

B4 Organising animals and plants

Lessons TBAT	Key Knowledge	Practical	Assessment
Describe what diversity is and why it is important	Rapid growth in the human population and an increase in the standard of living mean that increasingly more resources are used and more waste is produced. Unless waste and chemical materials are properly handled, more pollution will be caused.	Investigating the use of biomass in cellular respiration	End of unit test
Explain how human activities pollute the land	Pollution can occur: <ul style="list-style-type: none"> • in water, from sewage, fertiliser or toxic chemicals • in air, from smoke and acidic gases • on land, from landfill and from toxic chemicals. Pollution kills plants and animals which can reduce biodiversity 		Maths Skills
Explain how pollution causes global warming dimming and smog	Humans reduce the amount of land available for other animals and plants by building, quarrying, farming and dumping waste. The destruction of peat bogs, and other areas of peat to produce garden compost, reduces the area of this habitat and thus the variety of different plant, animal and microorganism species that live there (biodiversity).		Interpreting pyramids of biomass
Describe the environmental effects of			

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<p>destroying peat bogs</p> <p>Explain how global warming could affect life on earth</p> <p>Describe methods of reducing the impact of global warming</p> <p>Explain how to construct accurate pyramids of biomass from appropriate data</p>	<p>The decay or burning of the peat releases carbon dioxide into the atmosphere.</p> <p>Large-scale deforestation in tropical areas has occurred to:</p> <ul style="list-style-type: none"> • provide land for cattle and rice fields • grow crops for biofuels <p>Students should be able to describe some of the biological consequences of global warming. Levels of carbon dioxide and methane in the atmosphere are increasing, and contribute to 'global warming'.</p> <p>Students should be able to describe both positive and negative human interactions in an ecosystem and explain their impact on biodiversity.</p> <p>Scientists and concerned citizens have put in place programmes to reduce the negative effects of humans on ecosystems and biodiversity.</p> <p>These include:</p> <ul style="list-style-type: none"> • breeding programmes for endangered species • protection and regeneration of rare habitats • reintroduction of field margins and hedgerows in agricultural areas where farmers grow only one type of crop • reduction of deforestation and carbon dioxide emissions by some governments • recycling resources rather than dumping waste in landfill. 	<p>Key stage 3</p> <p>Relationships in an ecosystem</p> <ul style="list-style-type: none"> • the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops • the importance of plant reproduction through insect pollination in human food security • how organisms affect, and are affected by, their environment, including the accumulation of toxic materials <p>Genetics and evolution</p> <ul style="list-style-type: none"> • changes in the environment which may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction • the importance of maintaining biodiversity and the use of gene banks to preserve hereditary material
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