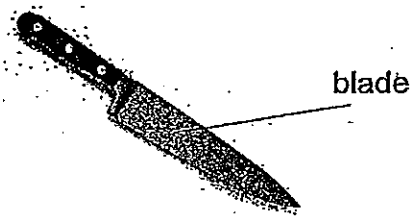
SINGAPORE CHINESE GIRLS' SCHOOL
FIRST SEMESTRAL ASSESSMENT 2013
PRIMARY 4 SCIENCE

Name:_____( ) Date: _____
Class: 4 SY / C / G / SE / P Duration: 1 hr 25 min
Part I (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) on the Optical Answer Sheet provided.

1. The blade of the knife below is made of steel.



Which of the following is the most likely reason to explain why steel is chosen to make the blade of the knife?

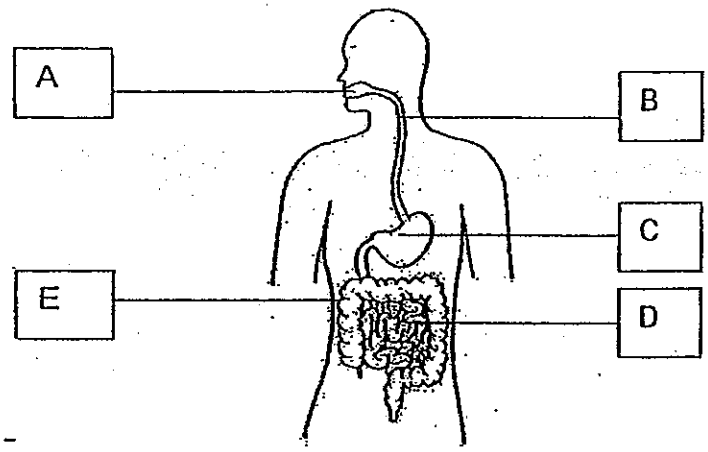
1) It is soft.
2) It is strong.
3) It is flexible.
4) It is transparent.

2. Which of the following statements about the digestive system are correct?

A) Digestion of food begins in the stomach.
B) Our teeth help us to break up food into smaller pieces.
C) Food passes from the mouth to the stomach through the gullet.
D) Digested food passes through the wall of the large intestine and goes into the bloodstream.

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

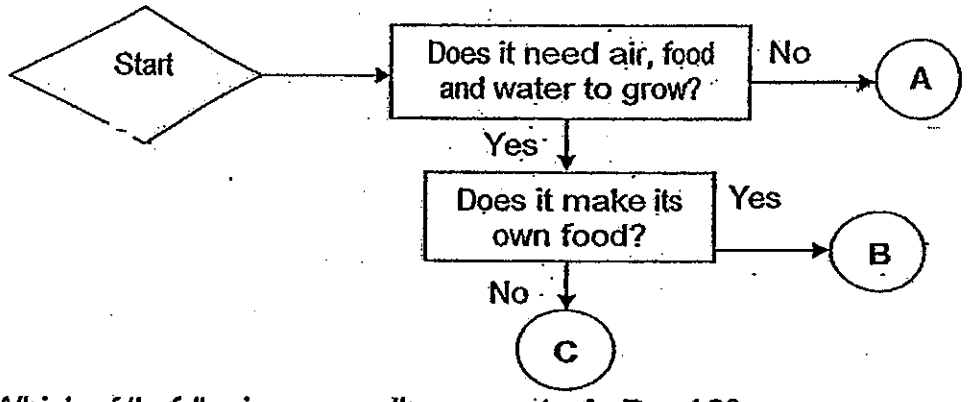
3. Study the diagram of the digestive system below.



Identify parts A, B, C, D and E of the digestive system.

	A	B	C	D	E
(1)	Gullet	Mouth	Small intestine	Stomach	Large intestine
(2)	Mouth	Gullet	Stomach	Large intestine	Small intestine
(3)	Gullet	Mouth	Large intestine	Stomach	Small intestine
(4)	Mouth	Gullet	Stomach	Small intestine	Large intestine

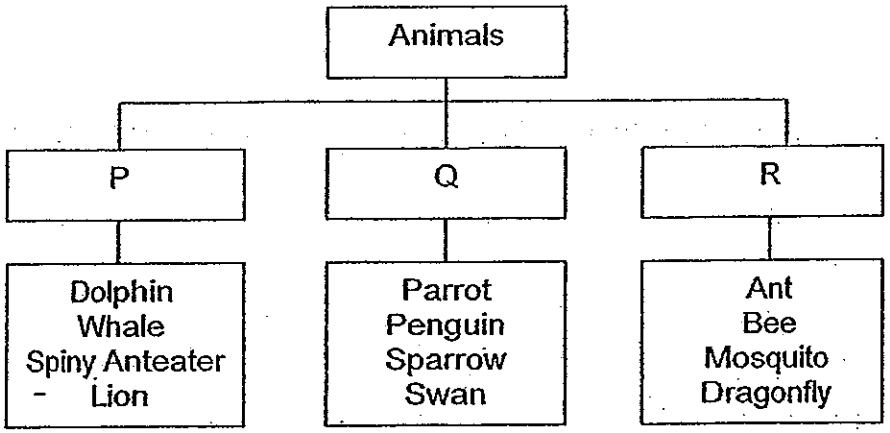
4. Study the flowchart below.



