

SEMESTRAL ASSESSMENT 1 (2016)

PRIMARY 4

SCIENCE

BOOKLET A

Tuesday

10 MAY 2016

1 hour 30 minutes

Name: _____ () Class: 4.()

INSTRUCTIONS TO PUPILS

- 1 Do not turn over the pages until you are told to do so.
- 2 Follow all instructions carefully.
- 3 There are 25 questions in this booklet.
- 4 Answer ALL questions.
- 5 Shade your answers in the Optical Answer Sheet (OAS) provided.

Booklet A (50 marks)

For each question from 1 to 25, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet. (25 x 2 marks)

1. The things below are classified into 2 different groups.

Group A	Group B
Fan	Cheetah
Plate	Grasshopper
Bicycle	Orchid Plant

Which of the following belongs to Group B?

- (1) Nail
 - (2) Feather
 - (3) Mushroom
 - (4) Rubber Duck
2. Which of the following statements about plants is true?
- (1) All plants can be eaten.
 - (2) All plants can reproduce.
 - (3) Only plants with fruit can make food for the plant.
 - (4) Flowering plants have flowers throughout the entire year.
3. Which of the following characteristics do most mammals have in common?
- A They can fly.
 - B They have hair.
 - C They give birth to young.
 - D They produce milk for their young to feed on.
- (1) B only
 - (2) A and D only
 - (3) B, C and D only
 - (4) A, B, C and D

4. Roshan conducted an experiment to find out if moisture affects the growth of bread mould. The table below shows the variables in Roshan's experiment.

Variable	Set-up J	Set-up K
Type of bread	Wholemeal bread	White bread
Amount of water sprinkled on bread	0 ml	5 ml
Location where set-up is placed	Dark cupboard	Dark cupboard
Type of plastic bag	Transparent	Transparent

His father told him that his experiment was unfair.

Which of the following best explains why Roshan's experiment is unfair?

- (1) The location was different.
- (2) The type of bread used was different.
- (3) The type of plastic bag used was the same.
- (4) The amount of water sprinkled on bread was different.

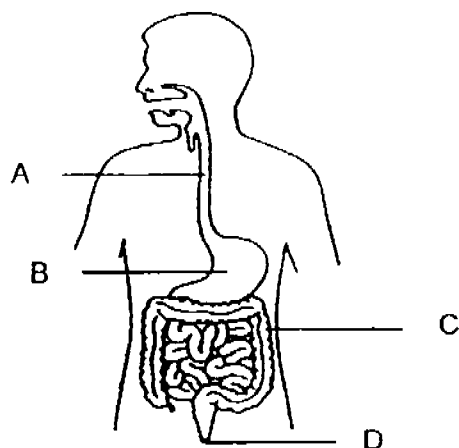
5. Study the table below carefully.

Object	Properties		
	Is it flexible?	Does it absorb water?	Does it break when dropped?
P	No	Yes	Yes
Q	Yes	No	No
R	No	No	Yes
S	Yes	Yes	No

Based on the information above, which object, P, Q, R, or S is most probably a raincoat?

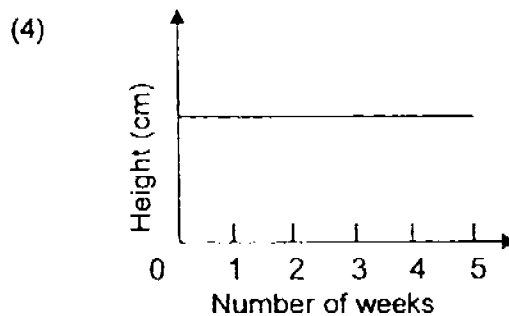
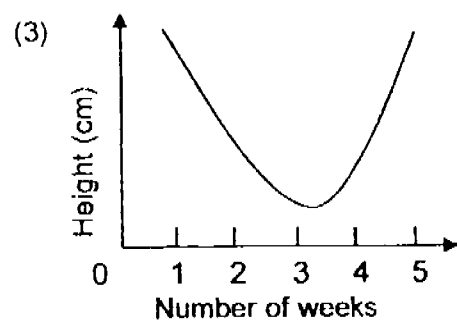
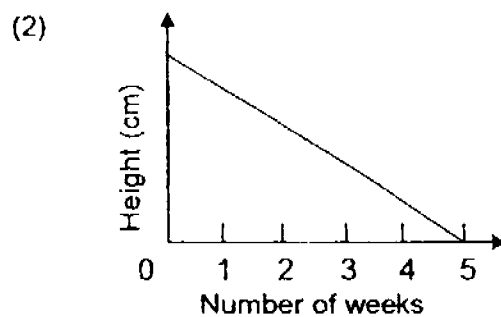
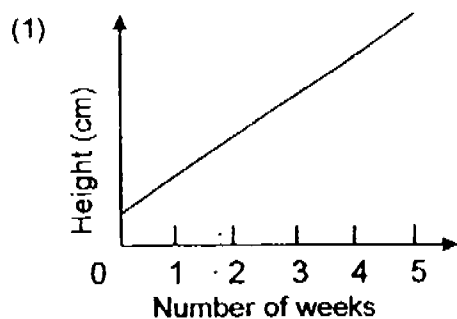
- (1) P
- (2) Q
- (3) R
- (4) S

6. The picture below shows the digestive system of the human body.

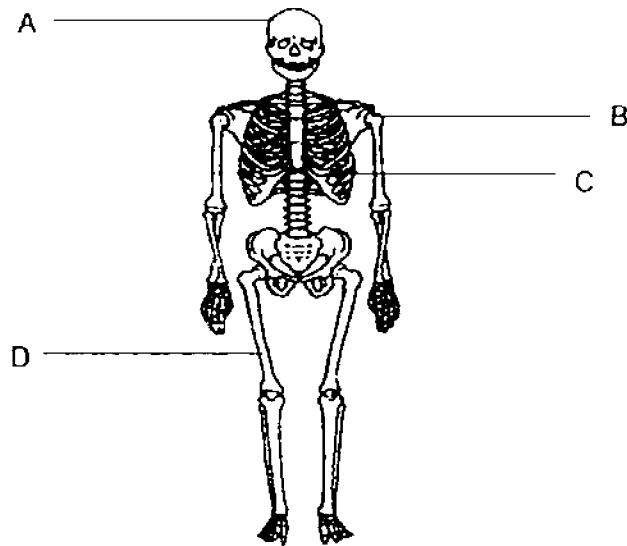


The part marked _____ removes water from the undigested food.

- (1) A
 (2) B
 (3) C
 (4) D
7. Which of the following graphs shows correctly the change in the height of a plant as the seed germinates and becomes a plant over 5 weeks?



