HENRY PARK PRIMARY SCHOOL
2014 SEMESTRAL EXAMINATION 2
SCIENCE
PRIMARY 3

Duration of Paper: 1 h 30 min

80

Name: _____ ( ) Parent's Signature:

Class: Pr 3 _____ _____

Section A : Multiple-Choice Questions (40 marks)

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 (1, 2, 3 or 4) on the Optical Answer Sheet.

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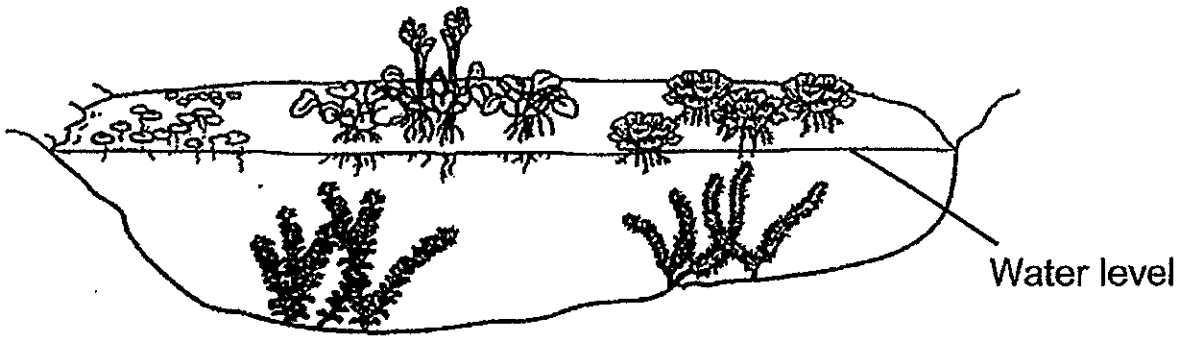
1. Study the plants found in the pond below.



How can we classify the plants shown above into two groups?

(1) Ferns and mosses
(2) Water plants and land plants
(3) Floating plants and underwater plants
(4) Plants with roots and plants without roots ( )

2. Diagram A shows a puffer fish. When the puffer fish is attacked, it makes itself look bigger as shown in Diagram B.

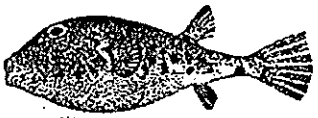


Diagram A

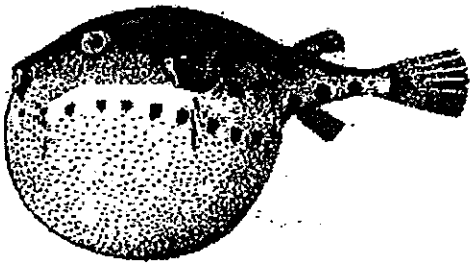


Diagram B

Based on the observation above, we can conclude that the puffer fish is a living thing because it can

_____.

(1) die
(2) grow
(3) respond to changes
(4) attack other living things ( )

3. Study the statements made by the four pupils below.

Aqil: When I press some clay, it will change its shape. Therefore, it is a living thing because it responded to my touch.

Balu: When I touch the leaves of a mimosa plant, it will close its leaves. Therefore, a mimosa is a living thing.

Chun Li: My toy robot can speak and move from place to place. Therefore, it is a living thing.

Desmond: Only animals and plants are living things.

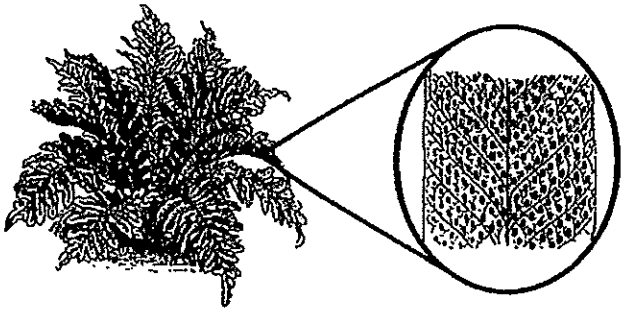
Whose statement is correct?

(1) Aqil
(2) Balu
(3) Chun Li
(4) Desmond ( )

4. Both reptiles and fish have _____ .

(1) fins
(2) gills
(3) shells
(4) scales ( )

5. Observe the organisms below.



Organism Y

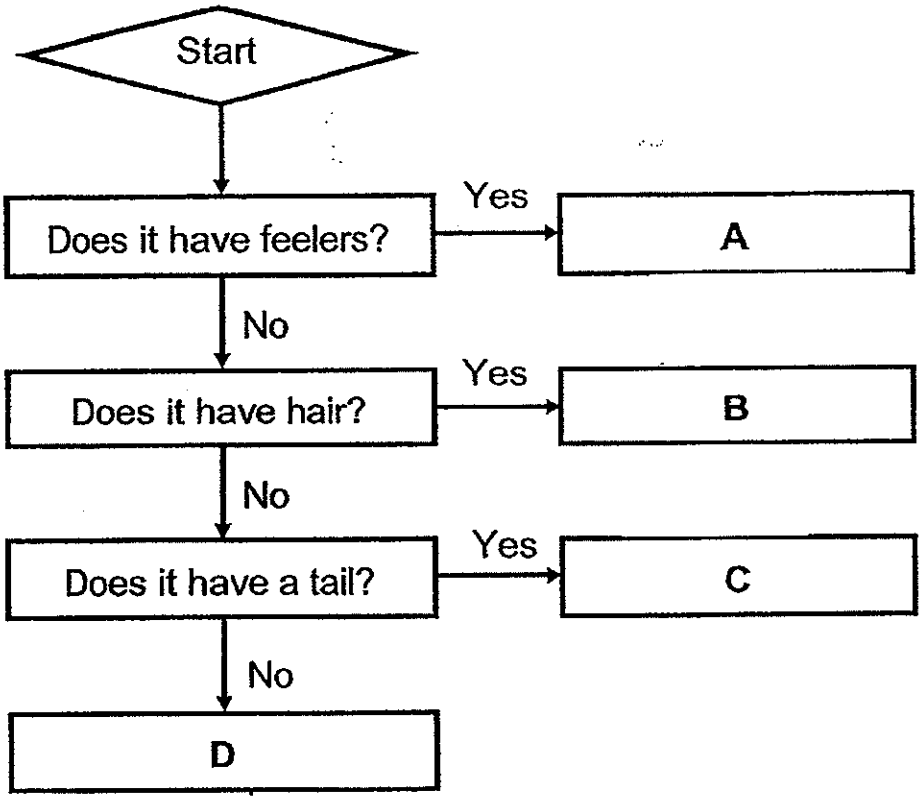
Organism Z

How do organisms Y and Z reproduce?

