7

Anglo-Chinese School
(Primary)
A Methodist Institution
(Founded 1886)

END OF YEAR EXAMINATION 2023
SCIENCE
PRIMARY THREE
BOOKLET A

Name: _____ ( ) **Class: Primary 3** ____

Date: 26 October 2023 **Total Time for Booklets A and B: 1 h 30 min**

Additional Materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number and class in the spaces provided.
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. Only the OAS will be marked.

This booklet consists of 15 printed pages including this cover page.

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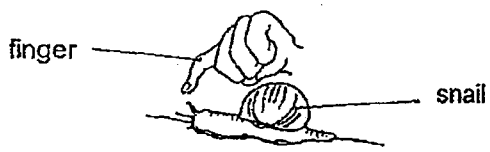
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For each question from 1 to 22, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet.

(44 marks)

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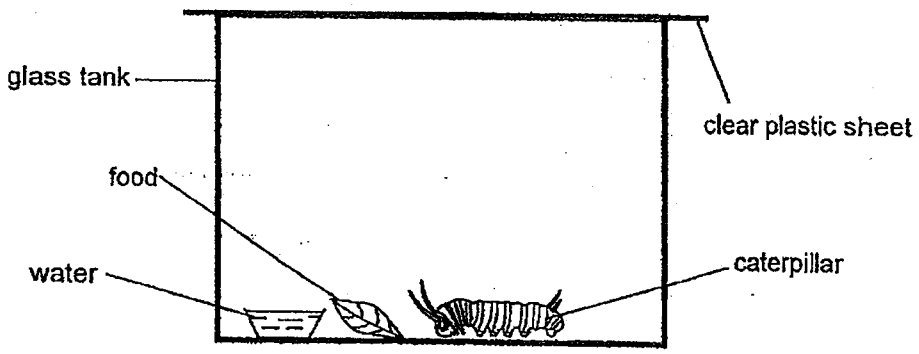
1 A snail hides itself in its shell when touched.



This shows that the snail is a living thing because it _____.

(1) needs air
(2) needs food
(3) can reproduce
(4) can respond to changes

2 Anthony kept a caterpillar in a glass tank with some food and water. He covered the tank with a clear plastic sheet and sealed it tightly to prevent the caterpillar from escaping. The caterpillar died three days later.

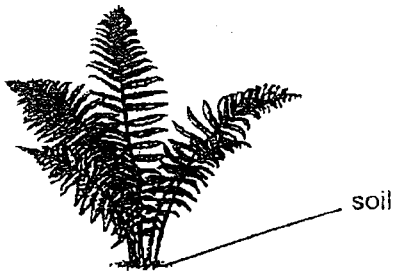


What could Anthony have done to ensure that his caterpillar survived longer?

(1) Place the tank under the sun.
(2) Add more food and water into the tank.
(3) Add more caterpillars into the glass tank.
(4) Poke some holes in the clear plastic sheet.

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3 The picture shows a fern growing in the soil.

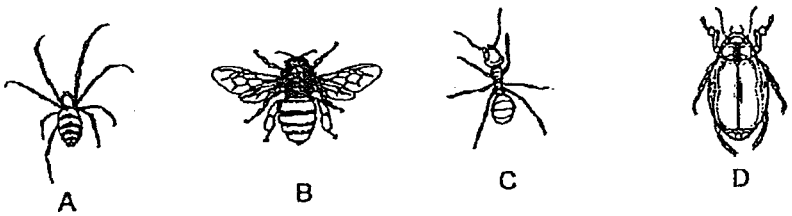


Which of the following statement(s) about the fern is/are true?

A It reproduces by spores.
B It absorbs food from the soil it grows on.
C It is able to make food in the presence of light.

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

4 The diagram shows four animals A, B, C and D.

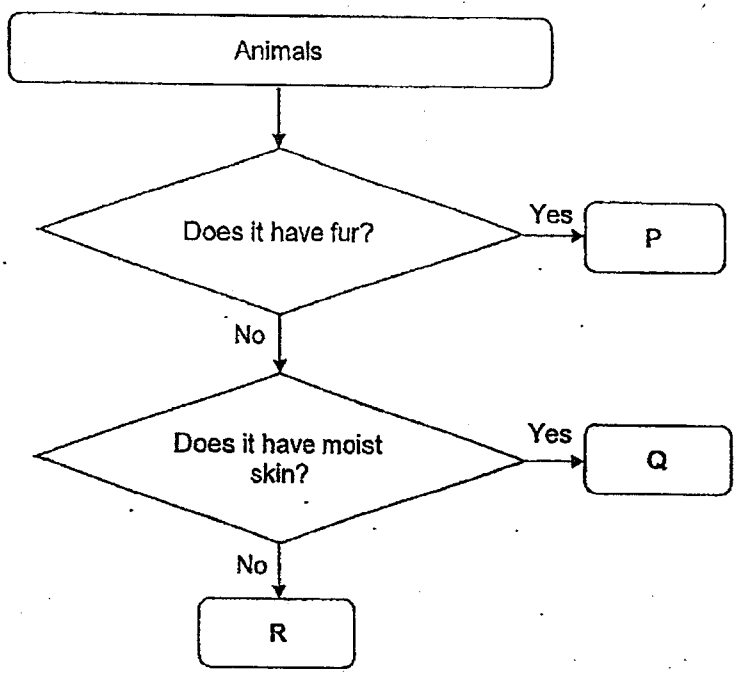


Based on the observable characteristics, which animal does not belong to the same group as the rest?

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

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5 Ameen classifies the three animals, P, Q and R as shown.

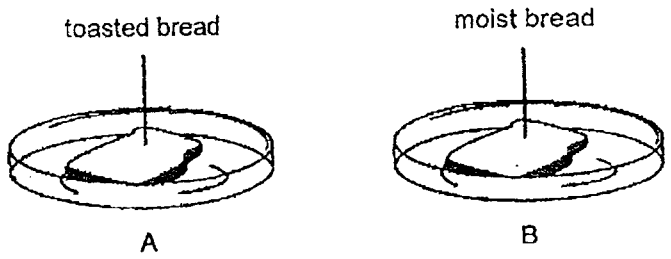


Which groups of animal do P, Q and R belong to?

