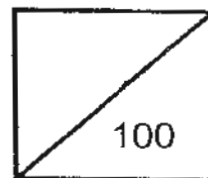




Rosyth School
Continual Assessment for 2010
STANDARD SCIENCE
Primary 6



Total
Marks:

Name: _____

Class: Pr _____

Register No. _____

Duration: 1 h 45 min

Date: 4th March 2010

Parent's Signature: _____

Booklet A

Instructions to Pupils:

1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 parts, Part I and Part II.
4. For questions 1 to 30 in Part I, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 31 to 46, give your answers in the spaces given in Part II.

	Maximum	Marks Obtained
Part I	60 marks	
Part II	40 marks	
Total	100 marks	

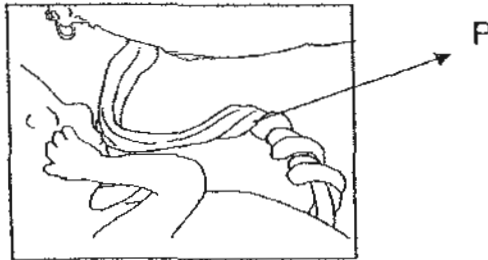
* This booklet consists of 16 pages. (Pg. 1 to 16)

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Part I

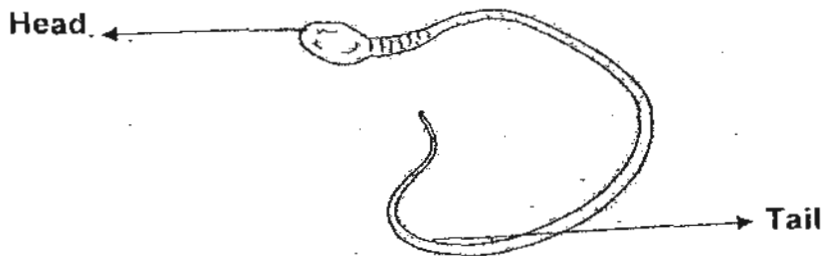
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. The diagram below shows a developing baby in a woman's body.



Which one of the following is the labelled part?

- | | |
|--------------------|--------------------|
| (1) Ovary | (2) Uterus |
| (3) Fallopian Tube | (4) Umbilical cord |
2. The diagram below shows a sperm cell.



Which one of the following correctly states the function of the head and tail respectively?

	Head	Tail
(1)	Gives the cell its shape	Acts as a feeler
(2)	Carries genetic materials	Helps in movement
(3)	Controls activities in the cell	Keeps the cell in shape
(4)	Controls what leaves the cell	Controls activities in the cell

3. Which of the following parts of the body produces the male cell in human?

(1) ovary
 (3) uterus

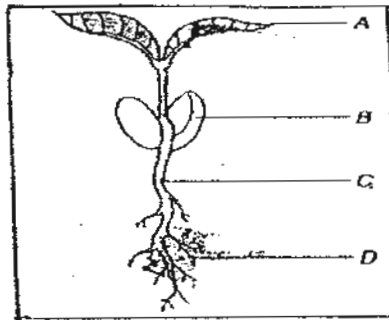
(2) penis
 (4) testes

6. Which of the following statements correctly state the comparison between reproduction in humans and plants?

- A: Pollination takes place both in human and flowering plants.
- B: Fertilisation takes place both in human and flowering plants.
- C: The ovules, egg, pollen grains and sperms are reproductive sex cells.
- D: Sexual reproduction is the only way flowering plants and animal ensure that there is continuity in life.

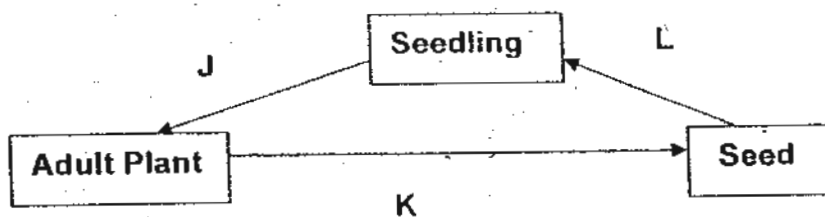
- (1) A and C only
- (2) B and C only
- (3) A, B, and C only
- (4) B, C and D only

7. The diagram below shows a bean seedling. Which part of the plant becomes smaller as the seedling grows?



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

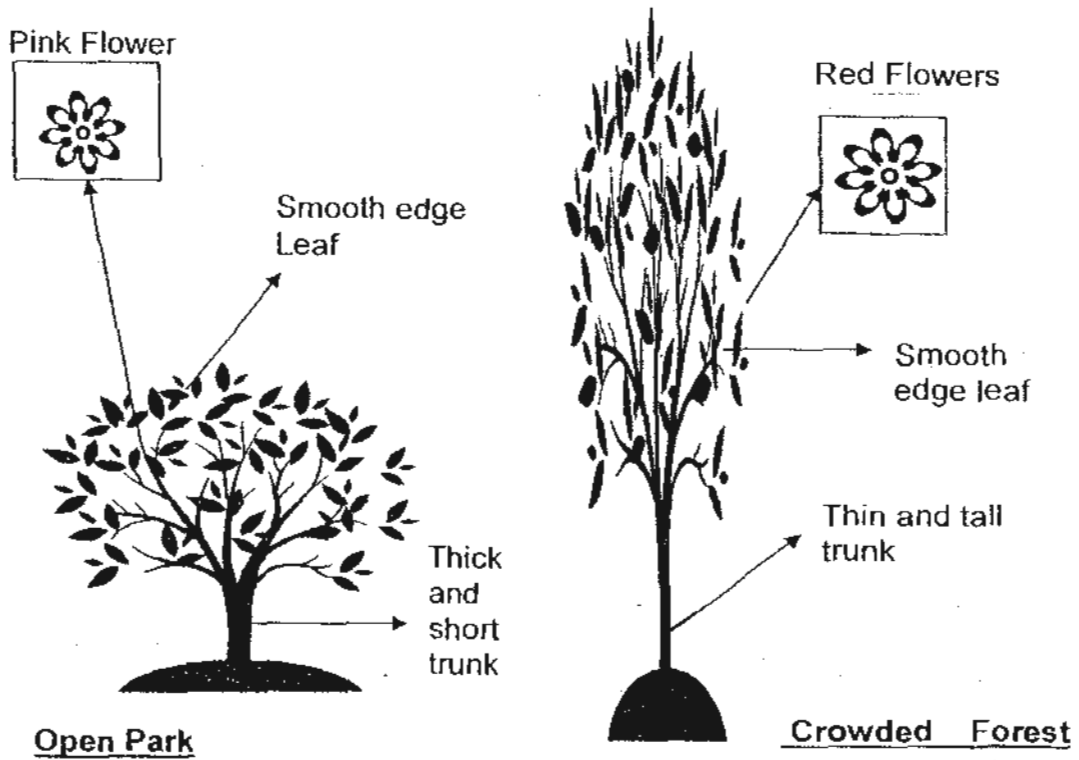
8. Study the life cycle of a plant as shown below.



