

CATHOLIC HIGH SCHOOL
PRIMARY FIVE
CONTINUAL ASSESSMENT 1, 2004

SCIENCE
EM 1 / EM 2

Name: _____ ()

Class : Primary 5 _____

Date : 4 Mar 2004

BOOKLET A

30 Questions
60 Marks

Total Time for Booklets A & B : 1 hour 30 minutes

Instructions to Candidates

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

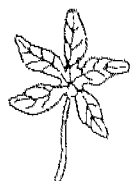
Section A: Multiple Choice Questions (60 marks)

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

1. Which one of the following groups of fruits contains only one seed?

- (1) Guava, longan and lychee
- (2) Durian, jackfruit and starfruit
- (3) Longan, avocado and rambutan
- (4) Tomato, dragon fruit and pomegranate

2. Look at the leaf given below.



Which one of the following plants has a leaf that is shaped like the leaf above?

- (1) Orchid
- (2) Tapioca
- (3) Lime plant
- (4) African violet

3. Which one of the following statements is true?

- (1) Non-flowering plants grow in water only.
- (2) Flowering plants do not have chlorophyll.
- (3) Flowering plants can reproduce from spores.
- (4) Some non-flowering plants can make their own food.

4. The following plants are grouped according to _____.

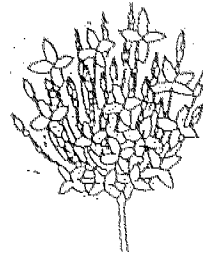
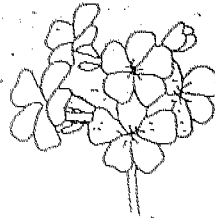
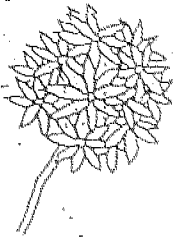
Group A	Group B
Orchid	Bird's nest fern
Lotus	Seaweed
Rose	Moss

- (1) land and water plants
- (2) indoor and outdoor plants
- (3) flowering and non-flowering plants
- (4) poisonous and non-poisonous plants

5. Which one of the following is a partially submerged aquatic plant?

- (1) Arrowhead
- (2) Allamanda
- (3) Bougainvillea
- (4) Water hyacinth

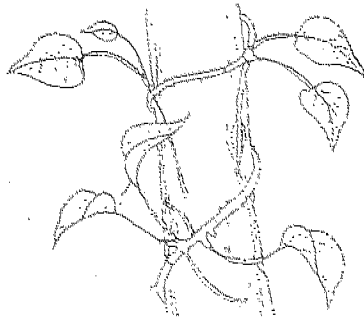
6. Study the pictures below carefully.



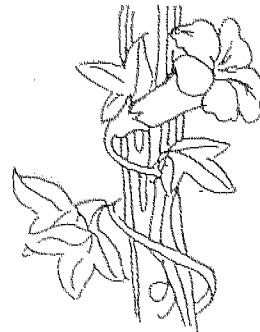
How are the flowers alike?

- (1) They grow singly.
- (2) They grow in clusters.
- (3) They have the same shape.
- (4) They have the same number of petals.

7. Study the two plants below carefully.



Money Plant

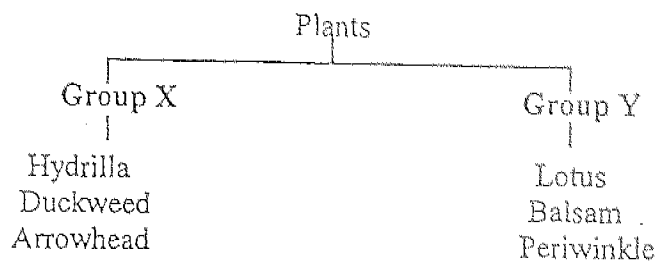


Morning Glory Plant

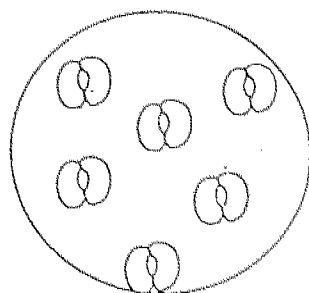
Which one of the following reasons explains why the plants need to climb up a support?

- (1) They have thorns.
- (2) They have no roots.
- (3) They have big leaves.
- (4) They have weak stems.

8. The following plants are grouped according to where they can be found. Which plant in the following groups is classified incorrectly?



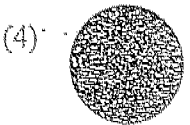
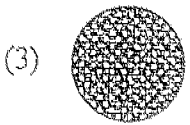
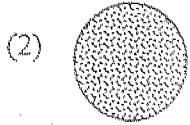
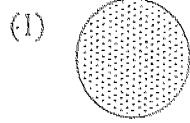
- (1) Lotus
(2) Balsam
(3) Hydrilla
(4) Duckweed
9. The water needed for photosynthesis to occur is obtained _____
- (1) through the roots of the plants
(2) through its stomata of the plants
(3) through gaseous exchange within the plant itself
(4) through gaseous exchange with the environment
10. The diagram below shows a sample of the specialised cells found on the underside of a leaf.



How do these cells help the plant during the process of photosynthesis?

