6

METHODIST GIRLS' SCHOOL
Founded in 1887

END-OF-YEAR EXAMINATION 2023
PRIMARY 3
SCIENCE

BOOKLET A

Total Time for Booklets A and B: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____ ( )

Class: Primary 3._____

Date : 26 October 2023

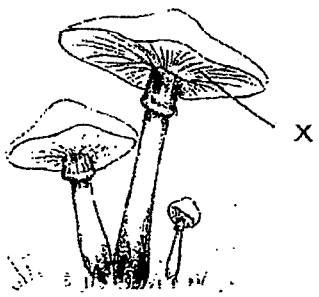
This booklet consists of 16 printed pages including this page.

For each question from 1 to 23, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet (OAS). [46 marks]

1 Which of the following observations is correctly matched to the characteristic of living things?

	Observation	Characteristic
(1)	A frog lays eggs.	Living things grow.
(2)	A caterpillar changes into a butterfly.	Living things need air, food and water.
(3)	A bird has many feathers.	Living things reproduce.
(4)	A plant grows towards sunlight when placed near the window.	Living things respond to changes.

2 The diagram below shows Organism A.



X is found in the gills of Organism A. What is the function of X?
It helps Organism A to _____.

(1) reproduce
(2) make food
(3) grow bigger
(4) take in water

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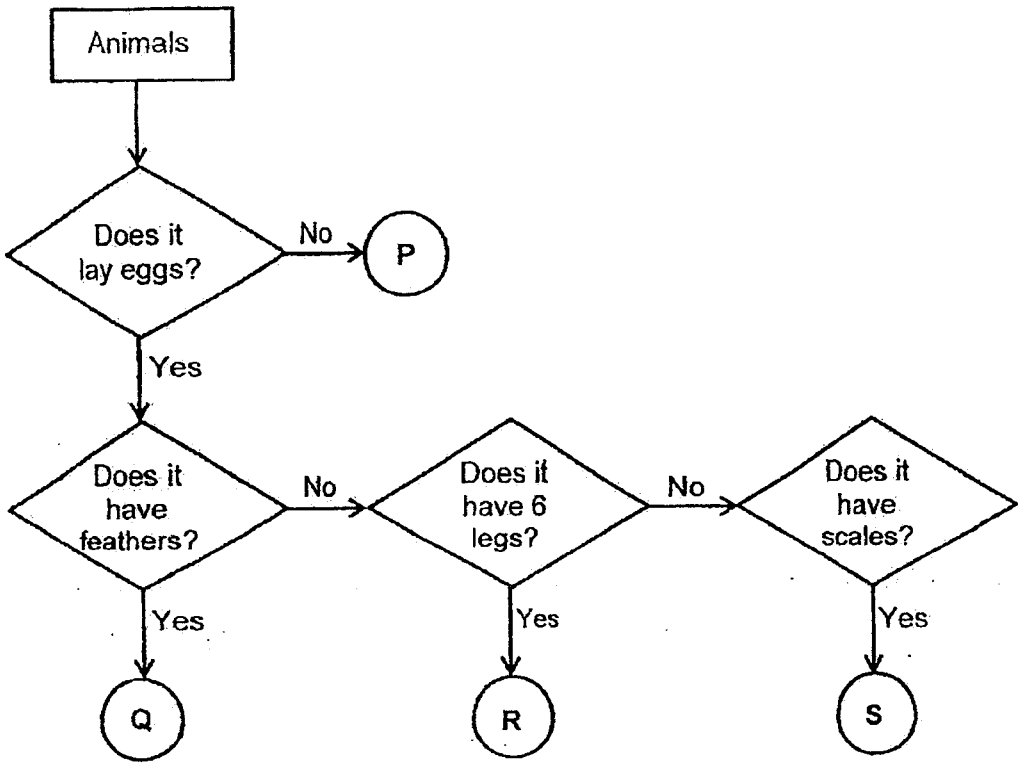
3 The flow chart below shows information about 4 different animals, P, Q, R and S.



Which of the following could be the animal groups for animals P, Q, R and S?

