

Thursday 13 June 2013 – Morning

GCSE ENVIRONMENTAL AND LAND-BASED SCIENCE

B682/01 Plant Cultivation and Small Animal Care (Foundation Tier)

Candidates answer on the Question Paper.
A calculator may be used for this paper.

OCR supplied materials:
None

Other materials required:

- Pencil
- Ruler (cm/mm)

Duration: 1 hour

MODIFIED LANGUAGE



Candidate
forename

Candidate
surname

Centre number

Candidate number

INSTRUCTIONS TO CANDIDATES

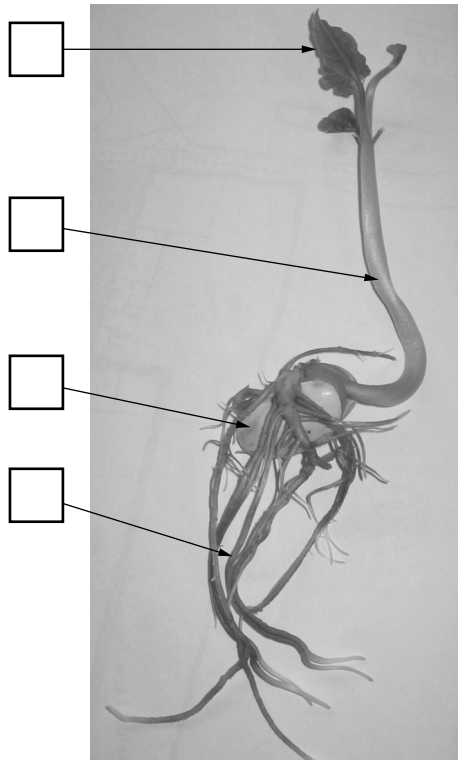
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

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 **16** pages. Any blank pages are indicated.

Answer **all** the questions.

- 1 The photograph shows a germinating runner bean seed.



Write the letter **P** in the box that points to the plumule.

[1]

[Total: 1]

- 2 Some sweet pea seedlings are growing in a glasshouse.

Some of the seedlings are not growing very well.

Draw straight lines to match each **problem** with **how to solve the problem**.

problem

how to solve the problem

wilted leaves

switch on heater

yellow leaves

put slug pellets around the seedlings

holes in leaves

add fertiliser

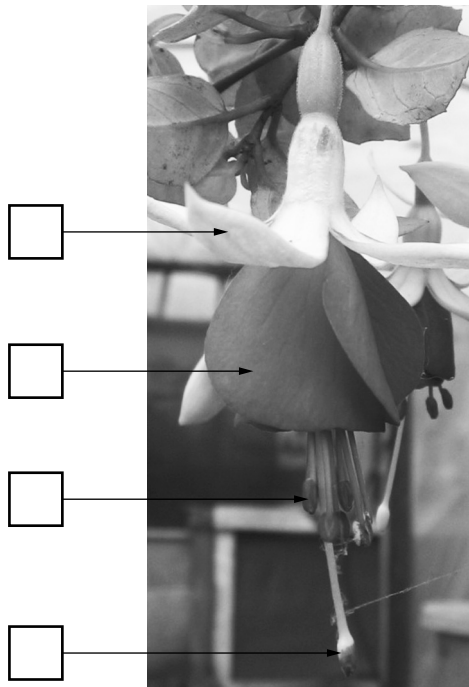
slow growth of leaves

switch on water sprinklers

[3]

[Total: 3]

3 The photograph shows a flower.



Write the letter **S** in the box that points to the stigma.

[1]

[Total: 1]

- 4 The photograph shows geraniums growing in a glasshouse.



Penny has sealed the glasshouse to keep it warm.

The geraniums do not produce many seeds.

Suggest a reason for this.

.....

.....

.....

..... [2]

[Total: 2]

- 5 The photograph shows carrots that have been stored for a long time. They have not been stored properly and so are not fit to eat.



Describe why these carrots are not fit to eat **and** explain how they should have been stored.



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

.....

.....

.....

.....

.....

.....

.....

.....

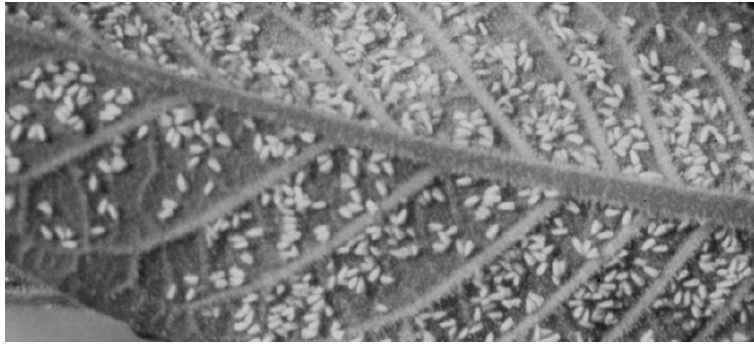
.....

