南洋小學
NANYANG PRIMARY SCHOOL

PRIMARY FOUR SCIENCE

SEMESTRAL ASSESSMENT 1

2009

BOOKLET A

Date : 8 May 2009

Duration : 1 h 45 min

Name : _____ ( )

Class: Primary _____ ( )

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature: _____

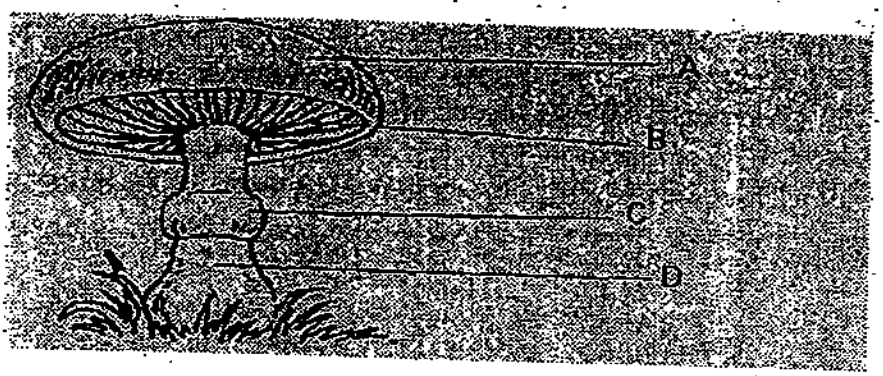
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 20 printed pages including this cover page.

Section A (30 x 2 marks = 60 marks)

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

1. The following shows a picture of a mushroom.



In which part of the mushroom, can you find the spores?

(1) A (2) B

(3) C (4) D

2. Raymond classified the plants he had grown in his garden into 3 groups A, B and C as shown in the table below.

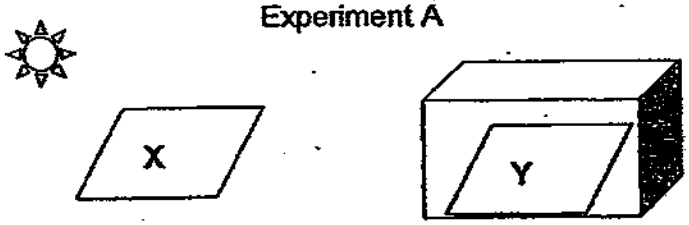
Group A	Group B	Group C
Hibiscus	Hydrilla	Mosses
Morning Glory	Lotus	Bread mould

In which group should Raymond place the ginger plant, duckweed and maidenhair fern?

	Ginger plant	Duckweed	Maidenhair fern
(1)	A	B	C
(2)	A	C	B
(3)	B	C	A
(4)	C	B	A

3. Elisa wants to carry out an experiment to show that water will affect the growth of bread mould.

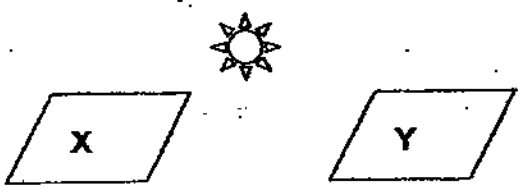
Experiment A



20ml of water is added to Bread X and placed in a sunny place.

20ml of water is added to Bread Y and is kept in a black box.

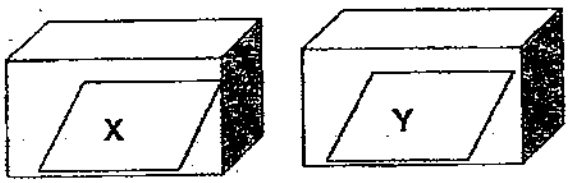
Experiment B



Bread X is toasted and placed in a sunny place.

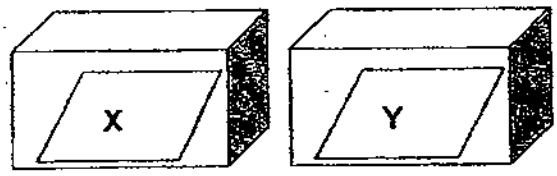
20ml of water is added to Bread Y and placed in a sunny place.

Experiment C



Both Bread X and Y are placed inside a black box and 20ml of water is added to each bread.

Experiment D



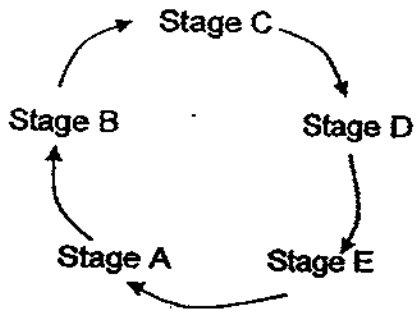
Bread X is toasted and 20ml of water is added to Bread Y. Bread X and Y are placed inside a black box.

Which one of the above following experiment set-up should she use to conduct her experiment?

(1) A (2) B

(3) C (4) D

4. The diagram below shows the life cycle of a strawberry plant.



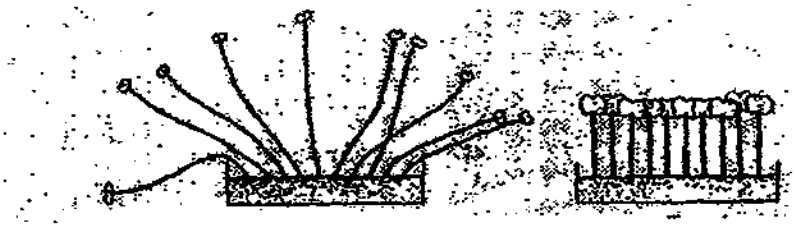
Which one of the following correctly represents the stages of the strawberry's life cycle?

	Stage A	Stage B	Stage C	Stage D	Stage E
(1)	Seed	Adult plant	Flower	Seedling	Fruit
(2)	Adult plant	Seed	Fruit	Flower	Seedling
(3)	Fruit	Flower	Seed	Seedling	Adult plant
(4)	Fruit	Seed	Seedling	Adult plant	Flower

5. Which one of the following statements is true about the life cycle of a chicken?

(1) The chick does not resemble its adult.
(2) The chick moults until it becomes an adult.
(3) The yolk serves as a food source when the chick is an embryo.
(4) The chick does not need oxygen when it is an embryo inside the egg.

6. Mohammad placed the same number of tomato seeds onto identical dish A and B. He watered both dishes with the same amount of water daily. After a week, he recorded his observation as shown in the diagram below.



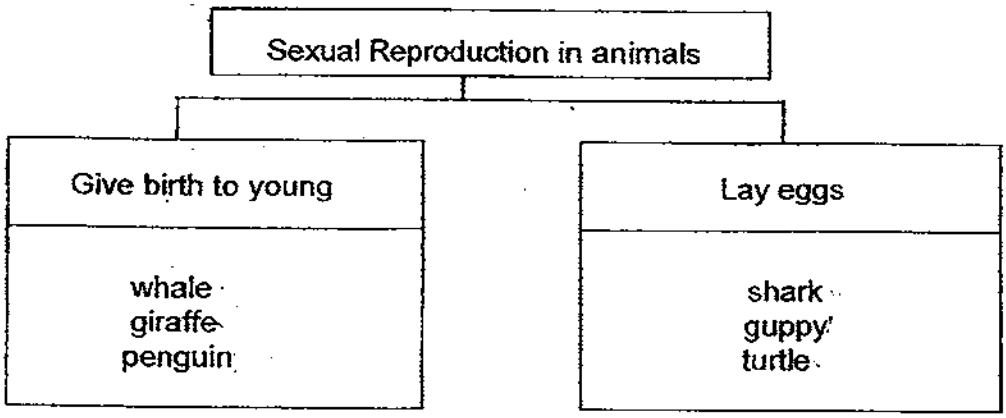
Dish A
The seedlings have weak stems and smaller pale yellow leaves

Dish B
The seedlings have strong stems and larger bright green leaves

Which one of the following pairs of conditions, is the likely cause for the difference in growth in the two dishes?

	Dish A	Dish B
(1)	kept in a vacuum	kept in an open space
(2)	kept in a black box	kept near the window
(3)	no water was given	water was given
(4)	fertiliser was given	fertiliser was not given

7. Study the classification chart below.



In the above classification, which of the following animals are classified wrongly?

