

AQA - Ecology – GCSE Biology Paper 21. **June/2021/Paper_2F/No.3****0 3****Figure 2** shows one species of bird on a bird feeder.**Figure 2**

The birds use their beaks to reach nuts inside the bird feeder.

Cats sometimes eat the birds.

0 3 . 1

Give the food chain for the birds, cats and nuts.

[2 marks]

0 3 . 2

Which organism in the food chain you gave in Question 03.1 is the primary consumer?

[1 mark]

0 3 . 3 Cats are one biotic factor that affects the size of the bird population.

Which **two** of the following are **biotic** factors?

[2 marks]

Tick (✓) **two** boxes.

Food

Pathogens

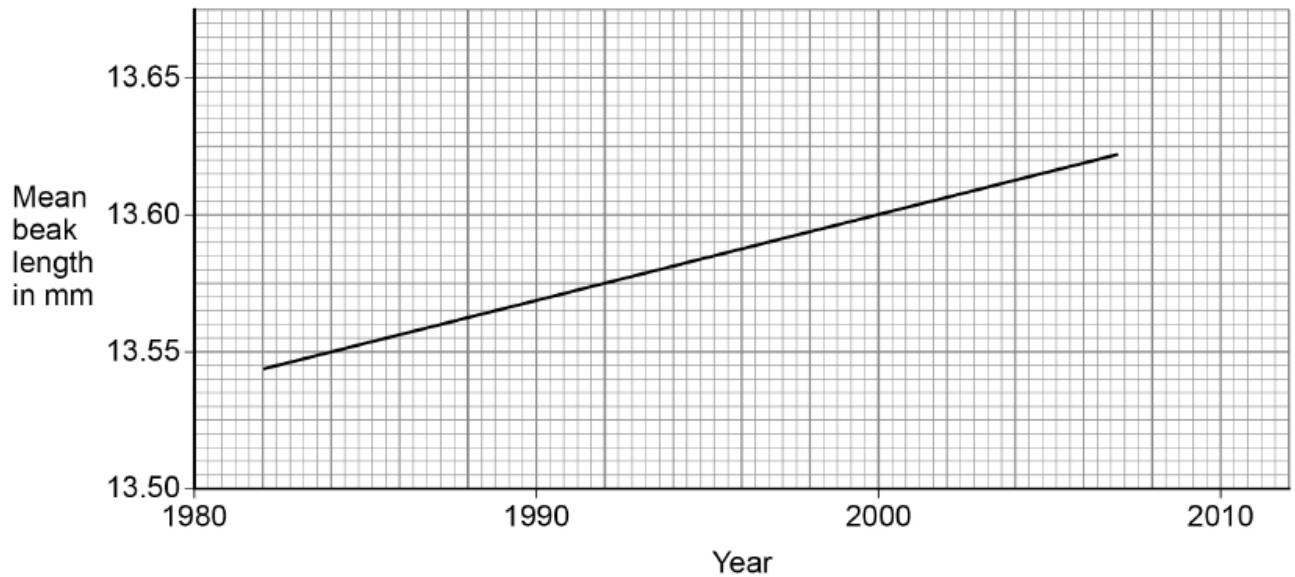
Sunlight

Temperature

Water

Figure 3 shows the mean beak length of this species of bird from 1982 to 2007.

Figure 3



0 3 . 4 What was the mean beak length in 2000?

[1 mark]

Mean beak length = _____ mm

0 3 . 5 What type of adaptation is beak length?

[1 mark]

Tick (✓) **one** box.

Behavioural

Chemical

Structural

Figure 3 shows evidence of evolution in this species of bird.

0 3 . 6 Scientists have concluded that beak length in this species of bird is increasing.

Complete the sentences about the evolution of this species of bird.

Choose answers from the box.

[4 marks]

excretion	generation	mutation
reproduction	respiration	variation

The difference in beak length in the bird population
is called _____.

A change in a gene affects the beak length.

Change in a gene is called _____.

The birds with the longest beaks get more food.

Getting more food improves a bird's chances of
survival and _____.

This process of evolution takes place over more
than one _____.

0 3 . 7

Birds of this species:

- live for about 3 years
- produce up to 24 eggs every year.

Why is evolution easier to study in birds than in humans?

[1 mark]

Tick (✓) **one** box.

