ST. HILDA'S PRIMARY SCHOOL

END-OF-YEAR EXAMINATION, 2024

PRIMARY 3

SCIENCE

Booklet A

Name : _____ ( ) Class: Primary 3 / _____

Date: 22 October 2024

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

Additional Materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number and class 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. Use a 2B pencil to shade your answers on the Optical Answer Sheet (OAS).

This booklet consists of 17 printed pages.

For each question from 1 to 24, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet.

(48 marks)

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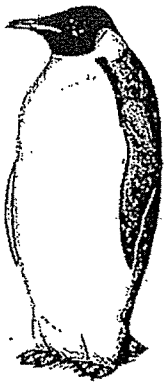
1 Aidan noticed that the penguins in the zoo made a lot of noise when a zookeeper holding a bucket of fish walked towards them.



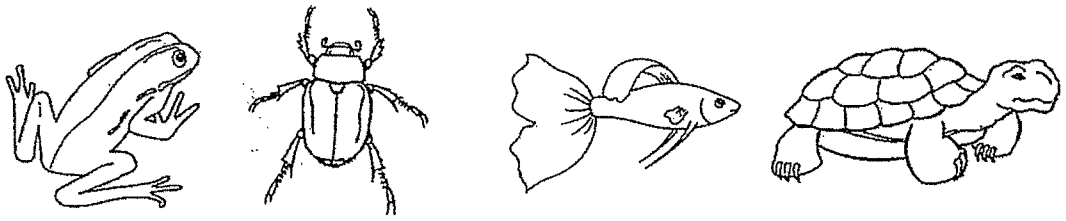
Which of the following characteristics of living things is being displayed by the penguins?

(1) Living things can die.
(2) Living things can grow.
(3) Living things can reproduce.
(4) Living things can respond to changes.

2 Which of the following statements about reptiles is true?

(1) Reptiles have moist skin.
(2) All reptiles live in water.
(3) Reptiles reproduce by laying eggs.
(4) Reptiles breathe through their lungs on land and through their skin in water.

3 The diagram below shows four different animals, P, Q, R and S.

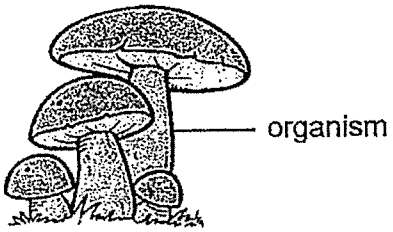


P Q R S

Which of the above animals is an amphibian?

(1) P
(2) Q
(3) R
(4) S

4 The diagram below shows an organism.

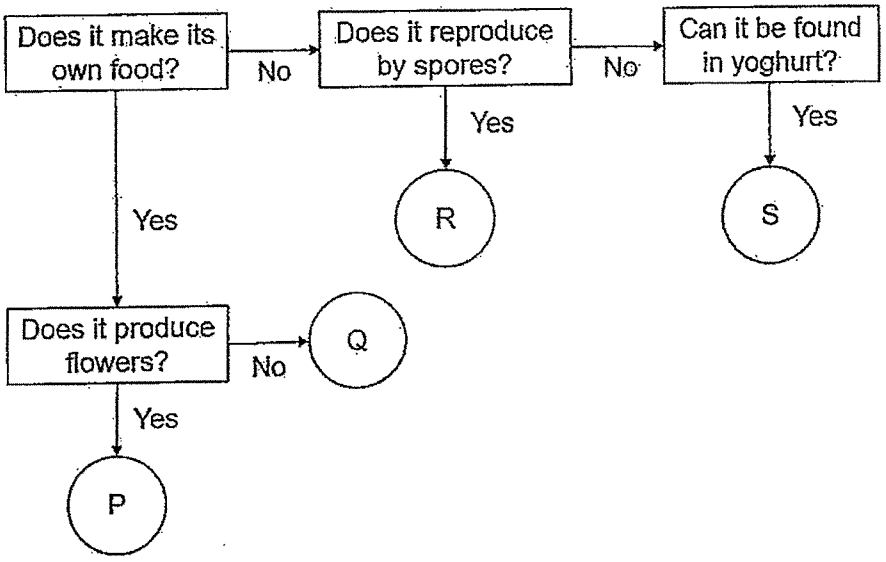


Which of the following organisms, W, X, Y or Z, correctly represents the organism shown above?

		Characteristics		
	Organism	**reproduce by spores**	**makes its own food**	**has flowers and fruits**
(1)	W	✓	✓	×
(2)	X	×	✓	✓
(3)	Y	×	×	✓
(4)	Z	✓	×	×

Key
✓: Yes
×: No

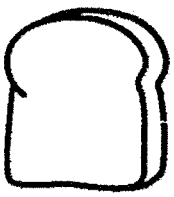
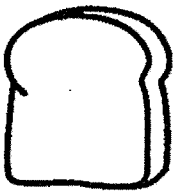
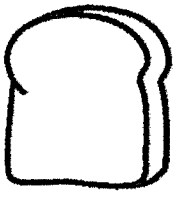
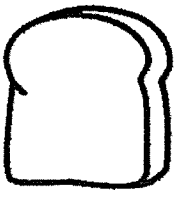
5 Study the flowchart below.



Which of the following best represents P, Q, R, and S?