(1) whale and shark
(2) giraffe and turtle
(3) giraffe and shark
(4) penguin and guppy

8. Three children, Rashid, May and Lixing made the following statements to show the similarity between a rose plant and staghorn ferns.

Rashid: Both can make their own food.

May: Both reproduce by seeds.

Lixing: Both are flowering plants.

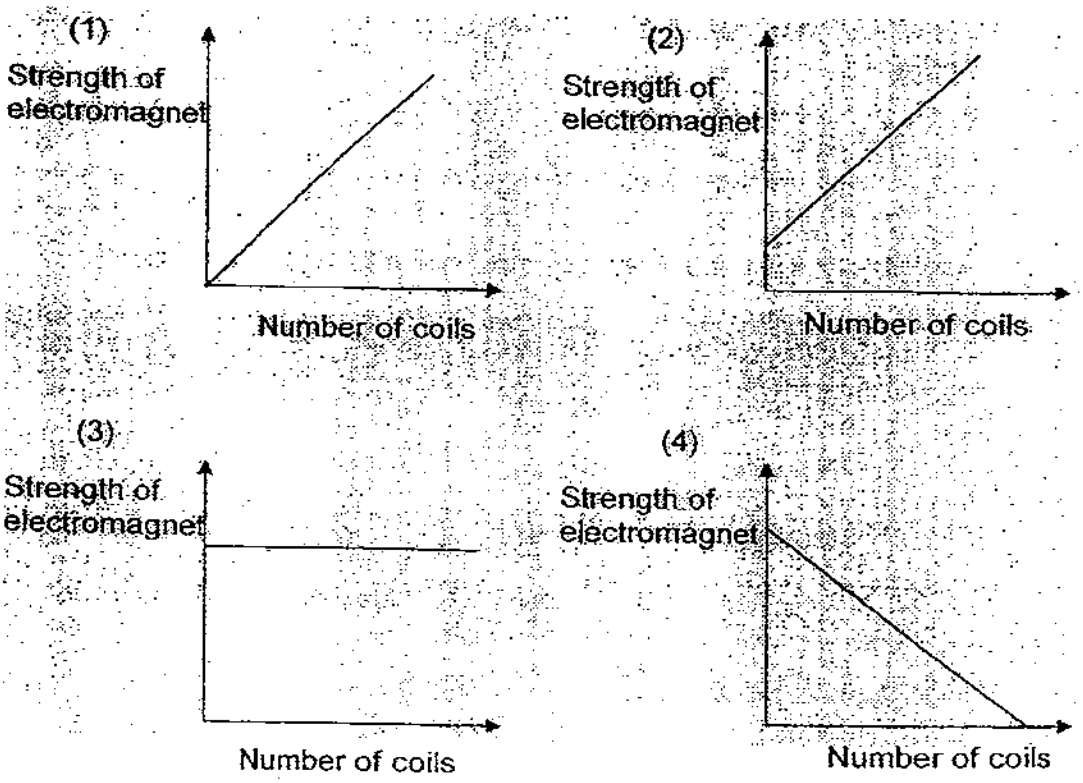
Who has/have made the correct statement/s?

(1) Rashid only (2) Lixing only

(3) May and Lixing only (4) Rashid and May only

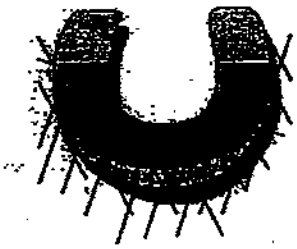
9. A pupil tried to make an electromagnet using some wires, battery and a nail. She coiled the wire round the nail.

Which one of the following graphs correctly shows the relationship between the strength of the electromagnet she made and the number of coils?



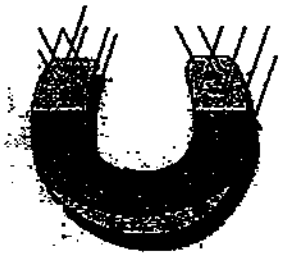
10. **Ada placed a U-shaped magnet into a bowl of iron filings. Which one of the following pictures correctly shows the observation that Ada would make?**

(1)



(2)

(3)



(4)

11. Min Min carried out an experiment using 4 rods, A, B, C and D and a magnet.

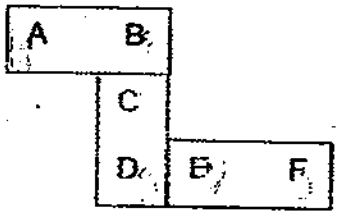
The results of her observation were recorded in the table below.

Rod	[illegible]	[illegible]	[illegible]	[illegible]
A	Attracted	Repelled	Repelled	Attracted
B	Repelled	Attracted	Attracted	Repelled
C	Attracted	Attracted	Attracted	Attracted
D	No effect	No effect	No effect	No effect

Which rod/s is/are made of magnetic materials?

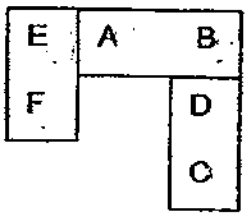
(1) C only
(2) D only
(3) A and B only
(4) A, B and C only

12. Justin has three magnets as shown below.

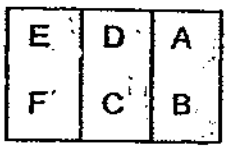


He then rearranged the magnets. Which one of the following is the possible arrangement for the 3 bars of magnets?

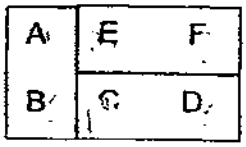
(1)



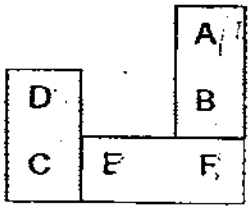
(2)



(3)



(4)



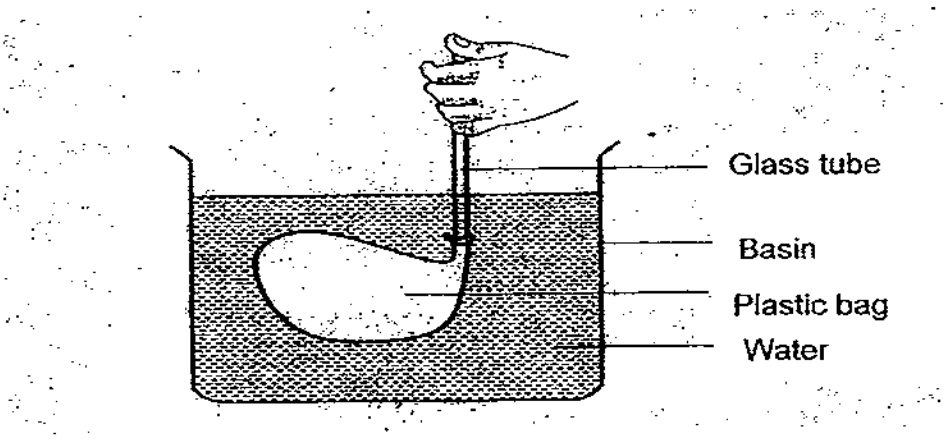
13. Sadillah made a temporary magnet using the stroking method. Which one of the following way can help to increase the strength of the magnet that she had made?

(1) Use greater force to stroke it.
(2) Increase the number of strokes used.
(3) Hit it on the table for a few times after stroking it.
(4) Heat it under a high temperature after stroking it.

14. Which one of the following are classified wrongly?

	Matter	Non- matter
(1)	yeast	shadow
(2)	nitrogen	lightning
(3)	perfume	thunder
(4)	lightning	dust

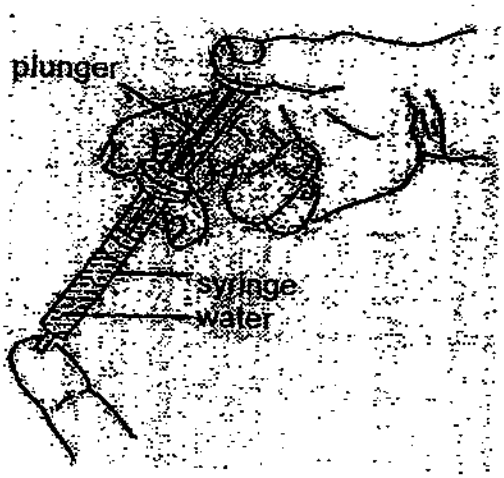
15. Jackson set up an experiment as shown below. He placed his thumb over the opening of the glass tube that was attached to the plastic bag.



