

SEMESTRAL ASSESSMENT 1 (2017)

PRIMARY 4

SCIENCE

BOOKLET A

Wednesday

17 May 2017

1 hr 30 min

☉: _____ () 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.

This question paper consists of 16 printed pages (inclusive of cover page).

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. Which one of the following statements about living things is true?

- (1) All living things need food to survive.
- (2) All living things can survive without water.
- (3) All living things are made up of plants and animals only.
- (4) All living things reproduce by giving birth to their young.

2. Which of the following correctly describes the difference between Chilli Plant and Bird's Nest Fern?



Chilli Plant



Bird's Nest Fern

- (1) Chilli Plant makes food but Bird's Nest Fern does not make food.
- (2) Chilli Plant reproduces by spores but Bird's Nest Fern reproduces by seeds.
- (3) Chilli Plant produces flowers while Bird's Nest Fern does not produce flowers.
- (4) Chilli Plant needs water to grow but Bird's Nest Fern does not need water to grow.

3. Some characteristics of animals X, Y and Z are listed in the table below.

Characteristic	Animal X	Animal Y	Animal Z
Breathes through gills	No	Yes	No
Has three body parts	Yes	No	No
Has dry skin	No	No	Yes
Has scales as outer covering	No	Yes	Yes

Which of the following groups of animals correctly identifies X, Y and Z?

	Animal X	Animal Y	Animal Z
(1)	Amphibian	Fish	Insect
(2)	Insect	Bird	Insect
(3)	Insect	Fish	Reptile
(4)	Amphibian	Bird	Reptile

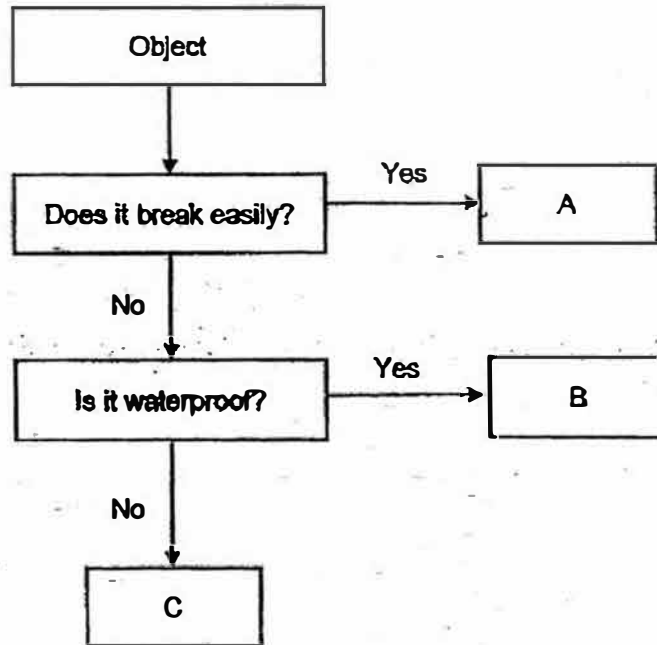
4. The diagram below shows some mushroom.



What can be found in the part labelled 'Z'?

- (1) Fruits
- (2) Seeds
- (3) Spores
- (4) Flowers

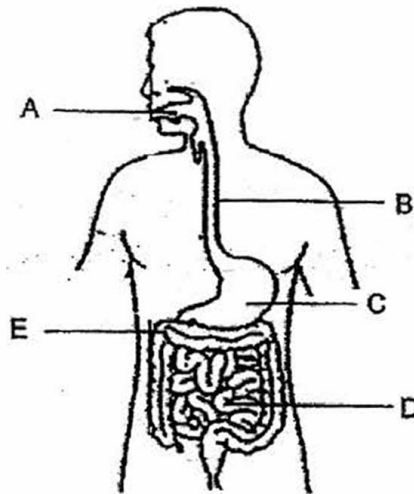
5. Study the flowchart below.



Which of the following could A, B and C represent?

	A	B	C
(1)	Plastic Cup	Cotton shirt	Glass mug
(2)	Glass Mug	Rubber tyre	Cotton shirt
(3)	Glass Mug	Cotton shirt	Plastic cup
(4)	Rubber tyre	Glass mug	Cotton shirt

6. The diagram below shows the digestive system with parts labelled A, B, C, D and E.



Identify the parts where digestive juices are not produced.

- (1) A and C only
 - (2) B and E only
 - (3) A, B and E only
 - (4) B, C and D only
7. Which of the following pairs of organ systems work together to help us bend, stretch and move?
- (1) Skeletal system and Muscular system
 - (2) Digestive system and Skeletal system
 - (3) Muscular system and Digestive system
 - (4) Respiratory system and Digestive system

8. The table below shows a comparison of activities in our small and large intestines.

	Small intestine	Large intestine
A	Food is completely digested.	Food is being digested.
B	It passes food to the large intestine for further digestion.	Undigested food is absorbed into the blood.
C	Digested food is absorbed into the blood.	Water from undigested food is removed.

Which of these comparisons, A, B or C, is/are correct?

- (1) A only
 - (2) C only
 - (3) A and B only
 - (4) B and C only
9. The picture below shows a balsam plant.



Balsam Plant

Which of the following matches the plant part to its function correctly?

	Plant Part	Function
(1)	Leaves	Hold the plant upright
(2)	Flowers	Makes food for the plant
(3)	Stems	Hold the plant firmly to the ground
(4)	Roots	Absorbs water and mineral salts

10. Lily wanted to find out which type of soil was most suitable for growing Plant X. She planted Plant X in three different pots, P, Q and R.

	Pot P	Pot Q	Pot R
Material of pot	Plastic	Plastic	Plastic
Type of soil	Clay	Garden soil	Sand
Location of experiment	Garden	Garden	Garden
Amount of water given	200 cm ³	250 cm ³	300 cm ³

Lily's mother told her that her experiment was not a fair one. Which of the following variables should Lily keep the same for all the pots in order to carry out a fair test?

- A Type of soil
- B Amount of water given
- C Location of experiment

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

11. Which of the following statements is true about plants?

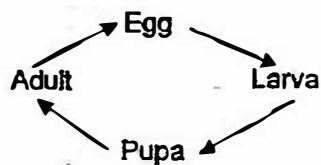
- (1) All ferns and mosses bear tiny flowers called spores.
- (2) Plants that do not bear flowers cannot make their own food.
- (3) Plants are the only living things that can make their own food.
- (4) Only tall and big trees have roots while smaller plants have stems.

