Candidate Name	Centre Number	Candidate Number
		4

Entry Level

715/01

LAND STUDIES

P.M. MONDAY, 10 March 2008

1 hour

Examiner only

TOTAL MARK	

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet.

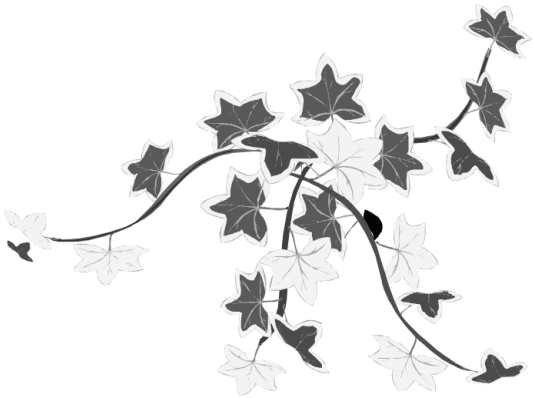
If you have difficulty in reading a question, put up your hand and the teacher-in-charge will read it to you.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

Answer **all** *questions.*

1. Read the following paragraph carefully and then answer the questions.



A
hedge with ivy growing in it will help wildlife

- What is a hedge?

A hedge is a mixture of bushes and trees planted in a line.

- Why are they planted?

Hedges are planted to divide up farmers' fields, to separate a field from a road or to keep farm animals safe. The hedge also provides shelter from wind and rain for the animals or crops.

- Plants of the hedge.

The main plants in the hedge may include Hawthorn, Blackthorn, Beech, Holly and Field Maple. Hawthorn and Blackthorn have sharp thorns to stop the farm animals breaking through the hedge. The sharp points on the leaves of Holly have the same effect.

- Hedges and wildlife.

The plants of the hedge provide food and homes for many wild animals. Birds like to make nests in hedges. Hedgehogs, weasels and voles and other small mammals shelter in the bottom of the hedge. Wood mice are good climbers and may be found further up in the branches. Birds and mammals find plenty of food in the hedge e.g. berries, nuts and seeds.

(a) What is a hedge? [1]

.....

.....

(b) Give **one** (1) reason why a farmer plants hedges around his fields. [1]

.....

.....

(c) Name **two** (2) plants in the hedge. [2]

(i) ..... (ii) .....

(d) Name a plant with sharp points on its leaves. [1]

.....

(e) Why are plants with thorns useful in the hedge? [1]

.....

.....

(f) Name **two** (2) things that a hedge provides for wild animals. [2]

(i) ..... (ii) .....

(g) Why do birds like hedges? [1]

.....

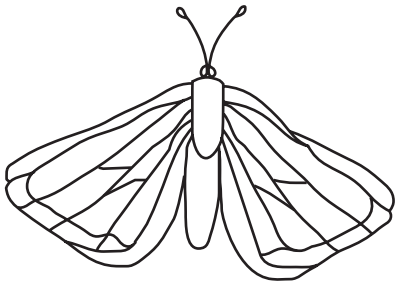
.....

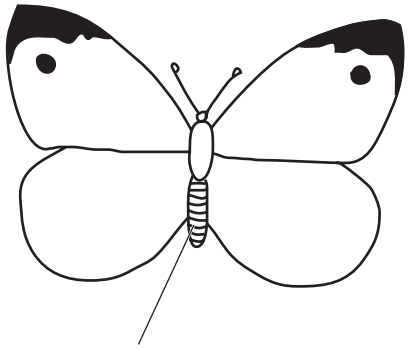
(h) Give **two** (2) examples of food which birds and animals find in the hedge. [2]

(i) ..... (ii) .....

[TOTAL = 11]

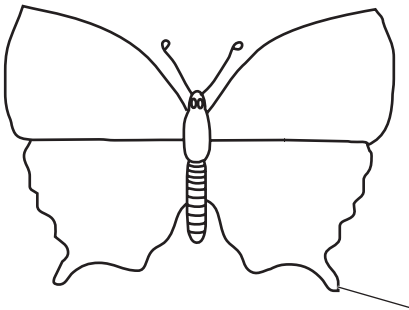
2. Here are some pictures of butterflies who visit the hedge. Use the key on the opposite page to name them. Write their names under **each** picture.

