



PEI HWA PRESBYTERIAN PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1

**PRIMARY 4
SCIENCE
(BOOKLET A)**

15 MAY 2015

Name: _____

Class: 4 Teamwork _____

Total time for Booklets A and B: 1 h 30 mins

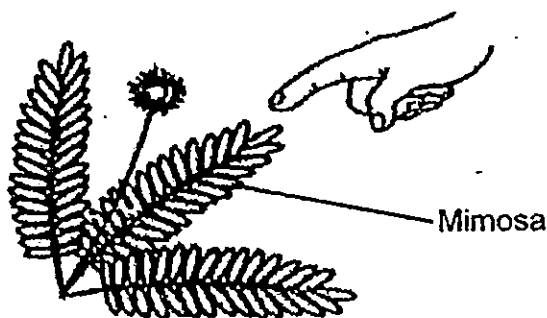
INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers on the Optical Answer Sheet (OAS) provided.

This booklet consists of 17 printed pages, excluding the cover page.

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice and shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet provided. (60 marks)

- 1 A mimosa closes up its leaves when it is touched.



The mimosa plant is a living thing because it can _____.

- (1) grow
 - (2) breathe
 - (3) respond
 - (4) reproduce
- 2 The table below shows some characteristics of 3 objects U, V, and W. A tick (✓) shows that the object has the characteristic and a cross (X) shows that the object does not have the characteristic.

Objects	Grows	Reproduces	Moves on its own
U	✓	✓	X
V	✓	✓	✓
W	X	X	X

Which statement below best describes the objects in the table above?

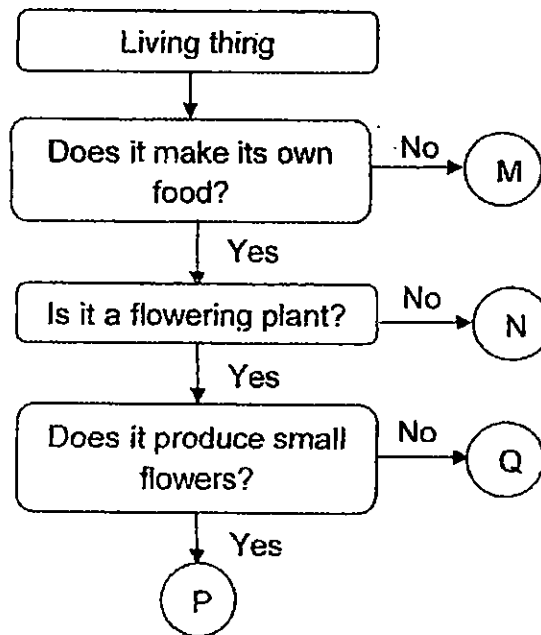
- (1) Object V is the only living thing.
- (2) Object U and W are living things.
- (3) Object V and W are non-living things
- (4) Object W is the only non-living thing.

3 Which of the following characteristics do mammals have in common?

- A They can fly.
- B They have a pair of legs.
- C They give birth to live young.
- D They feed their young with milk.

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

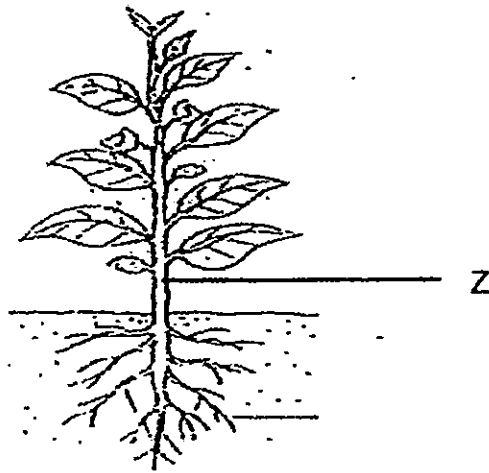
4 Study the flowchart below.



Where could moss be placed in the flowchart above?

- (1) M
- (2) N
- (3) Q
- (4) P

5 The picture below shows a plant.

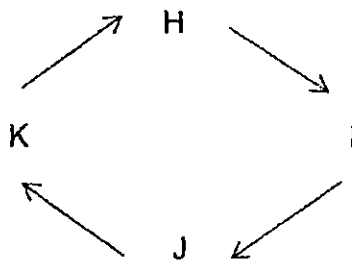


Based on the plant above, what are the main functions of Z?

- A Hold the plant upright.
- B Makes food for the plant.
- C Anchor the plant firmly to the ground.
- D Transport food from leaves to all parts of the plant.

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

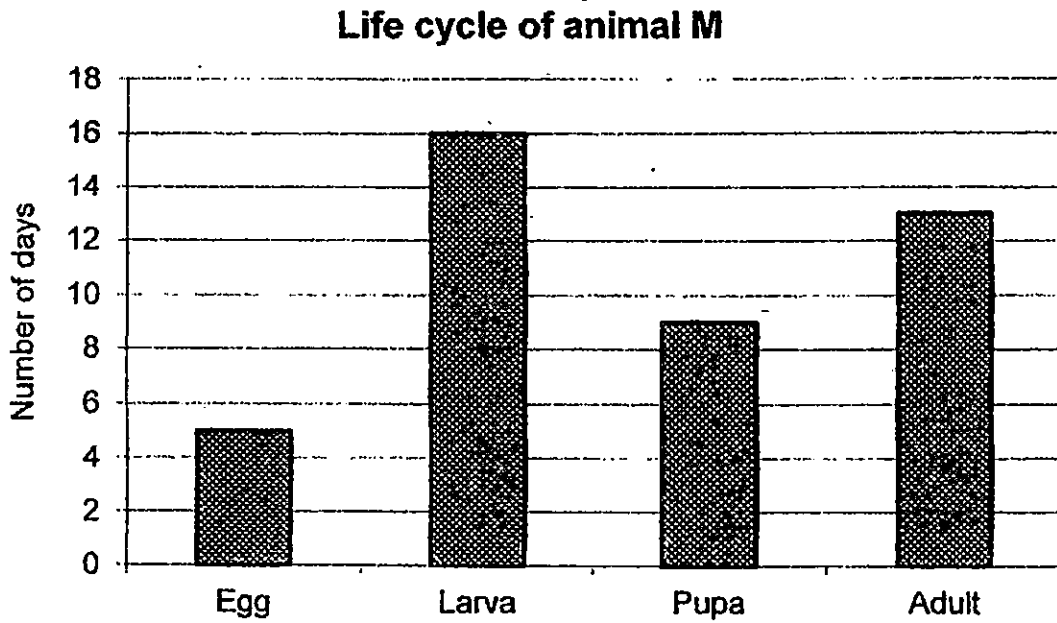
6 Study the lifecycle of an animal below. Each letter represents a stage.