	P	Q	R
(1)	bird	amphibian	fish
(2)	bird	fish	reptile
(3)	mammal	fish	amphibian
(4)	mammal	amphibian	reptile

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6 Alvin had two slices of bread from the same loaf, A and B. He toasted slice A and sprinkled some water on slice B. He left each bread on a plate in the kitchen and they were untouched for five days.



At the end of the fifth day, mould was observed on Bread B and no mould was seen on Bread A. Based on the observations only, what can Alvin conclude?

(1) Mould needs water to grow.
(2) Mould reproduce by spores.
(3) Mould gets food from the bread.
(4) Mould makes food using sunlight.

7 Three students made statements about bacteria.

Alex : Bacteria comes in different shapes.
Betty : All bacteria are harmful to us.
Charles : Bacteria can only be seen with a microscope.

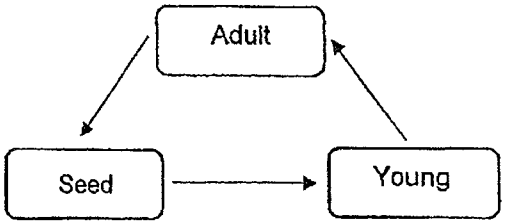
Which student(s) is/are correct?

(1) Alex only
(2) Alex and Charles only
(3) Betty and Charles only
(4) Alex, Betty and Charles

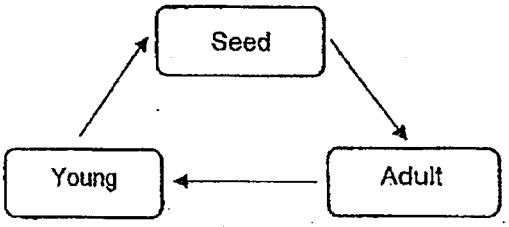
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8 Which of the following shows the life cycle of a plant?

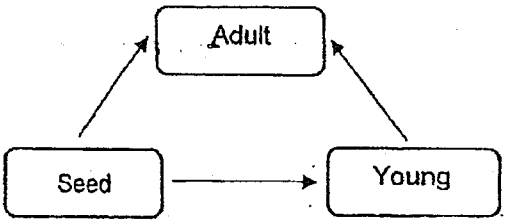
(1)



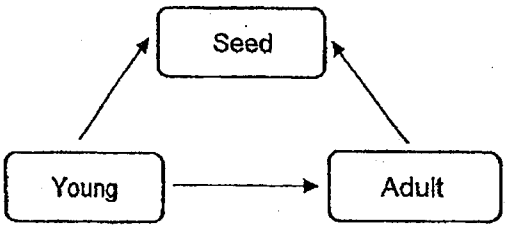
(2)



(3)



(4)



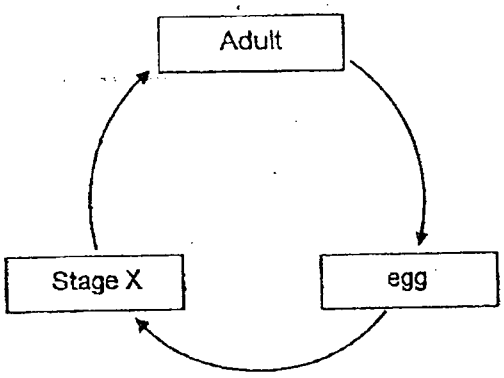
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9 The plant below is at its _____ stage.

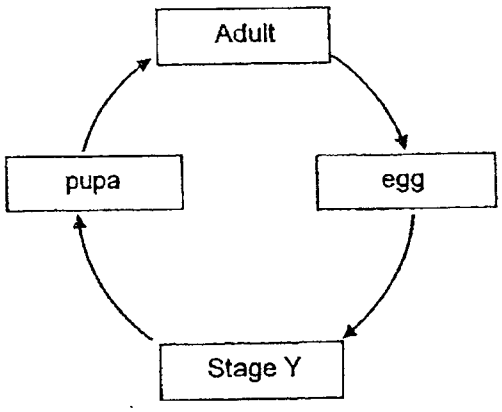


(1) seed
(2) adult
(3) spore
(4) young

10 The diagram shows the life cycles of a grasshopper and mealworm beetle.



Life cycle of grasshopper



Life cycle of beetle

Which of the following is a similarity between the animals at stage X and stage Y?

(1) Both can moult.
(2) Both do not eat.
(3) Both have wings.
(4) Both look like the adult.

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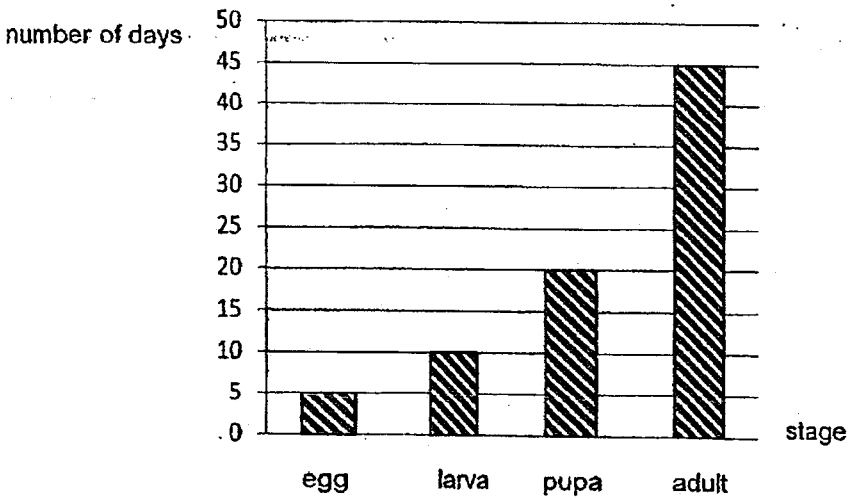
11 At which stage is the butterfly is harmful to the farmers' plants?