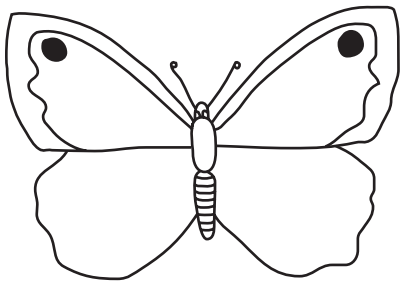




A .....

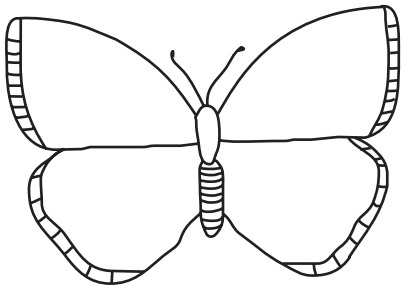
B .....

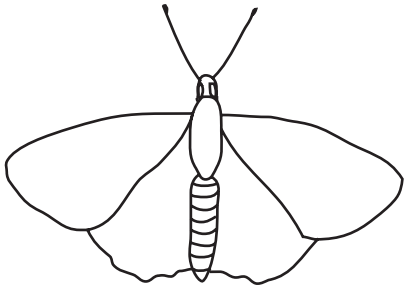




C .....

D .....





E .....

F .....

[TOTAL = 6]

KEY

1.	Abdomen has segments.	**Go to 2**
	Abdomen does not have segments.	**Chequered Skipper**
2.	Pattern on the wings.	**Go to 3**
	No pattern on the wings.	**Go to 5**
3.	Black spots on wings.	**Go to 4**
	No spots on wings.	**Duke of Burgundy**
4.	Black spots and tips on wings.	**Wood White**
	Black spots only on wings.	**Speckled Wood**
5.	Bottom wings have points.	**Green Hair Streak**
	Bottom wings do not have points.	**Dark Green Fritillary**

3. Along the bottom of the hedge wild flowers grow. Some pupils carried out a survey of the flowers they found in a 30 metre section. Here are their results.

Name of flower	Number
Violet	20
Wood Anemone	15
Celandine	6
Dead Nettle	30
Garlic Mustard	8
Ragged Robin	10
Woundwort	3
Rosebay Willow Herb	5

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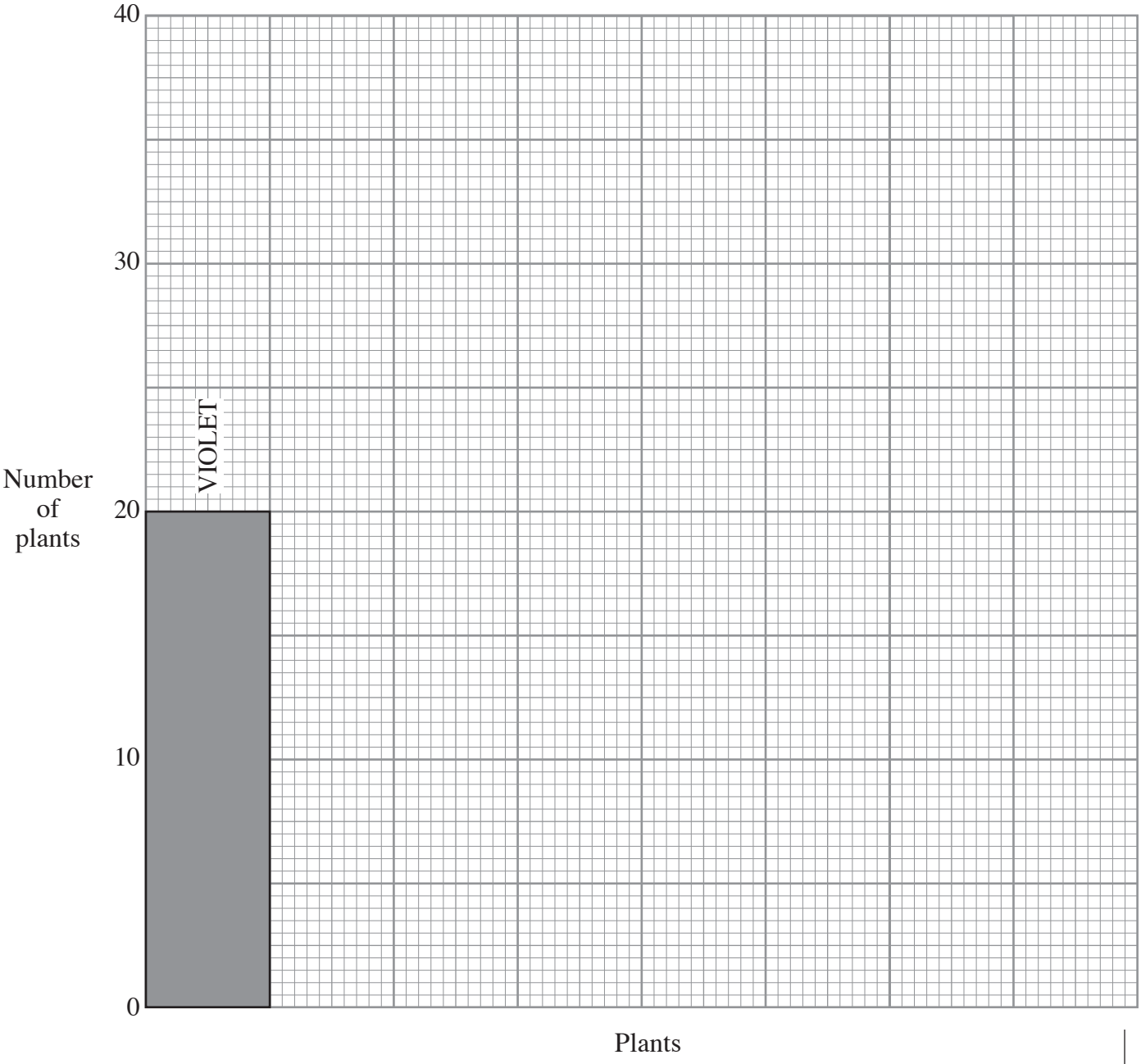
(a) Make a **bar** graph of their results on the graph paper. The first one is done for you. [9]