After 5 minutes, he removed his thumb from the opening of the glass tube and observed that the water level in the basin has dropped and the plastic bag became smaller. Which one of the following could be the matter inside the plastic bag?

(1) Ice
(2) Milk
(3) Oxygen
(4) Plasticine

16. A pupil filled a syringe with water. He covered one end of the syringe with his thumb and tried to push the plunger down as shown. However, he found that he could not do so.

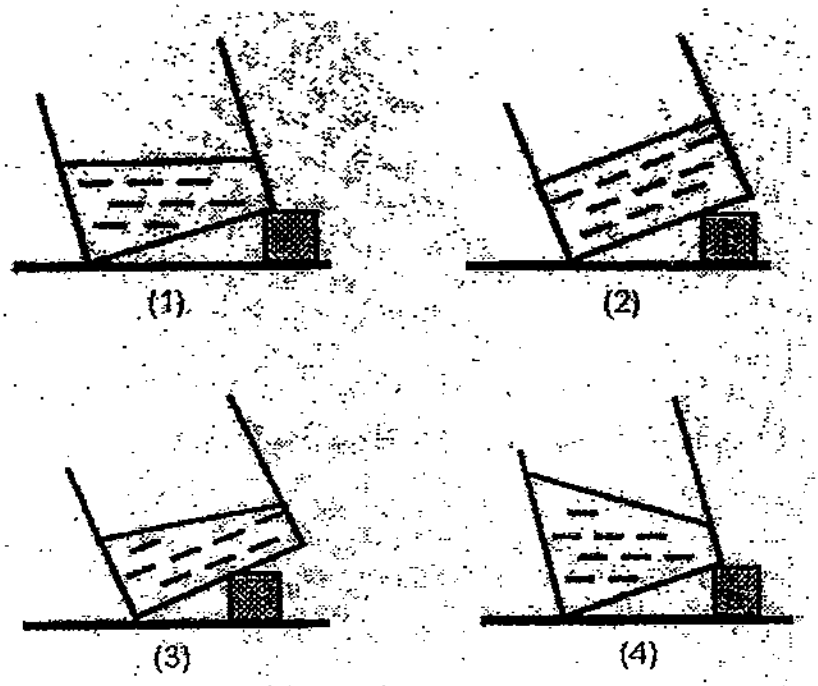


What can he conclude from the experiment?

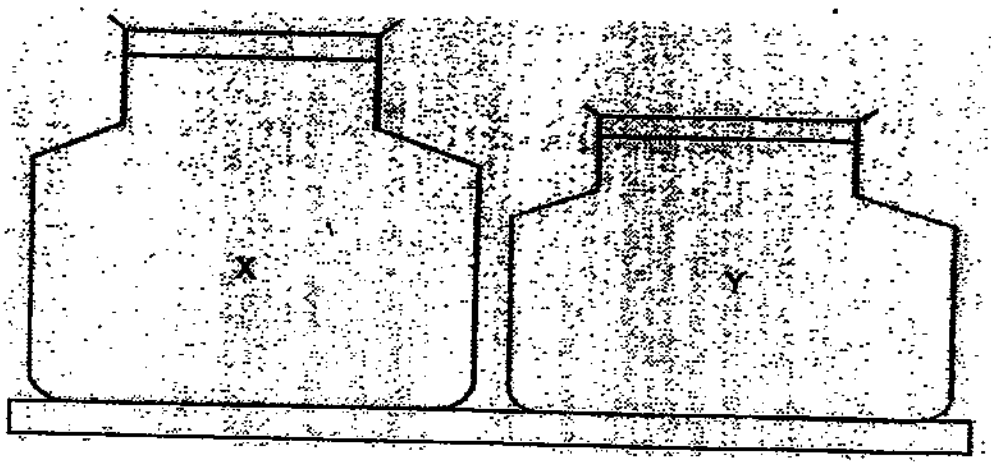
(1) Water has a definite mass.
(2) Water has a definite shape.
(3) Water has a definite weight.
(4) Water has a definite volume.

17. Don filled a beaker with some water and tilted the beaker with a wooden block.

Which one of the diagrams below shows what is observed when the beaker is tilted?



18. Michael was given a matter. To find out more about the properties of this matter, he placed the same amount of it into **each** of the containers X and Y. He discovered that the volume of this matter was the same in both the containers.

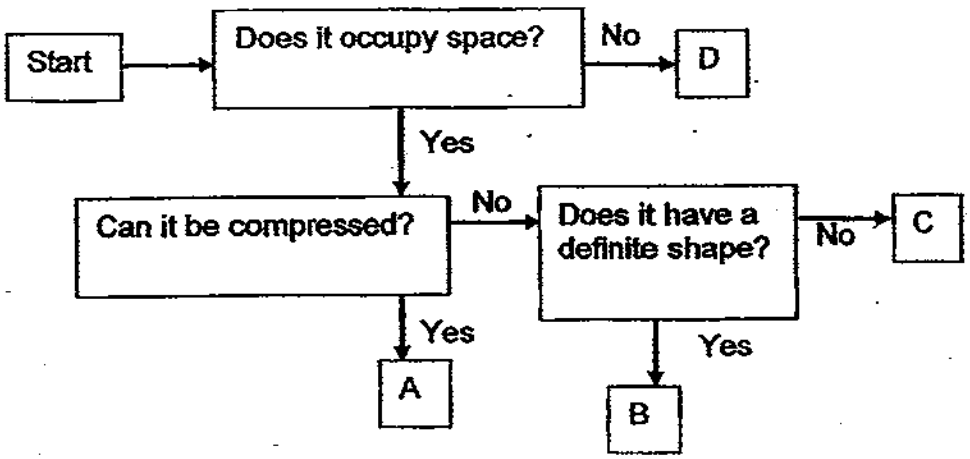


What could this matter be?

A The given matter is oil.
B The given matter is water.
C The given matter is orange juice.

(1) A and B only
(2) A and C only
(3) B and C only
(4) All of the above

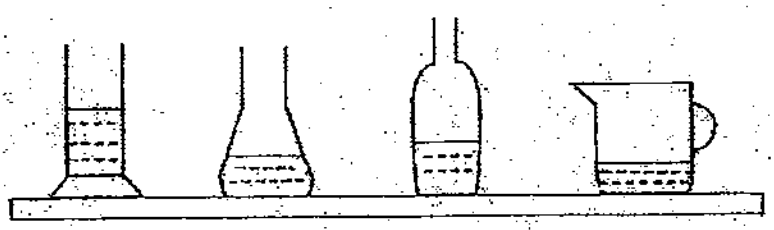
19. Study the flowchart below carefully.



Which letter best represents ice?

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

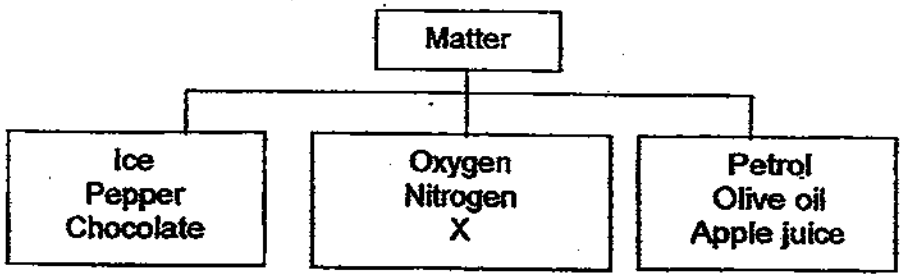
20. Daisy wanted to find out the properties of water. She poured an equal amount of water into the four containers shown below.



What can she conclude from this experiment?

