METHODIST GIRLS' SCHOOL
Founded in 1887

END-OF-YEAR EXAMINATION 2024
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 : 22 October 2024

This booklet consists of 13 printed pages including this page.

For each question from 1 to 20, 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).

[40 marks]

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1 Which one of the following is a characteristic of mammals?

(1) They lay eggs.

(2) They have hair on their body.

(3) They breathe through their skin.

(4) Their body is made up of three parts.

2 The picture below shows two living things.

fern mushroom

Which of the following statements is/are correct?

A Both cannot make food.

B Both reproduce by spores.

C Both do not produce flowers.

(1) A only

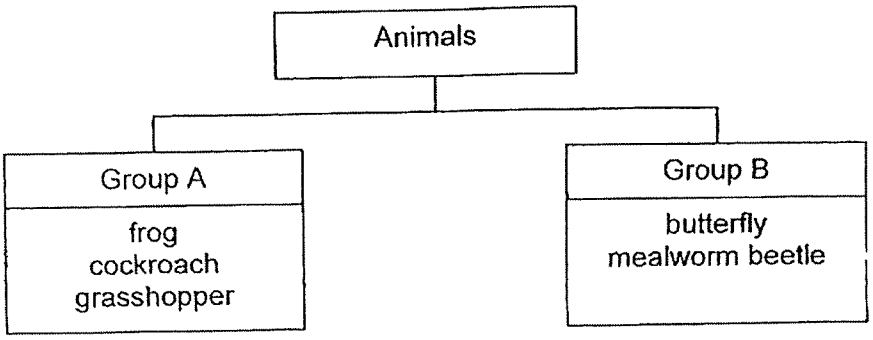
(2) A and B only

(3) B and C only

(4) A, B and C

(Go on to the next page)

3 Study the classification chart below.



Which one of the following characteristics was used to classify the animals into groups A and B?

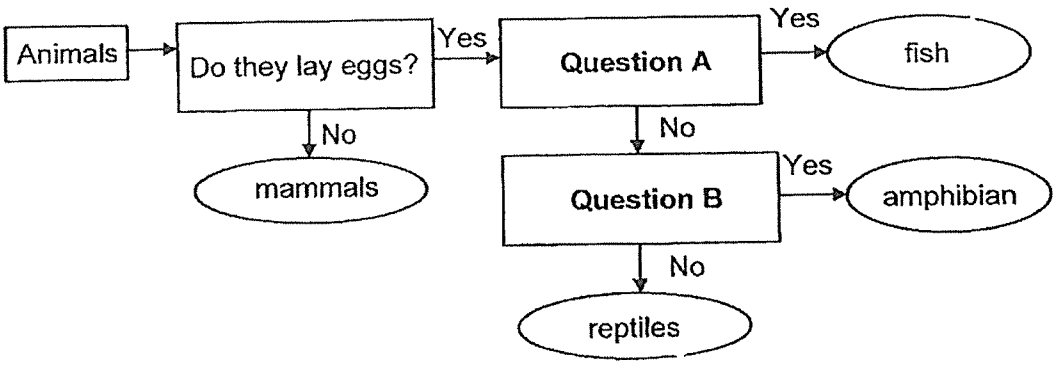
(1) the way they move

(2) the place they live in

(3) the way they reproduce

(4) the number of stages in their life cycles

4 Study the flow chart shown below.

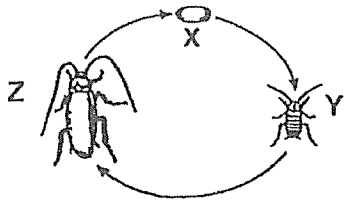


What could question A and B be?

	Question A	Question B
(1)	Do they have fins?	Do they lay eggs on land?
(2)	Are they covered with scales?	Are they covered in dry skin?
(3)	Do they breathe through gills?	Do they live on land and in the water?
(4)	Do they have moist skin?	Do they breathe through lungs?

(Go on to the next page)

5 The diagram shows the life cycle of a cockroach.



Which of the following statements is/are correct?

A It can reproduce at stage Y.

B It has wings at stage Y and Z.

C The young resembles the adult.