- A They control the amount of water needed for the process.
B They allow oxygen and water vapour to leave the plant.
C They contain all the chloroplasts needed for the process.
D They allow carbon dioxide to enter the plant.
- (1) A and C only
(2) B and D only
(3) A, B and C only
(4) B, C and D only

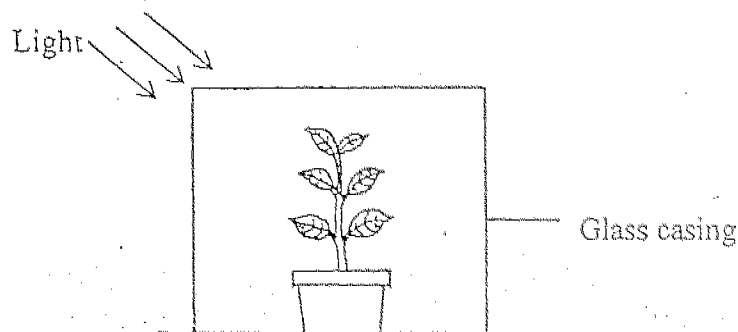
11. The diagrams below are shadows formed from samples of water obtained from 4 different ponds as light is shone through their beakers. In which one of these samples would cabomba photosynthesize the best?



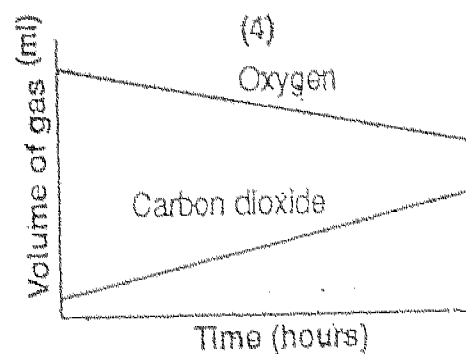
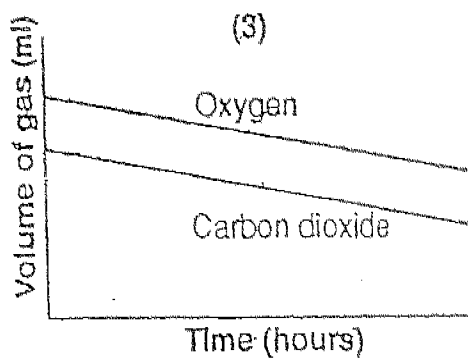
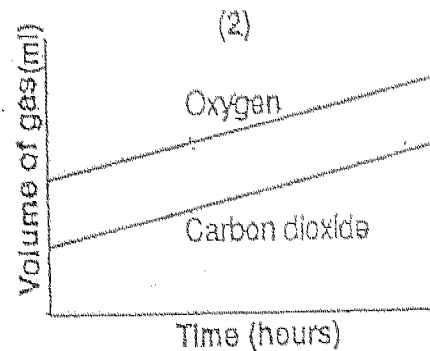
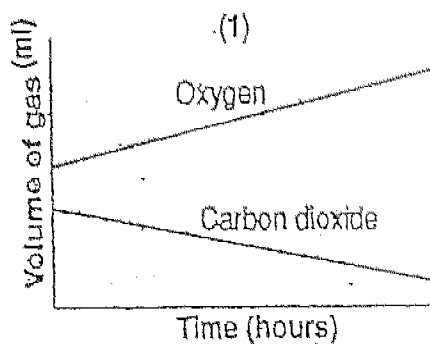
12. Which one of the following groups of food items will turn iodine solution dark blue immediately when it is added?

- (1) Apple, peanut and fish
- (2) Potato, yam and maize
- (3) Rice grains, chicken fillet and oranges
- (4) Cooked brocolli, straw mushrooms and lemon

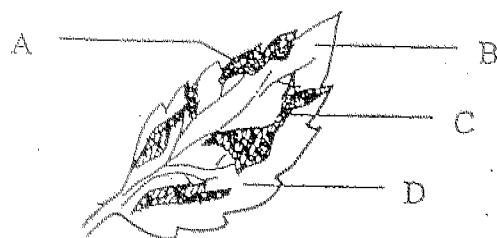
13. A well-watered plant is placed in a glass casing as shown in the diagram below. The amount of oxygen and carbon dioxide is measured throughout the investigation.



Which one of the following graphs correctly shows the changes in the amount of carbon dioxide and oxygen in the casing after 5 hours?

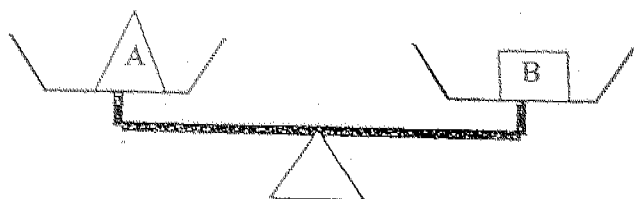


14. Jamie tested a variegated leaf of a hibiscus plant for starch. Only the shaded portions of the variegated leaf shown below contain chlorophyll.



Which parts will turn iodine solution dark blue?

- (1) A and B only
 - (2) B and D only
 - (3) A and C only
 - (4) A, B, C and D
15. Jack smeared some cooking oil on the upperside and lowerside of some leaves of a certain plant. He then observed that after some time, the leaves began to turn yellow and eventually dropped off. Which one of the following best explains Jack's observation?
- (1) The oil stopped the leaves from receiving light.
 - (2) The oil removed the chlorophyll from the leaves.
 - (3) The leaves were 'choked' by the layer of oil and water was not able to enter.
 - (4) The leaves were 'choked' by the layer of oil and gaseous exchange could not take place.
16. The diagram below shows a simple beam balance.



The balance stayed level when objects A and B were placed on each side. This shows that the two objects have the same _____.

- (1) mass
- (2) shape
- (3) volume
- (4) material

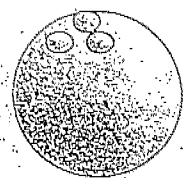
17. Which one of the following statements is true?

