ANGLO – CHINESE SCHOOL (JUNIOR)

SEMESTRAL ASSESSMENT 1 – 2004

SCIENCE

PRIMARY FOUR

BOOKLET A

Name : _____( )

Class : PRIMARY 4 ( )

Date : 13th May 2004

30 Questions

60 marks

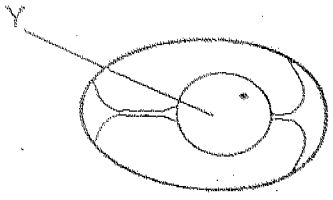
Total time for Booklets A and B : 1 hour and 30 minutes

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

Section A (60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Choose the correct option (1, 2, 3 or 4) and shade the correct oval on the Optical Answer Sheet (OAS).

1. Which of the following statements is correct about the part marked Y in the diagram shown below?



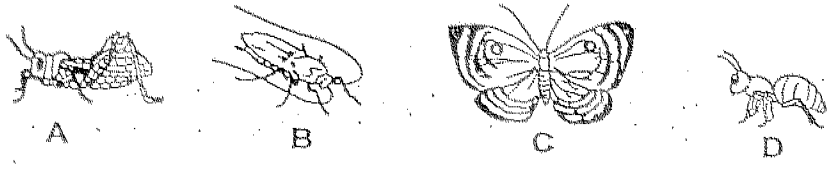
(1) It provides air for the chick to breathe.
(2) It is hard and provides protection for the chick.
(3) It is jelly-like and provides warmth for the chick.
(4) It provides food for the chick when it is developing.

2. Arrange the statements to show the correct order of the germination of a seed.

A: The roots appear.
B: The shoot appears.
C: The seed absorbs water.
D: The seedling grows into a plant.

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

3. The insects below are at the adult stage. Which of them have young that do not look like their adult?



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

4. Study the table below.

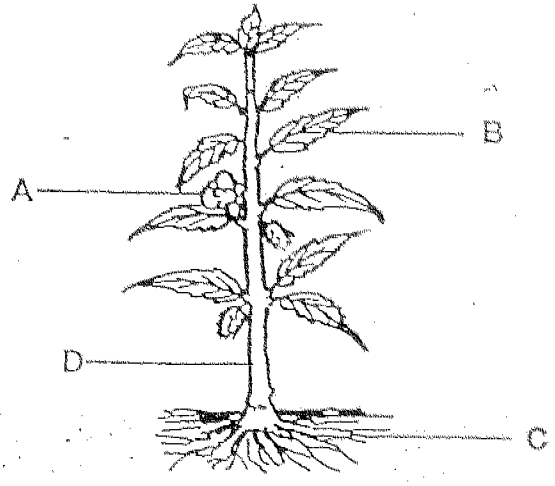
Non-living things

Group A	Group B	Group C
Postcard	Tie	Tyre
Exercise book	Socks	Eraser
Writing pad	Blouse	Balloon

The objects above are grouped according to _____.

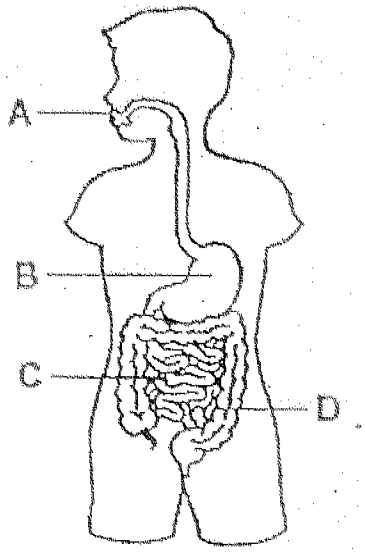
(1) their shape and size
(2) what they are used for
(3) what they are made of
(4) their colour and weight

5. Which of the following parts of the plants help in the process of photosynthesis?



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

6. Study the diagram below.



Which of the following is correct?

	Digestion starts at:	Digestion ends at:
(1)	A	B
(2)	A	C
(3)	B	C
(4)	B	D

7. Which of the following statements about green plants are false?

A: They bear leaves, flowers and fruits.
B: They have stems to hold them upright.
C: They are able to reproduce from seeds.
D: They photosynthesize in the presence of light.

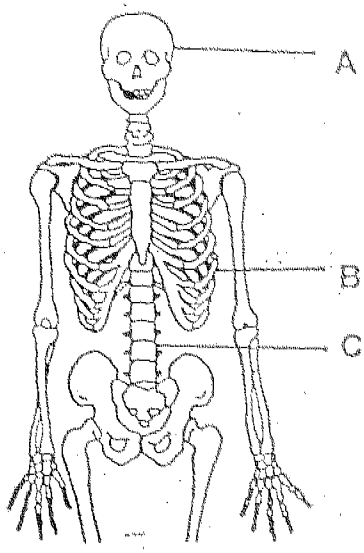
(1) A only
(2) A and B only
(3) A, B and C only
(4) A, B, C and D

8. Animals come in many different colours. In what ways are the colours useful to them?

A: Some animals use colours to camouflage themselves.
B: Some male animals use their bright colours to attract the females.
C: Some animals use their colours to warn predators that they either taste bad or are poisonous.

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

9. Study the diagram below.



Which of the following is true?

Parts	Functions
A	Protects the brain
B	Protects the spinal cord
C	Protects the heart and stomach

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

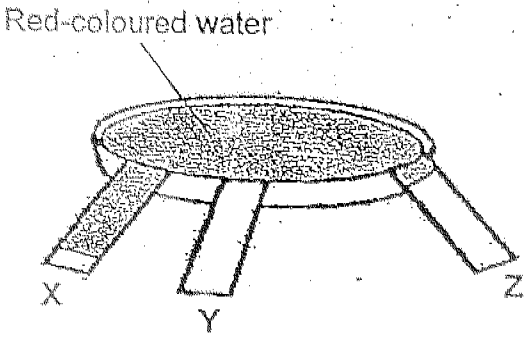
10. Study the following description of animal K.

