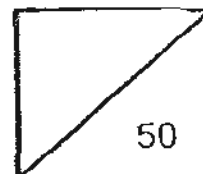




**Rosyth School**  
**Continual Assessment 2 for 2010**  
**STANDARD SCIENCE**  
**Primary 5**



Total  
Marks:

Name: \_\_\_\_\_

Class: Pr 5 \_\_\_\_\_

Register No. \_\_\_\_\_

Duration: 1 h 15 min

Date: 26 August 2010

Parent's Signature: \_\_\_\_\_

**Instructions to Pupils:**

1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 Parts, Part I and Part II.
4. For questions 1 to 15 in Part I, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 16 to 23, give your answers in the spaces given in the Part II.

	<b>Maximum</b>	<b>Marks Obtained</b>
<b>Part I</b>	<b>30 marks</b>	
<b>Part II</b>	<b>20 marks</b>	
<b>Total</b>	<b>50 marks</b>	

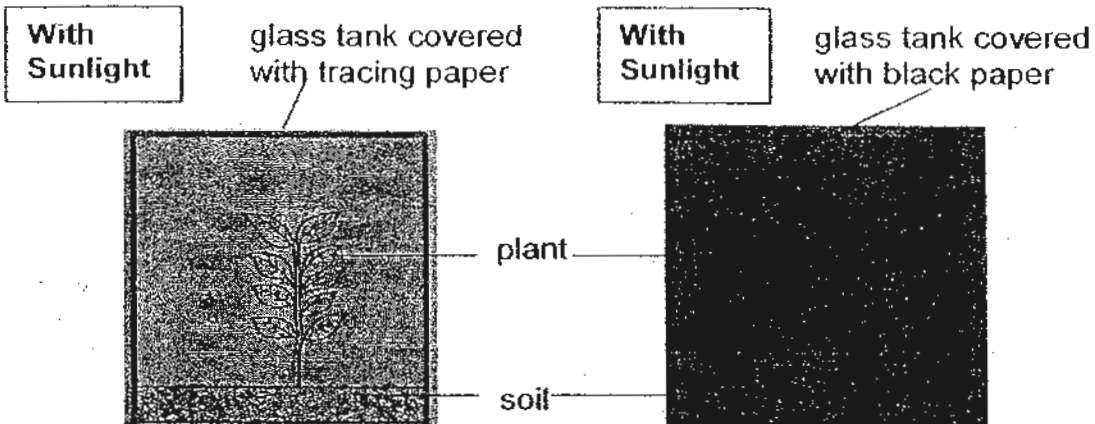
\* This booklet consists of 14 pages. (Pg. 1 to 14)

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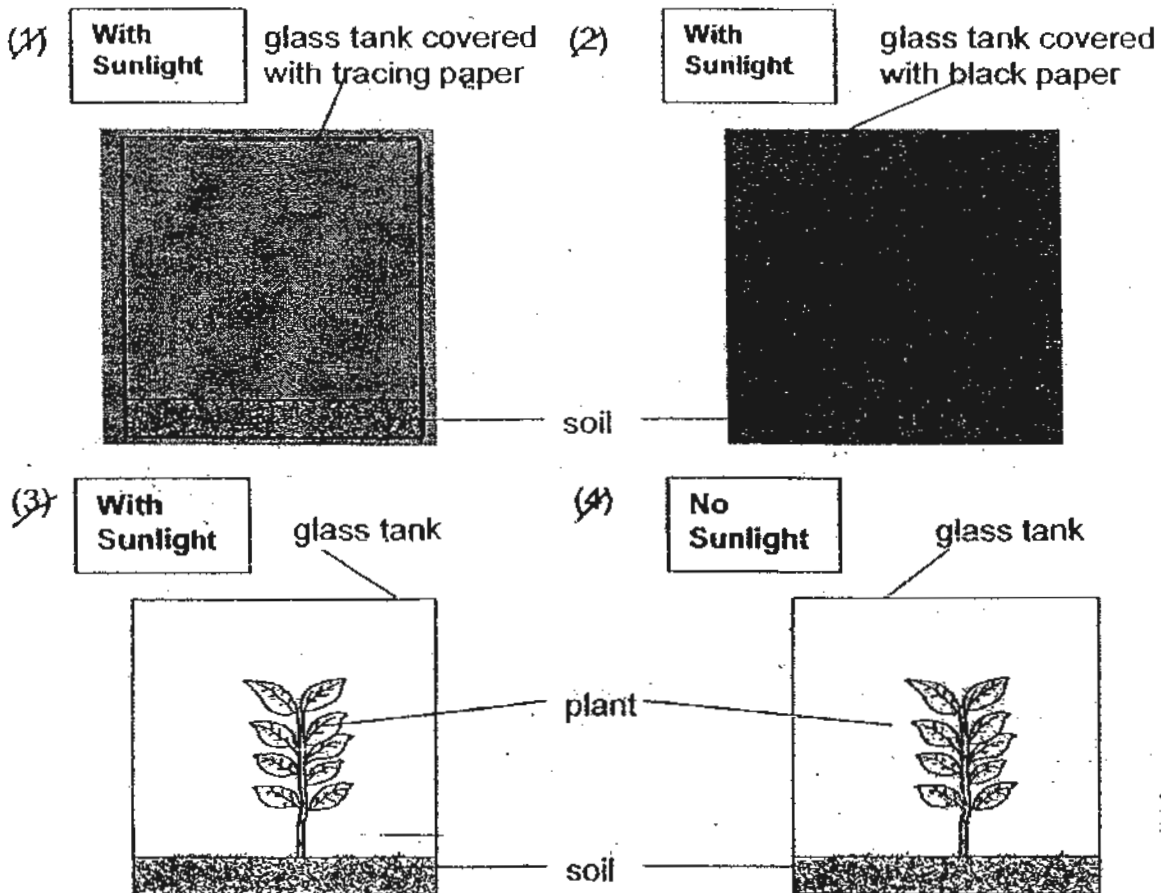
**PART I ( 30 MARKS)**

