



RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT (1)

2007

Name : _____ Index No: _____ Class: P4 _____

10 May 2007

SCIENCE

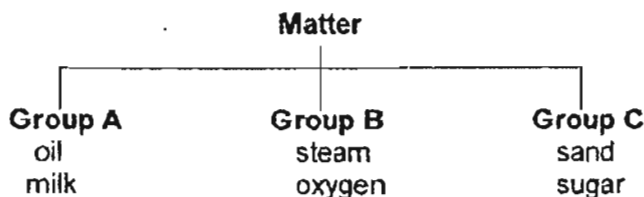
Att: 1 h 30 min

Section A	/50	
Section B	/50	
Your score out of 100 marks		
Highest score	Class	Level
Average score		
Parent's signature		

SECTION A (25 x 2 marks)

For each question from 1 to 25, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet (OAS) provided.

1. The classification table below shows how some matter is grouped at room temperature.



Which one of the following correctly describes the groups, A, B and C?

	A	B	C
<input checked="" type="radio"/>	solid	gas	liquid
<input checked="" type="radio"/>	gas	solid	liquid
<input checked="" type="radio"/>	liquid	gas	solid
<input checked="" type="radio"/>	gas	liquid	solid

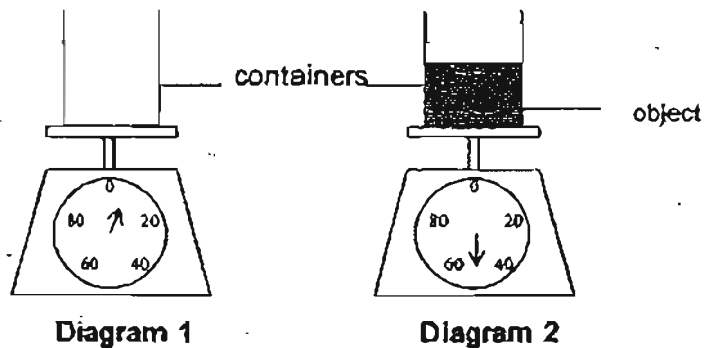
2. Which one of the following shows that gas can be compressed?
- (1) A basketball is inflated
 - (2) A piece of sponge is squeezed
 - (3) A hot air balloon rises into the sky
 - (4) Steam is produced by boiling water
3. Jack has the same mass as a 30-kg bag of rice. Both Jack and the bag of rice _____
- (1) have the same shape
 - (2) have the same volume
 - (3) have the same amount of matter
 - (4) occupy the same amount of space

4. John filled a beaker to the brim with 50 cm^3 of water. 2 identical objects, A and B, each of 8 cm^3 , were dropped gently into the beaker of water. Water overflowed onto the table.



What is the volume of water left in the beaker?

- (1) 34 cm^3
 (2) 42 cm^3
 (3) 50 cm^3
 (4) 58 cm^3
5. Aziz weighed an empty container at the beginning of his experiment as shown in Diagram 1. He placed some water and an object of mass 10 g in the container and weighed them as shown in Diagram 2.



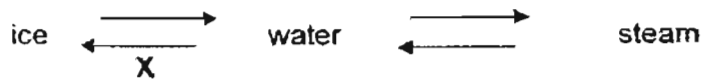
What was the mass of the water **ONLY**?

- (1) 10 g
 (2) 20 g
 (3) 30 g
 (4) 50 g
6. Which of the following processes occur **ONLY** at 0°C ?

- A melting of ice
 B boiling of water
 C freezing of water
 D condensation of water

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

7. The diagram below shows the interchangeable states of water.

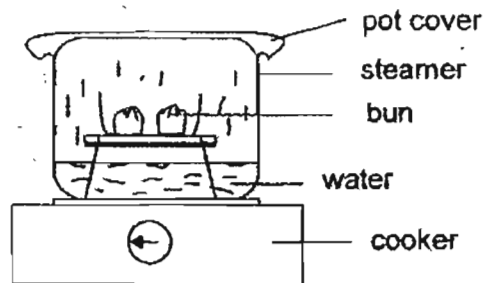


What happens to water when process X takes place?

- A Water gains weight.
- B Water loses its heat.
- C Water changes its state.
- D Water changes its shape.

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

8. Two buns were placed in a steamer with water as shown in the picture below.



After a while, the cooker was turned off as soon as bubbles were seen in the water. The buns were left in the steamer to cool down for a while before they were removed.

Based on the information above, what were the processes that took place to soften the buns before they were removed from the steamer?

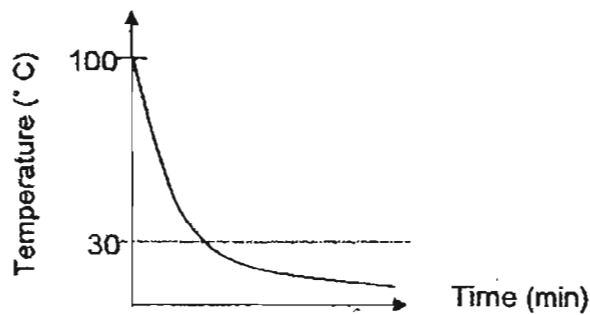
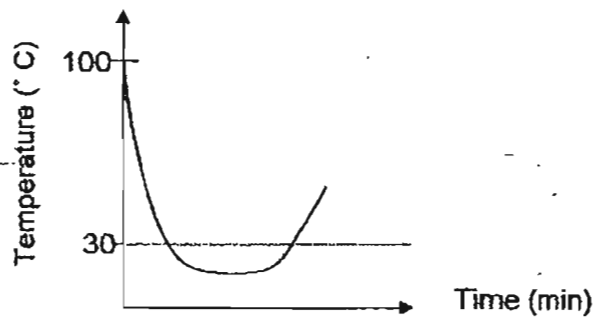
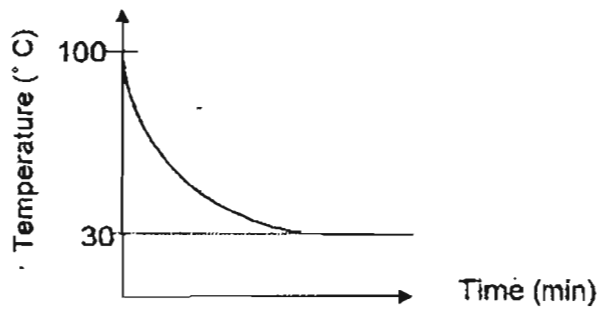
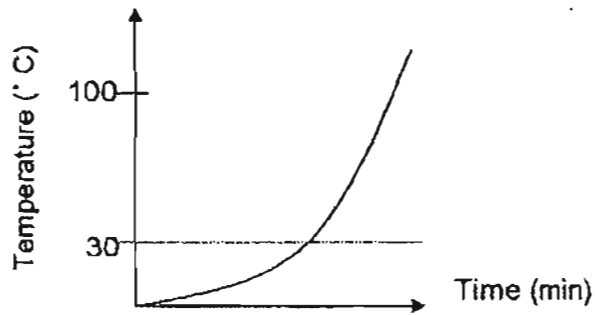
- A boiling
- B melting
- C evaporation
- D condensation

