

Topic 4 'Biodiversity and natural resources' Resources overview

Resource type numbers)	2005 numbers	Title	Interactive component	Student sheet	Teacher sheet	Technician sheet	Description
Topic introduction			Yes (presentation)	No	No	No	An interactive presentation to give you an overview of the topic.
GCSE review			Yes (review)	No	No	No	An interactive review of the GCSE knowledge you need for this topic.
GCSE review test			Yes (test)	No	No	No	An interactive test of how well you know the material in the GCSE review.
Activity 4.1	5.1	The Galapagos Islands	Yes (tutorial)	Yes	Yes	No	Take a tour of the Galapagos islands to discover the variety of life Darwin would have encountered during his visit in 1831. The activity introduces many ideas covered in the topic.
Activity 4.2	5.2	What is it?	No	Yes	Yes	No	Develop some of the observation and interpretation skills used by Darwin and biologists today.
Activity 4.3		Ecological niche of a leaf-cutter bee	No	Yes	Yes	No	Lets you consider the ecological niche of a leaf-cutter bee.
Activity 4.4		Well behaved bees	No	Yes	Yes	Yes	Investigate the behaviour of seed beetles.
Activity 4.5		Adaptations	No	Yes	Yes	Yes	Lets you set up an exhibition of the adaptations shown by different organisms
Activity 4.6	5.15	Natural selection in action	No	Yes	Yes	Yes	A range of activities on natural selection.
Activity 4.7	5.3	What is biodiversity?	No	Yes	Yes	No	Consider the different ways of defining biodiversity.
Activity 4.8	5.4	The next bug thing	No	Yes	Yes	No	Read about biologists involved in biodiversity research and investigate the rates at which new species are being discovered.
Activity 4.9	5.7	Being Darwin	No	Yes	Yes	Yes	Think about classification and see if you can assign some of Darwin's discoveries to the correct taxonomic groups.

Activity 4.10		New ideas in biology	No	Yes	Yes	No	Consider how new ideas in science are assessed and tested by other scientists.
Activity 4.11	Extension 5.1	Exploring biodiversity	No	Yes	Yes	Yes	Allows you to compare different ways of measuring biodiversity.
Activity 4.12	Extension 5.3	Natterjack toads and genetic diversity	No	Yes	Yes	No	Compare the heterozygosity indices for natterjack toad populations.
Activity 4.13	4.1	Plant and animal cells	Yes (tutorial)	Yes	Yes	No	You compare the ultrastructure of animal and plant cells.
Activity 4.14	4.2	Cellulose structure	Yes (tutorial)	Yes	Yes	No	You use the interactive tutorial to see how $\beta$ -glucoses join to form cellulose and microfibrils within the cell wall, and compare the structures of starch and cellulose.
Activity 4.15	4.3	Looking at plant stems	No	Yes	Yes	Yes	You can examine plant stems and locate the different tissue types yourself.
Activity 4.16	4.4	Water transport in plants	Yes (tutorial)	Yes	Yes	Yes	This interactive tutorial should help you understand how water moves through the stem.
Activity 4.17 CORE		Sick plants	No	Yes	Yes	Yes	In this activity you can investigate the effect of plant mineral deficiencies.
Activity 4.18 CORE	4.6	Extraction of fibres from plants	No	Yes	Yes	Yes	You can have a go at extracting fibres using retting and then testing their strength
Activity 4.19 CORE	4.7	Why do they put mint in toothpaste? Would garlic be better?	No	Yes	Yes	Yes	Investigate the antibacterial properties of plants in this activity.
Activity 4.20		Testing a new drug	No	Yes	Yes	No	You make a comparison between William Withering's approach to drug development and that of the drug companies today.
Activity 4.21	4.11	Superheating starch	No	Yes	Yes	Yes	Have a go at popping corn to demonstrate what happens to gelatinised starch when pressure is released.

Activity 4.22		Is your lifestyle sustainable?	No	Yes	Yes	No	Use a web-based quiz to determine if your lifestyle is sustainable.
Activity 4.23	5.19	Animal dating agency	No	Yes	Yes	No	Examine the studbook for lemurs in this activity.
Activity 4.24	5.20	Putting them back	No	Yes	Yes	No	Analyse the reintroduction programmes for the Mauritius kestrel and ruffed lemur.
Activity 4.25		Seedbanks	Yes (video clip)	Yes	Yes	No	Consider the role of seedbanks in the conservation of endangered plants.
Activity 4.26		Check your notes	No	Yes	No	No	Use this activity to check your notes for revision.
Test			Yes (test)	No	No	No	Interactive test end-of-topic test.
Test			No	Yes	Yes	No	Exam style written end-of-topic test.
Extension 4.1	5.7	Calculating allele frequencies	No	Yes	Yes	No	This extension introduces the Hardy-Weinberg equation used to calculate allele frequencies.
Extension 4.2		Estimating species numbers	No	Yes	Yes	No	Read about how biologists estimate the number of species.
Extension 4.3	Activity 5.5	Using an electronic key	No	Yes	Yes	No	Use the SAPS web-based key to identify trees.
Extension 4.4	5.2	Jumping genes	No	Yes	Yes	No	Learn about Barbara McClintock's ground-breaking work on transposons.
Extension 4.5	5.1	Simpson's diversity index	No	Yes	Yes	Yes	Allows you to look at another measure of biodiversity.
Extension 4.6	5.8	Zoo health check	No	Yes	Yes	No	Allows you to consider some differing views on the role of zoos and to debate the future of zoos.
Extension 4.7	5.9	The ant invasion	No	Yes	Yes	No	An article on Argentinean ants with very little genetic variation that are colonising Europe.