What process(es) would take(s) place at J, K and L respectively?

	J	K	L
(1)	Pollination and Fertilisation	Dispersal	Germination
(2)	Growth	Pollination and Fertilisation	Dispersal and germination
(3)	Growth	Pollination	Fertilisation, dispersal and germination
(4)	Pollination	Fertilisation	Dispersal and germination

9. Study the diagram below. The two similar species of trees are grown at two different places.



If sexual reproduction takes place between the two trees, which are the characteristics the young of the tree can inherit?

- (A) Types of leaves
- (B) Height of the tree
- (C) Colour of the flower
- (D) Thickness of the trunk

(1) D only

(3) A, B and C only

(2) A and C only

(4) A, B, C and D

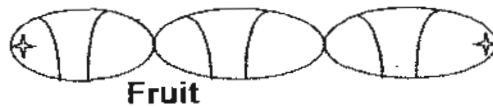
Study the table and answer Questions 10 and 11.

10. Some fruits and seeds are grouped according to the way they are dispersed.

Group D	Group E	Group F
Balsam Rubber	Mimosa Love grass	Angsana Shorea

How are the fruits and seeds in Group E dispersed?

- (1) By Wind
 (2) By Water
 (3) By Animals
 (4) By Explosive Actions
11. The fruit shown below is pod-like and dries up when ripens. It has winged seeds in it.



In which group(s) will you put this fruit?

- (1) Group D only
 (2) Group F only
 (3) Group E only
 (4) Group D and F only
12. Weiling and her friends removed various parts of four groups of hibiscus flowers from the hibiscus plant. The parts that were removed are shown in the table below.

Group	Parts removed
A	Style only
B	Stigmas only
C	Anthers only
D	Ovules only

Pollen grains from an intact flower were collected and dusted on the remaining parts of the four groups of flowers.

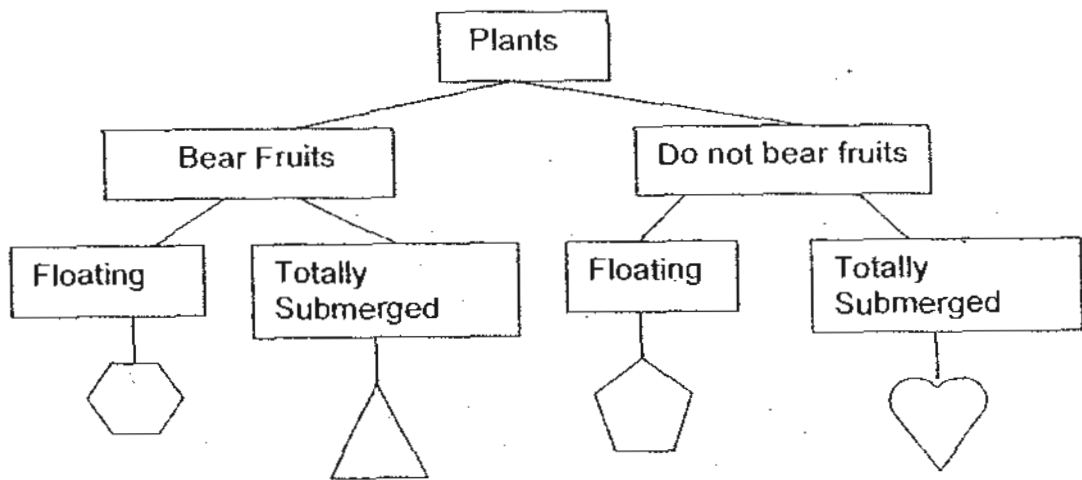
In which group of flowers the processes, pollination and fertilisation will take place?









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

13. The following table provides information on 4 plants, E, F, G and H, based on ~~two~~ ^{three} characteristics. A tick (✓) shows that the plant has the characteristics.

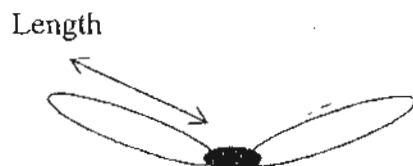
Plants	E	F	G	H
Has flowers	✓		✓	✓
Grows in water	✓	✓		✓
Takes in dissolved oxygen in water		✓		✓

From the information above, where will you put plants E and F in the following classification table below?



- | | <u>Plant E</u> | <u>Plant F</u> |
|-----|---|---|
| (1) |  |  |
| (2) |  |  |
| (3) |  |  |
| (4) |  |  |

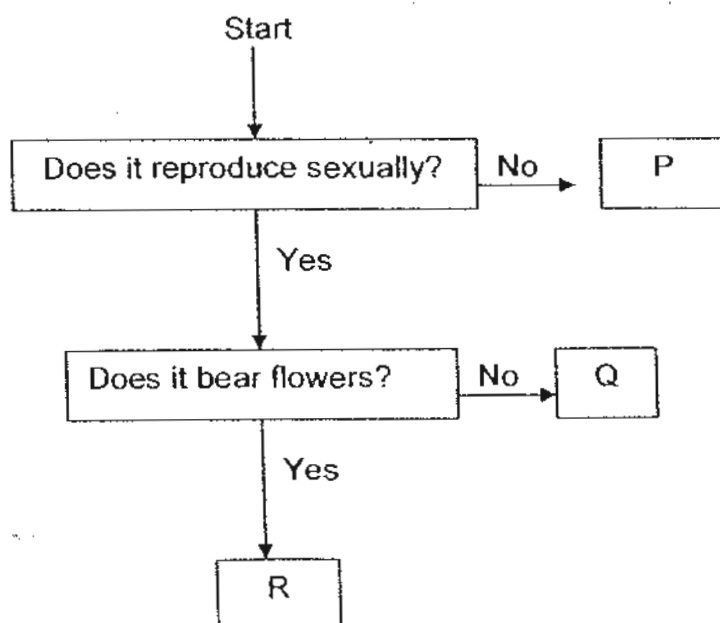
- 14, Pravitha wanted to find out if the length of the wings of the shorea seed affects the distance it can travel. She carried out the experiment by dropping the seed from a certain height.