.....

..... [6]

[Total: 6]

- 6 The photograph shows whitefly, a pest that attacks tomato plants.



Martin grew tomato plants in three glasshouses.

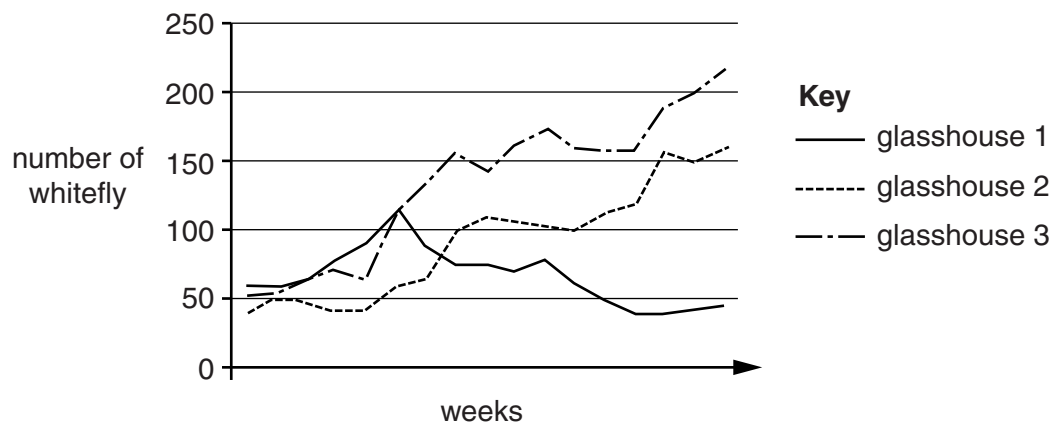
He wanted to find the best way to control the whitefly in his glasshouses.

He added some parasitic wasps to the tomatoes in glasshouse 1.

He planted yellow marigold plants with the tomatoes in glasshouse 2.

He grew only tomatoes in glasshouse 3.

He counted the total number of whitefly in each glasshouse in each week of the growing season.



- (a) Describe and explain the shape of the graph for glasshouse 1 (containing tomatoes and the parasitic wasps).

.....

.....

.....

.....

..... [3]

(b) From his investigation, Martin concludes that:

‘Marigolds produce a chemical which repels whitefly.’

Discuss whether Martin’s results support his conclusion.

.....

.....

.....

..... [2]

[Total: 5]

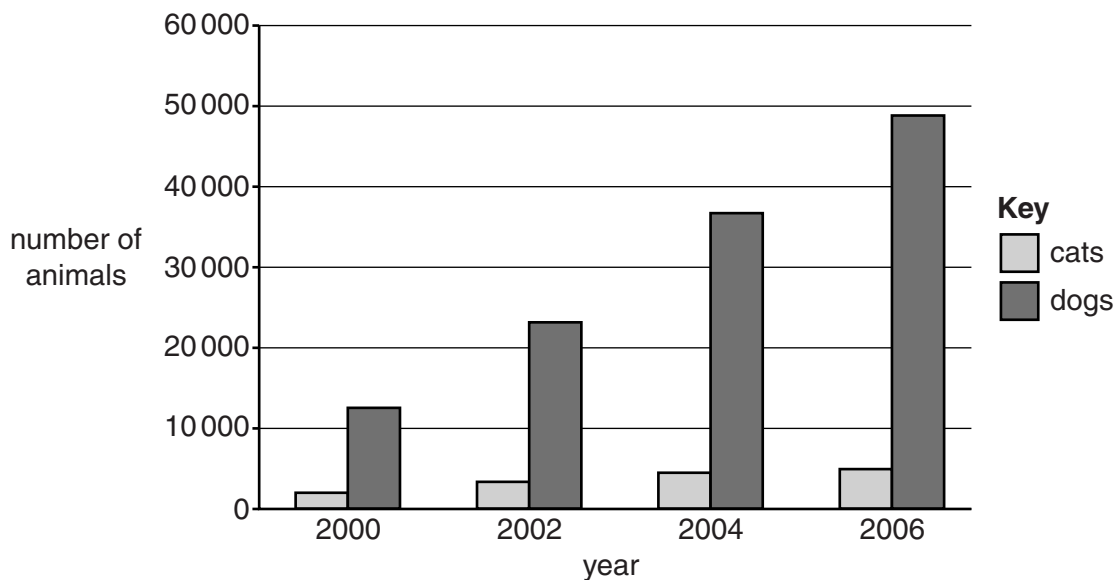
7 A new Pet Travel Scheme (PET) was introduced in 2000.

Owners of cats and dogs can now bring them easily into England.

Before the ‘PET’, all cats and dogs had to spend 6 months in a special kennel or cattery where they were kept separate from other animals.