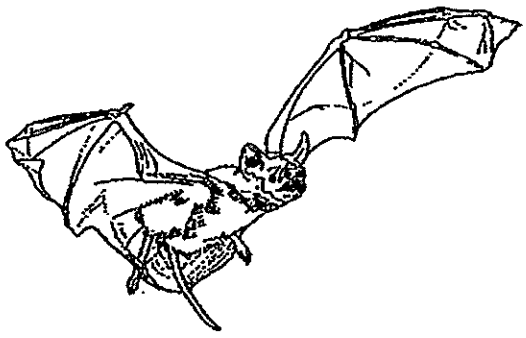
	By spores	By seeds
(1)	Y	Z
(2)	Z	Y
(3)	Y and Z	-
(4)	-	Y and Z

( )

6. The flowchart below shows characteristics of animals A, B, C and D.



The diagram below shows a bat.

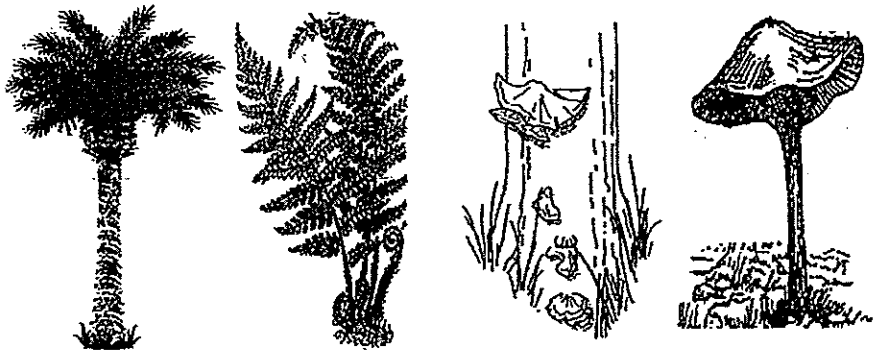


Based on the flowchart, which of the following letters most likely represents the bat?

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

( )

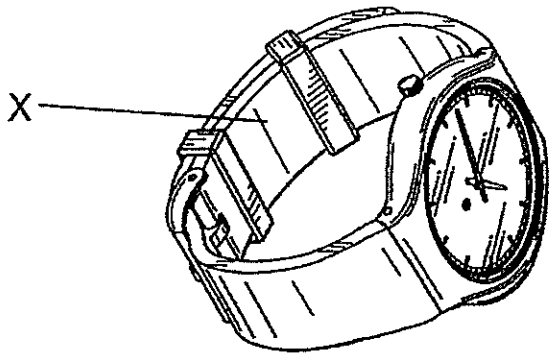
7. Which of the following living things reproduce from spores?



A B C D

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

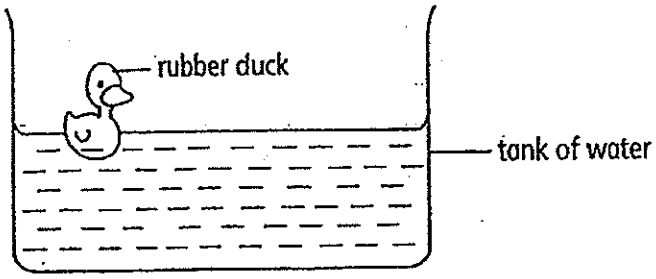
8. The picture below shows a watch.



Part X fits around the wrist of a person because it _____.

(1) is strong
(2) is flexible
(3) is waterproof
(4) floats on water ( )

9. Ernie has a rubber duck. He places the rubber duck into a tank of water as shown below.

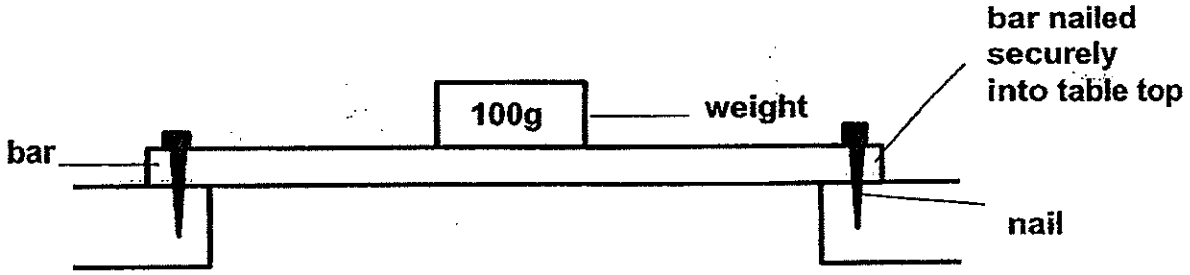


In which group(s) can the rubber duck be put in?

Group A	Group B	Group C
Iron nail	Wooden cork	Steel ball
Needle	Plastic bottle	Table tennis ball

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

10. Siva carried out an experiment to investigate the strength of three bars of different materials A, B and C as shown below.



SPACE

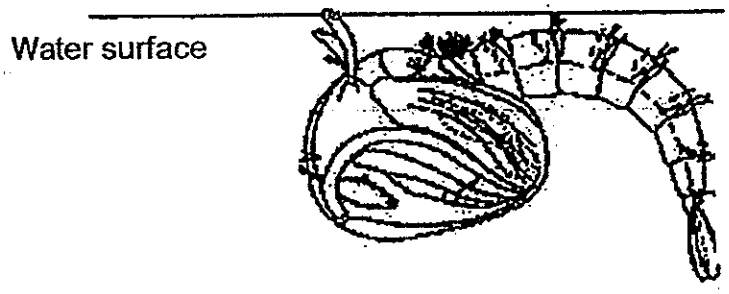
He placed 100g weights one by one on the materials until the bar broke.
He recorded the results as shown in the table below.

Bar	Maximum weight before the bar broke
A	600 g
B	2000 g
C	1400 g

What can Siva conclude from this experiment?

(1) Bar A is stronger than Bar B.
(2) Bar B is stronger than Bar C.
(3) Bar A is stronger than Bar B and C.
(4) Bar C is stronger than Bar A and B. ( )

11. The diagram below shows a stage in the life cycle of a mosquito.



Which of the following statements about the organism at this stage is correct?