Which of the following variables she had to keep constant in the experiment?

- A: Length of shorea seed
 B: Place in which experiment is carried out
 C: Duration of the seed when it is in mid-air
 D: Height from which the seed is dropped
- (1) A and C only (2) B and D only
 (3) A, B, and C only (4) B, C and D only

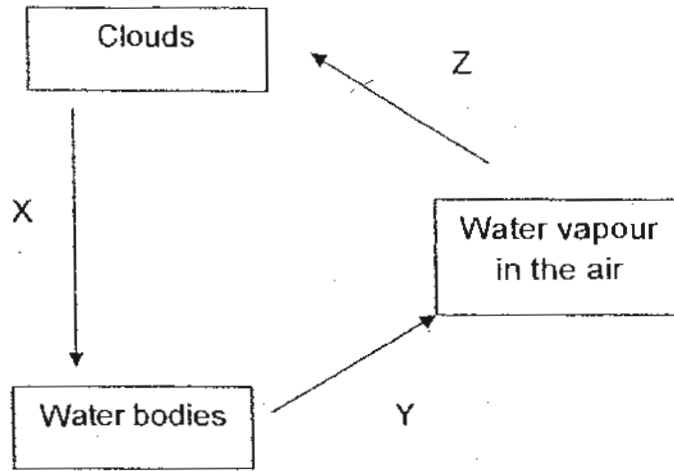
15. Study the classification chart below.



Which of the following plant can be represented by both the letters P and R?

- (1) Bird's nest fern (2) Coconut tree
 (3) Ginger plant (4) Angsana tree

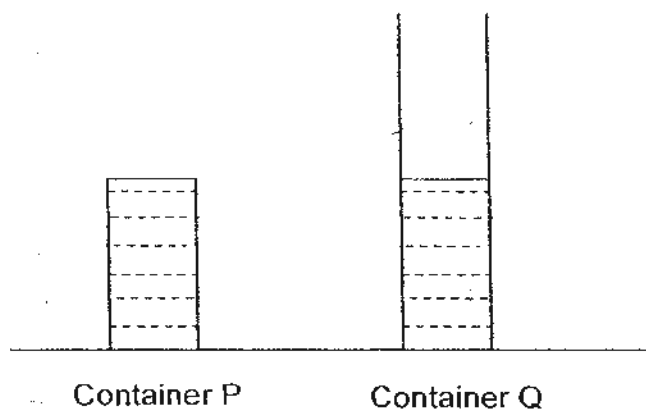
16. The diagram below shows the water cycle with processes X, Y and Z involved.



Which one of the following statements about the water cycle is correct?

- (1) Heat is gained during Process Y.
 - (2) Heat is gained during Process Z.
 - (3) Process X causes the clouds to gain heat.
 - (4) Processes X, Y and Z require the Sun's energy to occur.
17. Sammy wanted to compare the rate of evaporation of alcohol and water. She used two beakers to hold the liquids. Which of the following variables should she keep the same to ensure a fair test?
- A: Type of liquid
 - B: Amount of liquid
 - C: Material of beakers
 - D: Time taken for both liquids to evaporate completely
- (1) A and B only
 - (2) A and D only
 - (3) B and C only
 - (4) B and D only

18. The diagram below shows an experimental set-up to find out the factors affecting the rate of evaporation.



Containers P and Q were filled with the same volume of water to the same level. They were left in the same location for three hours. At the end of the 3rd hour, more water was observed in Container Q than that in Container P.

Based on the experiment, which of the following factors were most likely to have resulted in the observation?

- A: Volume of water
- B: Presence of wind
- C: Temperature of water
- D: Exposed surface area of water

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

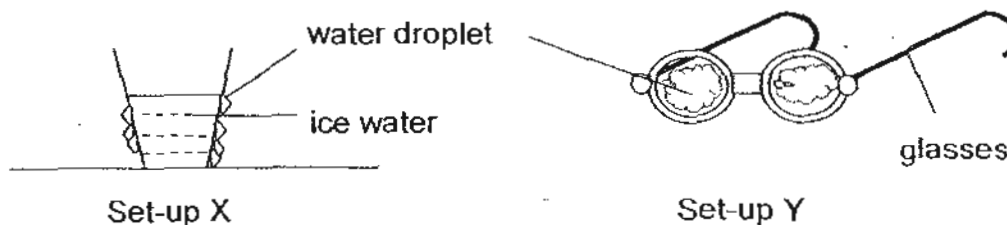
- (2) A and D only
- (4) A, B, C and D

21. Faridah conducted an experiment to show the effect of materials on condensation of water. She placed five rectangular sheets in the same open place overnight and measured the amount of water droplets found on each of them at dawn.

Rectangular sheets	Thickness (cm)	Type	Temperature (°C)	Surface area (cm ²)
P	0.2	Iron	20	10
Q	0.5	Plastic	20	10
S	0.2	Plastic	20	12
T	0.5	Iron	25	10
U	0.5	Cloth	20	10

Which of the following rectangular sheets could Faridah use for comparison?