Which of the following correctly represents A, B and C?

	A	B	C
(1)	Cockroach	Whale	Cow
(2)	Book	Bird's Nest Fern	Toadstool
(3)	Yeast	Rose Plant	Shark
(4)	Magnet	Mushroom	Cat

Study the classification table below and answer Questions 5 & 6.



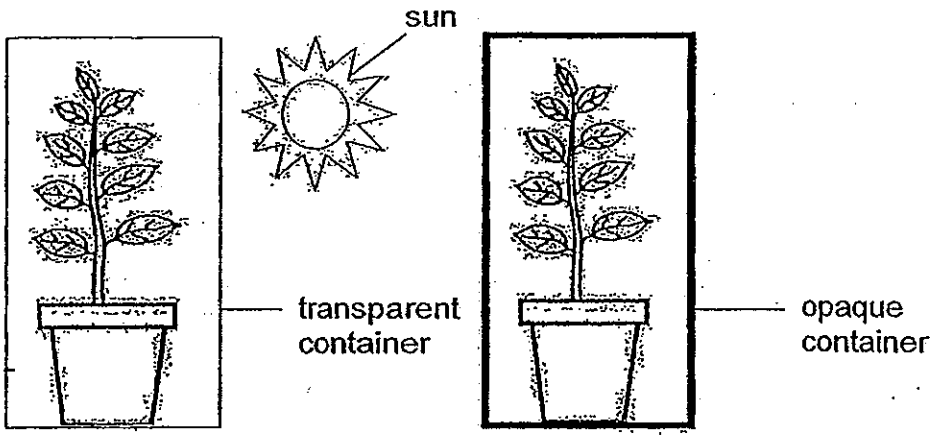
5. Which of the following are the correct headings for P, Q and R?

	P	Q	R
(1)	Insects	Fish	Mammals
(2)	Fish	Birds	Insects
(3)	Birds	Insects	Fish
(4)	Mammals	Birds	Insects

6. The living things in Group P can be grouped equally into Group A and Group B. They can be classified according to _____.

	Group A	Group B
(1)	Plant-eating	Meat-eating
(2)	Scales	Hair
(3)	Lays eggs	Give birth to live young
(4)	Land	Aquatic

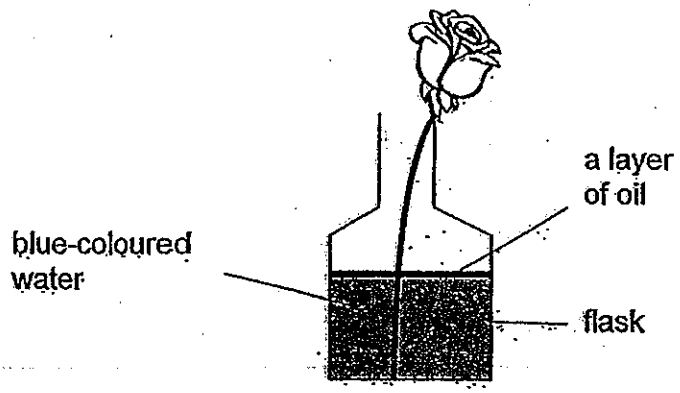
7. Andy carried out an experiment as shown in the diagram below. He watered the plants daily.



What was the aim of his experiment? He wanted to find out whether plants needed _____.

1) air to survive
2) water to grow
3) sunlight to survive
4) a container to protect them from the sun

8. James carried out an experiment as shown below. He placed a stalk of flower into a flask with blue-coloured water and added a layer of oil above it.



What would happen to the flower after one day?

1) The flower will dry up.
2) The flower will turn blue.
3) The flower will remain the same.
4) The petals of the flower will turn oily

9. What is the function of the stem of a plant?

1) It helps the plant to reproduce.
2) It absorbs water from the ground.
3) It helps to transport food and water.
4) It helps to take in carbon dioxide and oxygen.

10. David took out his leather belt from the wardrobe and found some mould on it. Which of the following are the most likely conditions of the wardrobe to enable mould to grow?