Animal K
It has hair. It eats plants. It lives underground. It hops on its hind legs. It gives birth to young alive.

Animal K is most likely to be a _____.

(1) frog
(2) rabbit
(3) squirrel
(4) kangaroo

11. Bobby conducted the experiment as shown below. He placed three different materials X, Y and Z of equal lengths, into a shallow dish containing some red-coloured water.

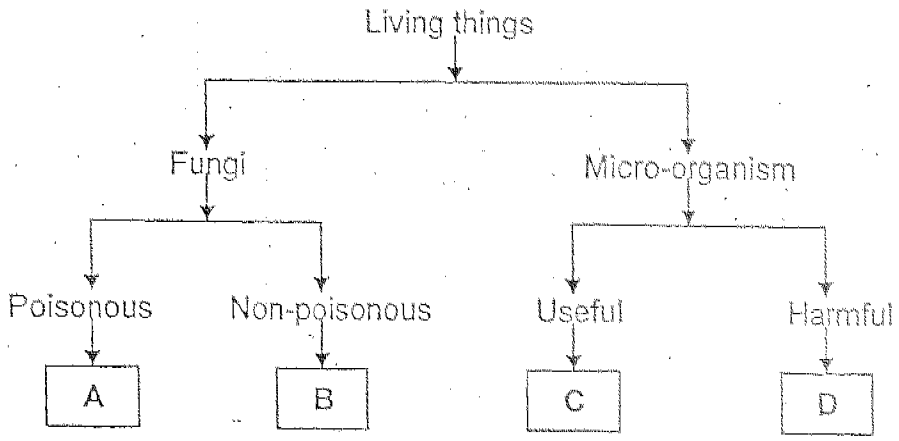


The shaded portion shows the amount of coloured water absorbed by the materials after 2 minutes.

Which of the following materials could X, Y and Z be made of?

	X	Y	Z
(1)	cardboard	plastic	tissue
(2)	plastic	tissue	cardboard
(3)	tissue	plastic	cardboard
(4)	cardboard	tissue	plastic

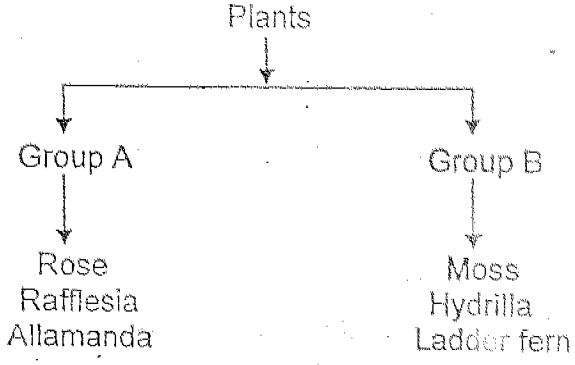
12. Study the classification table below.



Which of the following could be B and C?

	B	C
(1)	Jew's ear	Bacteria
(2)	Puff balls	Mould
(3)	Bracket fungus	Moss
(4)	Button mushroom	Yeast

13.



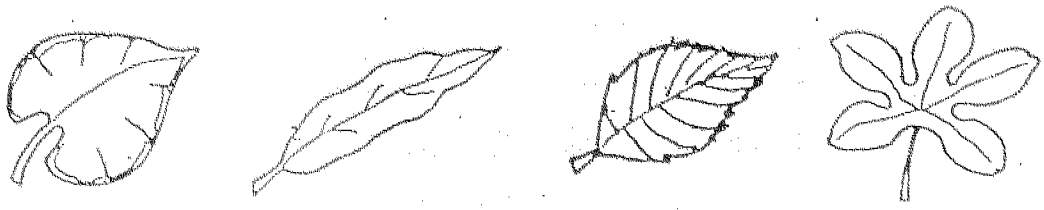
How are the plants grouped?

	Group A	Group B
(1)	Edible	Inedible plants
(2)	Green plants	Non-green plants
(3)	Flowering plants	Non-flowering plants
(4)	Poisonous plants	Non-poisonous plants

14. Some leaves are sorted into two groups as shown below.

Group R	Leaves with toothed edges
Group S	Leaves with entire edges

Which of these leaves should be placed in Group S?



A B C D

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

15. Ken investigated the properties of 3 substances P, Q and R and recorded his observations in the table below.

Property	P	Q	R
Flows easily	✓	✓	x
Occupies space	✓	✓	✓
Has definite shape	x	x	✓
Can be compressed	✓	x	x

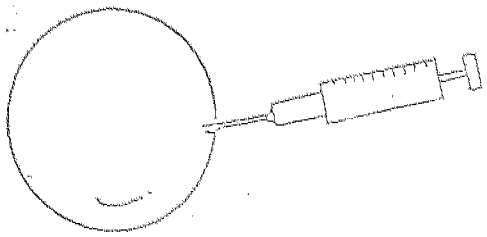
Which of the following could represent substances P, Q and R?

	P	Q	R
(1)	Eraser	Water	Carbon dioxide
(2)	Mercury	Nitrogen	Pebble
(3)	Oxygen	Oil	Marble
(4)	Helium	Book	Milk

16. Substance J freezes at 15°C and boils at 145°C. At what temperature will it be a solid?

(1) 10°C
(2) 35°C
(3) 105°C
(4) 158°C

17. Tom used a 15ml syringe to draw 10ml air from a ball with a capacity of 300ml. What is the expected volume of air in the syringe and the ball?



