PEI HWA PRESBYTERIAN PRIMARY SCHOOL
Weighted Assessment 1

PRIMARY 4
SCIENCE

Name: _____ ( )

Class: Teamwork _____

Parent's Signature

Total time for paper: Max 50 min

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers on the Optical Answer Sheet (OAS) provided.
6. Write all your answers in this booklet.

Marks (Booklet A) :	10
Marks (Booklet B) :	10
Total Marks (Booklets A & B) :	20

This booklet consists of 11 printed pages, excluding the cover page.

For each question from 1 to 10, four options are given. One of them is the correct answer. Make your choice and shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.
(10 marks)

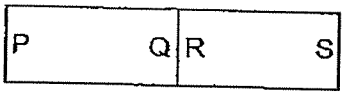
1 Study the classification table below.

Items made of magnetic materials	Items made of non- magnetic materials
iron rod	plastic spoon
copper wire	wooden chopsticks
steel clip	aluminium tray

Which of the above items is placed in the wrong group?

(1) iron rod
(2) copper wire
(3) plastic spoon
(4) aluminum tray

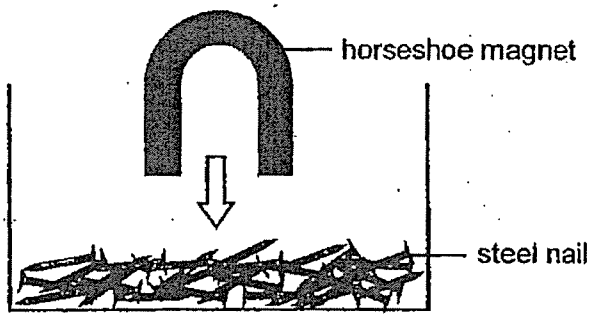
2 The diagram below shows the interaction between two bar magnets.



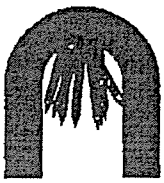
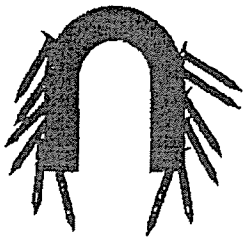
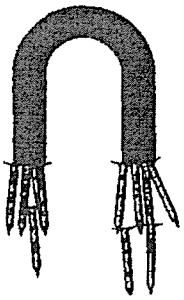
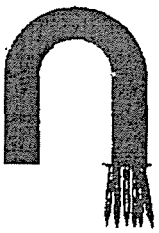
Which of the statements is true?

(1) P will attract R.
(2) P will attract S.
(3) Q and R are like poles.
(4) Q and S are unlike poles.

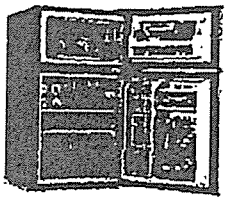
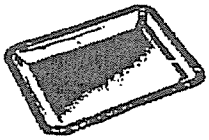
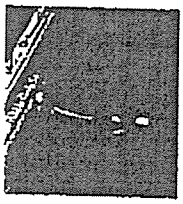
3 Ayden lowered a horseshoe magnet into a tank of steel nails as shown below.



Which of the following would Ayden most likely observe when he pulled the magnet out from the tank?

(1)		(2)	
(3)		(4)	

4 Which of the following objects make use of magnets to function?

			
refrigerator	food tray	door stopper	stapler

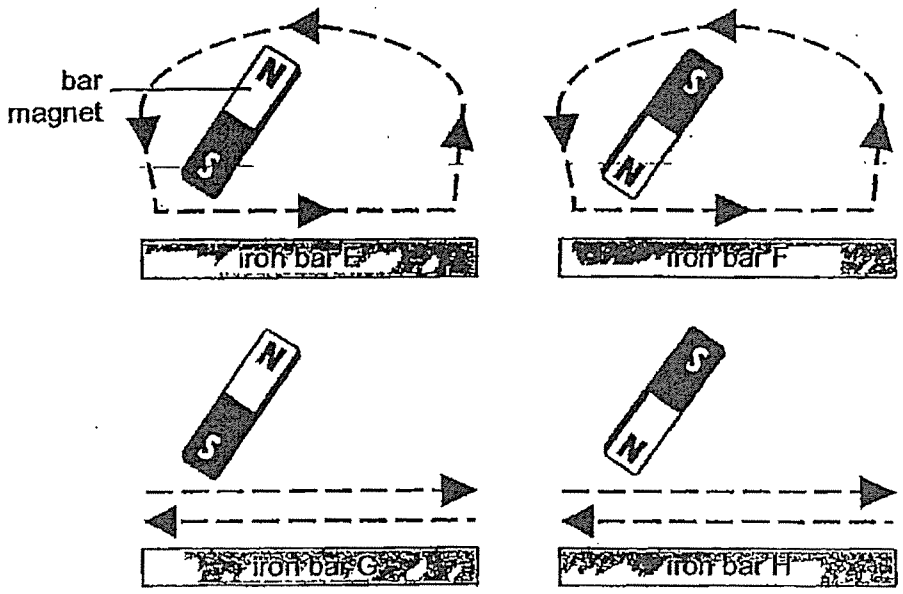
(1) food tray and stapler

(2) door stopper and stapler

(3) refrigerator and food tray

(4) refrigerator and door stopper

5 Devi tried to magnetise 4 iron bars using the stroke method as shown in the diagram below.



Which two iron bars will most likely repel each other?

