



NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 1 2012
PRIMARY FIVE
SCIENCE

Name : _____ ()

Class : Primary 5 / _____

Date : 1 March 2012

Duration : 1 hr 45 min

MARKS	
Sect A:	/ 60
Sect B:	/ 40
Total :	/ 100

Parent's Signature : _____

Section A: (30 x 2marks = 60marks)

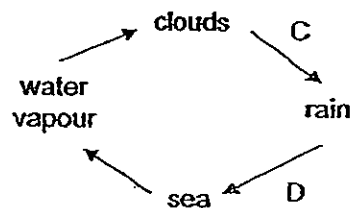
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which of the following activity/activities involve(s) heat loss to the surroundings at room temperature?

- A Placing a cup of tap water on a table.
- B Placing a piece of frozen meat on the kitchen sink.
- C Leaving a cup of water in a freezer for 30 minutes.

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

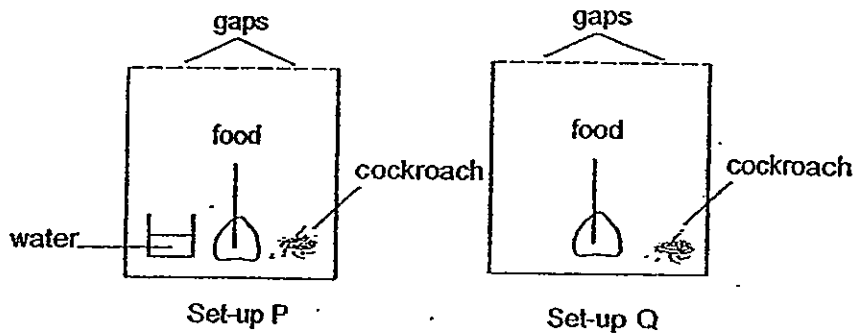
2. The following diagram shows the water cycle.



Which of the stages A, B, C and D involves a change of state?

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

3. Patrick prepared 2 set-ups for an investigation as shown.



What was he trying to investigate?

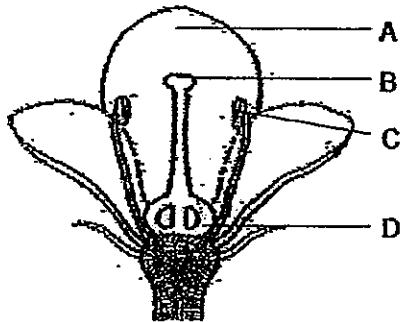
- (1) Whether cockroach needs air to survive.
 - (2) Whether cockroach needs food to survive.
 - (3) Whether cockroach needs water to survive.
 - (4) Whether cockroach needs shelter to survive.
4. Why do living things reproduce?
- (1) To ensure a great diversity of life.
 - (2) To provide food for other animals like Man.
 - (3) To improve their offsprings' chances of survival.
 - (4) To ensure there will always be some of them around.
5. There was a bougainvillea plant flowering on a patch of land near Alex's house. He took some seeds from the fruit of the bougainvillea plant and some soil from the patch of land to plant them in a pot. Some weeks later, he noticed that the seeds had grown into young plants. Which of the following would he observe about the young plants?
- A The young plants had leaves of similar shape.
 - B The young plants had fruits of a different shape.
 - C The young plants had leaves of a different colour.
 - D The young plants had flowers of a different colour.
- (1) A only
 - (2) C only
 - (3) B and D only
 - (4) A and D only

6. Which of the following is/are plant(s) that reproduce from spores?

- A Moss
- B Mould
- C Banana
- D Mushroom

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

7. The diagram below shows the cross-section of a flower. Which one of the following parts is matched wrongly to its function?



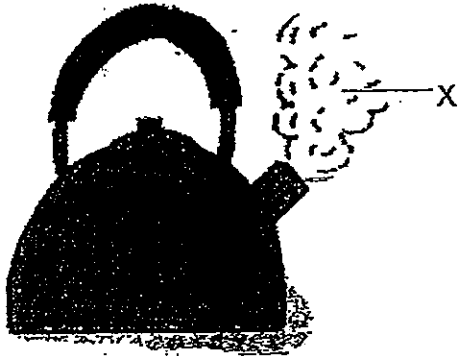
Part	Function
A	Protects the flower
B	Receives pollen grains
C	Produces pollen grains
D	Develops into seed

8. Angela went to Hort Park and saw a flower with big, purple petals. The flower has a sweet scent too. How is the flower most likely to be pollinated?

- A By bees
- B By wind
- C By water
- D By moths

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

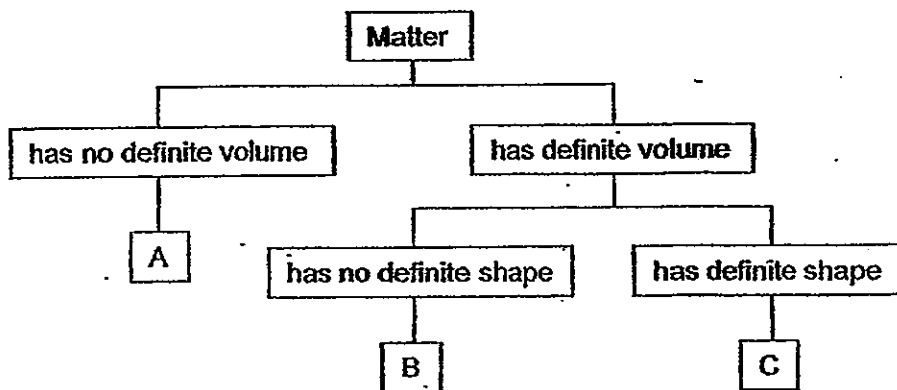
9. The diagram below shows a kettle of boiling water.



Which of the following shows the correct properties of X?

	Has mass	Occupies space	Has a definite shape	Can be compressed
(1)	Yes	Yes	No	Yes
(2)	Yes	No	Yes	No
(3)	Yes	Yes	No	No
(4)	No	Yes	Yes	Yes

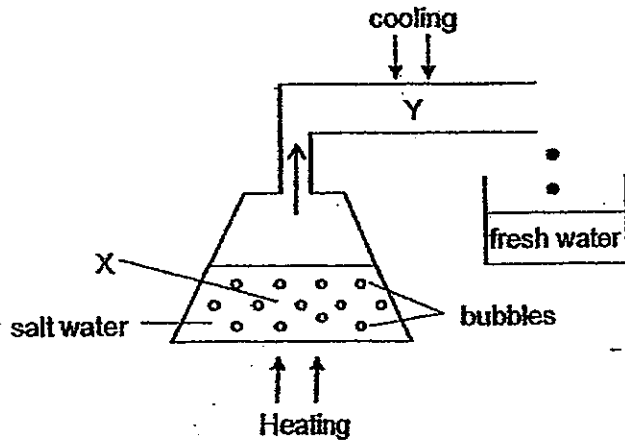
10. The classification table below shows how matter can be grouped.