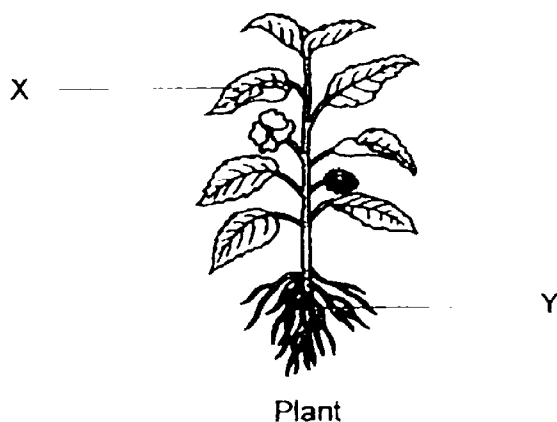
8. Observe the diagram of the human skeletal system below.



Which parts of the skeletal system help to protect the body's organs?

- (1) A and C only
 - (2) A and D only
 - (3) B, C and D only
 - (4) A, B, C and D
9. Which of the following statements about the stomach are true?
- A The stomach produces digestive juices.
 - B The stomach churns and breaks down food.
 - C Food is completely digested in the stomach.
 - D The stomach lies between the gullet and the small intestine.
- (1) A and C only
 - (2) B and D only
 - (3) A, B and D only
 - (4) A, B, C and D

10. Observe the plant below carefully and identify the functions of the parts labelled X and Y.

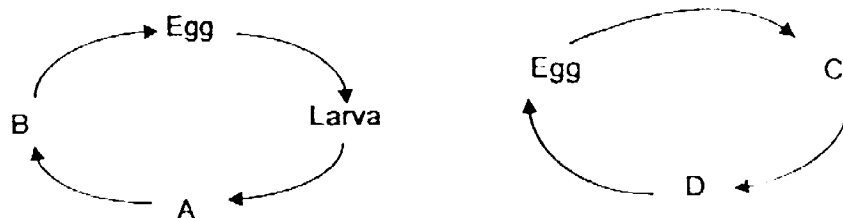


	X	Y
(1)	Makes food for the plant	Supports the branches and leaves
(2)	Makes food for the plant	Absorbs water and nutrients from the soil
(3)	Supports the branches and leaves	Absorbs water and nutrients from the soil
(4)	Absorbs water and nutrients from the soil	Makes food for the plant

11. Which one of the following parts of the digestive system **does not** match its function as shown in the table below?

	Parts	Function
(1)	Gullet	Moves food down into the stomach.
(2)	Mouth	Breaks down food into smaller pieces.
(3)	Stomach	Mixes food with digestive juices.
(4)	Large Intestine	Absorbs digested food into the blood.

12. The diagrams below show the life cycle of two different kinds of organisms.



Which of the following correctly identifies A, B, C and D?

	A	B	C	D
(1)	Pupa	Adult	Nymph	Adult
(2)	Nymph	Young	Larva	Pupa
(3)	Nymph	Young	Nymph	Adult
(4)	Pupa	Adult	Larva	Pupa

13. Samy did a study on two animals, X and Y. He recorded his observations in the table below. A tick (✓) indicates that the characteristic is observed for the animal.

Observation	Animal X	Animal Y
Eggs are laid in water	✓	
It has three body parts.		✓
Animal undergoes moulting.		✓

Which one of the following animals could Animals X and Y be?

	Animal X	Animal Y
(1)	Cockroach	Chicken
(2)	Frog	Cockroach
(3)	Mosquito	Frog
(4)	Chicken	Beetle

14. Which of the following are characteristics of the mealworm beetle at its larva stage?

- A It eats a lot.
- B It does not move.
- C It looks like the adult.
- D It moults several times.

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

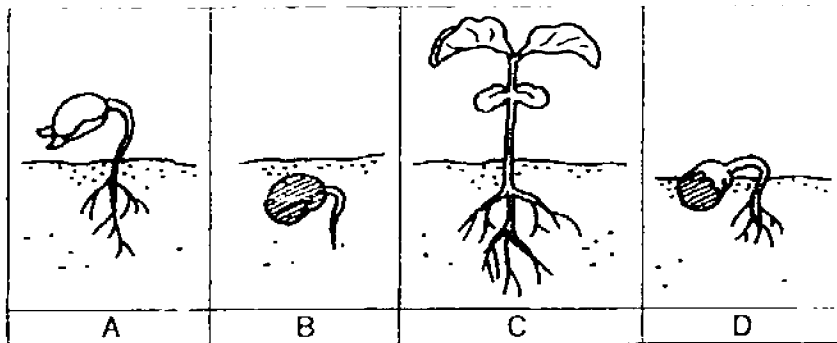
15. The diagram below shows a plant grown in a garden. Part W is a fruit with seeds.



Which one of the following statements describes the function of seeds in part W correctly?

- (1) To grow into new plants.
- (2) To make food for the plant.
- (3) To absorb water and minerals.
- (4) To hold the plant upright and receive sunlight.

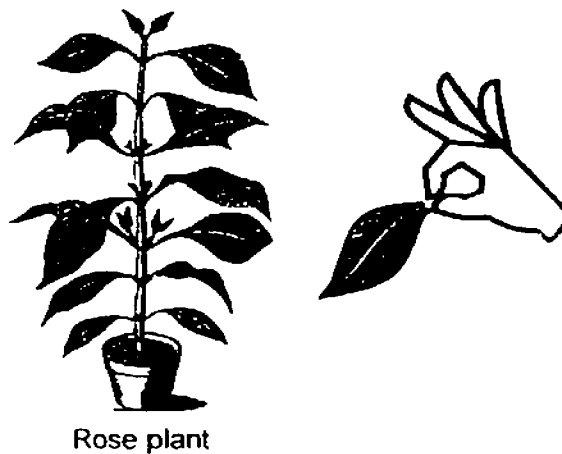
16. Study the diagram below carefully.



What is the correct order of the development of a seed to a bean plant?

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

17. Jenny plucked a leaf from a rose plant that she grew in her garden.



Which of the following best describes what will happen to the plant after two weeks due to Jenny's action?

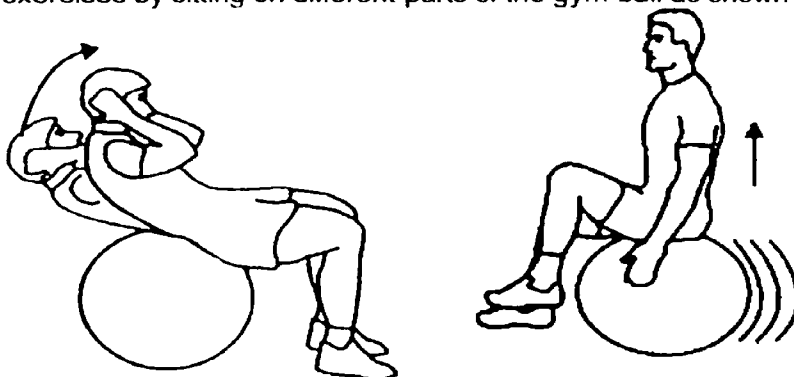
- (1) It will die.
- (2) It will turn yellow.
- (3) It will grow sideways.
- (4) It will continue to grow.