For each question from 1 to 15, 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.**

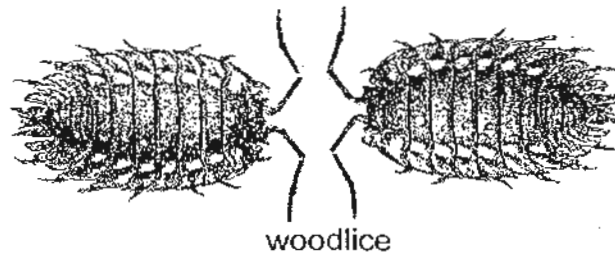
1 Lester sets up an experiment as shown below. He wants to find out how the amount of sunlight affects the growth of a type of plant.



Which one of the following set-ups can he use as a control for his experiment?



2. The diagram below shows two woodlice.



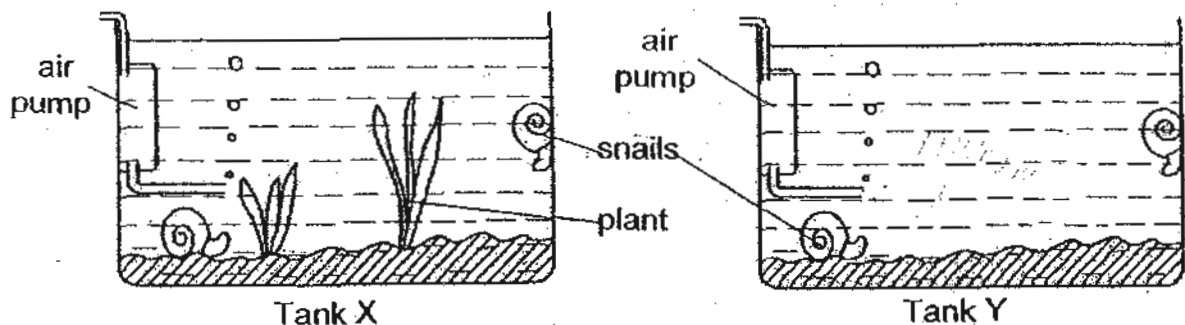
Lily knew that woodlice preferred particular environmental conditions of temperature, moisture and light. She set up eight environments as shown in the table below to investigate which conditions attracted the greatest number of woodlice.

Cool moist bright	Cool moist dark	B	Cool dry dark
Warm moist dark	A	Warm dry bright	Warm dry dark

To make a fair test, what conditions did Lily need to set for environments A and B?

	Conditions for Environment A			Conditions for Environment B		
(1)	Warm	Dry	Dark	Cool	Moist	Dark
(2)	Warm	Dry	Bright	Cool	Moist	Bright
(3)	Warm	Moist	Bright	Cool	Dry	Bright
(4)	Warm	Moist	Dark	Cool	Dry	Dark

3. Two aquarium tanks are set up with air-pumps as shown in the diagram below.



After a week, all the snails in tank Y appear weak.

Which of the following is/are reason(s)?