Which one of the following correctly shows what A, B and C are at room temperature?

	A	B	C
(1)	milk	marble	carbon dioxide
(2)	water vapour	honey	salt
(3)	oxygen	rice	sugar
(4)	pencil	oil	oxygen

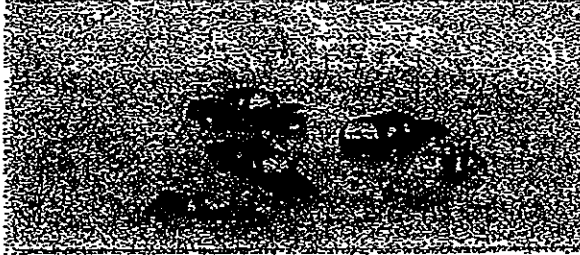
11. A desalination plant changes salt water into fresh water by heating the salt water until bubbles can be seen in the salt water. Fresh water is obtained by cooling the product. The diagram below shows how a desalination plant works.



What are the processes that will occur at X and Y respectively?

	X	Y
(1)	Evaporation	Condensation
(2)	Condensation	Boiling
(3)	Condensation	Evaporation
(4)	Boiling	Condensation

12. The picture below depicts a scenario of flooding in Orchard Road, Singapore.



Besides insufficient drainage, which of the following is/are possible causes of the flood?

- A Strong winds
- B Heavy rainfall
- C High temperature

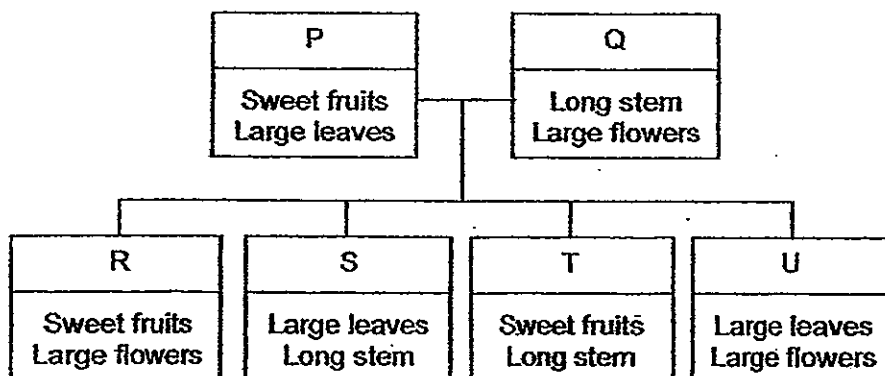
- (1) B only
- (2) C only
- (3) A and B only
- (4) A, B, and C

13. Animals like turtles and crocodiles usually lay many eggs at a time, while animals like deers and elephants give birth to one young at a time. Which of the following is/are possible reason(s) for the difference?

- A Eggs being smaller can be produced in larger numbers than live young.
- B Animals which take care of their young have fewer young than those which do not.
- C Eggs are easily eaten by other animals so a greater number is required to ensure survival.
- D There are more space in the sea for sea animals to roam so they reproduce in greater numbers.

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

14. The diagram below shows characteristics of parent plants, P and Q, and their offsprings, R, S, T and U.



When R, S, T and U became adult plants, 2 of them were used to breed a new young plant V, which has sweet fruits, large flowers and large leaves.

Which of the 2 plants R, S, T and U are parents of V?

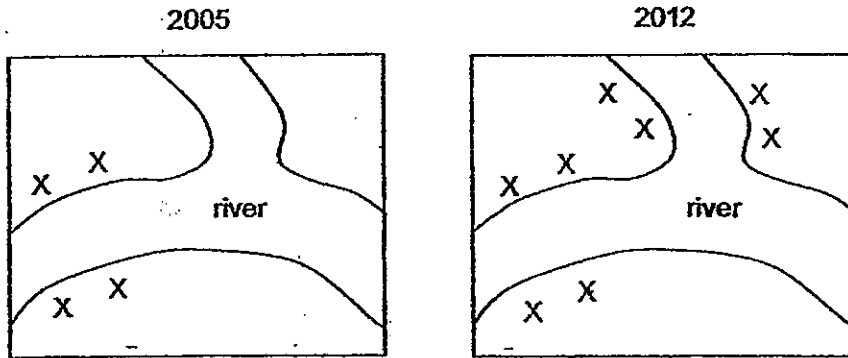
- (1) R and S
- (2) R and T
- (3) S and T
- (4) S and U

15. Which of the following statement(s) about the spores of bird's nest fern and balsam seeds are correct?

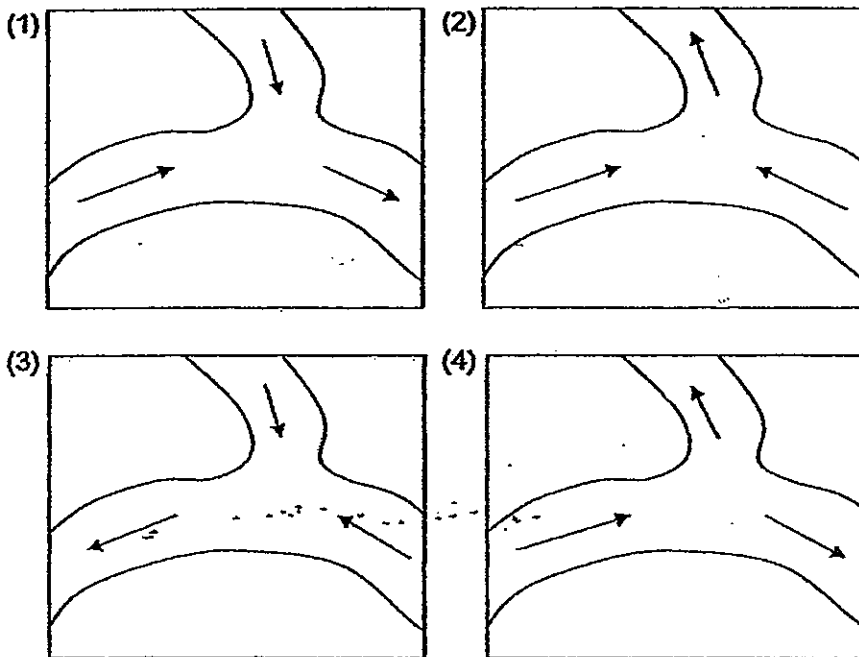
- A A seed can be seen by the naked eye but a spore cannot.
- B It takes one seed to grow into a plant but many spores to grow into a fern.
- C Both spores and seeds will grow into new plants under the right conditions.