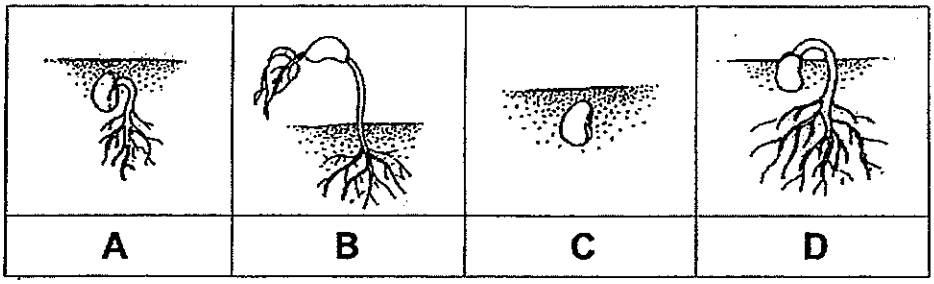
(1) It reproduces.
(2) It does not breathe.
(3) It stops developing at this stage.
(4) It will turn into an adult after this stage. ( )

12. Which of the following statement(s) is/are correct about the young of a cockroach?

A: It does not moult as it grows.
B: It undergoes similar stages of growth as its parents.
C: It flies around to look for food immediately after it hatches from an egg.

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

13. The diagram below shows the different stages of a plant's growth.



A	B	C	D

Which of the following represents the correct order of growth of the plant shown above?

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

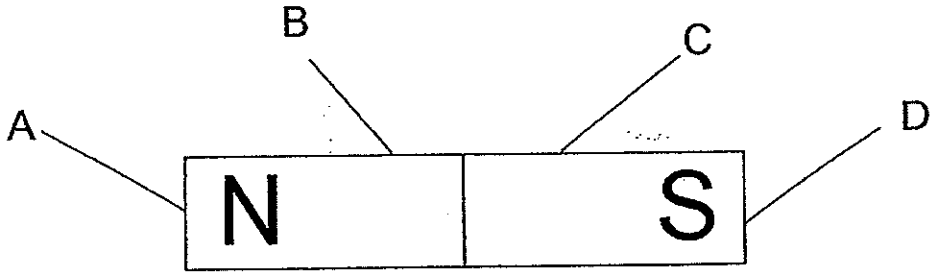
14. Daniel set up P, Q, R and S with different conditions present for his seeds to germinate in the following table:

Setups	Conditions			
	Water	Air	Light	Warmth
P	✓			
Q		✓		✓
R		✓	✓	
S	✓	✓		✓
✓ - condition present				

In which setup will the seeds most likely germinate in?

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

15. The diagram below shows a bar magnet.



Part C of the bar magnet is able to attract 8 iron nails.

Which of the following shows the likely results for the number of nails attracted by parts A, B and D of the bar magnet?

	A	B	D
(1)	13	7	14
(2)	7	13	15
(3)	8	13	7
(4)	14	13	8

( )

16. Ailing conducted an experiment to observe how three objects X, Y and Z, would interact with a magnet. Ailing brought the magnet close to each of the three objects X, Y and Z. She then recorded her observations in the table below.

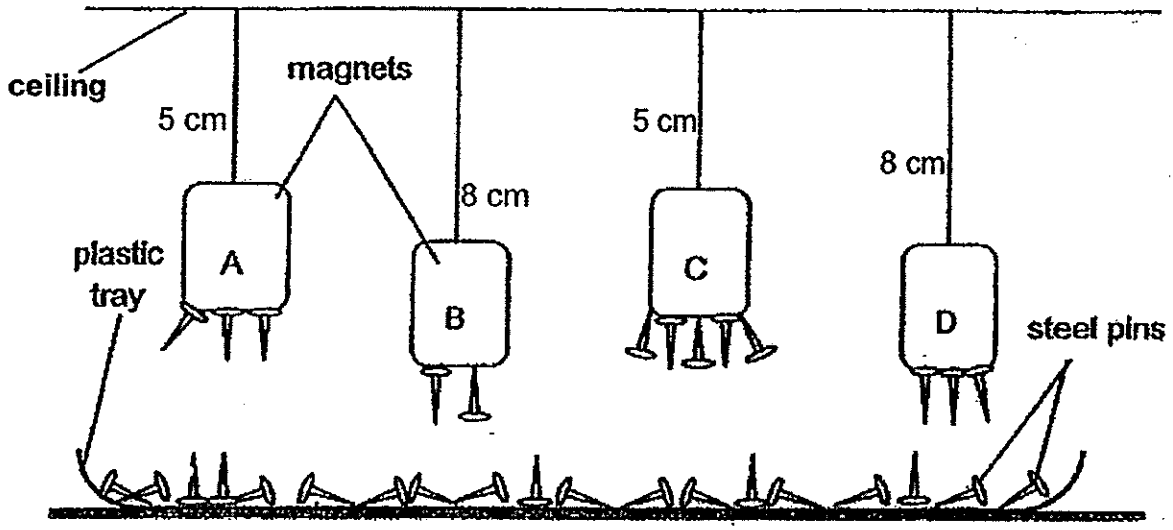
Object	Observations
X	It moved towards the magnet
Y	It did not move
Z	It moved away from the magnet

Based on the above observations, which one of the following most likely represents object X, Y and Z?

	X	Y	Z
(1)	Iron Nail	Copper Wire	Magnet
(2)	Aluminium Foil	Iron	Eraser
(3)	Copper Wire	Eraser	Magnet
(4)	Magnet	Aluminium Foil	Iron Nail

( )

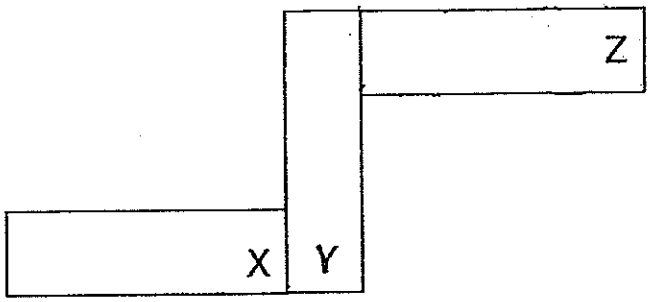
17. Four identical bar magnets A, B, C and D are hanging from strings of different lengths from a ceiling as shown in the drawing below.



Arrange the above magnets according to their magnetic strength from the strongest to the weakest.