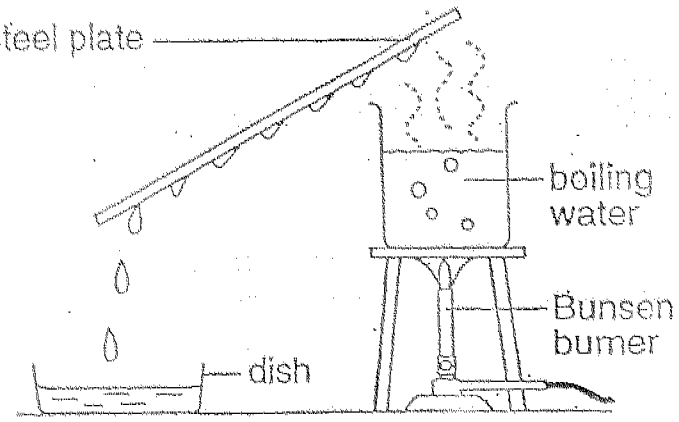
	Volume of air in syringe (ml)	Volume of air in ball (ml)
(1)	10	290
(2)	15	285
(3)	10	300
(4)	15	300

18. Aaron wanted to find out which liquid, K, L or M, will evaporate first. He carried out the experiment using the three different liquids. To conduct a fair test, which of the following variables should be kept the same?

A: Type of liquid used
B: Volume of liquid used
C: Type of container used
D: Place where set-ups will be left

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

19. Leonard set up the experiment shown below.



This experiment shows that _____.

A: steam is formed when water boils.
B: water vapour loses heat during condensation.
C: water changes into water vapour only when boiling occurs.

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

20. Which of the following statements about the use of water is correct?

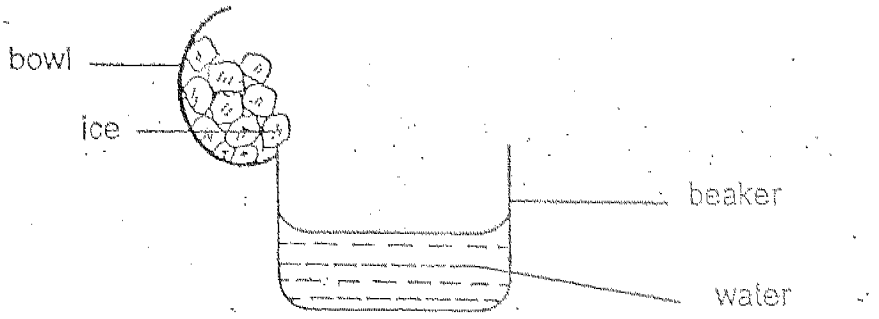
A: Water helps to digest food.
B: Water is essential for survival.
C: Water enables seeds to germinate.

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

21. Which of the following activities conserves water?

(1) Using a hose to wash a car.
(2) Taking a bath instead of a shower.
(3) Leaving the tap on while brushing your teeth.
(4) Watering plants with water that was used to wash rice.

22. Daniel had a bowl of ice and a beaker of water. He poured all the ice into the beaker of water.



Which of the following will happen in the next ten minutes?

A: Ice loses heat
B: Water loses heat
C: Melting will occur
D: Evaporation will occur
E: Condensation will occur

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

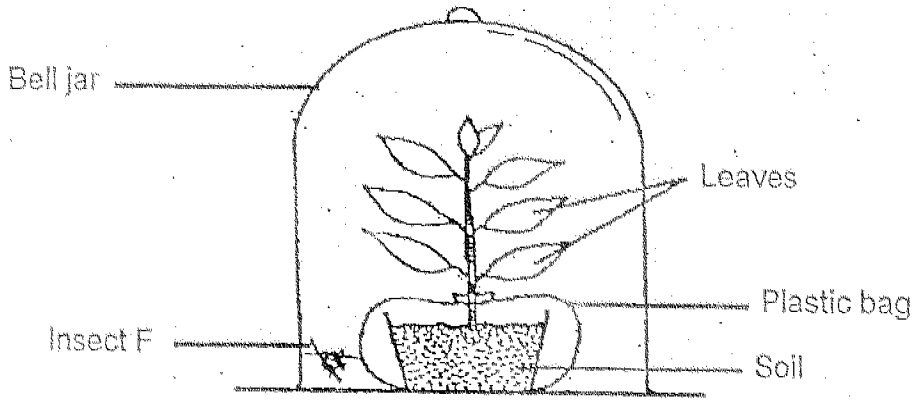
23. Which statement correctly describes the use of the gas mentioned?

(1) Oxygen is used to cool machinery.
(2) Oxygen is used to inflate balloons.
(3) Carbon dioxide is needed for burning.
(4) Carbon dioxide is used in making fizzy drinks.

24. Which of the following animals have been matched with the correct respiratory system?

	Animal	Respiratory System
(1)	Beetle	Lungs
(2)	Frog	Lungs
(3)	Dolphin	Gills
(4)	Earthworm	Gills

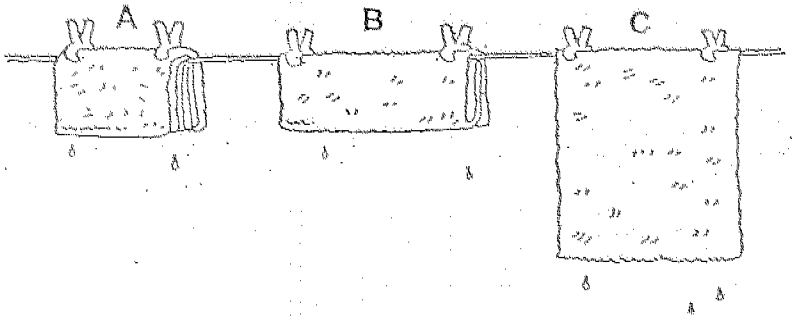
25. Mavis set up the following experiment. Water droplets were seen on the inner surface of the bell jar. Where did they come from?