12. The table below gives information about the life cycle of 4 animals, S, T, U and V.

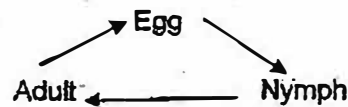
Description	S	T	U	V
The young looks like the adult.	Yes	No	No	Yes
It has a 4-stage life cycle.	No	No	Yes	No
It produces by laying eggs.	Yes	No	Yes	No

Which animal, S, T, U or V most likely represents a chicken?

- (1) S
 - (2) T
 - (3) U
 - (4) V
13. Study the diagram below on the life cycle of the butterfly and an unknown animal X.



Life cycle of Butterfly

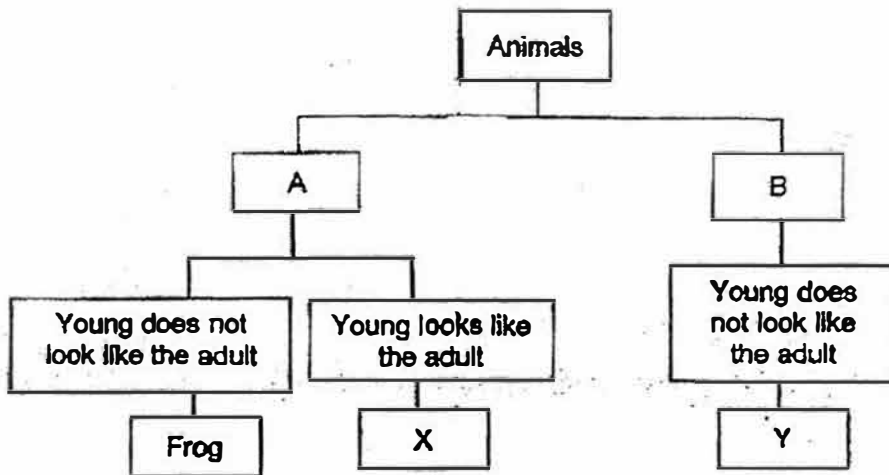


Life cycle of Animal X

How are both life cycles similar?

- (1) The young resemble the adult.
- (2) There are 4 life stages in their life cycles.
- (3) The adults have scales as outer covering.
- (4) The young moult in the larva or nymph stage before developing into adults.

14. Study the classification table below.



Which of the following options correctly represents A, B, X and Y?

	A	B	X	Y
(1)	3-stage life cycle	4-stage life cycle	Cockroach	Beetle
(2)	3-stage life cycle	4-stage life cycle	Beetle	Cockroach
(3)	4-stage life cycle	3-stage life cycle	Grasshopper	Chicken
(4)	4-stage life cycle	3-stage life cycle	Chicken	Grasshopper

15. Which of the following reason(s) correctly explains why a banana plant produces flowers?

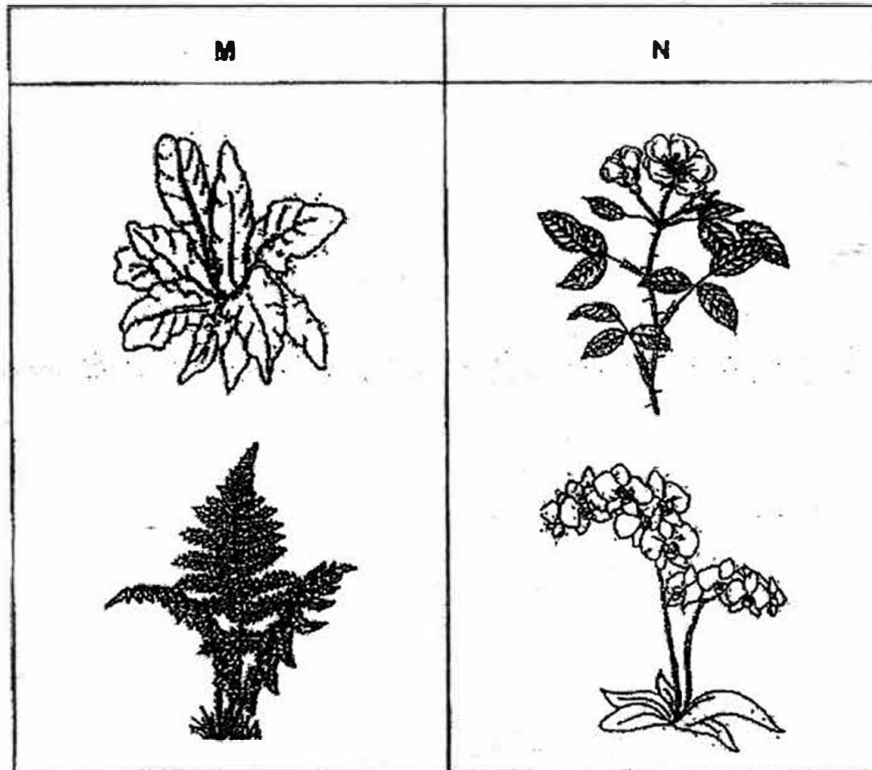


Banana Plant

- A To make the plant taller.
- B To absorb nutrients for the plant.
- C To anchor the plant firmly to the ground.
- D To reproduce to ensure continuity of its kind.

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

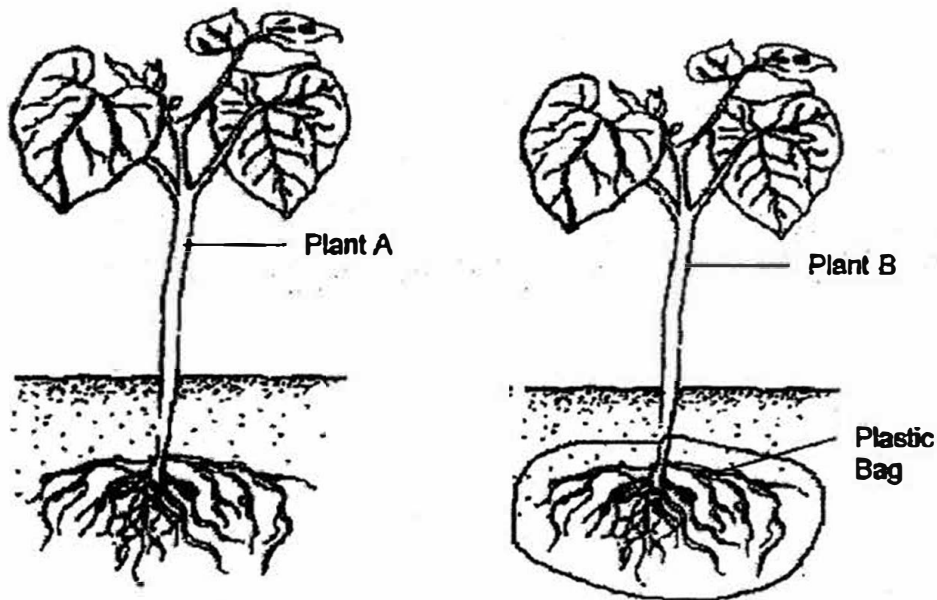
16. The plants below are classified into two groups M and N.



