



Washington Wetland Centre  
 Guided Learning Sessions  
 Curriculum Links  
 KS4 Science

**Key Stage 4**

**Biology**

**Chemistry**

**Ecosystems**

**Photosynthesis**

**Evolution, inheritance and variation**

**Earth and atmospheric science**

levels of organisation within an ecosystem	some abiotic and biotic factors which affect communities; the importance of interactions between organisms in a community	how materials cycle through abiotic and biotic components of ecosystems	the role of microorganisms (decomposers) in the cycling of materials through an ecosystem	organisms are interdependent and are adapted to their environment	the importance of biodiversity	methods of identifying species and measuring distribution, frequency and abundance of species within a habitat	positive and negative human interactions with ecosystems	photosynthesis as the key process for food production and therefore biomass for life	the process of photosynthesis	factors affecting the rate of photosynthesis	the process of natural selection leading to evolution	the evidence for evolution	developments in biology affecting classification	evidence, and uncertainties in evidence, for additional anthropogenic causes of climate change	potential effects of, and mitigation of, increased levels of carbon dioxide and methane on the Earth's climate	the Earth's water resources and obtaining potable water
The water cycle, wetlands and me			✓		✓		✓							✓	✓	✓
Wetland conservation in action				✓	✓		✓									



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 KS4 Geography

**Key Stage 4**

**Physical geography: processes and change**

**People and environment: processes and interactions**

<b>Geomorphic processes and landscape</b> – How geomorphic processes at different scales, operating in combination with geology, climate and human activity have influenced and continue to influence the landscapes of the UK. This should include detailed reference to at least two different and distinctive physical landscapes in the UK.	<b>Changing weather and climate</b> – The causes, consequences of and responses to extreme weather conditions and natural weather hazards, recognising their changing distribution in time and space and drawing on an understanding of the global circulation of the atmosphere. The spatial and temporal characteristics, of climatic change and evidence for different causes, including human activity, from the beginning of the Quaternary period (2.6 million years ago) to the present day.	<b>Global ecosystems and biodiversity</b> – An overview of the distribution and characteristics of large scale natural global ecosystems. For two selected ecosystems, draw out the interdependence of climate, soil, water, plants, animals and humans; the processes and interactions that operate within them at different scales; and issues related to biodiversity and to their sustainable use and management.	<b>Resources and their management</b> – An overview of how humans use, modify and change ecosystems and environments in order to obtain food, energy and water resources. Detailed study of one of either food, energy or water, recognising the changing characteristics and distribution of demand and supply, past and present impacts of human intervention, and issues related to their sustainable use and management at a variety of scales.
The water cycle, wetlands and me	✓		✓
Wetland conservation in action	✓	✓	✓