A: Soil
B: Leaves
C: Insect F
D: Air in the bell jar

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

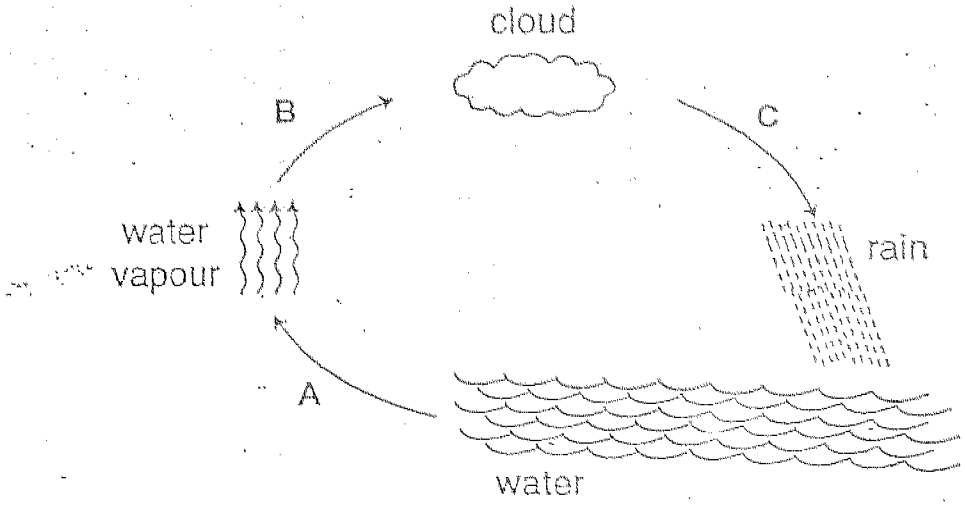
26. Adrian conducted an experiment with 3 identical rugs, A, B and C. He wet the rugs with equal volumes of water and hung them up as shown below. Rug A was folded three times, Rug B was folded twice and Rug C was unfolded.



He was trying to test the effect of _____ on the rate of evaporation.

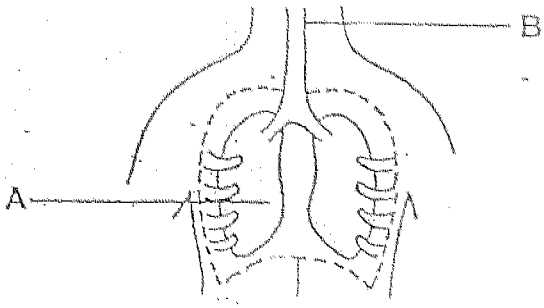
(1) wind
(2) humidity
(3) temperature
(4) exposed surface area

27. In the water cycle shown below, which arrow(s) in the water cycle represent(s) heat gained?



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

28. Which of the following correctly describes the functions of parts A and B?

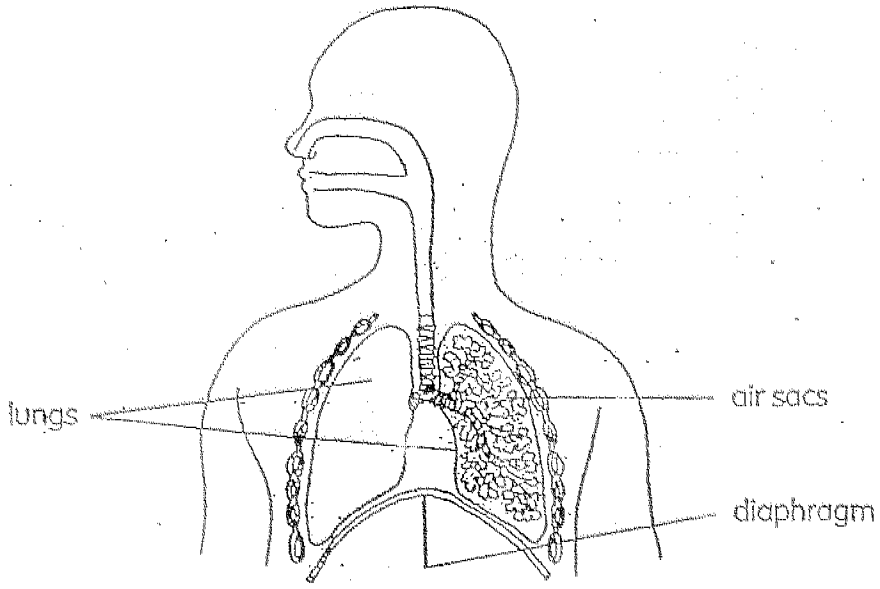


	A	B
(1)	To digest food	To deliver chewed food to other parts of the digestive system
(2)	To send oxygen around the body	To allow inhaled air to fill the lungs
(3)	To absorb nutrients and minerals from digested food	To deliver chewed food to other parts of the digestive system
(4)	To allow the exchange of gases to take place	To allow inhaled air to fill the lungs

29. Samples of air from a park and an incineration plant, where rubbish is burnt, were collected and analysed. Which of the following best describes the amount of oxygen and carbon dioxide in the air samples obtained?

	Park		Incineration Plant	
	Oxygen level	Carbon Dioxide level	Oxygen level	Carbon Dioxide level
(1)	high	low	high	low
(2)	high	low	low	high
(3)	low	high	low	high
(4)	low	high	high	low

30. When we breathe in, the diaphragm _____ while our lungs _____.



	Diaphragm	Lungs
(1)	moves upwards	expand
(2)	moves downwards	contract
(3)	moves upwards	contract
(4)	moves downwards	expand

Section B (40 marks)

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

31. Adrian conducted a few experiments on Materials A, B and C. He recorded the results in the table below.

	Material A	Material B	Material C
Is it flexible?	No	Yes	Yes
Is it waterproof?	Yes	Yes	No
Can it be stretched?	No	No	Yes
Will it break when dropped?	Yes	No	No

a) Which material is most suitable to make a handkerchief? [1]