18. Susan wanted to find out if the type of soil will affect the growth of an orchid plant. She placed 4 identical orchid plants each into a pot and placed them in a field under different conditions as shown in the table below.

Set-up	Water (ml)	Type of soil
M	50	Clayey
N	30	Clayey
O	50	Sandy
P	30	Sandy

Which 2 set-ups should she use to test the aim of her experiment?

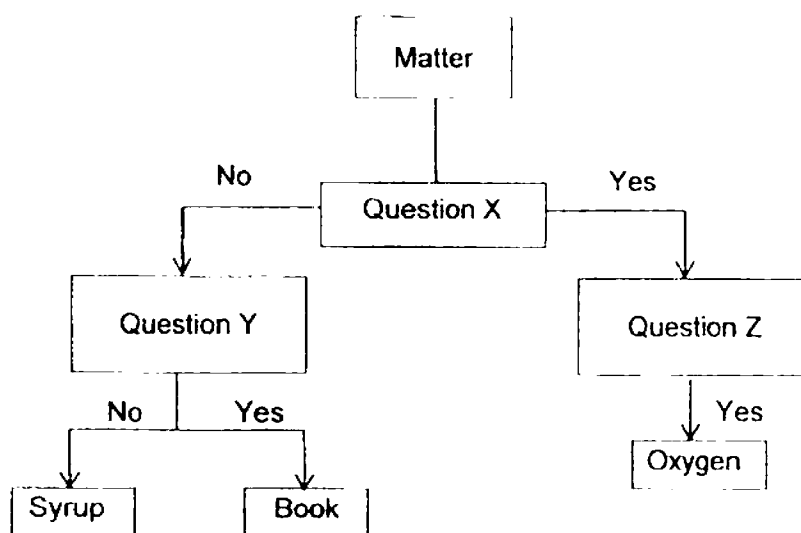
- (1) Set-ups M and P
 - (2) Set-ups M and O
 - (3) Set-ups N and O
 - (4) Set-ups N and M
19. Roy bought a gym ball and pumped air into it until it is fully round. Then, he did many exercises by sitting on different parts of the gym ball as shown below.



Which property of air best explains why Roy can exercise on the gym ball without bursting it?

- (1) Air can be compressed.
- (2) Air has a definite shape.
- (3) Air does not have mass.
- (4) Air has a definite volume.

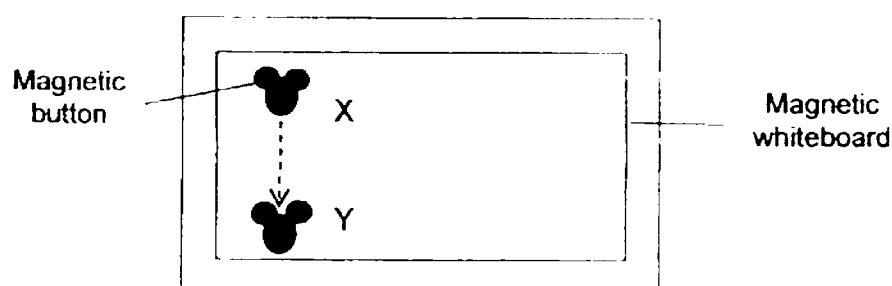
20. The flowchart below shows the properties of matter.



What are the most suitable Questions for X, Y and Z?

	Question X	Question Y	Question Z
(1)	Does it have mass?	Can it be compressed?	Does it have a definite shape?
(2)	Can it be compressed?	Does it have mass?	Does it have a definite shape?
(3)	Can it be compressed?	Does it have a definite shape?	Does it have mass?
(4)	Does it have a definite shape?	Can it be compressed?	Does it have mass?

21. Mrs Lim placed a magnetic button at Point X of the magnetic whiteboard. However, she noticed that the magnetic button slid downwards and came to a stop at Point Y.



Which of the following explains why the magnetic button slid downwards?

- (1) It can move by itself.
- (2) It has weak magnetic strength.
- (3) It became lighter after some time.
- (4) It was repelled by the whiteboard.

22. Lily wanted to get a floating globe as a birthday gift for her best friend. The globe remains floating at the center at all times as shown in Figure A.



Figure A

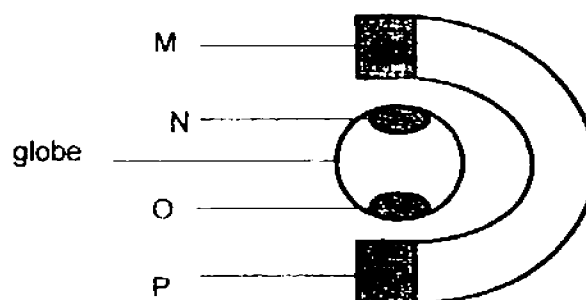


Figure B
(Side view)

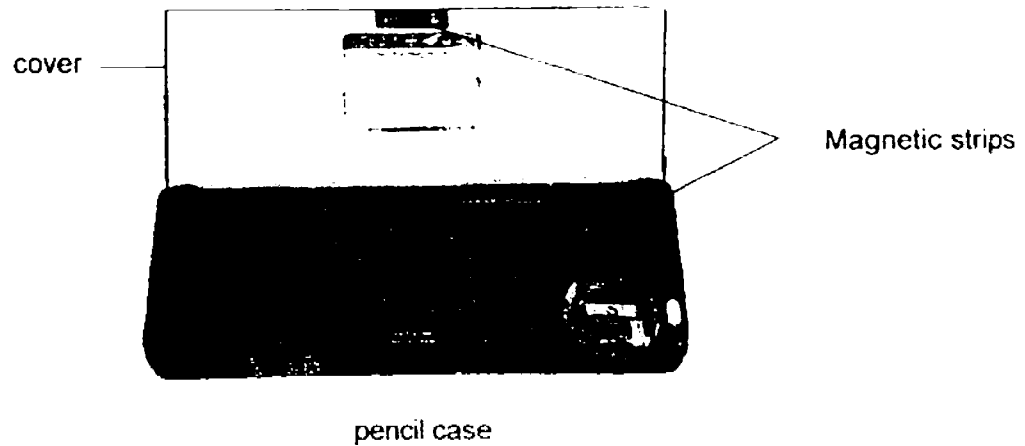
She drew a simple diagram of the floating globe as shown in figure B and labelled the parts accordingly. Lily's friends Abby, Ben, Carl and Dan wrote some comments about the floating globe based on figure B.