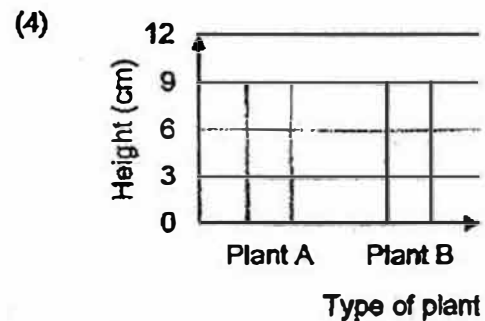
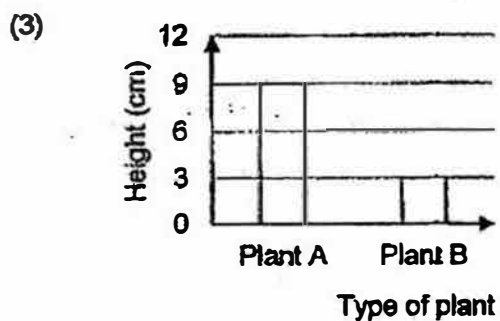
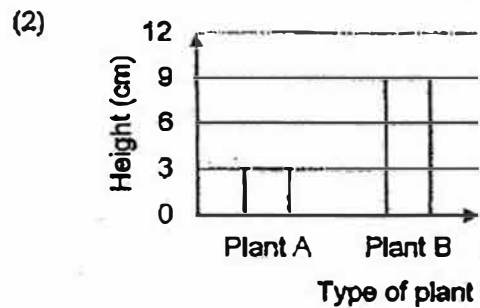
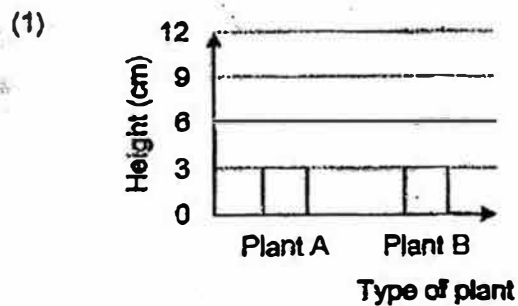
Based on your observation, what characteristic is used to classify the plants?

	M	N
(1)	non-flowering plants	flowering plants
(2)	plants with small flowers	plants with big flowers
(3)	flowers which grow singly	flowers which grow in cluster
(4)	flowers with unpleasant smell	flowers with pleasant smell

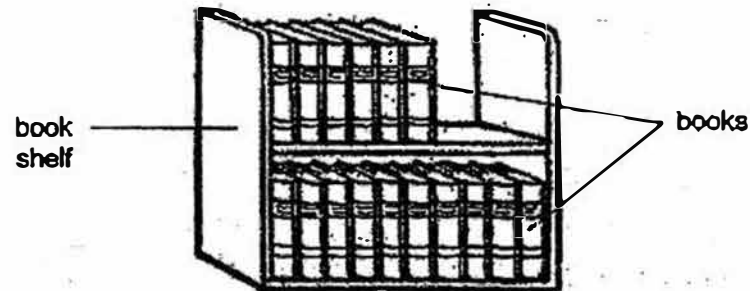
17. Suzy planted 2 identical plants, A and B, side by side in the open field. She tied a plastic bag around the roots of plant B as shown below. Both plants were given equal amount of water daily. She recorded the growth of the plants for a week in a bar graph.



Which graph correctly shows the height of the plant at the end of the experiment?

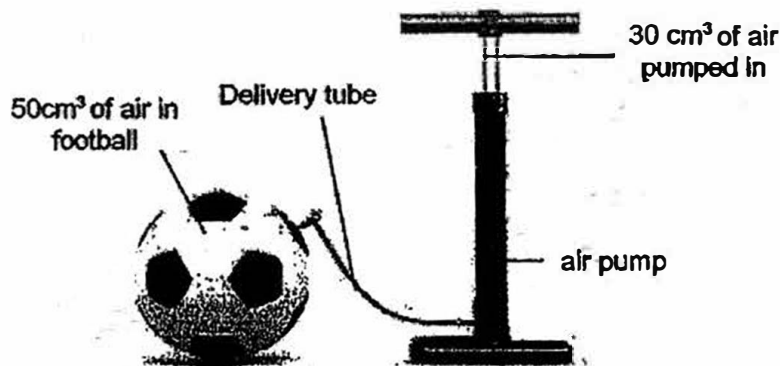


18. Mr Tay bought a small book shelf to hold his students' books. He could only fit a maximum of 10 identical books on each shelf. His pupil, Joseph, tried to fit in one more book but failed to do so.



Which property of matter best explains why Joseph was unable to add one more book to the shelf?

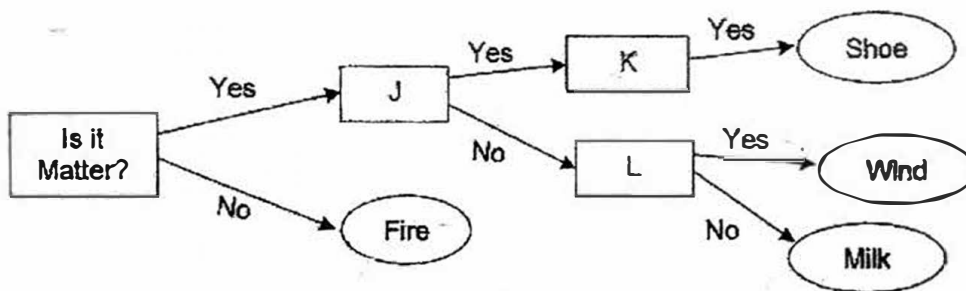
- (1) The books are too big.
 - (2) The books occupy space.
 - (3) The books can be compressed.
 - (4) The books have an indefinite volume.
19. An air pump containing 30 cm^3 of air was inserted into a fully inflated football using a delivery tube as shown in the diagram below. Linda gave one complete push of the pump into the ball.



What was the total volume of air in the football after the air pump was pushed in completely?

- (1) 20 cm^3
- (2) 30 cm^3
- (3) 50 cm^3
- (4) 80 cm^3

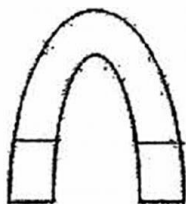
20. The flowchart below shows how shoe, wind and milk can be classified.



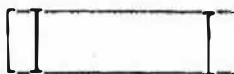
What can J, K and L represent?