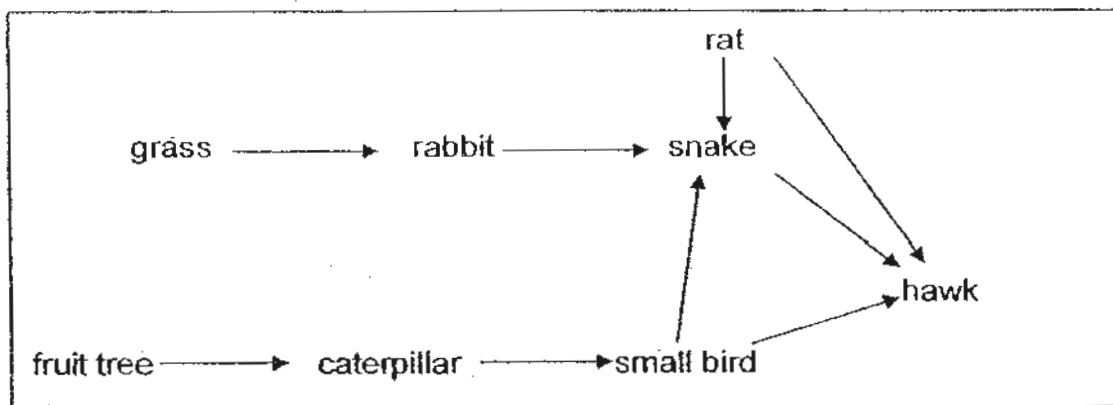
- ~~A~~: lack of food
- ~~B~~: lack of oxygen
- ~~C~~: increase in the amount of carbon dioxide

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

4 Which of the following features help plants to disperse their seeds by animals?

- |                                     |   |
|-------------------------------------|---|
| <del>(1)</del> light and tiny seeds | <del>(2)</del> big and edible fruit             |
| <del>(3)</del> dry pod-like fruit   | <del>(4)</del> seeds with fine hairy structures |

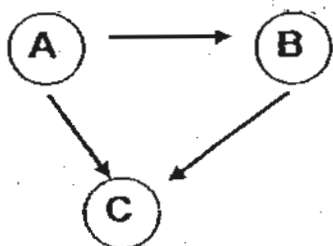
5 Study the food web below.



Which animal populations will likely increase in number if there is a drastic increase in the hawk population?

- |                                       |                                     |
|---------------------------------------|-------------------------------------|
| <del>(1)</del> rabbit and caterpillar | <del>(2)</del> rat and caterpillar  |
| <del>(3)</del> rabbit and small bird  | <del>(4)</del> small bird and snake |

6 The diagram below represents a food web.



Which of the organism(s) could be predator(s)?

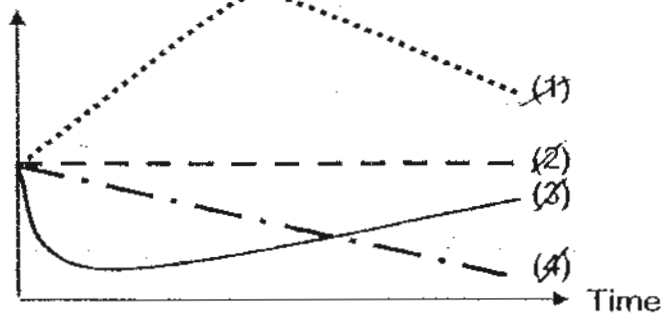
- |                             |                           |
|-----------------------------|---------------------------|
| <del>(1)</del> B only       | <del>(2)</del> C only     |
| <del>(3)</del> B and C only | <del>(4)</del> A, B and C |

7 Study the food chain below:



Which of the following graphs best illustrates what would likely happen to the grasshoppers if the population of frogs was suddenly wiped out?

Number of grasshoppers

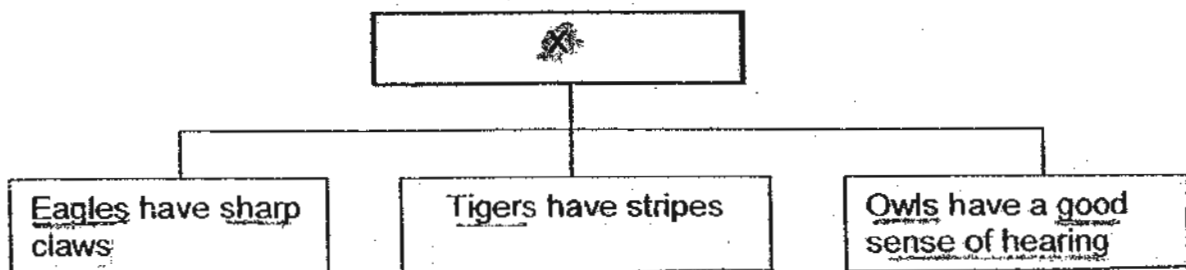


8 The African lungfish has a special lung for breathing. It can stay alive for a few months to a few years during dry periods by burrowing into the mud and staying inactive.

Which physical factors of its environment have the lungfish adapted to?

- (1) air and water
- (2) light and water
- (3) temperature and air
- (4) temperature and water

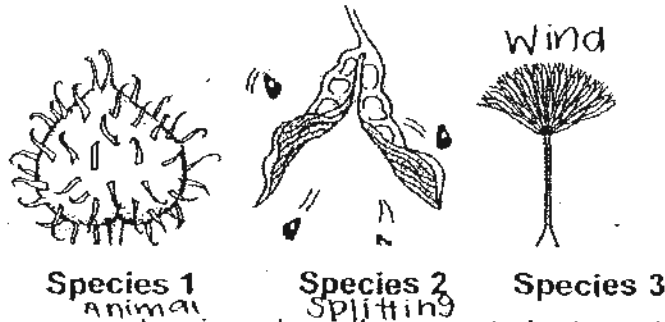
9 Study part of a concept map below.