_____

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

_____

_____

c) Give an example of the type of material you would use in (a). [1]

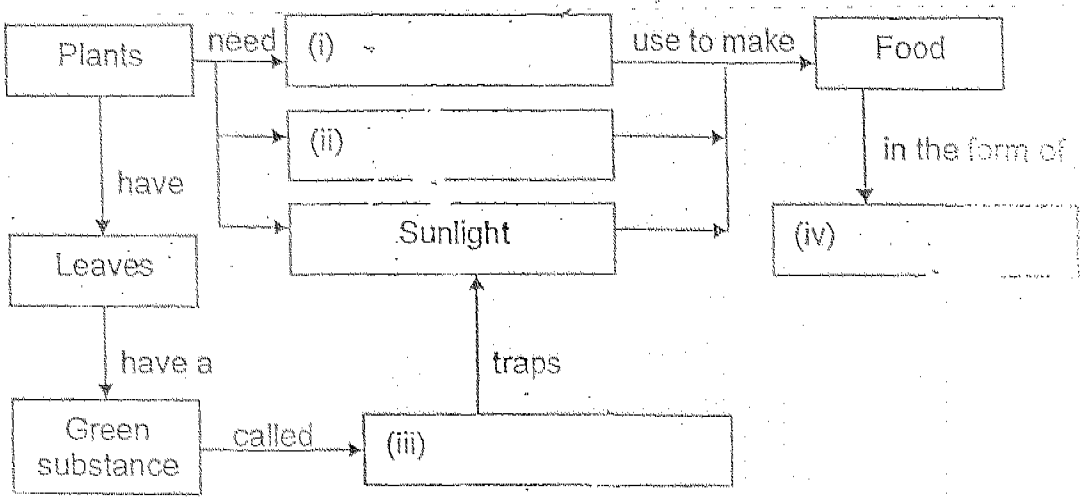
_____

32. Water has many uses. Put a tick (✓) in the boxes that show how water can be used. [2]

To make dry ice	
To cool machinery	
To dissolve other substances	

33. Fill in the blanks with the most appropriate words. [2]

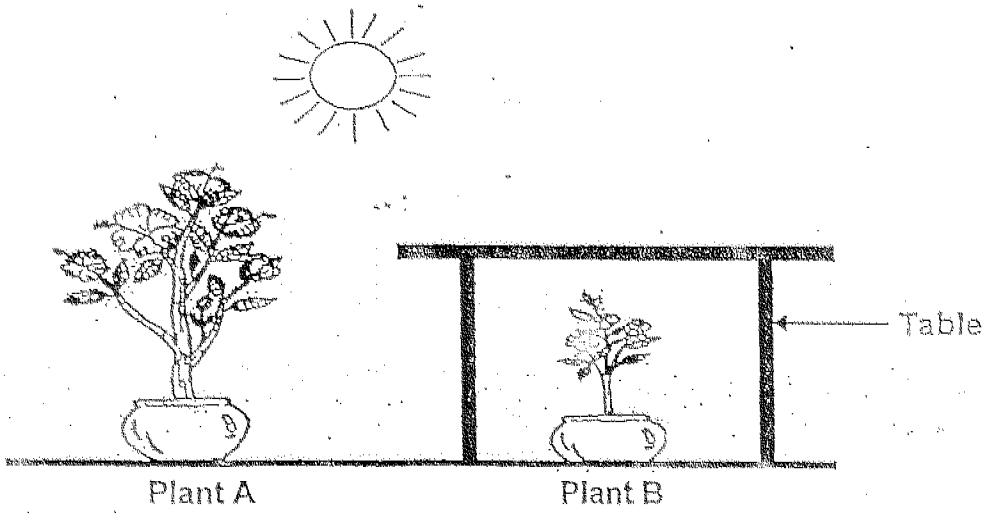
a)



b) Name the process that is taking place in (a). [1]

_____

34. Jack wanted to do an experiment to find out if light is necessary for plants to grow. He placed two potted plants as shown in the diagram below. He then watered the plants with the same amount of water every day.



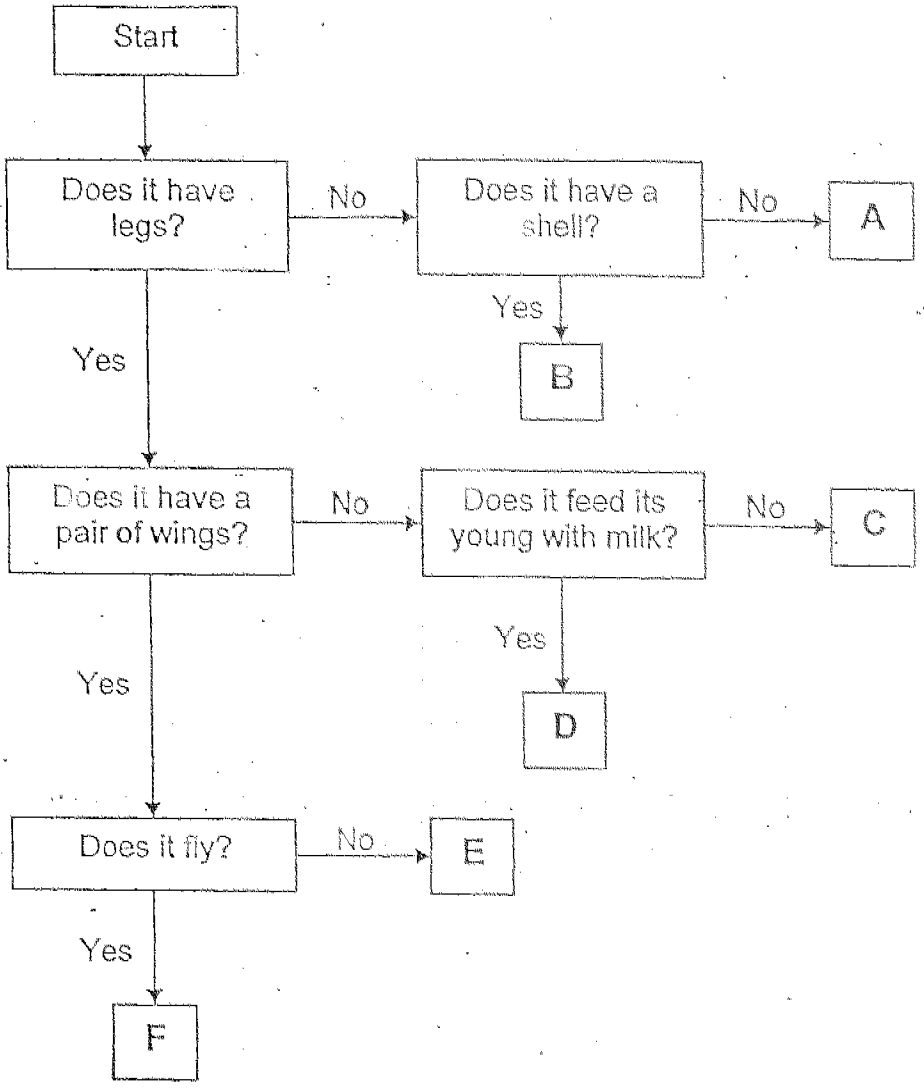
a) Did Jack carry out the experiment correctly? [1]