	J	K	L
(1)	Does it have a fixed volume?	Does it have a fixed shape?	Can it be compressed?
(2)	Does it have a fixed shape?	Does it have a fixed volume?	Can it be compressed?
(3)	Does it have a fixed volume?	Can it be compressed?	Does it have a fixed shape?
(4)	Does it have a fixed shape?	Can it be compressed?	Does it have a fixed volume?

21. Roy conducted an experiment using a U-shaped magnet and a bar magnet below to attract some iron nails.



U-shaped magnet



Bar magnet

The table below shows the number of iron nails attracted by each magnet.

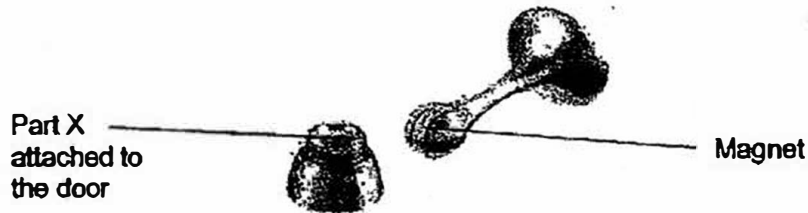
Iron nails attracted by U-shaped magnet	Iron nails attracted by bar magnet
13	13

Based on the experiment, which of the following statement(s) is/are true?

- A Both magnets have equal magnetic strength.
- B The bar magnet is weaker than the U-shaped magnet.
- C Only the U-shaped magnet has North and South poles.

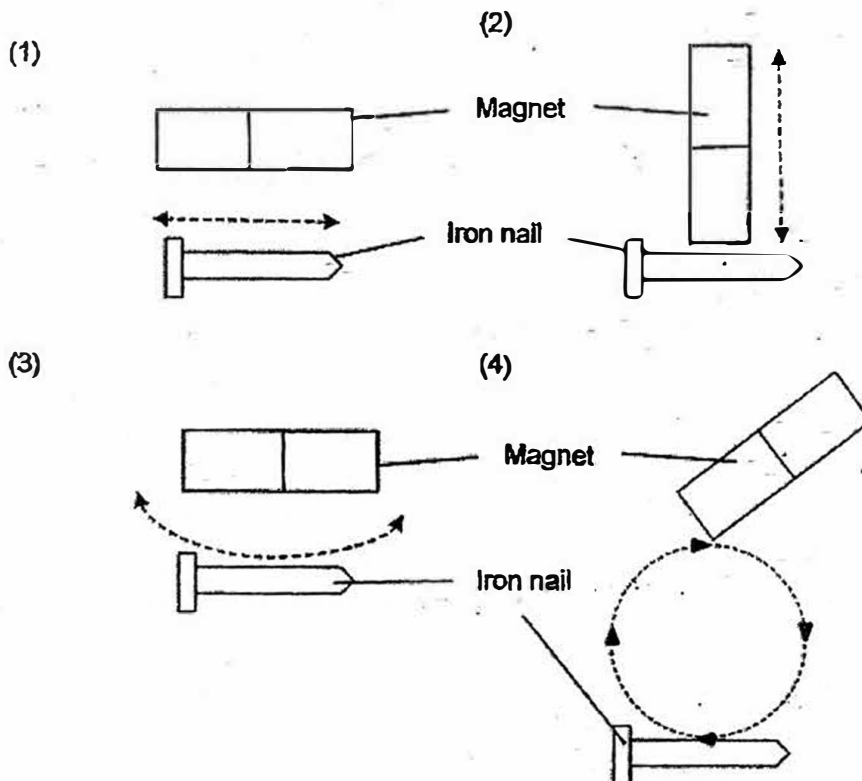
- (1) A only
- (2) B only
- (3) B and C only
- (4) A and C only

22. Mr Loh wanted to fix a magnetic door stopper behind all the doors in his new house. He placed a magnet behind each wall as shown in the diagram below.

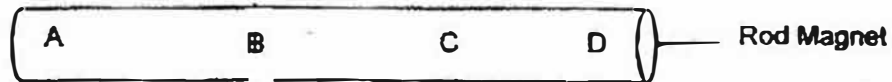


Which of the following materials should Mr Loh use for part X in order for the door stopper to work?

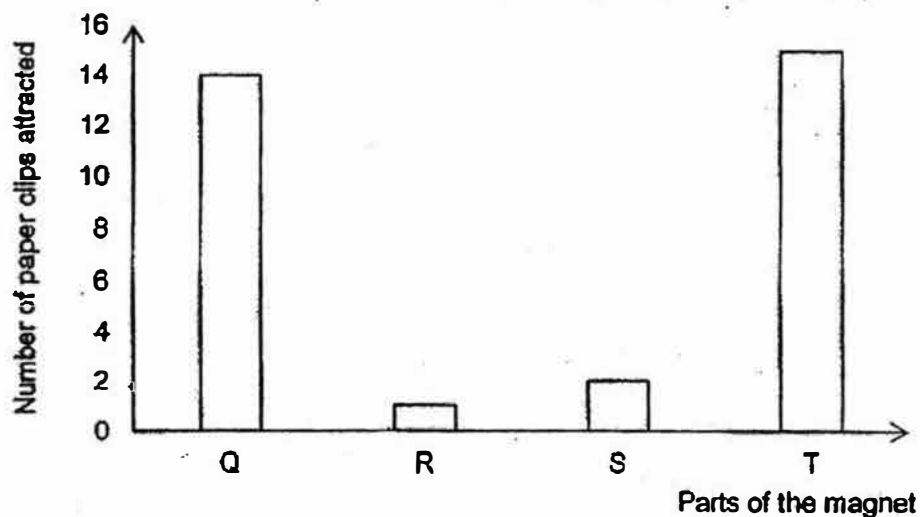
- (1) Steel
 - (2) Wood
 - (3) Plastic
 - (4) Aluminium
23. Ethan wanted to create a temporary magnet using the stroke method. He used one end of a magnet to stroke 4 identical iron nails according to the direction of the arrows as shown below. Which iron nail will become a temporary magnet?



24. Ella conducted an experiment to find out the magnetic strength of the different parts A, B, C, and D, of a rod magnet.



She placed the rod magnet into a bowl of iron paper clips and counted the number of paper clips attracted at parts A, B, C and D. She recorded the number of paper clips attracted to each of the parts A, B, C and D in the form of a graph below.



Which of the following options correctly identifies Q, R, S and T in the graph above to the parts, A, B, C and D, of the rod magnet?

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

25. Mrs Li wanted to create a fishing game for her son using a magnetic fishing rod and 3 different toy fishes. Each fish has a different piece of circular disc attached to it. She brought the magnetic fishing rod close to the circular disc of each of the three fishes, A, B and C, and recorded her observations in the table below.