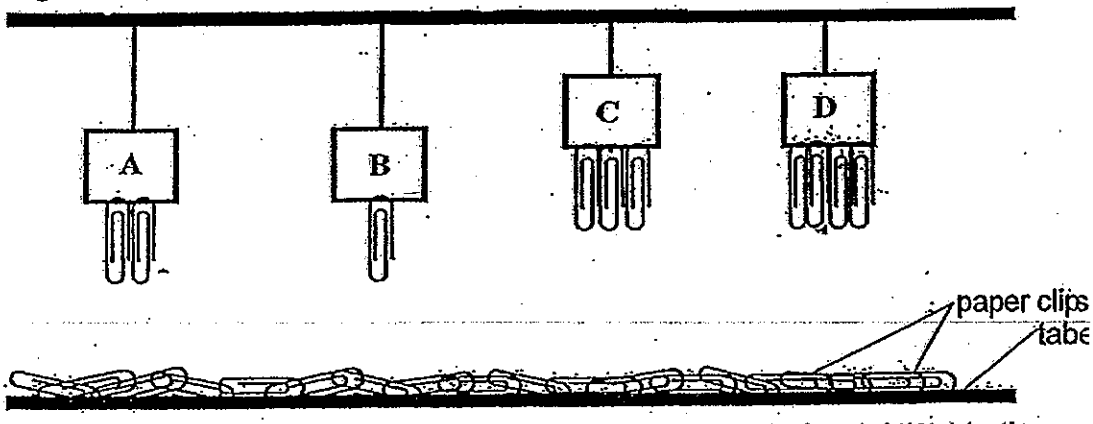
	Brightness	Moisture Level	Temperature
(1)	Dark	Dry	15°c
(2)	Dark	Moist	30°c
(3)	Bright	Dry	0°c
(4)	Bright	Moist	10°c

11. Which of the following statements about bacteria are correct?

A. Bacteria are micro-organisms.
B. All bacteria are harmful to the body.
C. Bacteria cannot be found in the water.
D. Bacteria can be used to produce food like cheese.

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

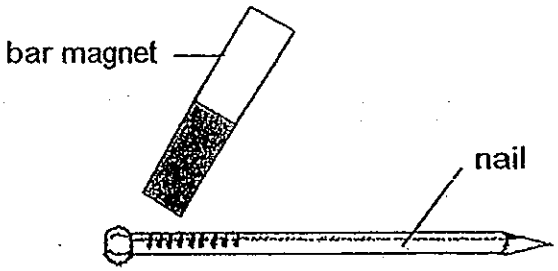
12. Angela conducted an experiment to find out which magnet is the weakest. The following diagram shows the maximum number of paper clips that Magnets A, B, C and D can attract from the table.



Based on the diagram above, arrange the magnets from the **strongest to the weakest**.

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

13. Winnie tried to create a temporary magnet using the stroke method. However, her attempt was not successful.



Which of the following are the possible reasons to explain why she could not create a temporary magnet successfully?

A: She used a gold nail.
B: She did not stroke the nail in the same direction.
C: She dropped the magnet on the floor several times.
D: She did not use both the N and S poles of the magnet to stroke the nail.

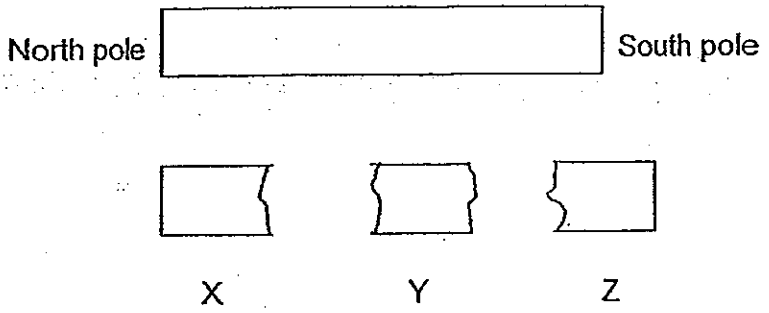
1) A and D only
2) A, B and C only
3) B and C only
4) B, C and D only

14. Mark carried out an experiment to find out how the number of times a nail is stroked affects the strength of the temporary magnet. He recorded the results in the table below. Based on his results, what do you think he will be able to conclude from his experiment?

