UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

2167029071

AGRICULTURE **0600/02**

Paper 2 **October/November 2008**

1 hour 15 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

For Examiner's Use	
1	
2	
3	
4	
5	
6	
7	
8	
9	
Total	

This document consists of **18** printed pages and **2** blank pages.

1 **(a)** **(i)** Name a food that is obtained directly from a **living** farm animal.

.....

(ii) Name a product, other than food, that is obtained directly from a **living** farm animal.

..... [2]

(b) Table 1.1 shows the percentage of meat provided by farm animals in different parts of the world.

Table 1.1

part of world	cattle	buffalo	goats & sheep	camels & llamas etc	horses & donkeys
Africa	74	1	9	9	7
South America	88	0.5	4	0.5	7
Asia	59	24	9	1	7

State **three** conclusions that can be made from the data about the types of meat eaten in different parts of the world.

1 .....

.....

2 .....

.....

3 .....

..... [3]

(c) As the human population increases, more food is needed but less land be available for farming.

(i) Name a type of livestock that does not require a lot of land to provide food.

..... [1]

(ii) Suggest **two** reasons why this animal is well suited to providing the extra meat.

.....

.....

..... [2]

[Total: 8]

2 **(a)** Fig. 2.1 shows rocks being replaced by soil over millions of years.

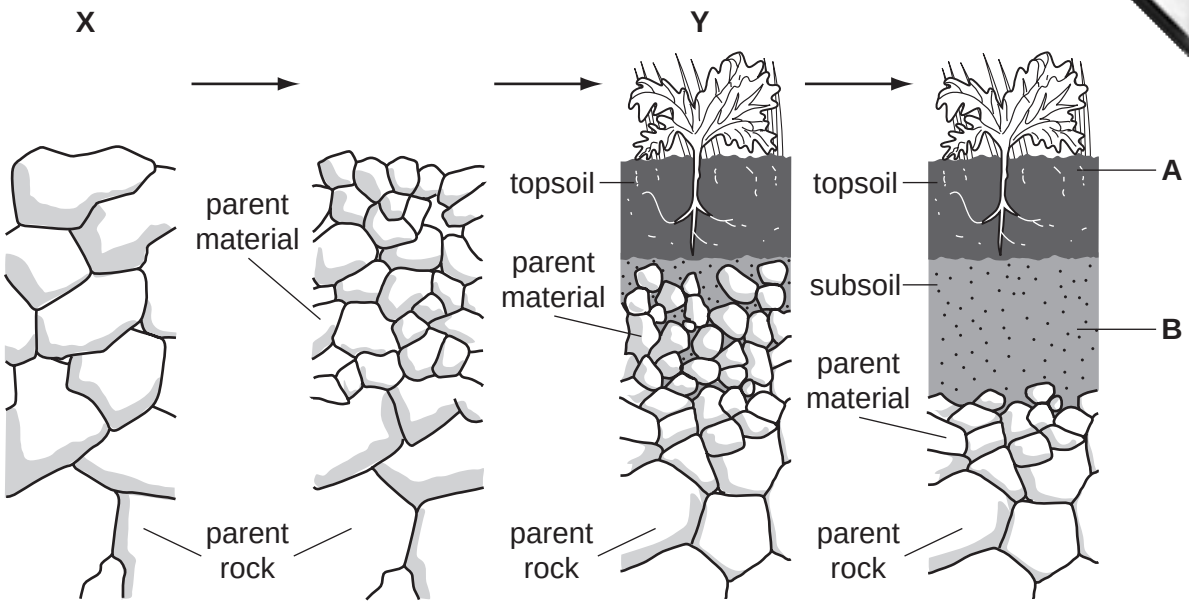


Fig. 2.1

(i) List **four** agents of weathering that are acting at **X**.

1 .....

2 .....

3 .....

4 ..... [4]

(ii) State **two** ways plants are helping form soil at **Y**.

1 .....

.....

2 .....

..... [2]

(b) Fig. 2.2 is a pie chart showing the composition of the subsoil, **B**.