Birds breed less frequently than humans.

Birds have a shorter life cycle than humans.

Birds have fewer offspring than humans.

0 3 . 8

Bacteria also provide evidence for evolution.

Which statement describes evidence for evolution?

[1 mark]

Tick (✓) **one** box.

Bacteria can become resistant to antibiotics.

Decomposition can be caused by bacteria.

Some bacteria are pathogens.

2. June/2021/Paper_2F/No.5

0 5

Increased carbon dioxide levels in the atmosphere contribute to climate change.

0 5

. 1

Give **one** way deforestation can increase carbon dioxide levels in the atmosphere.**[1 mark]**

0 5

. 2

Name **one** other gas that contributes to climate change.Do **not** refer to carbon dioxide in your answer.**[1 mark]**

0 5

. 3

Meat is produced for humans to eat.

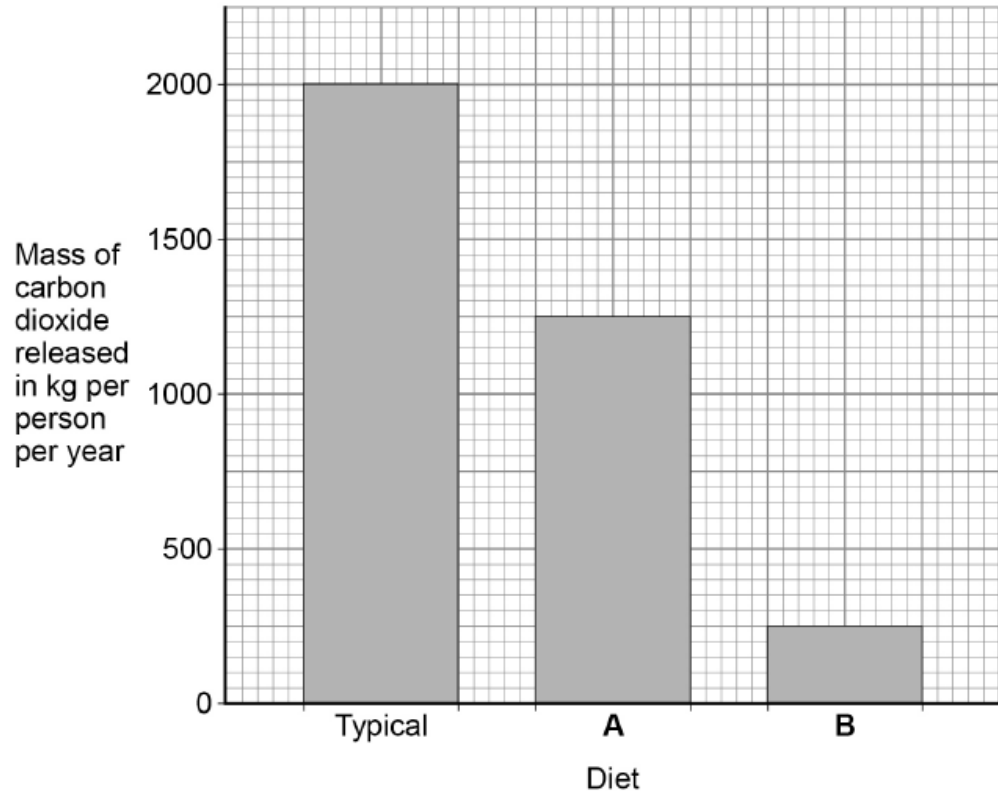
Give **two** ways the production of meat releases carbon dioxide.**[2 marks]**1

2

0 5 . 4 The mass of carbon dioxide released during the production of food varies depending on the type of food.

Figure 4 shows the mass of carbon dioxide released as a result of three different diets.