- (1) Matter is anything that has shape.
- (2) Matter that can be compressed must be a liquid.
- (3) Matter that has the same mass has the same volume.
- (4) Matter that can be compressed easily does not have a definite volume.

18. Which one of the following groups of things consists of examples of all three states of matter?

- (1) Rain, soil, ice
- (2) Air, wind, snow
- (3) Dew, snow, wind
- (4) Air, stones, snow

19. Look at the four objects below which are not drawn to scale.



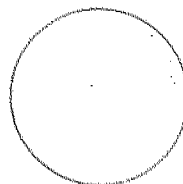
A: Bowling ball



B: Ping Pong ball



C: Marble

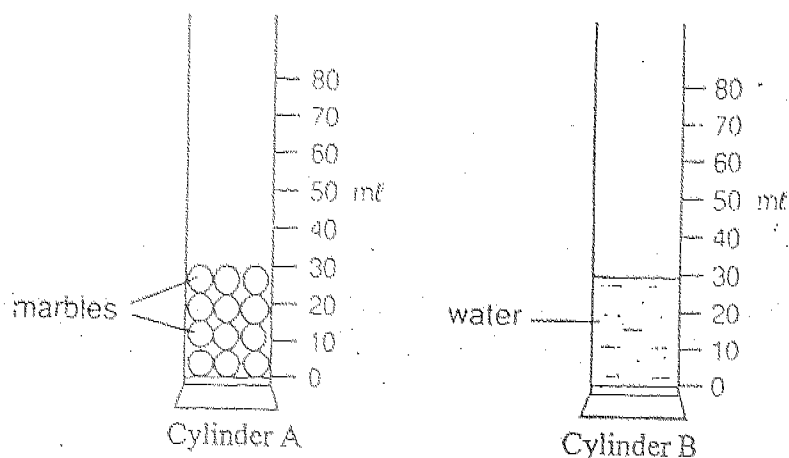


D: Polystyrene ball

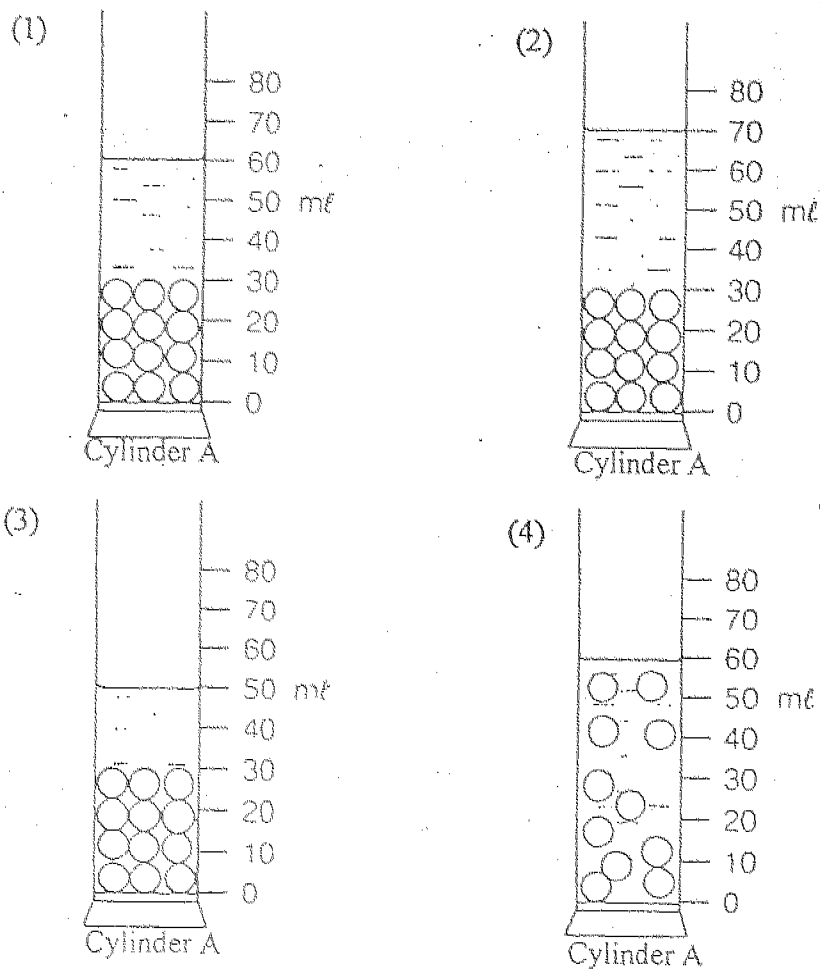
Arrange the balls according to their masses in descending order.

- (1) ADBC
- (2) CBDA
- (3) ACBD
- (4) DBCA

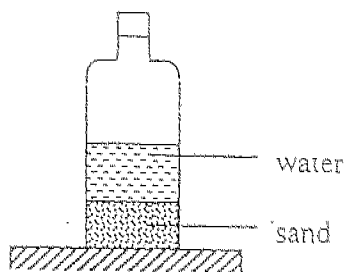
20. The diagrams below show two measuring cylinders A and B. Cylinder A contains some marbles and cylinder B contains water up to the 30ml mark.



Which diagram below shows the reading in cylinder A after the water from cylinder B has been poured into it?



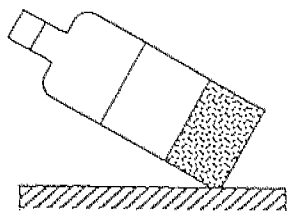
21. Wei Qiang filled a bottle with some sand and water as shown below.