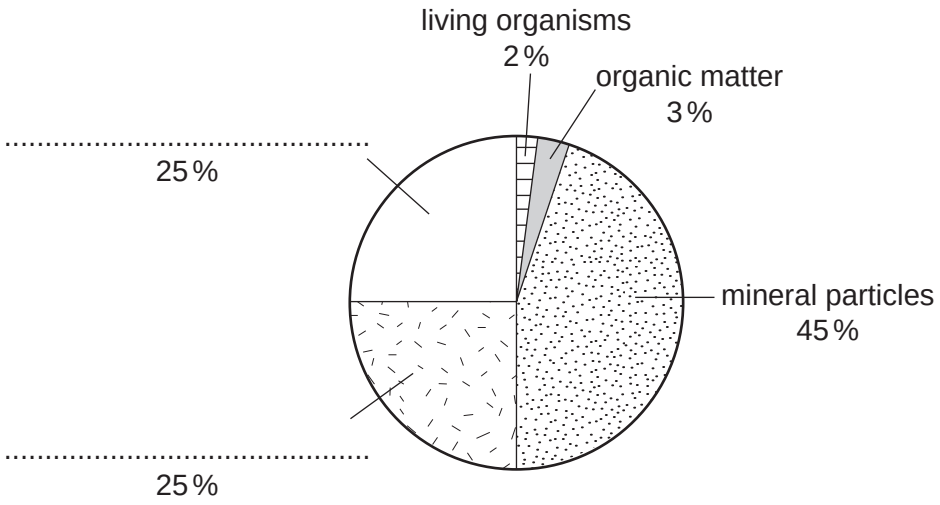


Fig. 2.2

(i) Complete the missing labels on the pie chart. [2]

(ii) State **two** ways in which the percentage (%) composition of the soil at **A** would differ from that shown for the subsoil, **B**.

1 .....

2 ..... [2]

(c) Describe briefly how a sample of soil taken from **A** could be tested for pH.

.....

.....

.....

.....

..... [3]

[Total: 13]

3 **(a)** The word equation for photosynthesis is as follows.

$$\text{carbon dioxide + water} \xrightarrow[\text{chlorophyll}]{\text{light}} \text{glucose + oxygen}$$

Complete the boxes in Fig. 3.1 using only words from this equation.