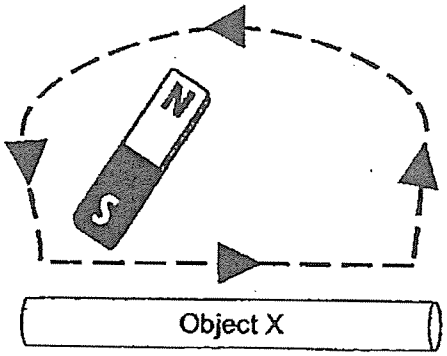
(1) E and F

(2) E and G

(3) F and H

(4) G and H

6 Object X was able to only attract iron filings after one end of a bar magnet was used to stroke Object X a few times.



Which of the following statements is true?

(1) Object X is a magnetic material.

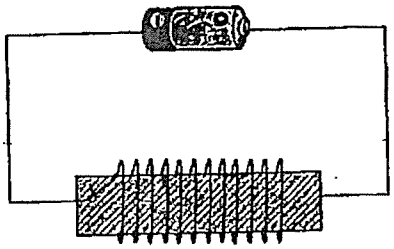
(2) Object X is a permanent magnet.

(3) The bar magnet became non-magnetic after it was used to stroke Object X.

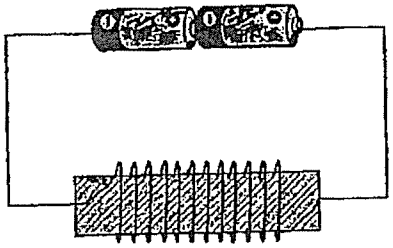
(4) Lesser amount of iron filings was attracted by Object X as the number of strokes increases.

7 Which electromagnet in the set-ups below will have the greatest magnetic strength?

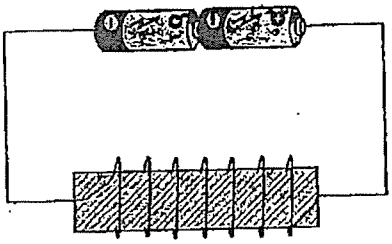
(1)



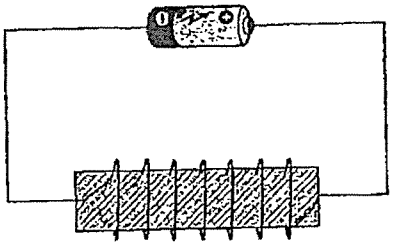
(2)



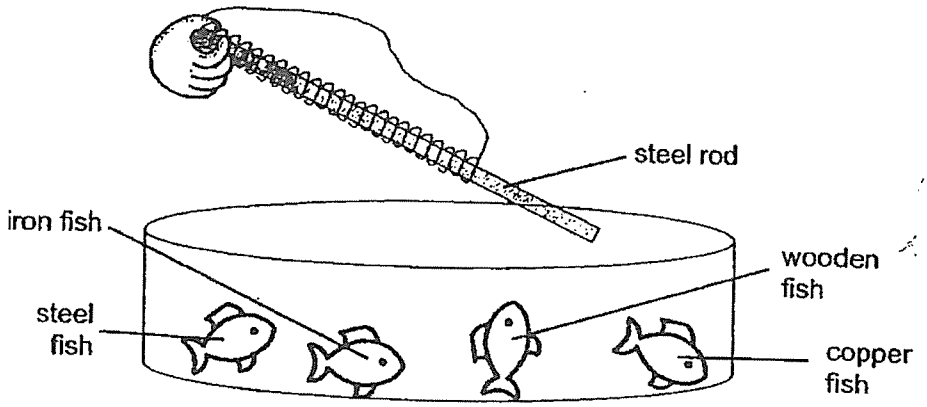
(3)



(4)



8 Jeremy wanted to make a fishing rod to pick up his toy fish using magnetism. At first, the steel rod was unable to pick up any toy. He then coiled the steel rod with only a wire and tried to use one end of the rod to pick up the toy fish.



How many toy fish could be picked up?