	Animal P	Animal Q	Animal R	Animal S
(1)	Mammals	Birds	Insects	Fish
(2)	Amphibians	Mammals	Fish	Birds
(3)	Amphibians	Mammals	Fish	Reptiles
(4)	Mammals	Birds	Amphibians	Insects

(Go on to the next page)

4 Study the animals below.

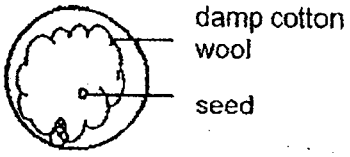
salamander

crocodile

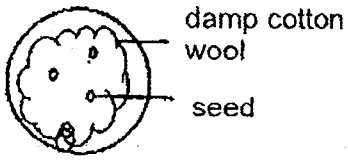
Based on the diagram above, how are the animals similar?

(1) They have scales.
(2) They breathe through their gills.
(3) They reproduce by laying eggs.
(4) They are warm-blooded animals.

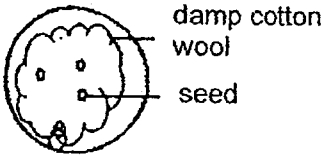
5 Kok Song wanted to find out if seeds need warmth to grow. He prepared four set-ups as shown below.



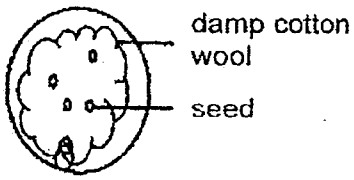
A: Placed near the window



B: Placed in the fridge



C: Placed near the window



D: Placed in the fridge

Which 2 set-ups should he use for his experiment?

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

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6 The characteristics of three organisms P, Q and R are given in the table below.

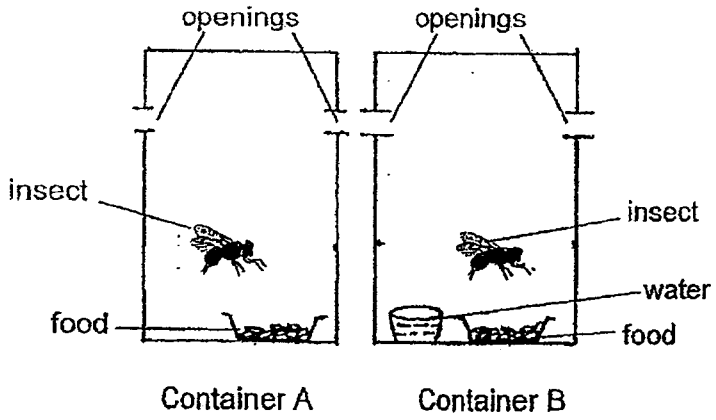
	Organisms		
Characteristics	P	Q	R
Needs light to make food	Yes	No	No
Depends on other organisms for food	No	Yes	Yes
Reproduces by spores	Yes	Yes	No

From the table above, which of the following organisms are correctly represented by the organisms P, Q and R?

	Bacteria	Ferns	Fungi
(1)	P	Q	R
(2)	Q	R	P
(3)	R	P	Q
(4)	Q	P	R

(Go on to the next page)

7 Ahmad conducted an experiment by placing two similar insects into two transparent containers as shown below.

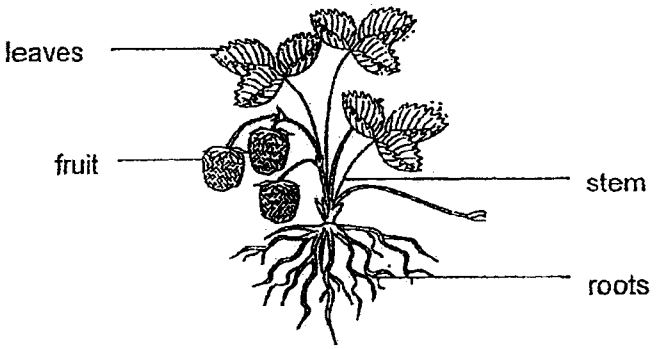


After 4 days, the insect in Container A died.
He was trying to find out if living things need _____ to survive.