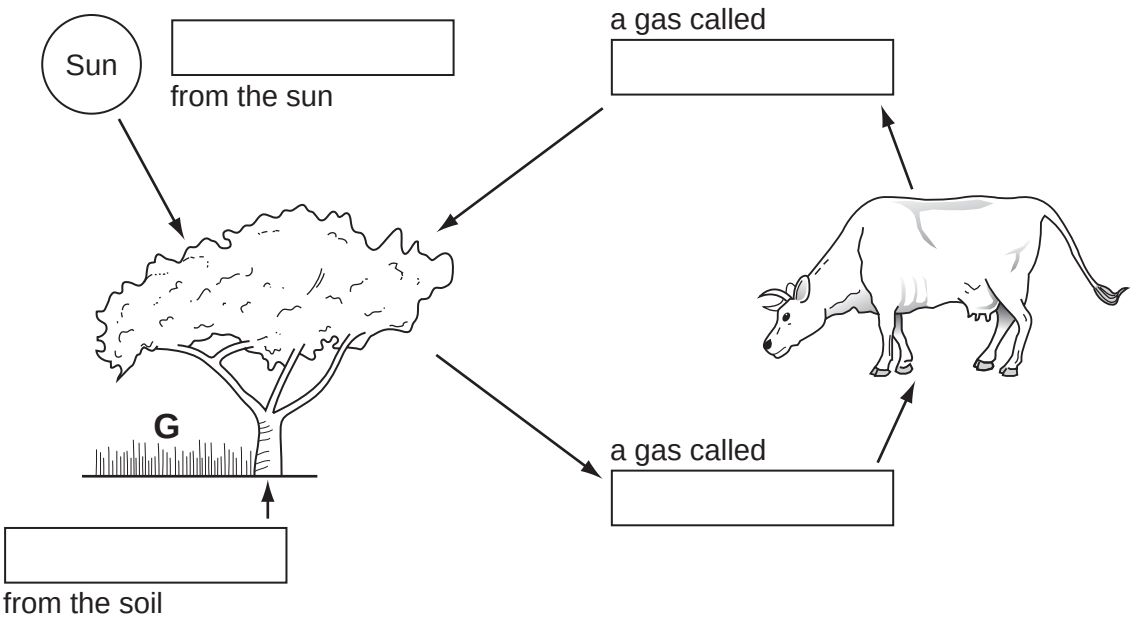


Fig. 3.1

[4]

(b) Cereals are grown in a garden plot, **G**, under the tree.

Explain how the tree might affect:

(i) photosynthesis in the cereal plants;

.....

.....

(ii) transpiration in the cereal plants.

.....

..... [2]

(c) Name a pest of a cereal crop and describe how it can be controlled.

name of cereal crop .....

name of pest .....

method of control .....

.....

.....

..... [3]

[Total: 9]

4 **(a)** Fig. 4.1 shows an Irish and sweet potato plant that were grown from tubers.

