



Oxford Cambridge and RSA

F

Friday 15 June 2018 – Morning

GCSE ENVIRONMENTAL AND LAND-BASED SCIENCE

B683/01 Commercial Horticulture, Agriculture and Livestock Husbandry
(Foundation Tier)



Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

- Pencil
- Ruler (cm/mm)
- Calculator

Duration: 1 hour



| | | | | | | | | | | | |
|--------------------|--|--|--|--|--|-------------------|--|--|--|--|--|
| Candidate forename | | | | | | Candidate surname | | | | | |
|--------------------|--|--|--|--|--|-------------------|--|--|--|--|--|

| | | | | | | | | | | |
|---------------|--|--|--|--|--|------------------|--|--|--|--|
| Centre number | | | | | | Candidate number | | | | |
|---------------|--|--|--|--|--|------------------|--|--|--|--|

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.

INFORMATION FOR CANDIDATES

- Your quality of written communication is assessed in questions marked with a pencil (✍).
- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **50**.
- This document consists of **20** pages. Any blank pages are indicated.

Answer **all** the questions.

1 (a) The photographs show some common trees and shrubs in parks and gardens.



(i) Write the names of each shrub in the box under the correct photograph.
Choose from this list.

Acer

Beech

Hydrangea

Buddleia

[3]

(ii) Beech trees lose their leaves in winter.

What is the correct term for a tree that loses its leaves in winter?

Put a tick (✓) in the box next to the correct answer.

| | |
|-----------|--------------------------|
| annual | <input type="checkbox"/> |
| deciduous | <input type="checkbox"/> |
| evergreen | <input type="checkbox"/> |
| perennial | <input type="checkbox"/> |

[1]

(b) Different plant species can have different lifecycles.

The photograph shows a plant producing seed.



Which of the following lifecycles is the only one where the plant does **not** die after it produces seed?

Put a **ring** around the correct answer.

annual

biennial

ephemeral

perennial

[1]

[Total: 5]

2 Animals need to digest their food.

Which one of the following does **not** happen in digestion?

Put a tick (✓) in the box next to the correct answer.

The food is physically broken down into smaller particles.

Big molecules are chemically broken down into smaller molecules.

Insoluble molecules are made soluble.

Soluble particles are made insoluble.

[1]

[Total: 1]

3 Good housing is essential for animal health.

For an animal you have studied, describe how the housing for that animal keeps it healthy.



The quality of written communication will be assessed in your answer.

Animal studied:

[6]

[Total: 6]

4 Livestock farmers regularly have to move animals off the farm.



Safe transport of animals is an important requirement.

Describe **three** things a farmer needs to do to ensure that animals are transported safely.

1.

.....

2.

.....

3.

.....

[3]

[Total: 3]

5 Many gardeners use hanging baskets for their plants.

This is a harsh environment for these plants.



(a) Name the plant in the photographs.

..... [1]

(b) Describe the characteristics of plants suitable for use in hanging baskets.

.....
.....
.....
.....
.....
.....
..... [3]

(c) The hanging baskets are filled with potting compost.

Suggest one way the **compost** can be improved to help the plants grow in this harsh environment.

..... [1]

[Total: 5]

6 Selective breeding over many years has improved animal breeds.

Explain why selective breeding may cause health problems in animals.

.....

.....

.....

[2]

[Total: 2]

7 One way to produce a new lawn is to use turf.

Greengrass Turf Supplies

High quality turf for an instant lawn.
£3.99 for 1 m²

(a) What would it cost to buy enough turf for a lawn 6.1 m × 6.5 m?

Show your working.

£ [2]

(b) The supplier has a bargain offer of 20 m² for £70.

Is the bargain offer a good deal? Explain your answer.

.....
..... [1]

(c) This lawn has been produced from turf.



Explain the process of producing a lawn from turf.