Name	Comments
Abby	Parts N and O are made of plastic.
Ben	Parts M, N, O and P are parts of a magnet.
Carl	Parts M and P are unlike poles of a magnet.
Dan	Parts M and P are made of non-magnetic material.

Which of the above comments is/are **incorrect**?

- (1) Abby only
- (2) Abby and Dan only
- (3) Ben and Carl only
- (4) Ben and Dan only

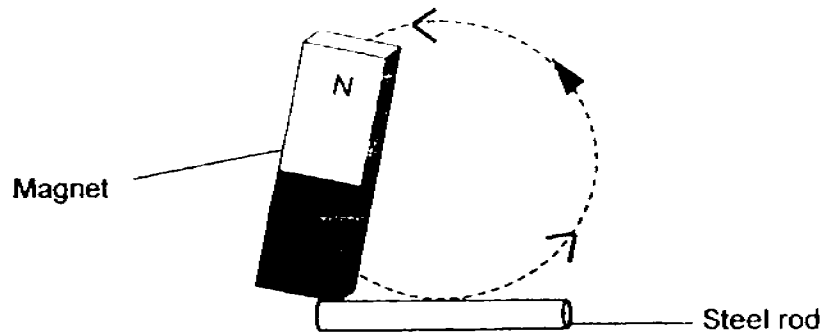
23. Mrs Li bought a pencil case for her son, Daniel. It contains magnetic strips on its cover and sides as shown in the diagram below. These magnetic strips ensure that the stationery do not drop out when the cover is closed.



After four months, Daniel noticed that the cover can no longer be closed. What is the likely reason for this?

- (1) The magnetic strips had shrunk in size.
- (2) The magnetic strips were sprayed with some oil
- (3) The pencil case had been dropped several times.
- (4) The pencil case had been submerged once into a sink of water.

- 24 Meili conducted an experiment below to find out if the number of strokes with a magnet on a steel rod will affect the number of iron nails attracted to the steel rod. She recorded her findings in the table below

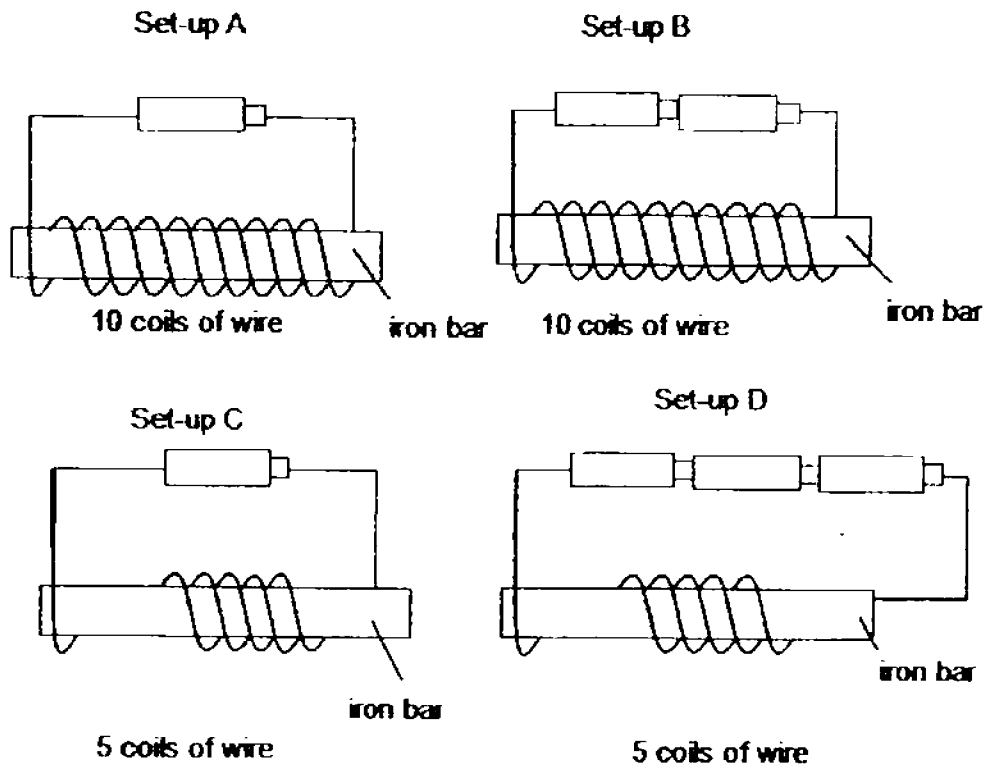


Number of strokes	Number of iron nails attracted to temporary magnet
12	3
17	5
24	9
32	14

Based on her findings above, what is the relationship between the number of strokes with a magnet on the steel rod and the strength of the temporary magnet?

- (1) The number of strokes with a magnet on the steel rod does not affect the strength of the ~~electromagnet~~ *temporary magnet*
- (2) The weaker the temporary magnet, the greater the number of strokes with a magnet on the steel rod.
- (3) As the number of strokes with a magnet on the steel rod decreases, the strength of the temporary magnet increases.
- (4) As the number of strokes with a magnet on the steel rod increases, the strength of the temporary magnet increases.

- 25 Siti conducted an experiment as shown below using four set-ups, A, B, C and D. She used the same type of batteries, identical wires and identical iron bars.



Siti wants to test whether the strength of an electromagnet is determined by the number of coils of wire around the iron bar. Which 2 set-ups should Siti use to conduct a fair experiment?

- (1) Set-ups A and B
- (2) Set-ups A and C
- (3) Set-ups B and C
- (4) Set-ups C and D

End of Booklet A

SEMESTRAL ASSESSMENT 1 (2016)

PRIMARY 4

SCIENCE

BOOKLET B

Tuesday

10 MAY 2016

1 hour 30 minutes

Name: _____ () Class: 4.() Parent's Signature _____

INSTRUCTIONS TO PUPILS

- 1 Do not turn over the pages until you are told to do so.
- 2 Follow all instructions carefully.
- 3 There are 14 questions in this booklet.
- 4 Answer ALL questions.
- 5 The marks are given in the brackets [] at the end of each question or part question.

Booklet	Possible Marks	Marks Obtained
A	50	
B	40	
PBA	10	
Total	100	

This question paper consists of 15 printed pages (inclusive of cover page).

Booklet B (40 marks)

For questions 26 to 39, write your answers in this booklet.