If H represents the pupa stage, what stage does J represent?

- (1) Egg
- (2) Adult
- (3) Larva
- (4) Nymph

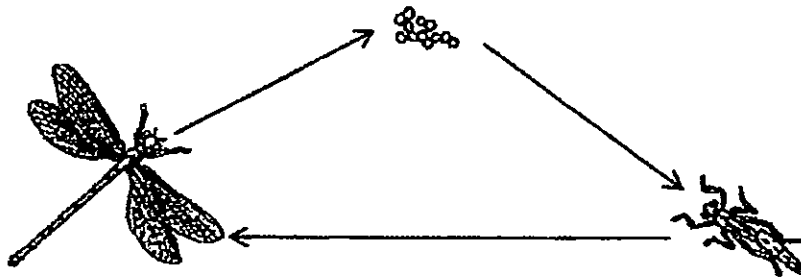
7 The graph below shows the life cycle of animal M over a period of time.



How long did it take for the animal to become a pupa after the egg was laid?

- (1) 5
- (2) 9
- (3) 16
- (4) 21

8 The diagram below shows the lifecycle of an insect.



Which of the following animals has a life cycle similar to the life cycle above?

- (1) Ladybird
- (2) Butterfly
- (3) Grasshopper
- (4) Mealworm Beetle

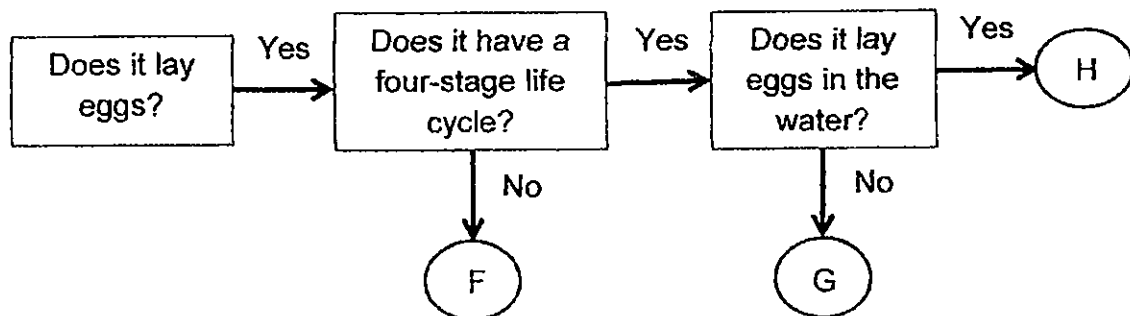
9 Four children made statements on the lifecycles of a cockroach and a human as shown below.

- Peter The nymph of the cockroach and the young of a human resemble the adult.
 Xiao Wei The cockroach nymph undergoes moulting but the human does not.
 Gita Both have an egg stage in its life cycle.
 Siti Both life cycles consists of three stages.

Which child/children made a correct statement on the life cycles?

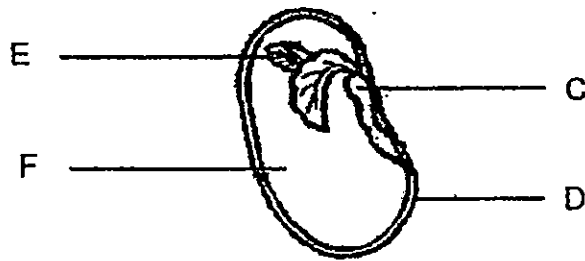
- (1) Gita only
 (2) Gita and Siti only
 (3) Gita, Siti and Xiao Wei only
 (4) Gita, Siti, Xiao Wei and Peter

10 Study the flowchart below.



	Animal F	Animal G	Animal H
(1)	Grasshopper	Mealworm Beetle	Human
(2)	Chicken	Mosquito	Butterfly
(3)	Ladybird	Grasshopper	Human
(4)	Chicken	Butterfly	Mosquito

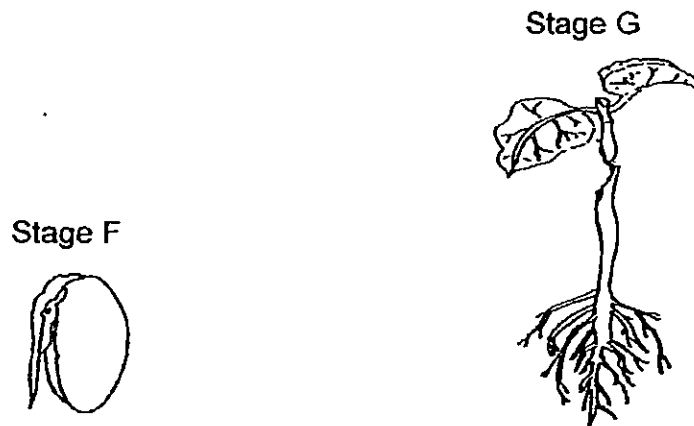
11 The diagram below shows a seed with the parts C, D, E and F labelled.



Which part of the seed provides the seed with the source of food?

- (1) C
- (2) D
- (3) E
- (4) F

12 Study the different stages of a plant shown below carefully.

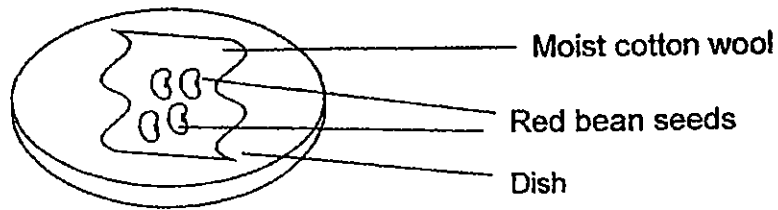


Which of the following statements is/are true of the plant in both the stages shown above?

- A Only stage G requires warmth to grow.
- B Both needs to trap sunlight to make food.
- C Both take in water and mineral salts through the roots.

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

- 13 Clark wanted to find out if light is required for seeds to germinate into a young plant. He needed 2 set-ups. He prepared the first set-up as shown below and placed it near a window.



Which of the following should Clark use as the second set-up to conduct a fair experiment?

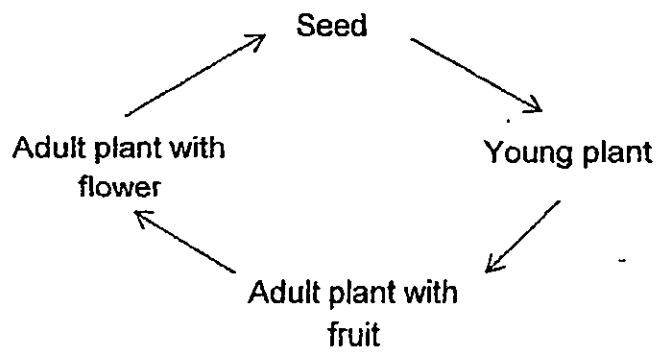
	Number of seeds	Type of seeds	Cotton wool	Location dish placed
(1)	5	Green bean	Moist	In a freezer
(2)	4	Red bean	Dry	On an open field
(3)	4	Red bean	Moist	In a black box
(4)	4	Green bean	Dry	Near a window

- 14 Toadstools are not plants because they _____.