	P	Q	R	S
(1)	sunflower plant	mould	Bird's nest fern	bacteria
(2)	sunflower plant	Bird's nest fern	mould	bacteria
(3)	Bird's nest fern	sunflower plant	bacteria	mould
(4)	bacteria	sunflower plant	mould	Bird's nest fern

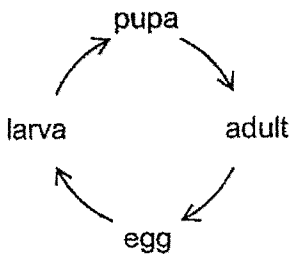
6 Vickesh wanted to find out how temperature affects the growth of mould on the bread. Which two set-ups below should he use for the experiment?

			
Set-up A	**Set-up B**	**Set-up C**	**Set-up D**
50ml of water Placed in fridge	10ml of water Placed in fridge	100ml of water Placed on table	50ml of water Placed on table

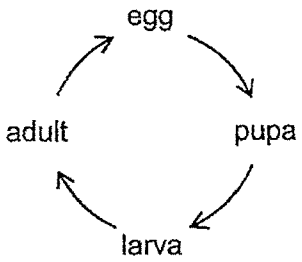
(1) A and B
(2) A and D
(3) B and C
(4) C and D

7 Which of the following correctly shows the life cycle of a butterfly?

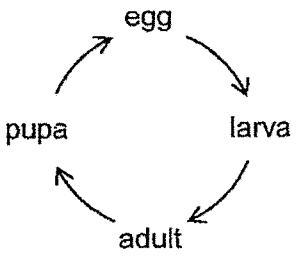
(1)



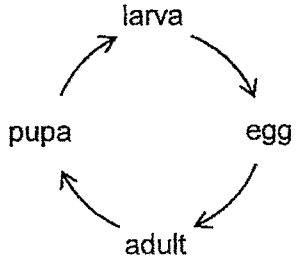
(2)



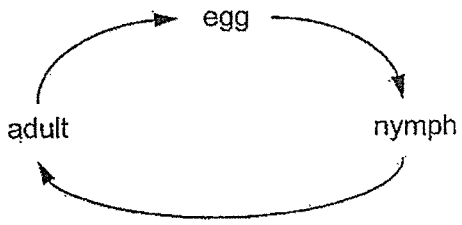
(3)



(4)



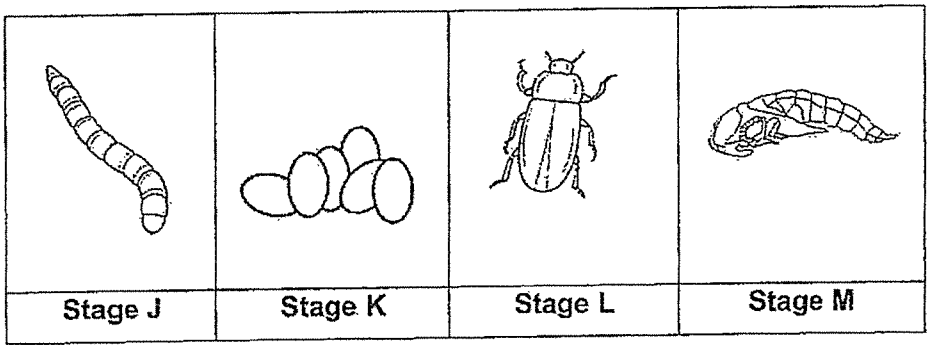
8 The diagram below shows the life cycle of organism X.



Which of the following statements is true?

(1) X is a mammal.
(2) X has four stages in its life cycle.
(3) X has three stages in its life cycle.
(4) The young of X does not moult.

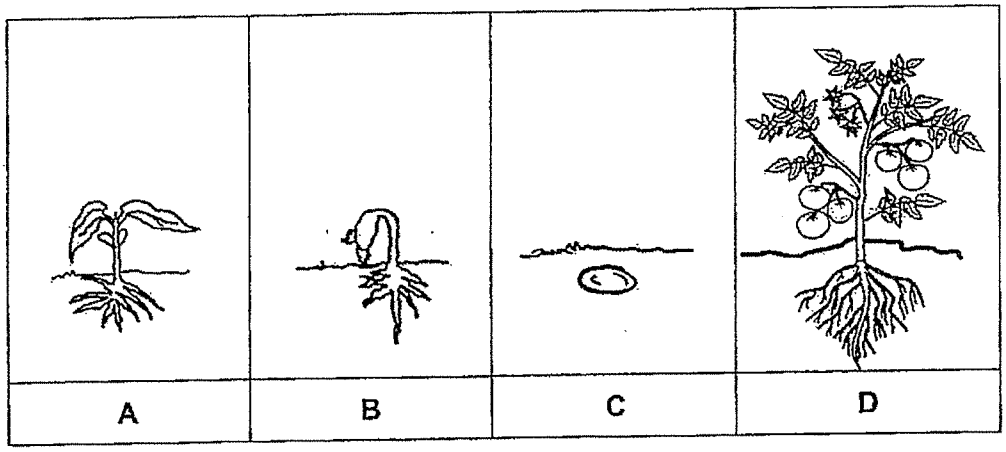
9 The diagram below shows the different stages of a mealworm beetle.



Which one of the following correctly represents the different stages of the mealworm beetle correctly?

	Stage J	Stage K	Stage L	Stage M
(1)	pupa	egg	adult	larva
(2)	larva	egg	adult	pupa
(3)	pupa	egg	larva	adult
(4)	larva	pupa	adult	egg

10 The diagrams below show the growth of a flowering plant.



Which of the diagrams, A, B, C or D, show(s) the plant in the adult stage?