(b) What is the name of the most common flower found? [1]

.....

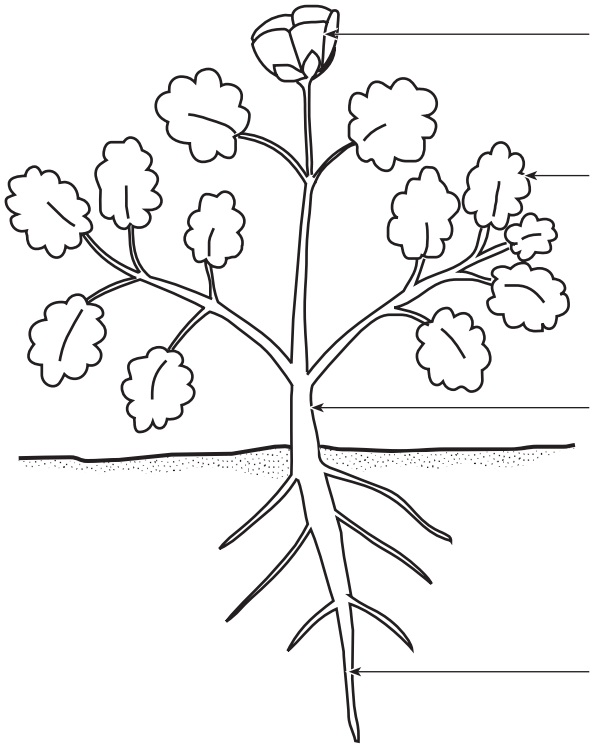
[TOTAL = 10]

Turn over.

4. This is a common flowering plant found in hedgerows.

(a) On the diagram label the:

Root *stem* *flower* *leaf*



(i) ..... [1]

(ii) ..... [1]

(iii) ..... [1]

(iv) ..... [1]

(b) Match the part of the plant to its function (job). Draw a line from the part to the correct function. One has been done for you. [3]

Part of the plant	**function**
Leaf	produces seeds
Stem	absorbs water
Root	makes food
Flower	carries food and water to all parts of the plant

(c) The plant makes food by photosynthesis.

(i) Here is the word equation for photosynthesis. Fill in the blanks.