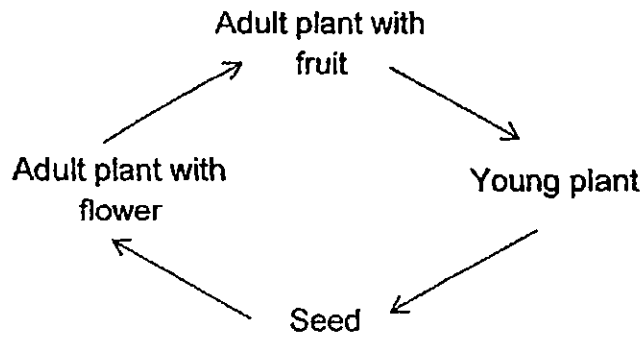
- (1) are not green
- (2) reproduce by spores
- (3) feed only on living things
- (4) cannot make their own food

15 Which one of the following shows the correct order of stages in the life cycle of a flowering plant?

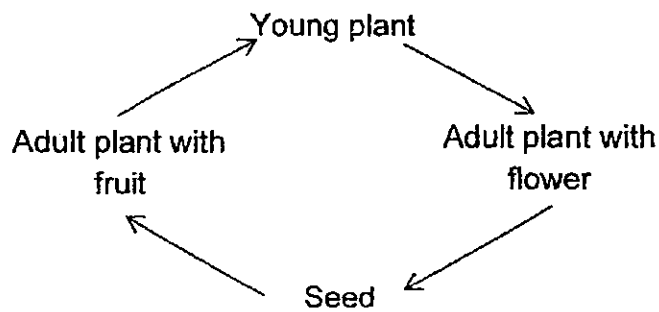
(1)



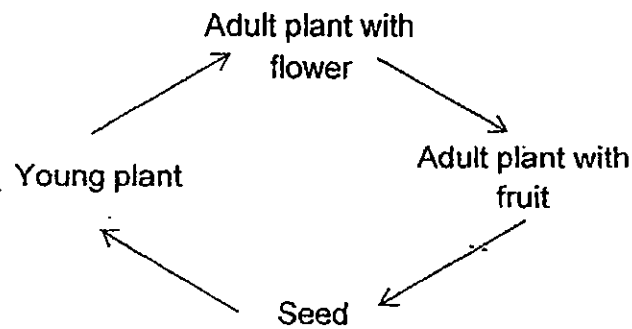
(2)



(3)



(4)



- 16 Victor moulded a piece of plasticine into a cup. He then used the same piece of plasticine and remoulded it into a bowl.



Cup



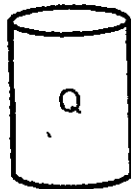
Bowl

Which one of the following statements of the cup and bowl is true?

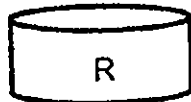
The plasticine used in both the cup and the bowl would have the same

- _____.
- (1) mass only
 - (2) volume only
 - (3) shape and mass
 - (4) mass and volume

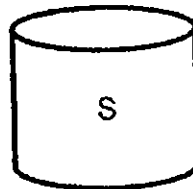
- 17 Which of the following containers can hold 25 cm^3 of air?



30 cm^3



25 cm^3



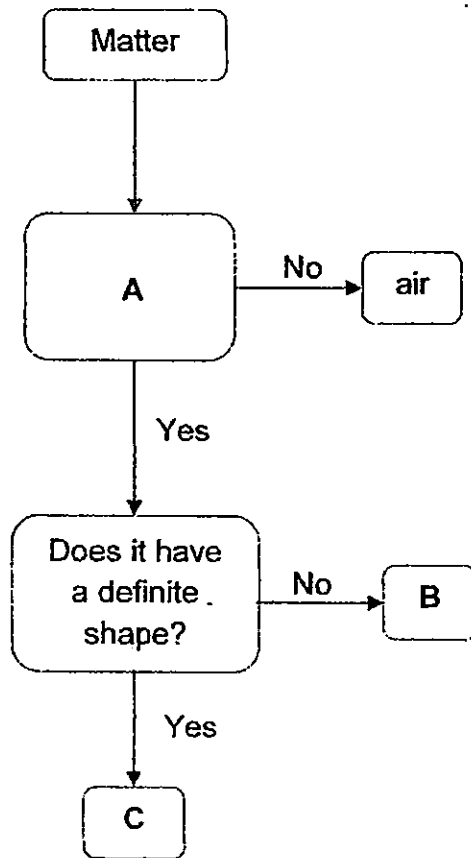
45 cm^3



20 cm^3

- (1) T only
- (2) R and Q only
- (3) R, Q and S only
- (4) Q, R, S and T

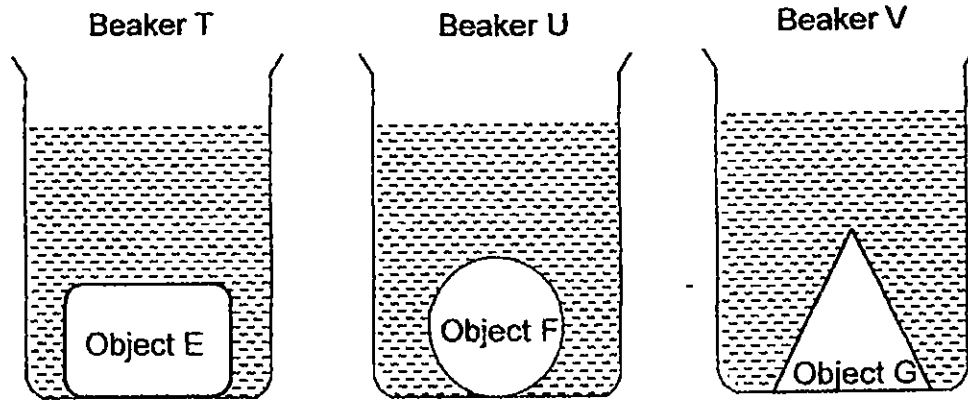
18 Study the flowchart on matter below.