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

21. Study the classification chart below.

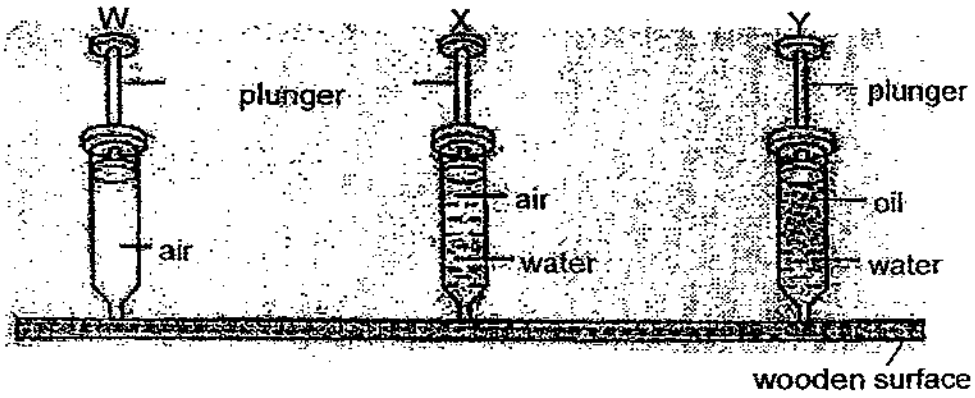


Which one of the following best represents X?

(1) Milk
(2) Sugar
(3) Ribena
(4) Carbon dioxide

three three

22. The ~~four~~ syringes below are filled with ~~four~~ different substances. Tommy tried to push the plungers in, for all the 3 syringes.

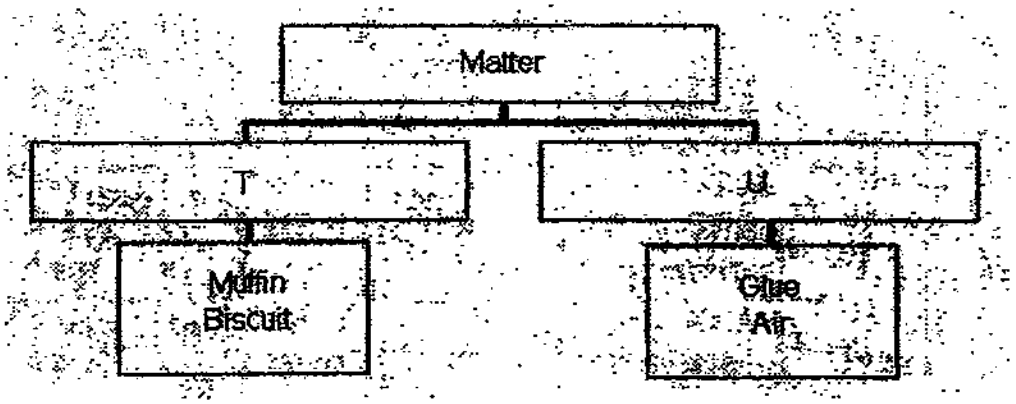


Which one of the following correctly shows the order of the difficulty of pushing the plunger in, from the easiest to the hardest?

Easiest → Hardest

(1) W , X , Y
(2) W , Y , X
(3) Y , W , X
(4) Y , X , W

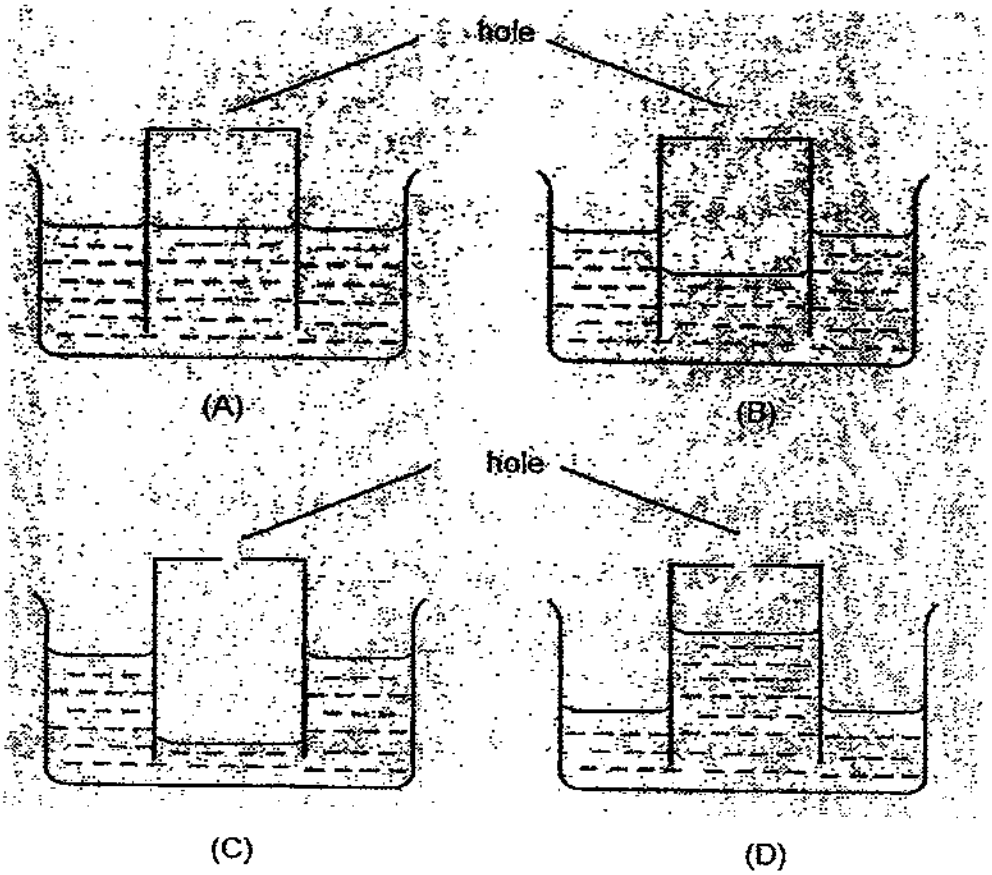
23. Priya classified some substances into two groups.



Suggest suitable headings for the above classification chart.

	T	U
(1)	Takes up space	Does not take up space
(2)	Can be compressed	Cannot be compressed
(3)	Has a definite shape	Does not have a definite shape
(4)	Has a definite volume	Does not have a definite volume

24. Anthony conducted an experiment using a transparent plastic cup with a hole. The cup was pushed into a basin of water.



Which of the above diagrams correctly shows the water level in the plastic cup when the plastic cup is submerged?

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

25. Cathy and Denise were having a discussion on the properties of water and ice. They came up with the following statements.

A Both water and ice are in the same state.
B Both water and ice have mass and occupy space.
C Both water and ice have definite shape but no definite volume.
D Both water and ice have definite volume but no definite shape.

Which of the above statement(s) is/are correct?

(1) B only
(2) D only
(3) A and D only
(4) All of the above

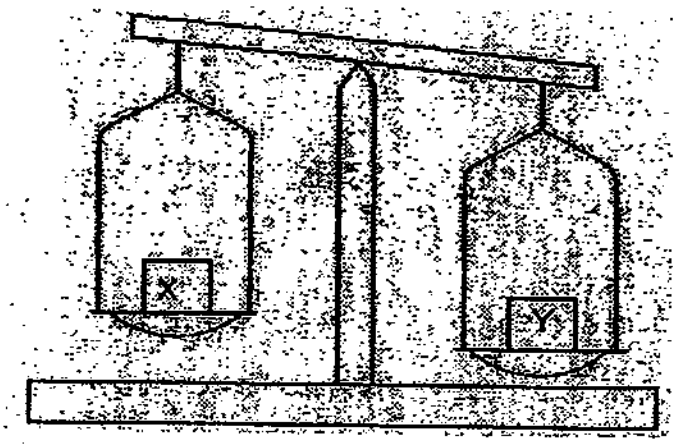
26. The following items are grouped according to their states.

A hydrogen, steam, oxygen, air
B toothpaste, wax, storybook, nail
C paper, plasticine, sponge, cotton wool
D water vapour, cooking oil, alcohol, milk

Which of the following consists of items that were grouped wrongly?

(1) C only
(2) D only
(3) A and B only
(4) None of the above

27. Ahmad placed two objects of the same size, X and Y, onto a beam balance. The balance tilts to one side as shown in the diagram below.



Below are some statements about his investigation.

