

**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.

**Duration:** 1 hour

**OCR supplied materials:**  
None

**Other materials required:**

- Pencil
- Ruler (cm/mm)



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**INSTRUCTIONS TO CANDIDATES**

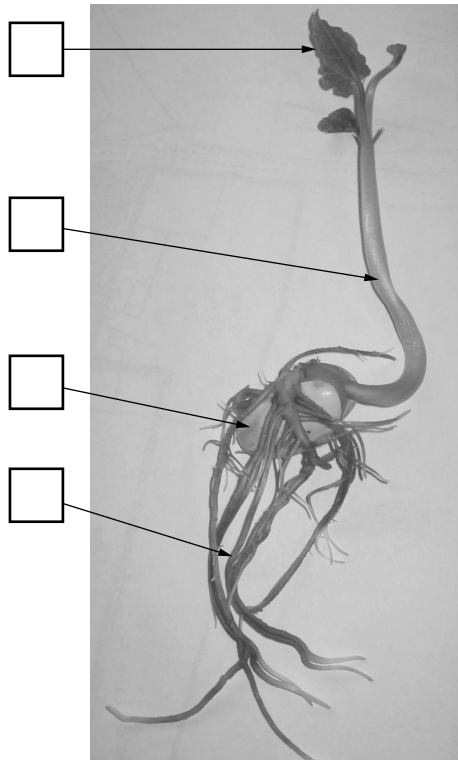
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting 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

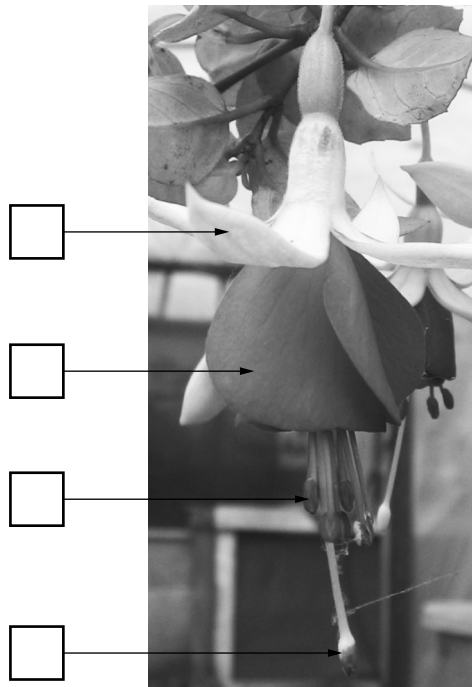
slow growth of leaves

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 produce few seeds.

Suggest a reason for this.

.....

.....

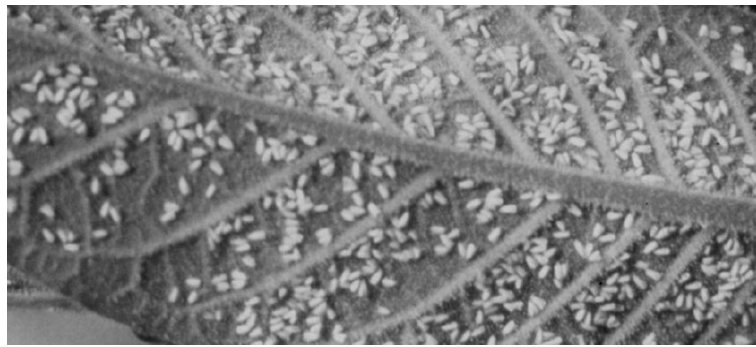
.....

..... [2]

[Total: 2]



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



Martin grew tomato plants in three glasshouses.

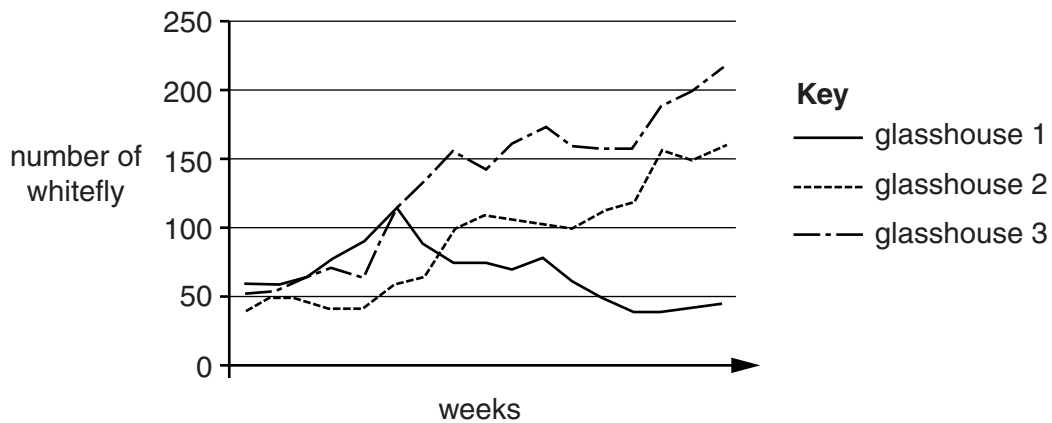
He wanted to find the best way to control the whitefly in his glasshouses.

