Keith made four statements, W, X, Y and Z, about reproduction in plants.

W All plants reproduce from seeds.
X Reproduction ensures the continuity of their own kinds.
Y Fertilisation involves the fusion of the male and female reproductive cells.
Z Reproduction allows the passing on of characteristics from parent plants to their young.

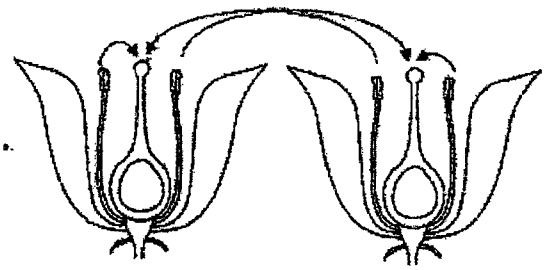
Which of the following statements are correct?

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

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4 The diagram below shows pollination taking place in flowers X and Y of plant M.



Flower X from plant M

Flower Y from plant M

Based on the diagram above, which of the following statement is correct?

(1) Pollination cannot take place within the same flower.
(2) Pollination is the transfer of ovules from the anther to the stigma.
(3) Pollination can take place between two flowers of the same plant.
(4) Pollination is the transfer of pollen grains from the stigma to the anther. ( )

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5 Diagram A below shows part of an island where three plants, Q, R and S are growing.

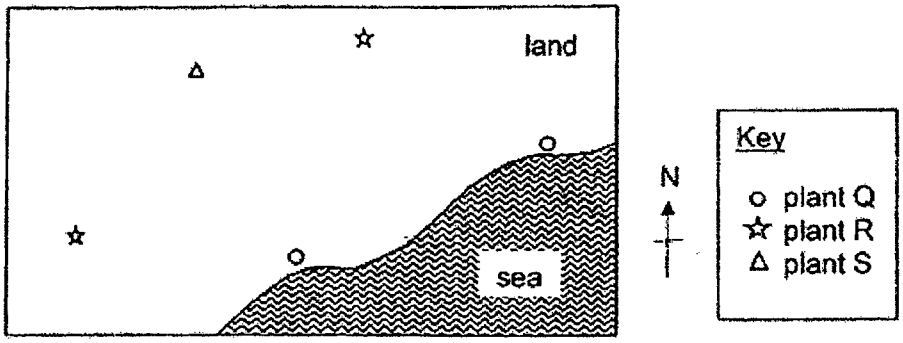


Diagram A

The wind direction is northwards throughout the year. Six months later, more of the three types of plants are found growing at different parts of the island as shown in Diagram B.

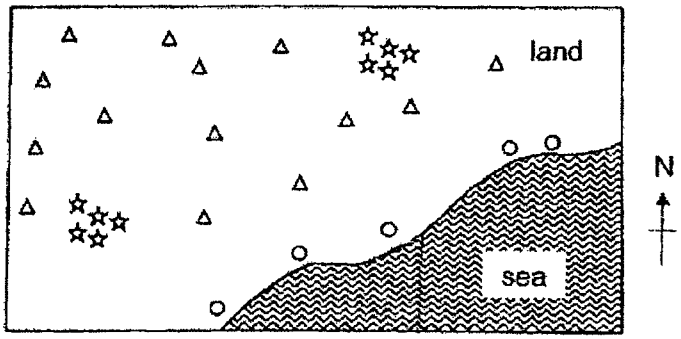


Diagram B

Based on the information given above, how are the fruits or seeds of plants Q, R and S most likely to be dispersed by?

	Q	R	S
(1)	wind	animals	water
(2)	water	splitting action	wind
(3)	splitting action	wind	water
(4)	water	splitting action	animals

( )

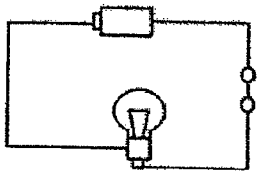
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Total marks for section A	/10

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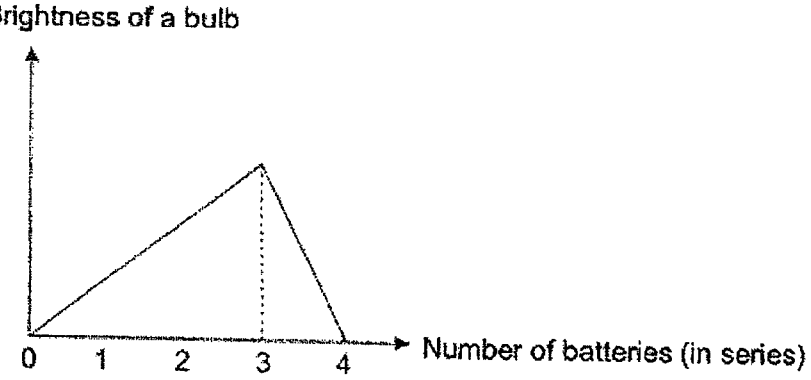
Section B: Structured questions (10m)
For questions 6 to 8, write your answers in the space provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

6 Mikkel set up an electric circuit as shown below. He measured the brightness of the bulb.



He repeated the experiment with different number of batteries arranged in series. All batteries and bulb used were in working condition.

The results of his experiment were recorded in the graph below.



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

(b) The bulb shone the brightest with three batteries. Explain what could have happened to the bulb when the fourth battery was added. [1]

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(c) In another experiment, Mikkel set up a different circuit using all of the components below:

- a battery
- some wires
- two switches (S1 and S2)
- three identical bulbs (A, B and C)

He then recorded which bulb(s) lit up and their brightness in the table below.