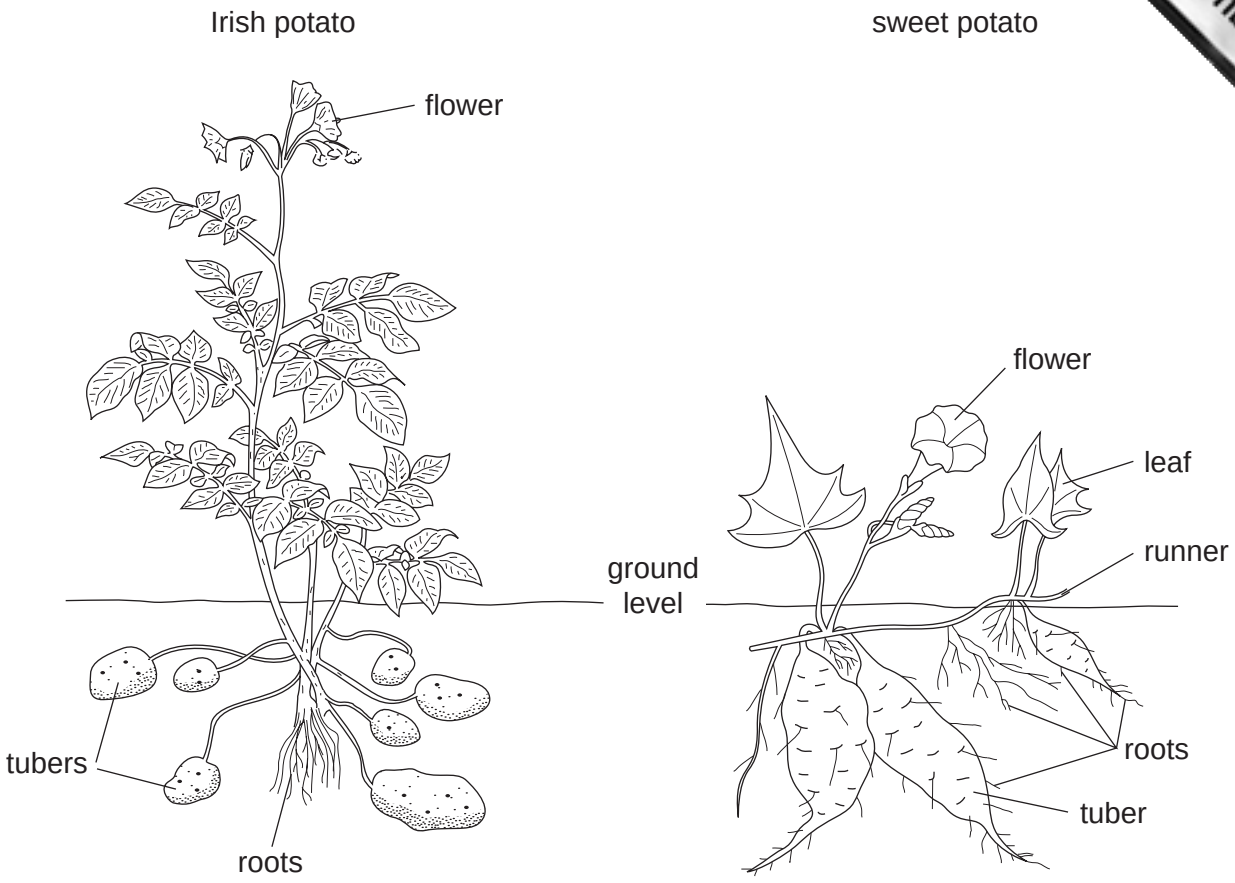


Fig. 4.1

(i) State **two** differences between the potato plants that can be seen in the diagram.

1 .....

2 ..... [2]

(ii) What is meant by *asexual reproduction*?

.....

.....

..... [2]

(iii) Choose **one** of these potato plants and explain how it reproduces asexually under natural conditions.

potato chosen .....

.....

.....

.....

..... [2]

(b) The Irish potato can be infected by a fungus.

State the weather conditions that would encourage infection and the spread of th fungus.

.....

..... [2]

(c) In free draining soils exposed to high rainfall both types of potato benefit from a top dressing of LAN (limestone ammonium nitrate).

Explain what effect its uptake has on the potato plants.

.....

.....

..... [2]

[Total: 10]

5 Fig. 5.1 shows the names given to parts of the digestive system of a ruminant.

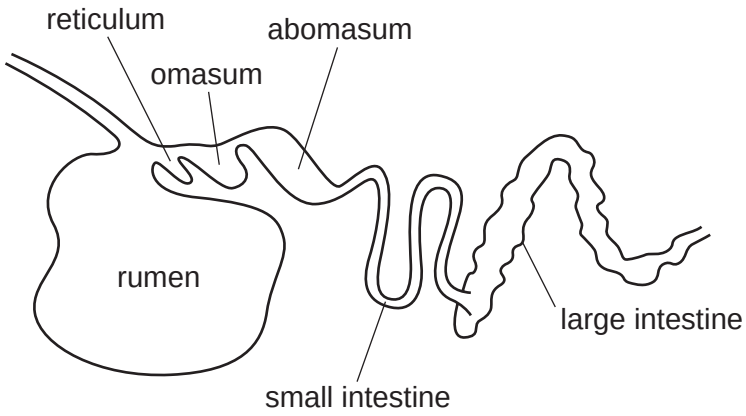


Fig. 5.1

(a) The boxes below list these parts of the ruminant digestive system and suggest some functions.

Draw a straight line from each part of the digestive system to its correct function.
One has been done for you.

part of digestive system	**function**
rumen	regurgitates food to be chewed
reticulum	bacteria in here break down food
omasum	final absorption of water
abomasum	food checked and water removed before passing to abomasum
small intestine	absorbs digested food
large intestine	true stomach, digests protein

[4]

(b) Table 5.1 shows the percentages of energy content and protein in some animal f

Table 5.1

feed	energy content %	protein %
Rhodes grass	5.5	1.5
dried Rhode grass hay	28.0	5.0
maize meal	82.0	23.0
sunflower cake	54.0	34.0
wheat bran	42.0	11.0

Which of these feeds would be given as a production ration?

..... [1]

(c) Explain what is meant by a balanced ration.

.....

.....

.....

..... [2]

[Total: 7]

6 **(a)** Fig. 6.1 shows three safety signs found on herbicide containers.

1 2 3

Fig. 6.1

State what each of these signs means.

1 .....

2 .....

3 ..... [3]

(b) Explain why weeds should not be sprayed with herbicide:

(i) just before rain;

.....

.....

(ii) in windy weather.

.....