(1) egg
(2) larva
(3) adult
(4) pupa

12 Which statement about the life cycles of both the butterfly and chicken is correct?

(1) Both their young do not have wings.
(2) Both have four stages in their life cycle.
(3) Both their young do not look like the adult.
(4) Both spend all the stages of their life cycles on land.

13 The bar graph shows the stages and the number of days that animal Z spends at each stage of its life cycle.

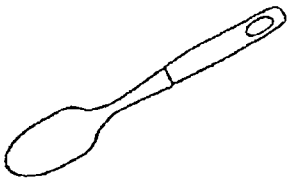


How many days does it take for animal Z to become a pupa after hatching from its egg?

(1) 5
(2) 10
(3) 15
(4) 20

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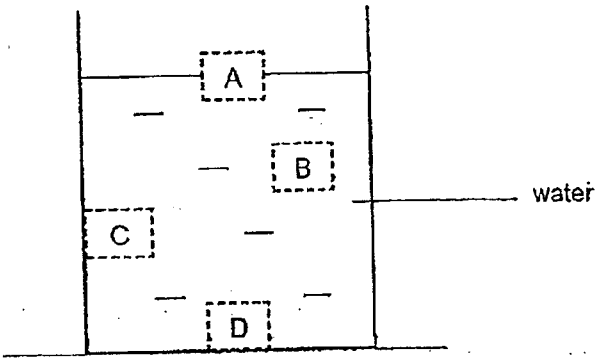
14 Jill wanted to find out the positions of a metal spoon and a rubber ball when the two objects are placed in the water.



metal spoon



rubber ball

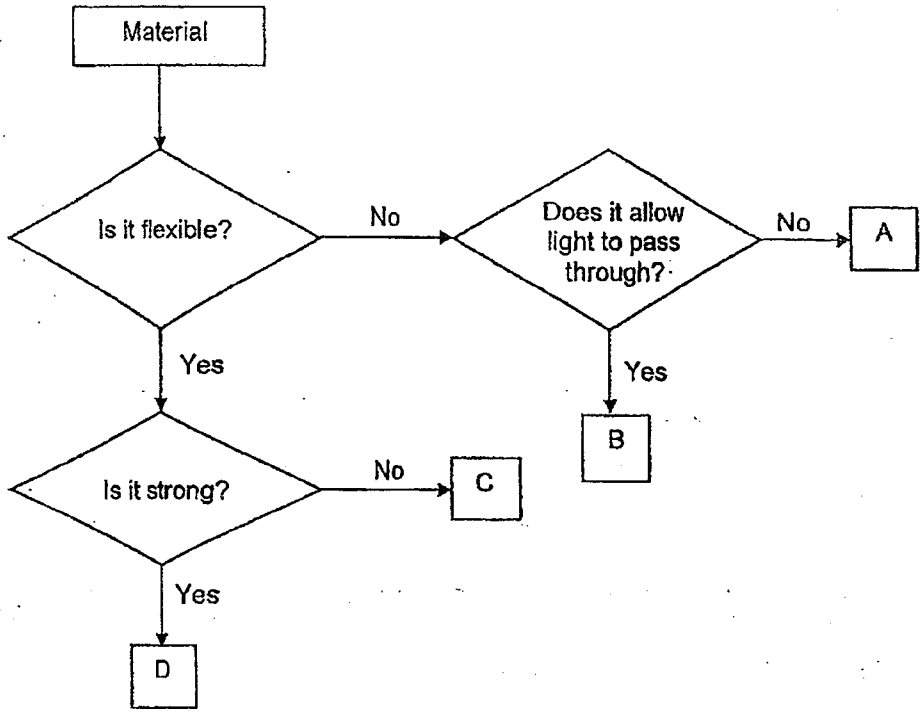


Which of the following correctly shows the position of the metal spoon and rubber ball correctly?

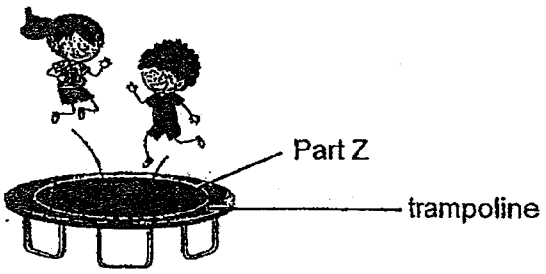
	Metal spoon	Rubber ball
(1)	D	C
(2)	B	A
(3)	D	A
(4)	A	D

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15 Study the flowchart.



The diagram shows two children bouncing up and down on a trampoline.

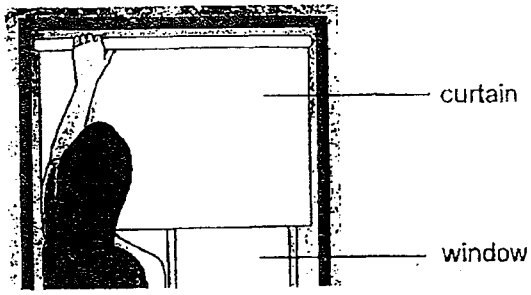


Based on the above flowchart above, which material, A, B, C or D, is most suitable to make part Z of the trampoline?