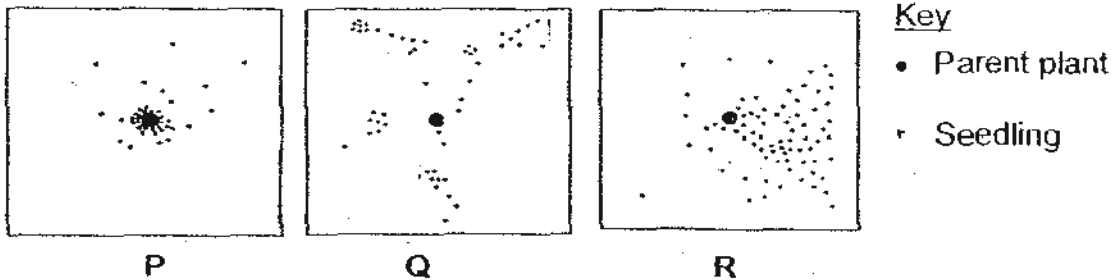
Which is the most appropriate heading for X?

- (1) Adaptations for getting food
- (2) Adaptations for reproduction
- (3) Adaptations for moving around
- (4) Adaptations for blending into their surroundings

10 The diagram shows the fruit of three species of plants.



P, Q and R are maps showing where the parent plants and their seedlings are growing.

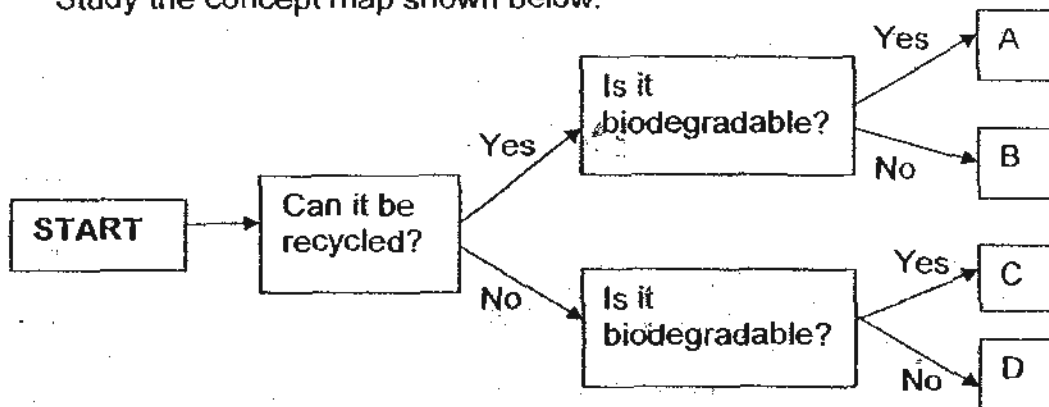


**Key**  
 • Parent plant  
 ◦ Seedling

Which map relates to species 1, 2 and 3?

	Species 1	Species 2	Species 3
(1)	Q	P	R
(2)	R	P	Q
(3)	P	Q	R
(4)	R	Q	P

11 Study the concept map shown below.



Which of the following could A, B, C and D be?

	A	B	C	D
(1)	Cardboard box	Plastic bottle	Chicken bone	Wooden chair
(2)	Newspapers	Aluminium can	Mouldy bread	Styrofoam cup
(3)	Used textbook	Compact disc	Rubber tyre	Human hair
(4)	Cotton cloth	Gold ring	Tin can	Plastic bag

- 12 A plantation was infested with 2 types of Aphids, A and B. The farmer wanted to use ladybirds to remove the aphids. He had four types of ladybird, W, X, Y and Z. He did the following experiment to find out which type of ladybird was the most effective.

He put 50 of each ladybird in 4 different cages.

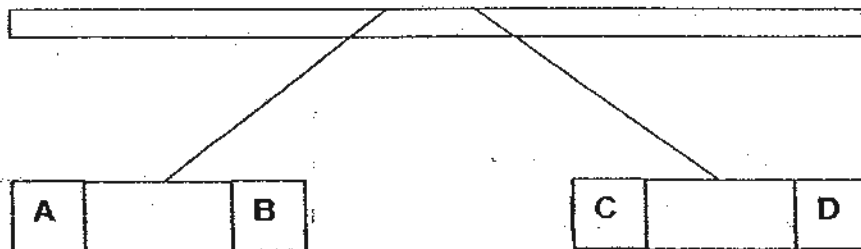
He also put 200 Aphid A and 200 Aphid B in each of the 4 cages.  
The number of each type of aphid left in each cage is shown in the table below.