..... [2]

(c) Name a local weed and explain how it spreads in a crop or pasture.

weed .....

spread .....

.....

..... [2]

[Total: 7]

7 **(a)** Fig. 7.1 shows the result of crossing a black cockerel and a white hen. The chicks were all white.

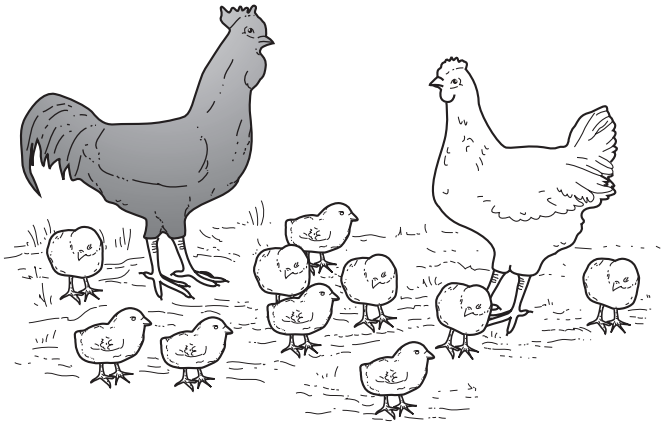


Fig. 7.1

(i) Which colour shows as dominant?
Give a reason for your answer.

.....

..... [1]

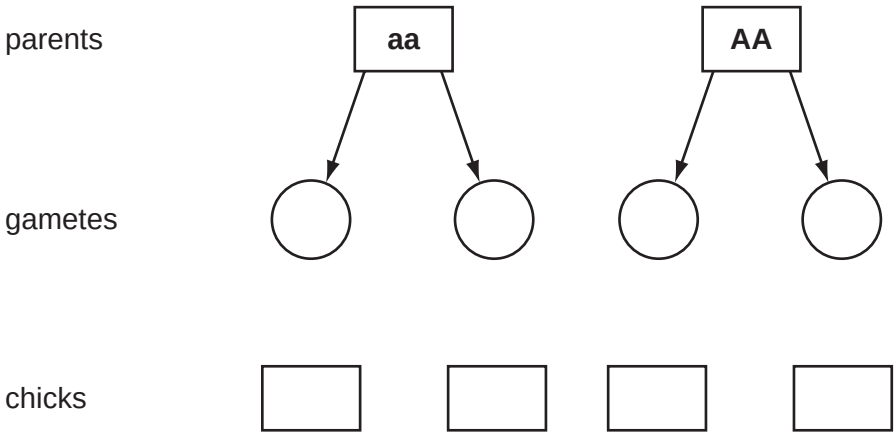
(ii) How are features, such as colour, passed from the parents to a chick?

.....

..... [1]

(iii) Complete the diagram to show how the colour was passed from these parents to the chicks.

Use the letter **A** for dominant and **a** for recessive.



[2]

(b) For a named animal that you have studied state **three** characteristics that you select when breeding to get improved offspring.

animal .....

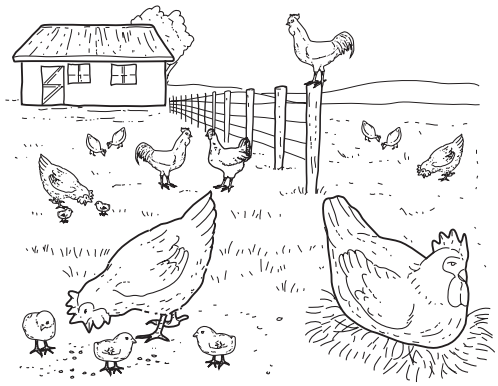
1 .....

2 .....