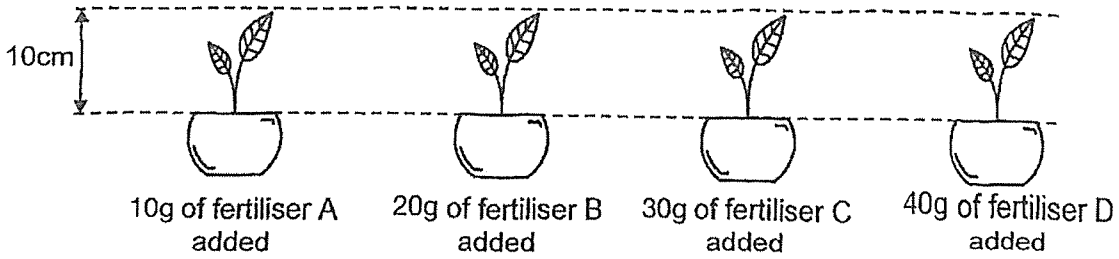
(1) A only

(2) C only

(3) A and B only

(4) B and C only

6 Kai Lin wanted to find out which fertiliser, A, B, C or D helps seedlings to grow taller. The diagram below shows the four set-ups using the same type of seedling.



Kai Lin's teacher commented that Kai Lin did not conduct a fair test.

Which of the following best explains why her experiment was not a fair one?

(1) The seedlings were of equal heights.

(2) The type of seedlings was the same.

(3) The type of fertiliser added was different.

(4) The amount of fertiliser added was different.

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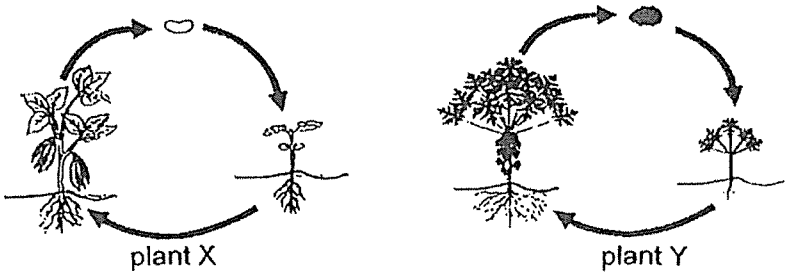
7 The diagrams below show the life cycles of two plants.



Which of the following statements is/are correct?

A Both are flowering plants.

B Both plants reproduce by spores.

C Both plants can make food at all stages in their life cycles.

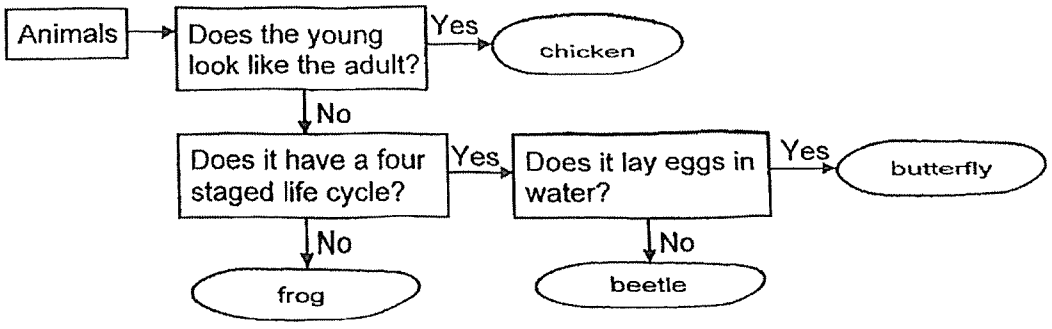
(1) A only

(2) A and B only

(3) B and C only

(4) A, B and C

8 Study the flowchart below.



Which one of the following animals is classified wrongly?

(1) frog

(2) beetle

(3) chicken

(4) butterfly

(Go on to the next page)

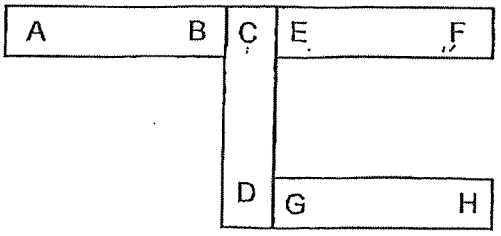
9 The table below shows some characteristics of animals J, K and L.

Characteristic	Animals		
	J	K	L
The young lives in water.	No	Yes	No
The young looks like the adult.	No	No	Yes
It has a pupa stage in its life cycle.	Yes	No	No
The young moults several times as it grows.	Yes	No	Yes

Which of the following best represents animals, J, K and L?

	J	K	L
(1)	butterfly	frog	grasshopper
(2)	beetle	mosquito	chicken
(3)	beetle	mosquito	grasshopper
(4)	butterfly	frog	chicken

10 The diagram below shows the arrangement of four magnets with their ends marked A to H.



Which one of the following arrangements is possible when two of the magnets are brought near each other?