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

16. There were only 4 Plant X growing along the banks of a river in 2005. In 2012 the number of Plant X increased to 8 as shown in the diagram below.



Which one of the following diagrams shows the direction of the flow of the river?



17. Papaya is a fruit with many seeds. Which of the following explains why papaya has many seeds?

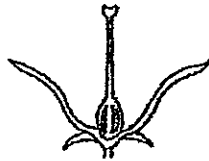
- (1) The papaya flower has many ovules.
- (2) The papaya flower grows in a bunch.
- (3) The papaya flower produces many pollen grains.
- (4) The papaya flower is fertilized by only one pollen grain.

18. The following diagrams show a flower with some of its parts removed. Which one of them cannot develop into a fruit?

(1)



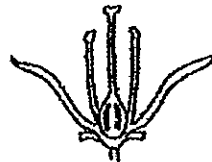
(2)



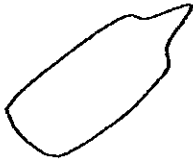
(3)



(4)



19. During a family trip to the beach, Jon picked up a seed shown in the picture below. His father said the seed must be dispersed by water since it was found on the beach. Jon decided to do an investigation to be sure.



He planned to do the following:

- A Place it in water.
- B Measure its mass.
- C Measure its volume.

Which of the above action(s) will help him achieve his aim?

- (1) A only
 - (2) B only
 - (3) C only
 - (4) A and C only
20. Daniel dropped three different fruits, X, Y and Z, from a height of 5 metres and recorded the time each fruit took to reach the ground. The following table shows his results.

Fruits	Time taken (s)
X	3.7
Y	2.9
Z	3.1

He concluded that Fruit X is most effective at dispersing its fruit by wind.

His teacher said his conclusion may be wrong. Why?

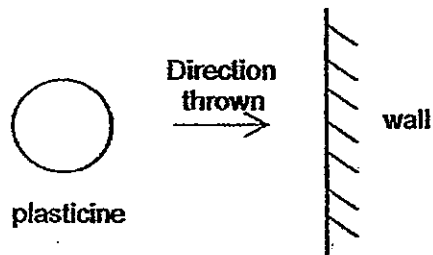
- (1) The 3 fruits are of different shapes.
- (2) Results are unreliable as only 1 reading was taken.
- (3) A height of 5 metres is too low to make any conclusions.
- (4) The time taken for all 3 fruits to reach the ground are too similar.

21. Wind and animals play an important role in the reproduction of plants. Which of the following processes make use of wind and animals?

- A Pollination
- B Fertilisation
- C Germination
- D Seed dispersal

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

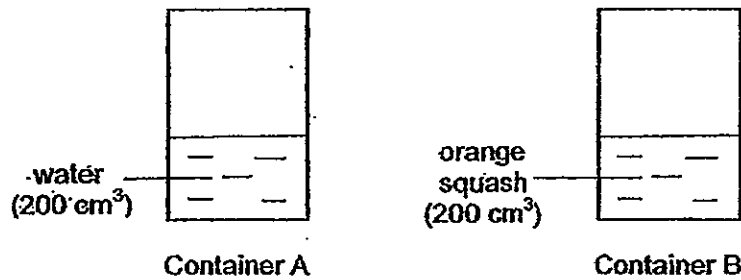
22. Carl threw a piece of plasticine at a wall. The plasticine was stuck to the wall. Which of the following characteristic(s) would be changed as a result of the plasticine hitting the wall?



- A Mass
- B Shape
- C Volume

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

23. 2 containers, A and B, each of capacity 500 cm^3 , contain 200 cm^3 of water and orange squash respectively, as shown.

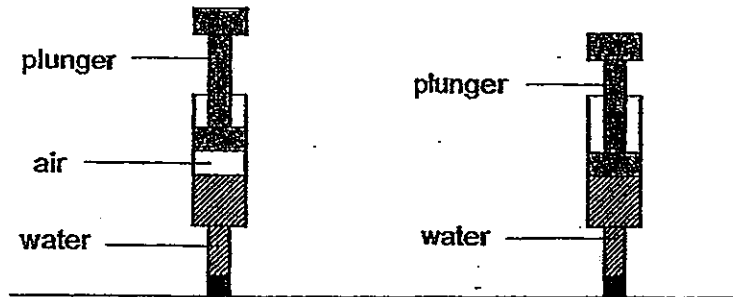


Bruce used up 100 cm^3 of water and 20 cm^3 of orange squash to make a drink. What is the volume of air left inside each container?

	Container A (cm^3)	Container B (cm^3)
(1)	100	180
(2)	200	280
(3)	300	300
(4)	400	320

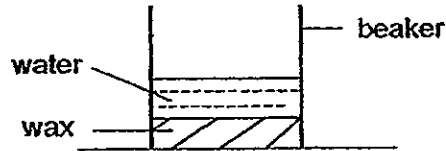
24. Peter filled a basin completely with water. He soaked his feet inside the basin of water. To his dismay, water from the basin spilled over and wetted his floor. Why did this happen?
- (1) His feet have mass.
 - (2) His feet occupy space.
 - (3) His feet have a fixed shape.
 - (4) His feet can be compressed.

25. Rebecca filled a syringe with some air and some water. When she tried to push the plunger, the plunger could be pushed in a little. She filled the same syringe with the same amount of water only and repeated the procedure. She found that the plunger could not be pushed in. What does this experiment show?