Number of strokes	Number of paper clips
10	5
20	9
30	13

1) The number of strokes has no effect on the temporary magnet.
2) The fewer the number of strokes, the weaker the temporary magnet will be
3) The fewer the number of strokes, the stronger the temporary magnet will be.
4) The greater the number of strokes, the weaker the temporary magnet will be

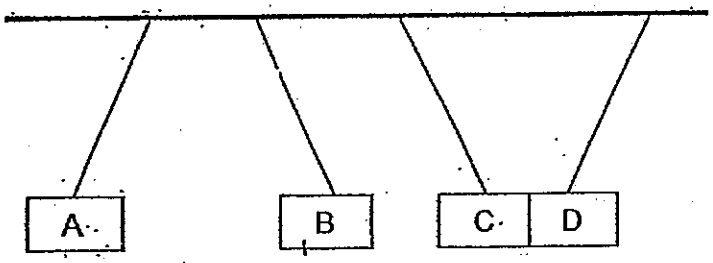
15. Jayla accidentally dropped a new bar magnet on the floor and it broke into 3 pieces as shown in the diagram below. Which of the following statements is **true** about the broken pieces X, Y and Z?



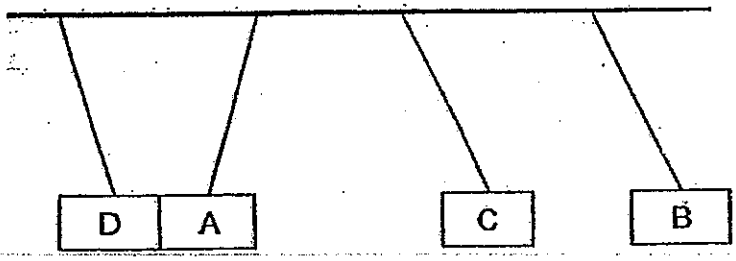
1) Y will not be magnetic.
2) Only X will have North and South poles.
3) All pieces will have both the North and South poles.
4) X will only have a North pole and Z will only have a South pole.

16. Ali had 4 ~~magnets~~ objects. He used strings to hang them in 2 different arrangements as shown below.

1st Arrangement



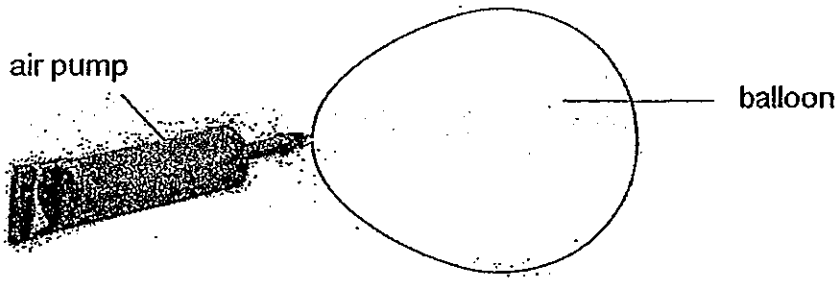
2nd Arrangement



Which of the objects above are **definitely** magnets?

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

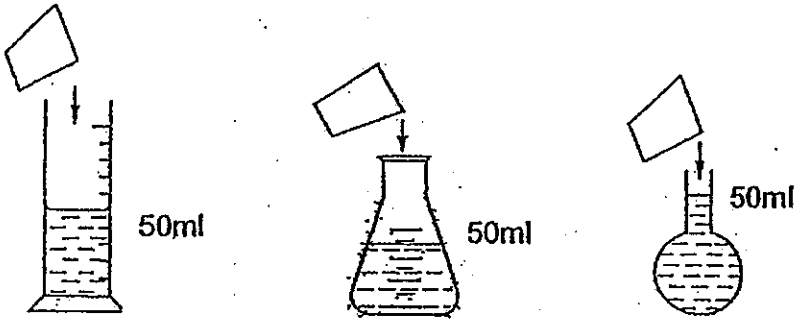
17. John pumped some air into a balloon as shown in the picture below.



What does this tell you about air?

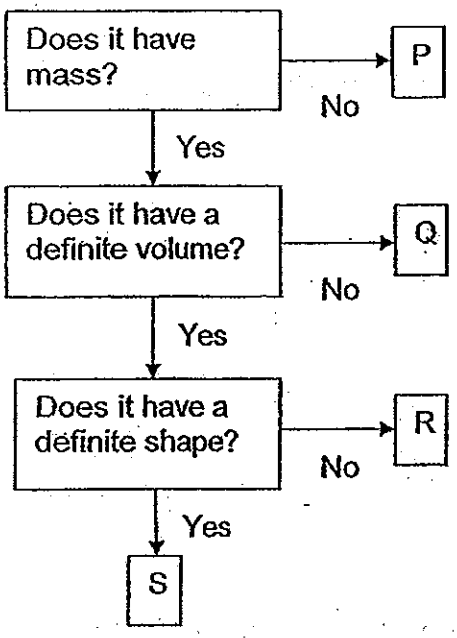
1) Air occupies space.
2) Air has a definite shape.
3) Air has a definite volume.
4) Air cannot be compressed.

18. Roger poured 50ml of water into each of the 3 different containers as shown in the picture below. What does this experiment tell you about water?