(1)

G	H
A	B

(2)

C	D
E	F

(3)

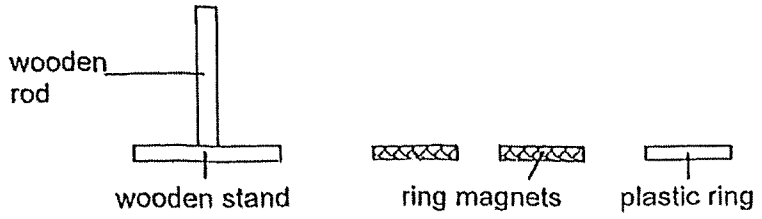
D	C
E	F

(4)

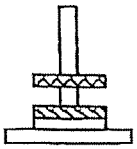
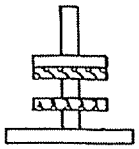
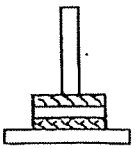
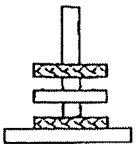
B	A
D	C

(Go on to the next page)

11 Khai Jun took two ring magnets and a plastic ring as shown below and slotted them through the wooden stand in different ways.



Which of the following are possible observations made by Khai Jun?

A	B	C	D
			

(1) A and B

(2) A and C

(3) B and D

(4) C and D

12 The table below shows some characteristics of animals G and H.
A tick (√) means the animal has the characteristics.

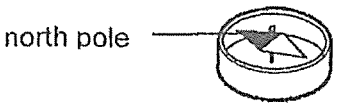
Animal	lays eggs	lives in water	lives on land	produces milk to feed its young
G	✓	✓	✓	
H		✓		✓

Which of the following correctly describe the outer coverings of animals G and H?

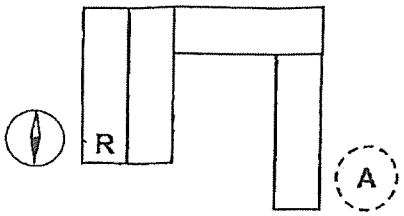
	Animal G	Animal H
(1)	dry skin	hair
(2)	moist skin	hair
(3)	dry skin	scales
(4)	moist skin	scales

(Go on to the next page)

13 A compass has a small magnet that can rotate freely as show below.



Four bar magnets were arranged such that they were attracted to one another. The compass was then brought near end R and the direction of the compass needle is as shown below.



What would be the direction of the needle when the compass was placed at A?

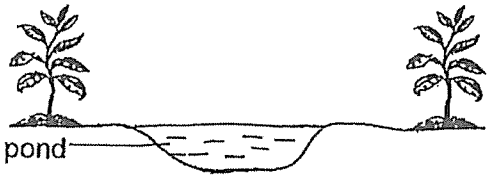
(1) 

(2) 

(3) 

(4) 

14 The diagram below shows a small pond in a garden on Day 1.



James observed three types of animals, mosquito, butterfly and frog living in the garden. The number of days needed for their eggs to hatch is shown below.

Characteristics	frog	butterfly	mosquito
Number of days needed for eggs to hatch	21	3	1

On Day 15, what would James most likely find in the pond?

(1) frog eggs and butterfly larvae

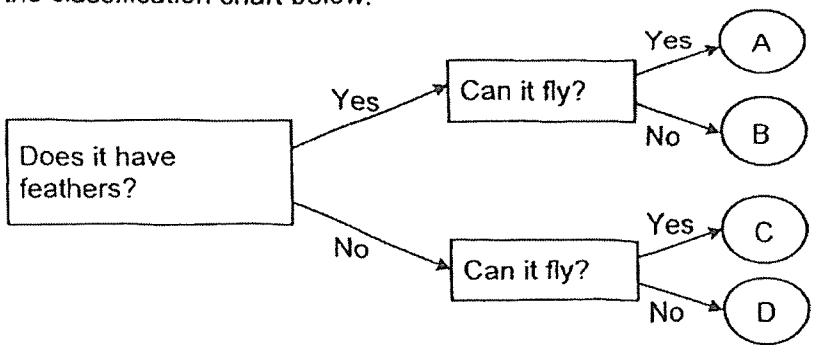
(2) frog eggs and mosquito larvae

(3) mosquito larvae and tadpoles

(4) mosquito larvae and butterfly larvae

(Go on to the next page)

15 Study the classification chart below.



Which of the following is possible?

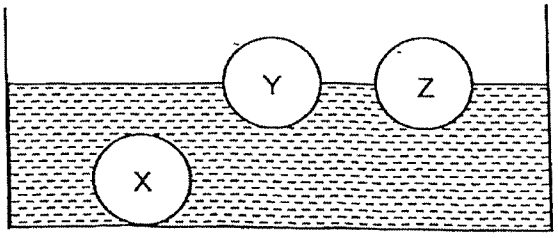
(1) A is a butterfly.