(1) air
(2) food
(3) water
(4) sunlight

(Go on to the next page)

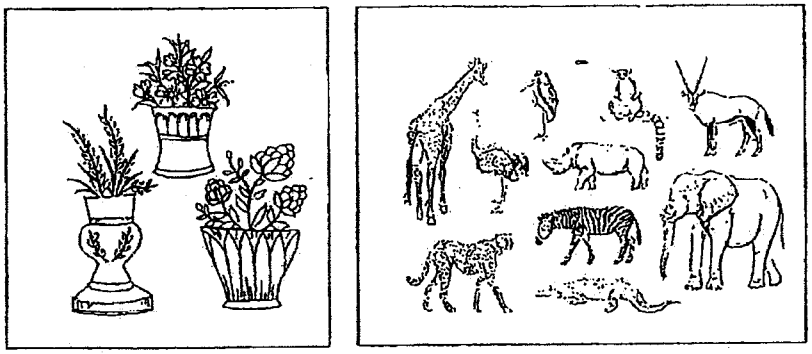
8 Judy observed the organism as shown below.



The organism _____.

(1) is a flowering plant
(2) reproduces from spores
(3) cannot make its own food
(4) has four stages in its life cycle

9 Study the pictures of the living things.



Group A Group B

Which of the following is a similarity between the living things in group A and B?

(1) Both reproduce.
(2) Both make their own food.
(3) Both have outer body coverings.
(4) Both can move from one place to another.

(Go on to the next page)

10 Four pupils saw mould growing on a piece of bread and made a statement each.

Mould reproduces by spores.

Boon Teck

Mould gets its food from the bread.

Devi

Mould does not need air to grow.

John

Mould grows faster if the bread is dry.

Zaiton

Who made the correct statements?

(1) Devi and John
(2) John and Zaiton
(3) Boon Teck and Devi
(4) Boon Teck and Zaiton

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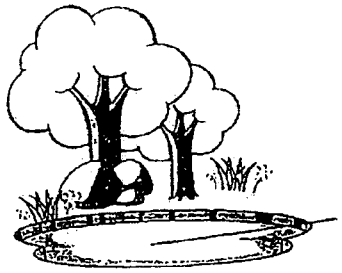
11 Peter observed four types of animals, grasshopper, mosquito, butterfly and frog living in the garden. Some eggs were found in the pond in the garden.



The number of days needed for their eggs to hatch is shown below in the table.

Animals	Number of days needed for eggs to hatch
Mosquito	2
Butterfly	4
Grasshopper	24
Frog	21

On Day 6, what would Peter most likely find in the pond?

(1) grasshopper nymphs and butterfly larvae
(2) mosquito larvae and butterfly larvae
(3) grasshopper nymphs and frog eggs
(4) frog eggs and mosquito larvae

(Go on to the next page)

12 Danny wanted to find out if the amount of light a seedling gets affects the number of days the seedling takes to grow taller by 10cm. He prepared three similar seedlings and conducted an experiment with them.

Which of the following is the measured variable for this experiment?

(1) The number of hours the seedling gets light daily.
(2) The amount of water given to each seedling daily.
(3) The height of the seedling at the start of the experiment.
(4) The number of days the seedling takes to grow taller by 10cm.

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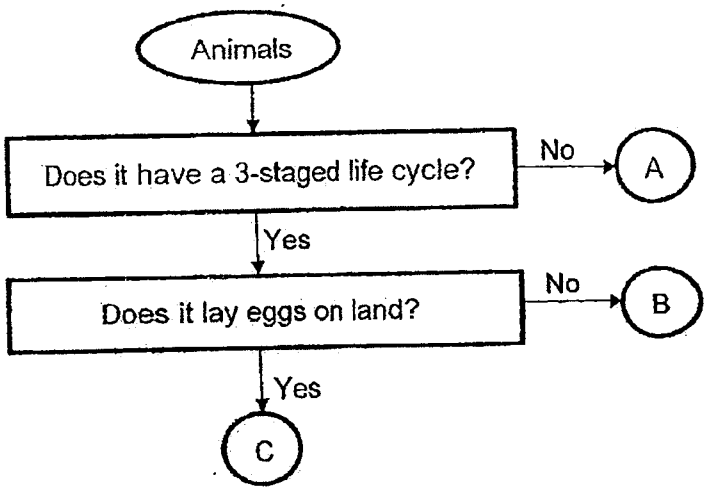
13 Study the flowchart below carefully.