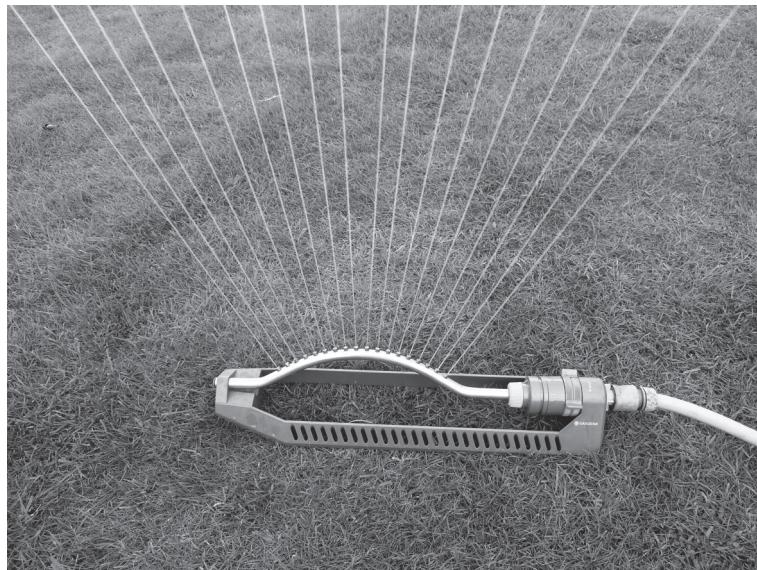


The quality of written communication will be assessed in your answer.

. [6]

[Total: 9]

8 The photograph shows a sprinkler used on lawns.



The sprinkler can deliver 3.7 litres of water per minute.

(a) The sprinkler is used for 10 minutes in every hour.
How much water is put on the lawn in 24 hours?

..... litres [1]

(b) The water company charges 1p for 10 litres.
What does it cost to run this sprinkler for 24 hours?

..... p [1]

[Total: 2]

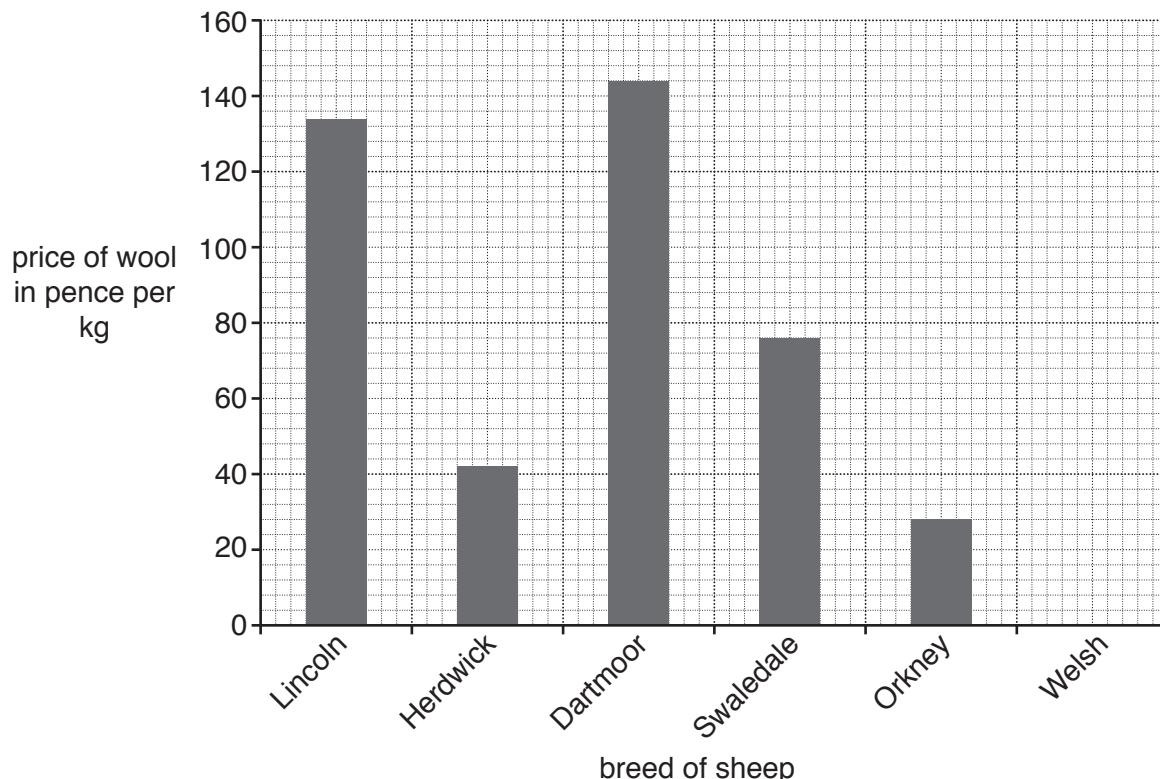
9 The table shows the price paid in 2012 for wool from different breeds of sheep.

| Breed of Sheep | Price of wool in pence per kg |
|----------------|-------------------------------|
| Lincoln | 134 |
| Herdwick | 42 |
| Dartmoor | 144 |
| Swaledale | 77 |
| Orkney | 27 |
| Welsh | 50 |
| Average | |

(a) Calculate the average price paid for wool from all these breeds of sheep.
Write your answer in the table.