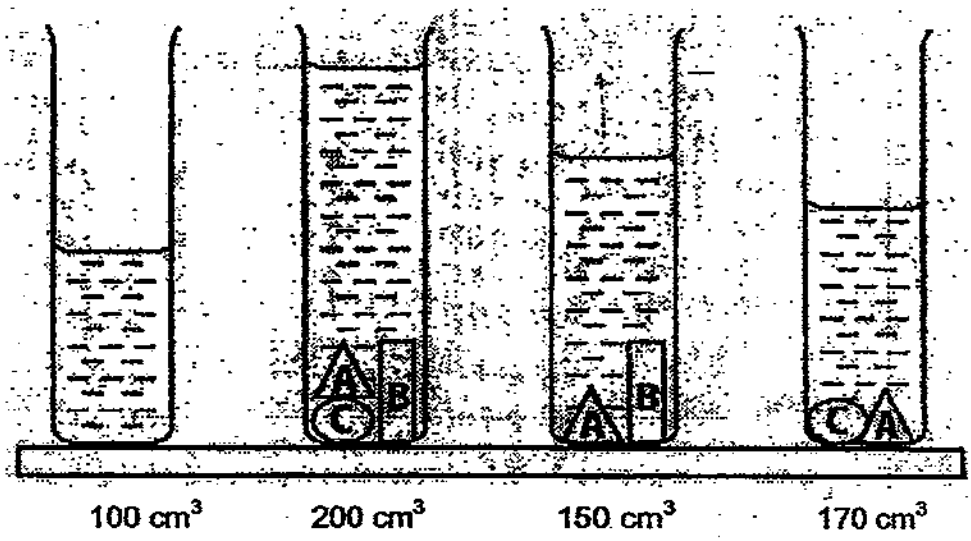
A X is lighter than Y.
B X will float in water but not Y.
C X and Y have different volumes.
D X and Y have the same masses.

Which of the following is/are the correct statements about X and Y?

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

100 cm^3

28. Michael filled each of the four measuring cylinders with ~~[illegible]~~ cm^3 of water. He then placed objects A, B and/or C in three of the cylinders as shown below.

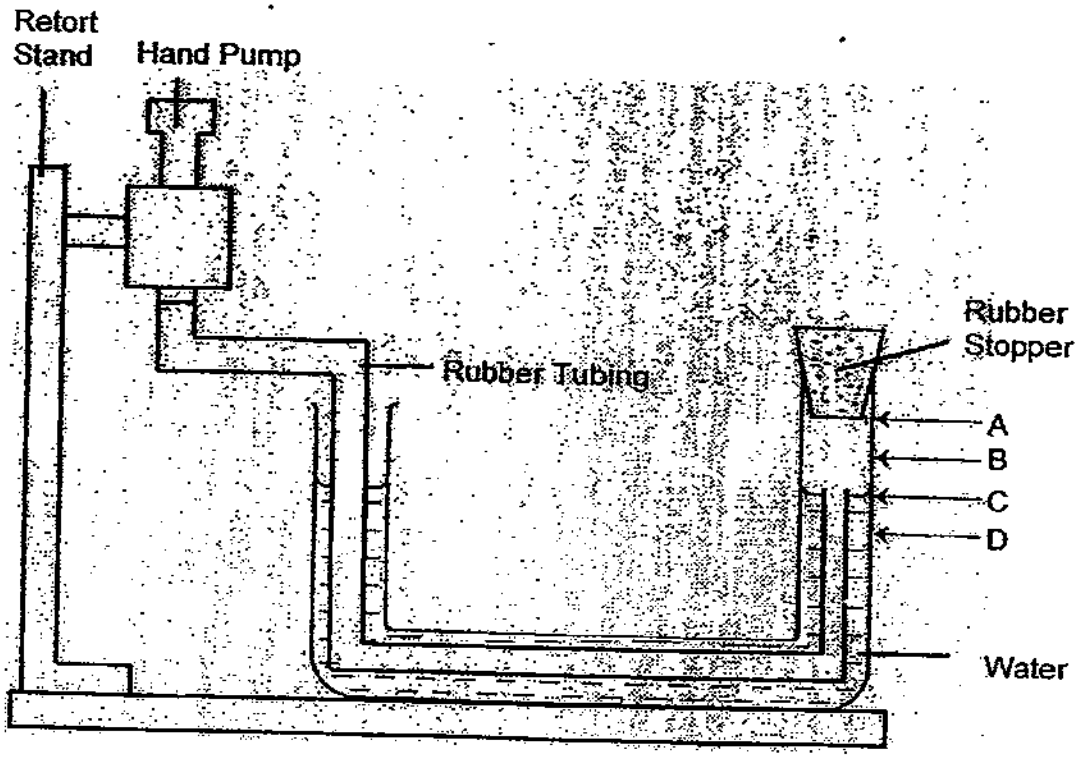


100 cm^3 200 cm^3 150 cm^3 170 cm^3

What is the volume of object B?

(1) 20 cm^3
(2) 30 cm^3
(3) 40 cm^3
(4) 50 cm^3

29. Chloe set up the experiment as shown below. The initial water level is at C. Chloe pumped two strokes of the hand pump and observed that the rubber stopper was not pushed out of the tubing.



Which one of the following correctly represents the **new** water level?

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

30. Which one of the following becomes a gas very quickly at room temperature?

(1) Cooking oil
(2) Sugar
(3) Dry ice
(4) Ice cream

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PRIMARY FOUR SCIENCE

SEMESTRAL ASSESSMENT 1

2009

BOOKLET B

Date : 8 May 2009

Duration : 1 h 45 min

Name :_____ ( )

Class: Primary ____ ( )

Marks Scored:

Booklet A:		60
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Total :		100

Parent's signature: .....

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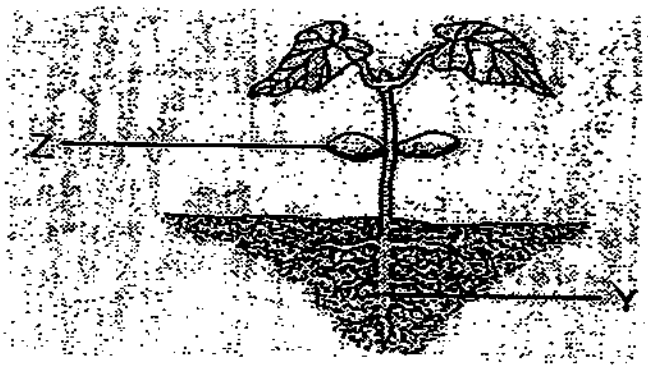
Booklet B consists of 15 printed pages including this cover page.

Section B (40 marks)

Write your answers to questions 31 to 45 in the spaces provided.
Marks will be deducted for misspelt key words.

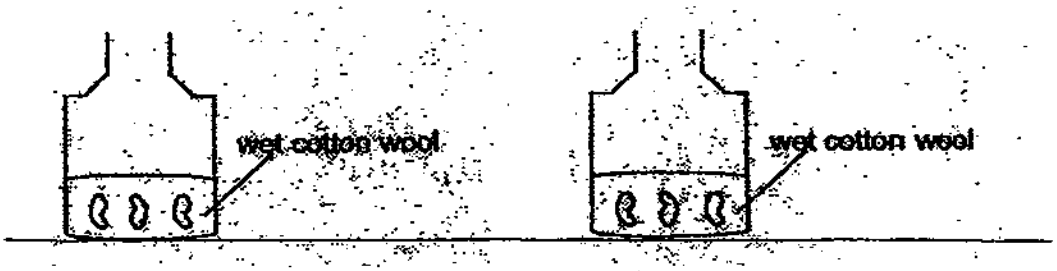
31. The picture below shows a bean seedling.