1) Water has a fixed mass.
2) Water can be compressed.
3) Water does not have a definite shape.
4) Water does not have a definite volume.

Study the classification chart below and answer Questions 19 and 20.



19. Which of the above substances, P, Q, R and S, cannot be classified as matter?

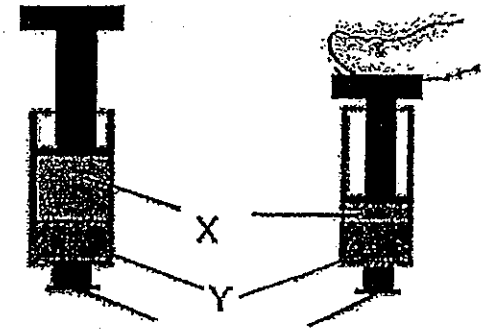
1) P
2) Q
3) R
4) S

20. What is substance R likely to be?

1) Oil
2) Carbon dioxide
3) Lightning
4) Eraser

Study the diagrams below and answer Questions 21 and 22.

21. Jason conducted an experiment with two substances, X and Y, as shown in the diagrams below. He pushed the syringe down **slightly** in Diagram 2.



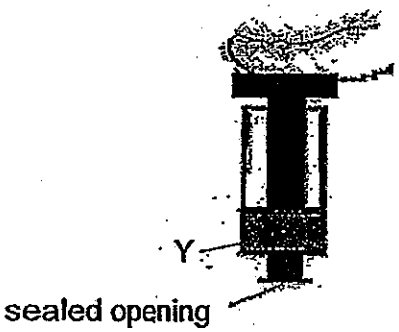
(Before) **(After)**
Diagram 1 **Diagram 2**

Which of the following statements correctly describe substance X?

A. It can be compressed.
B. It has a definite shape.
C. It does not occupy space.
D. It does not have a definite volume.

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

22. Jason tried to push the plunger down **completely** but it stopped **slightly above** substance Y as shown in the diagram below.



Which of the following substances could Y be?

A. Clay
B. Oxygen
C. Green Tea
D. Orange Juice

1) A and B
2) C and D
3) A, C and D
4) All of the above

Use the information in the table below to answer Questions 23 and 24.

Animal	Lays Eggs	3 stages in Its life cycle	Has wings in its adult stage
A			
B	√	√	√
C	√	√	
D	√		√

23. Which of the following can be Animal C?

1) Frog
2) Grasshopper
3) Bee
4) Dragonfly

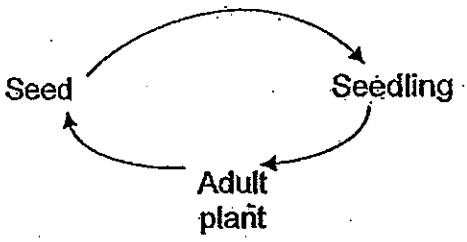
24. B and D are both insects. Based on the table above, which of the following statements are correct?

A) B lays eggs in water.
B) B has a nymph stage but D does not.
C) The young of D resembles its adult.
D) The young of D has wings but the young of B does not.

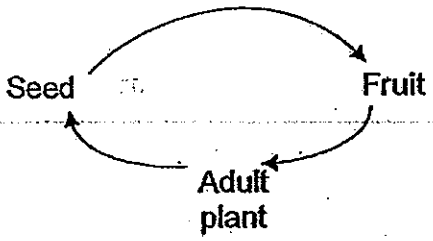
1) B only
2) B and D only
3) A and C only
4) A, C and D only

25. Which of the following shows the correct life cycle of a flowering plant?

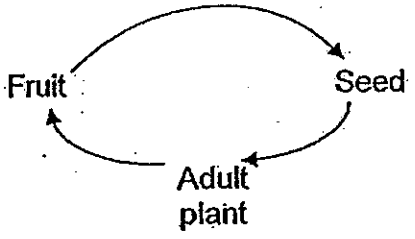
1)



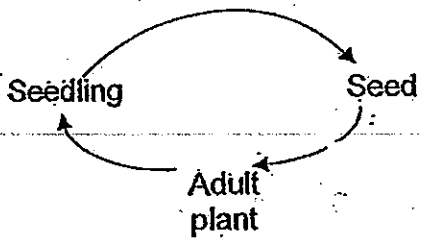
2)



3)



4)