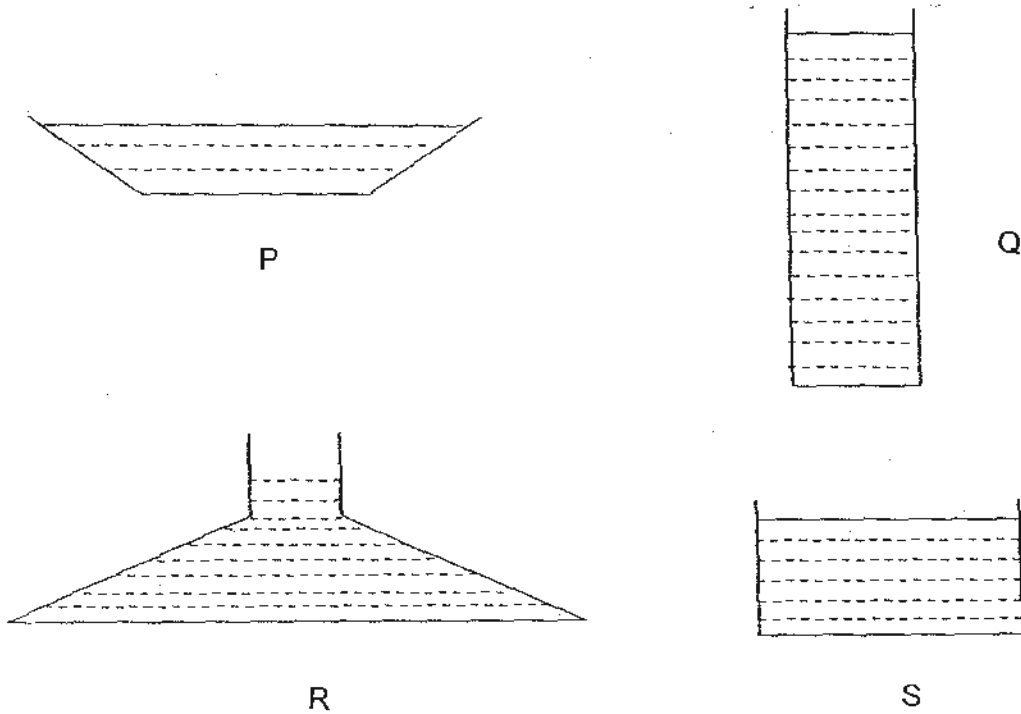
- (1) P and S only
 (2) Q and T only
 (3) Q and U only
 (4) S and T only
22. The two set-ups, X and Y were removed from the freezer and left in a room for a short while. Tiny water droplets were found on them as shown in the diagrams below.



Which of the following comparisons are correct?

- A: The water droplets in both set-ups came from the surrounding air.
 B: The glasses in both set-ups were cool surfaces for condensation to take place.
 C: The water droplets in set-up X came from the ice water while the water droplets in set-up Y came from the surrounding air.
 D: The glass in set-up X was the cool surface while the pair of glasses was the warm surface for condensation to take place.
- (1) A and B only
 (2) A and D only
 (3) B and C only
 (4) ~~B and D only~~
B and D only

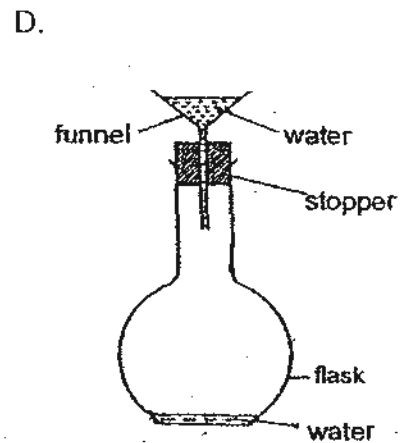
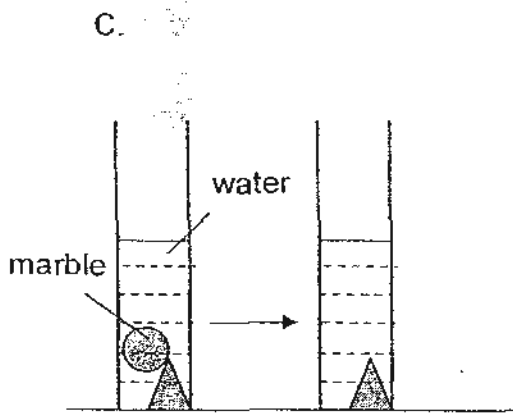
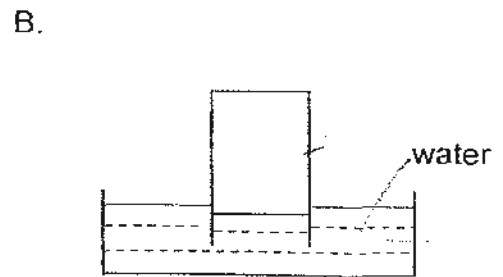
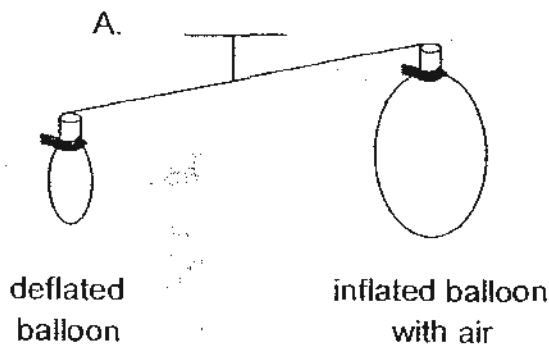
23. Aileen placed four different containers P, Q, R and S with the same volume of water at room temperature in the open as shown in the diagram below. She measured the time taken for all the water in each container to be evaporated completely and ranked them accordingly. She began with the one that took the shortest time.



Which of the following arrangements shows Aileen's results correctly?