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

18. The diagram below shows the arrangement of three bar magnets, each with a pole labelled as X, Y and Z respectively.



Which of the following shows the poles X, Y and Z correctly?

	X	Y	Z
(1)	North	South	South
(2)	South	North	South
(3)	North	North	South
(4)	South	South	North

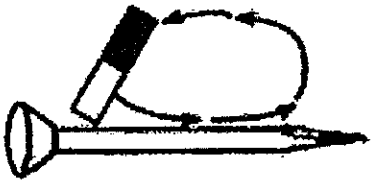
( )

19. Clariss learnt that a nail can be made into a magnet by stroking it with a magnet.

Which is the correct way of doing it?

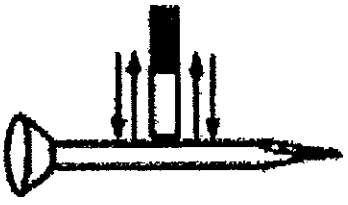
(1)

(2)



(3)

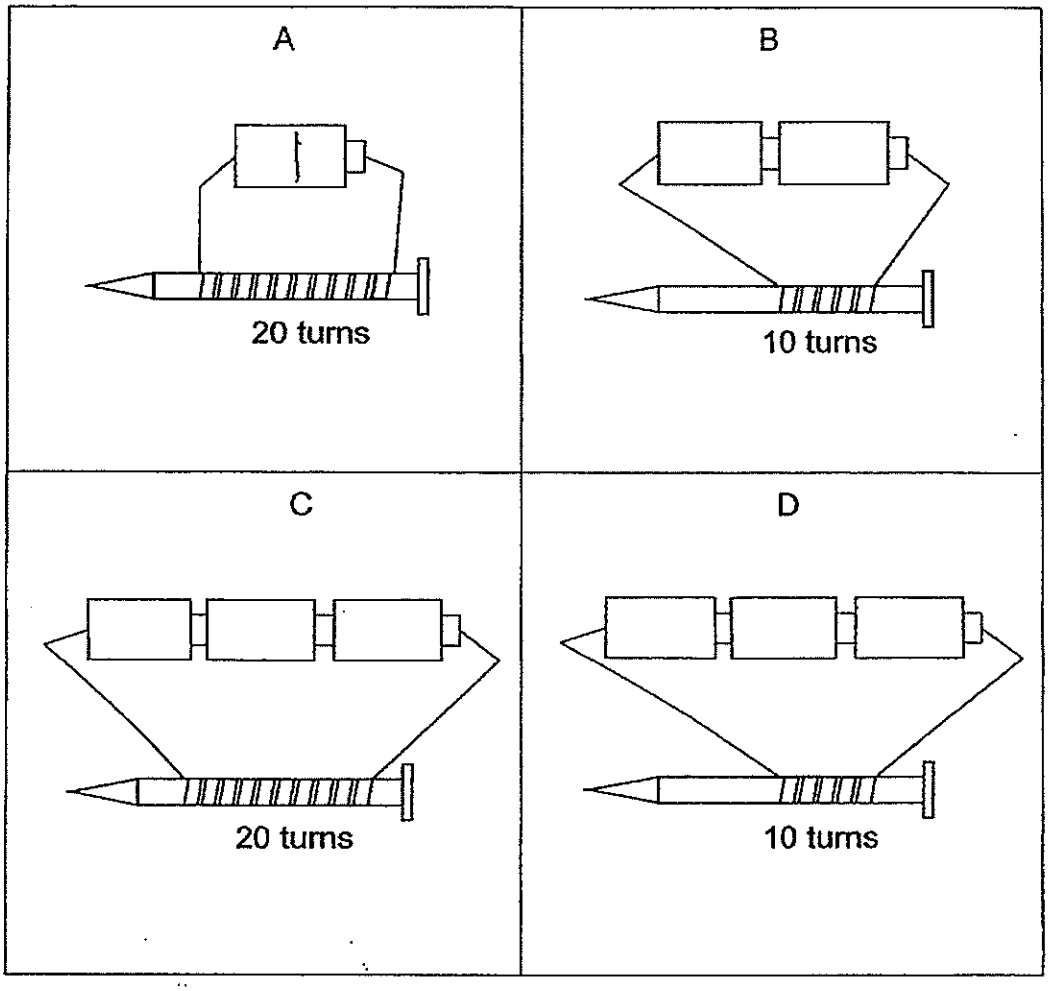
(4)



( )

20. Jie Min learnt that an iron nail is magnetised when it is wound with a coil of wire connected to batteries.

She wanted to find out whether the number of turns of the coil of wire affected the strength of the magnetised iron nail. She set up four arrangements as shown in the diagrams below.



Which two arrangements should she use for a fair test?

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

End of Section A

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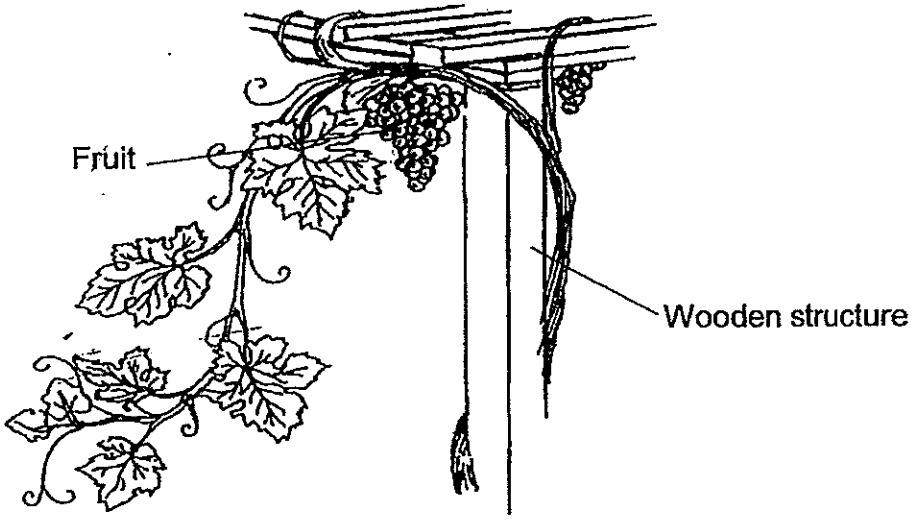
Section B: Structured Questions (16 marks)

For each question from 21 to 28, write your answers in the spaces given.