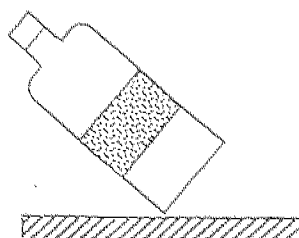
He put the bottle into a freezer for 5 hours.

Which one of the following diagrams shows the correct observation when he removed it from the freezer and tilted it?

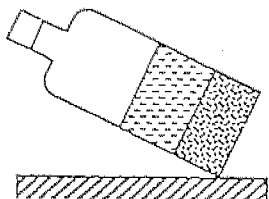
(1)



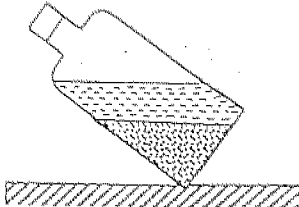
(2)



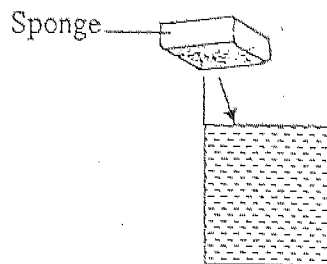
(3)



(4)



22. James placed a sponge into a beaker filled with 500 ml of water as shown below.



Which one of the statements describes most correctly what he would observe after 2 hours?

- (1) The sponge will remain floating and some water will overflow.
- (2) The sponge will sink and the water level in the beaker will increase slightly.
- (3) The sponge will remain floating and the water level in the beaker will increase.
- (4) The sponge will be found floating in the middle of the beaker and the water level will reach the brim of the beaker.

23. The Sun is a _____.

- (1) star
- (2) moon
- (3) natural satellite
- (4) man-made satellite

24. We can see the Moon at night due to _____.

- (1) the refraction of light
- (2) it having its own light
- (3) the reflection of light from the Sun
- (4) the reflection of light from the Earth

25. Which one of the following statements is false?

- (1) The Earth rotates from the West to East.
- (2) Stars are not present in the sky during the day.
- (3) The Sun appears to rise in the East and sets in the West.
- (4) Our shadows are short at noon and then lengthen during the day.

26. Which set of statements is classified correctly in the table below?

	Remains Stationary	Moves
(1)	Moon	Sun
(2)	Mars	Sun
(3)	Star	Sun
(4)	Star	Earth

27. Assume that Planet X and Y are new planets found in our Solar System. Use the following information to help you answer the question:

Planet X takes 45 hours to make one rotation and 289 days to make one revolution.
Planet Y takes 16 hours to make one rotation and 102 years to make one revolution.

Which one of the following comparisons between Planet X and Y is definitely correct?

	Planet X	Planet Y
(1)	It is further from the Sun.	It is nearer to the Sun.
(2)	It experiences longer daylight.	It experiences shorter daylight.
(3)	The distance of its orbit is longer.	The distance of its orbit is shorter.
(4)	It experiences more seasons yearly.	It experiences less seasons yearly.

28. The number of complete rotations made by the Earth in the month of August is _____.

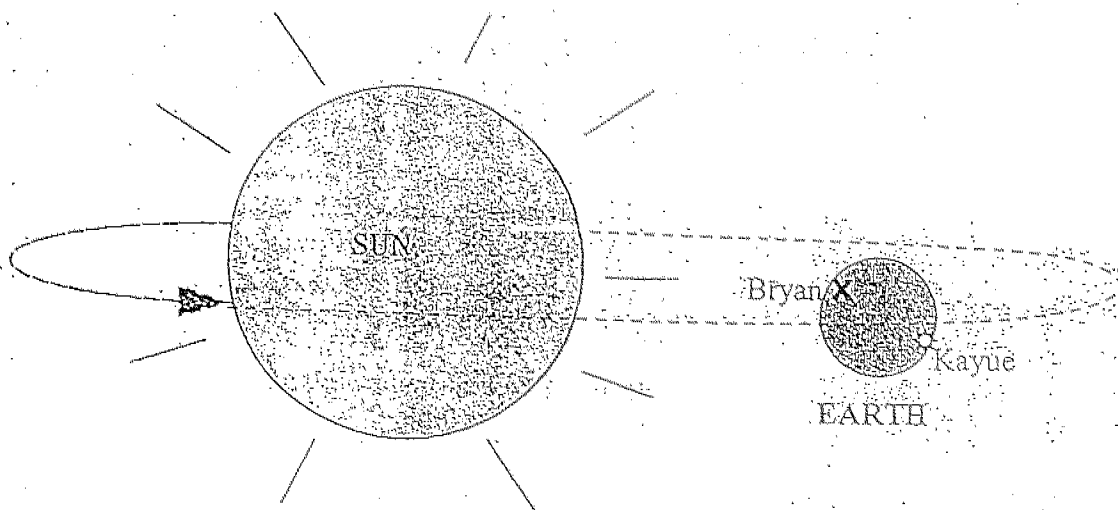
- (1) 24
- (2) 28
- (3) 31
- (4) 365

29. Which of the following statements is/are correct?

- A The Sun and Moon are satellites.
- B Man-made satellites are powered by solar cells.
- C Man-made satellites are sent into space by rockets.
- D Natural satellites help us to observe weather conditions.

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

30.



At noon, Bryan is at position X on the Earth, emailing his friend, Kayue, who is in a country on the other side of the Earth from Bryan. What time of the day is it at Kayue's place?