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

26. David did a study on two animals, X and Y. He recorded his observations in the table below.

Observation	Animal X	Animal Y
Number of legs	6	0
Movement	Fly and crawl	Swim only
Method of reproduction	Lay eggs	Give birth to young

- (a) Which group of animals do animals X and Y belong to? [1]

Animal X - _____

Animal Y - _____

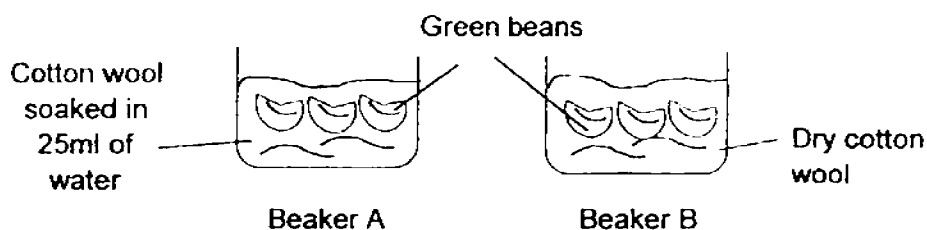
- (b) Give 2 examples of Animal Y. [1]

- (c) Draw the life cycle of Animal X in the box below. [1]

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SCORE	3
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27. Josh wanted to grow some green beans in 2 beakers. He placed 3 identical green beans in each beaker, A and B. He poured 25 ml of water in Beaker A only. He measured the growth of the plants over a month and recorded his observations in the table below.



- (a) Write the letters A and B to match the beakers to the height of the bean plant a month later. [1]

Height of green bean plant (cm)	Beaker
0 cm	
5 cm	

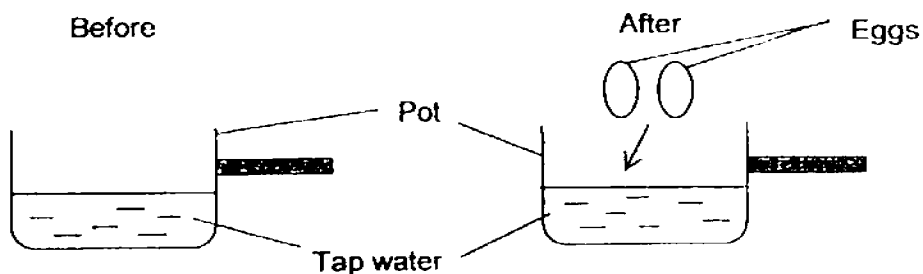
- (b) What is the aim of Josh's experiment? [1]

- (c) State all the conditions needed for germination to take place. [1]

(Go on to the next page)

SCORE	
	3

28. Zoe poured 900 ml of tap water into a pot. After that, she placed 2 eggs into the pot.



- (a) What happened to the water level in the pot right after the two eggs were placed inside the pot? Explain why. [2]

- (b) Draw the water level on figure B if the 900 ml of tap water in the pot shown in figure A is poured into a larger pot as shown in figure B. [1]

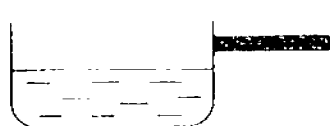


Figure A

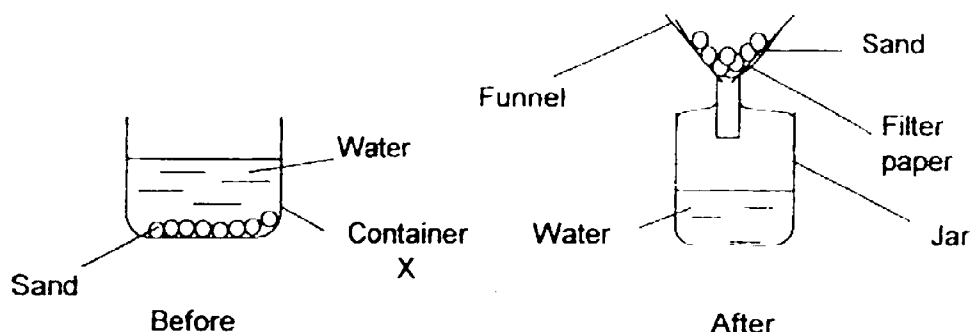


Figure B

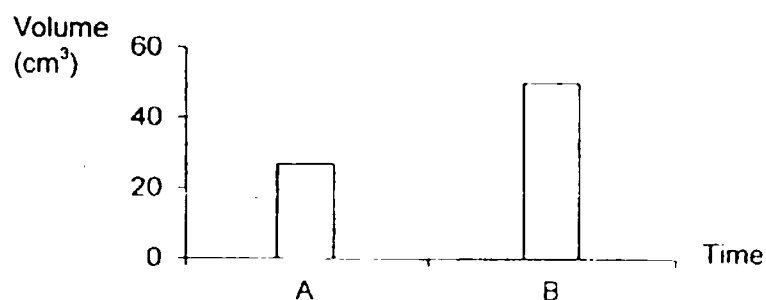
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SCORE	3
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29. Judy scooped some water and sand from the beach and measured its volume before placing them in Container X as shown in the diagram below. She poured both the sand and water into a funnel lined with filter paper. Some sand particles were left on the filter paper as she poured the contents into a jar.



She measured the volume of the contents inside the jar before pouring it back into Container X. She drew a bar graph to represent the volume of contents in Container X before and after filtering.



- (a) Write the letters A and B in the box below to match the bar graphs to show the correct volume of water before and after filtering was done. [1]

Contents in Container X	Bar Graph
Before filtering	
After filtering	

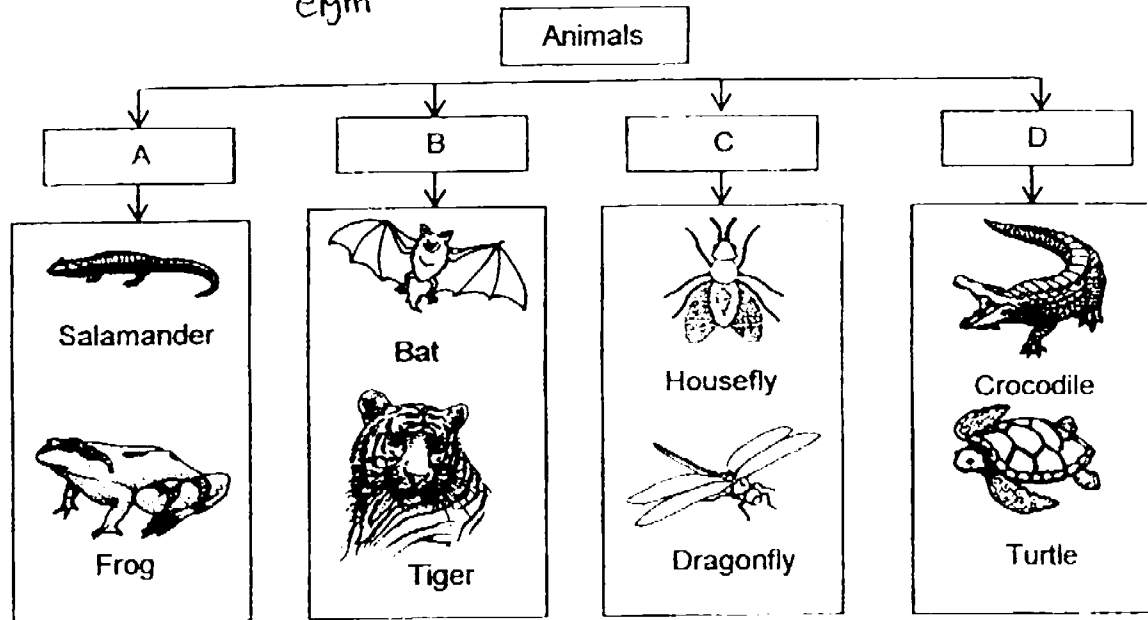
- (b) Judy made some statements on matter. She recorded her statements in the table below. Fill in the box with 'True' or 'False' accordingly. [2]

Statements	True or False
The greater the mass of an object, the bigger the object is.	
The greater the mass of an object, the more matter it contains.	
The mass of an object does not affect the amount of space it occupies.	
The shape of an object affects its mass.	