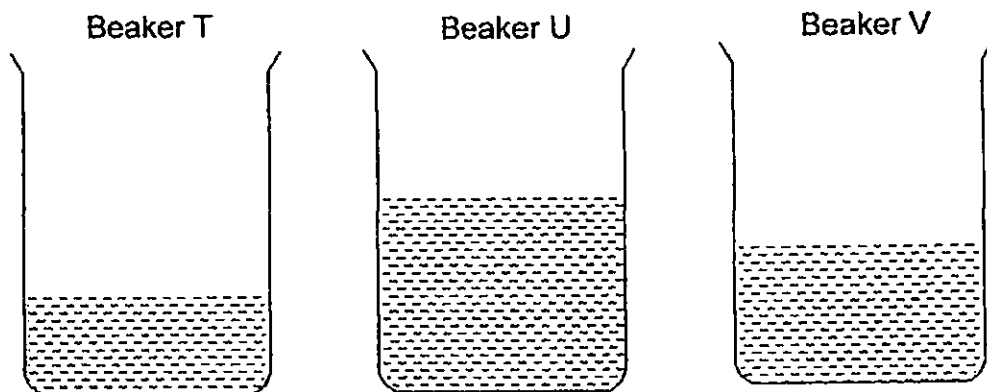
Which of the following could A, B and C be?

	A	B	C
(1)	Does it have a definite volume?	remote control	television
(2)	Does it occupy space?	steam	pot
(3)	Does it have a definite volume?	water	book
(4)	Does it have mass?	body lotion	coin

- 19 James placed three objects, E, F and G in 3 identical beakers, T, U and V. He then poured water to the same level as shown below.



He then removed the objects from the beakers and observed the amount of water left in the beakers as shown below.



Which of the following statements about the 3 objects, E, F and G, is correct?

- (1) Object E has the least volume.
- (2) All three objects have the same volume.
- (3) Object G has a greater volume compared to Object F.
- (4) Object E has a lesser volume compared to Object G.

20 Bob wanted to conduct an experiment to find out how moisture affects the growth of bread mould.

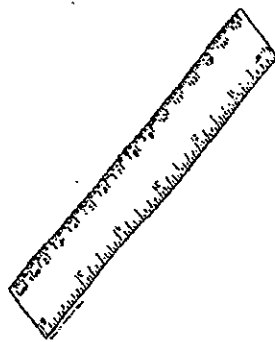
Which of the following must be kept the same to ensure a fair test?

- A Size of bread
- B Type of bread
- C Location of set-up
- D Amount of water on bread

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

21 Which of the following objects is made of a magnetic material?

(1)



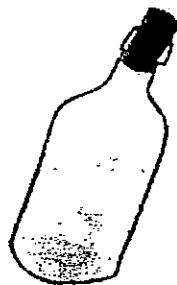
Steel ruler

(2)



Aluminium can

(3)



Glass bottle

(4)



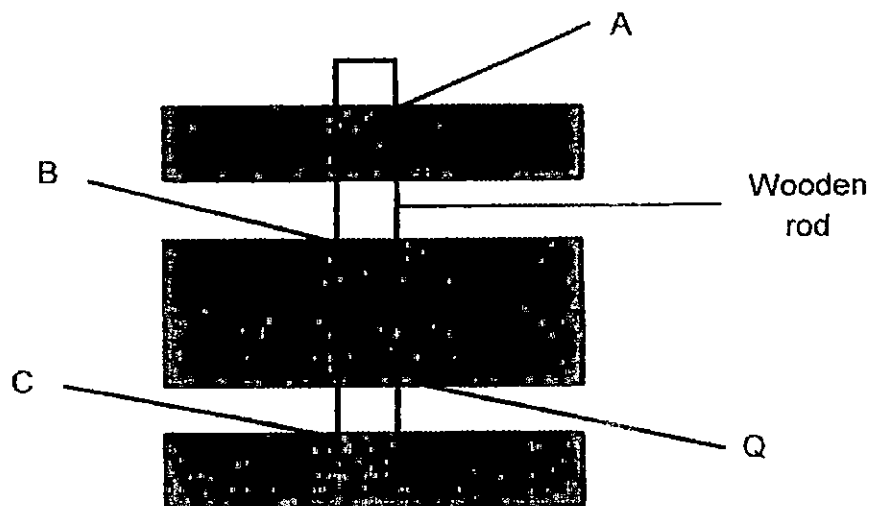
Copper coin

- 22 The table below shows the number of nails attracted to four different parts on a bar magnet.

Part	Number of nails it attracted
J	5
K	9
L	12
M	4

Which part, J, K, L or M, is most likely to be the pole of the bar magnet?

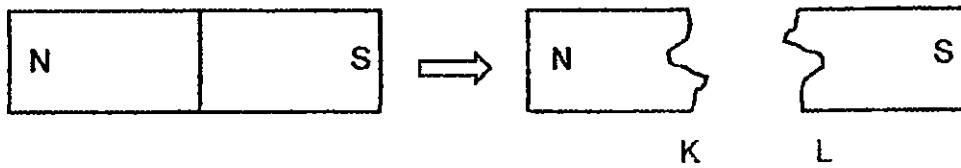
- (1) J
 (2) K
 (3) L
 (4) M
- 23 Study the diagram of 4 ring magnets suspended through a wooden rod as shown below.



If Q is a north pole, what poles would A, B, and C be?

	A	B	C
(1)	North	North	South
(2)	South	South	North
(3)	South	North	South
(4)	North	South	North

- 24 Shu Hui had accidentally dropped a magnet and it broke into 2 pieces as shown below.



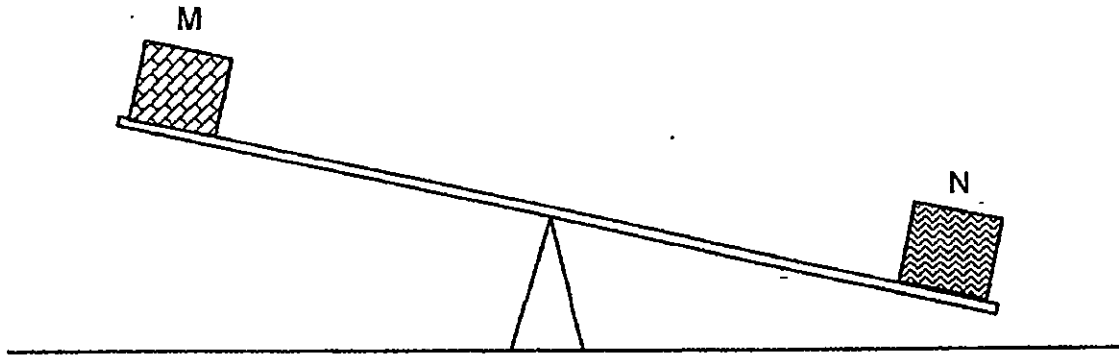
Which of the following correctly shows the poles of the broken magnet pieces at K and L?

	K	L
(1)	South	South
(2)	North	North
(3)	South	North
(4)	North	South

- 25 Which one of the following is not matter?