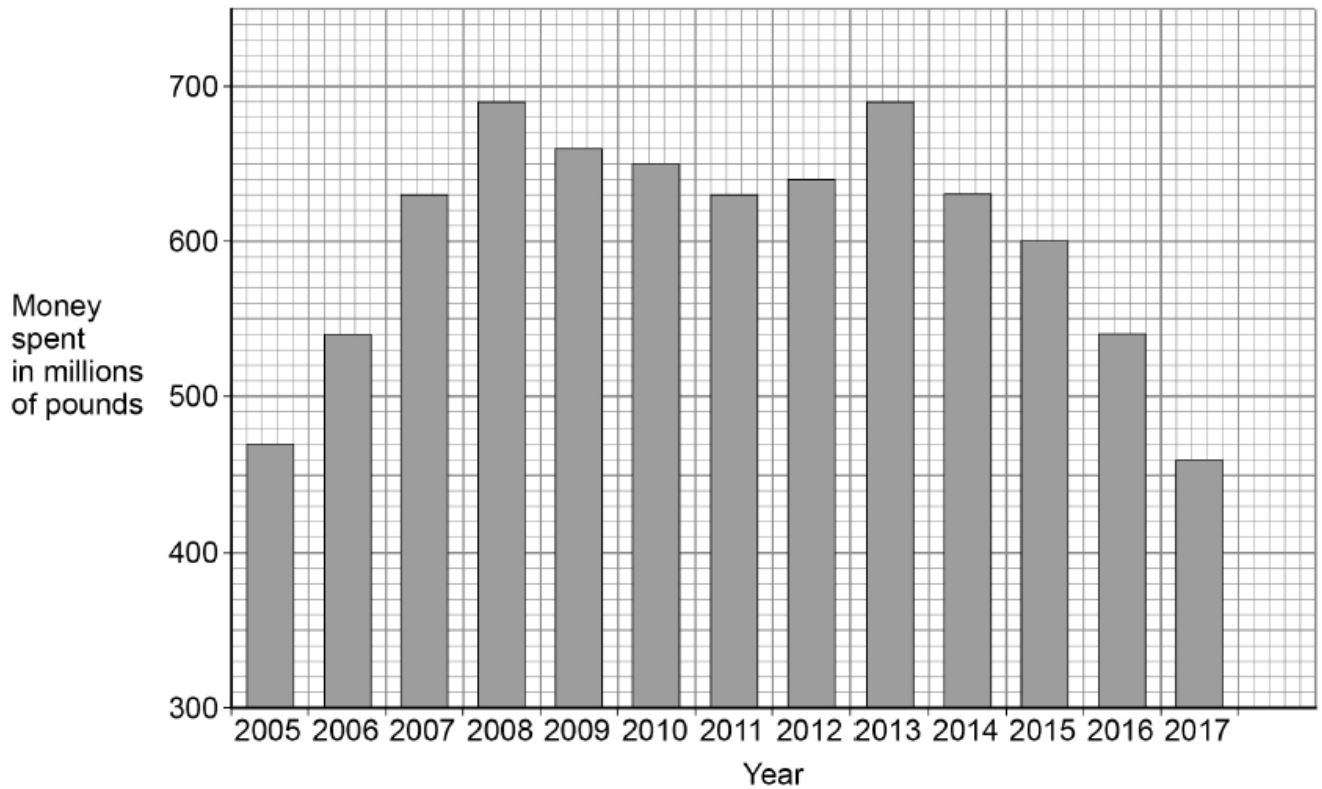
Figure 4



3. June/2021/Paper_2F/No.7

07

Figure 6 shows the money spent on conserving biodiversity in the UK by the government.

Figure 6

07.1

Describe the trends in the money spent on conserving biodiversity from 2005 to 2011.

Use data from **Figure 6** in your answer.

[2 marks]

- 0 7 . 2** Calculate the percentage decrease in the money spent on conserving biodiversity from 2013 to 2017.

Use the equation:

$$\text{percentage decrease} = \frac{\text{change in money spent from 2013 to 2017}}{\text{money spent in 2013}} \times 100$$

Give your answer to 2 significant figures.

[3 marks]

Percentage decrease (2 significant figures) = _____ %

- 0 7 . 3** Conservation of peat bogs can help maintain biodiversity.

Give **two** uses of peat taken from peat bogs.

[2 marks]

1 _____

2 _____

0 7 . 4 Describe **two** ways to **increase** biodiversity in the UK.

Do **not** refer to money spent or to peat in your answer.