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

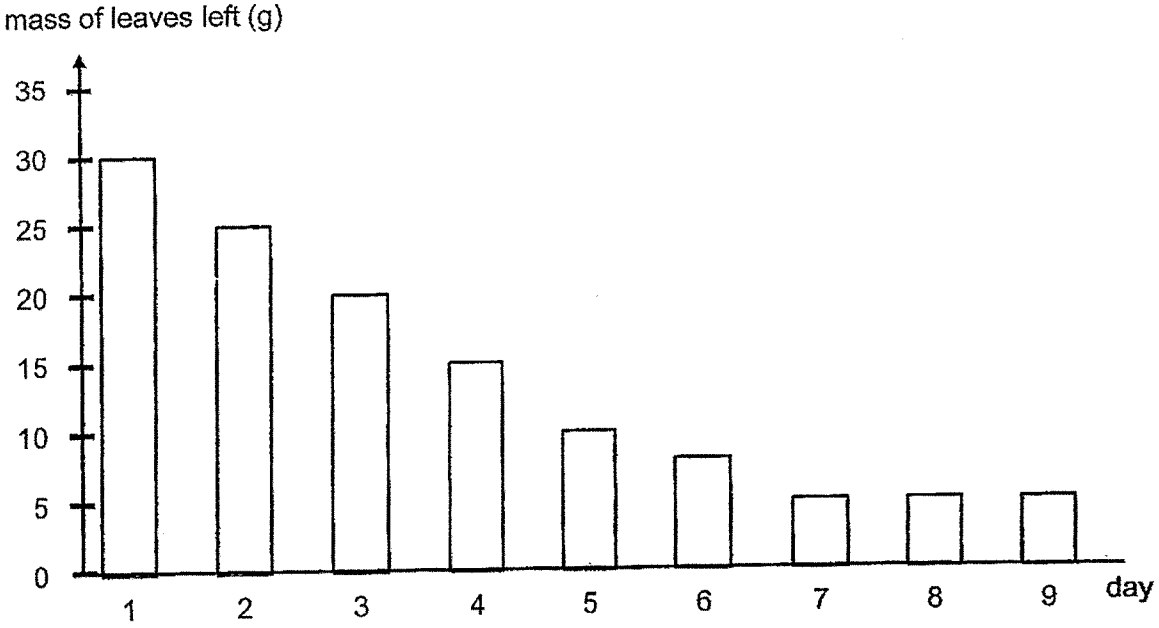
11 The table below shows the characteristics that organisms X, Y and Z have. A tick (✓) shows that the organism has the characteristic.

	Organism		
Characteristics	X	Y	Z
Makes its own food	✓		
Has 3-stage life cycle	✓	✓	
Has a 4-stage life cycle			✓

Which of the following correctly represents organisms X, Y and Z?

	Organism		
	X	**Y**	**Z**
(1)	mango plant	mosquito	frog
(2)	mango plant	frog	mosquito
(3)	frog	mosquito	cockroach
(4)	frog	cockroach	mosquito

12 Sathiya kept a caterpillar in a jar containing 35g of leaves and measured the mass of leaves left at the end of each day.



The caterpillar was at the pupa stage between _____.

(1) day 1 and 3
(2) day 3 and 5
(3) day 5 and 7
(4) day 7 and 9

13 The diagram below shows a pair of spectacles.

a pair of spectacles

Which one of the following materials is most suitable for making part X of the spectacles to allow the user to see things clearly?

(1) rubber
(2) metal
(3) wood
(4) glass

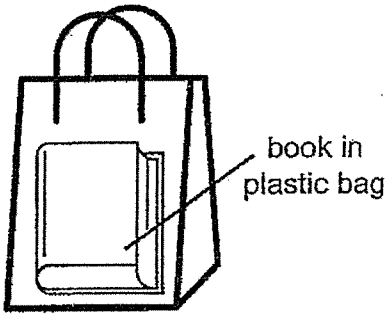
14 The diagram below shows a dress made of fabric.

dress

Which of the following explains why fabric is a suitable material for the dress?

(1) Fabric is flexible.
(2) Fabric breaks easily.
(3) Fabric will not float in water.
(4) Fabric allows people to see through.

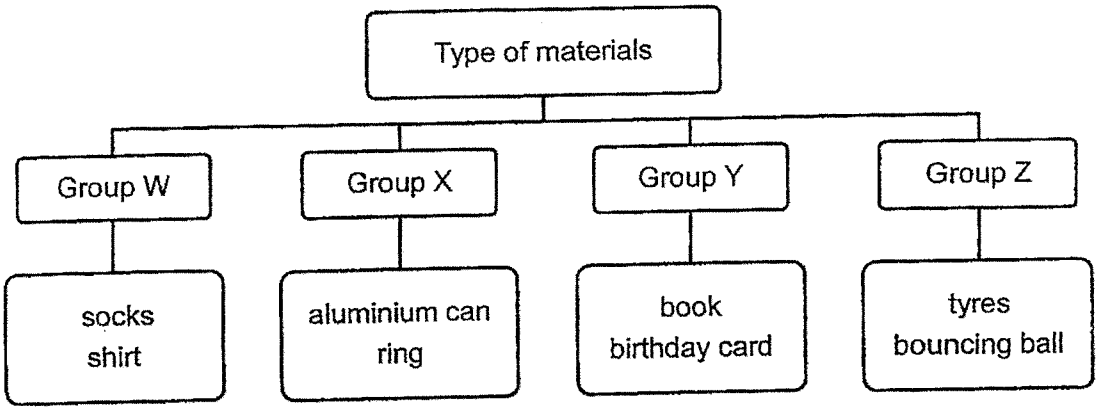
15 The diagram below shows a book inside a plastic bag.



