

Session title	Climate Change Champions	
Key question	How are wetlands affected by climate change and how do they help lessen the impact?	
Session description	Explore the causes of climate change and the impact this is having on wetlands. Investigate the role of wetlands in helping to 'prevent' climate change. What role does photosynthesis play and what can we do to help?	
Key Stage suitability	KS3	
Duration	1 hour	

Curriculum links	KS3 Science: Nutrition and digestion - Plants making carbohydrates in their leaves by photosynthesis and gaining mineral nutrients and water from the soil via their roots. Gas exchange systems - The role of leaf stomata in gas exchange in plants. Photosynthesis - The reactants in, and products of, photosynthesis, and a word summary for photosynthesis. - The dependence of almost all life on Earth on the ability of photosynthetic organisms, such as plants and algae, to use sunlight in photosynthesis to build organic molecules that are an essential energy store and to maintain levels of oxygen and carbon dioxide in the atmosphere. - The adaptations of leaves for photosynthesis. Relationships in an ecosystem - How organisms affect, and are affected by, their environment, including the accumulation of toxic materials. KS3 Geography Human and physical geography - Understand the key processes in physical geography relating to: geological timescales and plate tectonics; rocks, weathering and soils; weather and climate, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts. Understand how human and physical processes interact to influence, and change landscapes, environments and the climate; and how human activity relies on effective functioning of natural systems.	
Learning outcomes	Most learners will...	More able learners will...
	- Understand the processes causing climate change - Know some of the impacts of climate change on wetlands - Know that wetlands store carbon dioxide - Know that plants absorb carbon dioxide and that this can help prevent climate change - Know some of the steps they can take to reduce their impact	- Be able to name carbon dioxide as a greenhouse gas - Understand the processes leading to carbon storage - Understand the process of photosynthesis

Key vocabulary	Climate Change Emissions Pollution Atmosphere Greenhouse gases	Wetland Carbon Dioxide Oxygen Photosynthesis Stomata	Carbon Sink Drought Evaporation Flooding
----------------	--	--	---

Session Outline	Time
Introduction	1 min
Learners are introduced to the key question and what will be covered.	
Activity 1: What is Climate change?	15 mins
Learners investigate and explain what climate change is and what causes it through a simple activity using blankets to model the build-up of greenhouse gasses in the atmosphere.	
Activity 2: Impact of climate change on wetlands	5 mins
Learners look at the impacts extreme heat and intensive rainfall can have on wetland environments and their wildlife.	
Activity 3: Role of wetlands in reducing effects of climate change	24 mins
Learners are introduced to the concept of Photosynthesis. Learners take on the roles of water, carbon dioxide, oxygen and sugars to model how plants absorb carbon dioxide and give out oxygen. They discover that in wetlands the carbon is also stored in the soil, helping to reduce the impacts of climate change.	
Plenary - What can we do to help?	15 mins
Learners explore how we can all make small changes to our lives to help reduce the impacts of climate change.	