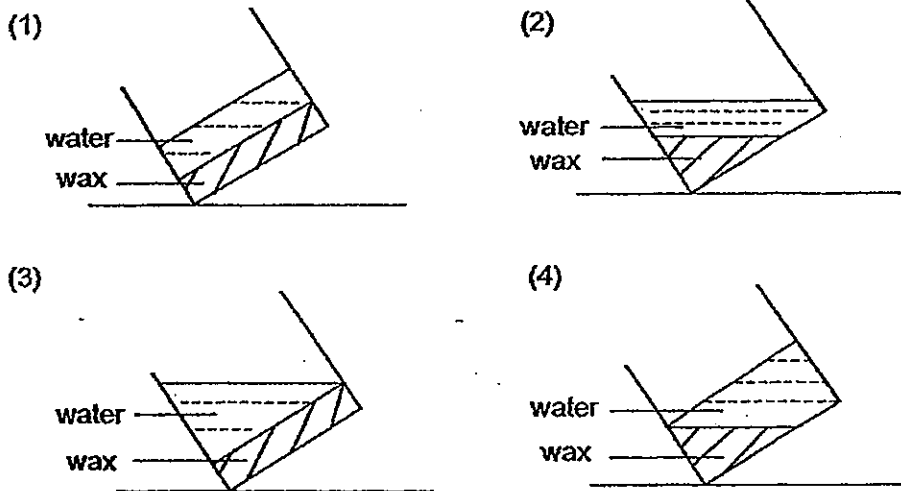
- (1) Water allows the air to be dissolved in it.
- (2) Water cannot escape from the syringe but air can.
- (3) Water has definite volume but air has no definite volume.
- (4) Water and air has no definite volume and can be compressed.

26. Adrian poured some melted wax into a beaker. The next day, he added some cold water into the same beaker. He drew the diagram below based on his observation.



He then tilted the beaker slightly.

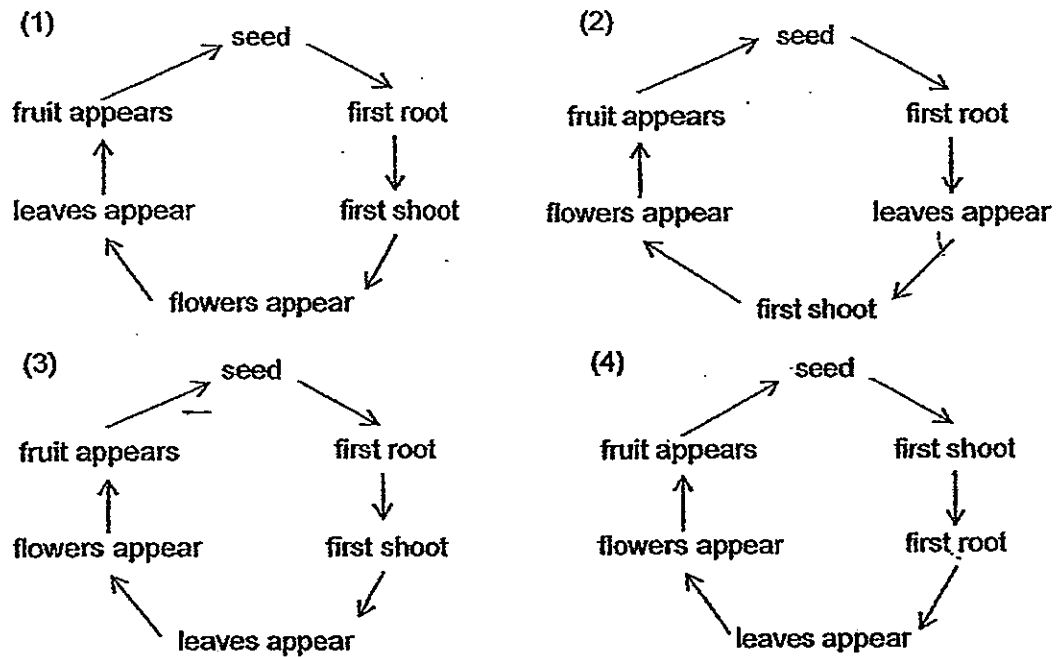
Which one of the following diagrams correctly shows how the contents in the beaker should look like when the beaker was tilted?



27. X is an animal with 6 legs and 3 body parts.
 Y is an animal with hair and the females produce milk for their young.
 Animal X has a 4-stage life cycle while Animal Y has a 3-stage life cycle.
 What animals can X and Y be?

	X	Y
(1)	Ant	Penguin
(2)	Mosquito	Platypus
(3)	Dragonfly	Monkey
(4)	Cockroach	Tortoise

28. Which one of the following cycles show the stages of development of a string bean plant in the correct order?



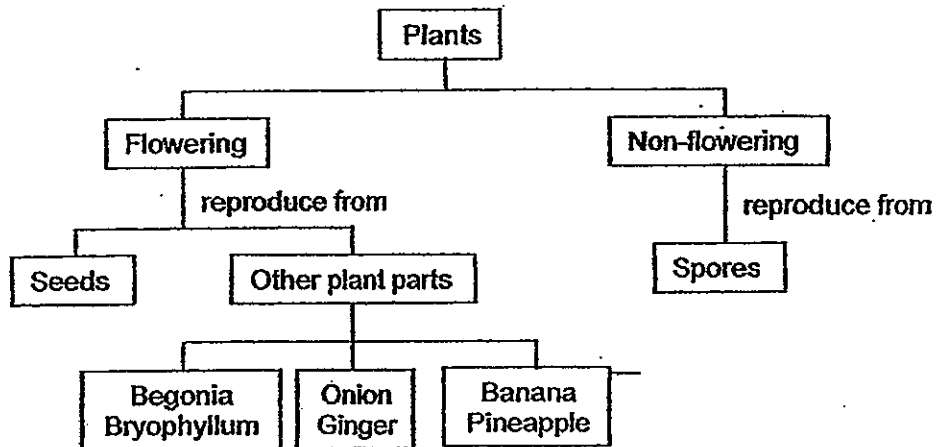
29. The table below shows the characteristics of 4 objects.

Object	Changes in size	Produces own food	Reproduces	Moves freely from place to place
A	✓			✓
B	✓	✓	✓	
C	✓			
D	✓		✓	✓

Which of the above object(s) could be living thing(s)?

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

30. Study the classification chart below.



Based on the classification chart above, which one of the following statements is true?

- (1) All flowering plants reproduce from seeds only
- (2) Onion plants and Begonia plants reproduce from the same plant part.
- (3) Banana plants are flowering plants that reproduce from both seeds and other plant parts.
- (4) Begonia plants and banana plants are different because they reproduce from different plant parts.