- (1) Midnight
- (2) 2 am
- (3) Noon
- (4) 5 pm

Section B: Open-Ended Questions (40 marks)

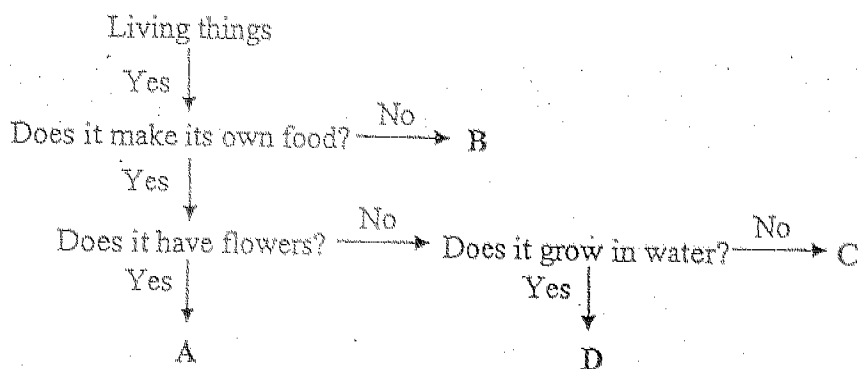
Read the following questions carefully and write your answers in the space provided. The maximum marks that can be awarded are shown at the end of each question or part-question.

31. Fill in each blank with a suitable word.

[2]

Some plants that can grow very tall and have strong woody stems are called _____. The stems of these plants are known as _____. A tough outer covering called the _____ protects the stem and its branches. However, there are some woody plants that are short and bushy. They are known as _____.

32. Study the flow chart below.

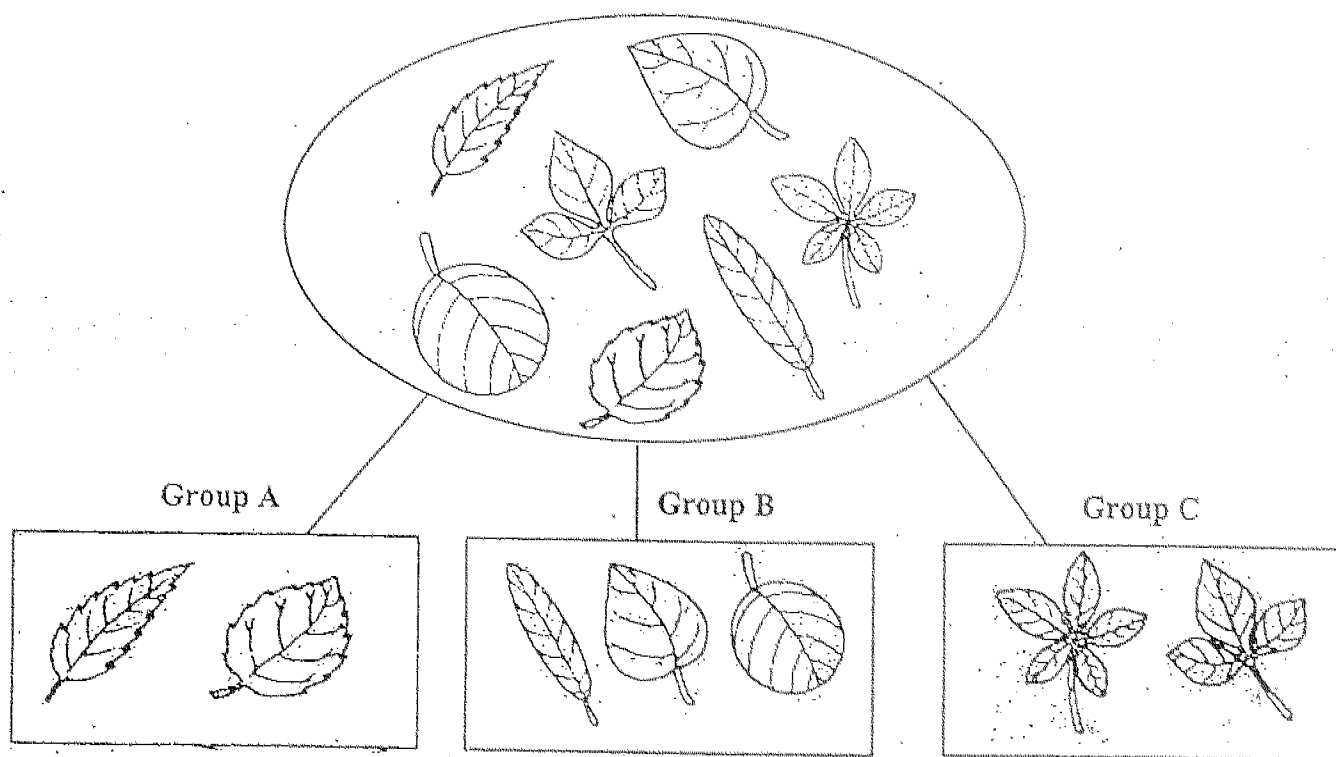


Use the information from the flow chart to state whether the following statements are True, False or Not possible to tell. Tick (✓) in the appropriate boxes. [2]

	Statement	True	False	Not possible to tell
(a)	A is a plant.			
(b)	B can be an animal.			
(c)	C is a flowering plant that does not grow in water.			
(d)	D is a duckweed.			