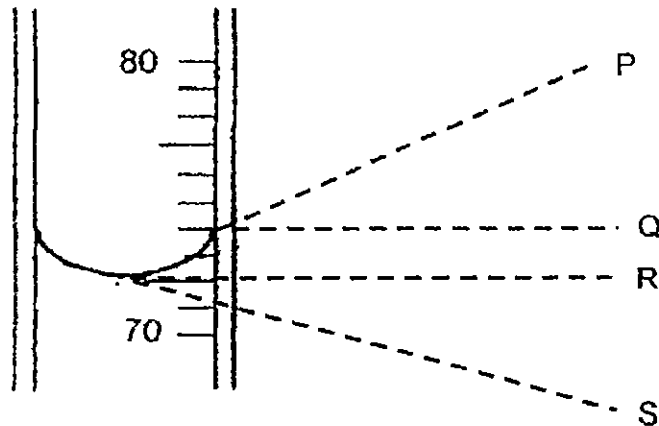
- (1) fire
- (2) clay
- (3) wax
- (4) smoke

- 26 The diagram below shows 2 objects, M and N of similar volume on a beam balance.



Which of the following statements is definitely true?

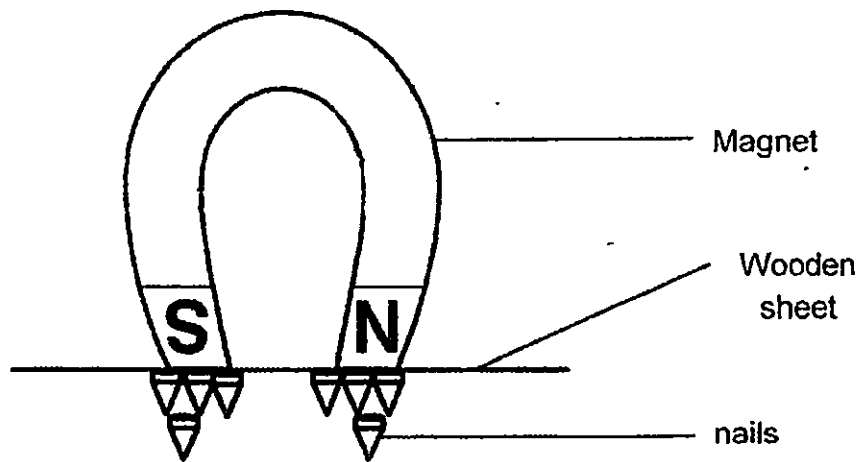
- (1) N has less mass than
 - (2) N has greater mass than
 - (3) N occupies less space than M.
 - (4) N occupies more space than M.
- 27 The diagram below shows part of a measuring cylinder filled with some liquid.



At which point should the eye level be to ensure accurate reading of the volume of the liquid?

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

- 28 Ming Hui placed the magnet at the top of the wooden sheet and slid it from left to right. Ming Hui realised that the nails at the bottom of the sheet moved with the magnet.



Which of the following statements explains the above observation?

- (1) Wooden sheet is a magnetic material.
- (2) The magnet magnetized the wooden sheet.
- (3) The nails are made of non-magnetic material.
- (4) Magnetic force can pass through the wooden sheet.

- 29 The following table shows the properties of four materials E, F, G and H. A tick (✓) shows that the material has that particular characteristic and a cross (X) shows that the material does not have that characteristic.

Property	Material E	Material F	Material G	Material H
Strong	✓	X	✓	X
Flexible	✓	X	X	✓
Waterproof	X	✓	✓	✓

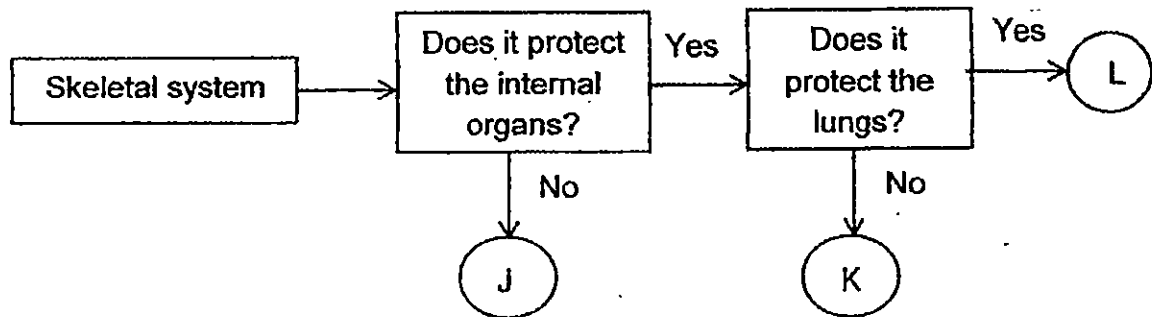
Hammerhead



Which one of the materials E, F, G and H is a suitable material for making a hammerhead to knock a nail into the wall?

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

30 Study the flowchart on the skeletal system below.



Based on the flowchart above, which of the following could J, K and L be?

	J	K	L
(1)	spine	skull	foot bone
(2)	ribcage	arm bone	spine
(3)	leg bone	skull	ribcage
(4)	finger bone	spine	skull



**PEI HWA PRESBYTERIAN PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1**

**PRIMARY 4
SCIENCE
(BOOKLET B)**

15 MAY 2015

Name: _____

Class: 4 Teamwork _____

Parent's Signature

Total time for Booklets A and B: 1 h 30 mins

INSTRUCTIONS TO CANDIDATES

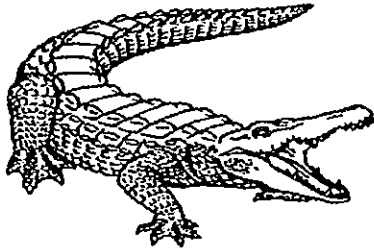
1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write all your answers in this booklet.

Marks (Booklet A) :	60
Marks (Booklet B) :	40
Total Marks (Booklets A & B) :	100

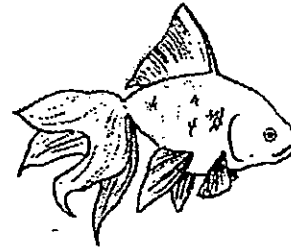
This booklet consists of 12 printed pages, excluding the cover page.

Write your answers to the questions 31 to 44 in the spaces provided. The number of marks available is shown in brackets [] at the end of each question or part question. (40 marks)

31 Study the diagram of a reptile and fish.



Reptile



Fish

(a) State two similarities of the reptiles and the fish in :

[2]

(i) the way they reproduce.

(ii) their body covering.

(b) State one physical difference in the reptile and the fish in the way they breathe.