_____

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

_____

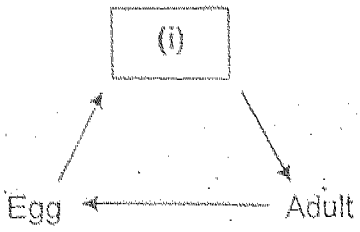
35. Study the flow chart shown below.



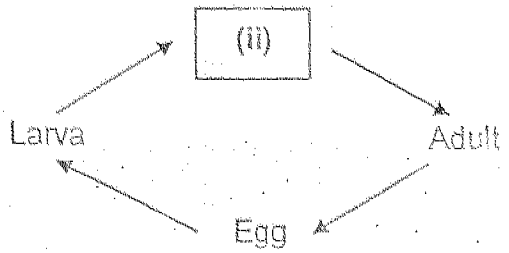
Write the letters that represent the animals in the boxes below. [3]

Centipede	
Emu	
Beetle	
Platypus	
Snail	
Cobra	

36. The diagram shows the life cycle of two animals.



Life Cycle of A



Life Cycle of B

a) Name the missing stages from the life cycles. [1]

Life Cycle of A: (i) _____

Life Cycle of B: (ii) _____

b) Name an animal that goes through the life cycles. [1]

Life Cycle of A: _____

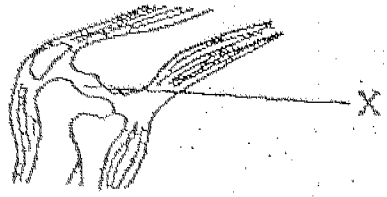
Life Cycle of B: _____

c) What happens during the larva stage in the life cycle of B? [1]

_____

_____

37. Study the diagram of the knee as shown below.



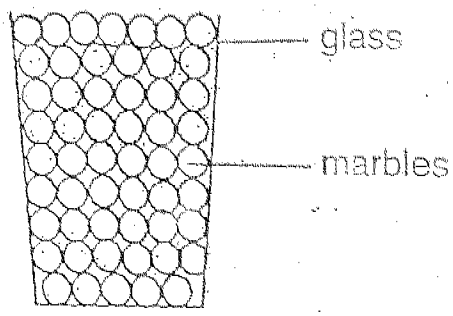
a) Name the part that is marked X. [1]

_____

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

_____

38. Vincent wanted to find out the volume of a glass, so he filled it to the brim with marbles. He concluded that the volume of the glass is the volume of the marbles in the glass.

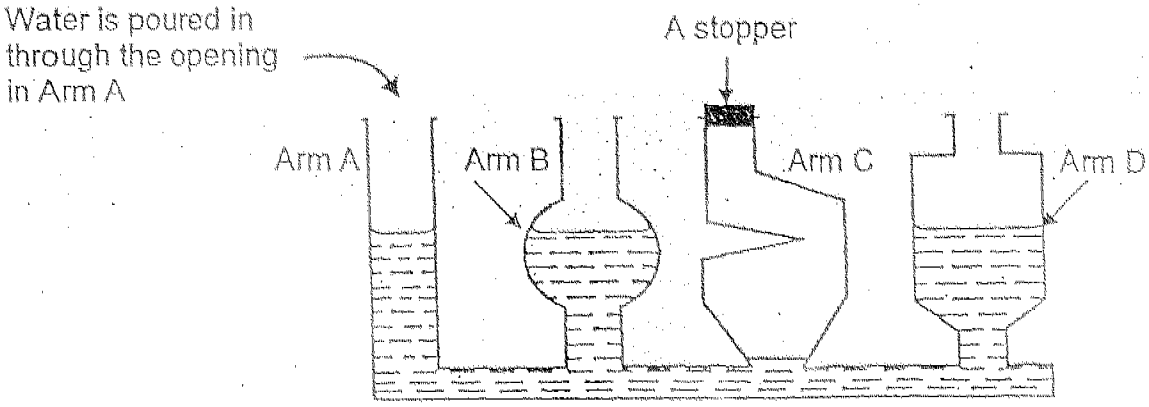


a) Was Vincent correct? [1]

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

c) State how you can prove your answer in (b). [1]