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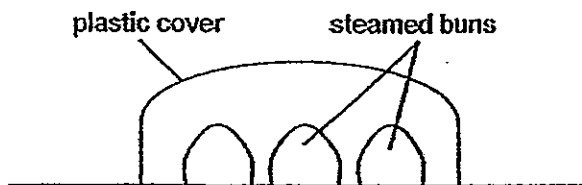
MARKS	
Sect B:	/ 40

Section B: (40marks)

Write your answers to question 31 to 44.

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

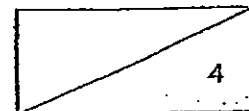
31. Ruth covered some hot, steaming buns with a plastic cover.



(a) After 3 hours she found that the steamed buns became moist. Explain clearly how the buns became moist. [3]

(a) If she wants to continue using the plastic cover, what can she do to prevent the buns from getting moist? [1]

1



32. The statements below describe how fruits and seeds are produced.

- _____ Pollen tubes reach the ovaries.
- _____ Petals and style wither and fall off.
- _____ The anther produces pollen grains.
- _____ Pollen tubes grow from the pollen grains.
- _____ The pollen grains are transferred to the stigma.
- _____ Male reproductive cells fuse with female egg cells.
- _____ Ovules develop into seeds and ovaries develop into fruits.

(a) In the spaces beside each statement, write the numbers, 2 to 7, to show the correct order of events. [2]

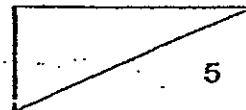
(b) Underline the statement that describes fertilisation. [1]

33. The diagram below shows the cross-section of a green bean seed.



(a) Draw an arrow and name the part that provides food for the seedling to grow. [1]

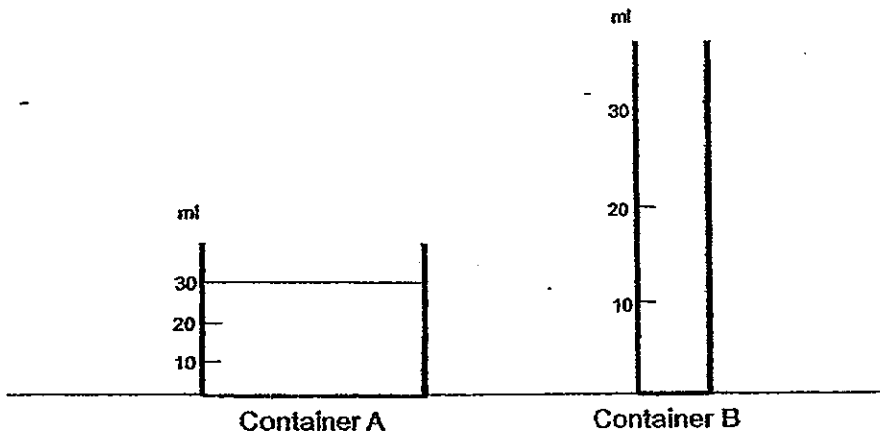
(b) State the conditions necessary for germination to take place. [1]



34. Steve poured 20 ml of water into Container A as shown below. He cracked 10 fresh eggs without breaking the yolks and emptied the contents of the eggs into the container. He found that the volume of the mixture is 30 ml.

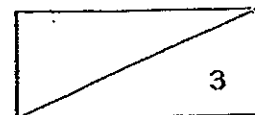
He then used a pair of chopsticks to stir the mixture, breaking all the yolks.

- (a) Would the volume of the mixture with all the broken yolks be lesser, greater, or equal to 30 ml? Explain your answer. [1]

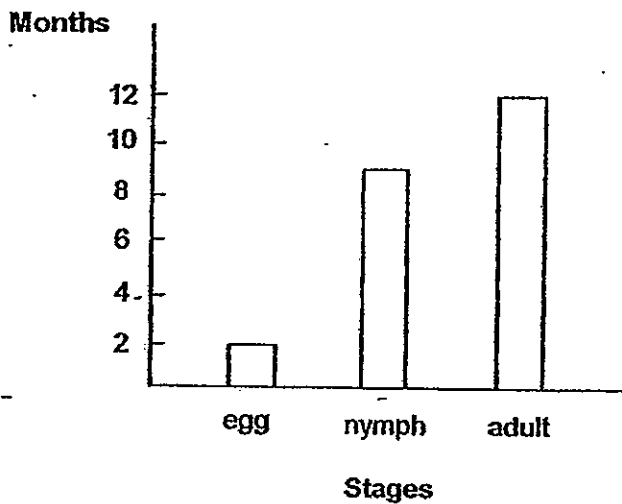


- (b) Steve then transferred all of the mixture from Container A to Container B. Draw the water level of Container B. [1]

- (c) What property of liquids is shown in the above activity? [1]



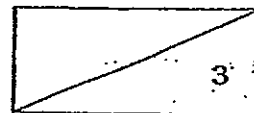
35. The American cockroach is the largest species of common cockroach. The number of months the American cockroach spends in each of its stages of its life cycle is shown in the graph below.



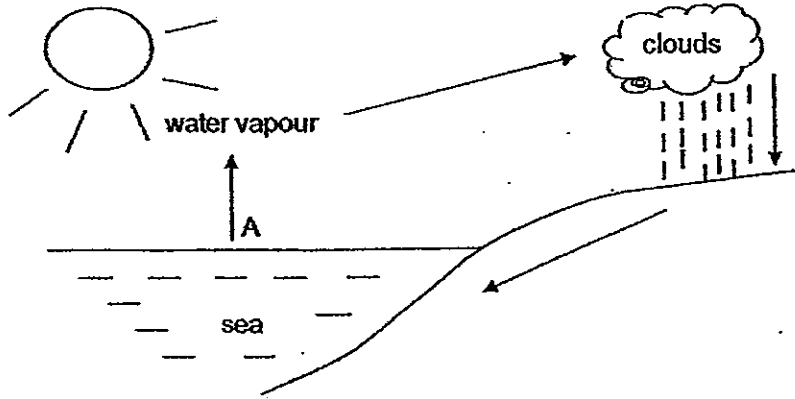
- (a) How many months does it take for the American cockroach to become an adult after the egg has hatched? [1]

- (b) State one difference between the adult American cockroach and the American cockroach nymph. (Do not mention size, shape or colour) [1]