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

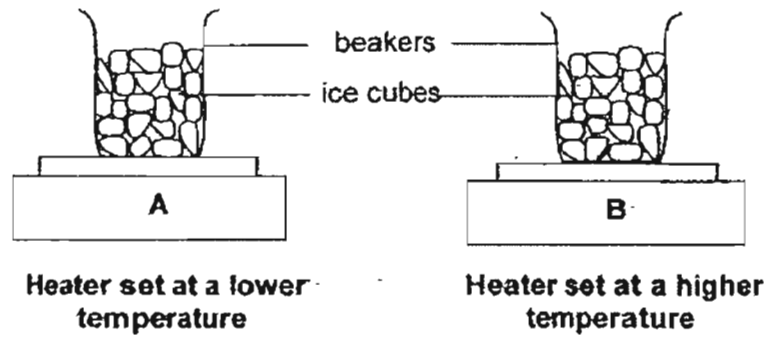
9. A few ice cubes are added to a beaker of boiling water.

Which one of the following graphs (**NOT** drawn to scale) shows the **most likely** change in temperature of the water in the beaker after some time?

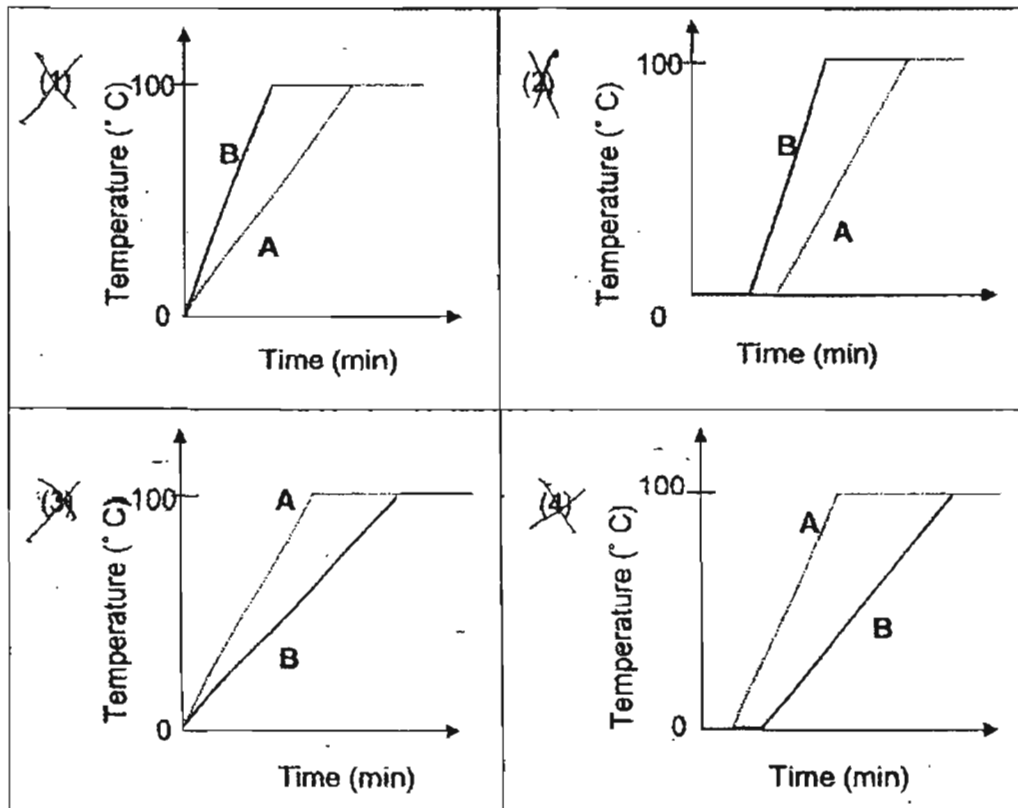
(Room temperature: 30°C)



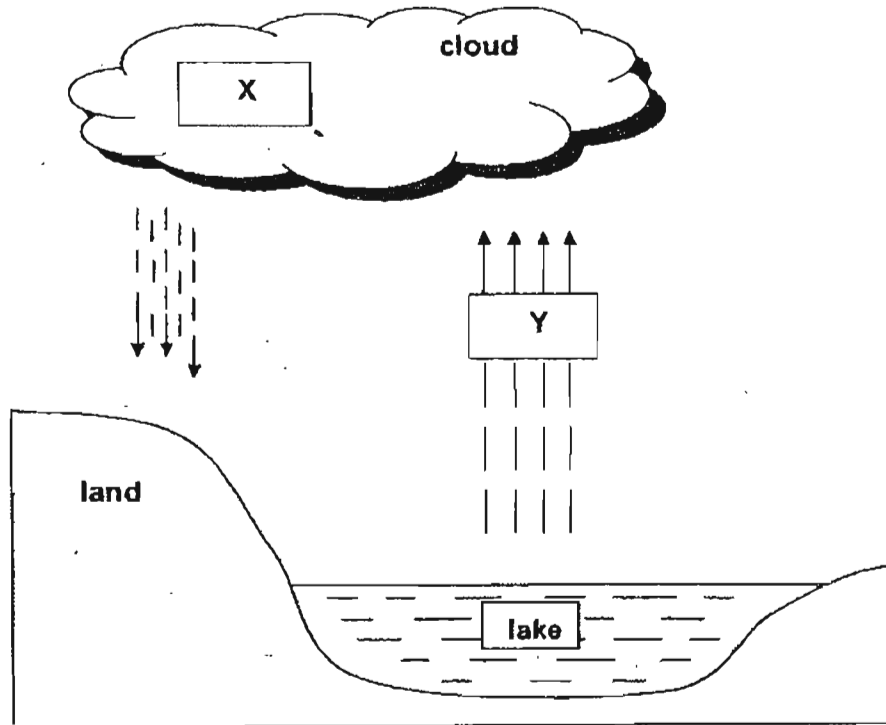
10. 2 identical beakers contain an equal amount of ice cubes. They are heated separately with two heaters, A and B, set at different temperatures as shown in the diagrams below.



Based on the information given above, which one of the following graphs **correctly** shows the changes in the temperature of the contents in both the beakers?



The diagram shows the water cycle. X and Y are processes involved in the water cycle.



Based on the diagram above, answer Questions 11 and 12.