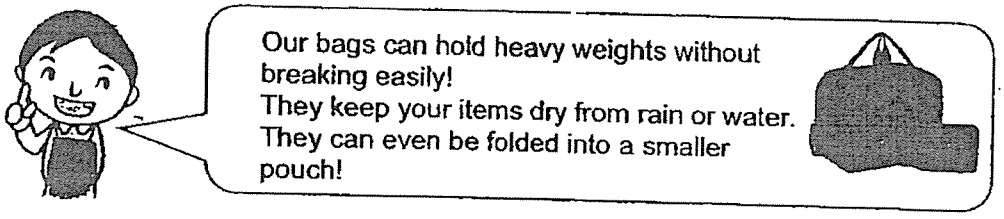
(1) 1

(2) 2

(3) 3

(4) 0

9



Based on the description above, the material used to make the bag is _____.

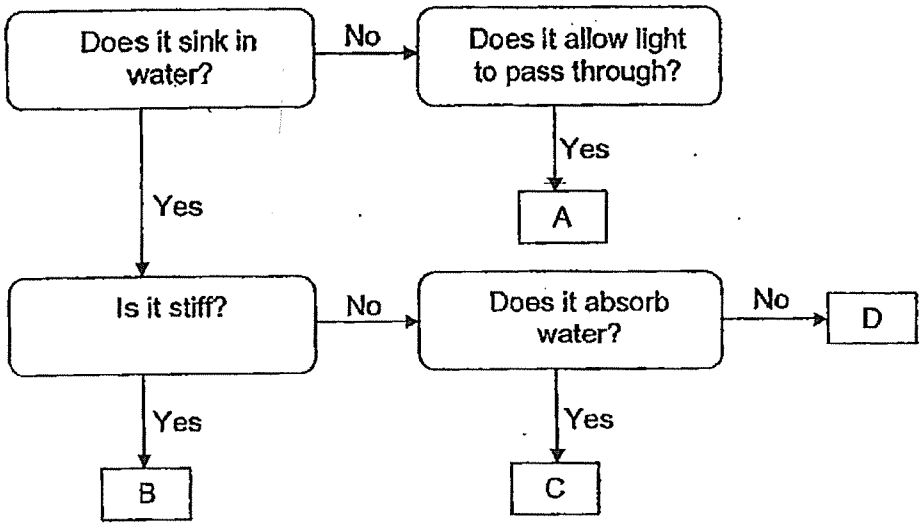
(1) waterproof, strong and flexible

(2) transparent, waterproof and strong

(3) able to float in water, strong and flexible

(4) able to float in water, waterproof and transparent

10 The flowchart below shows the properties of materials A, B, C and D.



Which material is best to make a table mat to keep the surface of the table dry?

(1) A

(2) B

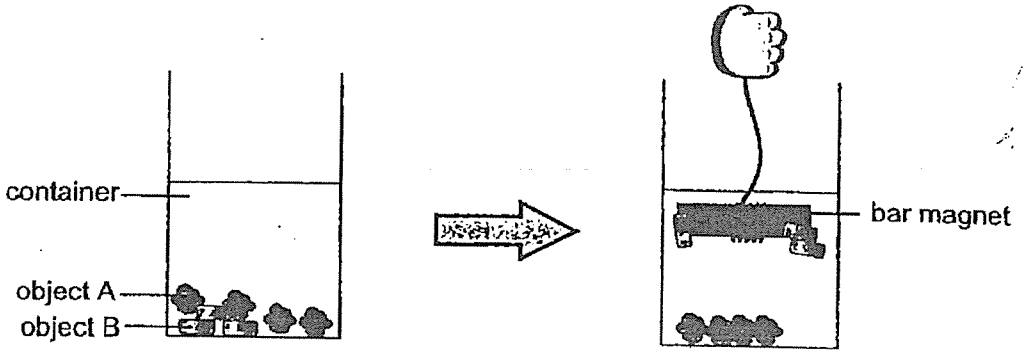
(3) C

(4) D

Write your answers to the questions 11 to 13 in the spaces provided.
The number of marks available is shown in brackets [ ] at the end of each question or part question.
(10 marks)

11 Ethan accidentally dropped some unknown objects A and B into a container. He tried to use a bar magnet to remove the objects out of the tank.

He observed the following:



(a) Put a tick (✓) to show if the statements are true or false. [2]

Statement	True	False
Object A is made of a non-magnetic material.		
Object A will repel one another.		
The bar magnet attracted object B.		
The bar magnet will point in the North-West direction when it is freely suspended.		

(b) Can Object B be made into a temporary magnet?
Give a reason for your answer. [2]

_____

_____

12 Ada used a bar magnet to attract some steel screws. She then heated the bar magnet over a candle for 15 minutes. She recorded the number of steel screws that dropped from the bar magnet.