Switches	Bulbs that lit up	Brightness of bulb (units)
S1 open S2 close	C	10 units
S1 close S2 open	A and C	10 units each
S1 close S2 close	A, B and C	10 units each

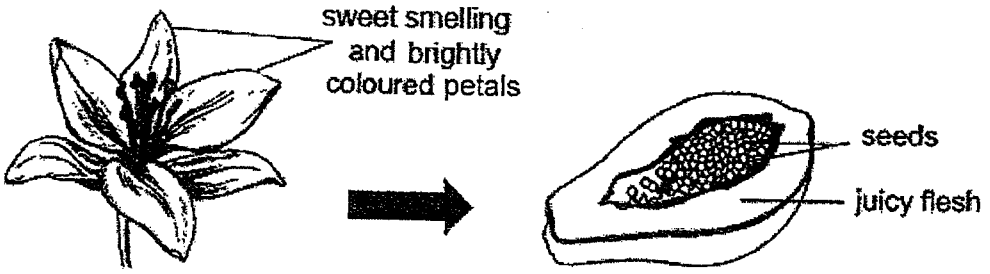
In the box below, draw a **circuit diagram** to represent the circuit that Mikkel had constructed. Label the bulbs, A, B and C and switches S1 and S2 in your drawing clearly. [2]

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Score	
	4

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7 The diagrams below show the flower and fruit of plant Z.



flower of plant Z

fruit of plant Z

(a) Fill in the blank below. [1]

The flower of plant Z is most likely to be pollinated by _____.

(b) Based on the diagrams above, put a tick (✓) in the box beside each of the following statements to indicate if it is 'True', 'False' or 'Not possible to tell". [2]

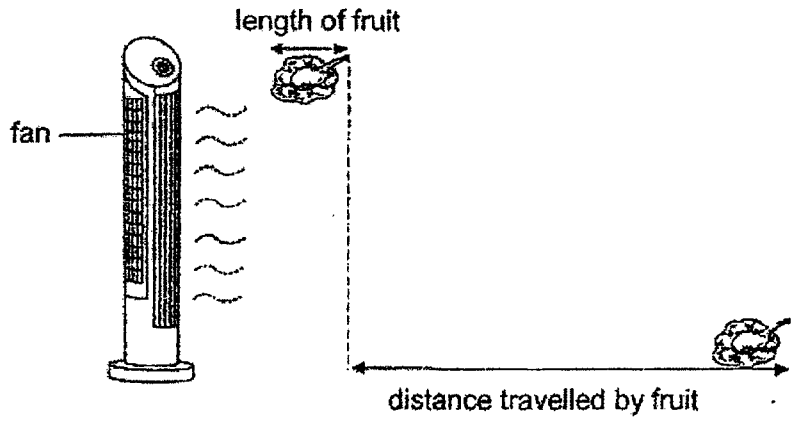
Statements	True	False	Not possible to tell
(i) The seeds are most likely to be dispersed by animals.			
(ii) The flower's ovary contains many ovules.			

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Score	
	3

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8 Zoe conducted an experiment to find out if the length of a fruit could affect the distance it travelled when blown by the wind as shown below.



She dropped four similar fruits of different lengths from a fixed height and measured the distance each fruit travelled. She recorded her results in the table below.

Fruit	Length of fruit (cm)	Fan speed	Distance travelled by fruit (cm)
E	5	slow	20
F	6	slow	30
G	7	slow	50
H	4	fast	20

(a) Based on the results of fruits, E, F and G, what is the relationship between the length of a fruit and the distance it travelled when blown by the wind? [1]

(b) Explain why the experiment is no longer a fair test when Zoe increased the fan speed with fruit H. [1]

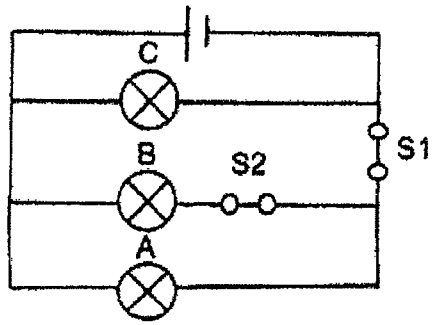
(c) Explain why fruit G will most likely grow into a healthier plant compared to fruit E if both were dispersed by the same parent plant in the wild. [1]

Score	
	3

~ End of paper ~

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2022 P5 Term 3 Sci WA – Pupils' answer sheet

1	2
2	2
3	3
4	3
5	4
6a	To find out if the number of batteries **arranged in series** affects the brightness of a bulb.
b	When the fourth battery was added, **too much electric current flowed through the bulb / circuit** and caused the **bulb to fuse.**
c	
7a	Animals / insects / birds
bi **bii**	True True
8a	As the **length of the fruit increases / decreases**, the **distance it travelled** when blown by the wind **increases / decreases.**
b	By **introducing** fan speed as **another changed / independent variable,** it will no longer be a fair test, since the **increased / different fan speed will also affect the distance travelled by the fruit.**

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	Or By **introducing** fan speed as **another changed / independent variable,** it will no longer be a fair test, since Zoe **will not be sure if the distance travelled by the fruit is affected by the length of the fruit only.**
c	Fruit G is **dispersed further** than fruit E. This **reduces seedling G's competition for sunlight / light, space, water and minerals /nutrients** with its parent plant and other new seedlings.

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