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

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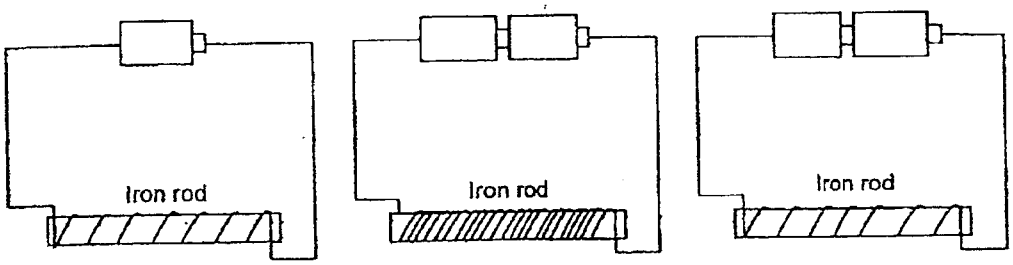
16 Dawn would like her room to be completely dark during the day.



Based on the information above, which property should the curtain have?

(1) Absorbs water easily
(2) Tears easily when pulled
(3) Allows some light to pass through
(4) Does not allow light to pass through

17 Three identical iron rods are used to make electromagnets A, B and C in the set-ups as shown.



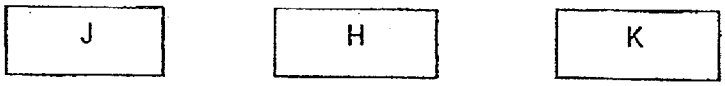
Set-up A Set-up B Set-up C

Arrange the electromagnets from the strongest to the weakest.

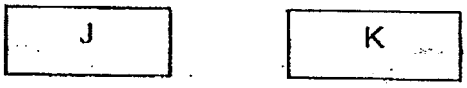
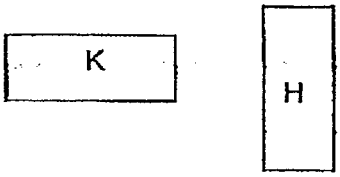
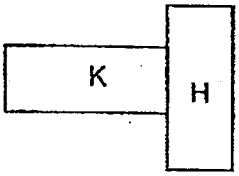
(1) B, C, A
(2) B, A, C
(3) A, B, C
(4) A, C, B

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18 Carrie has 3 similar-sized steel bars, J, H and K, as shown.



Carrie placed the steel bars near each other and recorded her observations in the table below.

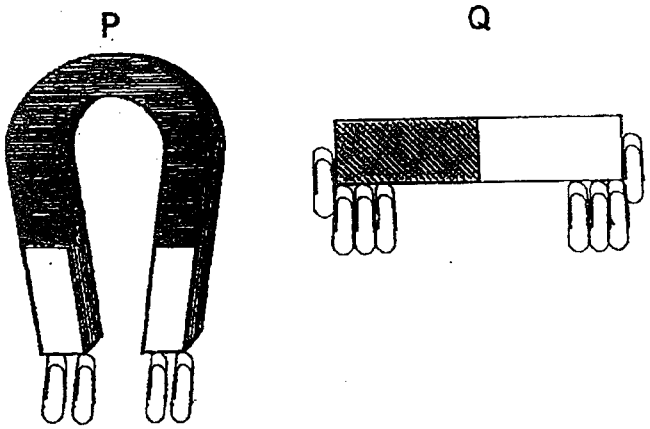
Arrangement of steel bars	Observations
	
	
	

Based on the above observations, which of the steel bars are definitely magnets?

(1) J and H only
(2) J and K only
(3) H and K only
(4) J, H and K

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19 The diagram shows two magnets, P and Q. Paper clips are attracted to the magnets.



Three students made the following comments.

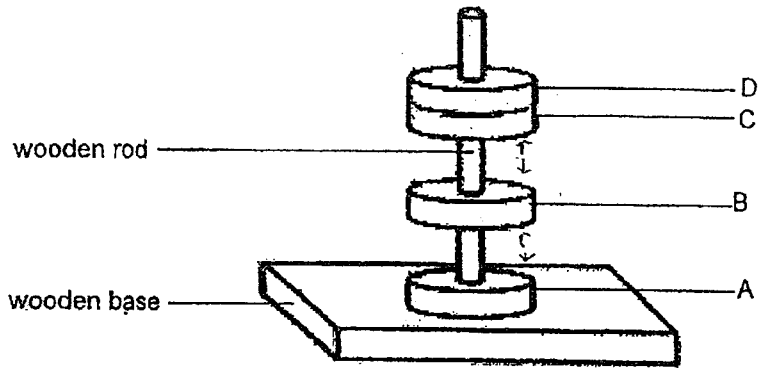
Andy: P and Q are made of aluminium.
Bala: The paper clips are made of magnetic materials.
Claudia: P is a stronger magnet than Q.

Which student(s) is/are definitely correct?

(1) Andy only.
(2) Bala only.
(3) Andy and Bala.
(4) Bala and Claudia.

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20 The diagram shows what happens when 4 ring-shaped objects, A, B, C and D, were placed through a wooden rod.



Which objects are definitely magnets?

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

21 Barry made three magnets, P, Q, R, using the stroke method with different number of strokes. The table below shows the number of clips each magnet can attract.

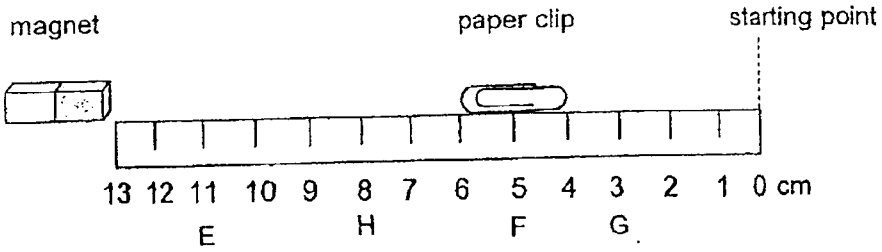
Magnet	Number of strokes	Number of clips attracted
P	10	?
Q	15	12
R	5	3

What is the number of clips most likely attracted by magnet P?

(1) 0
(2) 3
(3) 6
(4) 22

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22 An experiment was carried out by placing four different magnets, E, F, G, H, one at a time at one end of a ruler.



Ismail moved the paper clip slowly from the starting point towards the magnet until it was attracted by the magnet. The distance from which the paper clip was attracted to the magnet was recorded in the table.