Fish	Observation
A	It did not move.
B	It moved towards the magnet.
C	It moved away from the magnet

Which of the following correctly matches the circular discs of fishes A, B and C?

	A magnet	Made of aluminum	Made of iron	Made of ceramic
(1)	-	C	B	A
(2)	B	A	-	C
(3)	C	-	A	B
(4)	C	A	B	-

End of Booklet A

SEMESTRAL ASSESSMENT 1 (2017)

PRIMARY 4

SCIENCE

BOOKLET B

Wednesday

17 May 2017

1 hr 30 min

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 13 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 17 printed pages (inclusive of cover page).

Booklet B (40 marks)

For questions 26 to 38, 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. The table below shows the characteristics of three different animals, L, M and N. A tick (✓) indicates that the animal has the characteristics.

Observations	Animals		
	L	M	N
Has feathers		✓	
Has wings		✓	
Has hair	✓		
Suckles its young	✓		
Lives on land and in water			✓
Reproduces by laying eggs		✓	✓
Breathes through lungs and skin			✓

- (a) Based on the information given above, state the similarity between Animals M and N.

[1]

- (b) Based on the information given above, which animal, L, M or N, can be grouped together with a whale? Give a reason for your answer.

[1]

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SCORE	2
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3

(c) Study Animal Q below.

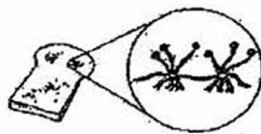


Animal Q

Siti said that Animal Q is definitely a bird. State a characteristic that is not mentioned in the table that shows Animal Q is a bird.

[1]

27. Study the pictures below of two organisms, bread mould and oyster mushroom.



Bread Mould



Oyster Mushroom

(a) Which group of living things do the above organisms belong to?

[1]

(b) Where do bread mould get its food from?

[1]

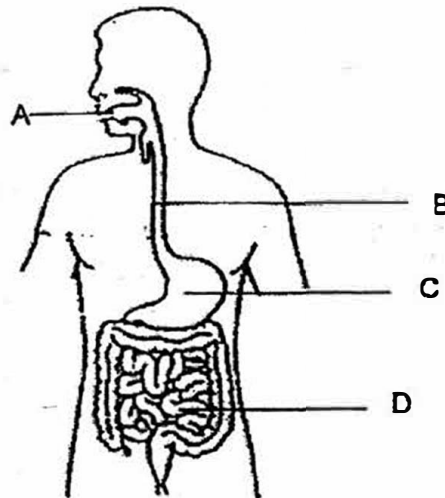
(c) How does Oyster Mushroom reproduce?

[1]

(Go on to the next page)

SCORE	
	4

28. The diagram below shows the human digestive system with parts labelled A, B, C and D.



- (a) Name parts A, B, C and D.

[2]

A: _____
 B: _____
 C: _____
 D: _____

- (b) Fill in the boxes with the correct human body systems based on the functions given.

[1]

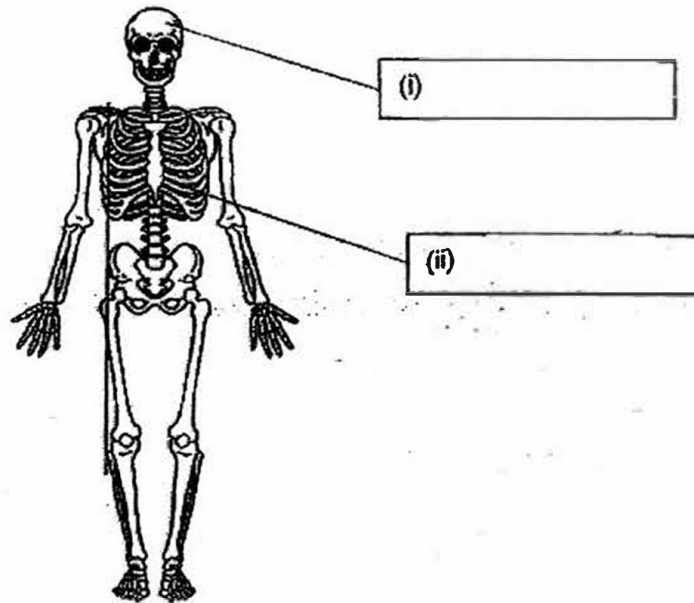
	Human body system	Function
(i)		Carries digested food, water and oxygen to all parts of the body.
(ii)		Takes in air and removes air from the body.

(Go on to the next page)

SCORE	3
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5

- (c) The diagram below shows a skeletal system.



Name the parts of the skeletal system labelled (i) and (ii) in the boxes above. [1]

- (d) State one function that these two parts (i) and (ii) in (c) have in common. [1]

(Go on to the next page)

SCORE	
	2

29. Luke wanted to find out if the temperature of the surrounding affects the growth of a plant. He planted four plants of the same height in identical pots filled with soil and watered them daily. He measured the height of the plants at the end of 3 weeks. The results of his experiment are recorded in the table below.

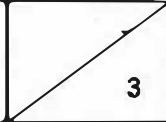
	Pot A	Pot B	Pot C	Pot D
Temperature of surrounding (°C)	21	24	28	31
Height of plant at the start (cm)	5	5	5	5
Height of plant at the end (cm)	9	12	17	23

- (a) State the variable that was changed in the experiment. [1]

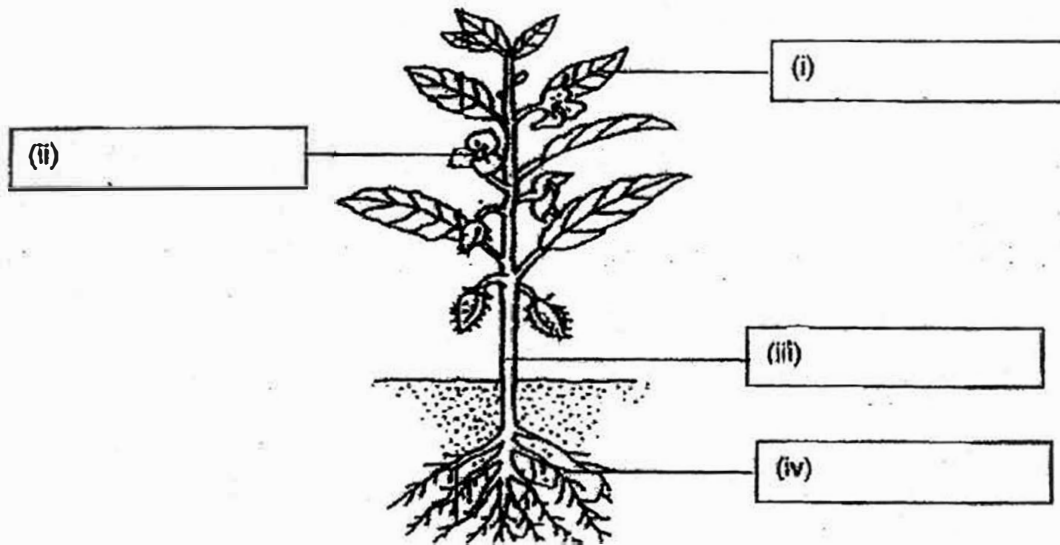
- (b) Name two other variables that should be kept the same in order to ensure a fair test. [1]