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

28. Which of the following experiments show the correct properties of matter?



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

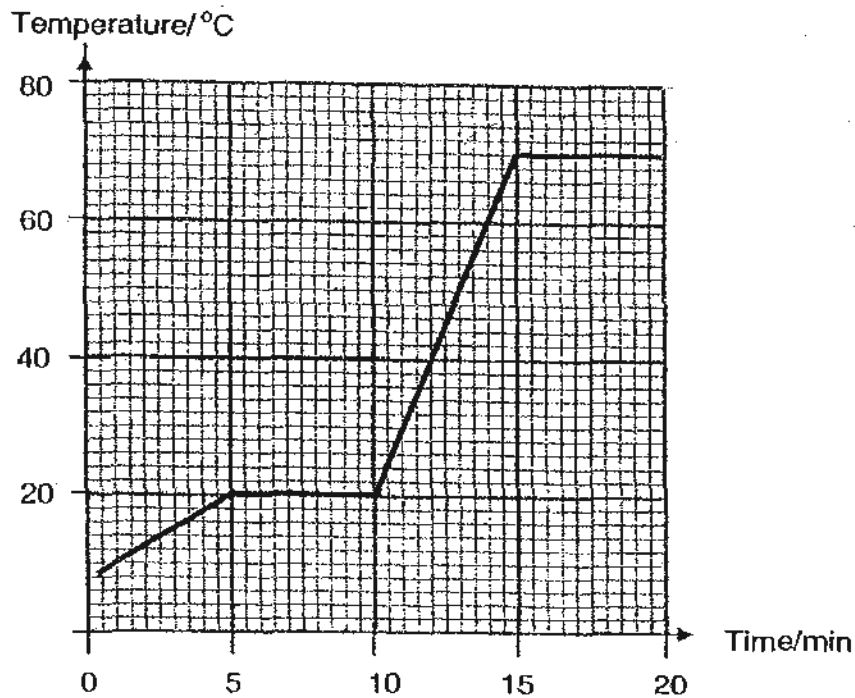
29. The table below shows the freezing and boiling points of substances W, X and Y.

Substance	Freezing point / °C	Boiling point / °C
W	4	12
X	50	210
Y	17	60

Which of the following conclusions could be made about the properties of the substances at 30°C?

- (1) Substance W has definite shape.
 (2) Substance W has definite volume.
 (3) Substance W and Y have no definite shape.
 (4) Substance X and Y have no definite volume.

30. The graph below shows the changes in the temperature of solid W when heated for 20 minutes.



Based on the graph, which of the following statements are definitely true about W?

- A: The boiling point of W was 65°C.
- B: The melting point of W was 20°C.
- C: W had definite volume from the 0th min to the 15th min.
- D: Heating was carried out from the 10th min to the 15th min only.

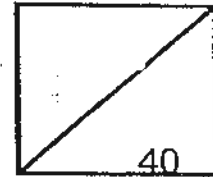
- (1) A and B only
- (2) A and C only
- (3) B and C only
- (4) C and D only



Rosyth School
Continual Assessment for 2010
STANDARD SCIENCE
Primary 6

Name: _____

Total
Marks:



Class: Pr _____

Register No. _____

Duration: 1 h 45 min

Date: 4th March 2010

Parent's Signature: _____

Booklet B

Instructions to Pupils:

1. For questions 31 to 46, give your answers in the spaces given in this Booklet B.

* This booklet consists of 13 pages. (Pg. 1 to 13)

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Part II

Write your answers to questions 31 – 46 in the spaces provided.

31. Refer to the cells below.



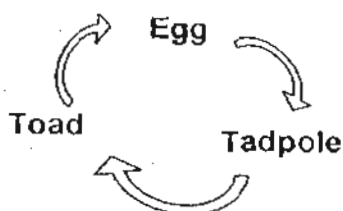
a) Both cells A and B are male sex cells, state one other similarity between the two cells.

[1]

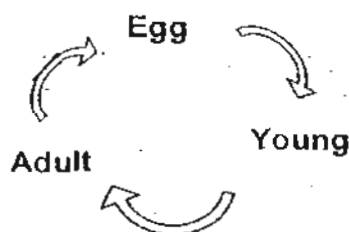
b) Which male sex cells, A or B, is suitable for human reproduction? Explain your choice.

[1]

32. The diagram below shows the life cycle of a toad and a man.



Life cycle of a Toad



Life cycle of Human

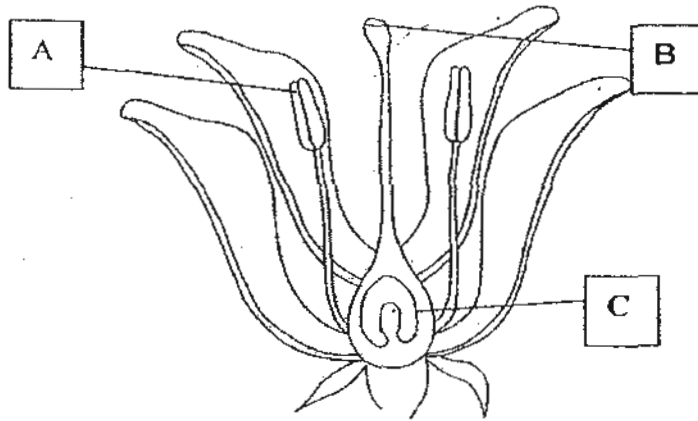
a) Label the process fertilisation in the two life cycles to indicate when the process takes place.

[1]

b) Describe a difference in the fertilisation process between the toad and the man.

[1]

33. The diagram below shows the cross section of a flower.



a) Explain the functions of the parts labelled in the table below.

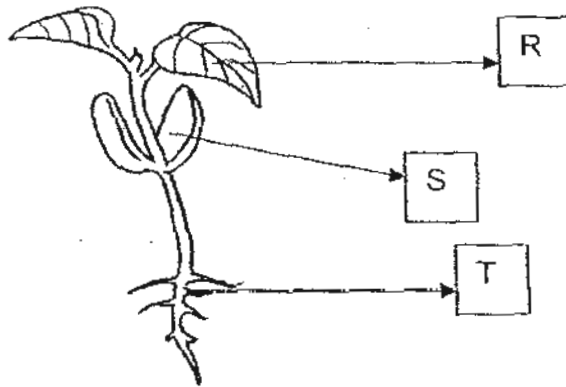
	Parts	Function
1	A	
2	B	

[2]

b) What happens to C after fertilisation has taken place?

[1]

34. The diagram below shows a germinating seed with parts labelled R, S and T.

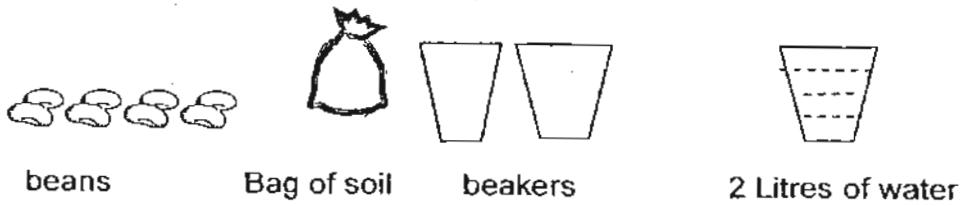


Put a tick (✓) in the appropriate box to indicate if it is True, False or Not possible to tell.