21. The diagram below shows a plant growing in a park.

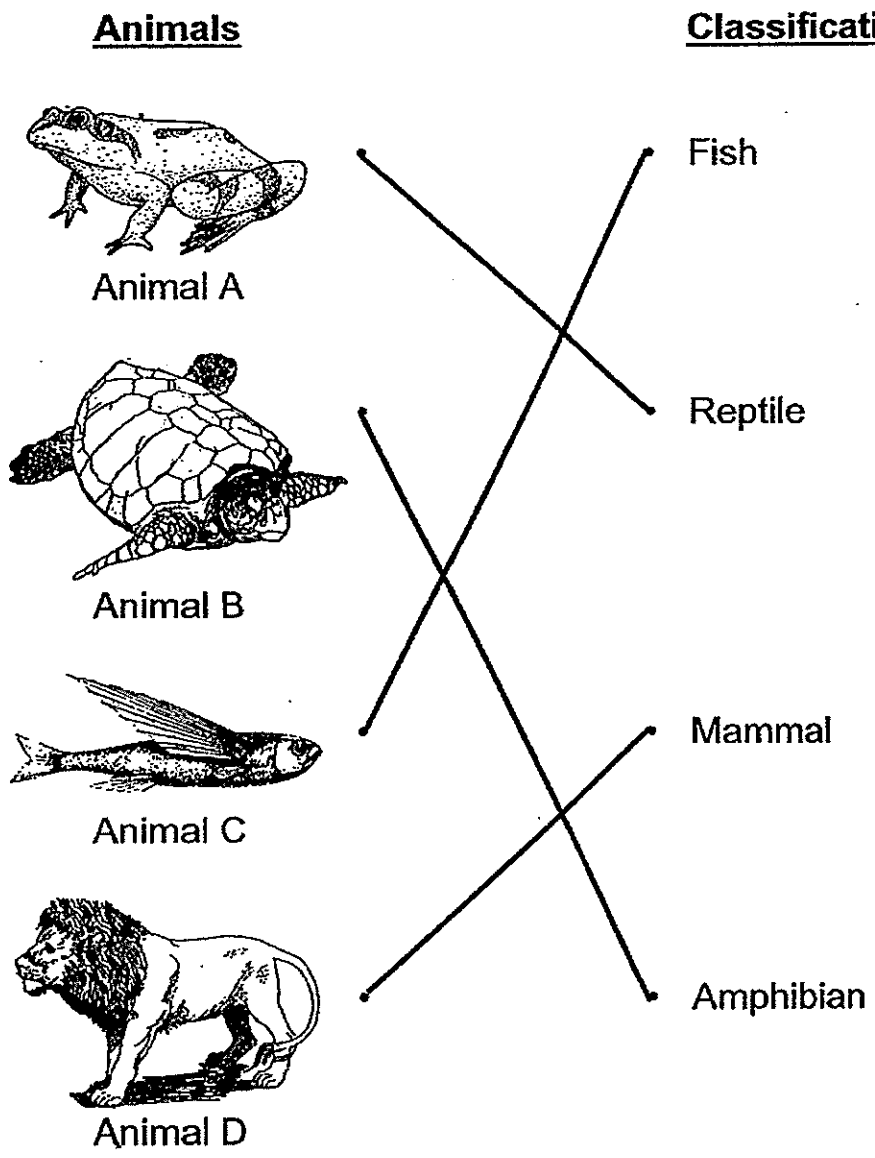


Complete the table below.

Statements	Put a tick (✓) if the statement is correct
(a) This plant has no roots.	
(b) This plant has a weak stem.	
(c) This plant is a flowering plant.	
(d) This plant reproduces by spores.	

(2m)

22. Tim did the matching shown below.



Which two animals did Tim match **wrongly**? *(2m)*
Write the correct letter (A, B, C or D) in the boxes below.

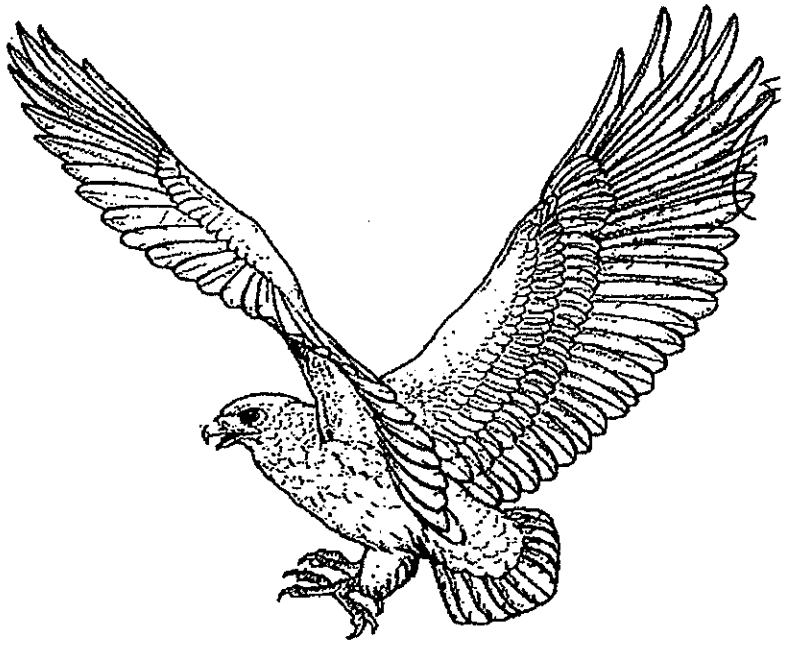
Animal ☐ and Animal ☐

23. Write True (T) or False (F) for the following sentences. *(2m)*

Sentences	T / F
Yeast is a type of fungi.	
All bacteria are harmful to humans.	
Some fungi can be eaten.	
Yogurt contains useful bacteria.	

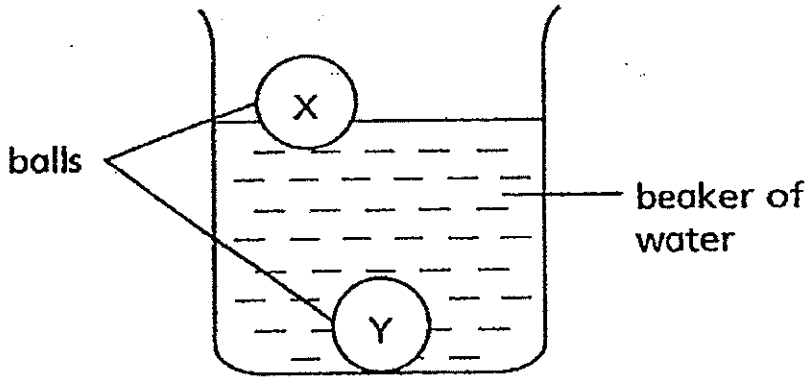
24. Study the picture of a bird shown below. *(2m)*

a) On the picture, **label** the beak of the bird.



b) On the picture, **label** another characteristic common to birds only.