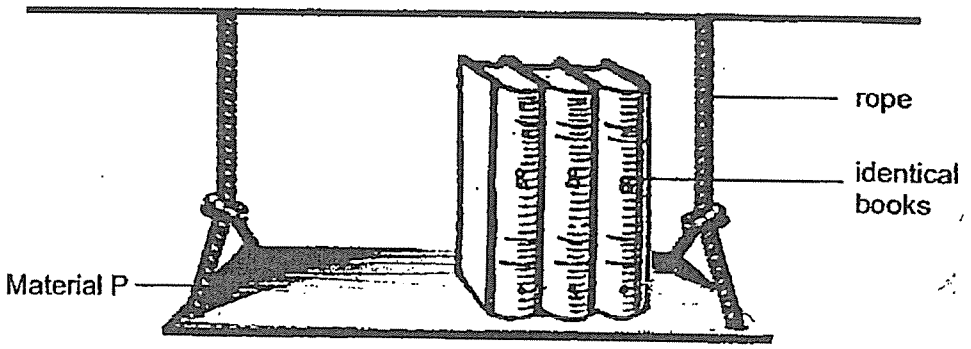
Amount of time bar magnet was heated (mins)	Number of steel screws dropped from the bar magnet
0	0
5	6
10	?
15	11

(a) Give a possible number of steel screws dropped after the bar magnet was heated for 10 minutes. [1]

(b) Based on the results, what can Ada conclude about the relationship between the amount of time the bar magnet was heated and the number of steel screws dropped? [1]

(c) Describe how Ada can make the steel screw a temporary magnet using the stroke method. [1]

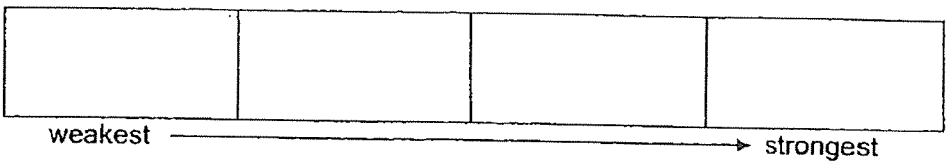
13 Jake wanted to find out the strength of four Materials, P, Q, R and S. He hung Material P by the two ends with ropes and placed identical books onto it until it broke.



He then repeated the experiment with Materials Q, R and S and recorded his observations in the table below.

Material	P	Q	R	S
Maximum number of books to break the material	22	18	5	11

(a) Arrange the materials according to their strength, from the weakest to the strongest. [1]



(b) Which material will be most suitable to make a bookshelf? Give a reason for your choice. [2]

_____

_____

- End of paper -

PEI HWA PRESBYTERIAN PRIMARY SCHOOL
Weighted Assessment 2

PRIMARY 4
SCIENCE

Name: _____ ( )

Class: Teamwork _____

Parent's Signature

Total time for paper: Max 50 min

INSTRUCTIONS TO CANDIDATES

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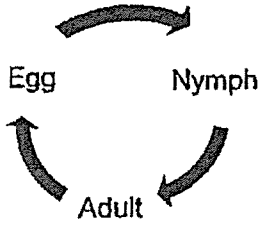
Marks (Booklet A) :	15
Marks (Booklet B) :	15
Total Marks (Booklets A & B) :	30

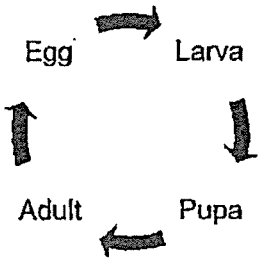
This booklet consists of 14 printed pages, excluding the cover page.

For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice and shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.
(15 marks)

1 Study the life cycles of Animals X and Y.



Animal X



Animal Y

Which of the following statements about the life cycles of Animals X and Y are correct?

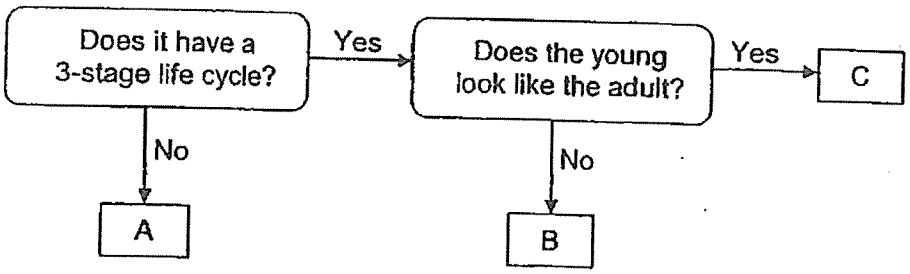
A The young of Animal X looks like the adult.
B The pupa of Animal Y does not look like the adult.
C The life cycles of both animals end at the adult stage.
D Animals X and Y go through the same stages in their life cycles.

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

2 The dragonfly nymph goes through a process known as moulting.
Which of the following statements about this process is **not** correct?

(1) It moults more than once.
(2) It moults to become a pupa.
(3) It moults so that it can grow bigger.
(4) It grows a new outer covering after moulting.

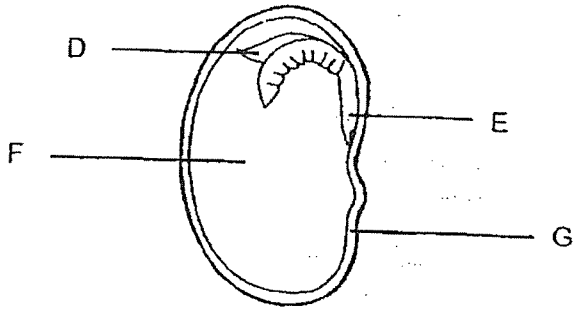
3 Study the flowchart below.