- (c) State one difference between the life cycle of the American cockroach and that of the Monarch butterfly. [1]



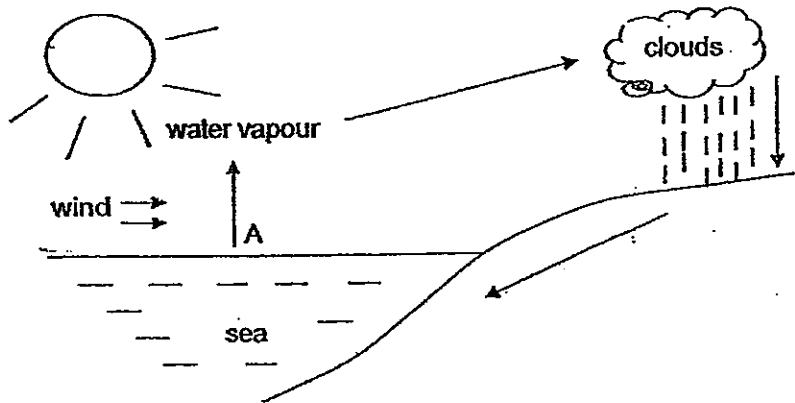
36. The diagram below shows a representation of the water cycle at noon.



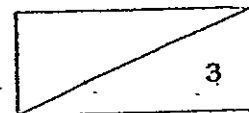
(a) Name the process that occurs at A. [1]

(b) What energy is needed for the process at A? [1]

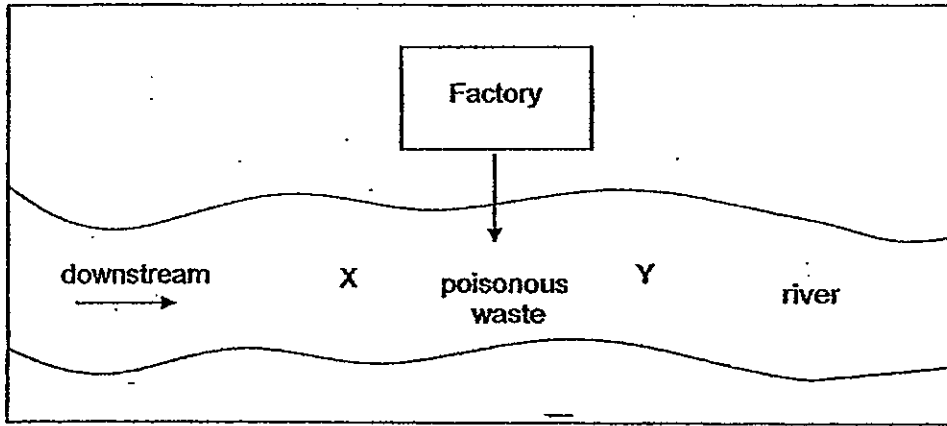
The diagram below shows a representation of the water cycle at noon at the same place with wind present.



(c) Would there be an increase in the rate of the process mentioned in Part (a)? Explain your answer. [1]



37. The diagram below shows part of an area with a factory that discharges poisonous waste into a river.



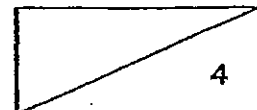
Ken wanted to compare the quality of water at X and at Y.

He put 100 ml of water collected from X into a beaker and put 4 similar sized guppies into the water. He then put a tablespoon of fish food into the water. He labelled this Set-up A.

- (a) Write down the procedure he needs to prepare Set-up B to conduct his investigation. [2]

Procedure:

- (b) What should he do with Set-ups A and B to conduct his investigation? [2]



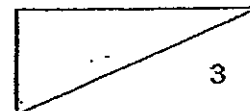
38. Jack wanted to find out the factors affecting the rate of evaporation of water. He had seven set-ups, P, Q, R, S, T, U and V. He used the same type of containers to hold the water. The table below provides details on the set-ups that he used in his experiments.

Set-up	P	Q	R	S	T	U	V
Volume of water (ml)	400	200	400	200	200	400	200
Temperature of water (°C)	30	55	28	35	60	35	70
Exposed surface area (cm ²)	100	150	150	150	100	200	150

- (a) What would be the aim of one of his experiments if he had used set-ups Q, S and V? [1]

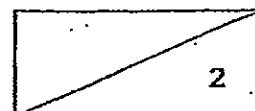
- (b) Jack then used set-ups P, R and U to find out whether the exposed surface area affected the rate of its evaporation. His teacher said that his experiment was not fair. Explain why his teacher said it was not a fair experiment. [1]

- (c) After the experiments, Jack's classmates commented that he should start watering his plants in the early morning instead of in the afternoon to conserve water. Do you agree with Jack's classmate? Explain your answer. [1]

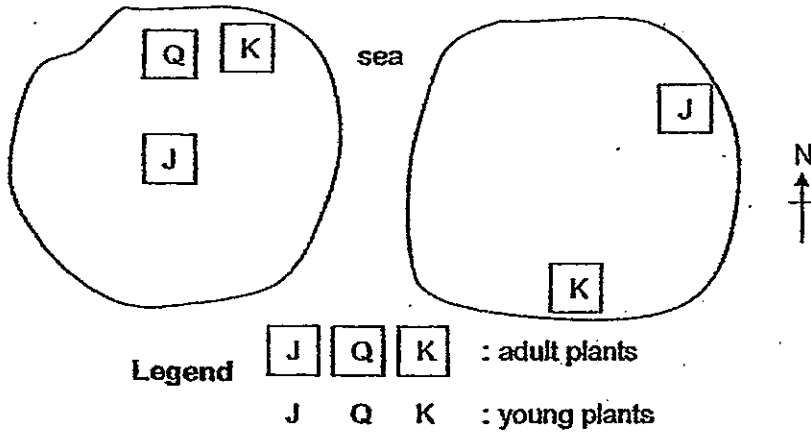


39. (a) Luke placed a slice of freshly baked bread into an air-tight plastic bag and sealed it. After 7 days he noticed green and brown patches on the surface of the bread. Where did the green and brown patches come from? [1]

- (b) Luke repeated the procedure with another slice of freshly baked bread from the same baker. After 7 days he noticed yellow and black patches instead. Even though everything was kept the same as before, the result obtained was different from part (a). Explain. [1]

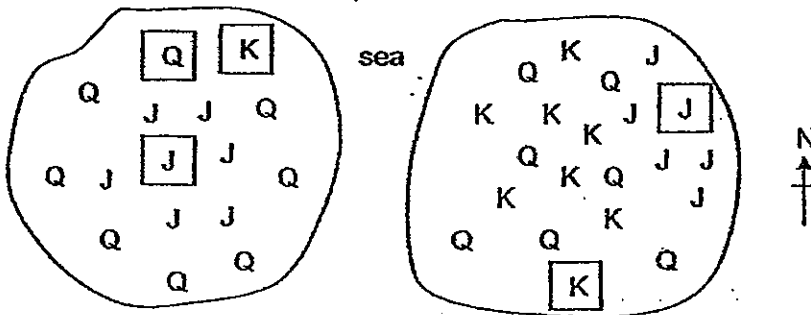


40. A survey conducted by scientists in year 2000 revealed 2 islands close to each other with 3 types of plants J, Q and K as shown.