In the table below, name the plant parts Y and Z, and state one of its functions. [2]

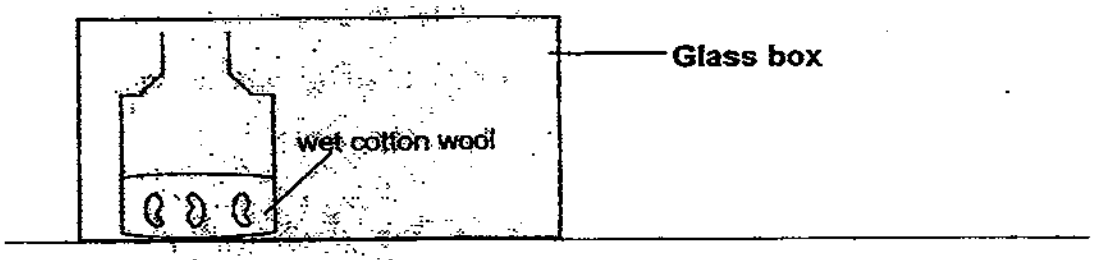
Plant part	Name of plant part	One function
Y		
Z		

32. Regina did an experiment as shown in the set-up below.



Bottle A contains 3 cooked red beans and is left on a table at room temperature.

Bottle B contains 3 red beans and is put inside a freezer.



Bottle C contains 3 red beans and is put inside a glass box at room temperature.

Will the red beans in each bottle germinate? Explain why.

Bottle A [1]

_____

_____

Bottle B [1]

_____

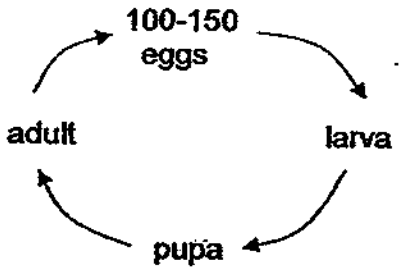
_____

Bottle C [1]

_____

_____

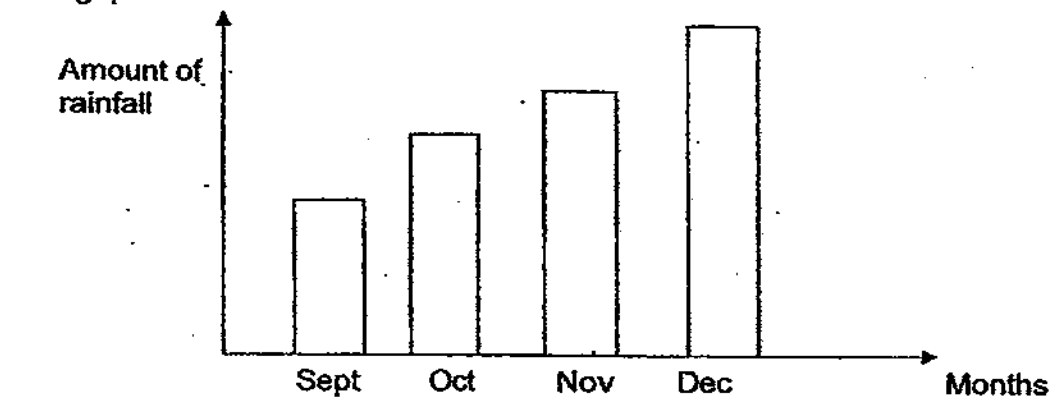
33. Study the life cycle of a housefly as shown below.

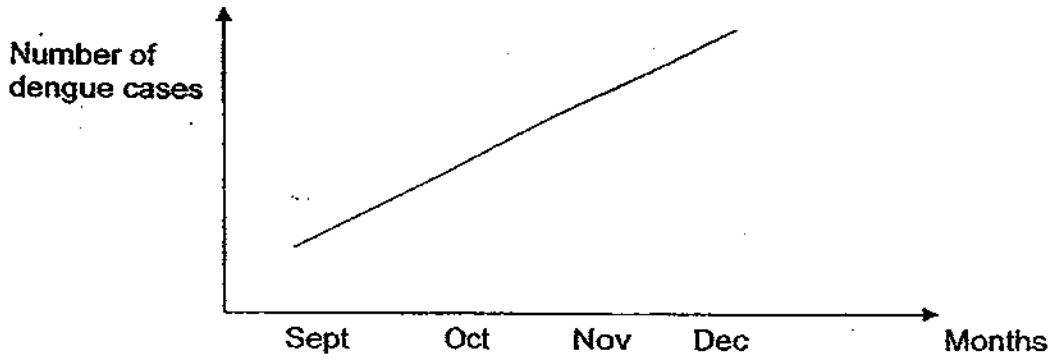


(a) Explain why an adult housefly lays so many eggs at one time. [1]

(b) Houseflies spread diseases wherever they land on food. How could we protect our own food from being contaminated by houseflies? [1]

34. The graphs below show the amount of rainfall for the months of September to December and the number of dengue cases reported in Singapore.





(a) Based on the graphs above, what the relationship between the amount of rainfall and the number of dengue case? [1]

_____

(b) Explain the relationship that you have stated in part (a). [1]

_____

_____

(c) Suggest two different ways to stop mosquito breeding. [2]

(i) _____

_____

(ii) _____

_____

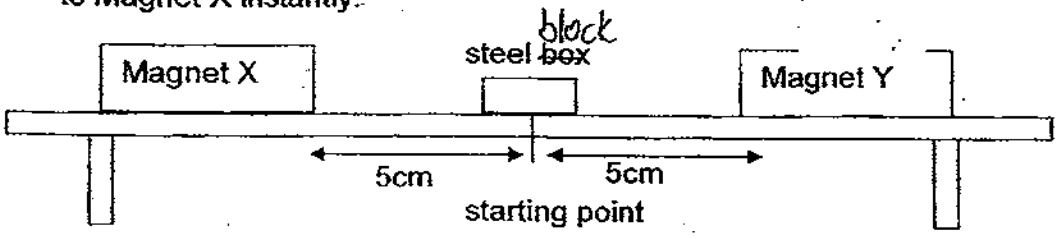
35. Roy made a fishing line which has a magnet at the end of it. He was able to fish some of the objects in a box using the fishing line he had made.

aluminium ring	wooden stick	glass marble
copper coin	gold chain	iron key

Classify the above objects into 2 groups, based on the headings given. [3]

Objects that will be attracted by the magnet	Objects that will not be attracted by the magnet

36. Study the experimental set up below. When Malek placed a steel block in between the 2 magnets at the starting point, the steel block was attracted to Magnet X instantly.



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

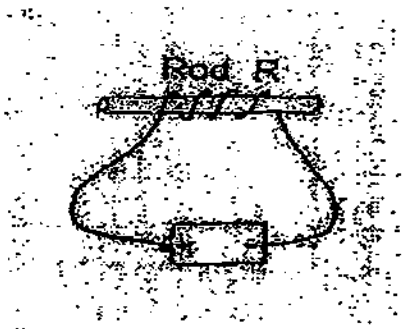
_____

(b) Malek repeated the experiment. This time, he placed the steel block 15cm away from Magnet X and Y respectively. Explain why he needed to do so. [1]

_____

_____

37. Jolie wanted to make an electromagnet. She set up the experiment as shown below.



However, Rod R did not become an electromagnet.

Write down 2 possible explanations why her experiment failed. [2]

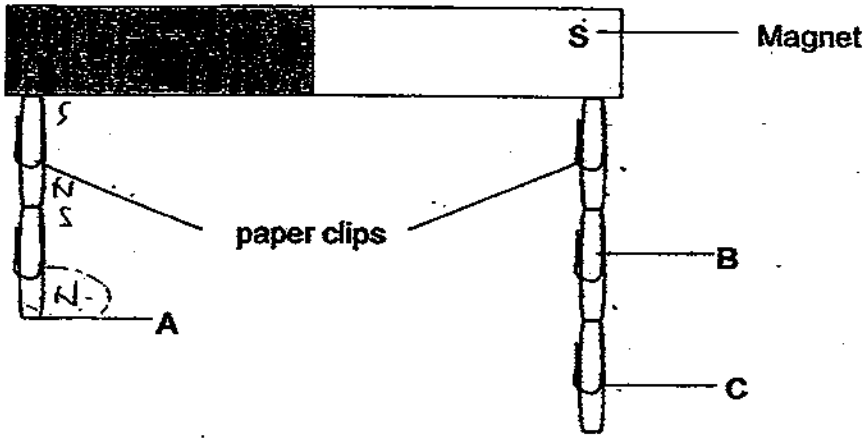
(i) _____

_____

(ii) _____

_____

38. The experiment below shows how the paper clips were made into temporary magnets.



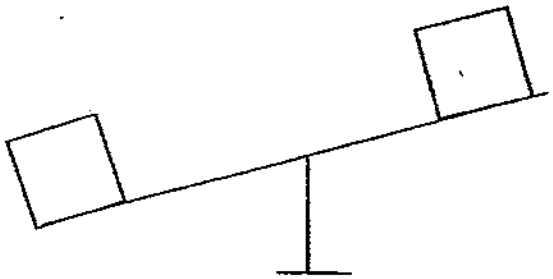
For each of the statements below, put a tick (✓) in the appropriate column to indicate if it is True, False or Not possible to tell. [3]