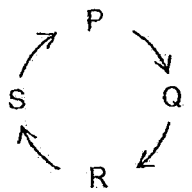
Four children made some statements based on the flowchart above.

Siti : The young of animal A does not look like its adult.
Jay : Animals B and C have the larval stage in their life cycles.
Lee : All the three animals live on land and breathe through their gills.
Ravi : Animal C lays eggs on land and has three stages in its life cycle.

Whose statements are correct?

(1) Siti and Jay
(2) Jay and Lee
(3) Siti and Ravi
(4) Lee and Ravi

14 David drew the life cycle of a mosquito as shown below.



Which of the following statements about the mosquito is correct if stage P represents the adult stage?

(1) At stage Q, it has wings.
(2) At stage R, it lives in water.
(3) At stage P, it moults several times.
(4) At stage S, it starts to lay its eggs in water.

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15 Tim wanted to find out which type of material X, Y and Z is the strongest. He dropped a ball made of material X from a height of 50 cm and observed if the ball broke when it reached the ground. If the ball did not break, he dropped it from an even higher height. He repeated the experiment using two balls of the same size and shape made of material Y and Z respectively.

The results of his experiment are shown below.

Material	Height from which ball is dropped (cm)			
	50cm	100cm	150cm	200cm
X	Did not break	Broke	-	-
Y	Did not break	Did not break	Did not break	Did not break
Z	Did not break	Did not break	Did not break	Broke

Which of the following variable is changed in this experiment?

(1) Type of material
(2) Size and shape of ball
(3) Whether the ball broke
(4) Height from which ball is dropped

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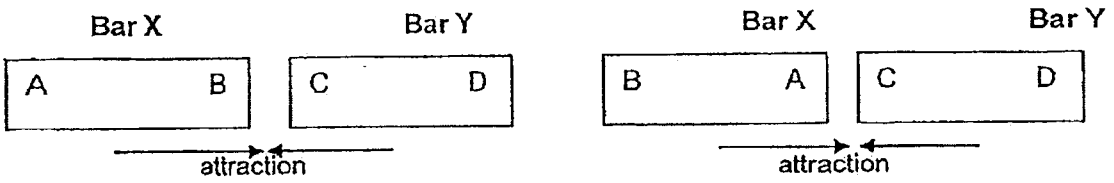
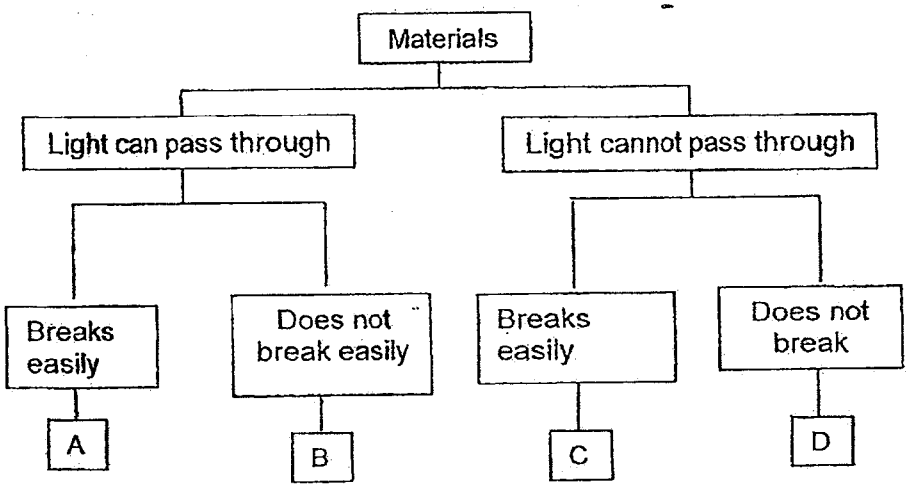
16 The arrows in the diagrams below show what happens when both ends of Bar X is brought near to Bar Y.



What can you conclude from the results?

(1) Both X and Y are magnets.
(2) X is a magnet, Y is a magnetic material.
(3) X is a magnet, Y is a non-magnetic material.
(4) Like poles of both X and Y are facing each other.

17 Amy classifies 4 different materials, A, B, C and D, using a classification chart as shown below.



Which material is suitable for making a school toilet door?