[2]

	Statements	True	False	Not possible to tell
(i)	T grows before R.			
(ii)	Food is provided by S before R appears.			
(iii)	The life cycle of this plant will be completed in four weeks.			

35. Adrian wanted to find out if light is needed for a seed to germinate. He was given the following materials to carry out his investigation.

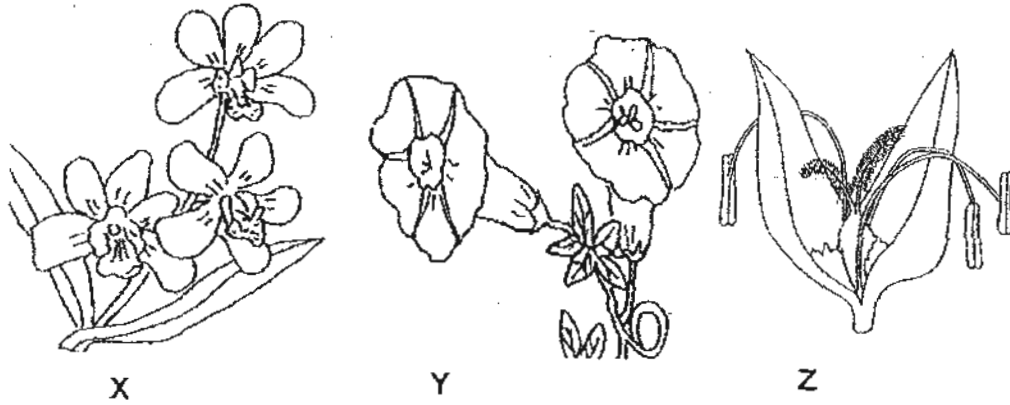


- a) State the steps he should take for the experiment. [3]

Steps	

- b) What would he observe in the two beakers after a week? [1]

36. Kanesh observed three different types of flowering plants in his garden.



a) Which flower(s) is/are pollinated by wind? Explain your choice.

[1]

Ganesh observed that many hummingbirds as shown below visits his garden often.



b) Which flower the humming birds would visit most? Explain your choice.

[1]

37. In the diagram below, the bird eats a kind of fruit which contain many seeds. The bird helps to disperse its seeds as it pass out the undigested seeds in their droppings.



State two advantages of this method of dispersing seeds for the plant. [2]

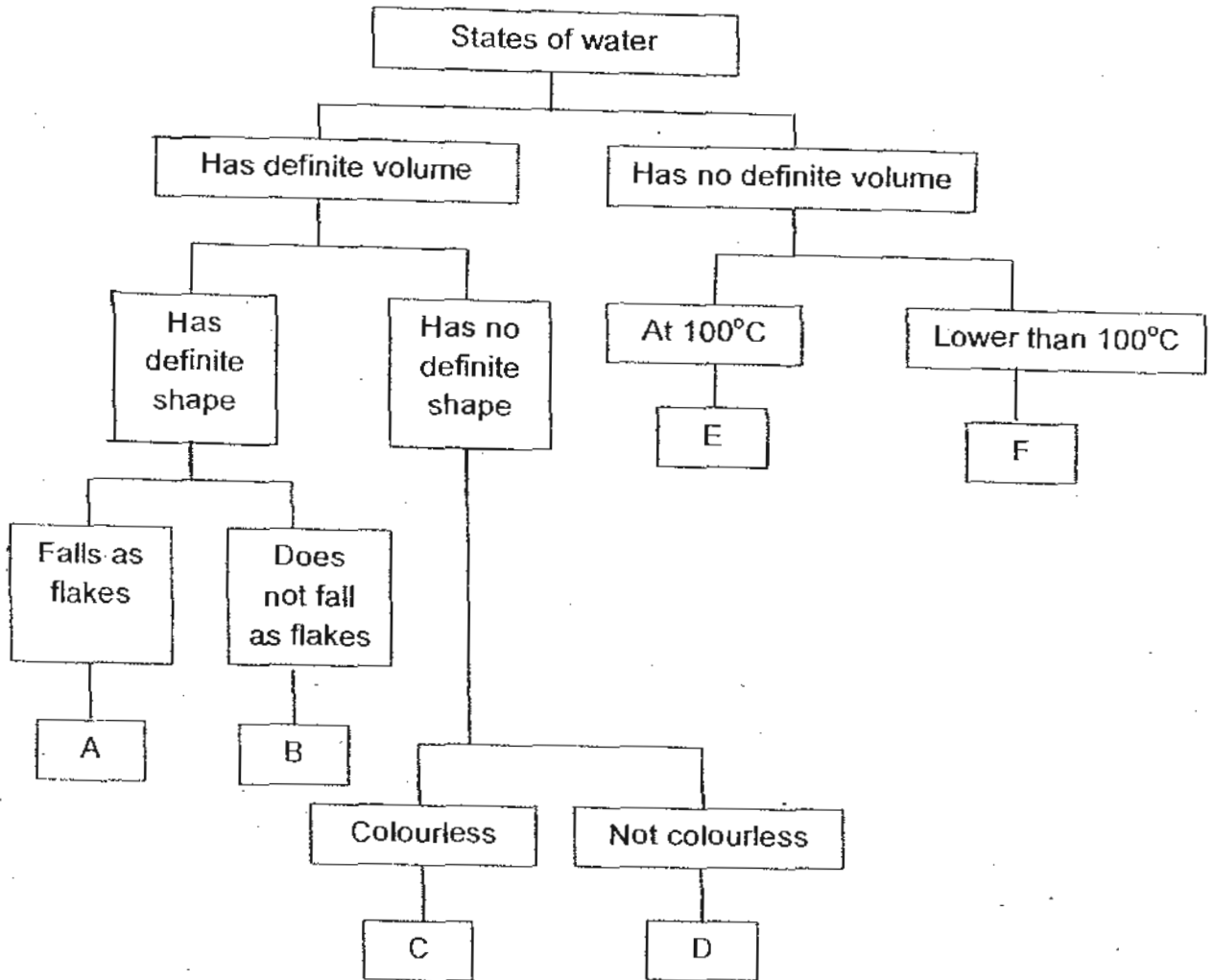
38. Wei Jei carried out an experiment using two pots to find out the need for plants to disperse their seeds.