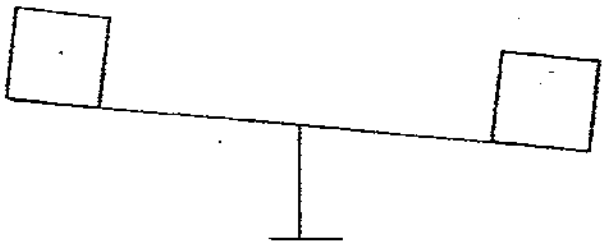
	Statements	True	False	Not possible to tell
(a)	Point A is a South seeking pole.			
(b)	Paper clip B could be made of any metal.			
(c)	Paper clip C is a weaker magnet than paper clip B.			

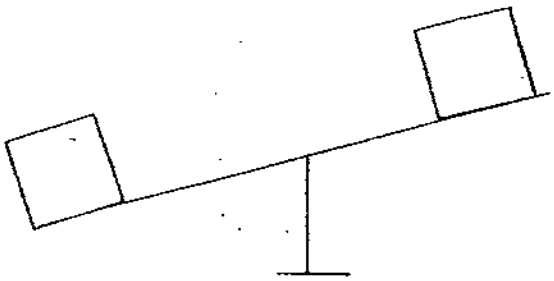
39. The table below contains information of four objects.

Object A: Mass : 6 g Volume : 10 cm³	Object B: Mass : 3 g Volume : 30 cm³
Object C: Mass : 17 g Volume : 25 cm³	Object D: Mass : 10 g Volume : 15 cm³

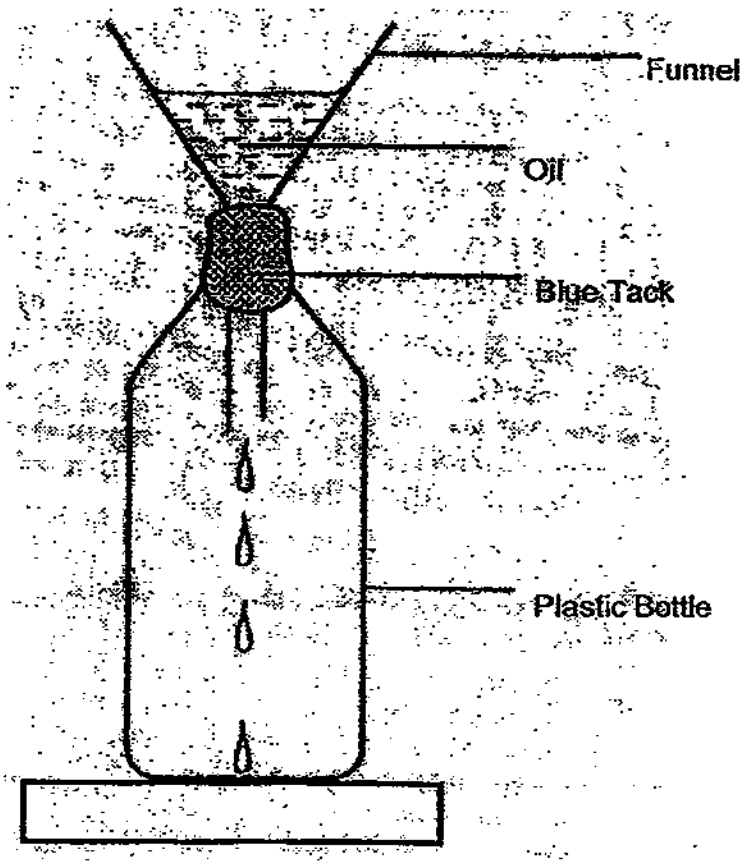
Study it carefully and fill in the boxes in the diagrams below with the correct letter A, B, C and D. All the letters must be used and each letter may be used more than once. [2]







40 Jennifer set up the experiment as shown below. She noticed that the oil was dripping very slowly into the plastic bottle.



(a) Suggest a possible reason why the oil is dripping very slowly into the plastic bottle. [1]

_____

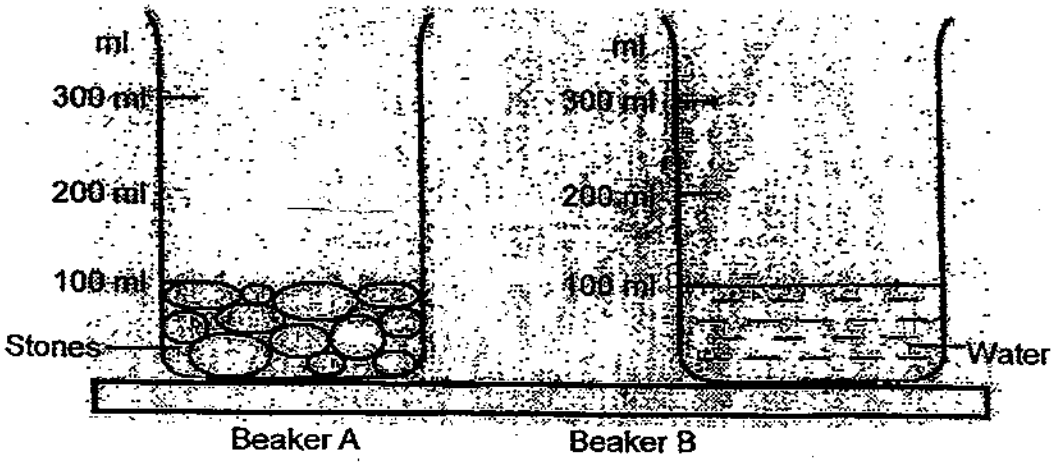
_____

(b) Jennifer wants the oil to drip into the plastic bottle at a faster rate. Suggest a method for her to achieve it without removing the blue tack. [1]

_____

_____

41. Jamie set up the experiment as shown below. Beaker A is filled with stones to the 100ml mark and beaker B is filled with water to the 100 ml mark. Jamie pours all the water in beaker B into beaker A



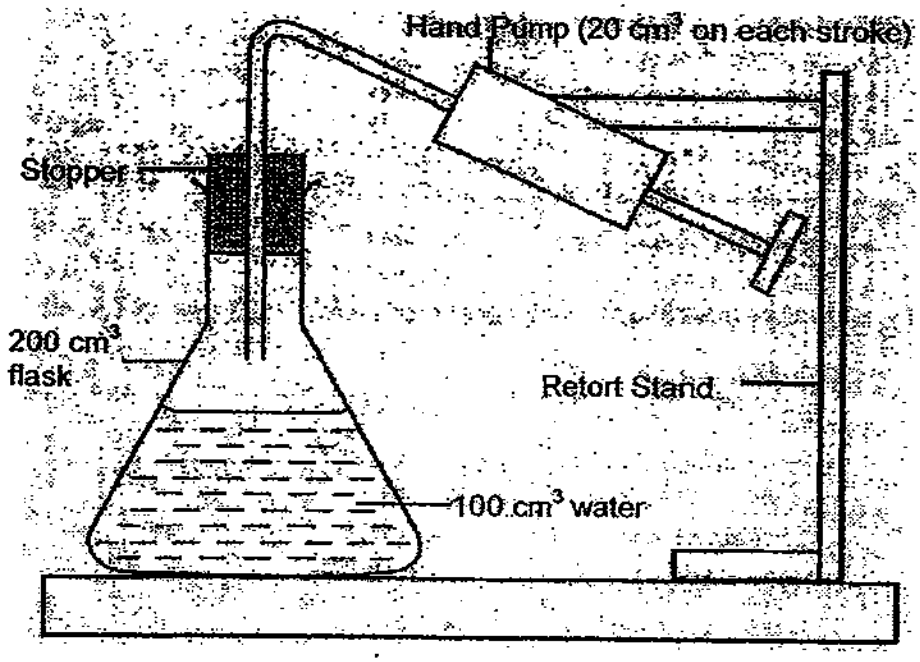
(a) Draw a line in **beaker A** to indicate the new water level after all the water is poured in. [1]

(b) Explain your answer in part (a). [1]

_____

_____

42. Jessica attached a pump to a 200 cm^3 flask as shown below. The flask contains 100 cm^3 of water. With each stroke of the hand pump, 20 cm^3 of air is pumped into the flask.