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]

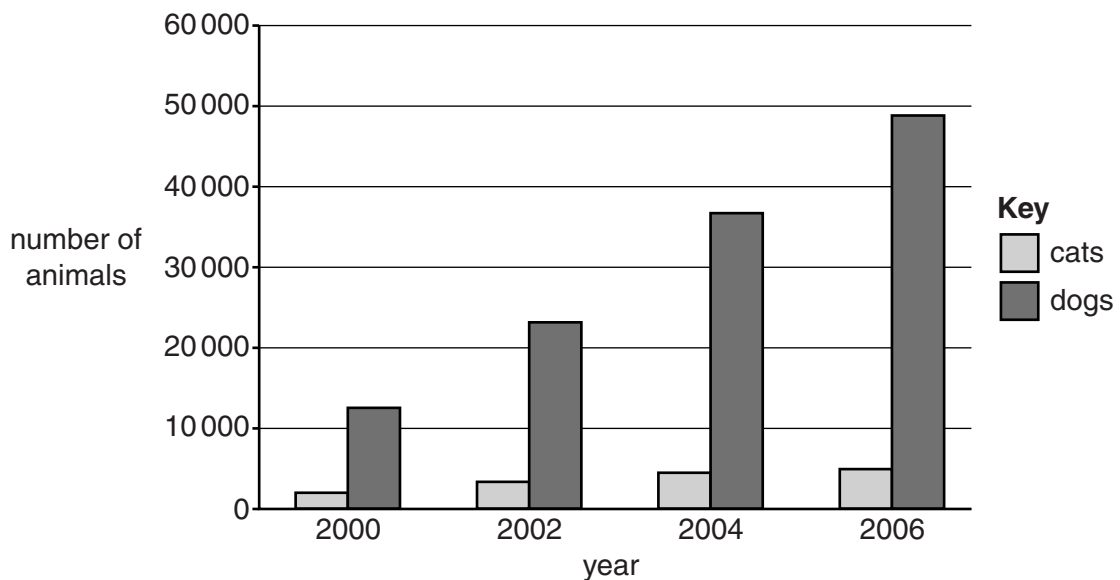
7 A new Pet Travel Scheme (PET) was introduced in 2000.

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.

At present 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]





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.

What effect will a soil of pH6 have on the growth and development of the crops on her allotment?

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 rears 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.

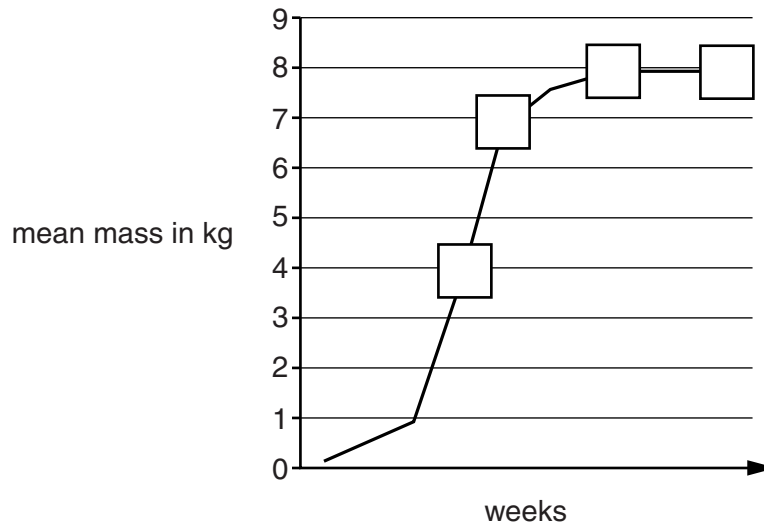
A friend suggests that something is missing from their diet.

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 does this data suggest that Amy should sell her turkeys?

Place an **X** in a box on the graph.

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]



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