This is called quarantine.

The graph shows the number of cats and dogs entering England since the start of the PET scheme in February 2000.



(a) Describe **two** trends shown in the data.

.....

.....

..... [2]

- (b) 48 500 dogs had a PET test to enter England in 2006.

7% of these dogs failed the test.

How many dogs failed the test?

Number of dogs = [1]

- (c) The main reason dogs fail the PET test is because they have not had treatment for ticks and tapeworms.

Ticks and tapeworms are both types of parasite.

What is a parasite?

.....
 [1]

- (d) Rabies is a deadly viral infection.

Now there is no rabies in England.

A dog entering England must have a certificate to prove it is free from rabies.

If it does not have this certificate it must go into quarantine for 6 months.

Explain why.

.....

 [2]

[Total: 6]

8 The table below shows some information about four different fertilisers.

Fertiliser	Type	% N	% P	% K	Trace elements	Nutrient release
chicken manure	organic	6.0	5.0	3.0	present	slow
farmyard manure	organic	4.0	0.3	0.5	present	slow
growbig	inorganic	7.0	7.0	7.0	absent	quick
magic grow	inorganic	15.0	30.0	15.0	absent	quick

Describe the differences between the organic and inorganic fertilisers in the table **and** explain how these differences affect their uses.



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

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

[Total: 6]

9 A pet dog is being transported by car.

Describe the correct way of transporting a pet dog in a car.

.....

.....

..... [2]

[Total: 2]

- 10** The table shows the percentage (%) of nutrients that are available to plants at different values of soil pH.

pH	% N	% P	% K
5	55	35	50
6	100	50	100
7	100	100	100

Caroline tests the soil on her allotment and finds that it is pH6.

How will a soil of pH6 affect the growth and development of her crops?

Explain your answer.

.....

.....

..... [2]

[Total: 2]

- 11 The photograph shows some terrapins that are kept in a tank.



Michael often puts the terrapins in his garden pond for a few hours.

Suggest **two** reasons why this is a good idea.

.....

.....

..... [2]

[Total: 2]

12 Amy looks after turkeys to sell at market.

She weighs her turkeys regularly.

(a) State **one** other reason for weighing a small animal on a regular basis.

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

(b) How can Amy check that her weighing scales are accurate before she weighs her turkeys?

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

(c) Amy keeps some of the turkeys inside in a barn.

She keeps other turkeys outside in a field.

She feeds all the turkeys on the same turkey pellets.

She notices that the turkeys in the barn are not putting on weight as fast as the ones outside in the field.

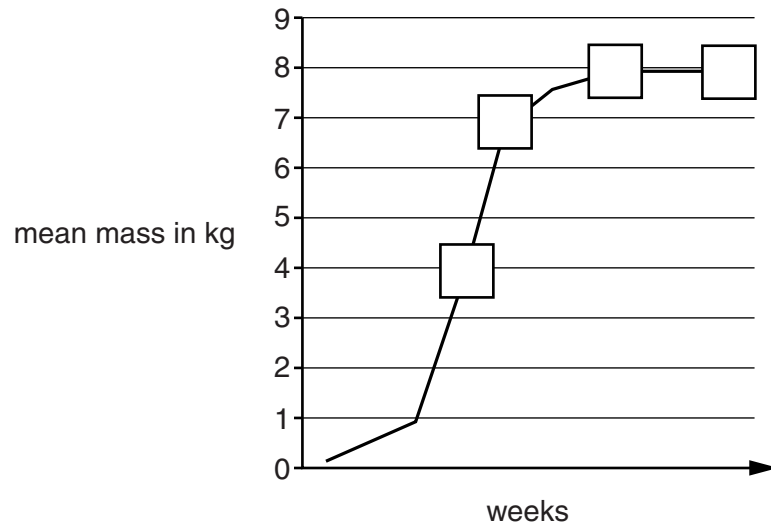
A friend suggests that something is missing from their diet.

What could Amy give the turkeys in the barn to improve their diet?

Give a reason for your answer.

.....
.....
..... [2]

- (d) The graph shows the mean mass of turkeys over an ideal growing season.



- (i) When should Amy sell her turkeys? Place an **X** in a box on the graph to show a good time to sell them.

Explain your answer.

.....

 [2]

- (ii) Some of Amy's turkeys are sold early.

Suggest **two** reasons why Amy might have done this.

.....

 [2]

[Total: 8]

13 Henry has a pet rabbit.

The rabbit is pregnant.

Henry has never looked after a pregnant rabbit before.

Write some advice for Henry about how he should care for the rabbit during her pregnancy **and** how he should care for the rabbit and her babies after the birth.



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

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

[Total: 6]

END OF QUESTION PAPER

15
BLANK PAGE

PLEASE DO NOT WRITE ON THIS PAGE

PLEASE DO NOT WRITE ON THIS PAGE



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 1GE.

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.