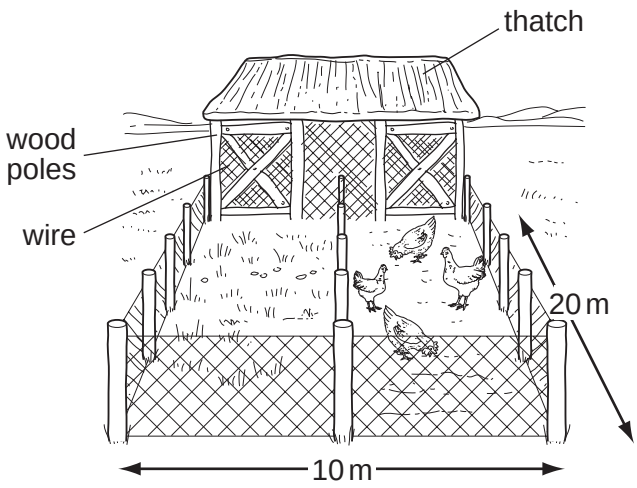
3 ..... [3]

[Total: 7]

8 Fig. 8.1 shows a free range system and an enclosed system of pasture management for poultry.



free range system



enclosed system

Fig. 8.1

(a) (i) State **one** advantage and **one** disadvantage of keeping hens on free range.

advantage .....

disadvantage ..... [2]

(ii) Suggest **two** reasons for having two runs in the enclosed system.

1 .....

.....

2 .....

..... [2]

(b) The chicken house which stands on an earth floor is made of thatch, wood po… wire.

Suggest **three** improvements to the design of the house and in each case give a reason.

1 suggestion .....

reason .....

2 suggestion .....

reason .....

3 suggestion .....

reason ..... [3]

(c) State **two** signs which indicate that a hen is unwell.

1 .....

2 ..... [2]

(d) Using the data in Fig. 8.1 calculate the stocking density per hectare in the enclosed system.

Show your working

..... [1]

[Total: 10]

9 **(a)** Select **four** tools from Fig. 9.1 that would be used to construct a pole and wire fe