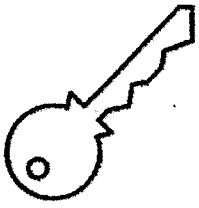
Which one of the following properties of the plastic bag will allow the book to stay dry during rainy days?

(1) flexibility
(2) strength
(3) waterproof
(4) transparency

16 Study the chart below.



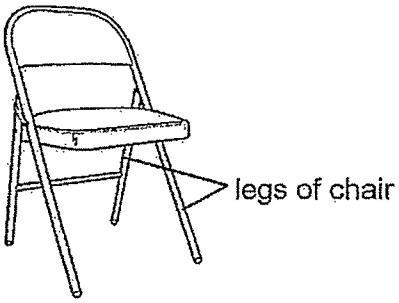
The diagram below shows a key.



Which group does the key above belong to?

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

17 Which material is most suitable for making the legs of a chair shown below?



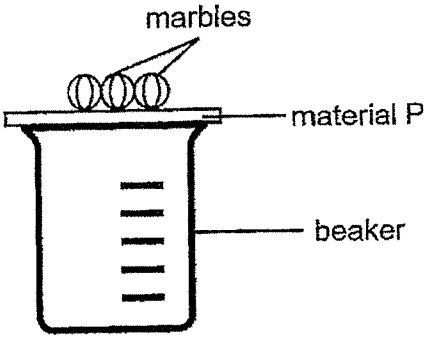
	Material	Property		
		strong	flexible	allows light to pass through
(1)	A	✓	✓	✓
(2)	B	✓	×	×
(3)	C	×	×	✓
(4)	D	✓	✓	×

Key

✓: Yes

×: No

18 Kenny set up the following experiment to find out the strength of materials, P, Q, R and S. He placed material P on top of a beaker and recorded the number of marbles that could be placed on top of material P before it broke.



He then replaced material P with materials Q, R and S and repeated the experiment. His observations are recorded in the table below.

Material	Number of marbles the material could hold before it broke
P	18
Q	20
R	24
S	12

Which material, P, Q, R or S, is the weakest material?

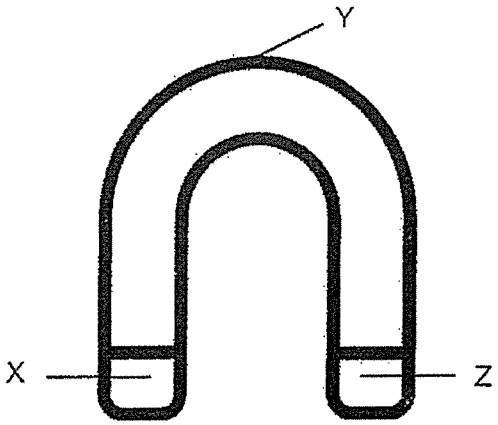
(1) P
(2) Q
(3) R
(4) S

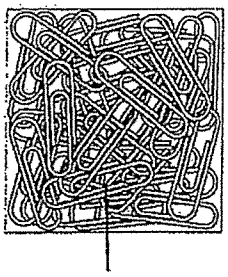
19 Which of the following is/are **not** a magnetic material?

A gold
B copper
C iron

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

20 Which part(s) X, Y, or Z of the U-shaped magnet below will attract the greatest number of steel paper clips?

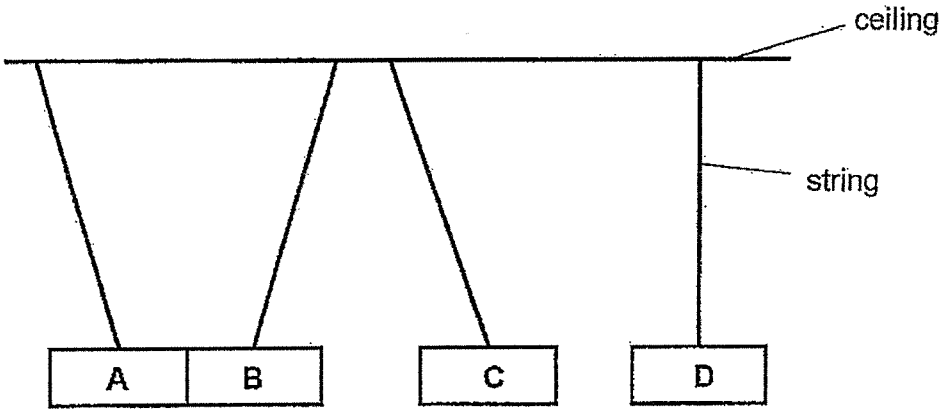




steel paper clips

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

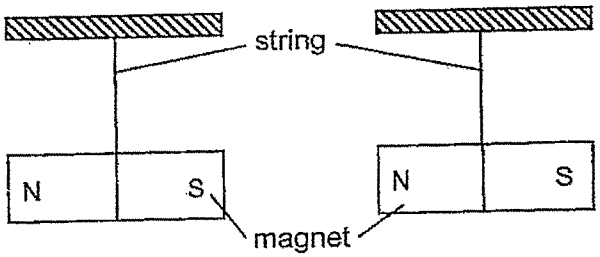
21 Ethan hung four bars A, B, C and D, using four identical strings from the ceiling. The diagram below shows his observations.