(1) A
(2) B
(3) C
(4) D

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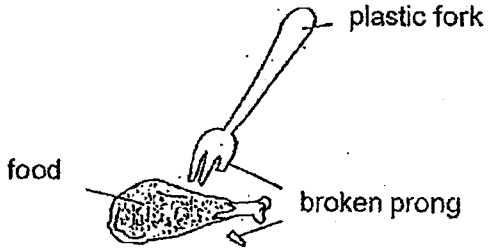
18 Janet placed 3 materials, X, Y and Z, into three pails, each filled with 800ml of water. After 10 minutes, she took the materials out and recorded the amount of water left in the pail as shown in the table below.

Materials	Amount of water left (ml)
X	800
Y	0
Z	300

Based on the information above, which one of the following matches the correct material, X or Y or Z to a bath towel and raincoat?

	Bath towel	Raincoat
(1)	X	Y
(2)	Y	X
(3)	X	Z
(4)	Z	X

19 Sue Mei used a plastic fork on her food and one of the prongs of the fork broke. Her father suggested she should use a metal fork instead.



Which of the following statement about metal is correct?

(1) Metal is stronger than plastic.
(2) Metal is more fragile than plastic.
(3) Metal is more flexible than plastic.
(4) Metal is waterproof but not plastic.

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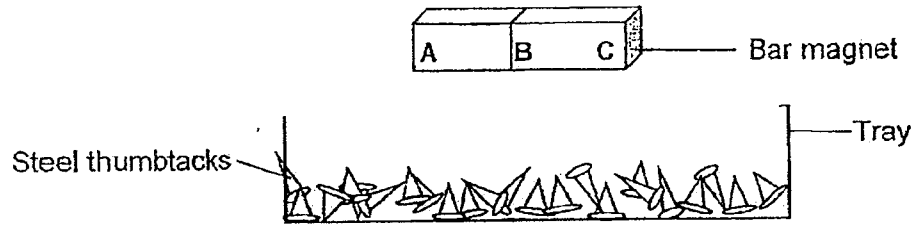
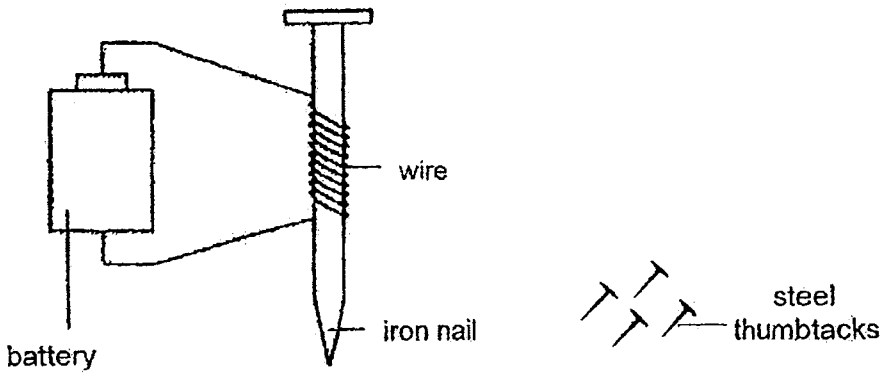
20 The diagram below shows a bar magnet lowered onto a tray of steel thumbtacks.



Which of the following most likely shows the number of steel thumbtacks attracted to the magnet at positions A, B and C?

	A	B	C
(1)	4	3	1
(2)	1	3	4
(3)	4	1	4
(4)	3	3	3

21 Mike prepared the set-up as shown below.



He noticed that some thumbtacks were attracted to the iron nail.

What should Mike do if he wants to attract more thumbtacks?

(1) Use a longer wire
(2) Remove the battery
(3) Change the iron nail to an aluminium nail
(4) Increase the number of coils of wire around the iron nail

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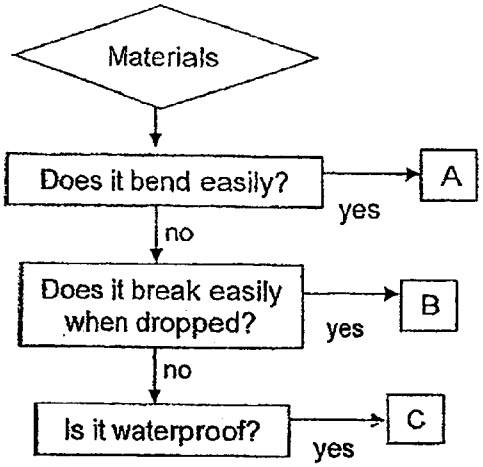
22 The flowchart below shows information about materials A, B and C.