- (c) From the results above, what can Luke conclude about the effect of temperature of the surrounding on the growth of the plant? [1]

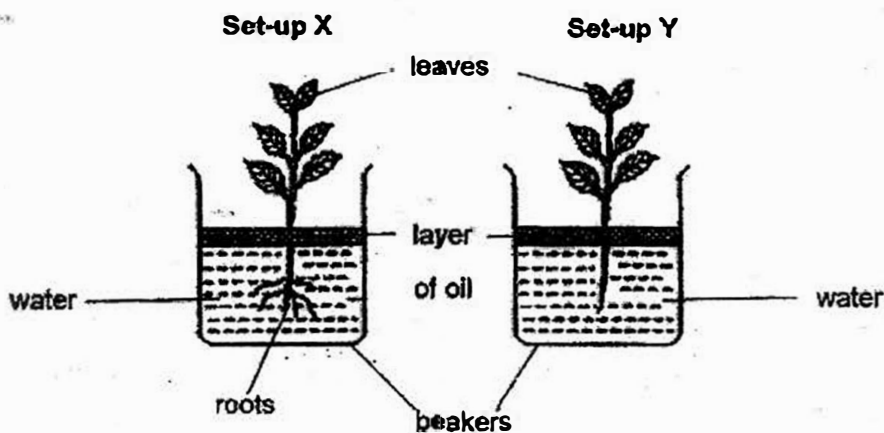
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SCORE	
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30. The diagram below shows a plant.



- (a) Name the parts of the plant labelled (i), (ii), (iii) and (iv) in the boxes above. [2]
- (b) Nat conducted an experiment for a week. He placed two identical plants in two identical containers as shown in set-ups X and Y below. Each container was given the same amount of water. He cut off the roots of the plant in set-up Y.



He recorded the amount of water in the container before and after the experiment.

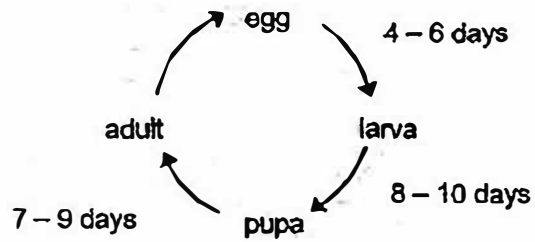
What is the aim of Nat's experiment?

[1]

(Go on to the next page)

SCORE	
	3

31. Study the life cycle of Animal R below.



Life cycle of Animal R

- (a) What is the greatest number of days Animal R will take to become an adult once it has hatched from the egg? [1]

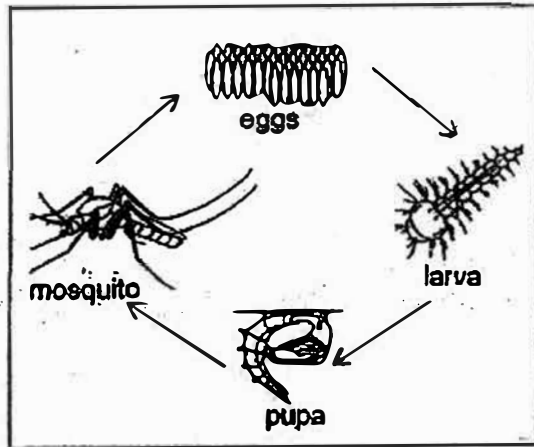
- (b) Name two animals that have the same number of stages in their life cycles as Animal R. [1]

- (c) State a difference between a larva and a pupa. [1]

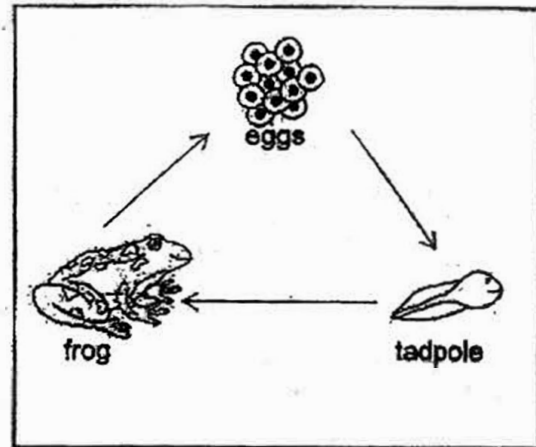
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SCORE	
	3

32. The diagrams below show the life cycles of the mosquito and frog.



Life cycle of a mosquito



Life cycle of a frog

(a) How is the life cycle of a mosquito similar to that of a frog? [1]

(b) How is the life cycle of a mosquito different from that of a frog? [1]

(c) Tadpole go through a few physical changes as they develop into the adult frogs. Name two ways in which the tadpole is different from the adult frog. (Do not compare the size). [1]

(Go on to the next page)

SCORE	
	3

33. Lucy found 2 identical plants. She placed Plant A in a completely dark room and Plant B in the open field. Both plants were watered with equal amounts of water every day. She observed their growth over 2 weeks.



Plant A

Location: Completely dark room



Plant B

Location: Open field

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

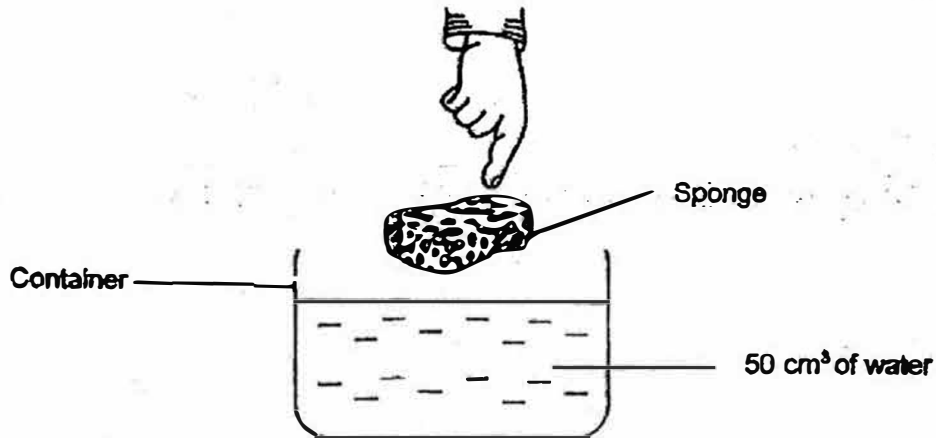
- (b) What would happen to both Plants A and B after two weeks? [1]

- (c) Lucy's brother wanted to find out if plants need water to grow. What changes should he make to the above experiment? [1]

(Go on to the next page)

SCORE	3
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34. Felice carried out an experiment below. She filled up a container with 50 cm^3 of water. She pushed a sponge gently into the container until it reached the base and after 10 seconds, she removed it from the container. Then, she recorded the amount of water in the container by pouring it into a measuring cylinder.