SINGAPORE CHINESE GIRLS' SCHOOL
FIRST SEMESTRAL ASSESSMENT 2013
PRIMARY 4 SCIENCE

Name._____( )
Class: 4 SY / C / G / SE / P

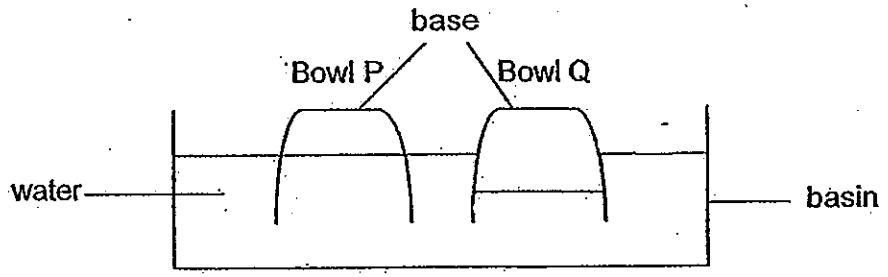
Date: _____
Duration: 1 hr 25 min

Written Paper (Part I)		50
Written Paper (Part II)		30
Total		80
Percentage		%

_____
Parent's Signature

Part II (30 marks)
Read and answer Questions 26 to 35.

26. Lucy carried out an experiment. She placed two inverted metal bowls into a basin of water. Both are similar except that there are 4 holes at the base of one bowl.



a) Identify the bowl which has 4 holes at the base (1m)

Bowl with 4 holes : _____

b) Why was the water level in Bowl Q lower than the water level in the basin ? (1m)

_____

_____

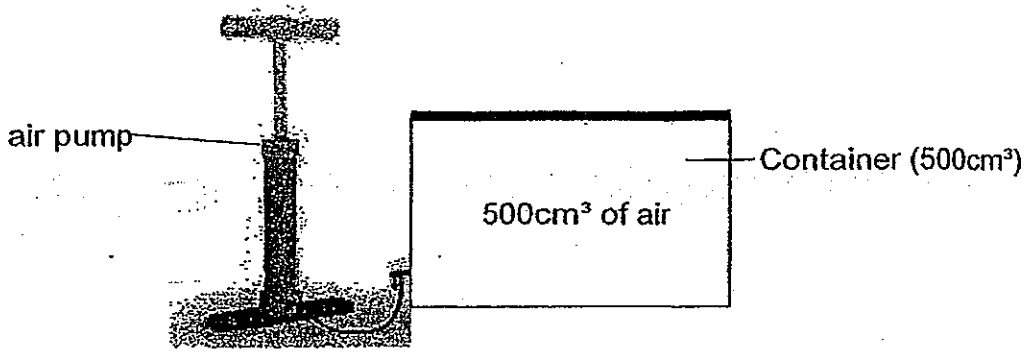
c) Why did some water enter Bowl Q? (1m)

_____

_____

3

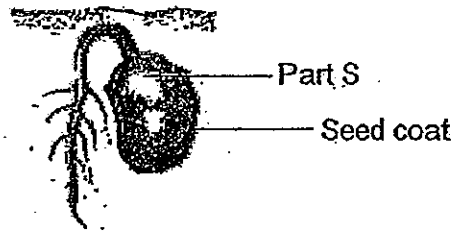
27. The diagram below shows a container which has a capacity of 500cm³.



Tammi pumped 200cm³ of air into the container. What is the volume of the air and the mass of the box **after 200cm³ of air has been pumped into the box**? Circle the correct answers in the table below. (2m)

	Original	After pumping
Volume	500cm³	300cm³ / 500cm³ / 700cm³
Mass	205g	198g / 205g / 207g

28. Wendy observed the growth of a plant as shown in the diagram below.



a) Green leaves have not emerged from the seedling yet. What will she observe if Part S is removed from the seedling? (1m)

_____

_____

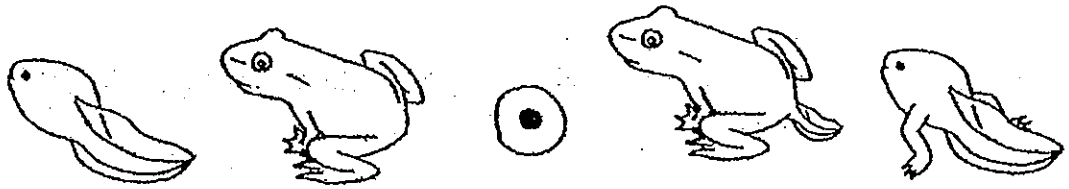
b) Explain why Part S becomes smaller as the plant grows bigger. (1m)