11. Which one of the following correctly shows the processes of X and Y?

	X	Y
<input checked="" type="checkbox"/>	evaporation	condensation
<input type="checkbox"/>	condensation	evaporation
<input type="checkbox"/>	evaporation	cooling
<input type="checkbox"/>	condensation	cooling

12. Processes X and Y in the water cycle _____.

- A remove oil spills
- B prevent deforestation
- C reduce the amount of water from the earth
- D provide a continuous supply of fresh water to all living things

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

13. Which one of the following is a good practice for water conservation?
- (1) Using a water hose to wash the car
 - (2) Reusing untreated water for drinking
 - (3) Washing our dishes under a running tap
 - (4) Making use of water collected from washing clothes to wash the toilet

14. The presence of unwanted substances in water results in water pollution. Which of the following correctly describe the impact of water pollution?

- A Soil erosion takes place.
- B Water becomes too salty for drinking.
- C Water plants cannot get enough sunlight to carry out photosynthesis.
- D Some poisonous pollutants kill the fish and other living things in the water.

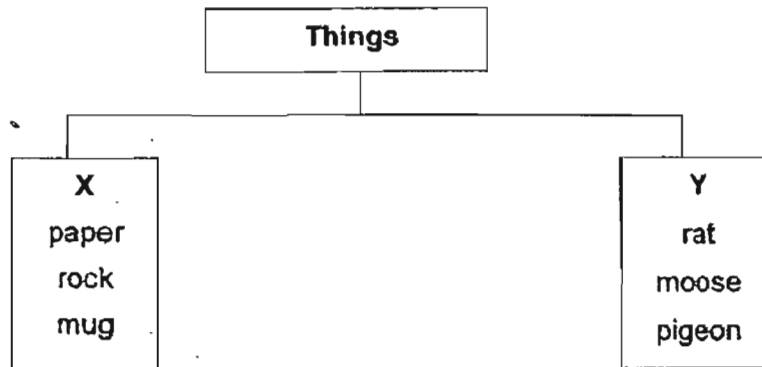
- (1) A and B only
- (2) C and D only
- (3) B, C and D only
- (4) A, B, C and D

15. Which of the following is a non-living/ are non-living things?

- A a cat
- B a kite
- C a racket
- D an apple on a tree

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

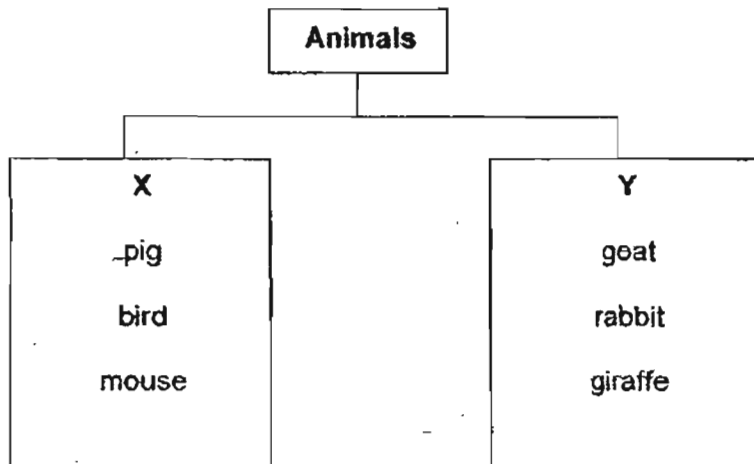
16. Some things are grouped according to the classification chart below.



Based on the information above, which one of the following can be placed in X and Y?

	X	Y
(1)	piano	plane
(2)	monkey	money
(3)	pin	cat
(4)	tree	turtle

17. The classification chart below shows how some animals are grouped.



Based on the information above, which one of the following correctly represents X and Y?

	X	Y
(1)	plant eaters	animal eaters
(2)	animal eaters	plant eaters
(3)	plant and animal eaters	plant eaters
(4)	plant eaters	plant and animal eaters

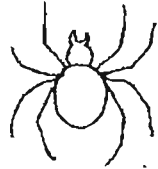
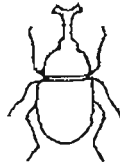
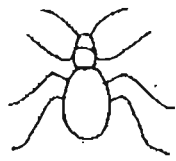
18. Which of the following correctly describe ALL fishes?



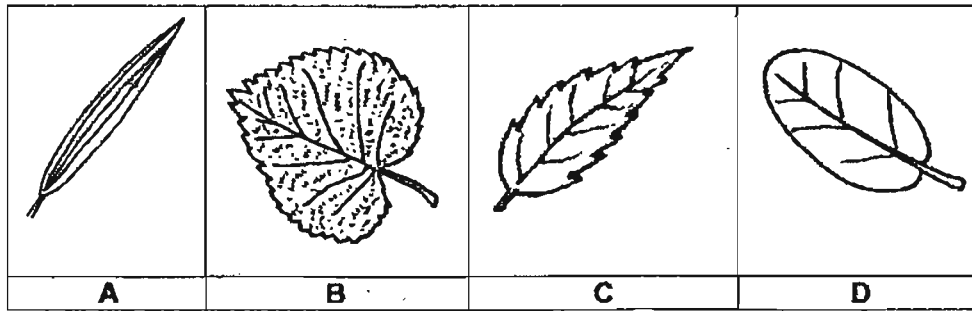
- A They lay eggs.
- B They have fins.
- C They breathe through their gills.
- D They can live in both freshwater and sea water.

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

19. Which one of the following is NOT a true representation of an insect?



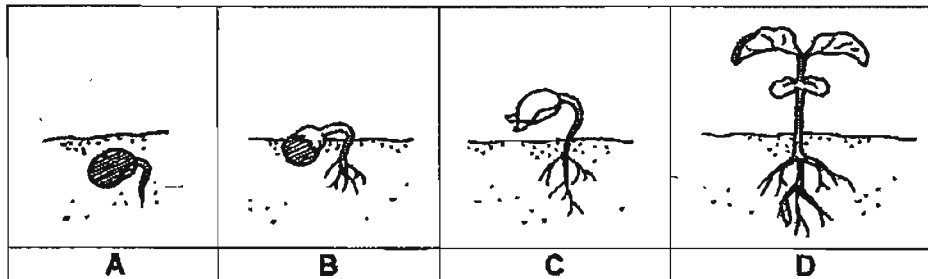
20. Leaves, A, B, C and D, as shown below have distinct characteristics.



Based on the pictures above, which one of the following shows the correct classification?