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SCORE	
	3

30. Lucas classified the ~~six~~^{eight} animals below into groups A, B, C and D.



- (a) Give suitable headings for each group.

[2]

A: _____

B: _____

C: _____

D: _____

- (b) A chicken does not belong to groups A, B, C or D. Which group of animals does it belong to? State a characteristic of the chicken that is not shared by any of the animals in groups A, B, C and D.

[1]

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SCORE	3
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- 31 Ali observed a mushroom and a Bird's Nest Fern growing in the Eco-garden.



Bird's Nest Fern

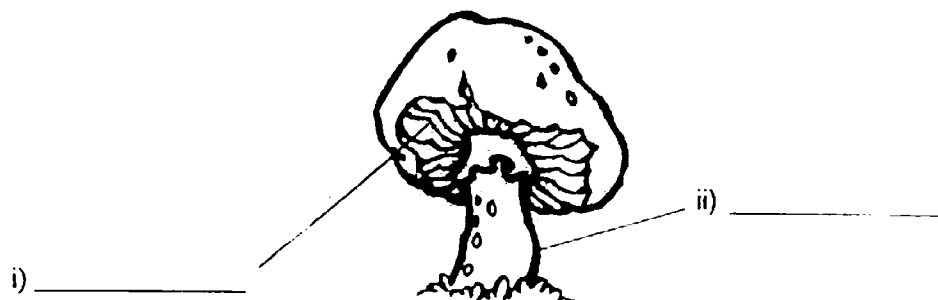


Mushroom

- (a) Ali said that the mushroom and Bird's Nest Fern are plants. Do you agree with Ali? Explain your answer. [1]

- (b) State one similarity between the mushroom and Bird's Nest Fern. [1]

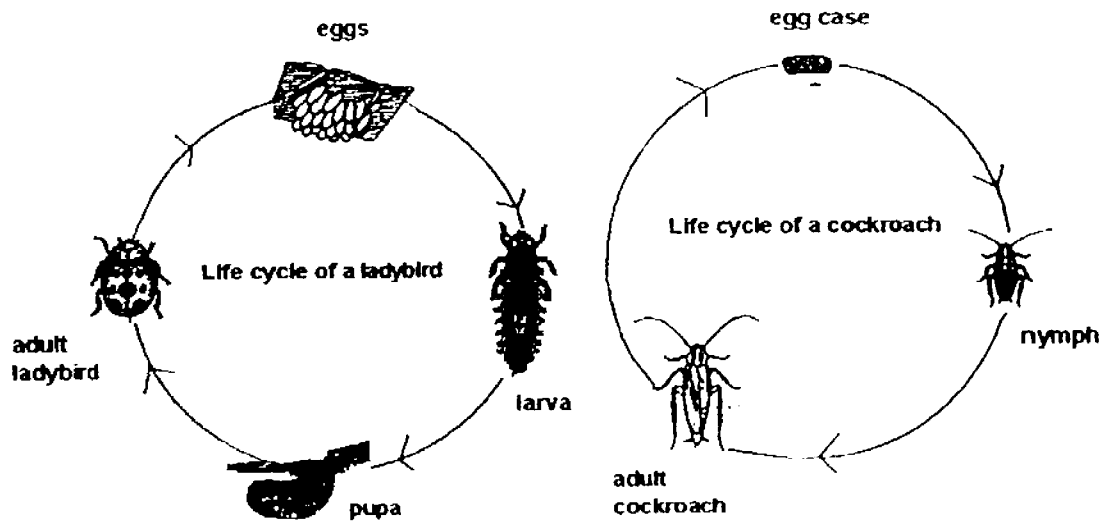
- (c) Label the parts of the mushroom. [1]



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SCORE	
	3

32. The diagram below shows the life cycles of a ladybird and a cockroach.



- (a) How is the life cycle of a ladybird similar to that of a cockroach? [1]

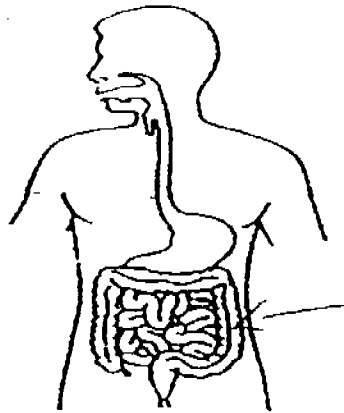
- (b) How is the life cycle of a ladybird different from that of a cockroach? [1]

- (c) Name another insect that has a similar life cycle as the ladybird. [1]

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SCORE	3
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33. The diagram below shows parts of the digestive system.

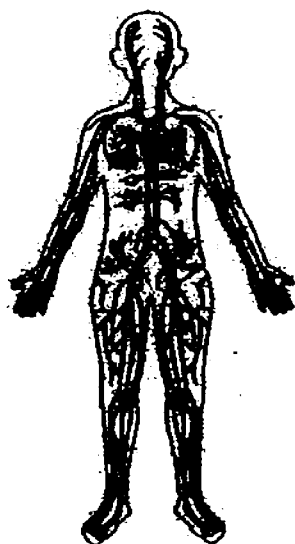


- (a) Draw an arrow and label the part of the digestive system where absorption of water from the undigested food takes place. [1]
- (b) Name three parts of the digestive system where digestive juices are produced. [1]

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SCORE	2
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34. The diagram below shows an organ system.