..... + carbon ..... = sugar + ... [3]

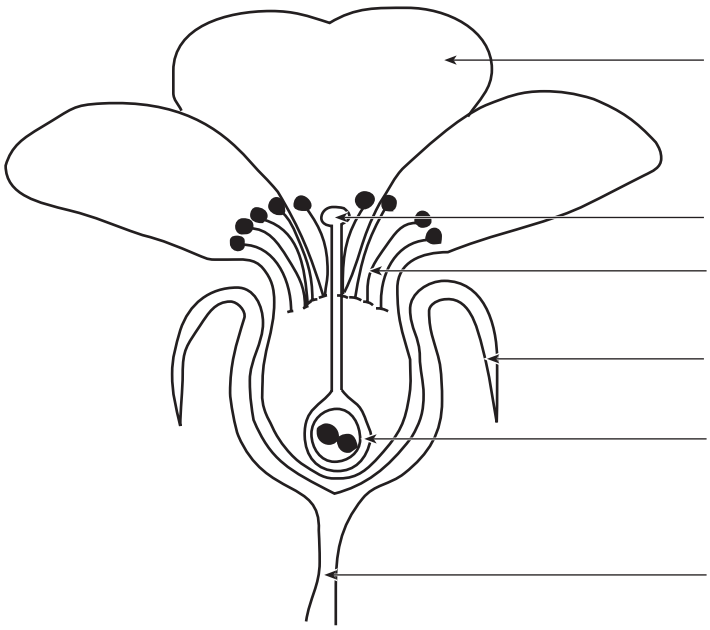
(ii) The plant needs energy to carry out photosynthesis. Where does this energy come from? [1]

.....

[TOTAL = 11]

5. Here is a drawing of half a flower from one of the hedge plants. Use the words below to label the diagram of the flower.

sepal *stigma* *stem* *ovary* *stamen* *petal*



(a) ..... [1]

(b) ..... [1]

(c) ..... [1]

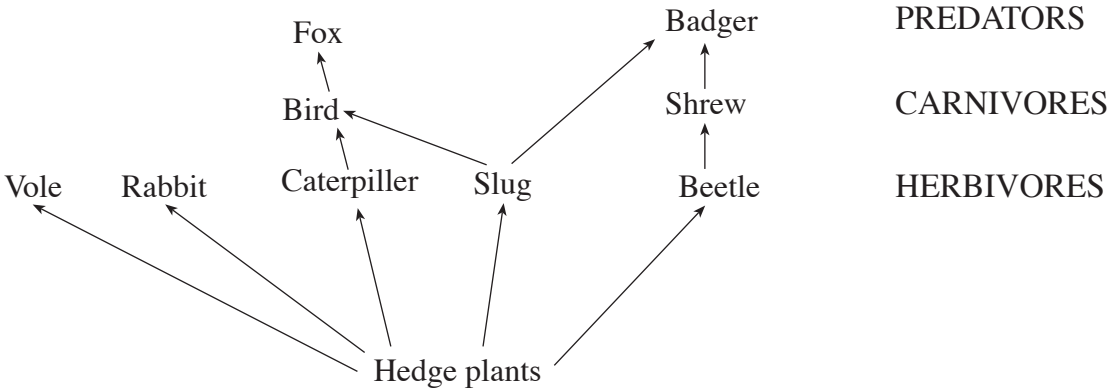
(d) ..... [1]

(e) ..... [1]

(f) ..... [1]

[TOTAL = 6]

6. Many animals and birds find food in the hedge. Here is a food web from a hedge. Use the food web to answer the following questions.



From the web.

(a) Name **two** (2) carnivores. [2]

(i) ..... (ii) .....

(b) Name **two** (2) herbivores. [2]

(i) ..... (ii) .....

(c) Which **two** (2) animals are not eaten by others? [2]

(i) ..... (ii) .....

(d) Write out a food chain using **three** (3) animals. [1]

Hedge plant ..... → ..... → .....

(e) What term is used to describe an animal which hunts other animals? [1]

.....