Which of the following correctly identifies Animals A, B and C?

	Animal A	Animal B	Animal C
(1)	frog	chicken	mealworm beetle
(2)	mealworm beetle	human	chicken
(3)	butterfly	frog	grasshopper
(4)	grasshopper	chicken	human

4 The diagram below shows a seed with the parts D, E, F and G labelled.

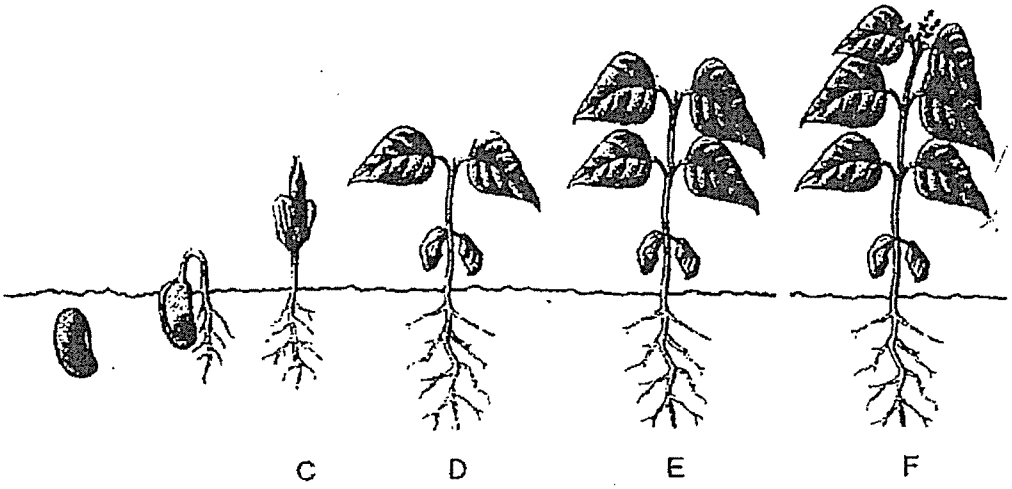


Which part(s) of the seed is a source of food for the baby plant?

(1) D only
(2) D and E only
(3) F only
(4) F and G only

5 Microgreens are young edible plants that are very nutritious. They are removed from the soil when the first pair of leaves emerge.

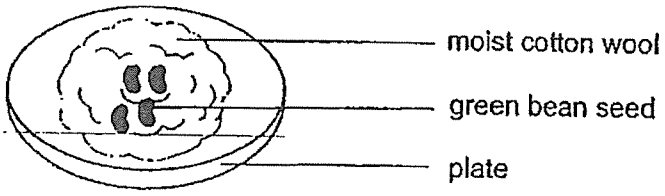
The diagram shows the stages of growth of a microgreen.



At which stage should the microgreen be removed from the soil?

(1) C
(2) D
(3) E
(4) F

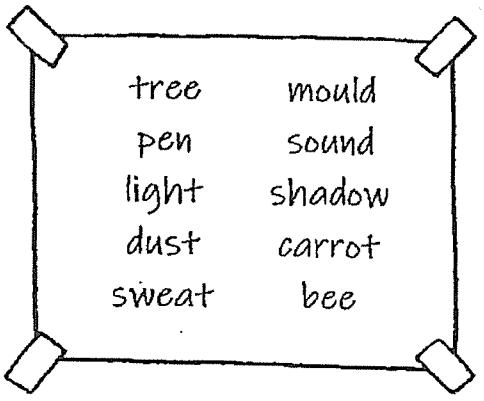
6 Keith wanted to find out if warmth is required for seeds to grow. He prepared the first set-up as shown below and placed it on a table next to window.



Which of the following should Keith use as the second set-up to conduct a fair experiment?

	Number of seeds	Type of seeds	Cotton wool	Location of plate
(1)	4	Green bean	Moist	In a freezer
(2)	4	Red bean	Dry	Next to window
(3)	5	Red bean	Moist	In a freezer
(4)	5	Green bean	Dry	Next to window

7 Shanice wrote a list of matter on a piece of paper.



How many mistakes did she make?

(1) 5

(2) 6

(3) 3

(4) 4

8 Avalynn classifies 6 items into 2 groups as shown below.

Group X	Group Y
Mug	Cooking oil
Pencil	Hot tea
Handphone	Shampoo

How are the items in Groups X and Y classified?

	Group X	Group Y
(1)	Occupies space	Does not occupy space
(2)	Have definite shape	No definite shape
(3)	Have definite volume	No definite volume
(4)	Cannot be compressed	Can be compressed

9 The diagram below shows Objects R, S and T.

R S T

Based on the diagram above, which the following is true?

