

Session Title	Plastic Planet	
Key question	How does plastic pollution affect wetlands and what can we do about it?	
Session description	Discover the main sources of plastic pollution and the problems this is causing for wetlands. Explore the dangers of microplastics, focusing on how they can lead to the accumulation of toxic materials through a food chain. What we can do to help?	
Key Stage	KS3	
Duration	1 hour	

Curriculum links	KS3 Science - Biology - The interdependence of organisms in an ecosystem, including food webs. - Understand how organisms affect and are affected by their environment, including the accumulation of toxic materials. KS3 Science - Chemistry - Earth as a source of limited resources and the efficacy of recycling KS3 Geography - Understand how human and physical processes interact to influence and change landscapes, environments and the climate, and how human activity relies on the effective functioning of natural systems.							
Learning outcomes	Most learners will...	More able learners will...						
	Recognise that there are many everyday items made from plastic some of which may not be immediately obvious Understand the problems that plastic pollution causes for wetland wildlife and habitats Understand that microplastics can be passed through a food chain Recognise that plastics take a long time to break down Know some simple things that they can do to help improve the situation	Understand that plastic pollution in wetlands comes from a range of sources Understand that microplastics can accumulate through food chains acting as pyramids of numbers						
Key vocabulary	<table border="0"> <tr> <td>Pollution</td> <td>Microplastics</td> <td>Decomposition / rotting</td> </tr> <tr> <td>Bioaccumulation</td> <td>Caddis fly and larva</td> <td>Food chain</td> </tr> </table>		Pollution	Microplastics	Decomposition / rotting	Bioaccumulation	Caddis fly and larva	Food chain
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Session Outline	Time
Introduction	5 mins
Learners are introduced to the session title and the key question.	
Activity 1: What is the issue?	15 mins
Learners investigate different items that create plastic pollution and where these come from, working in small groups to sort bags of materials and discuss which contain plastic. (All of them!)	
Activity 2: What problems does this cause?	10 mins
Learners look at the impact this has on wildlife including how micro-plastics can be passed through a food chain and accumulated in a food pyramid. They take part in a food pyramid activity where there	

are lots of caddis-fly larvae with micro-plastics stuck to the cases, several minnows which eat caddis-fly larvae, a few trout which eat minnows and one otter as top predator. The otter ends up accumulating all the plastic, which was on the caddis-fly larval cases.	
Activity 3: How long does the problem last?	15 mins
Learners investigate how long different materials take to decompose and how plastics can remain in the environment for a long time. They work in small groups sorting new bags of materials and discussing the length of time they take to decompose, using our options cards.	
Activity 4: What can we do to improve the situation?	10 mins
Learners explore some of the alternatives to plastic and some of the small steps they can take to reduce plastic pollution.	
Plenary	5 mins
Learners review what they have learnt and have a chance to ask any questions they may have.	