[TOTAL = 8]

7. There was a lot of litter in the hedge. Much of this litter could harm the animals who live in or near the hedge.

Pupils who carried out a litter pick in the hedge found the following:

15 drink cans

30 crisp packets

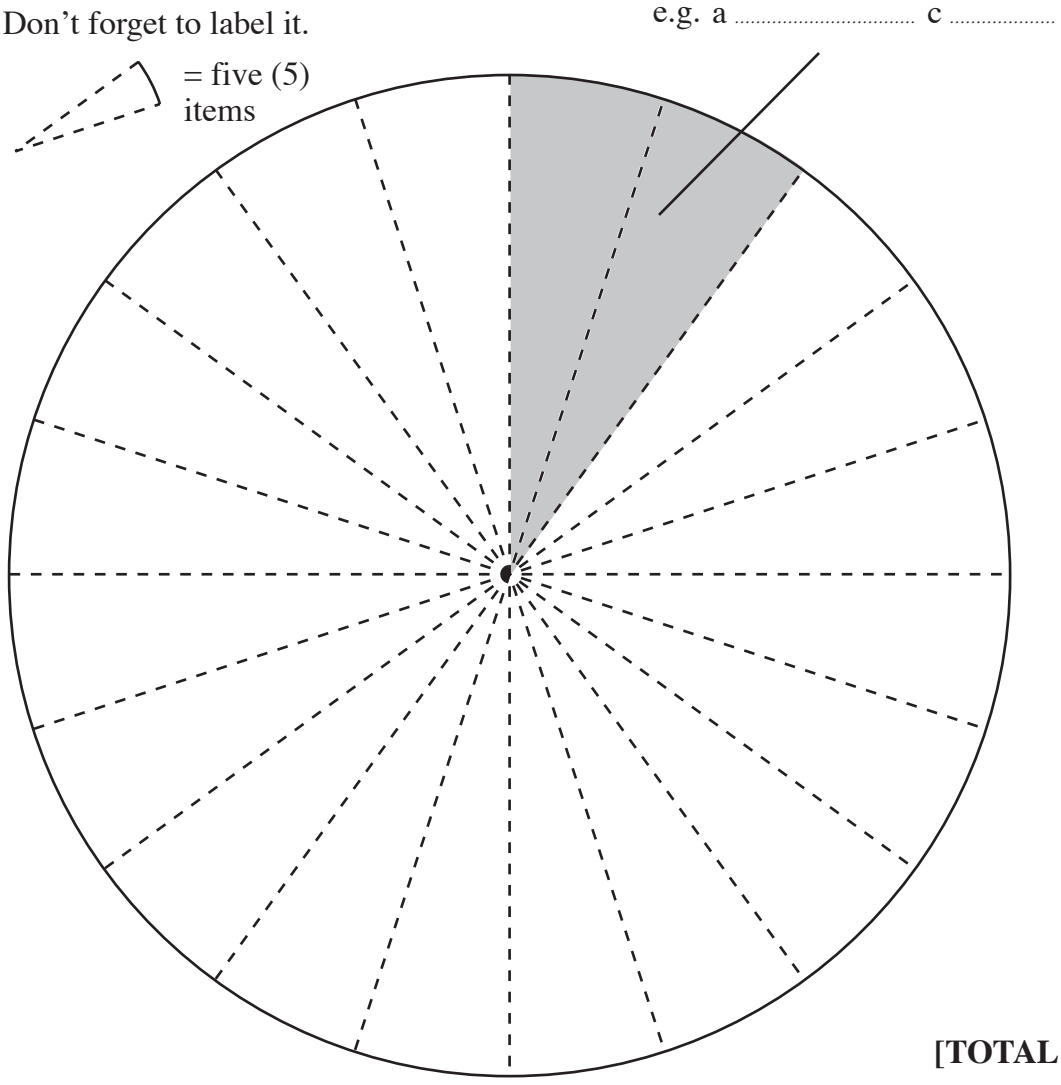
5 bottles

20 sweet wrappers

10 apple cores

20 plastic bags

Display the results of the litter pick in the pie chart. Colour in each section in a different colour **or** use a different pattern for each section.



[TOTAL = 6]