(1) Object S has no definite shape.

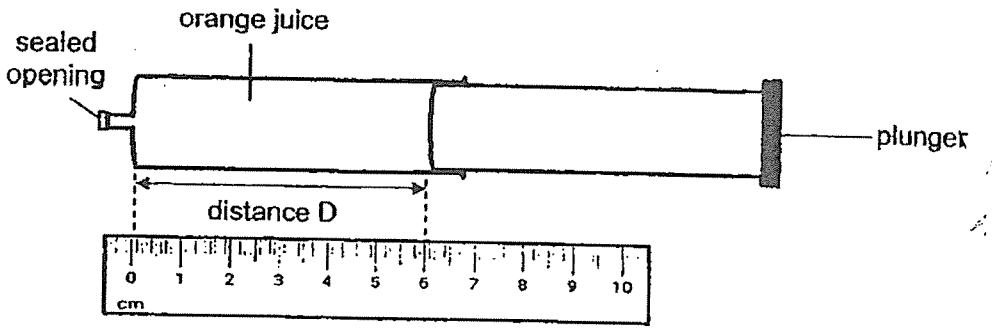
(2) Object R has no definite volume.

(3) Object T occupies less space than Object S.

(4) Object S can be compressed more than object T.

10 Benjamin added some orange juice to a sealed syringe. He then pushed the plunger as hard as he could.

The diagram below shows distance D after the plunger was pushed.



He repeated the experiment with another identical syringe that was empty.

Which one of the following shows the correct values of distance D for both experiments?

	Syringe with orange juice (D/cm)	Empty Syringe (D/cm)
(1)	4	0
(2)	4	2
(3)	6	0
(4)	6	2

11 What is a common characteristic of birds and insects?

(1) Both lay eggs.

(2) Both have hair.

(3) Both have 3 pairs of legs.

(4) Both breathe through lungs.

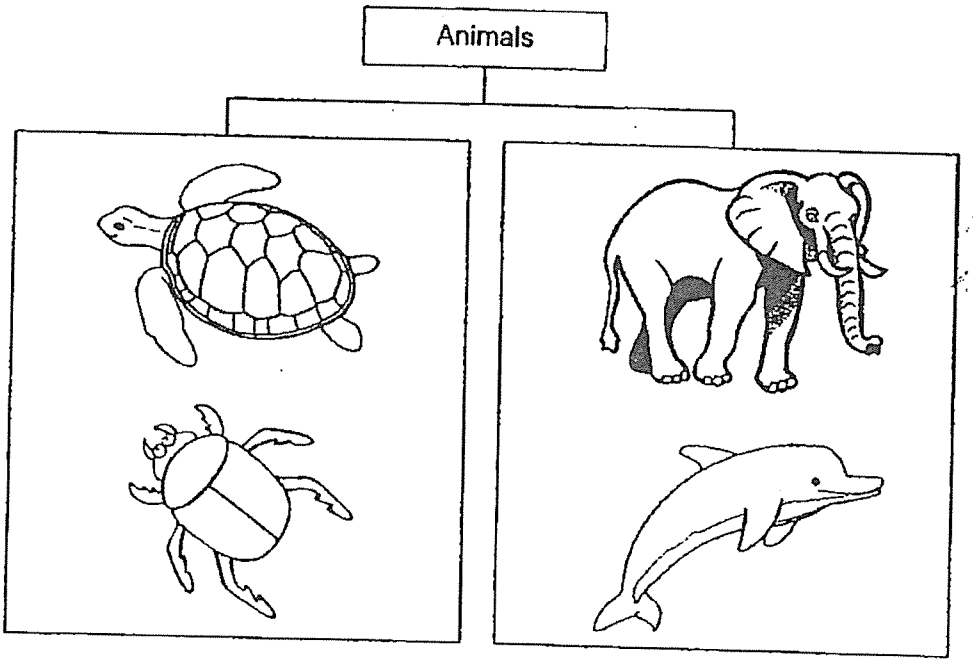
12 Xuan Yi recorded the characteristics of two animals at the zoo in the table below.

Characteristics	Animal A	Animal B
Can fly	√	
Lays egg		√
Has hair on its body	√	
Breathes through moist skin		√

Which animal group does Animals A and B most likely belong to?

	Animal A	Animal B
(1)	bird	reptile
(2)	fish	amphibian
(3)	mammal	reptile
(4)	mammal	amphibian

13 Study the classification chart below.



The animals are classified according to _____.

