

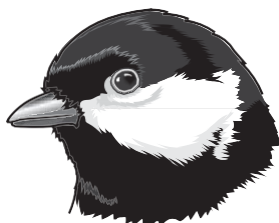
GCSE Biology B (Twenty First Century Science)
J257/03 Breadth in Biology (Higher)

Question Set 15

1

Scientists studying birds called great tits think they may be evolving larger beaks.

They think this may be because of bird feeders.



- (a) (i) Place the following statements in the correct order to explain how scientists think this may have occurred

- A The birds are more likely to survive and reproduce.
- B The offspring will be more likely to have larger beaks.
- C The birds get more food.
- D Birds that have longer beaks can feed more successfully on the bird feeders.
- E The birds will pass on the alleles for larger beaks to their offspring.

D	C	A	E	B
---	---	---	---	---

- (ii) What phrase describes the process occurring in part (a)(i)? **Natural selection** [1]

- (b) Great tits reproduce sexually. [1]

Write down **one** reason why sexual reproduction is an advantage.

It creates genetic variation, increasing the likelihood that some members of the species will be able to adapt to environmental change. [1]

- (c) Scientists studied populations of great tits in the Netherlands to see if there were any differences between the genomes of birds there and in the UK.

What gene technology would scientists use to work this out?

Genome sequencing [1]

Total Marks for Question Set 15: 4

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) 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