[1]

32 The table below shows the characteristics of the 3 materials, P, Q and R.

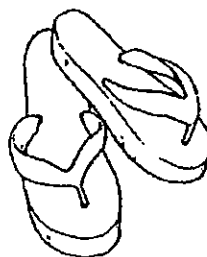
Characteristic	Waterproof	Not waterproof
Flexible	P	Q
Not flexible	R	

(a) Based on the table, what are the differences between material R and Q? [1]

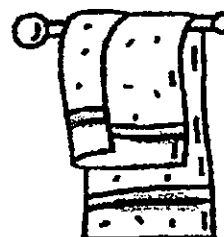
(b) Study the pictures below carefully.



Metal
key



Rubber
sandals



Body
towel

Which of the items above is most likely to be made of material P? Explain your choice of the material.

[2]

33 (a) The diagram below shows parts of a human body.

Draw four arrows (\longrightarrow) on the diagram to show the direction of blood flow in a human body. [1]

Lungs

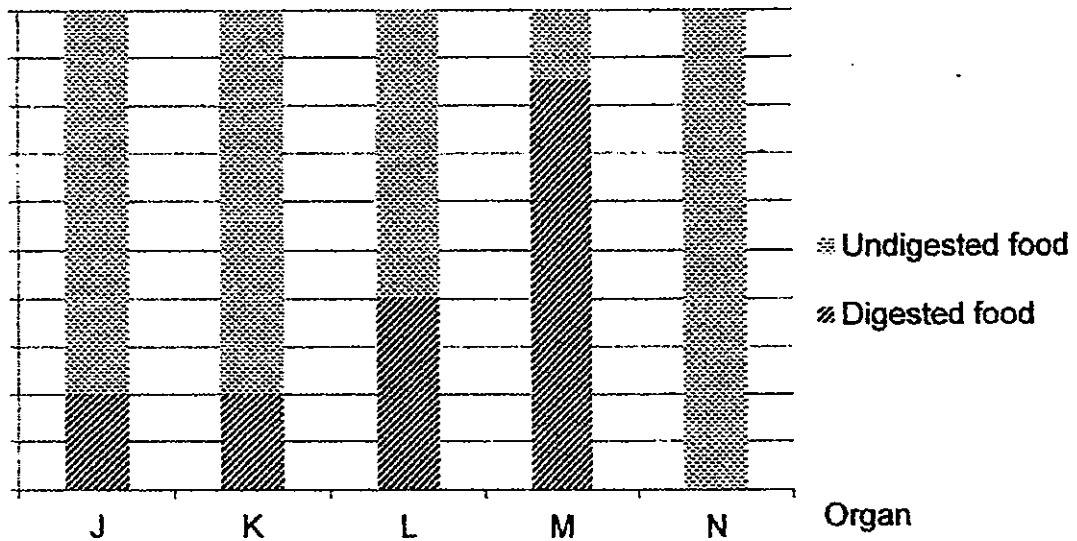
Heart

All other parts
of the body

(b) Heart attack happens when the heart stops pumping. Explain how this can cause a person to die. [1]

34 The bar chart below shows the amount of digested and undigested food in the various organs in the human digestive system.

Amount of digested or undigested food



(a) From the graph above, identify the small and large intestine. [1]

Small intestine : Organ _____

Large intestine: Organ _____

(b) Explain why organs J and K have the same amount of undigested food? [1]

(c) Explain why a person will have watery stools when a person is suffering from diarrhoea. [1]

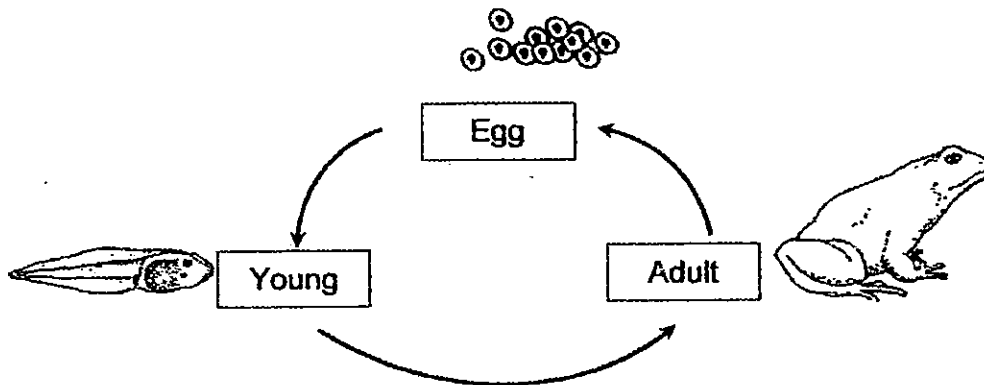
35 Paul kept a larva of a butterfly in a tank over a period of time. He studied the larva carefully. Over a period of time, he observed some dried skin in the tank.

(a) What is the process that caused the dried skin to appear in the tank? [1]

(b) Why is there a need for the larva to go through the process in (a)? [1]

(c) Paul's father said that the larva was considered to be a pest to farmers. Explain why this is so. [1]

36 Study the life cycle of a frog as shown below.



(a) Why are frog eggs coated with a jelly-like substance? [1]

(b) State one difference between the young and adult of the frog. [1]

37 The diagram below shows a red bean seed which is about to germinate.



(a) Which part of the seed would appear first? [1]

(b) Why is there a need for the part mentioned in (a) to appear first? [1]

38 Victoria plotted the table below during the growth of a seed into a young plant. The mass of the seed leaves and the seedling were recorded over the nine days.

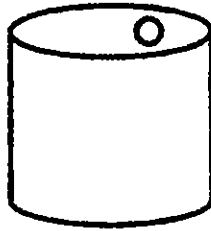
	Day 1	Day 3	Day 5	Day 7	Day 9
Seed leaves	1g	0.9g	0.7g	0.5g	0.3g
Seedling	0 g	0.3 g	0.6g	0.9 g	1.2 g

(a) What is the relationship between the mass of the seed leaves and the mass of seedling over the nine days? [1]

(b) List all the conditions required for germination. [1]

(c) It was observed that the seed leaves dropped on Day 10, how would the seedling get its food from Day 10 onwards? [1]

- 39 Gary decided to pour out some milk from a condensed milk tin. So he punched one hole on the top of the cover.



- (a) However, his mother advised him to punch another hole on the cover to pour out the milk much more easily.

Explain how this would help Gary pour out the milk more easily.