Which of the following represent the materials used to make the objects A, B and C correctly?

	Rubber	Glass	Metal
(1)	A	B	C
(2)	B	A	C
(3)	C	B	A
(4)	A	C	B

23 Ted wanted to find out whether the thickness of a material would affect the amount of water it could absorb. He carried out an experiment and recorded the results in the table below.

Piece	Thickness of material X (cm)	Amount of water absorbed by material (ml)
A	1	15
B	2	30
C	4	65
D	5	80

Based on the results in the table above, how does the thickness of Material X affect the amount of water absorbed?

(1) The thicker the material X, the more the amount of water absorbed.
(2) The thinner the material X, the more the amount of water absorbed.
(3) The thicker the material X, the lesser the amount of water absorbed.
(4) The thickness of the material does not affect the amount of water absorbed.

End of Booklet A

METHODIST GIRLS' SCHOOL
Founded in 1887

END-OF-YEAR EXAMINATION 2023
PRIMARY 3
SCIENCE

BOOKLET B

Total Time for Booklets A and B: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Name: _____ ( )

Class: Primary 3._____

Date : 26 October 2023

Booklet A	46
Booklet B	24
Total	70
Parent's Signature	

This booklet consists of 8 printed pages including this page.

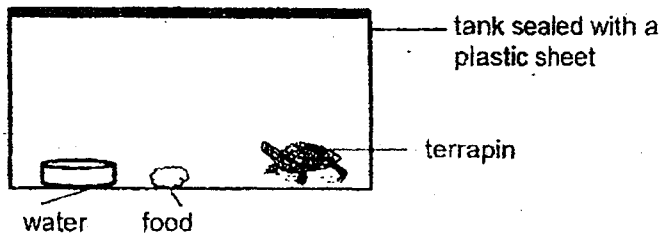
For questions 24 to 30, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question. [24 marks]

24 Study the table below.

Non-living things	Living things
shoe grass pencil	mushroom goldfish butterfly

(a) Which one of the things above has been classified wrongly? Explain your answer based on one of its characteristics. [1]

The set-up below shows a terrapin living in a tank.



(b) After a few days, the terrapin died. Explain why. [1]

(c) Suggest one change to the set-up which could have prevented the terrapin from dying. [1]

3

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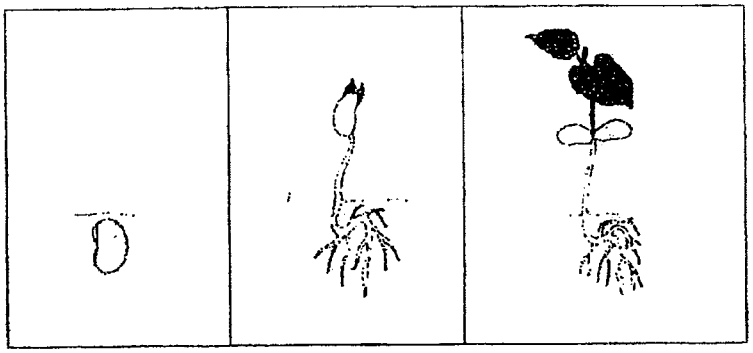
25 Jane was given a seed of plant T to grow and she observed its growth as shown in the diagram below.



(a) Name the part that will grow out from the seed first and state its function. [1]

_____

_____

(b) What are the conditions necessary for the seed to grow? [1]

_____

The picture below shows part of plant T.

(c) One day, Jane discovered some insects attack plant T and destroyed all its flowers. Explain how the life cycle of Plant T is affected. [1]

_____

_____

3

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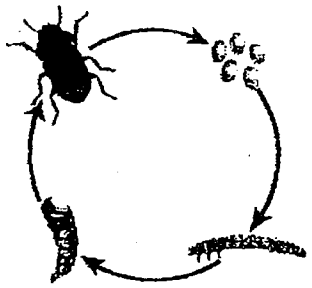
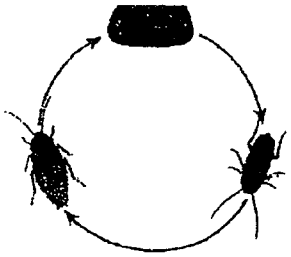
26 The life cycles of animals S and T are shown below.