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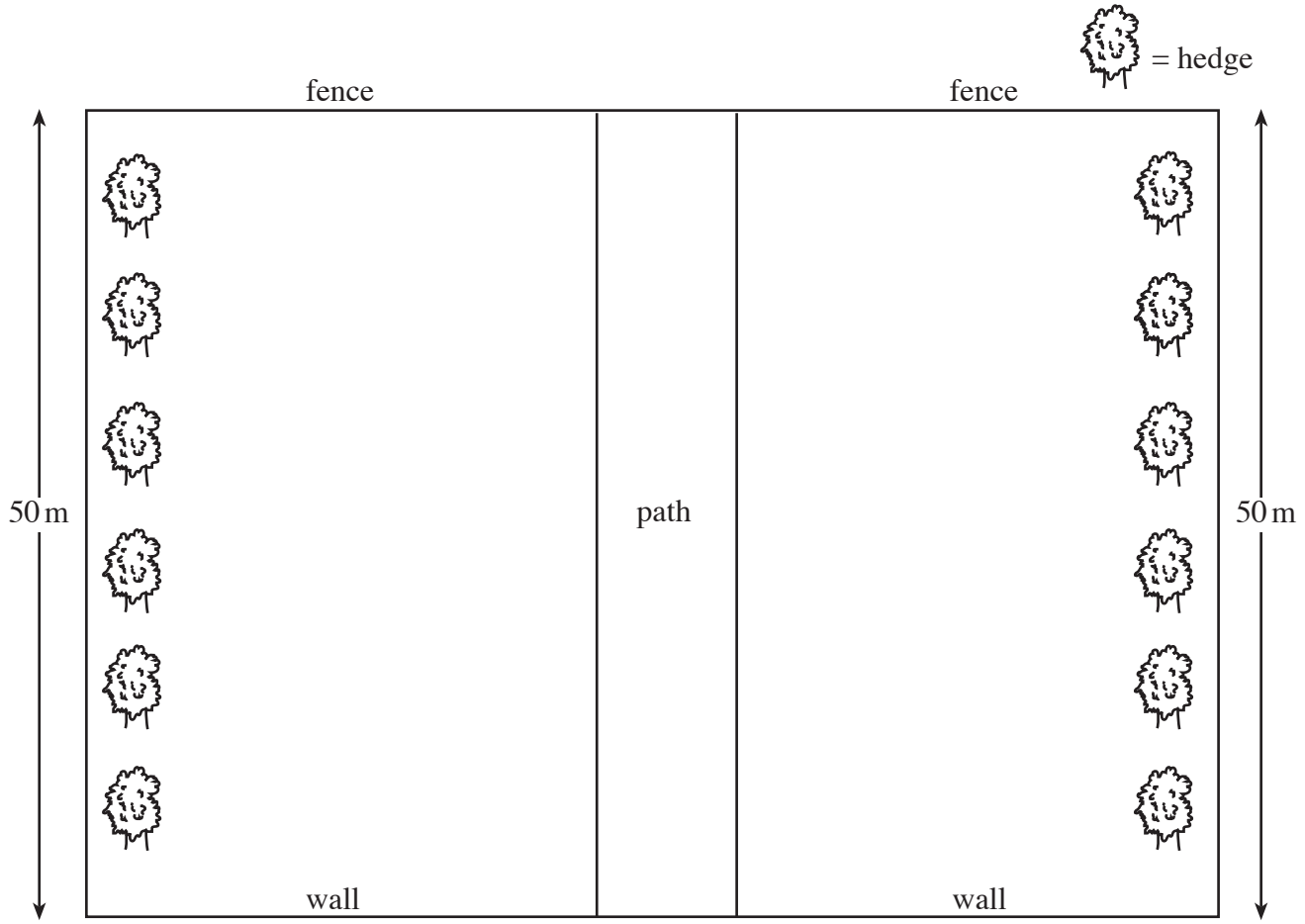
8. Many gardens have hedges around them. Look at this plan of a garden and answer the questions about it. It is not drawn to scale.



(a) A hedge is planted along the two sides of the garden. What length will the hedge be altogether? [2]

.....

(b) Twenty five (25) plants are needed. The plants are £4 each.

How much will the hedge cost? [1]

.....

(c) Name **three** (3) things the hedge plants will need in order to grow well. [3]

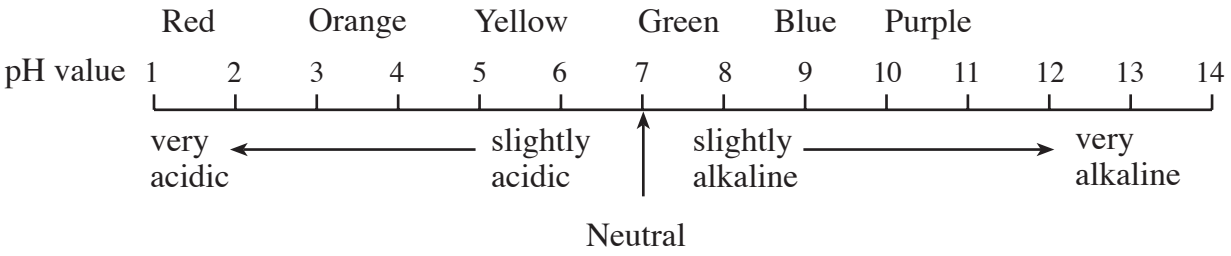
(i) .....