	Leaves with entire edge	Leaves with toothed edge
<input type="checkbox"/>	A and B	C and D
<input type="checkbox"/>	A and D	B and C
<input type="checkbox"/>	A, C and D	B
<input type="checkbox"/>	A	B, C and D

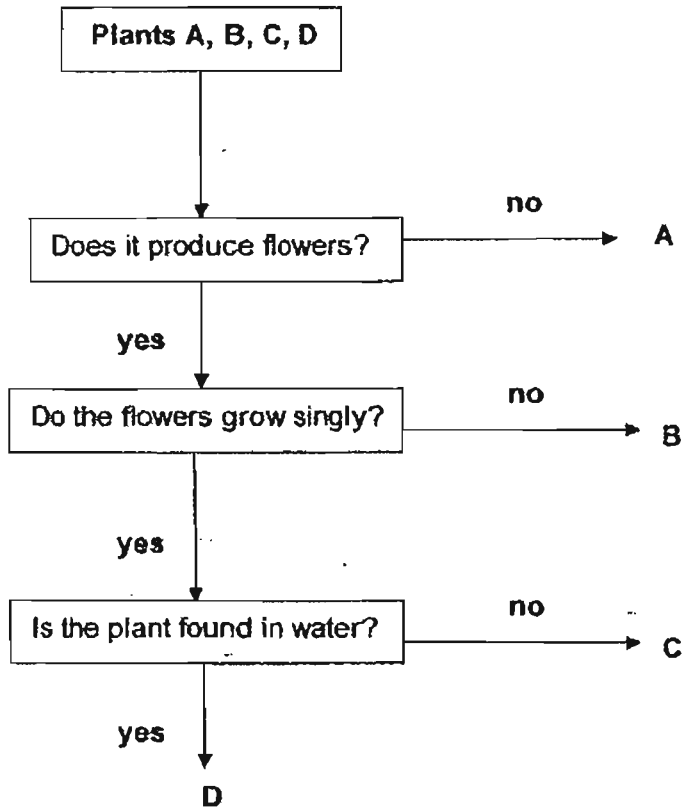
21. The diagrams below show some stages in the life cycle of a flowering plant.



At which stage of its life cycle, A, B, C or D, does the plant start to make its own food?

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

22. The flow chart below shows how plants, A, B, C and D, can be identified.



Based on the information above, which one of the following correctly represents the plants, A, B, C and D?

	A	B	C	D
(1)	moss	frangipani	hibiscus	water lily
(2)	stag's horn fern	rose	cattail	orchid
(3)	hydrilla	ixora	lotus	sunflower
(4)	duckweed	jasmine	lotus	daisy

23. X and Y are 2 living things found in a garden.



X



Y

Based on the pictures given above, which of the following statements is/are true about both X and Y?



- A Both can respond to changes.
- B Both X and Y reproduce by spores.
- C X contains chlorophyll but Y does not.
- D Y can make its own food but X cannot.

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







24. Jamie has two objects, X and Y. When she rubs the two objects together, she notices that only X has been scratched. What can she conclude from her observation?



- A X is harder than Y.
- B X is lighter than Y.
- C Y is harder than X.
- D Y is lighter than X.

25. Tommy classified some objects according to their properties as shown in the table below.

Q.M

Group A	Group B
	
	
	

He grouped the objects according to _____.

- ~~(1)~~ their sizes
- ~~(2)~~ their thickness
- ~~(3)~~ their ability to float
- ~~(4)~~ the materials that they are made from

SECTION B (50 marks)

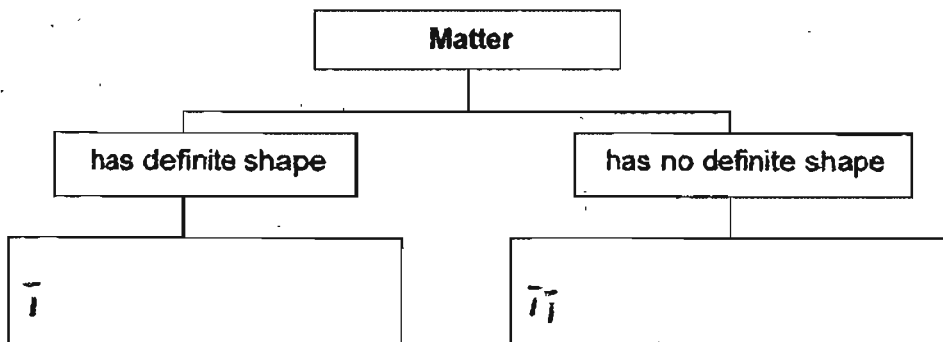
For questions 26 to 45, write your answers in the spaces provided.

The number of marks available is shown in brackets [] at the end of each question or part question.

26. (a) Fill in the boxes with suitable words to describe the properties of matter. Some boxes have been done for you. [3]

i	solid	no definite shape	definite volume
ii	liquid	no definite shape	no definite volume
iii	gas	no definite shape	no definite volume

- (b) Fill in each box with an example of a matter using the classification chart below. [1]

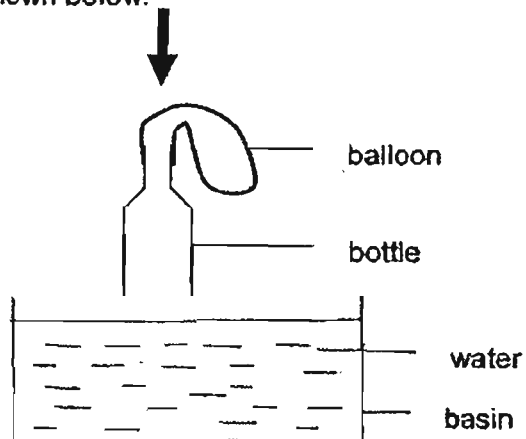


27. (a) Write down TWO differences in **PROPERTIES** of air and shadow. [2]

Difference 1	
Difference 2	

- (b) Give **ANOTHER** example of a non matter. [1]

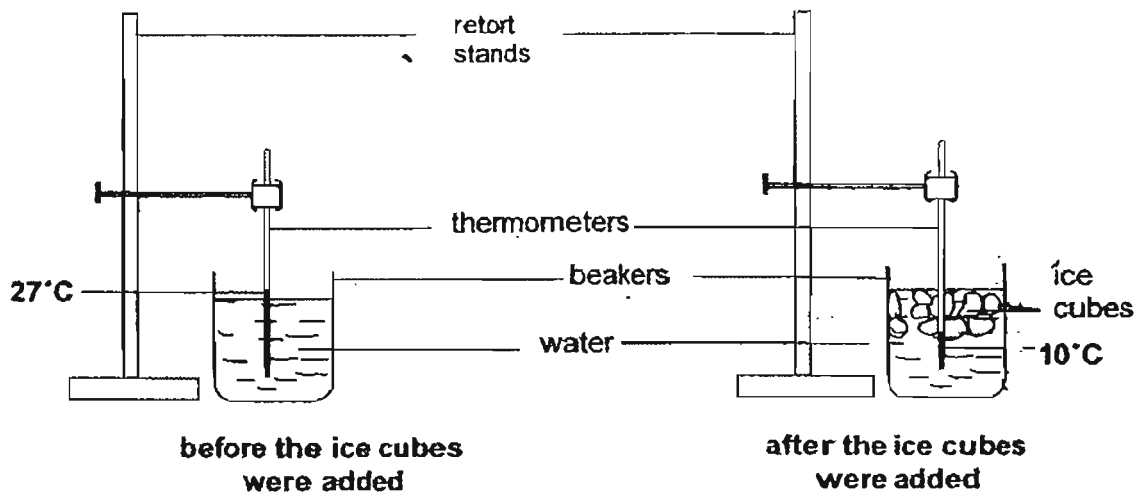
28. Nadia attaches a balloon to the mouth of an empty bottle, which has its bottom cut out, as shown below.



