Session title	Water cycle, wetlands and me	
Key question	What role do we play in the water cycle?	
Session description	Explore how a range of human and physical processes interact to influence the water cycle. What role can wetlands play in sustainable flood management and natural wastewater treatment?	
Key Stage	KS3	
Duration	60 mins	

Curriculum links	KS3 Science ▪ The properties of the different states of matter (solid, liquid and gas) ▪ Recognise how organisms affect and are affected by their environment, including the accumulation of toxic materials ▪ The composition of the atmosphere KS3 Geography ▪ 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	All learners…	More able learners…
	Will be able to identify that wetlands are part of the water cycle Will be able to describe a positive and a negative human impact on the water cycle Will be able to explain that natural habitats absorb flood water better than man-made surfaces.	Will be able to give two examples of the positive effects of wetlands in the water cycle Will be able to describe how variations in the porosity of surfaces can affect town and landscape planning works.
Key vocabulary	Cycle Condensation Flooding Nutrients	Water cycle Precipitation Accumulation
		Absorb Evaporation Reedbed

Session Outline	Time
Introduction	5 mins
Learners are given a brief intro to WWT Martin Mere and are introduced to the key question: What role do we play in the water cycle?	
Activity 1: Cloud in a bottle demonstration	5 mins
The session leader creates a cloud by reducing the pressure in a lemonade bottle, with the help of a student volunteer to operate the pump. Where does the water cycle begin?	
Activity 2: Water cycle role play	10 mins
Learners take part in the water cycle whole group role-play. The students are the water in the oceans. With the help of our sun on a stick, they ‘evaporate’ then condense, to rain on the hillside and flow	

back down a river to the sea where they started. We then introduce pollution to the river, which the children see accumulating in the oceans. What can we all do about this?	
Activity 3: Investigation	10 mins
Learners test surfaces outdoors for absorbency. In pairs, they predict what will happen when a measured amount of water falls from the same height onto grass, soil, gravel and tarmac. They discuss whether their predictions were correct.	
Activity 4: Predicting and observing the consequences of human activities	10 mins
Learners view a demonstration using our model mountain, where it rains a lot (water spray bottles). Here are two towns in the foothills: Greenville with lots of natural habitats, and Greytown, with lots of hard surfaces. Which one floods? Children make predictions as before, then see if they were correct.	
Activity 5: Visiting the wetland	15 mins
Learners visit a wetland habitat and experience the porous peaty soil, which absorbs and stores water.	
Plenary	5 mins
Learners think back to the key question and share what they have learned.	