Animal S



Animal T

(a) State a similarity between the life cycles of animals S and T. [1]

_____

_____

(b) State two differences between the life cycles of animals S and T. [2]

(i) Difference 1:

_____

_____

(ii) Difference 2:

_____

_____

(c) Animals S and T are classified as insects. State one characteristic of the adult that can confirm animals S and T are insects. [1]

_____

_____

4

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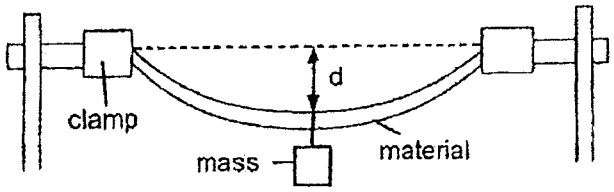
27 Zimeng carried out an experiment shown below to test a property of three materials X, Y and Z.



He measured the distance, d, from the middle of each material after adding the same mass. His results are shown below.

Material	d (cm)
X	48
Y	19
Z	35

(a) State one variable of the material that was kept the same to make the experiment a fair test. [1]

_____

Zimeng wanted to make a food tray suitable for carrying food.

(b) Based on Zimeng's results, explain which material, X, Y or Z, is most suitable for making the food tray. [2]

Material: _____

Reason: _____

_____

3

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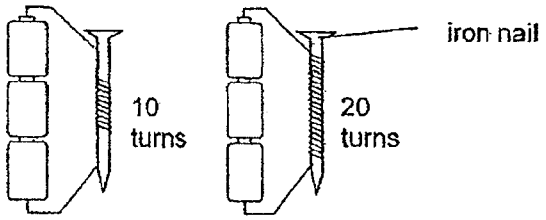
28 Ali prepared two electromagnets, A and B, as shown below.



(a) State the property that makes iron a suitable material to be used in the set-ups. [1]

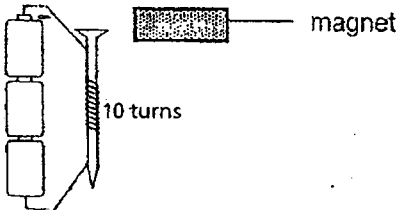
_____

(b) Ali then placed a tray of paper clips near the iron nail of both set-ups and recorded the number of paper clips attracted.
What was he trying to find out? [1]

_____

_____

Next, Ali brought a bar magnet towards the end of the iron nail in Set-up A as shown below.



(c) What must Ali observe to show that the iron nail has been magnetised? [1]

_____

_____

(d) What will happen to the iron nails when the batteries are removed?

_____

_____

4

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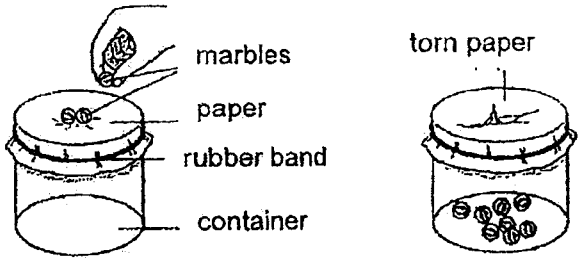
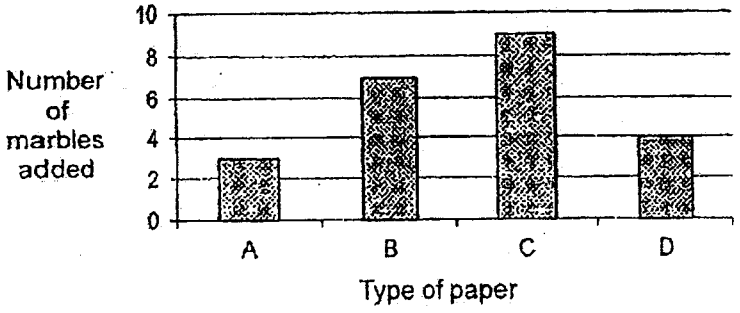
29 Kelly conducted an experiment to test the strength of four different types of paper A, B, C and D. Each piece of paper was cut to similar sizes and secured to the top of each container with a rubber band. She placed marbles one at a time on each type of the papers until the paper tore.