[2]

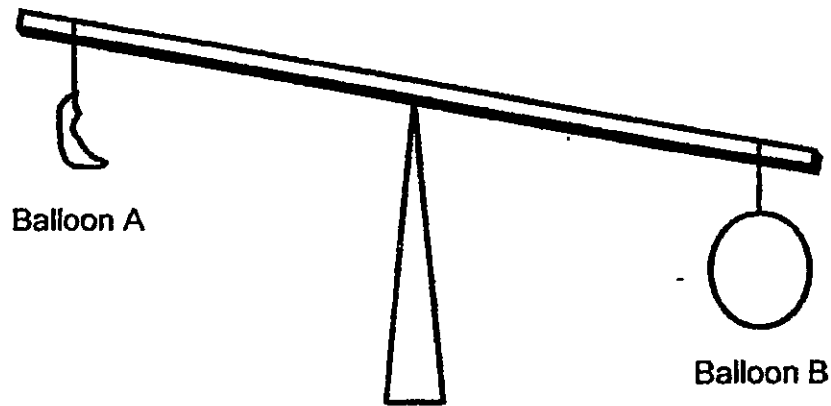
- (b) What is the state of matter the condensed milk is in?

[½]

- (c) Which property of the state in (b) helped the milk to flow out easily?

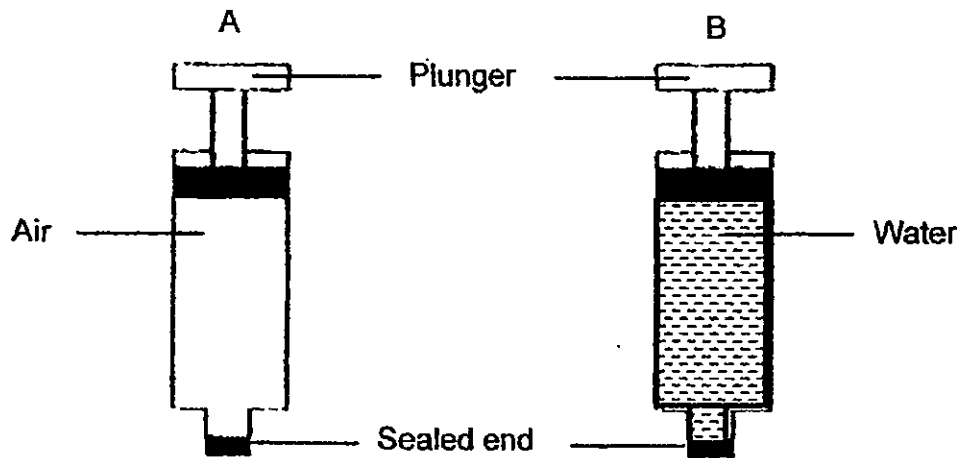
[½]

- 40 The diagram below shows a balance with 2 similar balloons attached on each end. One balloon was deflated, while the other was inflated with air.



- (a) Explain how the diagram above shows that air is matter. [2]

- (b) The diagram below shows 2 syringes, A and B, filled with air and water each with its ends sealed.



- In which syringe, A, B or both, can the plunger be pushed in? Explain your answer. [2]

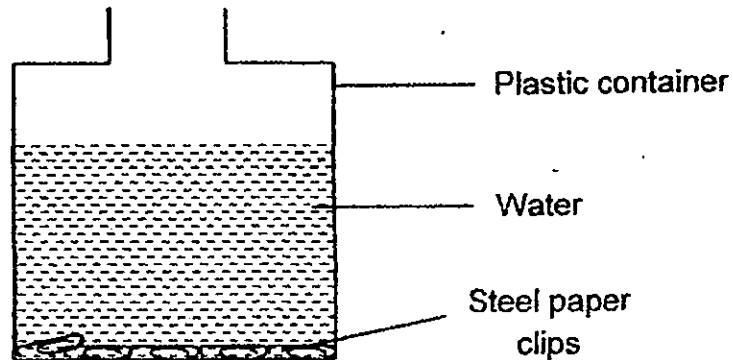
- 41 Shun Hao conducted an experiment to find out how the objects, J, K and L interact with the magnet and recorded his findings in the table below. A tick(√) shows that the observation was made and a cross (X) shows that the observation was not made.

Objects	J	K	L
Attracted by magnet	X	√	√
Repelled by magnet	X	X	√

- (a) Which of the following is likely to be made of non-magnetic material? [1]
Explain your answer.

- (b) Which of the objects, J, K or L is likely to be a magnet? Explain your answer. [1]

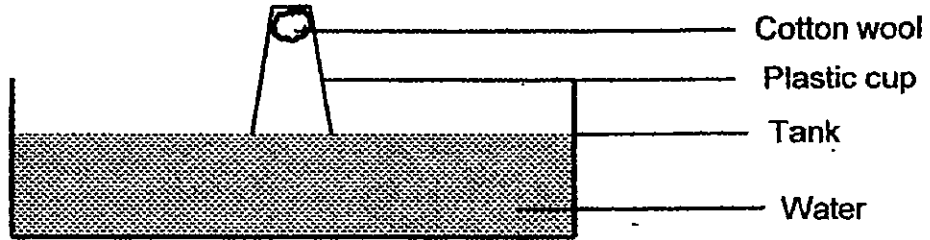
- 42 Charlene had a plastic container filled with water. It contained some steel paper clips. She had to remove the steel paper clips but she could not pour out the water and her hand could not fit into the opening of the tank.



- (a) Charlene's friend suggested using a bar magnet to remove the paper clips. Explain why this is possible? [2]

- (b) If the steel paper clips were replaced by gold rings, will she be able to remove the gold rings using the magnet? Explain your answer. [2]

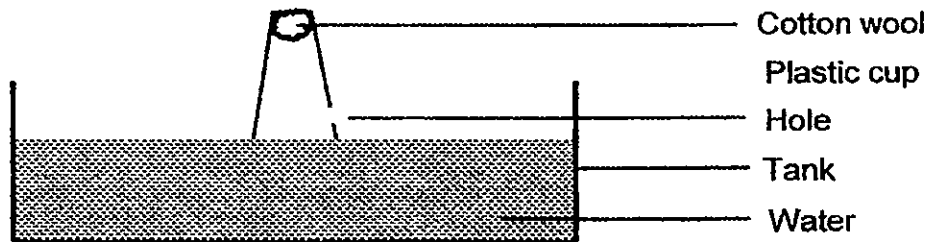
- 43 Rachel conducted an experiment as shown below. She pasted some cotton wool inside a plastic cup and pushed the cup down into a basin of water as shown below. She then took out the cup and felt that the cotton wool was dry.



- (a) Explain why the cotton wool felt dry.

[1]

Rachel poked a hole on the cup as shown below and pushed the cup into the tank of water until the cup is fully in the water.

