

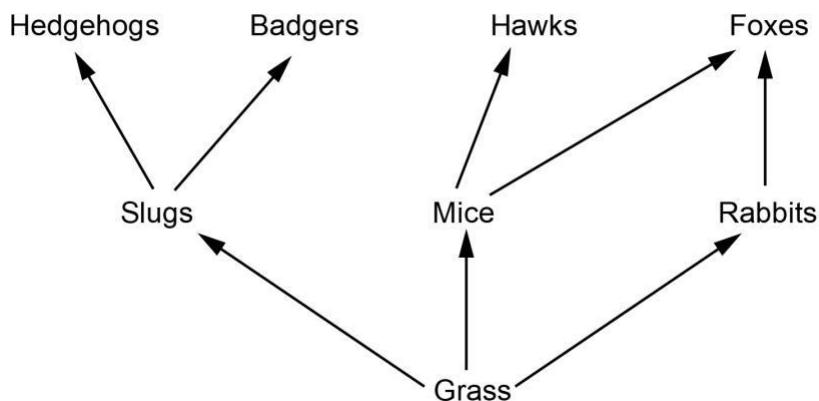
GCSE Biology A (Gateway)

J247/04 Biology A B4-B6 and B7 (Higher Tier)

Question Set: 8

1

The diagram shows part of a food web from a grassland.



(a) How many secondary consumers are shown in this food web?

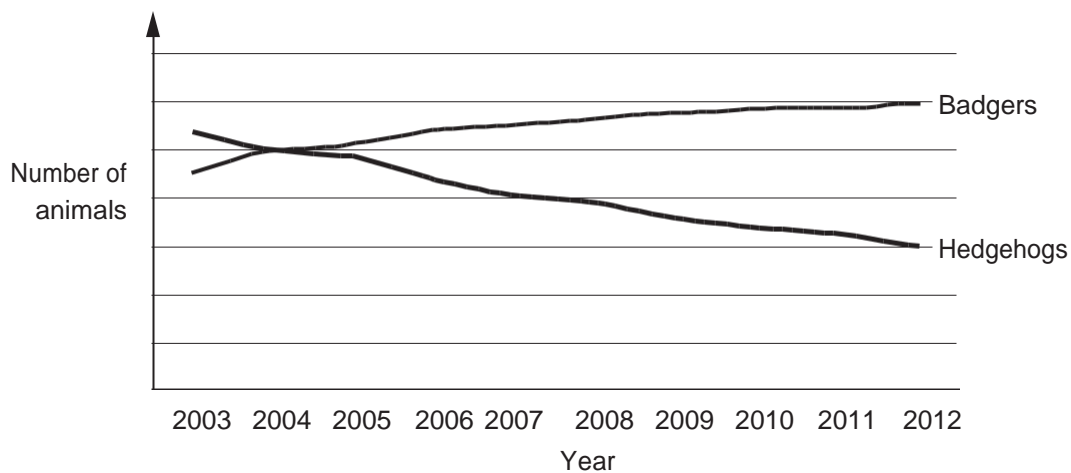
4

[1]

(b) A survey was set up to see if the number of badgers and hedgehogs has changed in the UK.

The number of badgers and hedgehogs were counted in different areas each year from 2003 to 2012.

The graph shows the results.



Use the food web to suggest an explanation for the change in the number of hedgehogs shown in the graph.

Number of Badgers have increased so more competition for slugs between Badgers and hedgehogs - Therefore Hedgehogs have less to eat and reduce in number.

[2]

(c) Hedgehogs are covered in small spines.

When they are frightened they often roll up into a ball and keep still.



- (i) In country areas, where badgers live, this is an advantage to the hedgehogs. In cities, where there are many roads, this is a disadvantage.

Explain these two conclusions.

In country, they have an advantage as it can roll up and have ~~more~~ more protection from predators.
In cities, there is a disadvantage as they are easily run over by cars. [2]

- (ii) Scientists have noticed that a new type of hedgehog is increasing in numbers in cities.

These hedgehogs do not roll up. They run away when frightened. The scientists think that genes control this behaviour.

Explain how this type of hedgehog may become more common in cities.

Use ideas about natural selection.

Hedgehogs that run away are more likely to survive so they will be more likely to reproduce and pass on the allele for running away. Over many generations running away will become more common. [4]

Total Marks for Question Set 8: 9

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