(a) What is the volume of the air inside the flask before Jessica pumps the hand pump? [1]

_____

b(i) What is the volume of air inside the flask after Jessica pumped 3 strokes of the hand pump? [1]

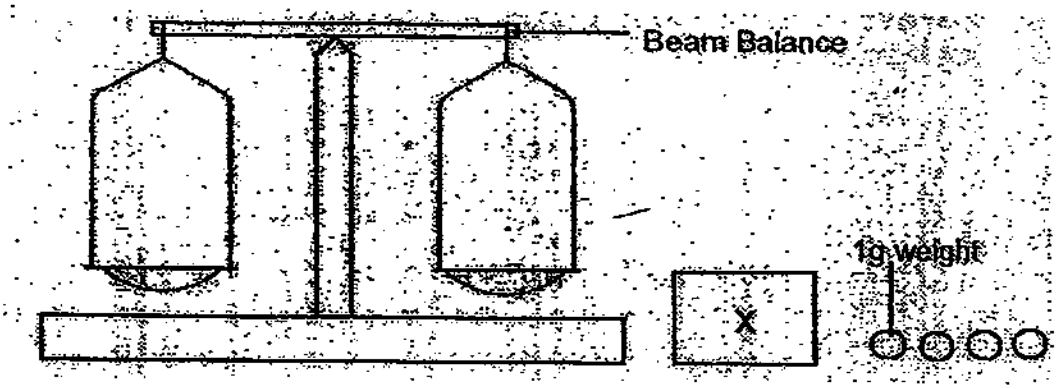
_____

(c) Suggest what would happen if Jessica continues to pump more air into the flask. [1]

_____

_____

43. Paul was given the following items as shown below. The mass of the container X is a whole number between one and four grams.



(a) Suggest how Paul can measure the exact mass of container X. [3]

Step1: _____

_____

Step2: _____

_____

Step3: _____

_____

(b) Suggest one precaution that Paul must take when he conducts the experiment. [1]

_____

_____

44. Mr Lim showed the following table to John.

Object	Has a definite shape?	Has a definite volume?	Can be compressed?
W	Yes	Yes	No
X	Yes	Yes	Yes
Y	No	Yes	Yes
Z	No	No	Yes

(a) Mr Lim told John that one of the item is plasticine. Based on the table above, which object is most likely to be plasticine? [1]

_____

(b) Mr Lim showed John a piece of sponge as shown in the diagram below. Based on the table in part (a), suggest which object is similar to sponge. Explain your answer. [2]

Sponge

_____

_____

_____

45. Thomas was shown an experiment, Figure 1 below. His teacher, Mr Tan, challenged him to wet the tissue inside the glass cup without turning over or tilting the glass cup. Mr Tan told Thomas he could use the items shown in Figure 2 to help him to do that.

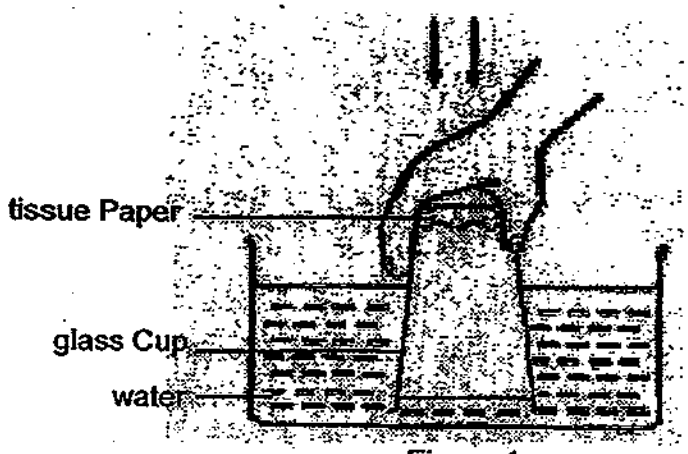


Figure 1

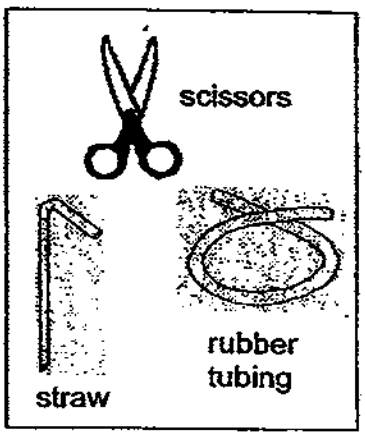


Figure 2

(a) Using the space provided below, draw a set-up Thomas could use to perform the same experiment but with the tissue becoming wet. [2]

(b) Explain briefly how your set-up will work. [1]

ANSWER SHEET

EXAM PAPER 2009

SCHOOL : NANYANG PRIMARY
SUBJECT : PRIMARY 4 SCIENCE

TERM : SA1

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

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	2	4	4	1	3	1	1	2	1	2	4	3

31)Y: roots---take in water and mineral salts from he ground to the plant.
Z: seed leaf---It the food source for the seedling.

32)A: No, since they are cooked, they are dead and so can't germinate.
B: No, as they do not have warmth so they can't germinate.
C: Yes, as they have air, water and warmth to germinate.

33)a)It lays so many eggs at one time as it makes sure that its own kind still exists.
b)We should cover our food with a cover or put it in the freezer it you do not want to eat.

34)a)As the amount of rain fall increases, the number of dengue case increases.
b)Mosquito lays eggs in stagnant water so as there are more rain, mosquito can lay more eggs so there are more dengue case.
c)i)We could put a layer of oil in stagnant water so the larva won't have oxygen to breathe and will die.
ii)We could always change water in the vase if we are planting flowers.

35)iron key
glass marble
gold chain
wooden stick
copper coin
aluminium ring

36)a)He wanted to see which magnet is stronger.
b)He wanted to make the test a fair one.

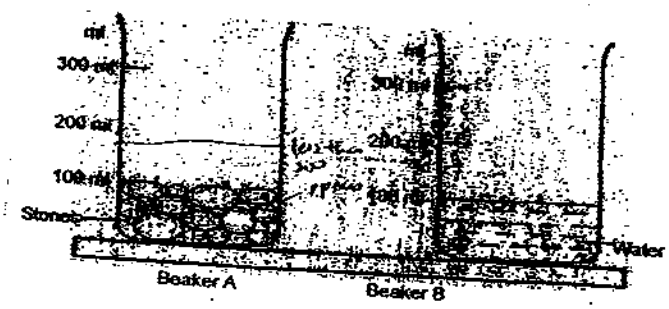
37)i)Rod R may not be made of magnetic materials.
ii)There is not enough turns of coils.

38)a)F b)F c)T

39)A,B A, D C,D

40)a)The blue tack prevents the air in the plastic bottle from escaping.
b)Lift the funnel up so that air can escape.

41)a)



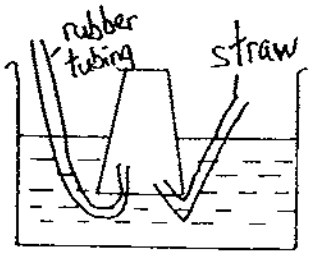
b)Some the water can occupy the spaces between the stones.

42)a)100cm3 b)100cm3
c)The stopper would fly out if she continues to pump more air into the flask.

43)a)1)Put a 1g weight on one side of the pan.
2)Put X on the other side of the pan.
3)Keep adding 1g weight until you get the both pan weight the same.
b)Conduct the experiment in a non-windy place.

44)a)W.
b)Object X is similar to sponge. It has a definite shape and volume but it can be compressed because there are air spaces in it.

45)a)



b)He can suck air out of the glass cup using the straw and rubber tubing. They water will enter the glass and wet the tissue.