It was found that the wind only blows towards the north.

Another survey conducted on the same 2 islands in year 2012 revealed the following.



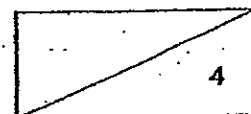
- (a) Name the method of dispersal for Plants J, Q and K. Explain your answers for Plants J, Q and K. [3]

Plant J: _____

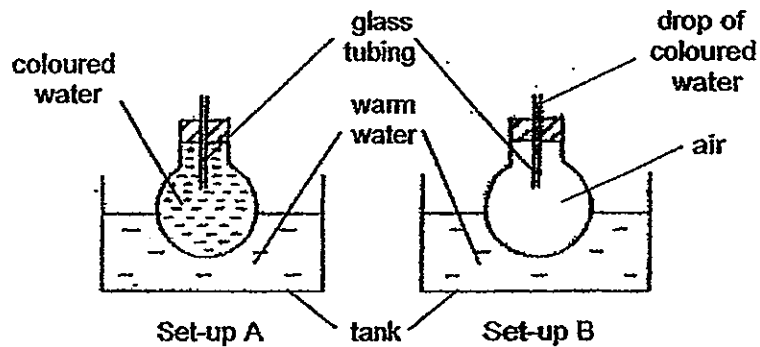
Plant Q: _____

Plant K: _____

- (b) Why is it important for plants to disperse their seeds? [1]



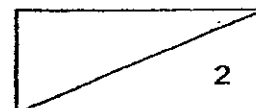
41. In an experiment to compare the properties of water and air, two identical flasks were filled with coloured water and air in the set-ups A and B as shown in the diagram below.



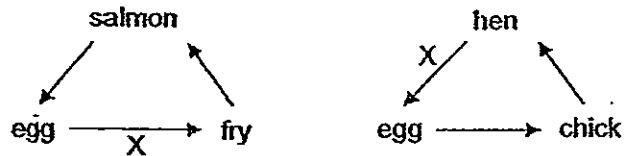
Set-ups A and B were then placed into a tank containing warm water at the same time. The water level in the glass tubing of Set-up A was seen to rise very slowly but the drop of coloured water in Set-up B rose up the glass tubing very rapidly.

- (a) What conclusion could be made from the above experiment? [1]

- (b) Suggest one change that could be made to Set-up A to speed up the rise of the water level in the glass tubing. (Do not change the tank of water or the temperature of the water in the tank.) [1]



42. The diagram below shows the life cycle of a salmon and a hen.



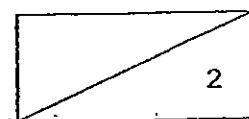
(a) What process must happen at X in both the life cycle of the salmon and that of the hen such that their eggs will continue to develop into the next stage of each life cycle? [1]

The table below shows some information of the hen and several other birds.

Bird	Incubation Period (days)	Size of adult (cm)
Pigeon	14	39
Hen	21	47
Duck	27	57
Swan	34	147
Ostrich	40	244

The incubation period is the time taken by the birds to sit on their eggs to make them hatch.

(b) What is the relationship between the size of the adult bird and the incubation period? [1]





43. Martha had 1 paper flower and 1 live flower. They were of the same shape, size and colour. She put the flowers in 2 similar vases and added 20 ml of water in each vase. Then she placed the 2 vases of flowers in the garden for 2 days. She counted the number of butterflies that visited the flowers from 8 am to 2 pm over 2 days. The results were recorded in the table below.

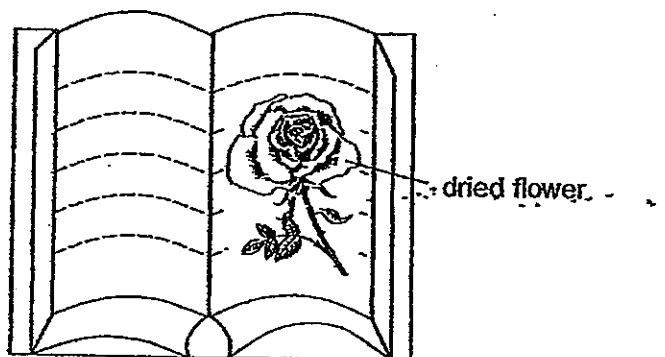
	Number of butterflies visiting the flower	
	Day 1	Day 2
Flower A	0	1
Flower B	15	11

(a) Based on the results, which flower is the live flower? Explain your answer. [1]

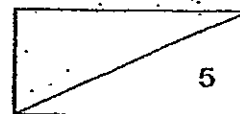
(b) What characteristic does the flower mentioned in (a) have that will produce the results shown in the table? [1]