[2 marks]

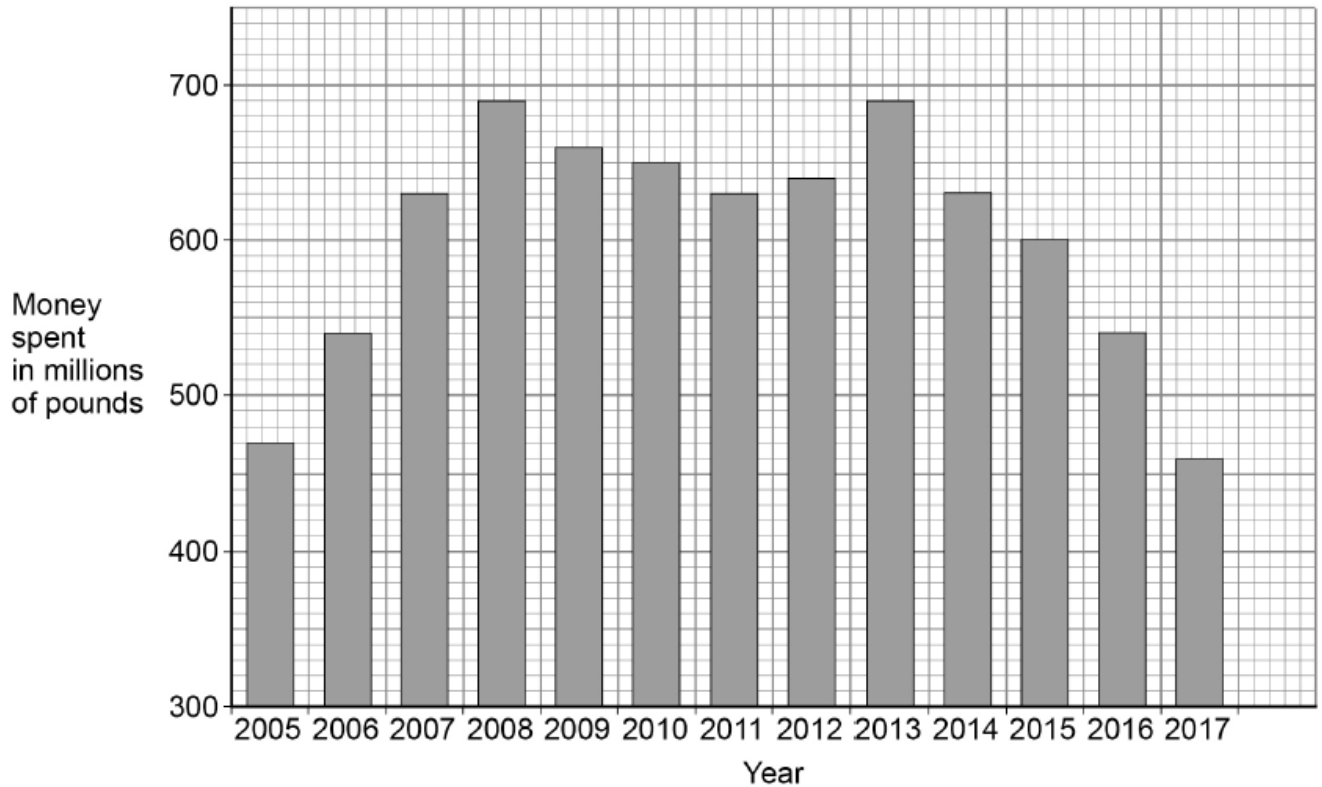
1 _____

2 _____

4. June/2021/Paper_2H/No.2

0 2

Figure 2 shows the money spent on conserving biodiversity in the UK by the government.

Figure 2

0 2 . 1

Describe the trends in the money spent on conserving biodiversity from 2005 to 2011.

Use data from **Figure 2** in your answer.

[2 marks]

- 0 2 . 2 Calculate the percentage decrease in the money spent on conserving biodiversity from 2013 to 2017.

Use the equation:

$$\text{percentage decrease} = \frac{\text{change in money spent from 2013 to 2017}}{\text{money spent in 2013}} \times 100$$

Give your answer to 2 significant figures.

[3 marks]

Percentage decrease (2 significant figures) = _____ %

- 0 2 . 3 Conservation of peat bogs can help maintain biodiversity.

Give **two** uses of peat taken from peat bogs.

[2 marks]

1 _____

2 _____

0 2 . 4

Describe **two** ways to **increase** biodiversity in the UK.

Do **not** refer to money spent or to peat in your answer.

[2 marks]

1 _____

2 _____