(2) C is a mosquito.

(3) A and C are birds.

(4) B and D are mammals.

16 Mr Lim placed three objects made of materials X, Y and Z into a container of water. The diagram below shows his observation.



Which statement(s) can be concluded from his observation?

A X and Y are made of the same material.

B Y and Z are made of different materials

(1) A only

(2) B only

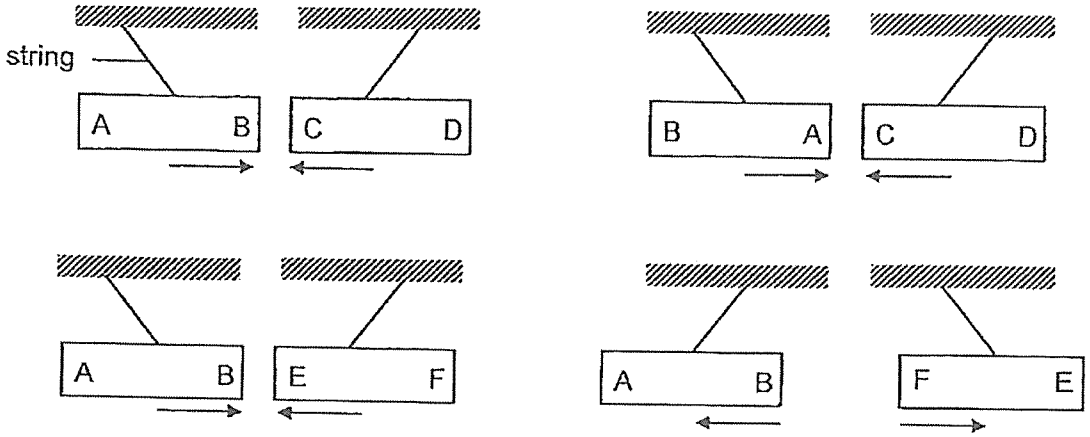
(3) A and B

(4) None of the above

(Go on to the next page)

17 Clarie wanted to find out which of the three metal bars AB, CD and EF, are magnets. She hung each bar from a string and brought them near to each other.

Her results are shown below.



Which of the following is correct?

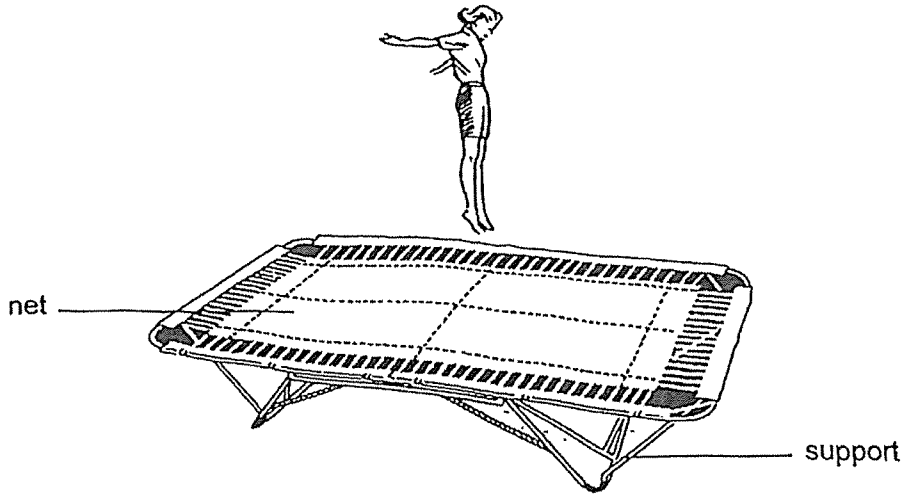
	AB	CD	EF
(1)	magnet	magnet	magnet
(2)	magnet	not a magnet	magnet
(3)	not a magnet	magnet	magnet
(4)	not a magnet	not a magnet	magnet

(Go on to the next page)

18 The table below shows the properties of four materials, A, B, C and D.

Material	Flexible	Waterproof	Strong
A	✓	✓	✓
B	✓		✓
C	✓	✓	
D		✓	✓

The diagram below shows an athlete jumping on a trampoline in the park.

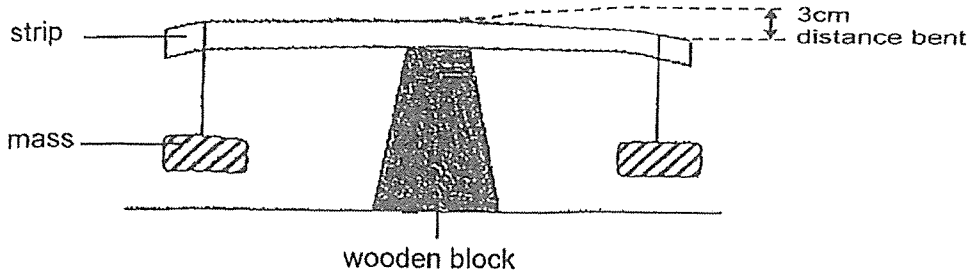


Which materials, A, B, C or D, are suitable for making the net and support of the trampoline?