25. Kimberly conducted a test on two balls of different materials X and Y to find out whether they will float or sink in water. The diagram below shows her results.



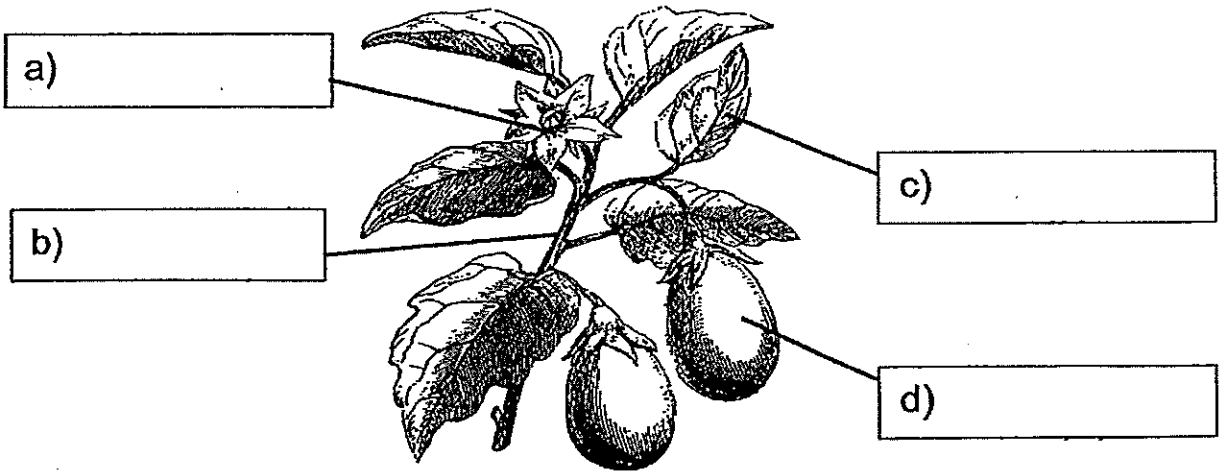
Put a tick (✓) for the variable(s) shown below that Kimberly must keep the same for a fair experiment. *(2m)*

Variables	Tick (✓)
Material of the balls	
Size of the balls	
The way the balls are released into the beaker	

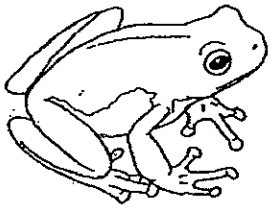
26. Label the parts of the plant using the helping words given below. *(2m)*

Helping Words

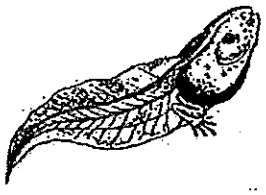
Stem Leaf Flower Roots Fruit



27. Compare a frog and a tadpole. *(2m)*



Frog



Tadpole

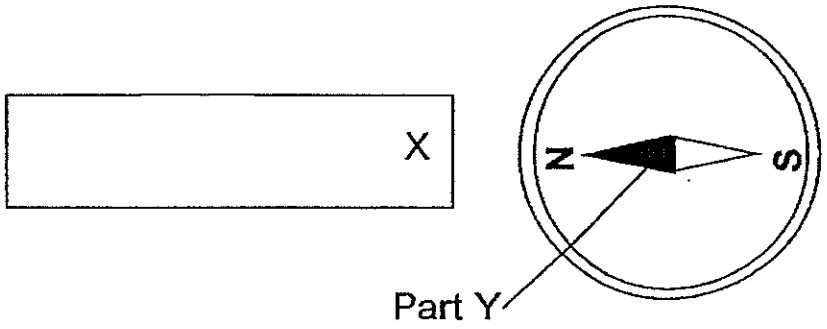
Helping Words			
lungs	skin	gills	legs
tail	insects	plants	

The tadpole breathes through its _____ while the frog breathes with its _____ and _____ The tadpole feeds mainly on tiny _____ while the frog feeds on small animals.

28. a) Put a tick (✓) in the box for the correct statement(s). *(1m)*

	Statements	Tick (✓)
(i)	A magnet is able to repel a piece of cotton.	
(ii)	A magnet can attract and repel another magnet.	
(iii)	A magnet can attract a copper rod.	
(iv)	There are some metals that are not attracted by the magnet.	

b) Look at the diagram of the magnet and the compass placed near each other as shown below. *(1m)*



Part Y of the compass is a magnet.
Name the pole at X.

_____

End of Section B

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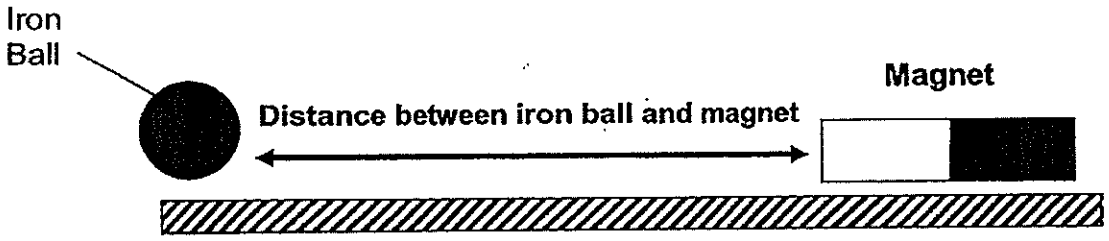
Section C: Open-Ended Questions (24 marks)

For each question from 29 to 36, write your answers in the spaces given.

29. Deepa wanted to investigate the strength of different types of magnets by observing whether the iron ball is attracted to the magnet at different distances between them.

Her experimental setup and results are shown below.



✓ - attracted the iron ball
X - did not attract the iron ball

Distance between iron ball and magnet	Rod Magnet	Ring Magnet	U-shaped magnet
5 cm	✓	✓	✓
10 cm	✓	✓	X
15 cm	✓	✓	X

a) Based on Deepa's results above, which is the weakest magnet?