(1) where they live

(2) the way they move

(3) the way they reproduce

(4) the type of outer covering they have

14 Which of the following is **not** a function of the stem of a plant?

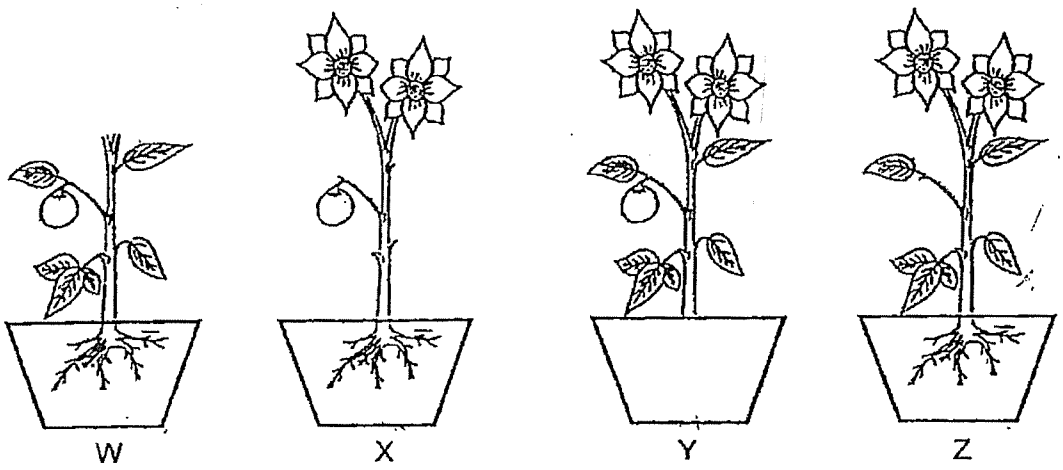
(1) It helps to take in water.

(2) It helps to support the plant.

(3) It helps the plant to grow upright.

(4) It helps to transport water to all parts of the plant.

15 The diagram below shows 4 similar plants, W, X, Y and Z. Different plant parts were removed from the plants. All the plants received the same amount of water daily and were placed at the same location.



Which plant(s) will not be able to survive?

(1) X only

(2) X and Y only

(3) W, X and Y only

(4) All of the plants

Write your answers to the questions 16 to 20 in the spaces provided.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

(15 marks)

16 A project was carried out in Town B to control the population of *Aedes* mosquitoes to reduce dengue cases.

It involves infecting male *Aedes* mosquitoes (which do not bite humans) with a type of bacteria before releasing them in Town B. When the infected male mosquitoes mate with the female *Aedes* mosquitoes, the eggs that were laid will not be able to hatch.

(a) Put a tick (✓) to show if the statements are true or false. [2]

Statement	True	False
The more the number of infected female adult mosquitoes, the more the number of eggs hatched.		
The number of mosquito pupae in Town B will decrease over time.		
It will take a longer time for the eggs laid by the infected female adult mosquitoes to turn into larvae.		
Killing the infected male *Aedes* mosquitoes can reduce dengue cases.		

(b) Suggest one way to prevent breeding of mosquitoes at home. [1]

_____

_____

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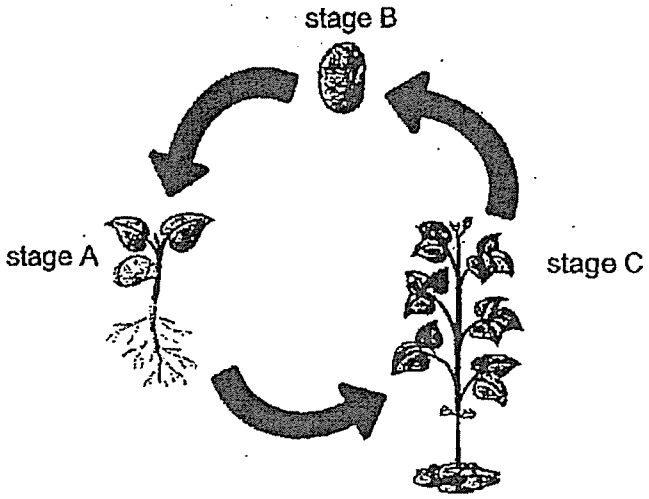
17 The diagram below shows the life cycle of a flowering plant P.



(a) At which stage can Plant P start to make its own food?
Give a reason for your choice. [2]

_____

_____

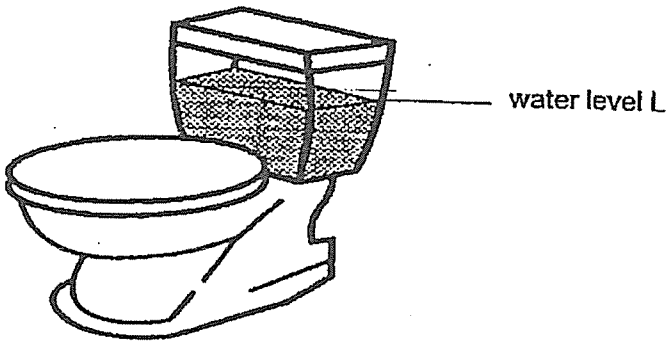
(b) State one difference between Plant P in stage A and stage C. [1]

_____

_____

(Go on to next page)

18 Trina wanted to reduce the amount of water used to flush her toilet bowl. She noticed the water in the tank of the toilet bowl would refill each time she flushed, till the water reached the level marked L as shown in the diagram below.