33. Kai Wee sorted out some leaves into groups A, B and C as shown in diagram below.



a) He had grouped them according to their _____ [1]

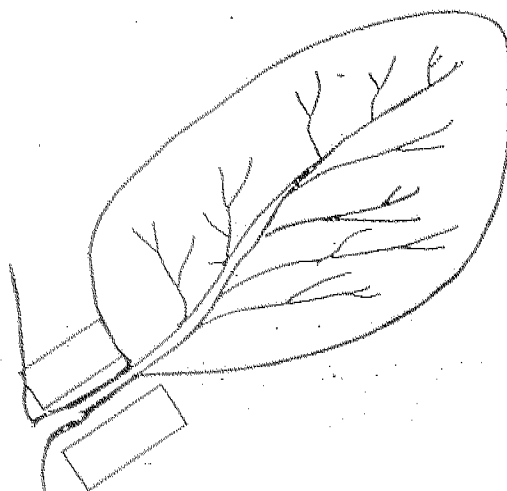
b) Give the correct headings Kai Wee used for each group. [3]

Group A: _____

Group B: _____

Group C: _____

34. The diagram below shows a leaf still attached to the stem of a plant.



- Using the letter 'A', label on the diagram, the part responsible for carrying out most of the photosynthesis that occurs in the plant. [½]
- Name part 'A'. [½]
'A' is the _____
- Using a blue arrow, draw in one of the boxes provided, the direction in which water will be transported. [½]
- Using a red arrow, draw in one of the boxes provided, the direction in which the food produced will be transported. [½]

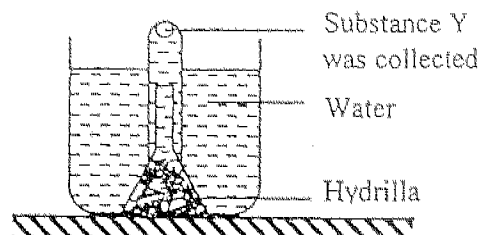
35. Group the organisms in the box into those that can make their own food and those that cannot. [2]

Water hyacinth	Yeast	Bacteria	Dragon's scales
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Organisms that can make their own food	Organisms that cannot make their own food



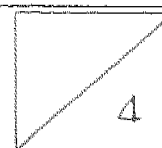
36. A group of pupils carried out an investigation to find out how the amount of light could affect the rate of photosynthesis. Three identical set-ups of the investigation were prepared. An example of each set-up is shown in the diagram below.



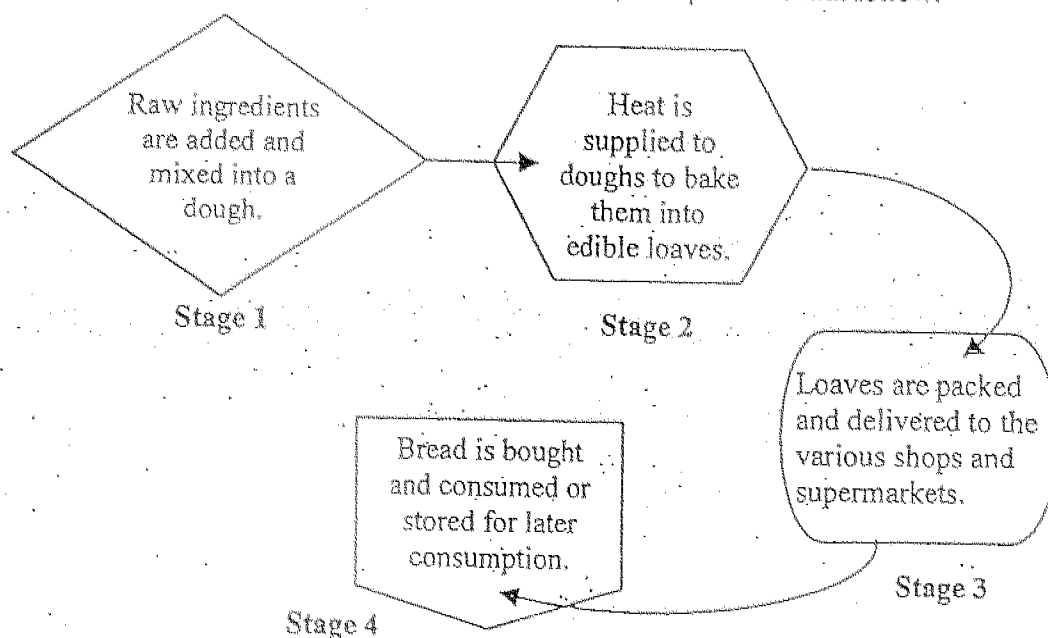
They then placed one set-up in the open field, another under a strong electrical light source in the science laboratory and the last one in their classroom. Data was then collected as shown in the table below.

	Number of bubbles containing substance Y seen coming out of the Hydrilla.		
	Set-up 1	Set-up 2	Set-up 3
9 to 10 a.m.	5	30	28
10 to 11 a.m.	6	29	10
12 noon to 1 p.m.	7	32	15
1 to 2 p.m.	5	28	31
2 to 3 p.m.	3	20	15
3 to 4 p.m.	3	6	6
4 to 5 p.m.	3	5	6

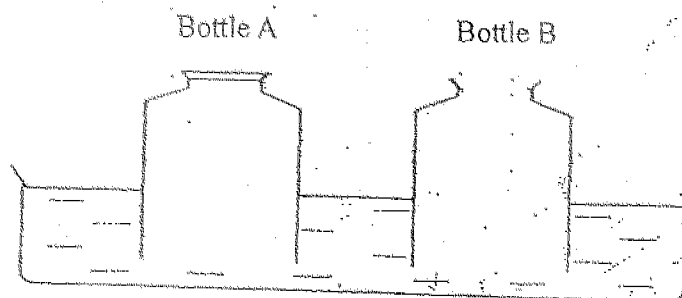
- a) Based on the data, determine the places at which the three set-ups were placed. [1½]
- i) Set-up 1: _____
- ii) Set-up 2: _____
- iii) Set-up 3: _____
- b) In this investigation, which variable is used as an indicator of the rate of photosynthesis? [½]
- _____
- c) Explain why the number of bubbles produced at all three places was almost the same towards the end of the experiment. [1]
- _____
- d) What is the relationship between the amount of light and the rate of photosynthesis? [1]
- _____



37. The flowchart below shows the various stages of the production of commercial bread until it is consumed. The stages shown in the flowchart are similar to that of the process of photosynthesis. Study it to answer the questions that follow.