_____

_____

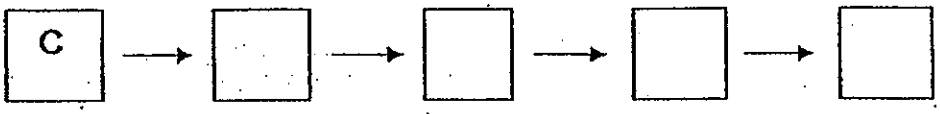
4

29. The pictures below show the growth of a frog.



A B C D E

a) Fill in the boxes with the letters A, B, D and E to show the correct order of the growth of a frog. The first box has been filled in for you. (1m)



b) Both the frog and the chicken have a 3-stage life cycle. Besides this, state another **similarity** between the life cycle of a frog and a chicken. (1m)

c) State **2 differences** between the life cycle of a frog and a chicken. (2m)

i) _____

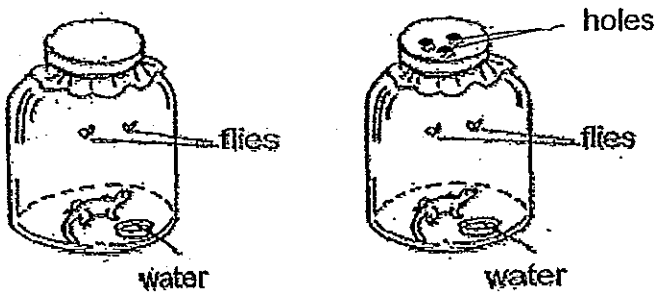
_____

ii) _____

_____

4

30. Emma placed a lizard into each of the two jars, A and B, as shown in the picture below.



Jar A Jar B

a) Which lizard will die first? Explain your answer.

_____

_____

b) Will there be a change in the time taken for the lizards in each jar to die if 10 lizards were added into each jar instead? Indicate your answer by **circling 'a change' or 'no change'** and **explain your answer.** (2m

Jar A: There will be a change / no change because

_____

_____

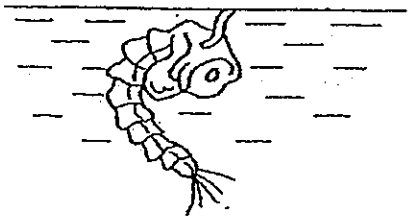
Jar B: There will be a change / no change because

_____

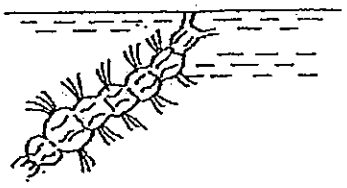
_____

4

31. The diagram below shows 2 stages of the life cycle of a mosquito.



X



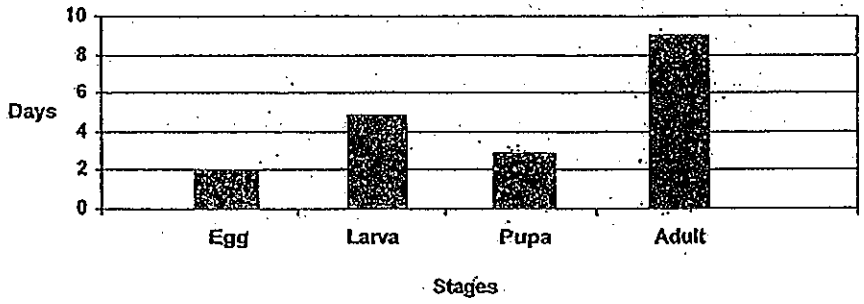
Y

a) Identify Stage X and Stage Y. (1m)

i) X: _____

ii) Y: _____

The graph below shows the number of days in each stage of the life cycle of Mosquito K.



b) How many days did Mosquito K take to become an adult after hatching from the egg? (1m)

_____

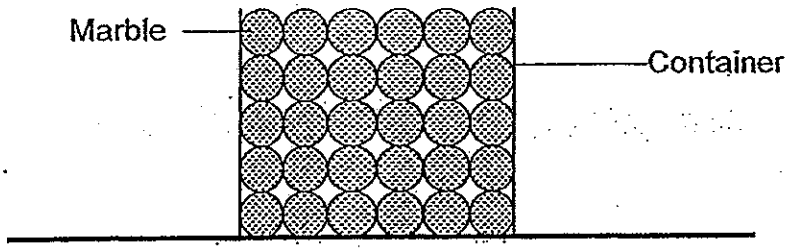
c) Explain why the mosquito is the most difficult to kill at the adult stage. (1m)

_____

_____

3

32. Joseph filled the container with marbles as shown in the diagram below. There were gaps between each marble and he wanted to fill them up.



He tried using the following substances to fill up all the space in the container:

- Sand
- Water

Which of the substances, sand or water, could he use to fill up all the space in the container? Explain your answer. (2m)

33. Mary took part in a shoe-making competition. She created 2 shoes that are almost identical. The only difference is that both shoes were made of different materials.