Magnet	Distance the paper clip was attracted/ cm
E	11
F	5
G	3
H	8

Based on the results, which is the strongest magnet?

(1) Magnet E
(2) Magnet F
(3) Magnet G
(4) Magnet H

(Go on to Booklet B)

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Anglo-Chinese School
(Primary)
A Methodist Institution
(Founded 1886)

END OF YEAR EXAMINATION 2023
SCIENCE
PRIMARY THREE
BOOKLET B

Name: _____ ( ) **Class: Primary 3** ____

Date: 26 October 2023 **Total Time for Booklets A and B: 1 h 30 min**

_____
Parent's/ Guardian's signature

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number and class in the spaces provided.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

BOOKLET	MAX MARKS	MARKS OBTAINED
A	44	
B	36	
Total	**80**	

This booklet consists of 12 printed pages including this cover page.

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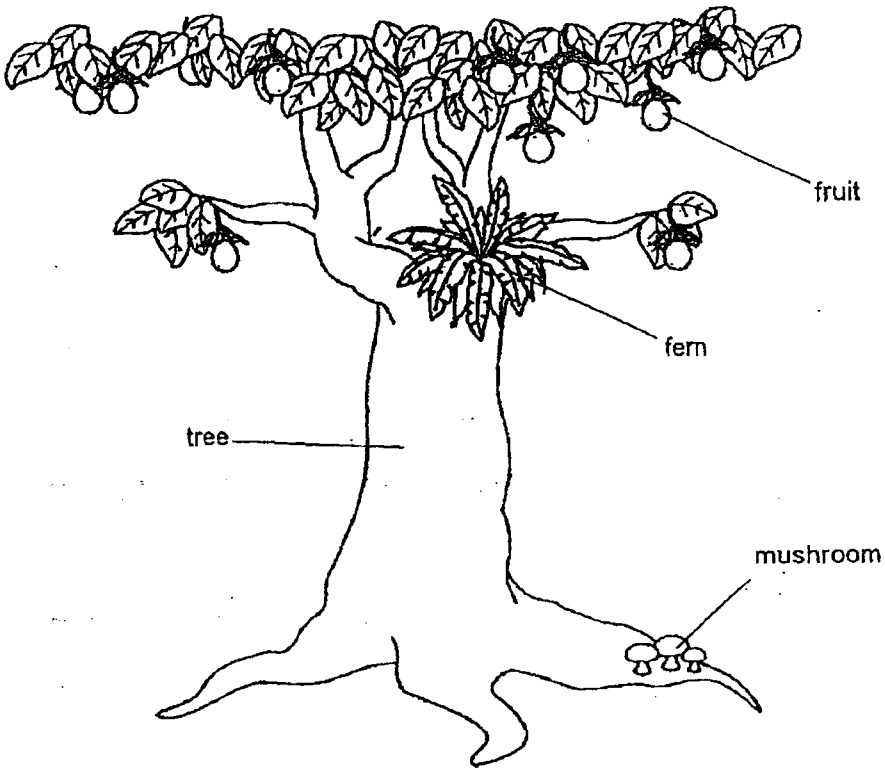
For questions 23 to 33, write your answers in this booklet.

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

(36 marks)

---

23 The diagram below shows some living things. The fern and mushrooms are growing on the tree.



(a) State a difference between how the fern and the mushroom obtain food. [1]

_____

_____

(b) State a similarity between how the fern and the mushroom reproduce. [1]

_____

_____

(c) Based on the information given above, is the tree a flowering plant? Explain. [2]

_____

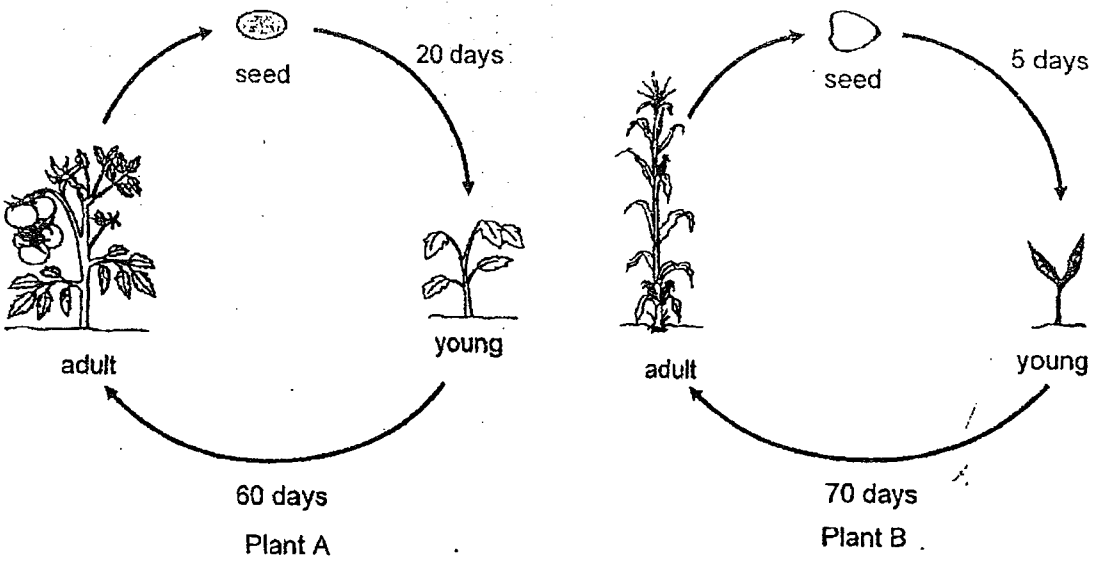
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Score	/4

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24 The life cycles of two types of plants, A and B, are shown below.



Based on the information given, answer the following questions.