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

(Go on to the next page)

19 The diagram below shows an experiment to compare the flexibility of four strips, J, K, L and M, which were made of different materials.



For each strip, different amount of mass were hung on each end of the strip until the distance bent was 3cm.

The results are shown in the table below.

Strip	Mass hung (g)	Distance, *d* (cm)
J	70	3
K	50	3
L	10	3
M	90	3

The diagram below shows an umbrella when opened and folded.

Based on the results above, which material, J, K, L or M is most suitable to make part Y of the umbrella?

(1) J

(2) K

(3) L

(4) M

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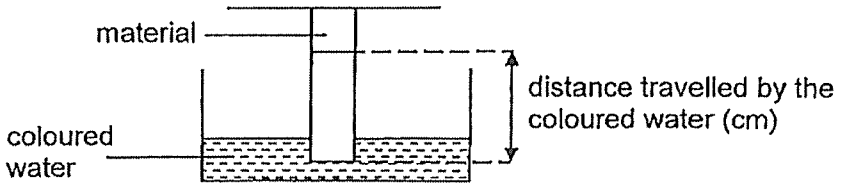
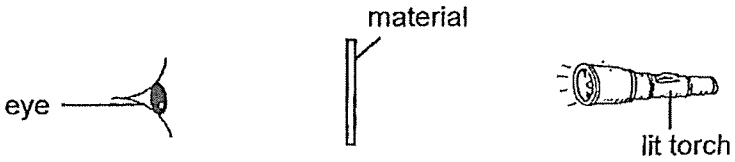
20 Lucas conducted two separate experiments to test two physical properties of materials Q, R, S and T as shown below.

Experiment 1



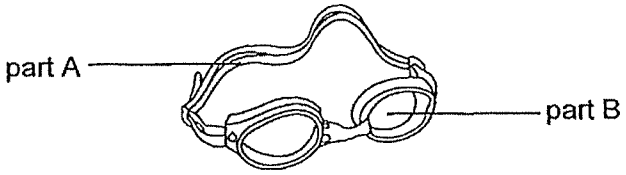
Experiment 2



The results are shown in the table below.

Material	Distance travelled by the coloured water after 3 minutes in experiment 1 (cm)	Amount of light passing through material in experiment 2 (units)
Q	5	no light
R	0	most light
S	0	no light
T	3	some light

Based on the results above, which material, Q, R, S or T, should be used to make a parts A and B of a swimming googles?



	Part A	Part B
(1)	Q	T
(2)	S	T
(3)	S	R
(4)	Q	R

End of Booklet A

METHODIST GIRLS' SCHOOL
Founded in 1887

END-OF-YEAR EXAMINATION 2024
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 : 22 October 2024

Booklet A	40
Booklet B	30
Total	70
Parent's Signature	

This booklet consists of 9 printed pages including this page.

For questions 21 to 28, 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. [30 marks]

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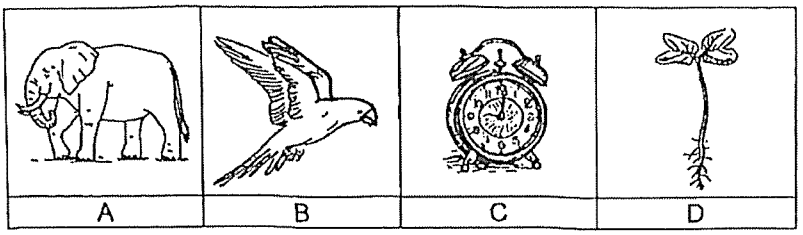
21 The pictures below show things A, B, C and D.



A	B	C	D

Sam classified the things above into two groups X and Y.

Group X	Group Y
C	A B D

(a) Suggest suitable headings for groups X and Y. [1]

Group X: _____

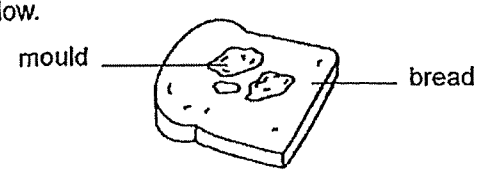
Group Y: _____

(b) State how things A and B reproduce. [1]

A: _____

B: _____

Study the picture below.