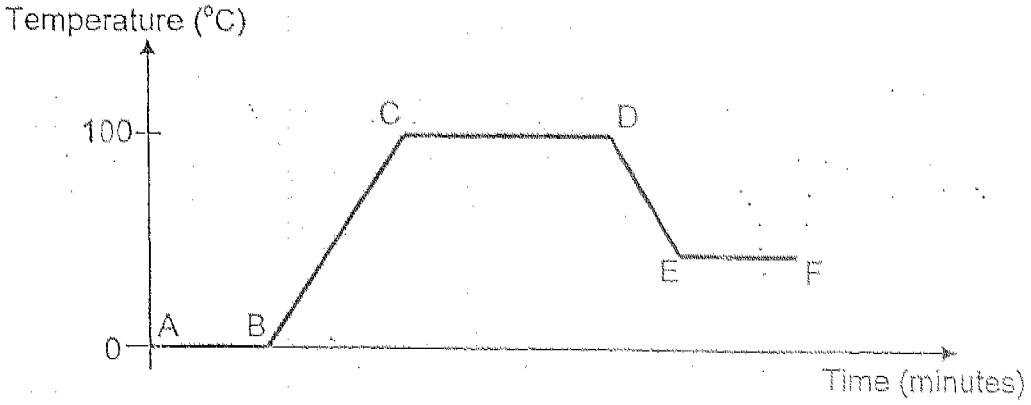
39. Study the diagram below.



a) Explain why the water level in Arm C is lower than the water levels in the Arms A, B and D of the connecting container. [1]

b) Suggest a way to make the water levels the same in all the arms. [1]

40. Maggie heated a beaker of ice until it boils. The changes in the temperature of the ice are presented in the graph below.



a) Identify the point where melting was completed: Point _____ [1]

b) Explain what happens to the water at section DE on the graph. [1]

_____

_____

c) Which section of the graph shows water at room temperature? [1]

_____

_____

41. Harry ate some noodles for lunch. During assembly, he felt sick and vomited.

a) From which part of Harry's body did the vomit come from? [1]

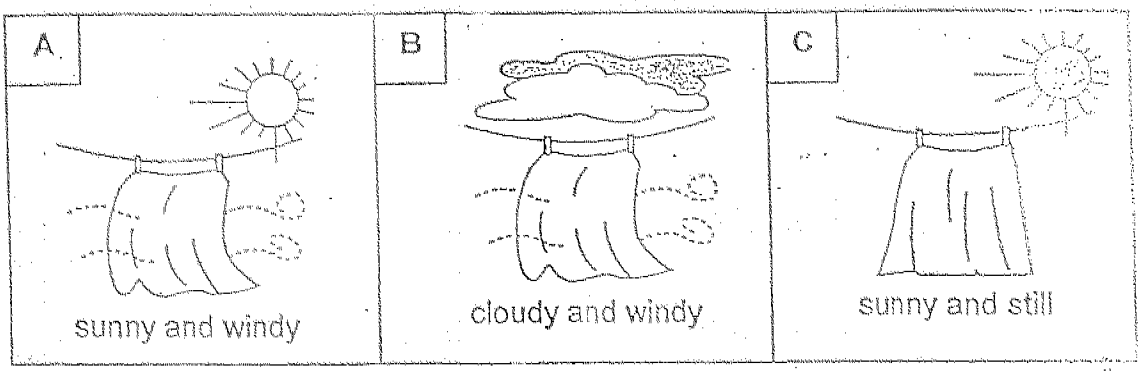
_____

b) Why was the vomit lumpy and watery? [1]

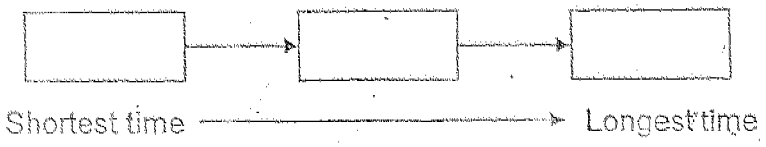
_____

_____

42. Emily wanted to find out how temperature, wind and exposed surface area will affect the rate of evaporation. She used similar towels and the same amount of water for all her set-ups. The diagrams below show the conditions of her ~~four~~ three set-ups.



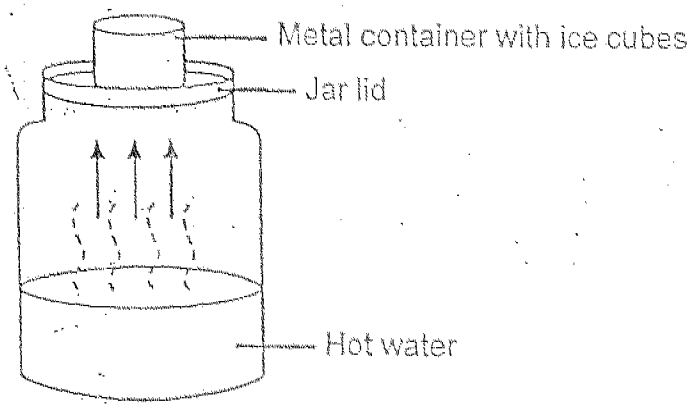
a) Arrange the set-ups A, B and C according to the time taken to dry in the boxes below. [1]



b) Which 2 set-ups would you use to test the effect of wind on the rate of evaporation? [1]

c) Explain your choice in (b). [1]

43. Cindy set up the experiment as shown below.



a) State what you would observe on the underside of the jar lid after a few minutes. [1]

_____

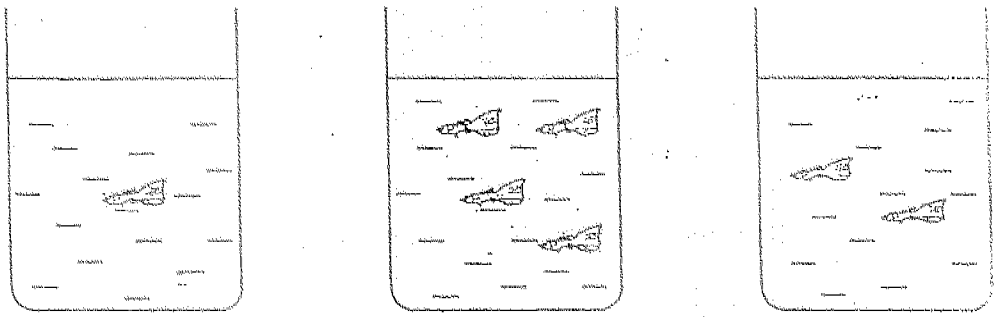
_____

b) Explain your observation in (a). [1]

_____

_____

44. Wayne collected water from different parts of Sunshine Island to find out which water sample is ~~least~~ suitable for aquatic life. He poured 500ml of water from each sample into three beakers. He then put four fish into each beaker and left them undisturbed for three days. The diagrams show the number of fish alive in the beakers on the last day.