Cage with	Number of aphids left	
	Aphid A	Aphid B
Ladybird W	19	289
Ladybird X	75	200
Ladybird Y	101	120
Ladybird Z	130	135

Which type of ladybird (W, X, Y or Z) should he introduce to remove as many Aphid A and Aphid B as possible from his plantation?

- (1) Ladybird W                      (2) Ladybird X  
(3) Ladybird Y                      (4) Ladybird Z

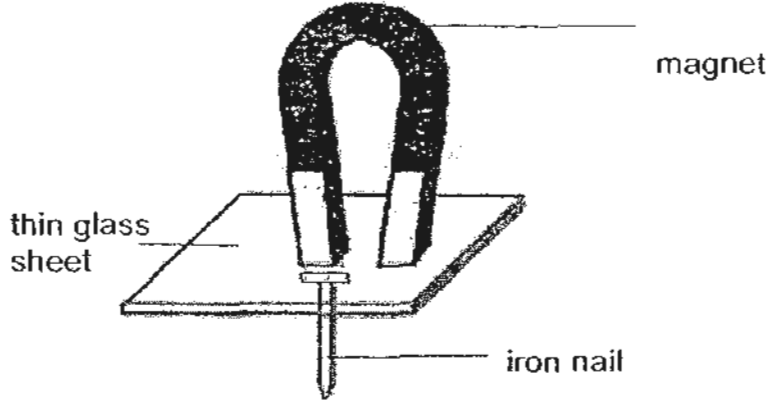
- 13 Two suspended bar magnets interact as shown in the diagram.



Which one of the following statements is correct?

- (1) A and B are like poles.                      (2) A and D are unlike poles.  
(3) B and D are like poles.                      (4) A and C are unlike poles

- 14 Michael placed a thin sheet of glass between an iron nail and a horse-shoe magnet as shown in the diagram below. The iron nail was attracted to the magnet. Then Michael placed more and more similar sheets of glass until the iron nail could no longer be attracted by the magnet.



What is the aim of Michael's experiment?

- (1) To find out if the nail is magnetic.
  - (2) To find out if the glass is magnetic.
  - (3) To find out the strength of the magnet.
  - (4) To find out the part of the magnet that has the strongest pull.
- 15 Leon had four magnets as shown below.



To compare the strength of the magnets, he put a pole of each of the magnets near a pile of paper clips.

The table below shows the number of paper clips attracted by the magnets from various distances.

Magnet	Distance between magnet and paper clips (cm)	Number of paper clips attracted
rod magnet	4	6
bar magnet	6	9
ring magnet	5	6
button magnet	6	11

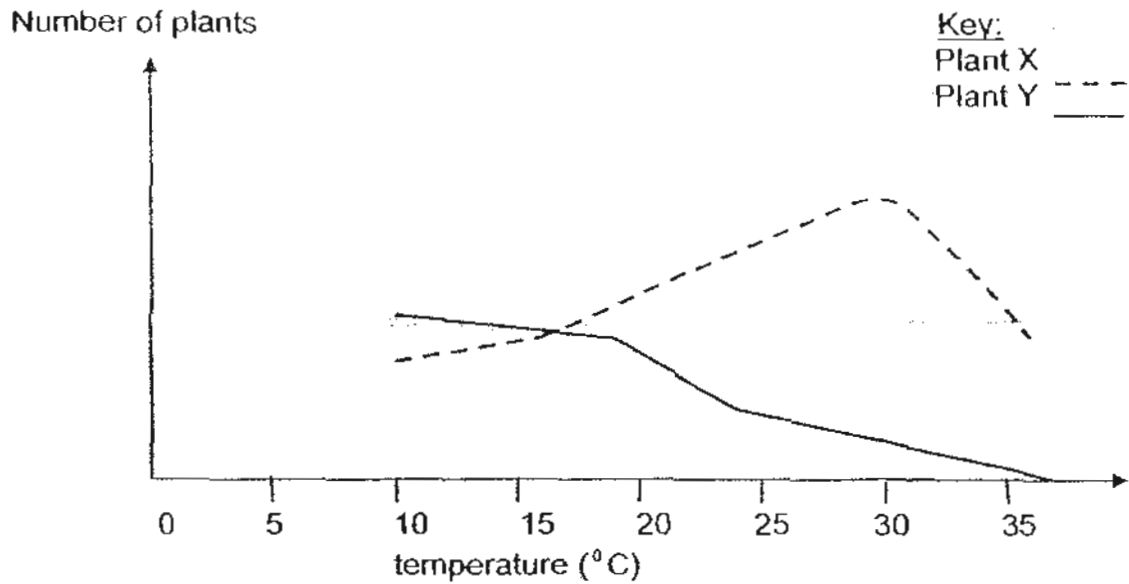
Which of the following statements is not possible to tell?

- (1) The rod magnet is as strong as the bar magnet.
- (2) The ring magnet is stronger than the rod magnet.
- (3) The button magnet is stronger than the bar magnet.
- (4) The ring magnet will attract more than 6 clips if it is placed nearer to the clips. True

**PART II ( 20 MARKS)**

For questions 16 to 23, write your answers in this booklet.