(c) Explain how the mould obtains food. [2]

_____

_____

4

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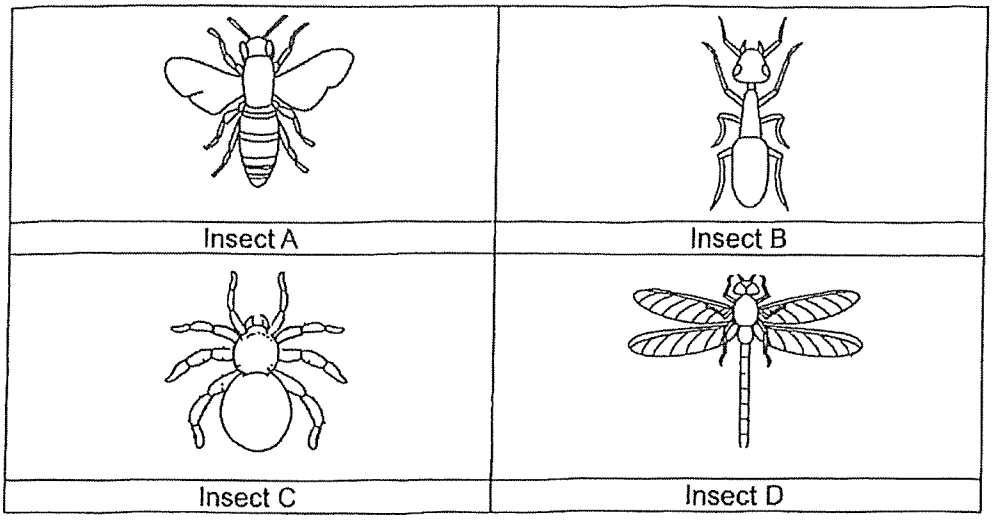
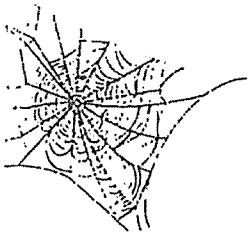
22 During an outdoor science lesson, Rani drew four living things she saw in the garden and labelled them insects A, B, C and D, as shown below.



Rani's classmates said that one of her drawings was not an insect.

(a) Which insect, A, B, C or D is labelled wrongly? Give two reasons for your answer. [1]

Rani then noticed a web moving on a tree as it was blown by the wind.



(b) Is the web a living or non-living thing? Give a reason for your answer. [1]

2

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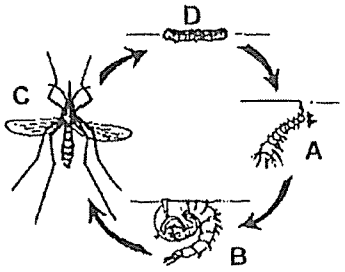
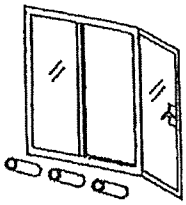
23 The diagram below shows the life cycle of the Aedes mosquito.



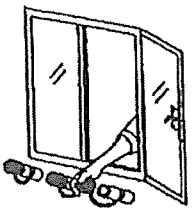
(a) State one difference in characteristic between stages A and C of the life cycle above. [1]

(b) The female mosquito lays many eggs at one time. Explain why it is important for mosquito to lay many eggs at one time. [2]

The diagrams below show uncovered and covered bamboo pole holders found outside the windows of flats. Uncovered bamboo pole holders may collect water when it rains heavily.



uncovered bamboo pole holders



covered bamboo pole holders

(c) Explain why flat owners are encouraged to cover the bamboo pole holders. [1]

4

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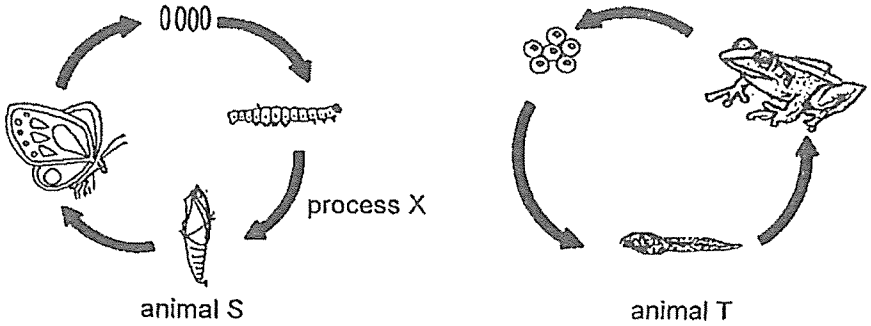
24 The life cycles of animal S and animal T are shown below.