For iner's

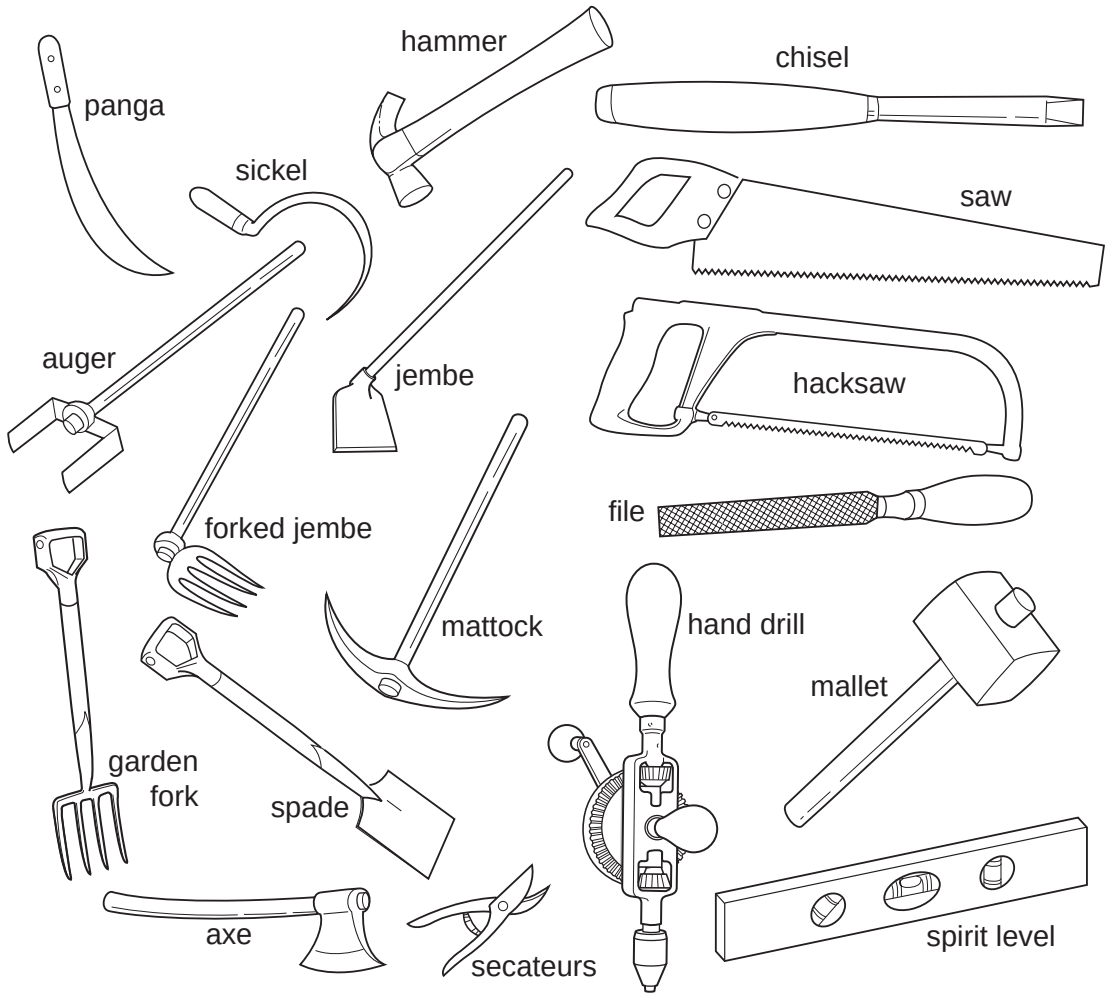


Fig. 9.1

1 .....

2 .....

3 .....

4 ..... [4]

(b) Figs 9.2 and 9.3 are drawings which show two fences used for enclosing homest

The fence in Fig 9.2 is made of empty cans hung on wire.
The fence in Fig 9.3 is made from wood cut from trees.
Both are cheap to build.

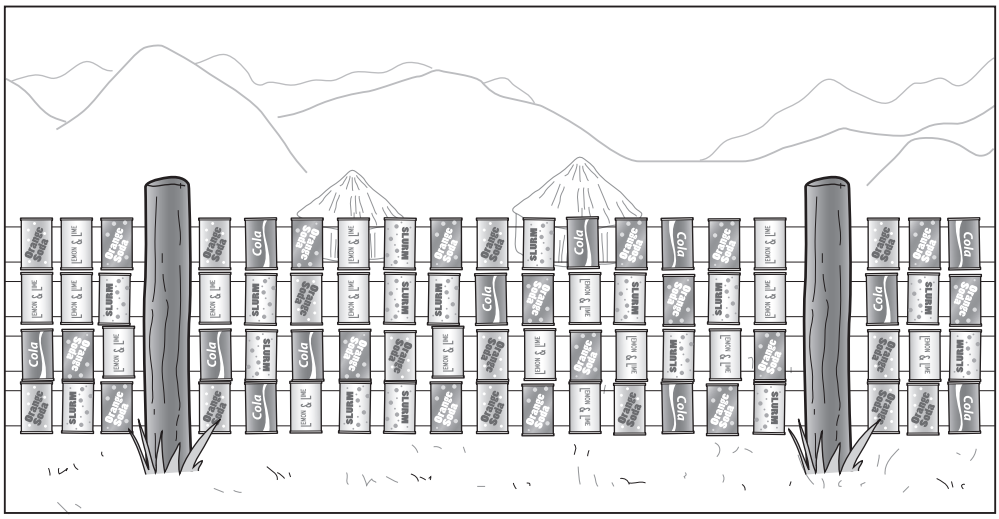


Fig. 9.2

Fig. 9.3

(i) State **one** advantage of the fence in Fig 9.2 other than low cost.

..... [1]

(ii) State **one** disadvantage of the fence in Fig 9.3.

..... [1]

(c) The owner of a mixed farm has money to spend on fencing.
The choices are:
1 to fence around the vegetable garden;
or
2 fence around a paddock for goats.

Discuss the **economic** factors that need to be considered in making a decision between 1 and 2.

.....

.....

.....

.....

..... [3]

[Total: 9]

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