a) Put a tick (✓) in the box to indicate the variables that should be left unchanged for both the pots of plants. [2]

Variables	Tick
Type of seeds	
Number of seeds	
Volume of water	
Location of plants	

b) What variable should he observe to make his conclusion? [1]

39. Below shows a classification table on states of water.

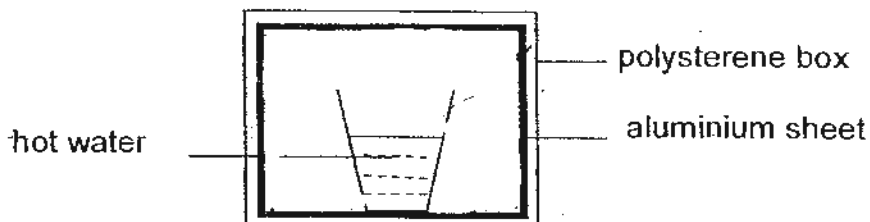


a) Based on the classification table, match the states of water. Fill in the correct letters in the table below. [2]

	States of water	Letter
i.	Rain	
ii.	Steam	
iii.	Snow	
iv.	Water vapour	

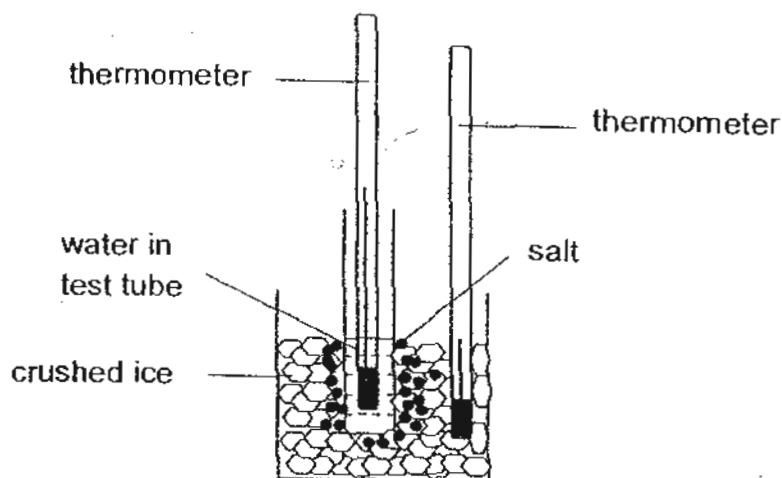
b) How is the Sun important in ensuring the water cycle? [1]

40. The diagram below shows a glass of hot water placed in an enclosed polystyrene box. The box is lined with an aluminium sheet and placed on a table.



- a) Draw in the above diagram, to show where the water droplets would be formed after a while. [1]
- b) Explain how the water droplets were formed. [1]
-
-
- c) If cold water was used instead of hot water, what difference would be observed in the set-up after a while? [1]
-
-
41. Some cars were parked in the open from 10pm to 7am. Dew was observed to form on the exterior surface of these cars.
- a) Explain how the dews were formed. [1]
-
-
- b) When the cars were parked in the same place from 10am to 7pm, no dew was formed. Why was it so? [1]
-
-

42. Sam set up the experiment shown below to find out the effect of adding salt into the crushed ice on the water in the test tube.



He measured the changes in the temperature of the crushed ice and water at 1-minute interval and tabulated the results in the table below.

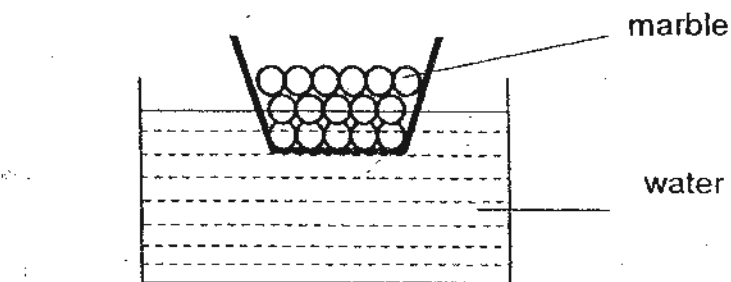
Time (min)	Temperature of crushed ice (°C)	Temperature of water (°C)
0	0	30
1	-1	10
2	-5	0
3	-5	0

- a) What was the purpose of adding salt to the crushed ice? [1]

- b i) Based on the results, in what state is the water at the 2nd min? [1]

- ii) Explain why the water is in the state mentioned in b(i). [1]

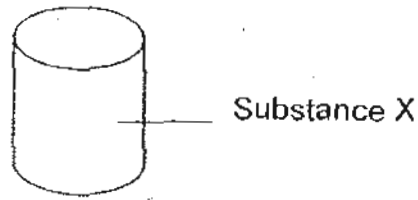
43. Selvam lowered a container of marbles slowly into a tank of water as shown below.



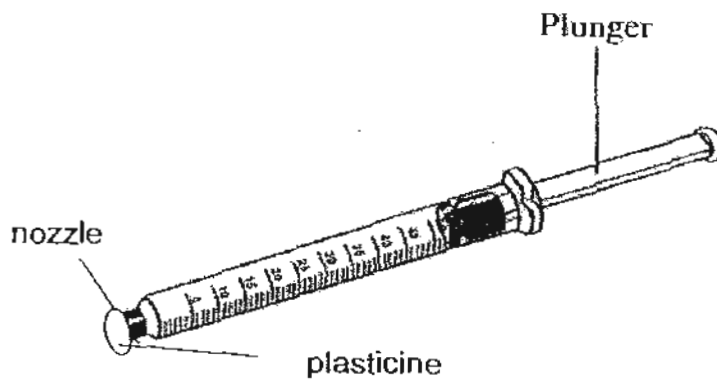
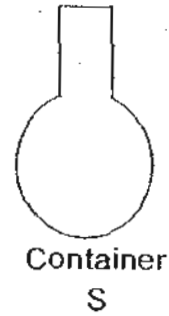
- a) What observations would be made as the container of marbles was placed into the tank? [1]