(a) Which plant takes a longer time to develop into an adult from a seed? [1]

_____

(b) State a similarity between the life cycles of plant A and B. [1]

_____

_____

(c) Place a tick (✓) to indicate if the statement about life cycle of a plant is true of false. [2]

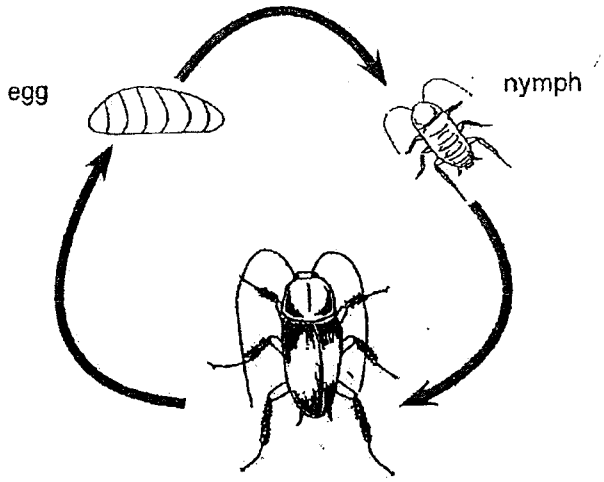
	True	False
All life cycle of a flowering plant starts with the seed stage.		
A plant at young stage can reproduce when it is tall enough.		
All plants follow the same life cycle as their parent.		
Some flowering plants have four stages in their life cycle.		

(Go on to the next page)

Score	/4

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25 The diagram shows the life cycle of a cockroach.



Based on the information given, answer the following questions:

(a) State a characteristic that is different between the cockroach nymph and the adult cockroach. (Do not compare the shape or size of the animals and of their body parts.) [1]

_____

_____

(b) State a characteristic that is similar between the cockroach nymph and the adult cockroach. [1]

_____

_____

The adult cockroach lays many eggs that hatch into nymphs.

(c) State an advantage of laying many eggs at one time. [2]

_____

_____

_____

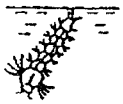
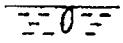
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26 The pictures of the mosquito at different stages of its life cycle are shown below.

(a) Draw a line to match the picture to the correct stage name. [2]

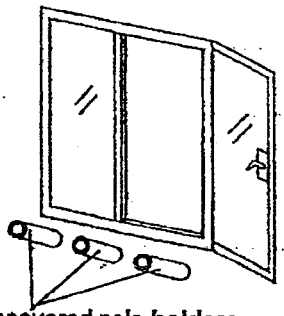
picture	stage
	pupa
	adult
	egg
	larva

(b) Circle the correct answer. [1]

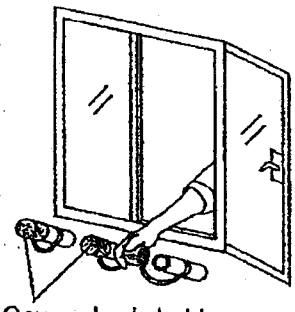
The mosquito has the same number of stages in its life cycle as a

(*frog* / *chicken* / *butterfly*).

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



Uncovered pole holders



Covered pole holders

(c) Based on the life cycle of mosquito, explain how covering the bamboo pole holders reduces the number of mosquitoes breeding? [1]

_____

_____

_____

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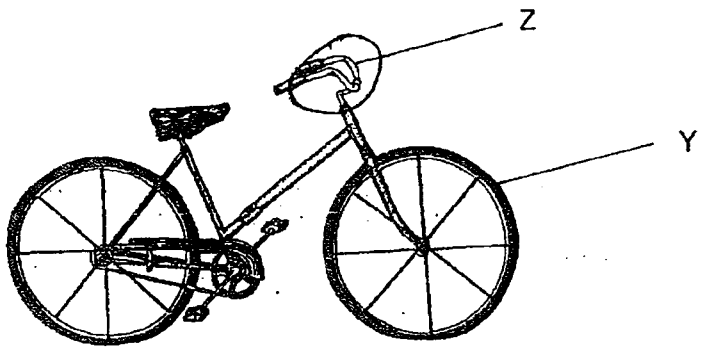
Score	/4

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27 The table shows the different physical properties of 4 materials, A, B, C and D.

Physical Property	Material			
	A	B	C	D
Flexible	x	✓	x	✓
Waterproof	✓	✓	✓	x
Breaks when dropped	✓	x	x	x

The diagram shows a bicycle.



(a) Which material is most suitable to make Part Z? [1]

Material _____

(b) Which material is most suitable to make Part Y? [1]

Material _____

(c) Which one of the following objects is most likely to be made of material B? Circle the correct answer. [1]

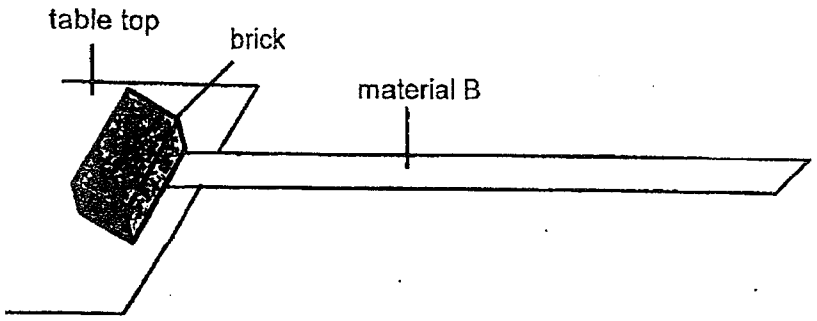
Bathroom tile	Glass rod
Bath towel	Water hose