Which of the following statements is correct?

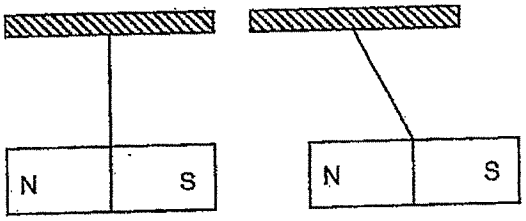
(1) A is definitely a magnet.
(2) B is a magnetic material.
(3) C is definitely a magnet.
(4) D is a magnetic material.

22 Felicia had two magnets as shown in the diagram below.

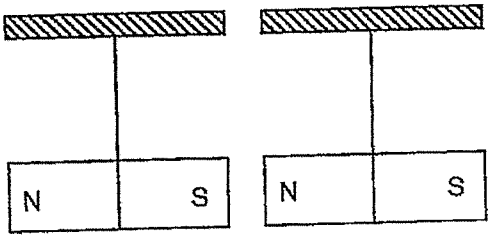


Which of the following diagrams shows what would happen when the magnets are brought closer together?

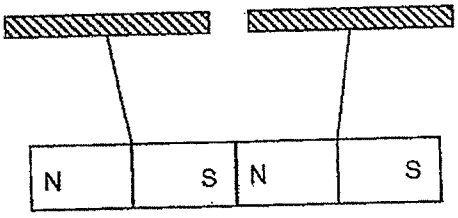
(1)



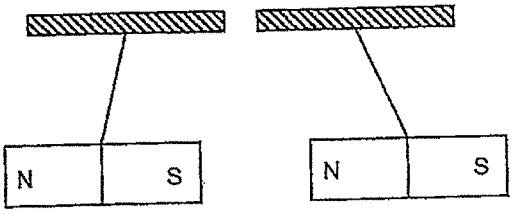
(2)



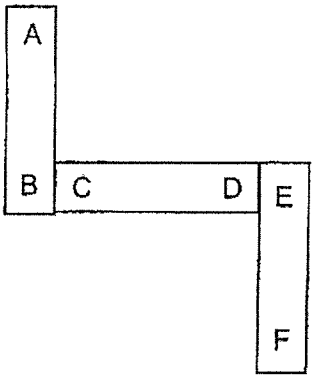
(3)



(4)

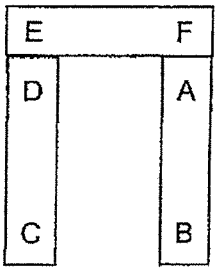


23 Siti set up three magnets AB, CD and EF as shown in the arrangement below.

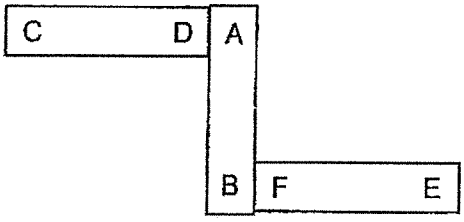


Which of the following arrangements is possible?

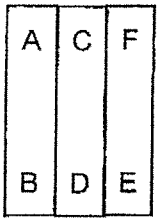
(1)



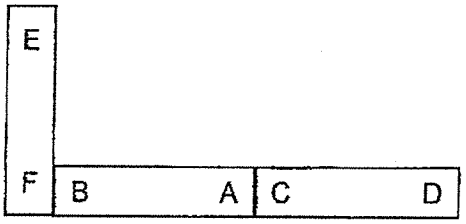
(2)



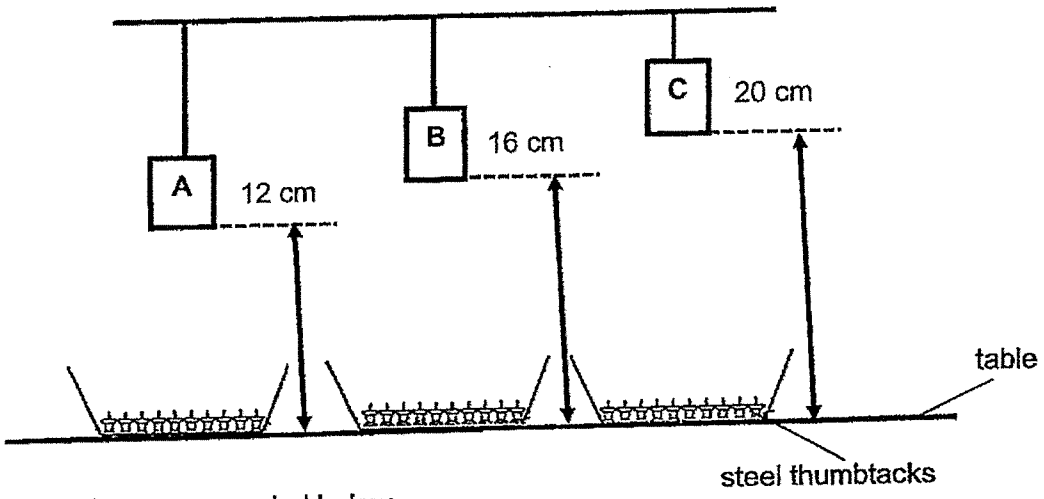
(3)



(4)



24 Peter set up an experiment to find out which bar magnet A, B or C is the strongest. He hung magnets A, B and C at different heights from the table as shown in the diagram below.