- (a)(i) Tick (✓) the correct amount of water left in the measuring cylinder at the end of the experiment. [1]

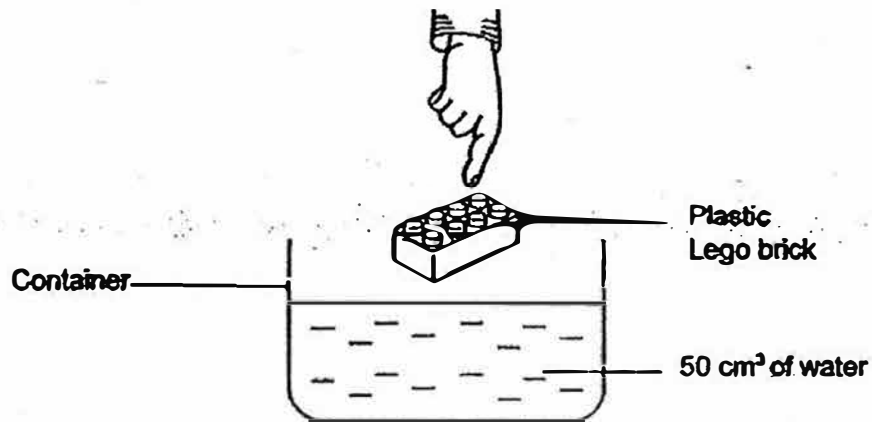
Amount of water left in the measuring cylinder	Put a tick (✓)
More than 50 cm^3	
Less than 50 cm^3	
Exactly 50 cm^3	

- (ii) Explain your answer in (a)(i). [1]

(Go on to the next page)

SCORE	2
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- (b) Felice conducted the experiment again. She changed the sponge into a piece of plastic Lego brick. She pushed the brick to the base of the container for 20 seconds before removing it. She also recorded the amount of water left in the container.

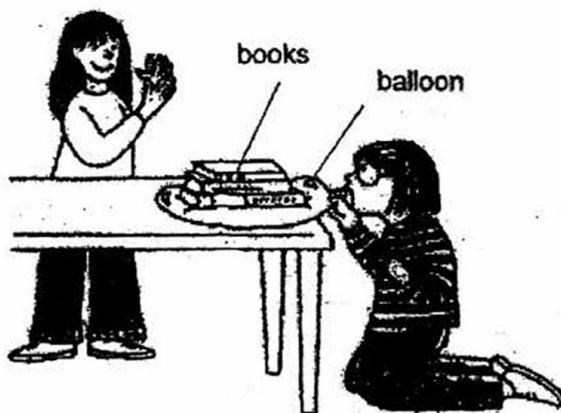


Will there be a difference in results when compared to (a)? Explain why. [1]

(Go on to the next page)

SCORE	1
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35. Mary placed a stack of books on top of a huge balloon. She tried to inflate the balloon by blowing air into it. Her friend saw this and said that the balloon will not be able to inflate.



- (a) Explain why the balloon will not inflate.

[1]

- (b) Mary repeated the experiment by replacing the books with a piece of tissue paper. What would she observe?

[1]

- (c) Michael saw a clown sculpting balloons. The clown twisted and turned a balloon to form different shapes as shown in the diagram below.



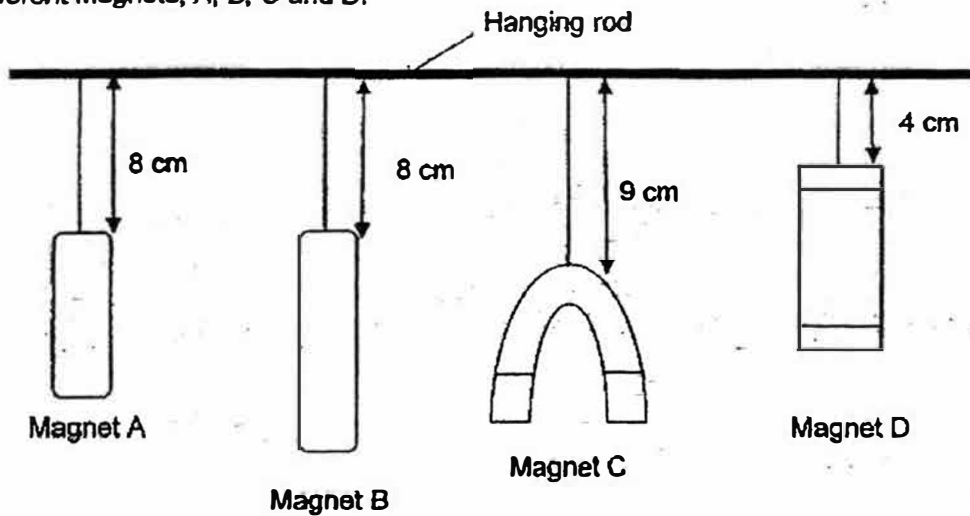
Based on the diagram above, list 2 properties of air.

[1]

(Go on to the next page)

SCORE	
	3

36. Sally conducted an experiment as shown below to compare the strength of four different magnets, A, B, C and D.



She placed a container of iron paper clips below the set-up and recorded her observations in the table below.

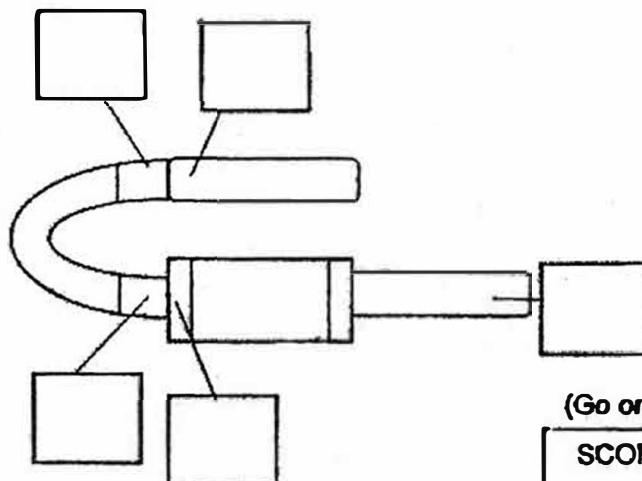
Magnet	A	B	C	D
Number of iron paper clips attracted	8	10	12	7

- (a) Tom said that Sally's experiment was not a fair test. What can she do to make it a fair test?