- (a) What happens to the balloon when Nadia pushes the bottle into the basin of water? [1]

- (b) Give a reason for your answer in (a). [1]

29. The temperature of a beaker of water was recorded before and after some ice cubes were added as shown in the diagrams below.



- (a) In the diagram above, **DRAW IN PENCIL** the water droplets formed on the beaker after the ice cubes were added. [1]

- (b) Give a reason for the change in temperature of water after ice cubes were added. [1]

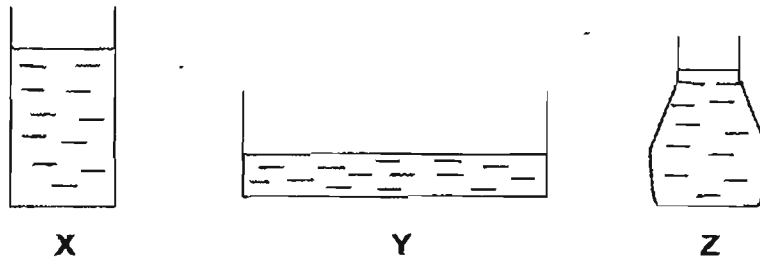
- (c) What happens to the ice cubes after some time? [1]

30. The diagram below shows the interchangeable states of a matter. A, B, C and D are the processes involved.



- (a) Of the 4 processes above, which of these involve(s) the loss of heat? [1]

Devi poured 200 cm³ of water into each of the 3 containers, X, Y and Z, as shown below. The containers were made of the same material.

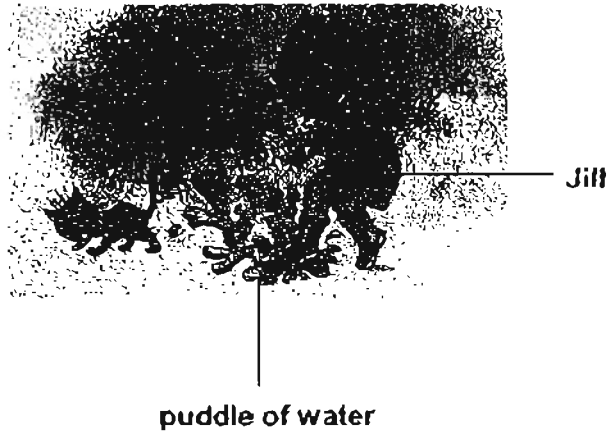


The containers were left in the open.

- (b) Which of the containers, X, Y or Z, would have the least amount of water left after a few hours? [1]

- (c) Give a reason for your answer in (b). [1]

31. The picture below shows Jill playing happily after a heavy rain



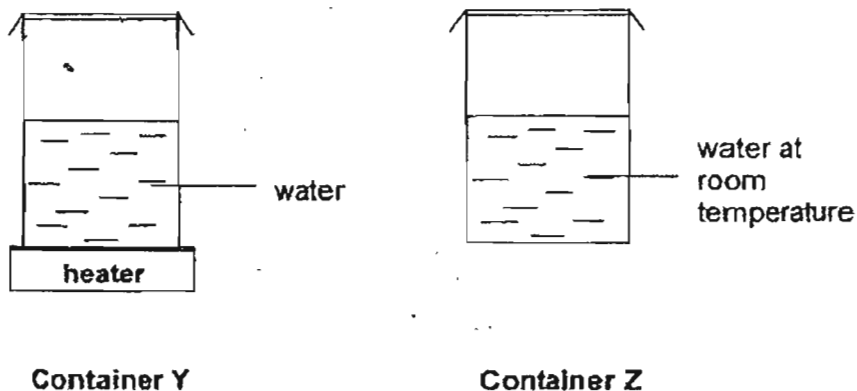
After a few hours, the puddle of water 'disappeared'.

- (a) What had the puddle of water changed into? [1]

- (b) Using your answer in (a), explain what had caused it to change. [1]

- (c) If the humidity was high that day, how would this affect the rate of 'disappearance' of the puddle of water? [1]

32. Water droplets were seen in containers Y and Z. Containers Y and Z were each filled with 300 ml of water as shown below.



Container Y was placed on a heater at a constant temperature of 100°C.

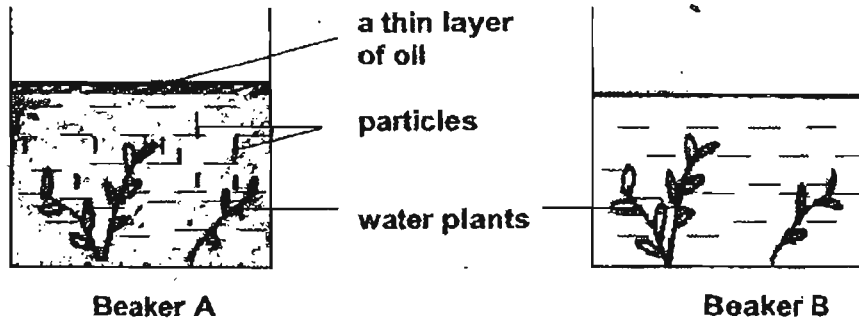
- (a) **DRAW IN PENCIL** the water droplets formed in container Y. [1]
- (b) Name the process(es) that has/ have taken place in each of the containers in the table below. [2]

Container	Process(es)
Y	
Z	_____ condensation

33. Give an example for each of the following practice of 3Rs in the table shown below. [3]

recycle water	
reuse water	
reduce water	

34. Ming Li set up an experiment to find out the impact of water pollution on the water plants using the apparatus as shown below.



She recorded her observations of both beakers in the table shown below.