- (a) Name the organ system. [1]

- (b) What is the function of this organ system? [1]

- (c) Name a substance in the blood that is carried away from different parts of our body. [1]

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SCORE	
	3

35. The diagrams below show a mangrove plant and a sweet potato plant.



Mangrove Plant



Sweet Potato Plant

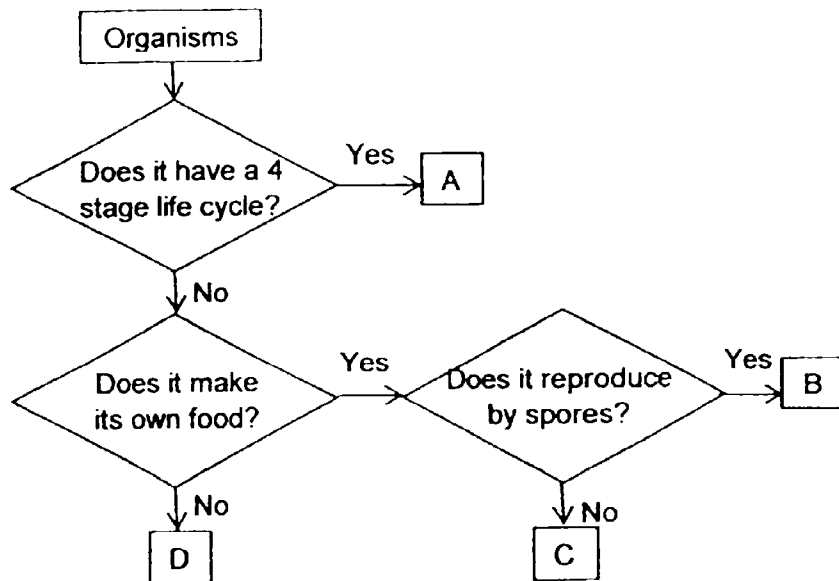
- (a) State a difference between the roots of a mangrove plant and a sweet potato plant based on the observation of the diagrams above. [1]

- (b) State two reasons why roots are important to both plants. [2]

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SCORE	
	3

36. Study the flowchart carefully.



(a) State all the characteristics of organism D.

[1]

(b) Based on the characteristics in the flowchart, state one similarity and one difference between organisms B and D.

[2]

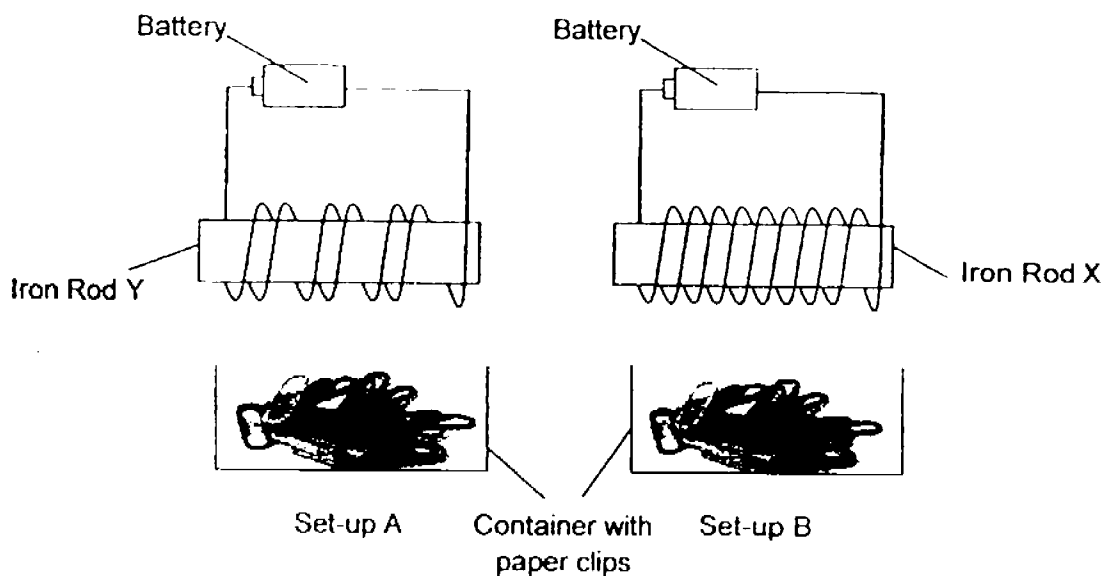
Similarity:

Difference:

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SCORE	3
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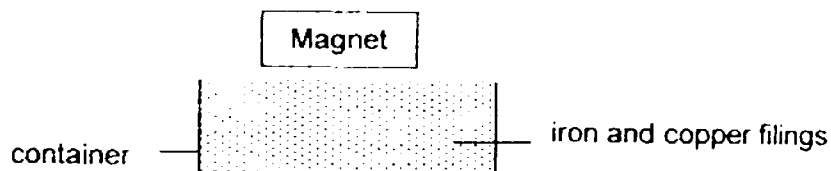
- 37 John conducted an experiment using two set-ups, A and B. He used identical batteries and identical iron rods. He placed an equal number of metal paper clips in each tray.



- (a) What was the aim of the experiment? [1]

- (b) State another way to increase the magnetic strength of the electromagnet. [1]

- (c) John mixed 200g of iron filings and 200g of copper filings in a tray. He brought a magnet close to the tray.

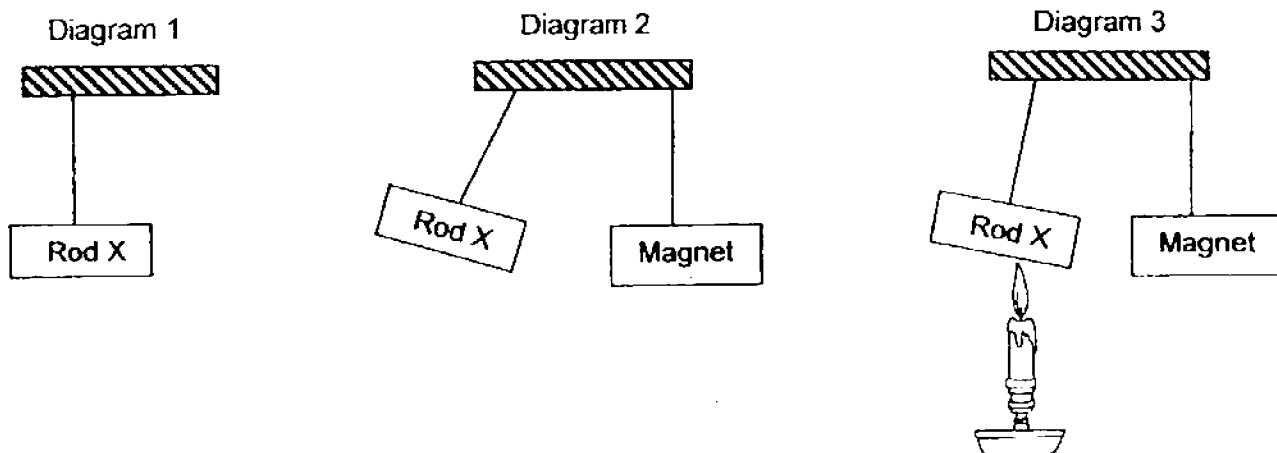


- What will he observe about the iron and copper filings? Explain why. [1]

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SCORE	
	3

38. John ties a string to rod X and hangs it freely as shown in diagram 1. He hangs a magnet near rod X and rod X moves away from the magnet as shown in diagram 2. He then places a candle flame at one end of rod X. After a while, rod X starts to move towards the magnet as shown in diagram 3.