[1]

- (b) When the four magnets, A, B, C and D were brought close together, it attracted one another and formed the figure below. Write 'N' and 'S' on the poles of the magnet to show how the attraction took place.

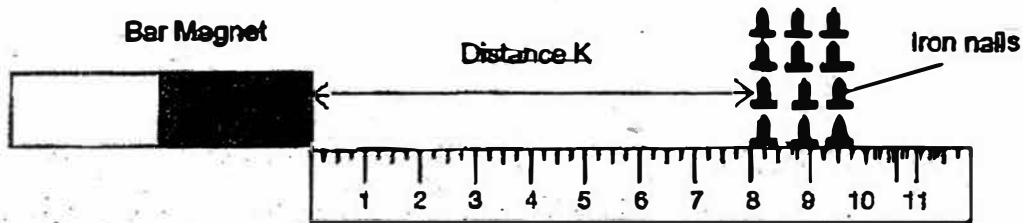
[1]



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SCORE	2
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37. The experiment shown below is carried out using a bar magnet and several iron nails. The bar magnet is brought closer to the iron nails. Distance K shows the longest distance before the iron nails get attracted to the bar magnet.



The table below shows the results of the experiment.

Distance K (cm)	Number of iron nails attracted to the magnet
2	7
4	5
6	3
8	1

- (a) What is the relationship between distance K and the number of iron nails attracted to the magnet?

[1]

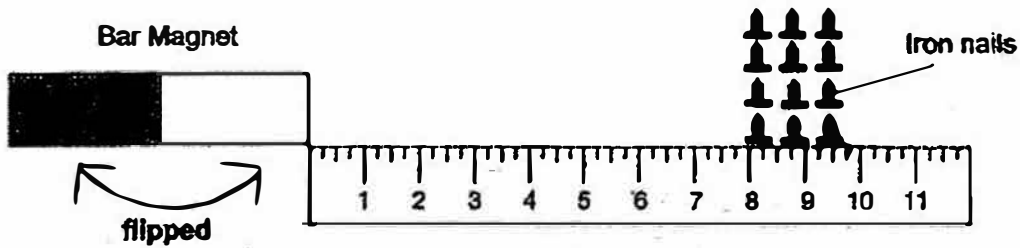
- (b) Other than moving the iron nails nearer to the bar magnet; what could be done to the experiment to decrease distance k?

[1]

(Go on to the next page)

SCORE	2
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- (c) The same bar magnet in the above experiment is flipped sideways.



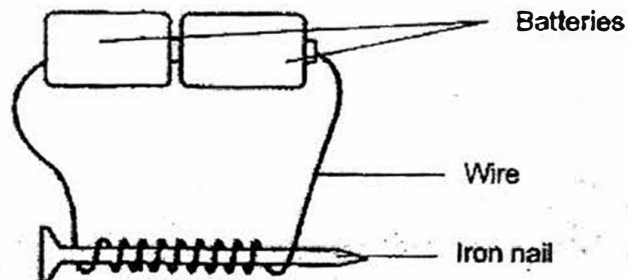
Which of the following predictions would likely be observed if the bar magnet is flipped and the other side of the magnet is facing the iron nail as shown above? [1]

Prediction	Tick the correct prediction(s)
The iron nails will be attracted to the bar magnet.	
None of the iron nails will be attracted to the bar magnet.	
The iron nails will move away from the bar magnet.	

(Go on to the next page)

SCORE	1
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38. Andy coiled some wires around an iron nail and connected the ends of the wire to batteries as shown below.



- (a) What will happen to the iron nail when the wires are connected to the batteries? [1]

- (b) State one thing Andy can do to increase the strength of the electromagnet above. [1]

- (c) If Andy replaces the iron nail with a silver nail, will the silver nail become an electromagnet? Explain why. [1]

End of paper

SCORE	
	3

SCHOOL : ANGLO-CHINESE SCHOOL (JUNIOR)

LEVEL : PRIMARY 4

SUBJECT : SCIENCE

TERM : 2017 SA1

CONTACT :

SECTION A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	3	3	3	2	2	1	2	4	3
Q 11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	1	4	1	2	1	3	2	3	2
Q 21	Q22	Q23	Q24	Q25					
1	1	4	2	4					

SECTION B

Q26)	a) Both reproduce by laying eggs. b) L, the whale has hair and suckles its young, L also has hair and suckles its young. c) It has a beak.
Q27)	a) Fungi b) They get their food from the bread. c) It reproduces by seeds.
Q28)	a) A: mouth B: gullet C: stomach D: small intestine b) (i) : circulatory system (ii) respiratory system c) (i) skull (ii) ribcage d) They protect the important organs of the body.
Q29)	a) The temperature of the surrounding. b) Type of plants and the amount of water given to each plant c) The higher the temperature of the surroundings, the taller the plant will grow.
Q30)	a) (i) leaves (ii) Flower

	(iii)Stem (iv)Roots b) To find out if plants need roots to take in water.
Q31)	a) 19 days b) Mosquito and butterfly c) The larva eats a lot but the pupa does not eat food.
Q32)	a) Both have an egg stage b) The life cycle of a mosquito has four stages but the life cycle of the frog has three. c) The tadpole breaths through gills but the frog breaths through lungs and moist skin. The tadpole can only live in water but the frog can live in water and on land.
Q33)	a) To find out if plants need sunlight to survive. b) Plant A would have died but plant B would be alive. c) Place both plants in an open field, give water to only one plant.
Q34)	a) (i) Less than 50 cm³ (ii) The sponge is absorbent and absorbed the water, and the water in the container occupied the space in the air holes in the sponge. b) Yes. The lego is waterproof so it will not absorb the water.
Q35)	a) Air will not be able to enter the balloon as the space inside the balloon is blocked by the books that are pressing down on it. b) The balloon will inflate. c) It does not have a definite shape and it can be compressed.
Q36)	a) She should make the distance from the magnets to the paper clips the same. b) Top magnet : N, S Bottom Magnet : S, N Right side : S
Q37)	a) The longer the distance K, the fewer the number of iron balls will be attracted. b) Use a weaker magnet. c) The iron nails will be attracted to the bar magnet. ✓
Q38)	a) It will become magnetized. b) He can increase the number of batteries. c) No. It is not a magnetic material.