

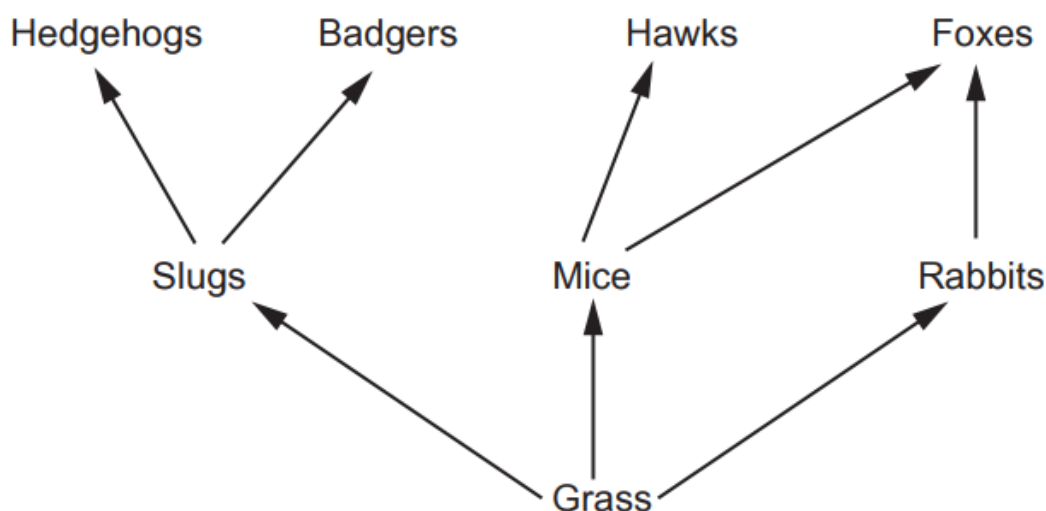
## **GCSE Biology A (Gateway)**

**J247/02 B4-B6 and B7 Foundation (Foundation Tier)**

### **Question Set 26**

1

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

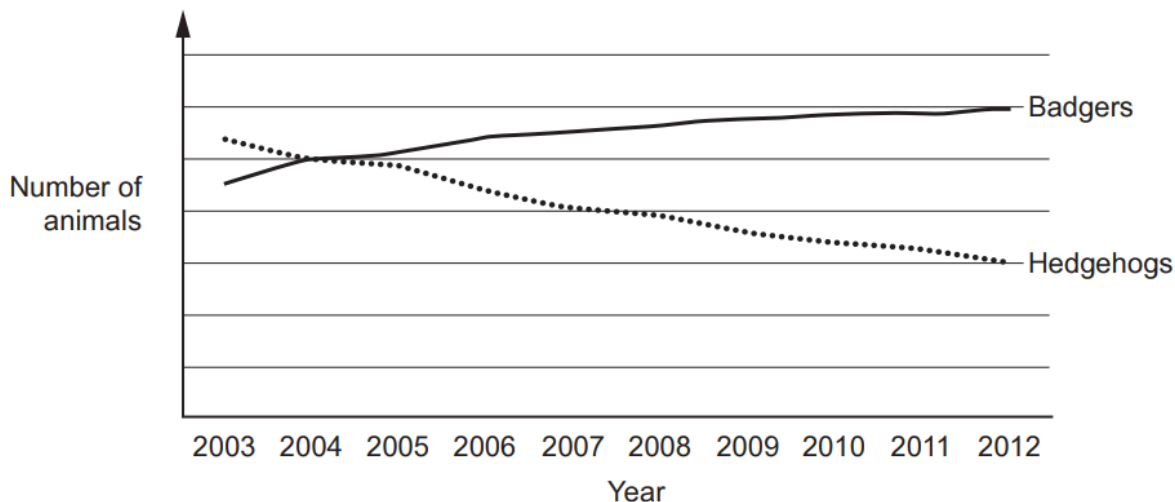


- (a) How many secondary consumers are shown in this food web? [1]

4

- (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.

[2]

The number hedgehogs has been decreasing, as the number of badgers has been increasing, which means there are less slugs for them to prey on.

(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.

Badgers will not attack the hedgehogs when they are balled up like that, as they will hurt themselves. <sup>→ so will survive</sup> [2]

If the hedgehog is frightened by a car on the road, instead of moving out of the way, it will stay still and get hit. → so protection method merely kills them

(c) (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.

If confronted by a car, this hedgehog will move out of the way. It is more likely to survive to adulthood, and reproduce to pass the gene for this behaviour onto the next generation. This process continues, and the gene for this behaviour becomes more and more frequent. Meanwhile, the other variety of hedgehogs are likely to die out. [4]

**Total Marks for Question Set 26: 9**

---

# OCR

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](http://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 OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

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