Beaker A Beaker B Beaker C

a) Which beaker contains water that is <u>least suitable</u> for aquatic life? [1]

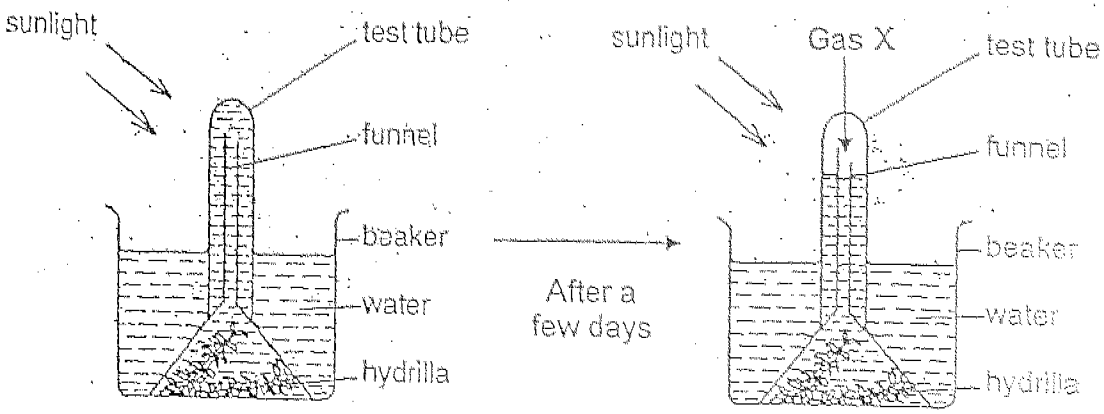
_____

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

_____

_____

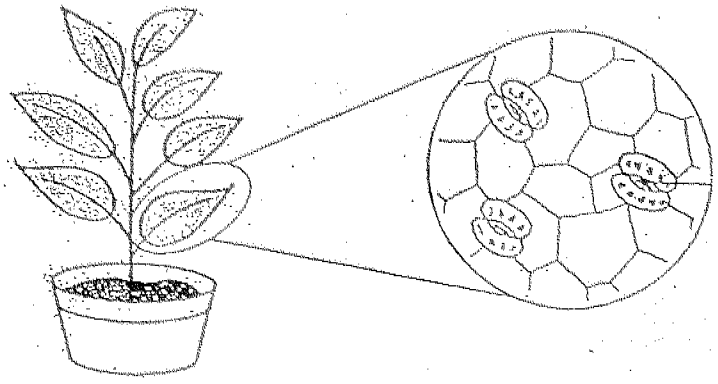
45. Jason set up the experiment shown below and left it undisturbed over a few days.



a) What is gas X? [1]

b) Explain how gas X was collected in the test tube. [1]

46. The diagram shows a plant and the stomata found on the underside of a leaf.



stomata on the underside of a leaf

a) Name a function of the stomata. [1]

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b) William wants to find out what will happen to the leaf if there are no stomata. His friends offered some ways to help him achieve his objective.

Tina : You can apply oil to the upper side of the leaf.
Joe : No, you need to apply oil to the underside of the leaf.
Kenny : I think you need to apply oil on both sides of the leaf.

Whose suggestion is the best and why? [2]

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ANGLO CHINESE SCHOOL (JUNIOR)
semestral assessment 1 - 2004
PRIMARY FOUR SCIENCE

1) 4
2) 2
3) 3
4) 3
5) 4
6) 2
7) 3
8) 4
9) 1
10) 2
11) 3
12) 4
13) 4
14) 1
15) 3
16) 1
17) 3
18) 3
19) 1
20) 3
21) 4
22) 4
23) 4
24) 2
25) 4
26) 4
27) 1
28) 4
29) 2
30) 4
31) a) Material C
b) All the characteristic of a handerchief. A handkerchief is made of cotton.
c) Glass
32) To dissolve other substances.
33) a) i) carbon dioxide ii) water
iii) chorophyll iv)
b) Photosynthesis.
34) a) No
b) The plant B is placed under the table and the light can pass through.
35) C
E
F
D
B
A
36) a) i) nymph ii) pupa
b) cockroach butterfly
c) It will eat in preparation of being a pupae.
37) a) Hinge joint b) Move the leg.
38) a) No.
b) There are tiny air spaces in between the marbles.
c)
39) a) There is air in the Arm C and a stopper has stopped the air from getting out.
b) Take out the stopper from Arm C.
40) a) B
b) It is cooling down to room temperature.
c) EF
41) a) The stomach
b) The food has been digested into simpler substances.
42) a) A C B b) A and C
c) They are the same except the wind conditions are different.
43) a) Water droplets
b) The hot water vapour from the hot water condenses on the cool surface of the cup and so water droplets are formed.
44) a) A b) Only one fish survived the water condition in beaker A.
45) a) oxygen b) The hydrilla photosynthesized d to sunlight to produce oxygen.
46) a) It takes in air from the surroundings.
b) Kenny. There is stomata on both sides of the leaf and William wants to find out what will happen if there is no stomata in the leaf.