_____ *(1m)*

b) Explain your answer in (a) *(1m)*

_____

_____

c) Using the same experimental setup, what can Deepa do to find out which is the strongest magnet? *(1m)*

_____

_____

30. Jennifer kept similar pots of plants, X and Y, in the garden. The plants were grown in the same type of soil. Each day, Jennifer used 200 ml of water to water plant X but only used 50 ml of water to water plant Y. The table below shows the height of the plants over the ~~one week~~ four days.

	Height of plant / cm	
Day	**X**	**Y**
0	12	12
1	13	13
2	15	14
3	16	15
4	17	16

a) Which plant has grown more? *(1m)*

_____

_____

b) What is the variable that is changed in this experiment? *(1m)*

_____

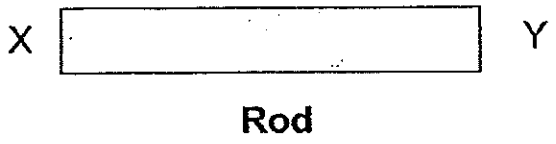
_____

c) In the above experiment, which characteristic of plants shows that they are living things? *(1m)*

_____

_____

31. Janet was given rods A, B and C. The three rods were made of different materials.



Rod

She was told to find out which rod(s) is/are magnet(s). She held the same pole of a magnet near the ends of each rod, first at X and then at Y. The following table shows the observations she made.

Rods	Observations at X	Observations at Y
A	Attracted by the magnet	Attracted by the magnet
B	Repelled by the magnet	Attracted by the magnet
C	Was not attracted or repelled by the magnet	Was not attracted or repelled by the magnet

a) Which rod(s) is/are definitely magnet(s)? *(1m)*

_____

b) Explain your answer in (a). *(2m)*

_____

_____

_____

32. Study the organisms shown below.

Organism A

Organism B

Organism C

The three organisms shown above obtain their food in different ways.

a) Which organism feeds on decaying matter? *(1m)*

_____

b) Which organism needs to move from place to place for food? *(1m)*

_____

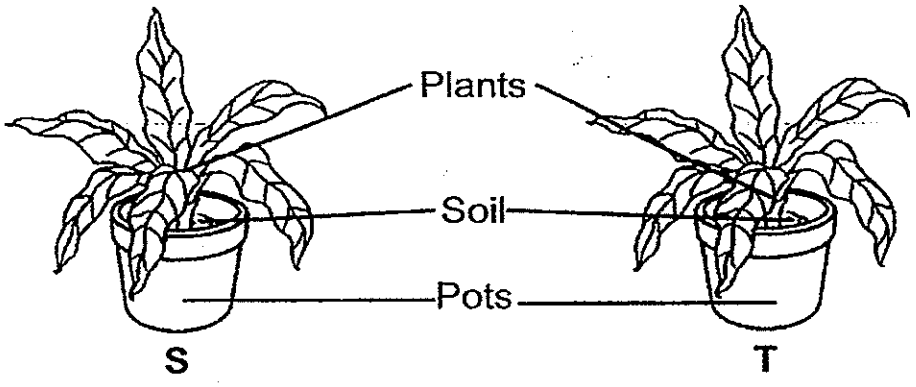
c) There was no rain for two months in Singapore and ferns found along the roadsides received lots of sunlight. However, many of these ferns were dying.

How did the weather over the two months affect the survival of these ferns?

_____

_____

33. Alex wanted to find out what type of soil was suitable for growing plants. For his experiment, he set-up two pots, S and T, as shown below.

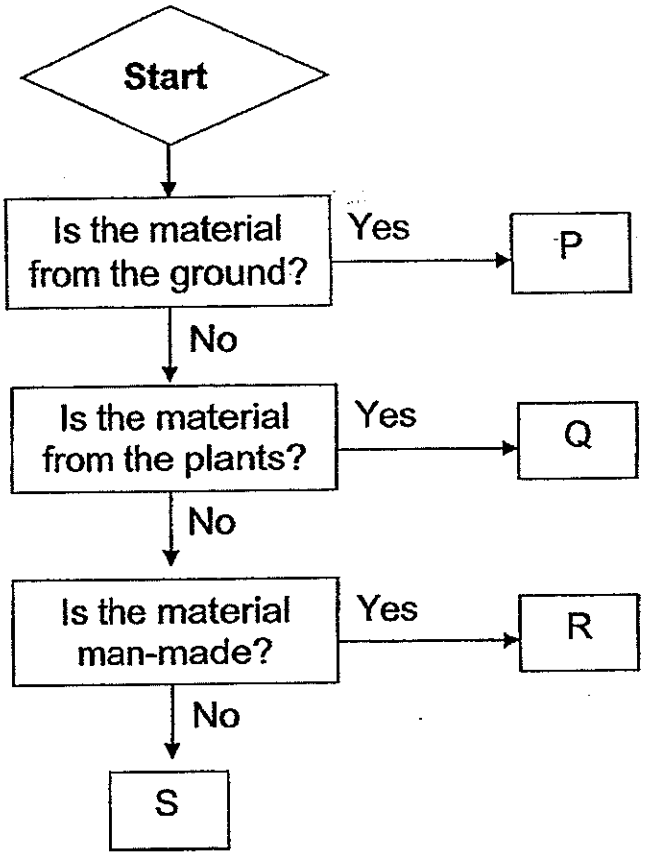


Which variable(s) should Alex keep the same and which variable(s) should he change? *(3m)*

Put a tick (✓) in the correct boxes below.

Variable		Keep the same	Change
i)	Size of the plants		
ii)	Location of the plants		
iii)	Type of soil in each pot		
iv)	Amount of soil in each pot		
v)	Amount of water given to each plant		
vi)	Amount of sunlight received by each plant		