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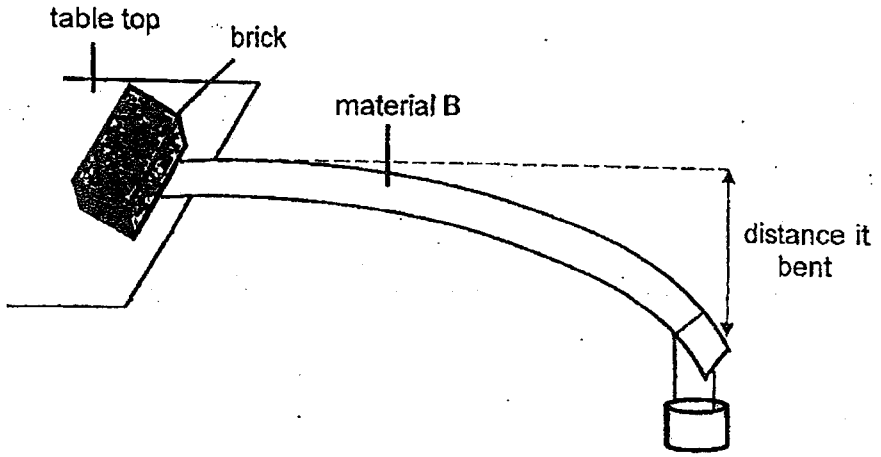
Score 3

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28 Lex wanted to find out how flexible some materials are. He placed a strip of material B on a table top as shown below.



He hung a weight at the end of material B and measured the distance that it bent, as shown below.



Lex then repeated the experiment using 3 other materials, C, D and E, and recorded the results in the table below.

Material tested	Distance each material bends / cm
B	7
C	5
D	0
E	12

(a) Arrange the materials, B, C, D and E, according to their flexibility below. Begin with the most flexible material. [1]

_____ , _____ , _____ , _____

most flexible least flexible

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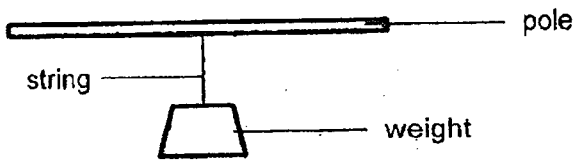
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(b) Tick (✓) in the correct boxes to show if each of the following variables should be 'kept the same' or 'changed'. [2]

	Variable	Kept the same	Changed
(i)	Mass of the brick		
(ii)	Mass of the weight		
(iii)	Length of material		
(iv)	Type of material		

29 An experiment is carried out to compare the strength of four poles made from different materials, A, B, C and D. Weights are added onto the pole until it breaks.



The table below shows the mass of the weights that are added to the pole.

Pole	Mass of weights / kg
A	8
B	14
C	18
D	25

(a) State one variable that must be kept constant to ensure a fair test. [1]

_____

_____

(b) Mr Lee wants to choose a pole to hang a weight of 24 kg. Which pole should he choose? Explain your answer. [2]

_____

_____

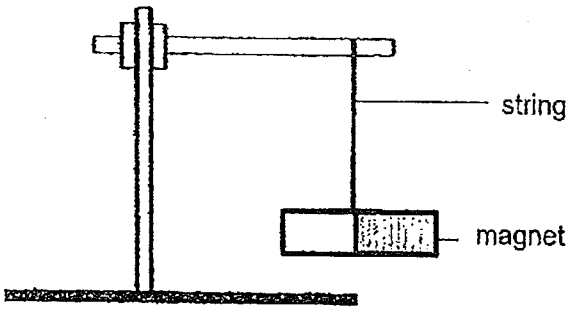
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Score / 5

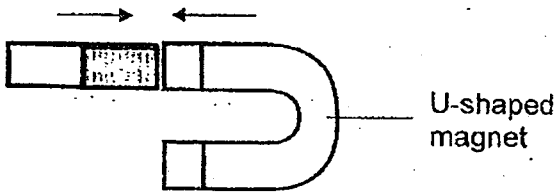
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30 Derek tied a magnet to a retort stand and spun it a few times. The bar magnet always came to rest in the same direction.



(a) State the direction at which the magnet came to rest. [1]

Derek took a U-shaped magnet and placed it close to a pole of the same bar magnet. He observed that both magnets moved towards each other as shown.



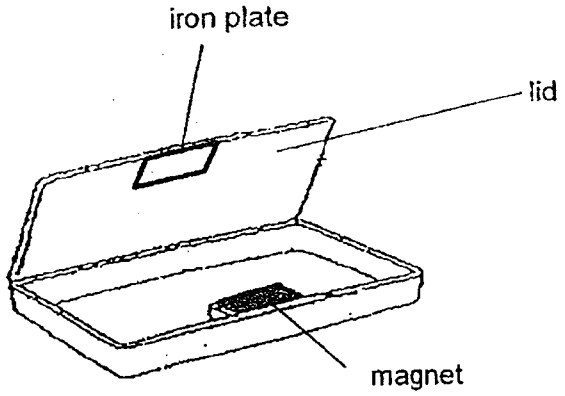
(b) Explain Derek's observation using the properties of magnets. [1]

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Score 2

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31 A pencil case uses a magnet and an iron plate to keep the lid closed.



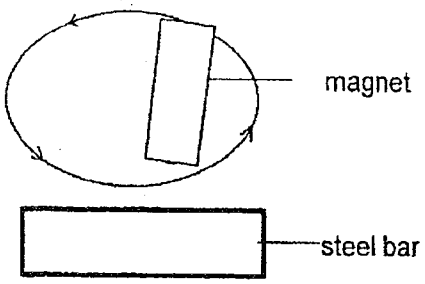
When the pencil case dropped, the iron plate dropped off and was replaced with a copper plate. It was then observed that the lid could not stay close. Suggest a reason for this observation. [2]

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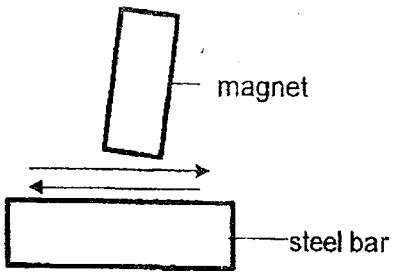
Score 2

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32 Nile wanted to magnetise a steel bar using a magnet. He stroked the steel bar with the magnet in two different methods 50 times continuously.