16. Study the graph below which shows the relationship between the number of two species of plants, X and Y, and the temperature of the surroundings.



- (a) Which is the most suitable temperature to grow plant X? [1]

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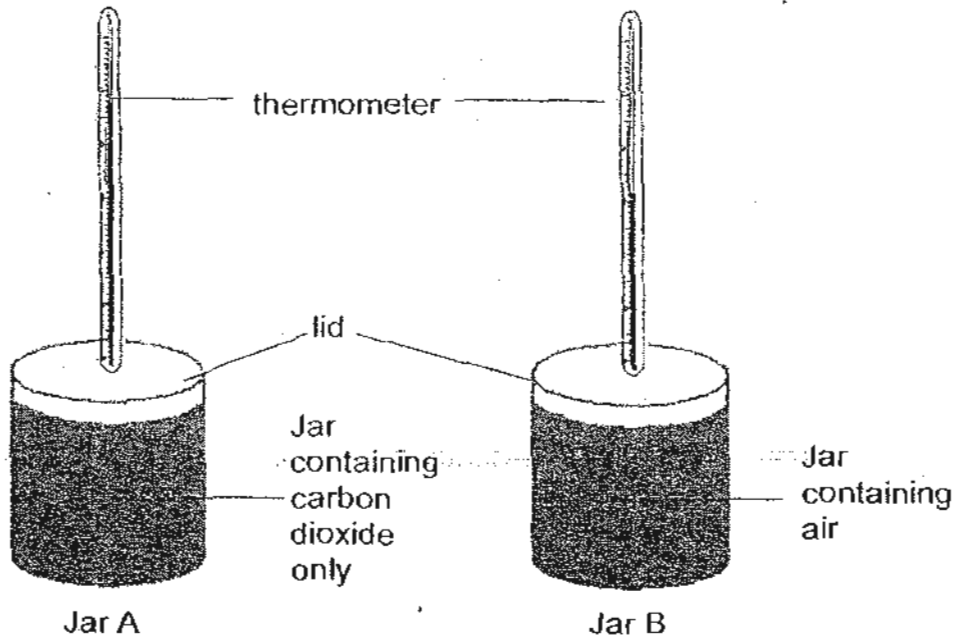
- (b) Which plant, X or Y, is not adapted to grow in a hot environment? Support your choice. [1]

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17. Bill set up two jars and placed them in the sun. The two jars were as shown below at the end of two hours.



- (a) Based on the diagram above, state the observation that could be made. [1]

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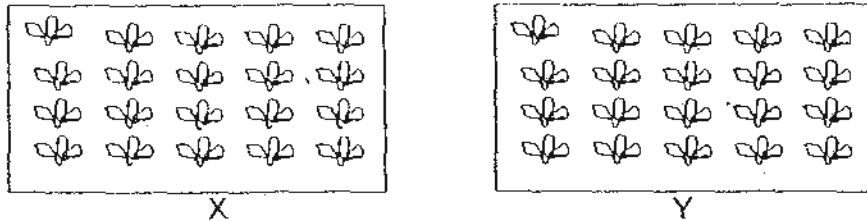
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- (b) What negative impact on the environment would result if there is an increasing concentration of gases such as carbon dioxide in Earth's atmosphere? [1]

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18. Two similar vegetable plots, X and Y, next to each other in an open field were selected for an experiment.



In X, all the dead parts of the plants were cut and thrown away as soon as they appeared.

In Y, the dead parts were allowed to fall and decay in the ground.

In which plot, X or Y, would the plants be growing better after some time? Explain your answer. [2]

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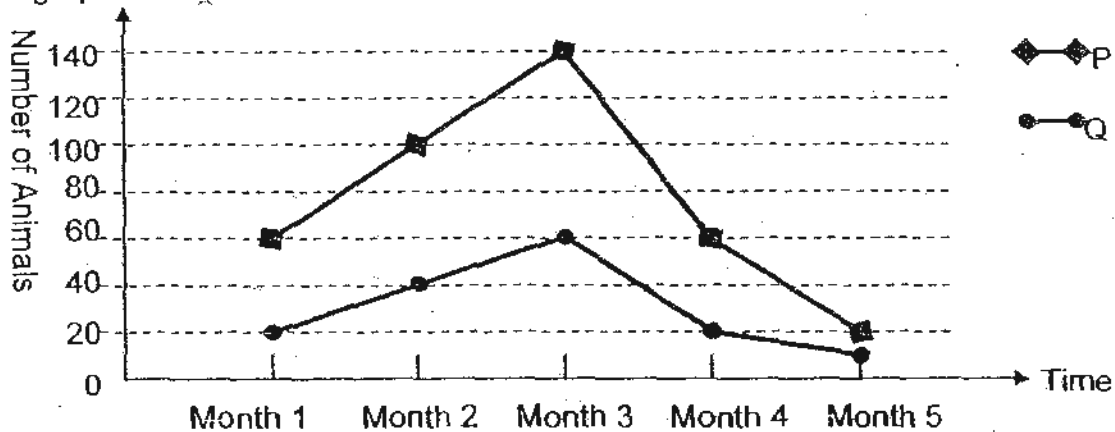


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19. Some pupils made a study of 2 types of animals, P and Q, on a seashore. They counted the number of each animal each day for 5 months. The results are shown in the graph below.