34. The flowchart below shows properties of material P, Q, R and S.



a) Based on the flow chart, how are Materials Q and R similar? *(1m)*

_____

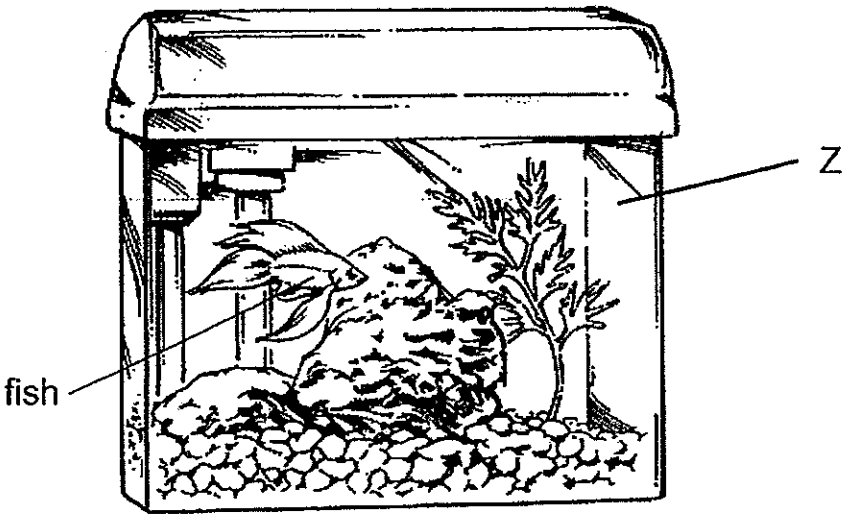
_____

b) Based on the flow chart, complete the sentences below using letters P, Q, R or S. *(2m)*

Material _____ is likely to be cotton.

Material _____ is likely to be plastic.

35. The diagram below shows a fish tank.



Material Z is usually made of glass.

a) Which property of glass allows us to look at the fish in the tank clearly? *(1m)*

_____

_____

b) State another property of glass which makes it a suitable material for making part Z. *(1m)*

_____

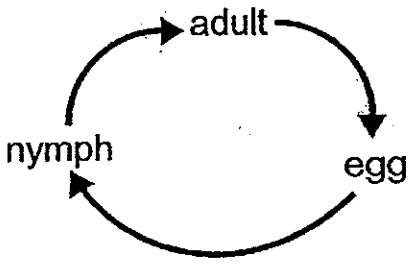
_____

c) Name another material that can be used to make Part Z. *(1m)*

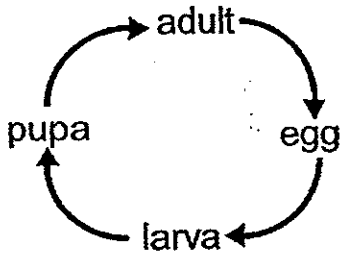
_____

_____

36. The diagrams below show the life cycles of two insects, X and Y. (3m)



Life cycle of insect X



Life cycle of insect Y

Based on the information above, give one similarity and one difference between the life cycles of insect X and insect Y.

a) Similarity:

_____

_____

b) Difference (do not compare number of stages in each life cycle):

_____

_____

c) Name one example of an insect that has the same life cycle as insect Y.

_____

-END OF PAPER-

SETTERS: Mr Sadhiq, Mr Nelson Tong & Mdm Nadia

Year: 2014

Level: Primary 3

School: Henry Park Primary School

Subject: Science

Semester: SA2

Section A:

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

Section B:

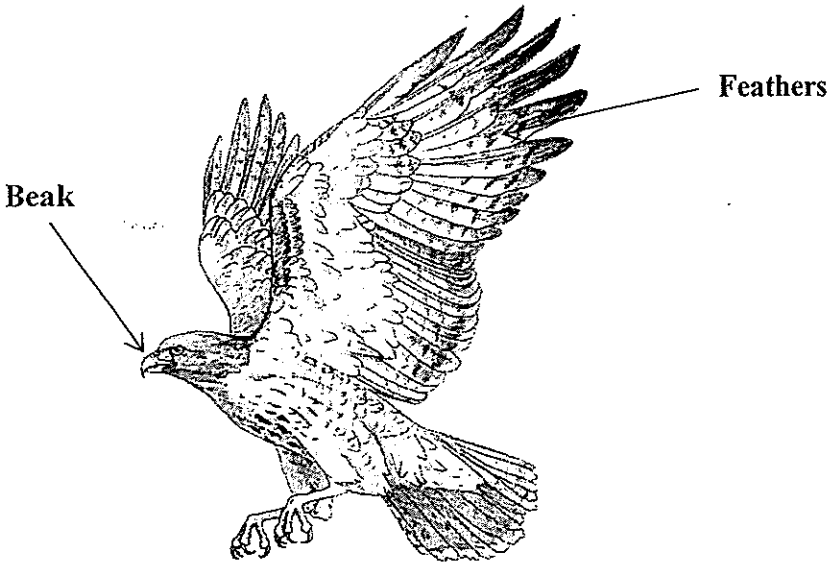
Q21)

Statement	Put a tick if statement is correct
(a)	
(b)	✓
(c)	✓
(d)	

Q22) A and B

Q23) T, F, T, T

Q24) a) b)



Q25)

Variables	Tick
Material of the balls	
Size of the balls	✓
The way the balls are released into the beaker	✓

Q26) a) Flower

b) Stem

c) Leaf

d) Fruit

Q27) gills, skin, lungs, plants

Q28) a)

Statements		Tick
i)	A magnet is able to repel a piece of carbon.	
ii)	A magnet can attract and repel another magnet.	✓
iii)	A magnet can attract a copper rod.	
iv)	There are some metals that are not attracted by the magnet.	✓

b) South pole

Q29) a) The weakest magnet is the U-shaped magnet.

b) The U-shaped magnet could only attract the iron ball at a distance of 5cm but the rod magnet and the ring magnet could attract the iron ball from a further distance than the U-shaped magnet.

c) Move the ball towards the magnet and see the distance where the ball is attracted to the magnet. The furthest distance which the ball was attracted, the magnet is the strongest.

Q30) a) Plant X has grown more.

b) The amount of water given to the plant is changed in this experiment.

c) The plants grow in this experiment.

Q31) a) Rod B

b) Only magnets could attract and repel each other, as rod B was repelled and attracted by the magnet, thus rod B is a magnet.

Q32) a) Organism C feeds on decaying matter.

b) Organism A needs to move from place to place for food.

c) The ferns have not enough water as they need water to survive so they will die.

Q33)

Variable	Keep the same	Change
i) Size of plant	✓	
ii) Location of the plants	✓	
iii) Type of soil in each pot		✓
iv) Amount of soil in each pot	✓	
v) Amount of water given to each plant	✓	
vi) Amount of sunlight received by each plant	✓	

Q34) a) Material Q and R do not come from the ground.

b) Q, R

Q35) a) The glass is transparent.

b) The glass is waterproof.

c) Clear plastic can be used to make part Z.

Q36) a) They both start with an egg stage.

b) Insect X does not have a pupa stage but insect Y has a pupa stage.

c) Mealworm beetle have the same life cycle as insect Y.