The results were recorded below.

Magnets	Height from table (cm)	Number of thumbtacks attracted
A	12	28
B	16	22
C	20	18

However, Peter could not conclude which bar magnet was the strongest as his experiment was not a fair test.

What could Peter do to make his experiment a fair test?

(1) increase the size of the magnets used
(2) increase the number of thumbtacks used
(3) bring magnets B and C further away from the table
(4) hang all the bar magnets at the same height from the table

End of Booklet A

(Go on to Booklet B)

ST. HILDA'S PRIMARY SCHOOL

END-OF-YEAR EXAMINATION, 2024

PRIMARY 3

SCIENCE

Booklet B

Name : _____ ( ) Class: Primary 3 / _____

Date: 22 October 2024

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

Parent's Signature:

_____

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number and class 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. Use a pencil or dark blue or black ballpoint pen to write your answers in the space provided for each question.
6. Do not use correction fluid/tape or highlighters on any part of your answers.

Booklet	Maximum Marks	Marks Obtained
A	48	
B	32	
Total	80	

This booklet consists of 10 printed pages.

For questions 25 to 32, write your answers in this booklet.

The number of marks available is shown in brackets [ ] at the end of each question or part question.

(32 marks)

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25 A doctor conducted an experiment to find out the effect of a medicine for treating a bacterial infection. He gave patient X the medicine but did not give patient Y any medicine. Then, he collected daily samples from both patients X and Y who had the bacteria infection. The number of bacteria in the samples were observed using a microscope and counted.

The results were recorded in the table below.

	Number of bacteria (unit)	
Day	**Patient X with medicine**	**Patient Y without medicine**
0	200	200
1	150	250
2	100	290
3	40	320
4	10	350

(a) Based on the experiment, state one characteristic of living things shown by the bacteria when no medicine is taken. [1]

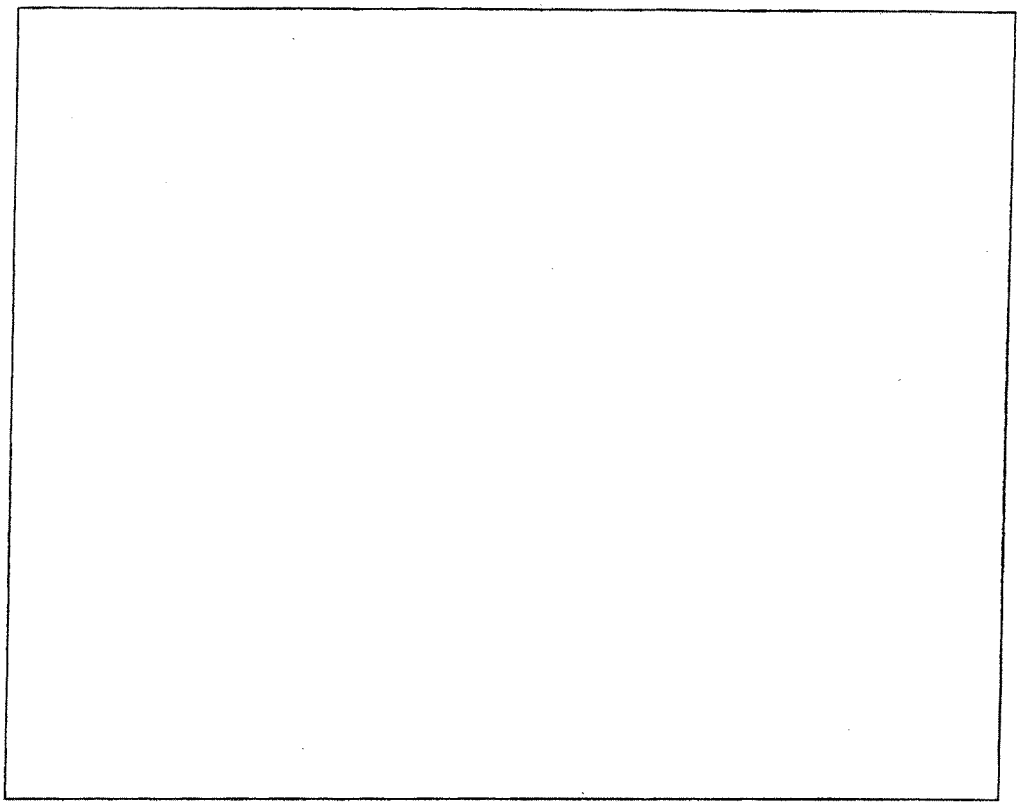
(b) Based on the results in the table, state how taking medicine affects the number of bacteria. [1]

(c) Based on the experiment, which are the changed variable(s) and the measured variable(s)? Tick (✓) the correct box(es). [2]

Variable	Changed variable	Measured variable
type of bacterial infection		
number of bacteria collected each day		
patient with medicine or without medicine		

SCORE	
	4

26 (a) Use a pencil to draw the life cycle of a mosquito using only words and arrows. [1]



(b) Name the stage in the life cycle of a mosquito where it does not increase in size at all after hatching. Explain your answer. [1]

_____

_____

(c) State one characteristic of the adult mosquito that classifies it as an insect. [1]