- (a) Describe the changes in the population size for organism P from Month 1 to Month 5. [1]

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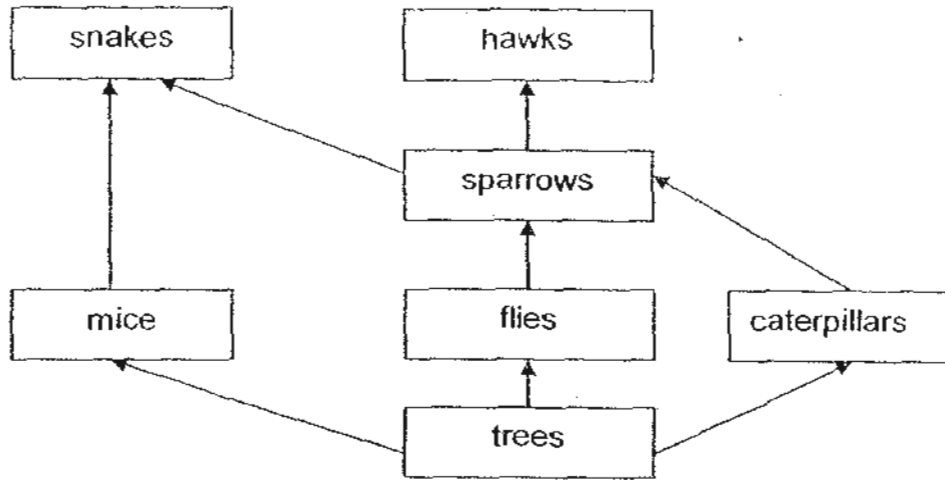


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- (b) The pupils found that the populations of P and Q are dependent on each other. What is a possible relationship between the animals P and Q? [1]

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20. The diagram shows a food web in an area of a forest.



(a) How many food chains make up this food web? [1]

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(b) Based on the food web, write a food chain involving 3 organisms. [1]

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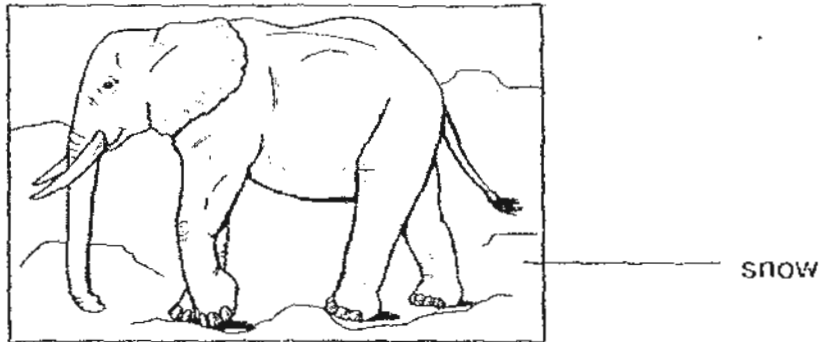
(c) Wind blows insecticide from a field into the forest.  
Does the insecticide have an effect on the number of sparrows? Explain your answer. [2]

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21. The diagram below shows an elephant in the Polar region.



(a) Give two reasons why it is unable to survive in this region. [2]

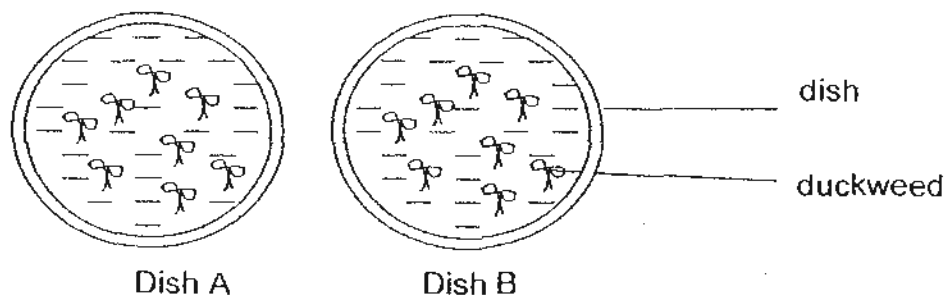
(i) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(ii) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(b) How does its trunk help it to obtain food in its natural environment? [1]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

22. Evan found out that water can form a weak acid when vinegar is added. He carried out the following experiment. Two similar dishes labelled A and B, were filled with equal volume of water. 8 duckweeds were placed in each dish and 10 drops of vinegar were added to dish A. Both dishes were placed near the window.