(a) Name process X that allows the young of animal S to grow bigger. [1]

_____

(b) State the animal group that the animal T belongs to. Give a reason for your answer. [1]

Animal group: _____

Reason: _____

_____

(c) State one difference in characteristic between the larva and pupa stages of animal S. [1]

_____

_____

(d) Animal S is a pest to farmers at one stage of its life cycle. Name the stage and give a reason why it is a pest. [2]

Stage: _____

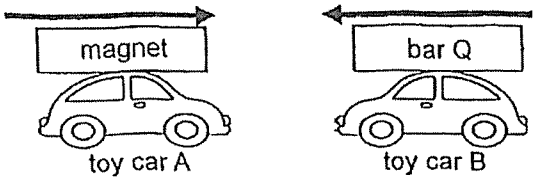
Reason: _____

_____

5

(Go on to the next page)

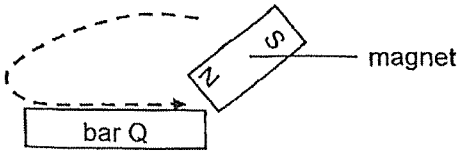
25 Kai placed a magnet and a bar Q on two plastic toy cars, A and B, as shown in the diagram below. Bar Q is not a magnet.



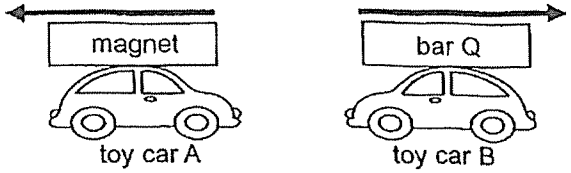
He moved toy car A towards the toy car B. He noticed that toy car B moved in the direction as shown above.

(a) Based on Kai's observations, what could he conclude about the property of material used to make bar Q? [1]

Kai then stroked bar Q with a magnet as shown below.



He placed metal bar Q on the same toy car and brought the two toy cars close to each other.



(b) Based on Kai's observations, explain what had happened to bar Q that made the toy cars moved in the direction as shown above. [2]

(c) Give a reason why copper is not suitable for making bar Q. [1]

4

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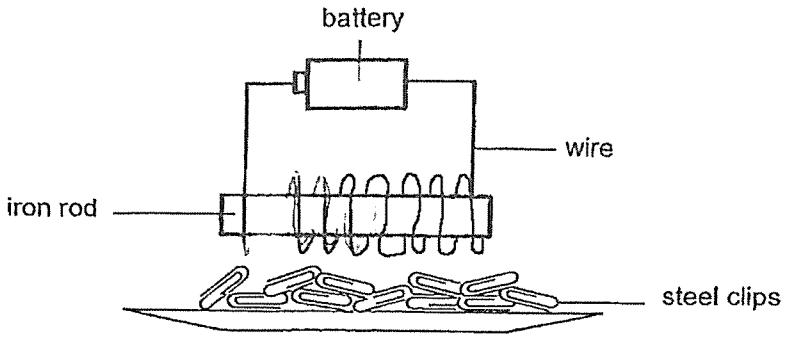
26 Jennie wanted to find out how the number of coils of wires around the iron rod affects the magnetic strength of the electromagnet. The set-up is as shown below.



She recorded the number of clips attracted in the table below.

Number of coils of wire	Number of clips attracted
0	0
10	5
20	8
30	13

(a) Fill in the blanks with 'increases', 'decreases' or 'remains the same'. [1]

As the number of coils of wire around the iron rod _____,

the magnetic strength of the electromagnet _____.

(b) Jennie wanted the electromagnet to attract more clips but there was no space to make more coils of wire around the iron rod.

Without changing the iron rod, what could she do to make the electromagnet attract more clips? Explain your answer. [2]