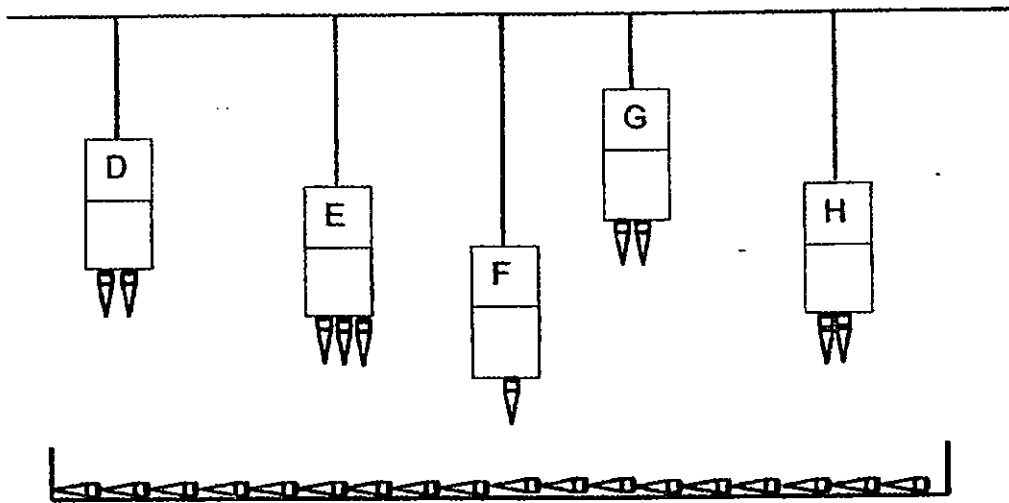


- (b) She observed that the cotton wool was still dry.

[2]

Explain why the cotton wool stayed dry even though a hole was poked on the cup.

- 44 Junjie wanted to test the strength of the magnets, D, E, F, G and H. He hung them from strings of different lengths as shown below. A plastic tray of nails are placed under the magnets. Some nails had been attracted to the magnets.



- (a) Based on the diagram above, which is the weakest magnet? [1]

- (b) If Junjie wanted to test the magnetic strength of another magnet and magnet H, what are the 2 variables he needs to keep the same to ensure it is a fair test? [2]

(i)

(ii)

End of Paper



EXAM PAPER 2015

LEVEL : PRIMARY 4

SCHOOL : PEI HWA PRESBYTERIAN PRIMARY SCHOOL

SUBJECT : SCIENCE

TERM : SA1

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10
3	4	1	2	3	1	4	3	4	4
Q 11	Q 12	Q 13	Q 14	Q 15	Q 16	Q 17	Q 18	Q 19	Q 20
4	1	3	4	4	4	4	3	3	2
Q 21	Q 22	Q 23	Q 24	Q 25	Q 26	Q 27	Q 28	Q 29	Q 30
1	3	4	3	1	2	3	4	3	3

Q31a (i) Both the reptile and the fish lay eggs

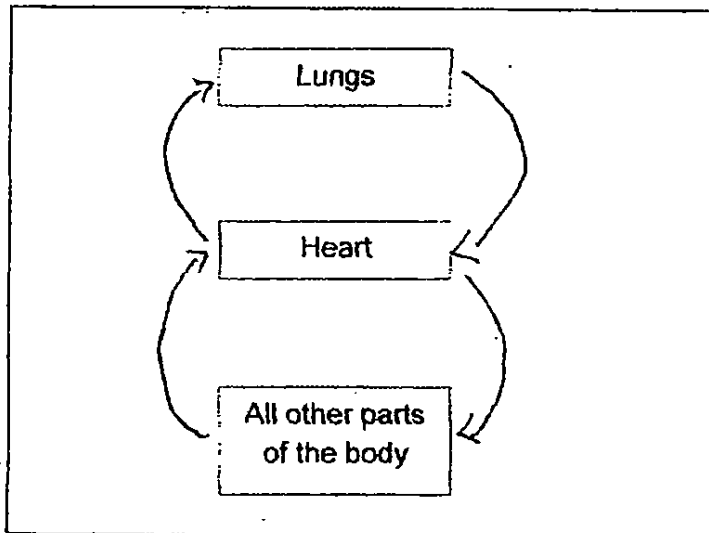
Q31a (ii) Both of their body covering are scales.

Q31b. The reptile uses its lungs to breathe but the fish uses its gills to breathe.

Q32a. Material R is waterproof and not flexible but Material Q is not waterproof and flexible.

Q32b. The rubber sandals are most likely to be made of material P. It needs to be flexible for the wearer to be comfortable and waterproof so that it can be worn in the rain.

Q33a. **SEE PICTURE** Q33b. The heart helps to pump blood around our body. If the heart stops pumping, the blood flow cannot continue and blood contains oxygen for a person to survive. Hence, a person will die when the heart stops pumping.



Q34a. Small intestine : Organ M / Large intestine : Organ N

Q34b. Organ J is most likely to be the mouth where food is broken down to simpler substances but Organ K is likely to be the gullet where no digestion takes place but the food is pushed down to the stomach.

Q34c. The large intestine may not be working well. The large intestine helps to absorb all the water from the stools. Hence, this is why a person will have watery stools.

Q35a. Moulting

Q35b. The larva moults to shed its skin to accommodate its larger growing body.

Q35c. At the larva stage, the caterpillar is considered a pest to farmers as it feeds on the crops.

Q36a. The jelly-like substance is there to protect the young from the predators from eating them.

Q36b. The young has a tail but the adult frog does not have a tail.

Q37a. The roots.

Q37b. The roots help to absorb water and mineral salts for the seed to survive.

Q38a. The more the seedlings grow, the seed leaves mass decreases.

Q38b. Air, water and warmth.

Q38c. The seedling will grow leaves to trap sunlight and make food for the plant to survive.

Q39a. Air would be able to enter the second hole in the tin to occupy the space inside, pushing the milk out of the first hole.

Q39b. Liquid

Q39c. It does not have a definite shape.

Q40a. Balloon B moves downwards which shows that air has mass and since balloon B is bigger than A, it shows that it occupies space thus it is matter.

Q40b. A. Air does not have a definite volume so it can be compressed. Liquid has a definite volume so it cannot be compressed. Thus, syringe A can be pushed in compared to B.

Q41a. J. It was not attracted by a magnet and not repelled by a magnet. Hence, it is most likely to be made of a non-magnetic material.

Q41b. L. It was repelled by a magnet. Only magnets can repel each other. Therefore, L is likely to be a magnet.

Q42a. Steel paper clip is made of a magnetic material and the magnet can attract the steel paper clips.

Q42b. No, because gold rings are not a magnetic material, so it cannot be attracted by a magnet.

Q43a. The air inside the cup occupied some space and the water did not reach the cotton wool. Hence, the cotton wool felt dry.

Q43b. When the cup is fully in water, the hole is also in water. Air in the cup cannot escape and so the water cannot enter the cup.

Q44a. Magnet F.

Q44b. (i) Distance between magnet and nails.

Q44b. (ii) Number of pins under each magnet.

THE END