Trina took a bottle with a volume of 500 mℓ and filled up with sand. She then placed the sealed bottle into the tank and it sank all the way to the bottom.

(a) Using the method above, what is the amount of water she saved each time she flushes the toilet bowl? [1]

_____

(b) Which property of solids was Trina's method based on? [1]

_____

_____

Trina poured away 100 mℓ of sand and pumped in 200 mℓ of air into the bottle.

(c) What is the volume of the air in the bottle now? [1]

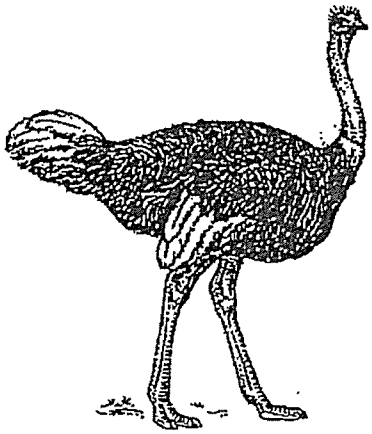
_____

(d) Which property of gases does this experiment show? [1]

_____

(Go on to next page)

19 Study the two animals shown below.



Animal A

Animal B

(a) Based on the characteristics of the animal groups, state one similarity between Animal A and Animal B. [1]

_____

(b) Which animal group do Animals A and B belong to? Give a reason for your choice. [2]

Animal A

Animal Group: _____

Reason: _____

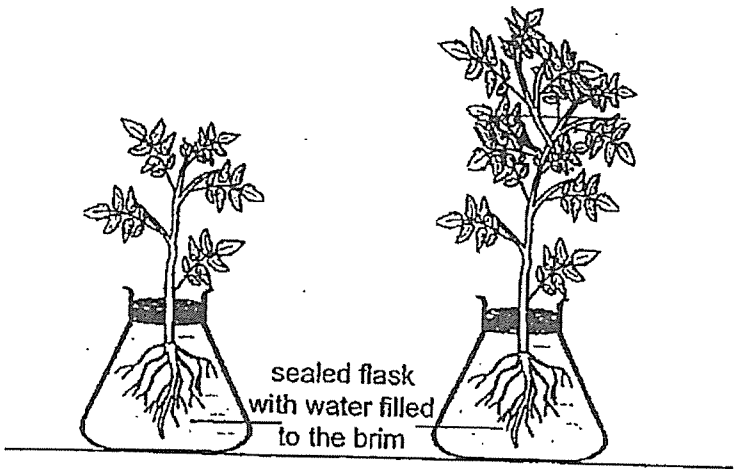
Animal B

Animal Group: _____

Reason: _____

(Go on to next page)

20 Zachary wanted to find out if the size of a plant will affect the amount of water it takes up. He placed two plants of the same type each in a flask and filled up the flasks with water before sealing them. The set-up is as shown below.



Tick (√) the variable(s) that must be kept the same and the variable(s) that must be changed in the table below to ensure that the experiment is a fair one. [2]

Variable	To be kept the same	To be changed
Location of plants		
Size of the plants		
Duration of experiment		
Amount of water at the start of the experiment		

- End of paper -

SCHOOL : PEI HUA PRESBYTERIAN PRIMARY SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2023 WA1

SECTION A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	2	3	4	1	1	2	4	1	3

SECTION B

Q11)

a)

Statement	True	False
Object A is made of a non-magnetic material.	tick	
Object A will repel one another		tick
The bar magnet attracted object B	tick	
The bar magnet will point in the North-West direction when it is freely suspended		tick

b) Yes. Object B is a magnetic material hence it can be made into a temporary magnet

Q12)

a) 9 steel screws

b) The longer the bar magnet was heated, the more the steel screws will drop

c) She can stroke the steel screws in the same direction multiple times using the same pole of the magnet

Q13)

a) R, S, Q, P

b) Material P. It is the strongest and hence most suitable to make a bookshelf

SCHOOL : PEI HUA PRESBYTERIAN PRIMARY SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2023 WA2

SECTION A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	2	3	3	2	1	3	2	3	4
Q 11	Q12	Q13	Q14	Q15					
1	4	3	1	2					

SECTION B

Q16)

a)

True	False
	✓
✓	
	✓
	✓

b) Cover the bamboo pole holder when not in use

Q17)

a) Stage A as it has already grown its first leaves

b) The plant in stage A cannot reproduced while plant in stage C can

Q18)

a) 500ml

b) Solids

c) 100ml

d) Gas can be compressed

Q19)

a) Both animals have wings

b) Animal A: Birds, it has feathers as its outer covering
Animal B: Mammals, it has hair as its outer covering

Q20)

Variable	To be kept the same	To be changed
Location of plants	✓	
Size of the pl ant		✓
Duration of experiment	✓	
Amount of water at the start of the experiment	✓	