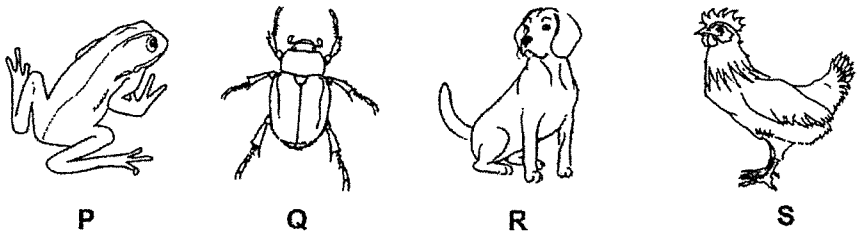
_____

(d) Which stage(s) of a mosquito's life cycle would be directly affected if oil was poured on the surface of the water after the eggs were hatched? [1]

_____

SCORE	/ 4

27 The diagrams show the adult stages of organisms P, Q, R and S.



P Q R S

(a) Match each description of the young to the correct organism. Circle the correct organism(s). [2]

	Description	Circle the correct organism(s)
(i)	The young is a larva.	P / Q / R / S
(ii)	The young does not hatch from eggs.	P / Q / R / S
(iii)	The young lives in water.	P / Q / R / S
(iv)	The young looks like the adult.	P / Q / R / S

(b) Name the group of living things that organism R belongs to. [1]

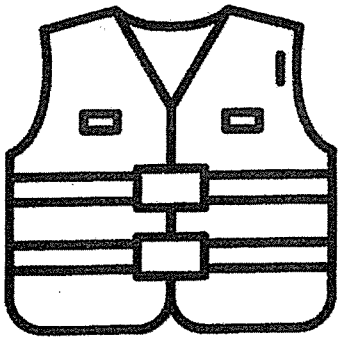
_____

(c) Name another insect that has the same number of stages in its life cycle as organism Q. [1]

_____

SCORE	4

28 The diagram below shows a life jacket.



(a) Name two properties of the life jacket that can prevent the user from drowning. [2]

Property 1: _____

Property 2: _____

(b) Sam wanted to make a see-through bottle that could contain some juice. The bottle would allow Sam to see how much juice was in the bottle.

Which of the following properties do(es) the bottle need to have? [2]

Tick (✓) the correct answer(s).

Property	Tick
It must be flexible.	
It must allow most light to pass through it.	
It must be able to float on water.	
It must be waterproof.	

SCORE	/ 4

29 The table below shows the properties of materials, W, X, Y and Z.

	Material			
Property	**W**	**X**	**Y**	**Z**
strong	✓	✓	✓	×
waterproof	✓	×	✓	×
flexible	×	×	✓	✓

Key
✓: Yes
×: No

(a) Based on the table, state a similarity in the properties between materials W and X. [1]

_____

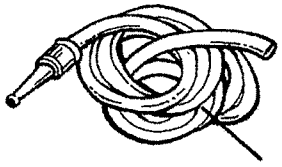
_____

(b) Based on the table, state a difference in the properties between materials Y and Z. [1]

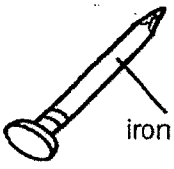
_____

_____

(c) Which of the materials, W, X, Y or Z is most suitable to make the parts of the following objects? [2]

(i)  : _____

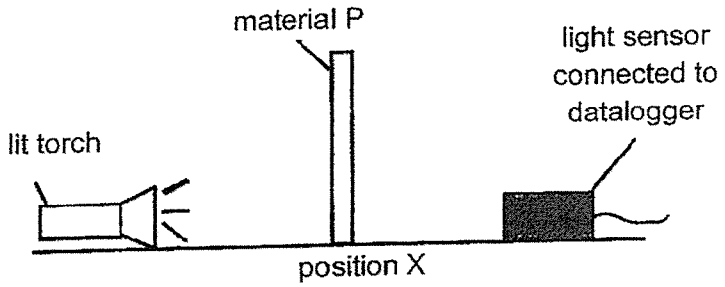
rubber hose

(ii)  : _____

iron nail

SCORE	/ 4

30 Umar set up the following experiment in a dark room.



Umar placed material P at position X as shown above and the amount of light detected by the light sensor was 90 units. He then repeated the experiment with materials Q and R and recorded the amount of light detected in the table below.

	No material placed at X	Material placed at X		
		P	Q	R
Amount of light detected by the light sensor (units)	91	90	0	50

(a) Circle the correct property for materials P and R. [2]

Material	Circle the correct answer
P	Allows (most / some / no) light to pass through
R	Allows (most / some / no) light to pass through

(b) Umar wanted to make a door for a bathroom which would not allow people to look inside. Which of the materials, P, Q, or R, is most suitable for making the door of the bathroom? Explain your answer. [2]

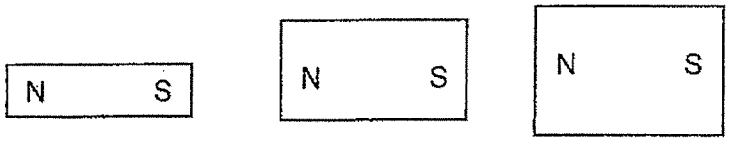
_____

_____

_____

SCORE	/ 4

31 Jimmy had three bar magnets, X, Y and Z, as shown below.



magnet X magnet Y magnet Z

He wanted to find out if the size of the bar magnet affects the number of iron nails that were attracted to it. He counted the number of iron nails that were attracted to each magnet and recorded the results in the table below.