At the start At the end

Her result was recorded in the graph below.



(a) Which paper, A, B, C or D, should Kelly use to make a bag for her to carry her sandwich for recess? [1]

Paper: _____ .

(b) Based on the graph above, explain your answer in (a) clearly. [1]

_____

_____

(c) What should Kelly do in her experiment to obtain a more reliable result? [1]

_____

_____

3

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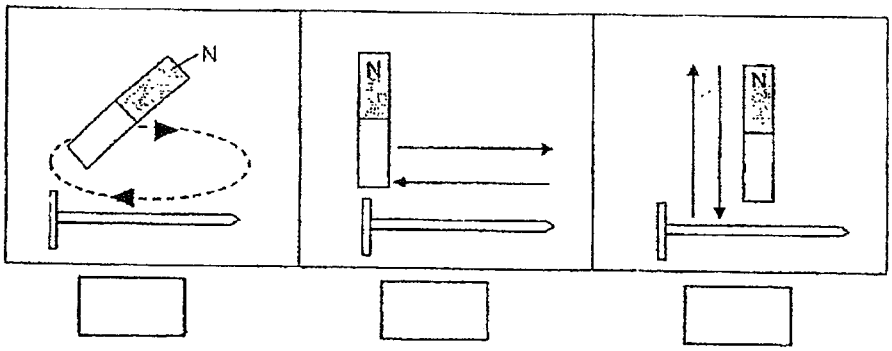
30 Peter wants to make an iron nail into a temporary magnet using the stroke method.

(a) Tick the diagram which shows the correct way of using the stroke method to make an iron nail into a magnet. [1]



The table below shows the number of paper clips the temporary magnet attracted after Peter had stroked the iron nail a number of times using a magnet.

Number of strokes	Number of paper clips attracted
10	0
20	2
40	4
60	6

(b) Based on the table, how does the number of strokes on the iron nail affect the number of paper clips attracted? [1]

_____

_____

(c) Explain why there was no paper clip attracted after Peter stroked the nail 10 times. [1]

_____

_____

(d) If Peter changes the iron nail to a copper nail, will he be able to obtain the same results in the table? Explain your answer. [1]

_____

_____

End of Booklet B

4

SCHOOL : METHODIST GIRLS' PRIMARY SCHOOL
LEVEL : PRIMARY 3
SUBJECT : SCIENCE
TERM : 2023 SA2

CONTACT :

SECTION A

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

SECTION B

Q24a	Grass. It needs air, water and food.
Q24b	There is **no air / not enough air** in the tank and living things need air to survive.
Q24c	Poke some holes on **the** plastic sheet of the tank.
Q25a	Roots. Roots take in **water** and mineral salts for the plant.
Q25b	Warmth, air and water
Q25c	Without the flowers, **the** plant is unable to to bear fruits with seeds to grow into new plants / **cannot** reproduce.
Q26a	Both animals S and T **spend** their life cycles on land.
Q26b	(i) Difference 1: The **young** of animal T resembles the adult but not the young of animal S. (ii) Difference 2: **Animal** S has a pupa/larva stage but animal T does not.
Q26c	They have 3 body **parts /** 6 legs.
Q27a	Thickness of the **material** / length / size of material.
Q27b	Y, it bent the least.
Q28a	Magnetic material
Q28b	He was trying to find **out if** the number of coils of wire around the iron nail affects the number **of paperclips** it can attract.

Q28c	Ali needs to observe the magnet repelling/pushing away the iron nail in the set-up.
Q28d	The iron nail will be demagnetised.
Q29a	C
Q29b	It is the strongest as it could hold the greatest number of marbles before it tore.
Q29c	She should repeat the experiment a few times.
Q30a	Tick first box
Q30b	The greater the number of strokes on the iron nail, the greater the number of paper clips attracted.
Q30c	10 strokes were not enough to magnetise the iron nail.
Q30d	No. The copper nail is non-magnetic and cannot be magnetised.