method P



method Q

(a) Which method, P or Q will magnetise the steel bar?. [1]

Method _____

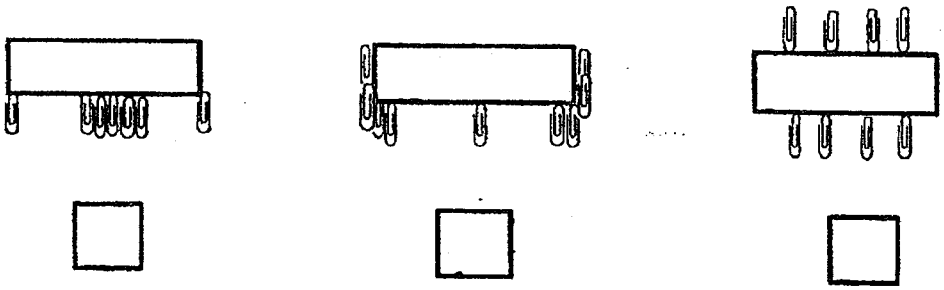
(b) Circle the correct answer. [1]

To correctly use the stroking method, the full length of the steel bar is stroked with

(*one* / *both*) pole(s) of the magnet repeatedly in

(*one* / *both*) direction(s).

He then brought the magnetised steel bar near some steel clips. He observed that the magnetised steel bar attracted the steel clips until no more could be attracted.



(c) Put a tick in the correct box below the diagram that shows his observation correctly. [1]

(d) Explain his observation. [1]

_____

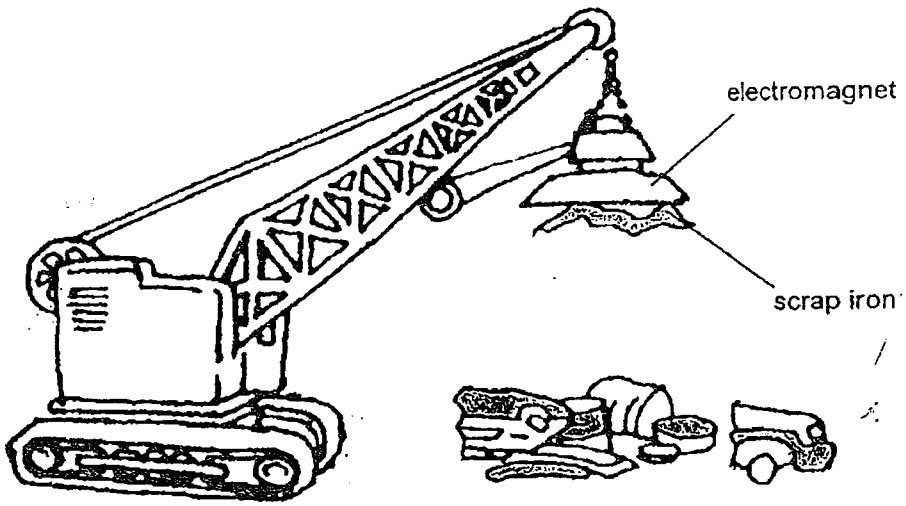
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Score /4

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33 The diagram below shows a crane at a junkyard. The crane has an electromagnet to pick up scrap iron from the pile of junk.



(a) Explain how this electromagnet is able to separate the iron from the other materials. [2]

(b) What will happen to the scrap iron that was picked up by the electromagnet when the electromagnet is turned off? [1]

End of Paper

Score 3

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SCHOOL : ANGLO-CHINESE PRIMARY SCHOOL
LEVEL : PRIMARY 3
SUBJECT : SCIENCE
TERM : 2023 SA2

CONTACT :

BOOKLET A

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

BOOKLET B

Q23)

(a) Fern makes its own food but mushrooms absorb food from where they grow.

(b) Both reproduce by spores.

(c) Yes, as it is able to produce flowers and all fruits develop from flowers.

Q24)

(a) Plant A

(b) Both have three-stage life cycles.

(c)

	True	False
All life cycle of a flowering plant starts with the seed stage.		✓
A plant at young stage can reproduce when it is tall enough.		✓
All plants follow the same life cycle as their parent.	✓	
Some flowering plants have four stages in their life cycle.		✓

Q25)

(a) Adult has wings but nymph does not.

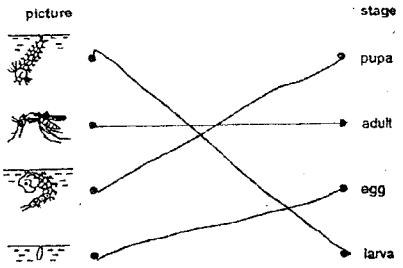
(b) Both adult and nymph have 2 feelers/6 legs/3 body parts.

(c) It is to ensure that at least some eggs can hatch and develop to , adult stage to continue the life cycle.

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Q26)

(a)



(b) Butterfly

(c) So that bamboo pole holders do not collect stagnant water for the mosquito to lay eggs in.

Q27)

(a) C

(b) B

(c) water hose

Q28)

(a) E, B, C, D

(b)

	Variable	Kept the same	Changed
(i)	Mass of the brick	✓	
(ii)	Mass of the weight	✓	
(iii)	Length of material	✓	
(iv)	Type of material		✓

Q29)

(a) Length of string/ Material of string

(b) Pole D. It can carry more than 24 kg before breaking and is the suitable material.

Q30)

(a) North-south direction

(b) The unlike poles of the two magnets were facing each other and repel each other.

Q31)

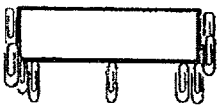
Copper is a non-magnetic metal so it will not be attracted by the magnet.

Q32)

(a) Method P

(b) ....one.....one.....

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	 (c) ☑ (d) The magnet has the strongest magnetic attraction at its poles.
Q33)	(a) Iron is a magnetic material and can be attracted by the electromagnet. (b) The iron will fall back down.

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