_____

_____

_____

3

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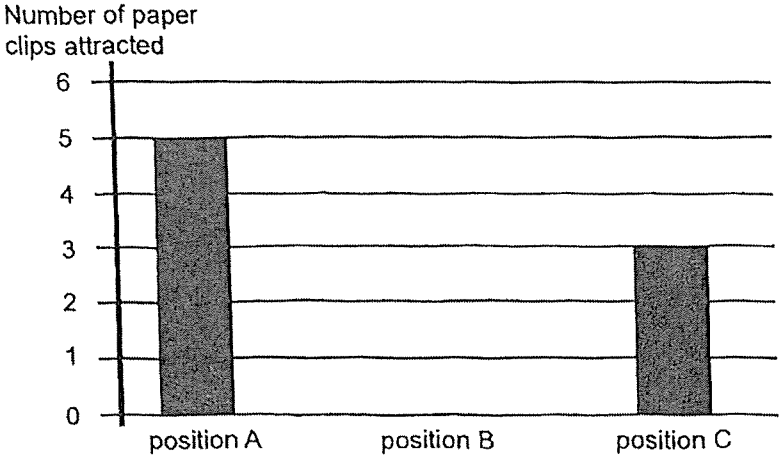
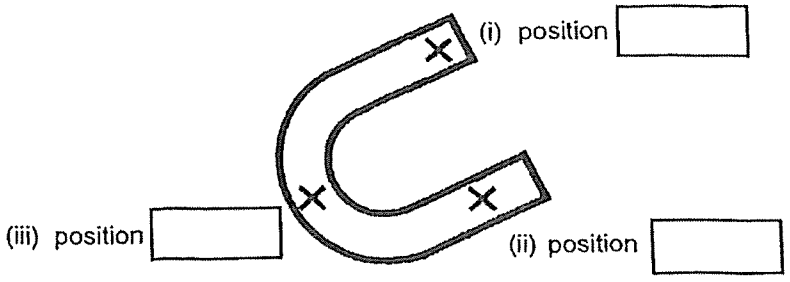
27 Joanne conducted an experiment with a U-shaped magnet and recorded her results in the bar graph below.



(a) Based on the results, label positions A, B and C in the U-shaped magnet below. [1]



(b) What does this experiment show about the magnetic strength of a magnet? [1]

(c) Explain your answer in (b) based on the results obtained. [1]

3

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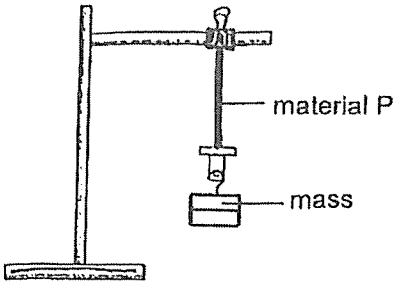
28 Jonas carried out an experiment to test the property of three materials P, Q and R as shown below. Jonas added mass on each material until the material breaks.



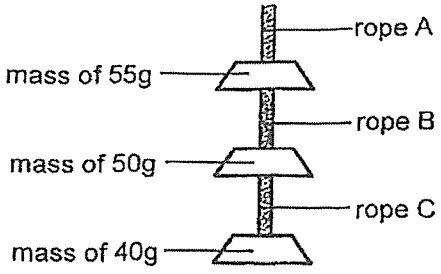
The table below shows the results.

Material	P	Q	R
Mass added before the material breaks (g)	120	160	50

(a) What property of the materials was Jonas trying to test? [1]

(b) State two ways Jonas has to keep the materials the same. Explain why. [2]

The diagram below shows three blocks of different masses hanging on ropes A, B and C.



(c) Based on Jonas' results above, which material, P, Q or R, is most suitable to make rope A? Explain your answer. [2]

5

End of section B

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

BOOKLET A

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

SECTION B

Q21 (a)	Group X: Non-living things Group Y: Living things
Q21 (b)	A: Gives birth to young alive B: Lays eggs
Q21 (c)	The mould breaks down the bread into simpler substances and absorbs them as food.
Q22 (a)	Animal C. It does not have 6 legs and 3 body parts, so it is not an insect.
Q22 (b)	The web is a non-living thing as it is unable to move on its own.
Q23 (a)	Stage A lives in water but stage C lives on land.
Q23 (b)	To increase its chances of survival by ensuring that there is a higher chance of eggs hatching into young and developing into adults which can reproduce.
Q23 (c)	To prevent stagnant water from collecting in uncovered bamboo pole holders as adult mosquitoes lay their eggs in stagnant water.

Q24 (a)	Moulting.
Q24 (b)	Animal group: Amphibian Reason: It breathes with lungs on land and through their skin in water.
Q24 (c)	The larva moults several times but the pupa does not.
Q24 (d)	Stage: larva Reason: The larva eats leaves which damages the plants.
Q25 (a)	Bar Q is magnetic.
Q25 (b)	Bar Q became a temporary magnet. The like poles of two magnets face each other and repel.
Q25 (c)	Copper is a non-magnetic material so it cannot be magnetized.
Q26 (a)	Increases, increases.
Q26 (b)	Increase the number of batteries to increase the magnetic strength of the electromagnet.
Q27 (a)	(i) Position A (ii) Position B (iii) Position C
Q27 (b)	The poles of the magnet have the most strength.
Q27 (c)	Position A attracted the most paper clips.
Q28 (a)	The strength of the material.
Q28 (b)	Size and length. To ensure that only the type of material is the changed variable.
Q28 (c)	Material Q. It can hold the greatest mass of 160g before breaking, so it can support the total mass of 145g without breaking.