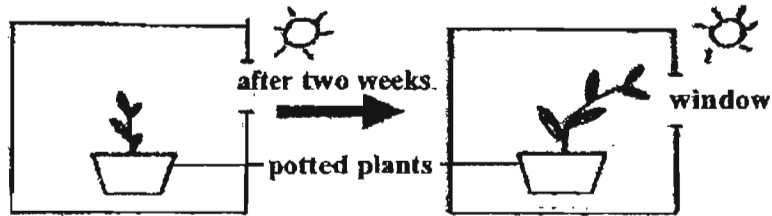
Beaker A	Beaker B
<ul style="list-style-type: none"> ▪ water is dark and cloudy ▪ particles are present ▪ a thin layer of oil is present on the water surface 	<ul style="list-style-type: none"> ▪ water is clear ▪ particles are not found ▪ no oil is present on the water surface

- (a) At the end of the day, Ming Li observed that the water plants in beaker A looked less healthy than those in beaker B. Give 2 reasons why this happened. [2]

Reason 1	
Reason 2	

- (b) If Ming Li puts an equal number of fish into both beakers A and B, how does the layer of oil affect the fish in beaker A? [1]

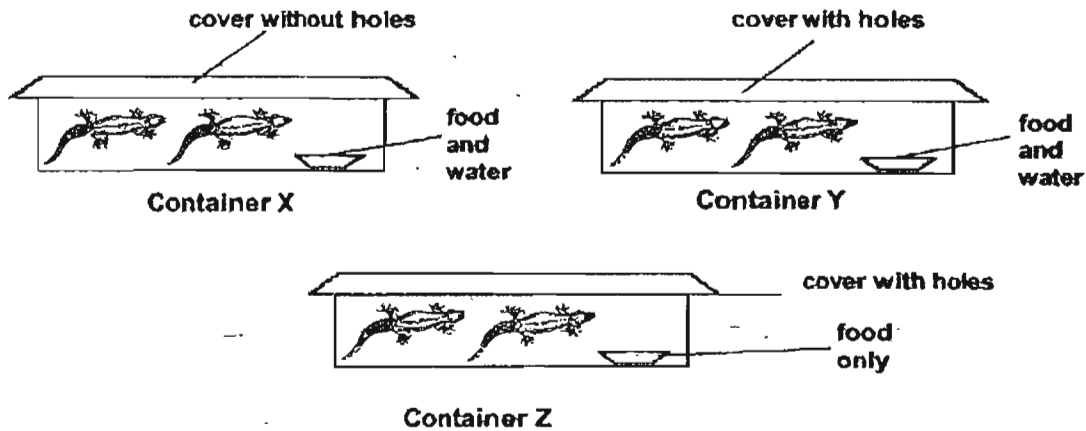
35. Elaine placed a potted plant near the window and noticed that it grew taller than before and bent towards the direction of the sunlight after 2 weeks.



Based on the information given above, what are the **TWO** characteristics of a living thing that were shown? Complete the sentence below using the characteristics identified. [2]

Living things _____ and _____

36. James set up an experiment using three containers, X, Y, and Z, as shown below. In each container, there were 2 lizards of the same breed and size.

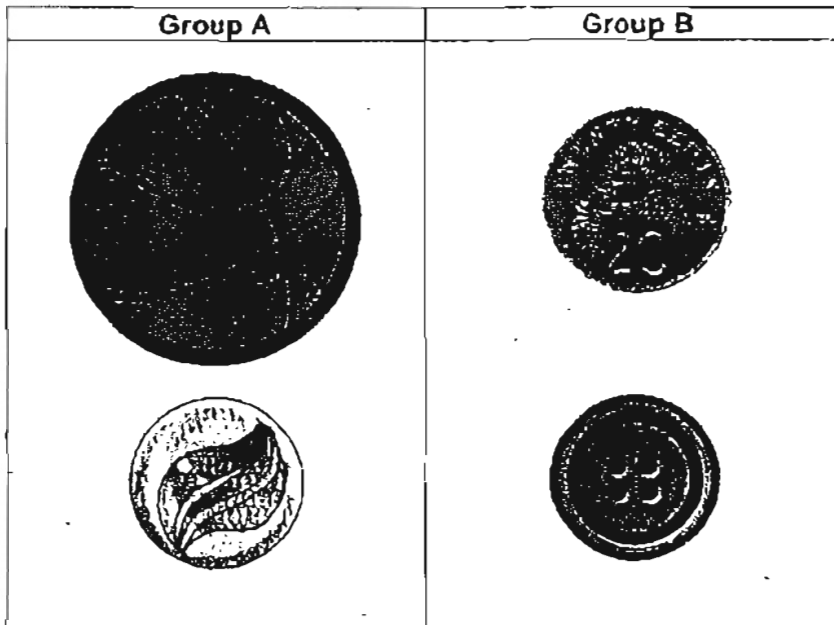


Based on the information above, answer the following questions:

- (a) In which container will the ^{lizards} ~~base~~ live for the longest period? Write letter X, Y or Z. [1]

- (b) Give a reason for your answer in (a). [1]

37. Some objects are grouped as shown below.

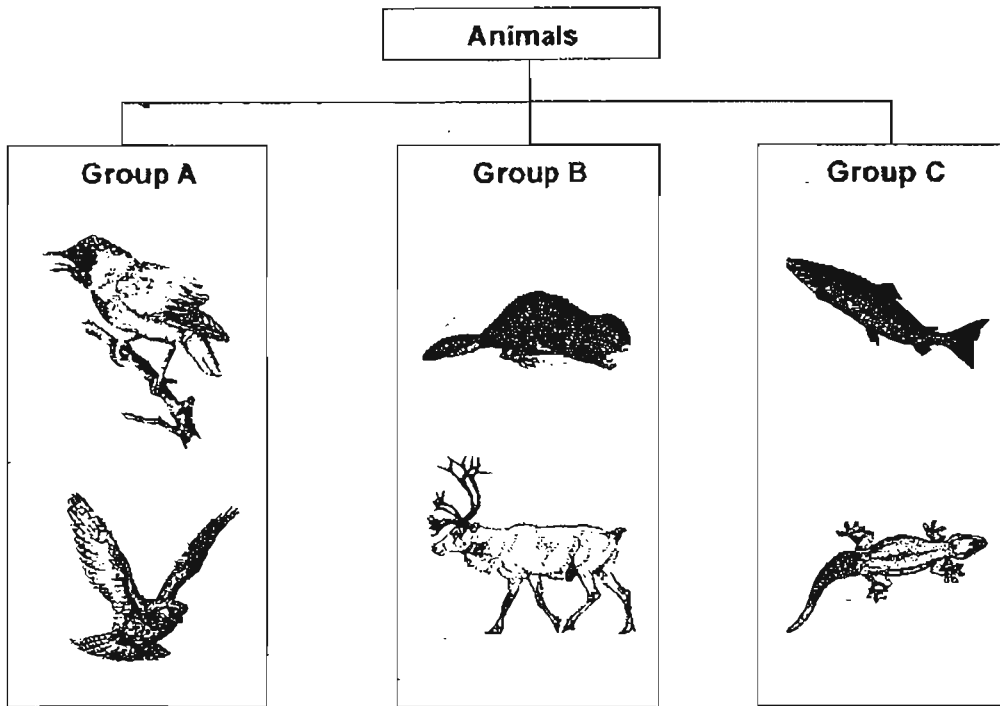


Based on the classification above, answer the following questions:

(a) State one similarity between the two groups, A and B. [1]

(b) State one difference between Group A and Group B. [1]

38. Some animals, A, B, C ^{and} ~~D~~, as shown below are classified according to their types of body covering.



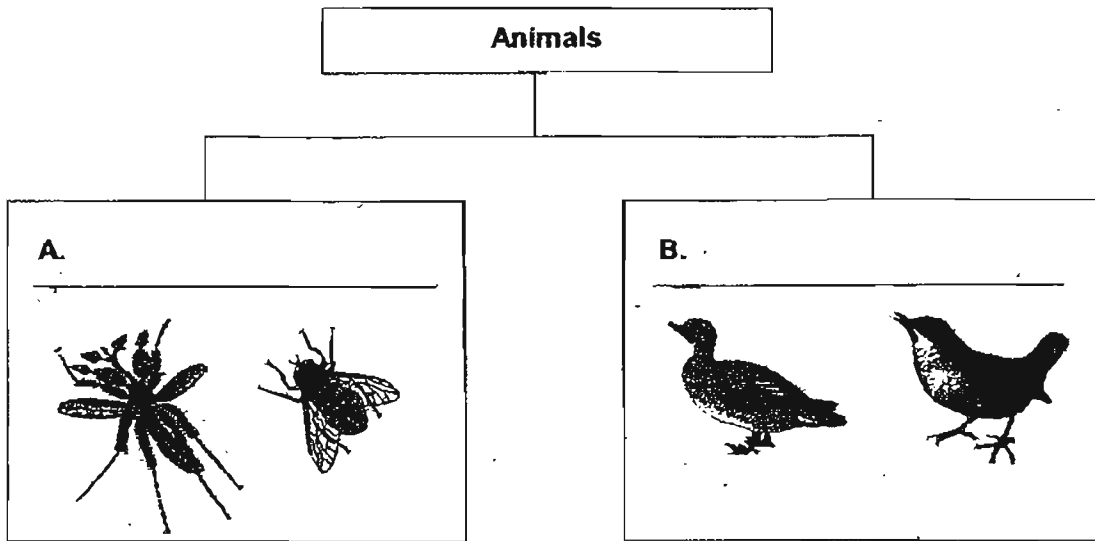
Based on the information above, answer the following questions:

- (a) Give **OTHER** example of an animal in each of the following groups: [1]

Group	Example
B	
C	

- (b) Name a characteristic of the group of animals in A based on what you can see in the pictures. [1]

39. Some animals are classified in the chart below. Fill in the boxes, A and B, with suitable headings based on their characteristics. [2]



40. Some animals were classified in the classification table below.

X	Y
guppy	platypus
tiger	turtle
monkey	emu
whale	angelfish

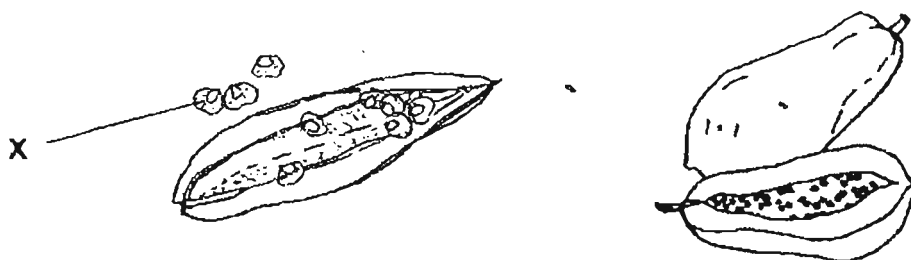
Based on the classification table above, answer the following questions:

- (a) How are the animals classified into groups X and Y? [1]

- (b) In which group, X or Y, should the following animals belong to? Write letters, X and Y, only. [1]

Animals	Group
frog	
horse	

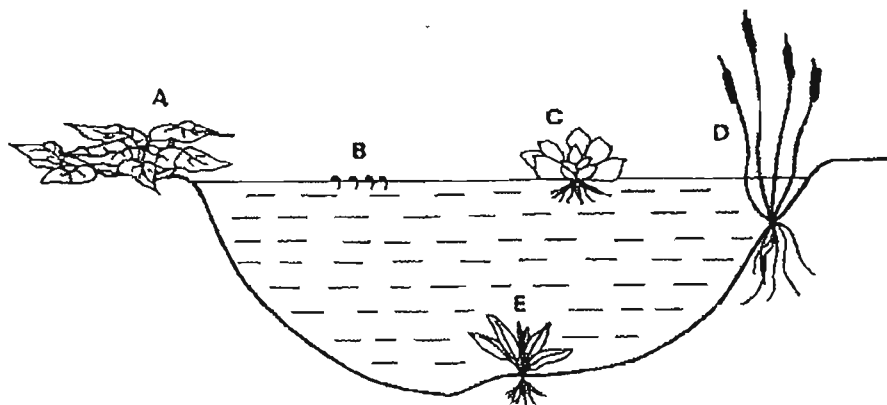
41. The diagrams below show fruits of 2 different plants.



(a) What are found in the fruits shown above? [1]

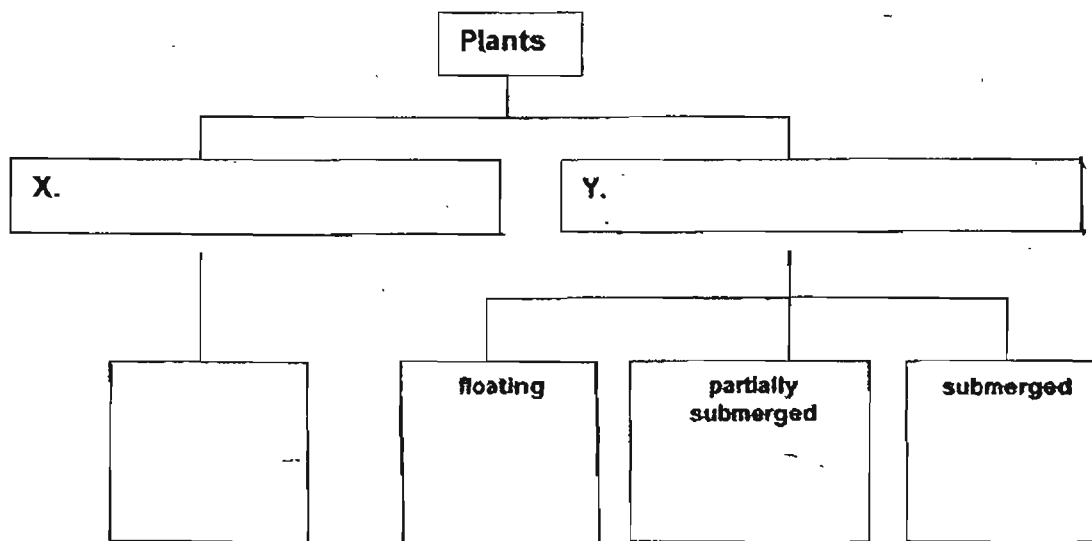
(b) What is the function of X? [1]

42. Kumar saw some plants growing near and in a pond as shown below.



(a) Suggest how Kumar should classify these plants using the classification chart below. Write the letters, A, B, C, D and E, in the boxes provided.