(ii) .....

(iii) .....

[TOTAL = 6]

9. When the hedge was planted, the soil was tested to find the pH. Universal Indicator was used, which changes colour for different pH values. This is shown in the diagram below.



Use the diagram to answer the questions.

(a) The soil sample turned the indicator orange. What was the pH value of the soil? [1]

.....

(b) What colour would a neutral soil give? [1]

.....

(c) What could be added to an acid soil to make it neutral? [1]

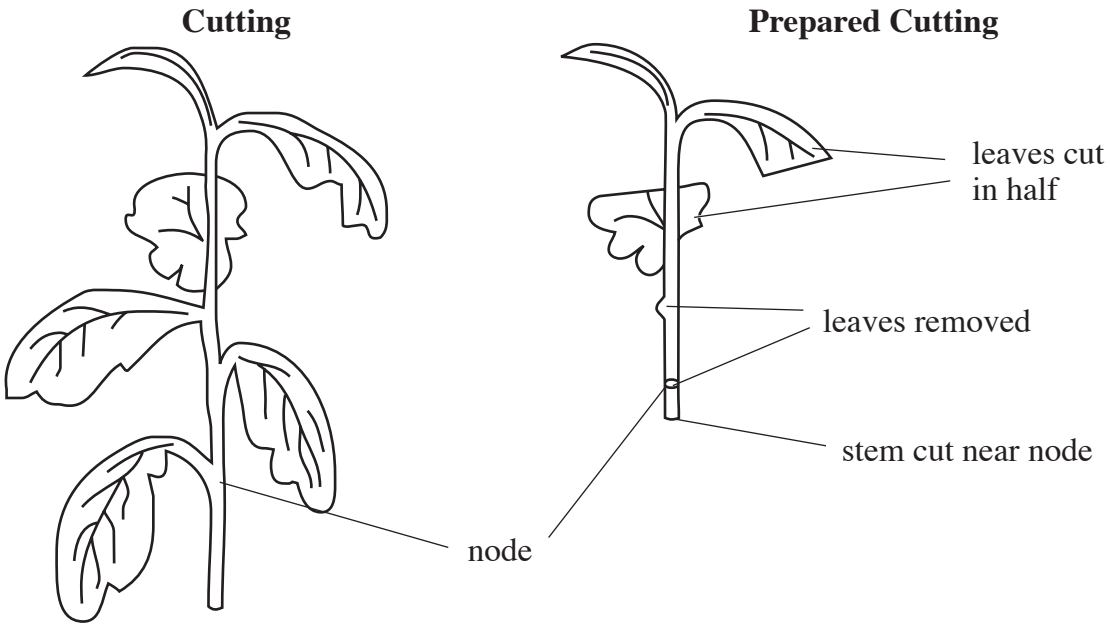
.....

(d) Are these pH values **acid** or **alkali**? Tick the correct box. [3]

pH	**Acid**	**alkali**
9		
14		
2		

[TOTAL = 6]

10. New plants can be grown from the hedge plants by taking **cuttings**. A cutting is a piece of a plant, which will grow into a new plant. Here are the first steps in taking a stem cutting.



(a) Why were some leaves removed from the cutting? [1]

.....

(b) What would you do to the cutting now to help it to grow into a new plant? [2]

Either: Write a sentence to say what you would do:

.....

.....

.....

Or: Draw a picture to show what you would do:

[TOTAL = 3]

Turn over.

11. Read the following statements and say whether they are True or False.
Write **T** (true) or **F** (false) next to **each** statement.

(a) A clay soil holds water well. ..... [1]

(b) Earthworms are harmful to plants. ..... [1]

(c) Ladybirds eat greenfly (aphids). ..... [1]

(d) Milk contains sugar. ..... [1]

(e) Plants and animals use Carbon dioxide for respiration. ..... [1]

(f) An animal, which is eaten by another is called a predator. ..... [1]

(g) Grey mould is a fungal disease of plants. ..... [1]

[TOTAL = 7]