- a) What are the 'raw ingredients' needed for photosynthesis? [½]
-
- b) Which part of the plant is responsible for carrying out stage 3? [½]
-
- c) Name 2 parts of a plant in which the 'bread' in stage 4 is stored. [1]
-
38. Two plastic bottles, A and B, with their bases cut off are pushed into a basin of water. Bottle A is capped while bottle B is not. Draw in the water level you would observe for bottles A and B. [2]



39. The table below shows some substances that Gopal found at room temperature. He has grouped two of them wrongly.

Liquids	Gases
Shadow	Smoke
Bubbles	Wind
Mercury	Nitrogen

State the substances that were wrongly grouped in the space provided and give a reason for your choice. [2]

Substance 1: _____

Reason: _____

Substance 2: _____

Reason: _____

40. Darius filled a measuring cylinder with 25 ml of water. He then put object X into the cylinder of water and recorded the water level in the table below. He then added object Y into the cylinder of water and recorded the reading again.

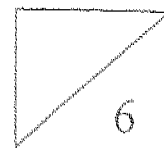
Object Added	Reading of water level in measuring cylinder (in ml)
X	56
X and Y	85

- a) What happened to the water level each time an object was added? [1]

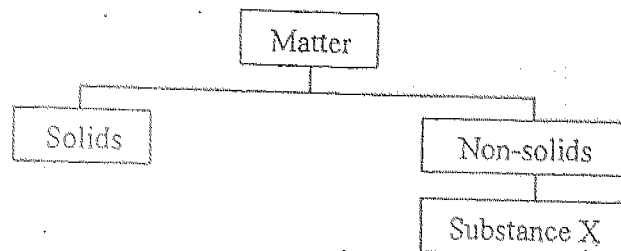
- b) What was the reading of the water level when no objects was added? [1]

- c) What is the volume of object X? [1]

- d) What is the volume of object Y? [1]



41. The classification below shows how some scientists had decided to classify Substance X, a substance which they had found on Mars.



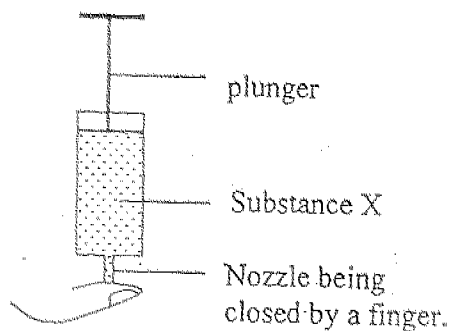
- a) Which of the following statements about Substance X is/are True, False or Not Possible to Tell? Indicate by putting a tick (✓) in the appropriate column. [2]

		True	False	Not Possible to Tell
i.	Substance X has a definite shape.			
ii.	Substance X can be compressed.			
iii.	Substance X takes up space.			
iv.	Substance X does not have any mass.			

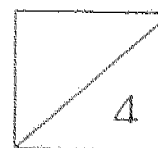
- b) The same group of scientists carried out further tests on Substance X and found that each 100 ml of it was able to fill deflated plastic bags of capacities 50 ml, 200 ml and 300 ml respectively. Based on this observation, write down one property of Substance X. [1]

A property of Substance X: _____

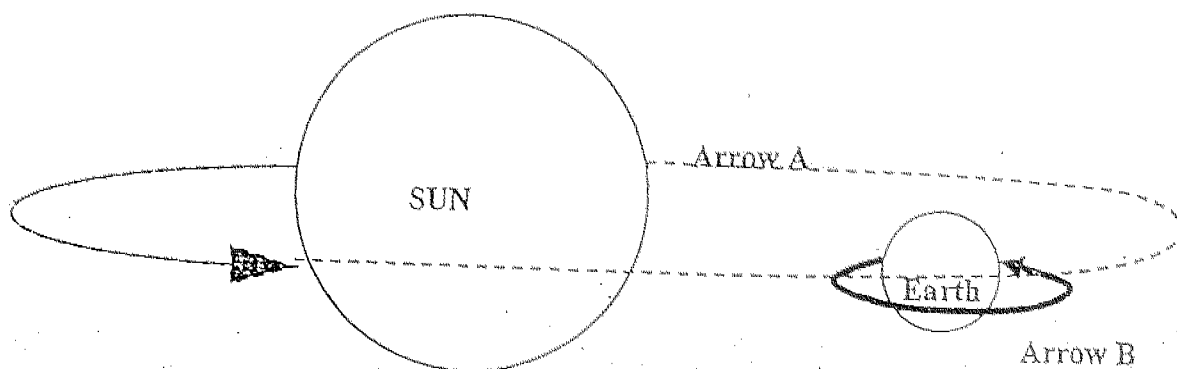
- c) Using the observation in (b), answer the following questions.