Frosted-glass shoe

Fabric shoe

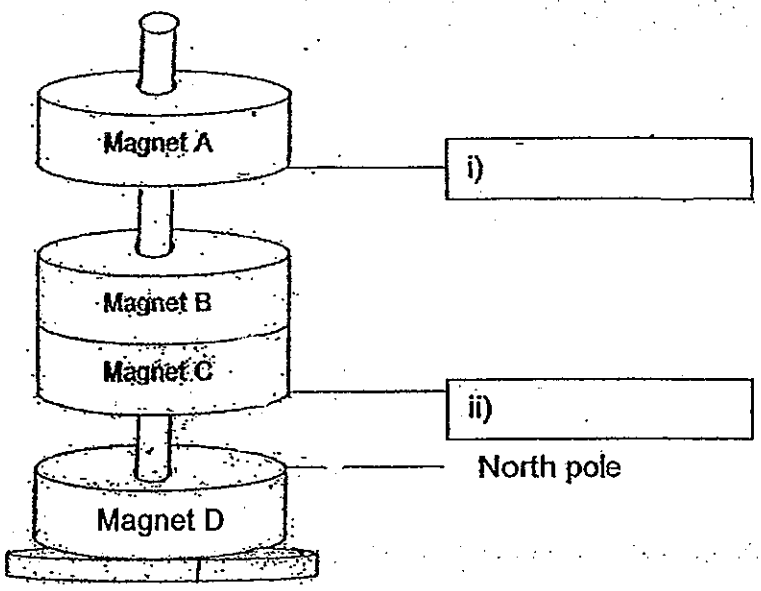
a) Which of the shoes above is more comfortable to wear? (1m)

b) **Based on the properties of materials**, compare the frosted-glass and fabric and give 2 reasons for your answer in part (a). (2m)

5

34. The picture below shows 4 ring magnets A, B, C and D.

a) Identify the poles of the magnets. (2m)

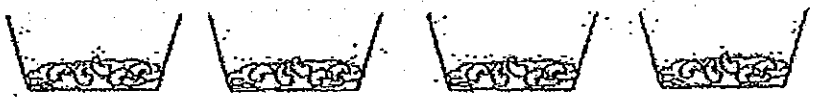


b) Will Magnet C and A still float when D is flipped upside down? Put a tick in the appropriate box in the table below. (2m)

		Will float	Will not float
i)	A		
ii)	C		

4

35. Ali put some green beans into a container laid with moist cotton pads. He watered each container with different amounts of water every day. He left them in a dark cupboard. He recorded the number of days taken for the green ~~leaves~~ beans to germinate in each bowl.



A B C D

3ml of water 8ml of water 13ml of water 18ml of water

a) What was the aim of Ali's experiment? (1m)

b) Study the variables in the table below. Put a tick in the appropriate boxes to indicate whether they are independent (changed), dependent (measured) or controlled (constant), in the experiment above. (2m)

	Independent	Dependent	Controlled
a) Type of beans			
b) Amount of water given			
c) Number of days for the green ~~leaves~~ beans to germinate			
d) Size of container			

3

END OF PAPER

ANSWER SHEET

EXAM PAPER 2013
SCHOOL : SINGAPORE CHINESE GIRLS' SCHOOL
SUBJECT : PRIMARY 4 SCIENCE

TERM : SA1

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

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
3	1	1	2	3	1	1	1

Part II

Q26

a) Bowl P

b) The air inside Bowl Q occupies space

c) The air in Bowl Q was compressed hence some water could enter it

Q27

	Original	After pumping
Volume	500cm^2	300cm^3 / (500cm^3) / 700cm^3
Mass	205g	198g / 205g / (207g)

Q28

a) The seedling will die

b) As the plant grows, the food from the seed leaves will eventually be used up it will grow smaller until the seed leaves shrivel up.

Q29
a) C → A → E → D → B
b) Both animals lay eggs
c)i) The young of the frog does not resemble its adult but the young of the chicken resembles its adult
ii) The frog lay eggs in water but the chicken lay eggs on land

Q30
a) The lizard in Jar A. It does not have enough air
b) Jar A: There will be a change because more lizards will use up the fixed amount of air faster
Jar B: There will be a change as more lizards will be using up the food and water faster

Q31
a) i) X: Pupa
ii) Y: Larva
b) 8 days
c) At the adult stage, the mosquito has developed wings and can fly away, thus making it most difficult to kill the mosquito at the adult stage.

Q32) He could use water, as it has no definite shape

Q33
a) The shoe made of fabric
b) Frosted glass is hard while fabric is soft
Frosted glass is inflexible but fabric is flexible

Q34
a) i) South pole
ii) North pole
b)

		Will float	Will not float
i)	A	√	
ii)	C		√

Q35
a) To find out if the amount of water will affect the number of days taken for the green beans to germinate

b)

	Independent	Dependent	Controlled
a) Type of beans			√
b) Amount of water given	√		
c) Number of days given for the green leaves to germinate		√	
d) Size of container			√