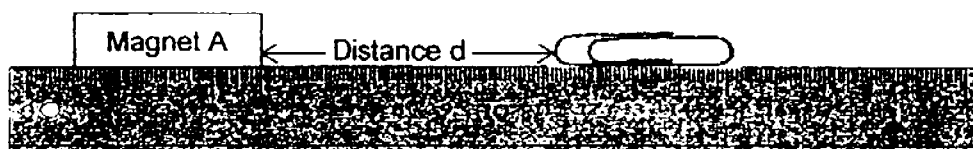
- (a) What is rod X made of? [1]

- (b) Explain why rod X moves away from the magnet in diagram 2 and then moves towards the magnet in diagram 3. [1]

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SCORE	2
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39. Jack sets up the experiment as shown below. He moves Magnet A slowly towards a paper clip placed on a wooden ruler until the magnet attracts it from a distance, d .



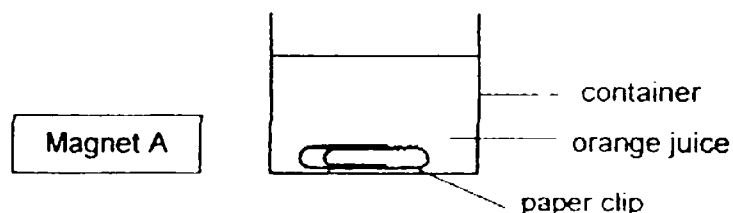
Jack repeats the experiment with three other magnets, B, C and D, and records his observations as shown below.

	Distance d (cm)		
	First try	Second try	Average
Magnet A	2	4	3
Magnet B	1	3	2
Magnet C	1	1	1
Magnet D	2	2	2

- (a) Which magnet is the weakest? Explain your answer. [1]

- (b) Name a variable that must be kept the same to ensure this is a fair test [1]

- (c) Jack accidentally drops the paper clip into a container of orange juice.



Given Magnet A, describe how he could remove the paper clip without pouring away the orange juice or putting his hands in the container. [1]

End of Booklet B

SCORE	3
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EXAM PAPER 2016
 LEVEL : PRIMARY 4
 SCHOOL : ANGLO CHINESE SCHOOL
 SUBJECT : SCEINCE
 TERM : SA1 (10-MAY-2016)

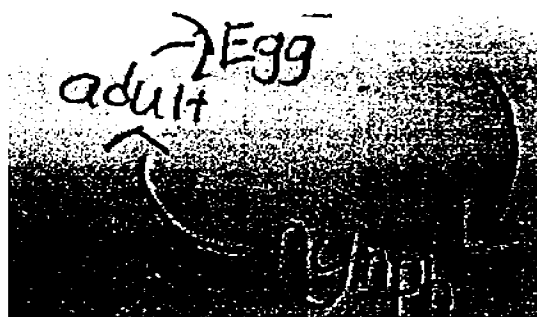
Q1	Q2	Q3
3	2	3
Q4	Q5	Q6
2	2	3
Q7	Q8	Q9
1	1	3
Q10	Q11	Q12
2	4	1
Q13	Q14	Q15
2	1	1
Q16	Q17	Q18
3	4	2
Q19	Q20	Q21
1	3	2
Q22	Q23	Q24
2	3	4
Q25		
2		

26. a) Animal X- Insect

Animal Y- Fish

b) Guppy, Molly

c)



27. a)

Height of green bean plant (cm)	Beaker
0 cm	B
5 cm	A

b) It was to see if seeds need water to germinate.

c) Air, water, warmth.

28. a) The water level will rise. Eggs is matter and occupies space, when the eggs are placed into the water, it will push the water level higher.

b)



29. a)

Figure A

Figure B

Contents in Container X	Bar Graph
Before filtering	B
After filtering	A

b)

Statements	True or False
The greater the mass of an object, the bigger the object is.	False
The greater the mass of an object, the more matter it contains.	True
The mass of an object does not affect the amount of space it occupies.	True
The shape of an object affects its mass.	False

30. a) A: Amphibian

B: mammal

C: Insect

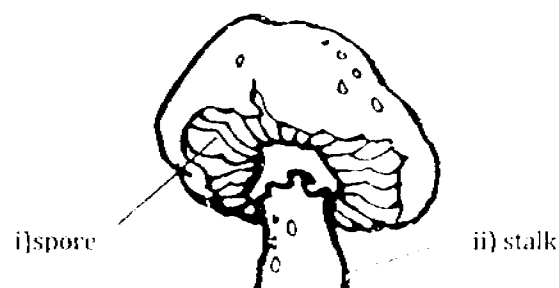
D: reptile

b) Bird. It has feathers.

31. a) No. Mushroom does not make its own food but plants do.

b) They reproduce by spores.

c)

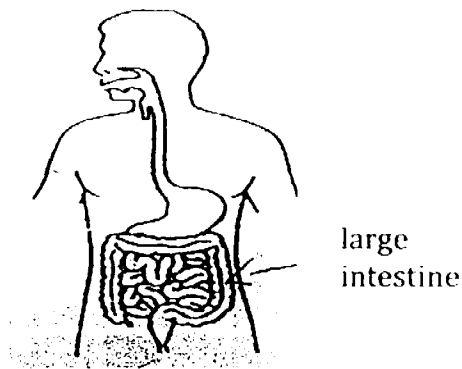


32. a) Both young develop from eggs.

b) The ladybird has four stages but the cockroach has 3 stages in their life cycle.

c) Mosquito

33. a)



b) Mouth, stomach and small intestine.

34. a) circulatory system

b) It is to transport oxygen, digested food, water and blood to all parts of our body.

c) carbon dioxide

35. a) The mangrove's roots are above ground while the roots of a sweet potato plant are underground.

b) The roots anchor the plant firmly to the ground and absorb water and minerals from the ground.

36. a) It does not have a 4 stage life cycle and cannot make its own food.

b) Similarity: They do not have a 4-stage life cycle.

Difference: D does not make its own food but B does.

37. a) It was to see if the number of coils around the iron rod affects the number of metal paper clips attracted.

b) put another battery.

c) The iron fillings will get attracted to the magnet but the copper fillings won't. As iron is a magnetic material, it will get attracted to the magnet but copper is a non-magnetic material and will not be attracted.

38. a) Rod X is made of nickel

b) The magnet and rod X are repelling each other in diagram 2 – But in diagram 3, rod X lost some of its magnetism and cannot repel so much as it is heated, like poles repel.

39

a) C , the distance is constantly the shortest.

b) The type of paper clip.

c) Attract the paper clip via the outside of the container using the magnet and remove it.

THE END