- b) Explain your answer in (a). [2]

44. Minh was given a container with Substance X in it.



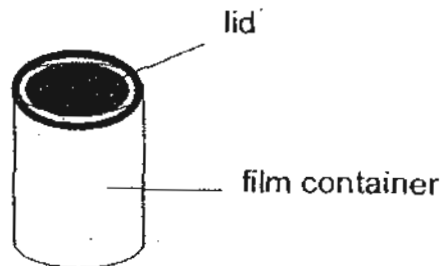
In addition, she was given three other empty containers Q, R and S and a syringe.



a) How could she show that substance X has no definite shape? [1]

b) How could she show that substance X has definite volume? [1]

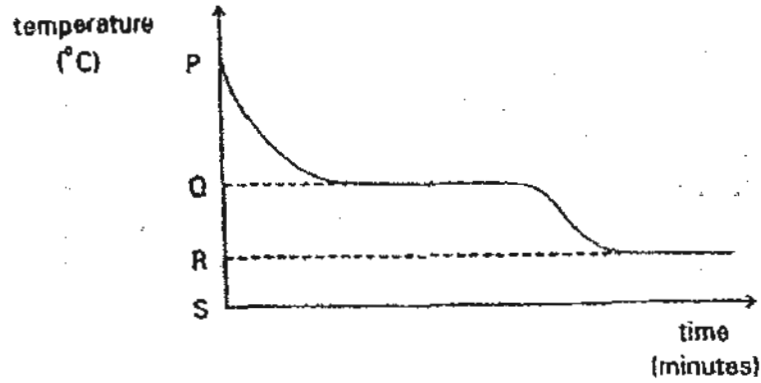
45. Timmy put 10g of solid dry ice into a film container and capped it immediately. In the container, the dry ice became a gas and pushed the lid outwards. He measured the time taken for the lid of the film container to pop out. He repeated the experiment using dry ice of different masses and recorded his results in the table below.



Mass of dry ice (g)	Time taken for the lid to pop (s)
10	300
20	140
30	60

- a) What was the aim of Timmy's experiment? [1]
-
-
- b) What caused the time taken for the lid to pop to decrease as the mass of the dry ice was increased? [1]
-
-

46. Some mothballs were melted in a test tube. The liquid mothball was then left to cool in a room and its temperature over a period of time is plotted in the graph below.



- a) What change in state did the mothballs undergo at temperature Q? [1]

- b) At what temperature P, Q, R or S did the liquid mothballs become a solid?[1].

ANSWER SHEET

EXAM PAPER 2010

SCHOOL : ROSYTH PRIMARY
SUBJECT : PRIMARY 6 SCIENCE

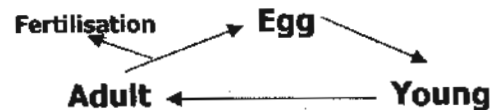
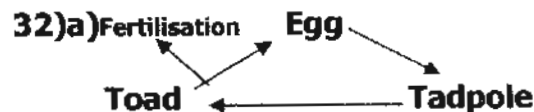
TERM : CA1

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

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

31)a) These two cells carry genetic materials.

b) male sex cell A. It has a tail which allows it to swim inside the female's body.



b) The toad carry out external fertilization while man carry out internal fertilization.

33)a) A: It produces and contains releases the pollen grains.

B: It allows the pollen grains to land onto it so that the pollen grains could grow pollen tubes towards the ovules.

b) C would become a fruit.

34)i) T ii) T iii) Not

35)a) 1) pour equal amount of soil into the two beakers.

2) Put 4 seeds into each beaker.

3) Pour 1 litre of water into each beaker.

4) Label the beakers A and B.

5) Put beaker A in a dark corner.

6) Put beaker B in a sunny place.

7) Observe if beaker A's seeds would germinate after a week.

b) He would observe that the seeds in both beakers would germinate.

36)a) Flower Z. The anthers are hanging out to make use of wind to blow the pollen grains away and the stigma big and sticky so as to catch pollen grains.

b) Y. The hummingbirds has a curve and long beak and thus can reach into flower y which has more depth than the other two.

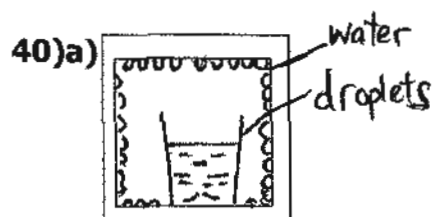
37) The bird helps to disperse the undigested seeds away from the parent plant which will prevent overcrowding and also many of the seeds are dispersed at one time which increases the chances of survival.

38)a) Type of seeds, Volume of water, Location of plants.

b) He should observe the thickness of the stems/ height of the plant/ colour of the leaves.

39)a) i) C ii) E iii) A iv) F

b) The sun ensures that the water gets evaporated by providing heat so that the water vapour could rise to form clouds.



b) The hot water vapour touches the cool surfaces of the aluminium sheet and condensed into water droplets.

c) The water droplets would be found outside the cup not at the aluminium sheet.

41)a) The night is colder than the morning, therefore when the water vapour touches the cool surface of the cars, it would condense to form dew.

b) The exterior surface of the car is hotter than the surrounding air and will not allow condensation to occur.

42)a) It is to lower the freezing point of ice.

b) The water is in the solid state.

c) It is freezing point of pure water.

43)a) The water would become full and may overflow.

b) The marbles and container took up the space of the water is occupying.

The water was pushed up and therefore resulting the tank of water to become full and may overflow.

44)a) She could pour substance X into the different containers. If substance X takes the shape of the container, this will show that substance X has no definite shape.

44)b)She could use the plunger to suck substance X into it and cover the nozzle with plasticine. She should then try to push the plunger. If she could not push the plunger, this would show that substance X has definite volume.

45)a)The aim of Timmy's experiment is to find out if the mass of dry ice would affect the time taken for the lid to pop.

b)The increase amount of dry ice would increase the amount of force which made the lid to pop.

46)a)It is changing from a liquid to a solid.

b)The liquid mothballs became a solid at Q.