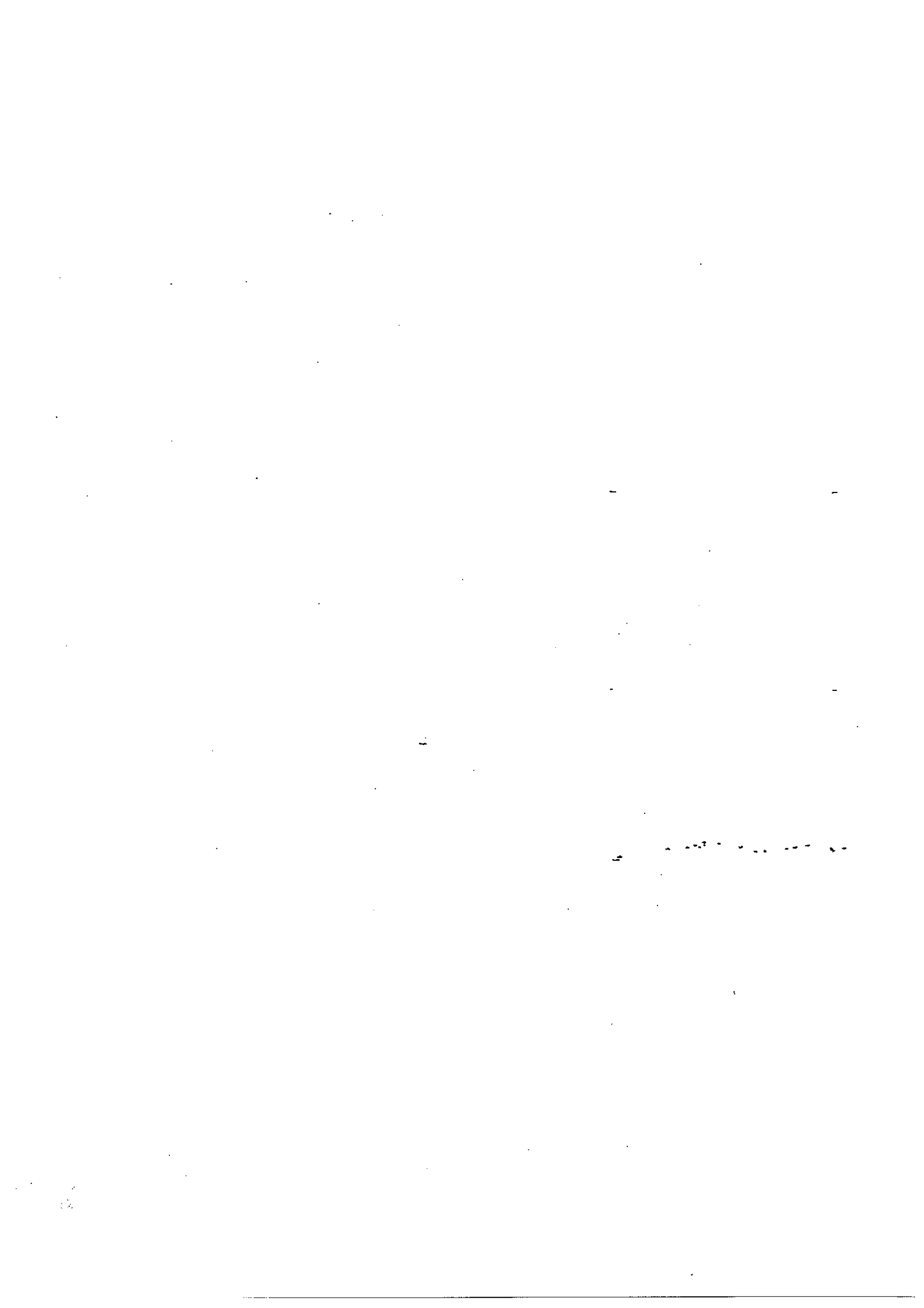
(c) Why do you think Martha conducted her experiment over 2 days? [1]

44. Jenny loves flowers. She wants to use flowers as bookmarks. She found that bookmarks made of fresh flowers only last for a few days because some micro-organisms in the air feed on the flower and destroys it. If she dried the fresh flowers, however, she found that the dried flower bookmark can last very long.



Explain why a fresh flower bookmark only lasts a few days but a dried flower bookmark lasts for a long time. [2]





ANSWER SHEET

EXAM PAPER 2012

SCHOOL : NAN HUA
SUBJECT : PRIMARY 5 SCIENCE

TERM : CA1

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

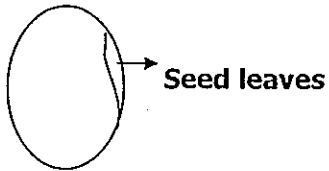
Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	1	2	4	1	4	2	3	3	2	3	3	4

31)a)The hot buns heated up the water vapour around it. The water vapour raised up to touch the cooler surface of the plastic cover. The water vapour condensed on the plastic cover to form water droplets which accumulated and dripped back onto the buns.

- b)Make holes in the plastic cover before using it.

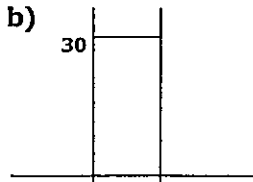
32)4, 6, 1, 3, 2, 5, 7

33)a)



b)water, warmth and oxygen

34)a)Equal to 30ml. Nothing was added or removed so the volume of the mixture remained the same.



c)All Liquid have a definite volume.

35)a)9 months.

b)The adult have wings, but the nymph does not.

c)The monarch butterfly have 4 stages in its life cycle but the American cockroach only has three.

36)a)The process is called evaporation.

b)Heat energy is needed for process at A.

c)Yes. The presence of wind will speed up the rate of evaporation.

37)a)1)Put 100ml of water from Y into a beaker similar to the beaker in set up A.

2)Put 4 similar sized guppies into the water.

3)Put a tablespoon of fish food into the water.

4)Label the beaker set-up B.

b)Place the 2 set-up at the same place for a few days. Record the number of guppies that are still alive at the end of each day.

38)a)To find out if the temperature of water affects the rate of evaporation of water.

b)In order to conduct a fair experiment Jack should only change the exposed surface area. However, the temperature which will affect the result of this experiment had also been changed.

c)Yes. The temperature early in the morning is lower than in the afternoon so less water will evaporate.

39)a)They came from the spores of the bread mould that are found in the air inside the bag.

b)The spores that are trapped in the bag belonged to a different type of bread mould.

40)a)Plant J: Explosive action. The young plant of J were very close to the adult plant.

Plant Q: By animal. The young plants are found on the 2 island so the animal must have swam or flew across the sea.

Plant K: By wind. The young plants are found only to the North of the parent plant.

b)To prevent overcrowding so the young plants do not need to compete with the adult plant for space, sunlight, water and nutrients.

41)a)Air expands faster than water.

b)Use a narrower glass tubing.

42)a)Fertilisation.

b)The smaller size the adult is, the shorter the incubation period.

- 43) a) Flower B. It have more butterflies visiting the flower.
b) The flower produced nectar to attract the butter flies.
c) To have a more reliable answer.

44) The fresh flower contains water that enables the micro-organisms to survive and destroy the flower. The dried flower does not have water so the micro-organisms cannot survive.