Evan counted the number of duckweeds in the dishes each day and recorded the results as shown in the table below.

Dish	Number of duckweed						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
A	8	8	6	4	4	2	2
B	8	8	9	9	10	11	12

- (a) State the changes in the number of duckweeds in the two dishes at the end of Day 7. [1]

(i) Dish A : \_\_\_\_\_

(ii) Dish B : \_\_\_\_\_

- (b) What can he infer from the above experiment? [1]

\_\_\_\_\_

\_\_\_\_\_

Evan discovered dead aquatic animals in a pond near his house as a result of the pond water being slightly acidic.

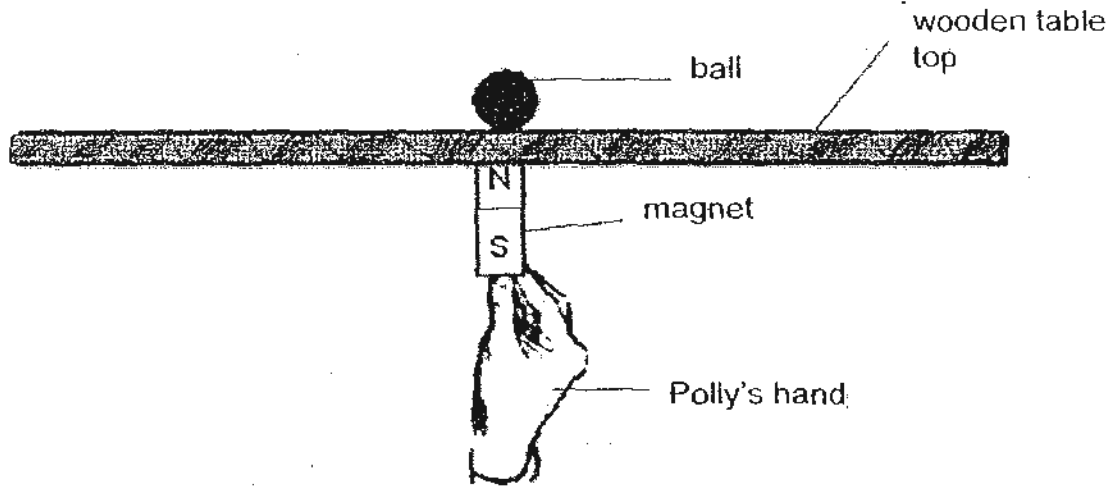
- (c) Describe how the water in the pond can become slightly acidic in its natural environment? [1]

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

23. The diagram below shows a ball on a wooden table top. Polly moves the ball by moving a bar magnet on the underside of the table. When the bar magnet is moved across the underside of the table, the ball follows it, moving across the table top.



- (a) What type of material is the ball made of? [1]

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- (b) Explain why the ball follows the movement of magnet. [1]

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**END OF PAPER**



# ANSWER SHEET

## EXAM PAPER 2010

SCHOOL : ROSYTH PRIMARY  
 SUBJECT : PRIMARY 5 SCIENCE

TERM : CA2

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

16)a)30°C .

b)Plant Y. Plant T was growing well at first at 10°C, but as the temperature increased, the number of plant Y was decreasing to the heat.

17)a)The thermometer placed in the jar containing only carbon dioxide would show a higher temperature than the thermometer in the jar containing air.

b)The ozone layer will be destroyed, allowing more of the sun's ultraviolet rays to reach the Earth, therefore causing global warming.

18)The plants would be growing better in plot Y. The dead parts in Y decomposed and were used as fertilizers and nutrients for the surviving plants, while the dead parts in X were removed immediately so there was no extra fertiliser or nutrients for the surviving plants to grow better.

19)a)The population size of organism P was increasing rapidly throughout the first three months, then there was a sharp dip in the population size of organism P in months 4 and 5.

b)P is the prey of Q.

20)a)5 food chains.

b)Trees→mice→snakes.

c)Yes. Their numbers will decrease. The caterpillars and flies eat the fruit and leaves of the trees which have insecticide on them, and as a result are killed. The sparrows that feed on the caterpillars and flies will have less food to eat.

21)a)i)It has a grey body covering which makes it difficult to camouflage itself against the white snow.

ii)It is a herbivore and it has difficult finding plants in the polar region.

b)It uses its trunk to pick leaves and rip off branches from the trees.

22)a)i)The number of duckweeds will continue decreasing.

ii)The number of duckweeds will continue to increase.

b)Evan can infer that acid water kills plants and he should not add acid when growing plants.

c)Acidic gases from factories are released into the atmosphere dissolve in rain water to form a acid rain.

23)a)A magnetic material.

b)The wooden table top is non-magnetic, so magnetism can pass through it. Therefore, when the magnet moves, the ball is attracted and follows.