If Substance X was placed into a syringe as shown above, could the plunger be pushed in? Why? [1]



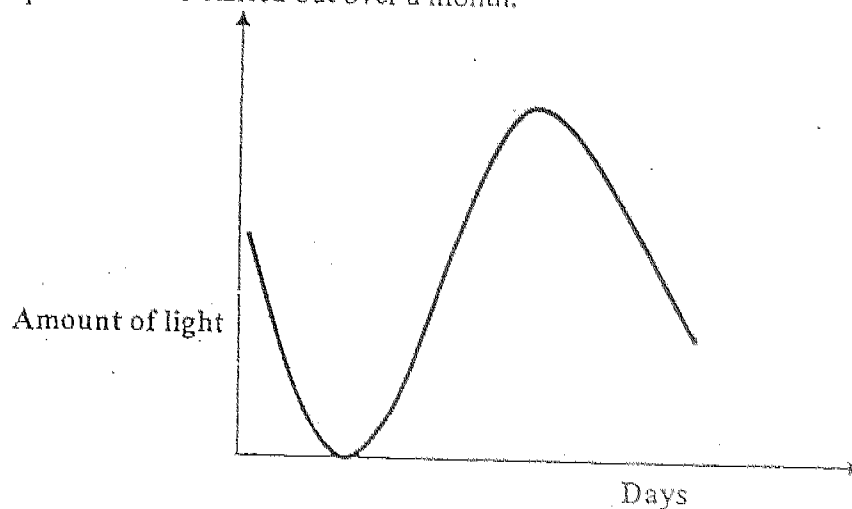
42. Look at the diagram below to answer Question 42 and Question 43.



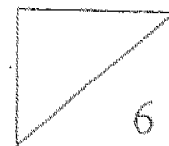
State the type of movement shown by arrow A and B.

- a) Arrow A: _____ [1]
 b) Arrow B: _____ [1]
43. The time taken to complete the movement taken by arrow A is _____ [½]
 The time taken to complete the movement taken by arrow B is _____ [½]
 and this results in the cycle of _____ and _____ [1]

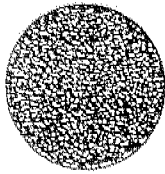
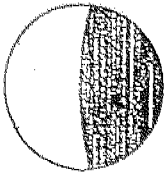
44. The diagram below is a graph showing the amount of light reflected from the Moon as seen on Earth at night. The measurement was taken using a data-logger. The experiment was carried out over a month.



- a) Mark a cross (X) on the graph to show when there is a new Moon. [1]
 b) Mark a dot (●) on the graph to show when there is a full Moon. [1]



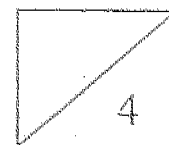
45. Study the diagram below.

			
20 th January 2004	23 rd January 2004	28 th January 2004	5 th February 2004

a) Draw the phases of the Moon on 20th January 2004 and on 5th February 2004 in the spaces above. [2]

b) What is the phase of the Moon on 8th February 2004? [1]

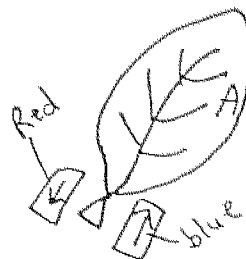
c) How long does it take the Moon to complete 1 revolution round the Earth? [1]



CATHOLIC HIGH SCHOOL
CONTINUAL ASSESSMENT 1 , 2004
PRIMARY FIVE SCIENCE

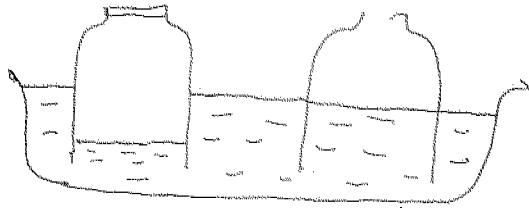
CA1

- 1) 3 28) 3
- 2) 2 29) 4
- 3) 4 30) 1
- 4) 3 31) trees trunks
- 5) 1 bark
- 6) 2 shrubs
- 7) 4 32) a) True
- 8) 1 b) True
- 9) 1 c) False
- 10) 2 d) Not possible to tell
- 11) 1 33) a) edges
- 12) 2 b) tooth edge
- 13) 1 entire edge
- 14) 3 lobed edge
- 15) 4 34) a)
- 16) 1 c)
- 17) 4 d)
- 18) 3 b) leafblade
- 19) 3
- 20) 3 35) Water hyacinth Yeast
- 21) 1 Dragon scales Bacteria
- 22) 2 36) a) i) classroom
- 23) 1 ii) science laboratory
- 24) 3 iii) open field
- 25) 2 b) The number of bubbles produced
- 26) 4 c) There will be insufficient carbon dioxide left
for the plant to photosynthesize.



- 37) a) Carbon dioxide
b) The tiny tubes
c) The roots and the stem.

38)



39) Substance 1 : Bubbles

Reason : It is air and air is not water so it should not be put in the liquid group.

Substance 2 : Shadow

: It is not a matter and has no mass.

40) a) The water level would rise.

b) The water level was 25 ml

c) Its volume is 31 cm^3

d) Its volume is 29 cm^3

41) a) i) False ii) Not possible to tell

iii) True iv) False

b) It does not have a definite volume.

c) Yes, it could be substance X as it does not have a definite volume and can be compressed.

42) a) Revolution

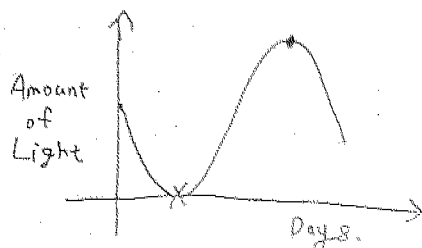
Rotation

43) 365 days

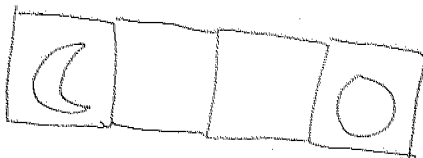
24 hours

day and night

44)



45) a)



b) Gibbous moon

c) It takes 28 days.