[2]



(b) Suggest **TWO** suitable sub-headings for boxes X and Y. Write them in the boxes, X and Y, above.

[1]

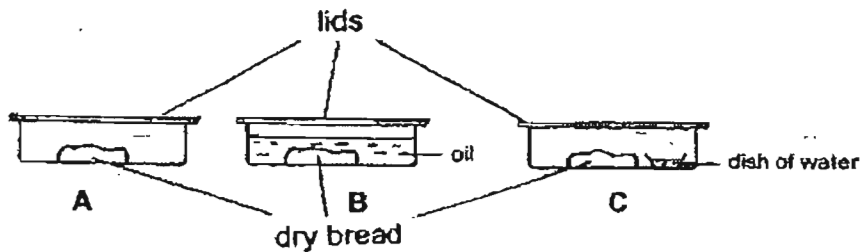
43. Two plants, A and B, as shown below, were found in a plot of land.



(a) What is common between the stems of both plants, A and B? [1]

(b) What is the difference in the way both plants grow? [1]

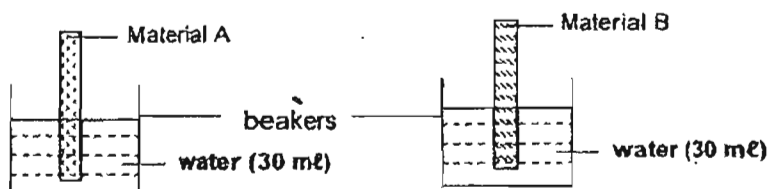
44. Tom had 3 identical containers, A, B and C. He placed into each of the containers a piece of dry bread of similar size as shown below.



(a) In which container would the piece of bread turn mouldy first? Write letter A, B or C. [1]

(b) Give a reason for your answer in (a). [1]

45. Karen had two identical strips of different materials, A and B. She dipped each of them into a beaker of water as shown in the diagrams below.



At the end of 5 minutes, Karen removed both strips and weighed each of them.

Her observations were recorded in the table shown below.

Time (min)	Mass of A (mg)	Mass of B (mg)
0	8.0	8.0
5	8.1	10.5

- (a) Based on her observations, what can Karen conclude about the property of each of the materials, A and B? [1]

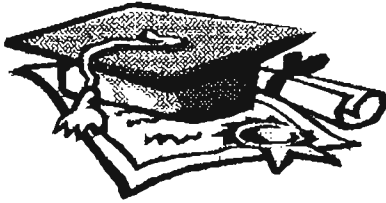
Material	Property
A	
B	

- (b) Which material, A or B, should Karen use to make a raincoat? Explain your answer. [1]

- END OF PAPER -

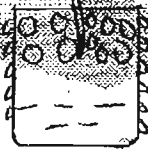
Setters :

Mr Ronald Lee
Mrs Jessie Goh
Mdm Janice Yeo
Mdm Florence Kong
Mdm Ho Sheen Yee



ANSWER SHEET

RAFFLES GIRLS' PRIMARY SCHOOL - PRIMARY 4 SCIENCE 2007
SEMESTRAL ASSESSMENT (1)

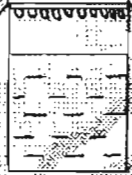
1. 3
2. 1
3. 3
4. 1
5. 3
6. 2
7. 4
8. 3
9. 2
10. 2
11. 2
12. 2
13. 4
14. 2
15. 3
16. 3
17. 3
18. 3
19. 3
20. 2
21. 4
22. 1
23. 4
24. 3
25. 4
- 26) a) i) definite shape
ii) definite volume
iii) no definite shape
b) i) Eraser
ii) Oil
- 27) a) 1: Air has mass but a shadow does not.
2: Air cannot be seen but shadow can be seen.
b) Music.
- 28) a) The balloon will inflate.
b) When the bottle is pushed into the water, air will occupy space in the bottle. Therefore, the balloon will inflate.
- 29) a) 
b) Water in the beaker loses heat to the ice.
c) The ice cubes will melt.
- 30) a) Processes C and D.
b) Container Y.
c) Container Y has the biggest exposed surface area and will evaporate the fastest.

31)a)Water vapour.

b)The heat from the same makes the puddle of water evaporate.

c)The puddle will disappear slower.

32)a)



b)Y:Boiling, evaporation and condensation.

Z:Evaporation

33)recycle water:Treat or purifying waste water.

Reuse water:Use water collected from washing clothes to wash the toilet.

Reduce water:Take a shower than taking a bath.

34)a)1:Water plants could not get light because of the layer of oil and therefore it could not photosynthesis.

2:The oil in beaker A prevents sunlight to pass through the water. Therefore, the plants cannot photosynthesis.

b)The oil in beaker A prevents the air from going into the water, therefore, the fishes will die.

35)Living things respond to changes around them and grows.

36)a)Y

b)The lizards in container Y have food, water and air to survive.

37)a)The things in group A and B are round.

B)Group A is thicker than group A but Group B is thinner than group B.

38)a)B:whale

C:Angle fish

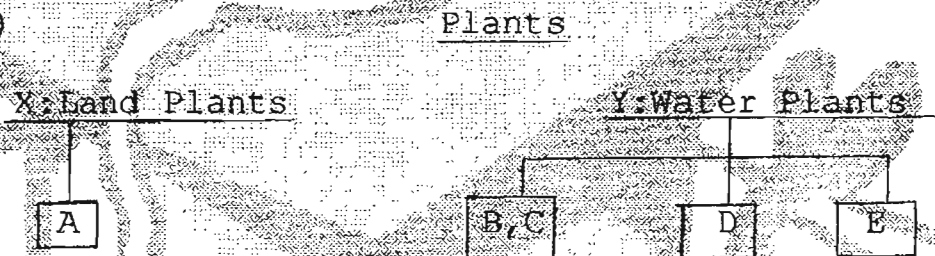
b)They have wings

39) A: Have 6 legs
B: Have 2 legs

40) a) They are classified in the way they reproduce.
b) Y, X

41) a) Seeds
b) It allows the plant to reproduce.

42) a) b)



43) a) Both stems are weak.
b) Plant A grows on the ground but plant B grows on a stick.

44) a) C.
b) It has water and air to survive.

45) a) A: Does not get wet easily.
B: Easily getting wet.
b) Material A. Material A does not take in water.

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