[1]

(b) Use the table to complete the chart below for Welsh sheep.



[1]

13

(c) The wool taken from a sheep is called a fleece.

A **Herdwick** fleece has an average mass of 3.5kg.
What is the average price of one **Herdwick** fleece?

..... [1]

(d) It costs £1.50 to shear a sheep.

Can a farmer make a profit from selling Herdwick wool?
Explain your answer.

.....

[1]

(e) Suggest **two other** ways a farmer could make money from keeping Herdwicks.

1.

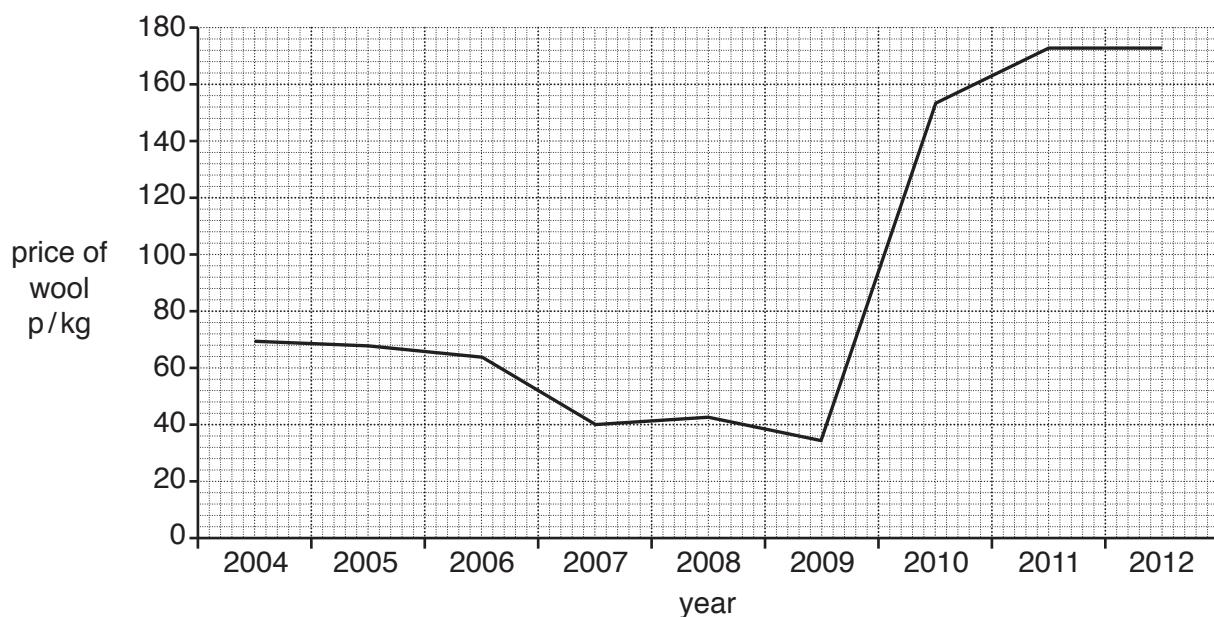
.....

2.

..... [2]

[Total: 6]

10 The graph shows how the price of wool changed between 2004 and 2012.



(a) In what year did wool reach its highest price?

year [1]

(b) What is the lowest price for wool between 2004 and 2012?

..... p/kg [1]

(c) Suggest **two** implications for sheep farmers of the changing price of wool.

.....

..... [2]

[Total: 4]

11 Growers can use many different types of compost.



Which type of compost must be sterilised before use?

Put a around the correct answer.

Peat-based

Peat-free

Soil-based

Soil-free

[1]

[Total: 1]

12 Mowers are available in a range of sizes, power sources and cutting methods.

These mowers are used on different types of lawn including family lawns, bowling greens, sports fields and rough grass.



Explain how you would decide which type of mower was appropriate for different types of lawn.



The quality of written communication will be assessed in your answer.

〔6〕

[Total: 6]

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).



This image shows a blank sheet of handwriting practice paper. It features a vertical red line on the left side, likely representing a margin. To the right of this margin, there are 22 horizontal grey lines spaced evenly down the page, intended for practicing letter formation and alignment.



This image shows a blank sheet of handwriting practice paper. It features a vertical red line on the left side, likely representing a margin. To the right of this margin, there are 22 horizontal grey lines spaced evenly down the page, intended for practicing letter formation and alignment.



Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GF.

For queries or further information, please contact the Copyright Team, The University, Trumpington Street, Cambridge CB3 9EE.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.