Magnet	X	Y	Z
number of iron nails attracted	20	6	10

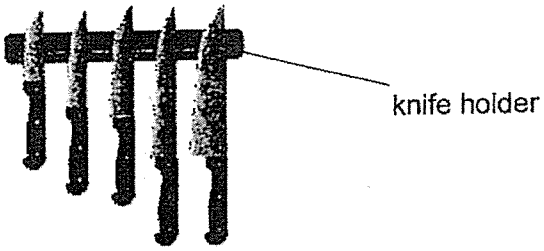
(a) Which variables should Jimmy keep the same to ensure a fair test?
Tick (✓) the correct box(es). [1]

Variables	**To be kept the same**
size of bar magnets	
number of iron nails attracted by bar magnet	
size of iron nails	

(continued on next page)

SCORE 1

Jimmy used one of the bar magnets to make a knife holder. The knife holder can attract the knives as shown below.



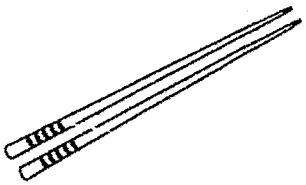
(b) Based on the results in the table, which magnet X, Y or Z should Jimmy use to make the knife holder to attract the most number of knives? [2]
Explain your answer.

_____

_____

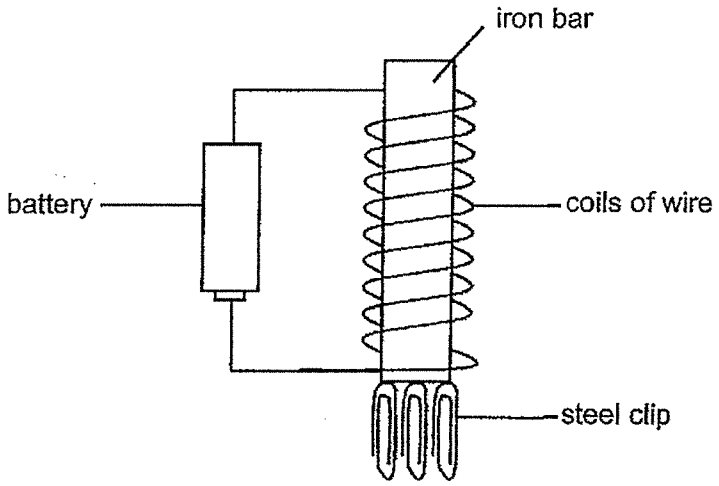
_____

(c) Jimmy had these items in his kitchen as shown below. Which of these items could be attracted by the knife holder? Tick (✓) the correct boxes [1]

 **aluminium foil**	 **plastic spoon**	 **steel fork**	 **wooden chopsticks**

SCORE	3

32 Three steel clips were attracted to an electromagnet as shown below.



(a) Suggest two changes to the set-up to increase the number of steel clips attracted by the electromagnet. [2]

1st change: _____

2nd change: _____

(b) If the iron bar is replaced with a copper bar, what would you observe? Explain your answer. [2]

_____

_____

_____

END OF PAPER

SCORE	/ 4

ST. HILDA'S PRIMARY SCHOOL
PRIMARY 3
END-OF-YEAR EXAMINATION, 2024
SCIENCE
Simplified Answer Key

Booklet A

1.	4	6.	2	11.	2	16.	2	21.	3
2.	3	7.	1	12.	4	17.	2	22.	3
3.	1	8.	3	13.	4	18.	4	23.	1
4.	4	9.	2	14.	1	19.	2	24.	4
5.	2	10.	1	15.	3	20.	3		

Booklet B

This simplified answer key only provides a reference, and the key concepts have been bolded. Variations of students' answers have been accepted if they have shown conceptual understanding.

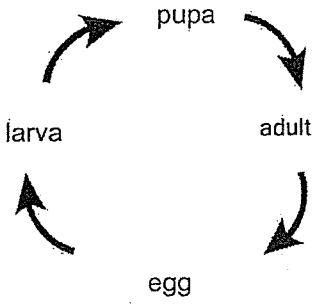
25 (a) Living things / Bacteria reproduce.

(b) Taking medicine **decreases** the number of bacteria measured.

(c)

Variable	Changed variable	Measured variable
type of bacteria infection		
number of bacteria collected each day		✓
patient with medicine or without medicine	✓	

26(a)



(b) Pupa. It does not feed.

(c) It has six legs.

(d)	larva, pupa
27 (a)	(i) Q (i) R (iii) P (iv) R, S
(b)	mammal
(c)	Mosquito / butterfly
28 (a)	Property 1: **waterproof** Property 2: **float on water**
(b)	It must allow most light to pass through. ✓ It must be waterproof. ✓
29 (a)	Both materials W and X are strong.
(b)	Material Y is waterproof but material Z is not waterproof.
(c)	(i) Y (ii) W
30 (a)	P: most R: some
(b)	C: Q E: No light is detected by the light sensor. R: As material Q does not allow light to pass through/ It is opaque. U: So people cannot see into the bathroom.
31(a)	Size of iron nails ✓
(b)	Magnet X It attracts the **most number of iron nails** so it is the **strongest** magnet.
(c)	Steel fork ✓
32(a)	1st change: Increase the number of batteries/ Add more batteries. 2nd change: Increase the number of coils of wire around the iron bar.
(b)	No clips will be attracted to the copper bar. Copper is not a magnetic material. Therefore, copper cannot be magnetised / cannot become an electromagnet.

End of answer key