Session title	Pond Explorers
Key question	How are organisms interdependent within a pond ecosystem?
Session description	With purpose-built raised ponds and specialist equipment, including electronic microscope and screen, WWT Llanelli is one of the very best places in the country to come pond dipping. In this session, students explore the interdependence of living things, including how organisms are linked through food webs.
Key Stage suitability	KS3
Duration	1 hour

Curriculum links	**Curriculum for Wales** **Science and Technology** Being curious and searching for answers is essential to understanding and predicting phenomena ▪ Progression step 4 o I can explain how the impact of our actions contribute to the changes in the environment and biodiversity. ▪ Progression step 5 o I can evaluate contemporary issues that affect the planet and biodiversity The world around us is full of living things which depend on each other for survival ▪ Progression step 4 o I can describe the interdependence of organisms in ecosystems and explain how this affects their chances of survival. o I can explain how reproduction, mutations and the environment can lead to variation and adaptations within organisms which can affect their chances of survival. o I can explain the threats to the development and health of organisms and describe how the effects of these are reduced by natural defences, preventions and treatments. ▪ Progression step 5 o I can explain how variation of organisms within a changing environment leads to natural selection which drives evolution. o I can explain how biological processes and control mechanisms enable organisms to function, develop, reproduce and survive. o I can evaluate the factors which affect the development and health of organisms o I can explain how prevention and treatment can support natural defence systems and enhance the health of organisms. **Humanities** Our natural world is diverse and dynamic, influenced by processes and human actions ▪ Progression step 4 o I can understand and explain how human actions affect the physical processes that shape places, spaces, environments and landforms over time. o I can describe and explain the distinctive features of places, spaces and landscapes at a variety of scales, in my locality and in Wales, as well as in the wider world, along with the processes at work in them. o I can describe and explain why spatial patterns of places, environments and landforms may change over time in my locality and in Wales, as well as in the wider world. o I can describe and explain how places, spaces, environments and landforms have changed over time and outline the processes that cause these changes in the natural world. ▪ Progression step 5

	o I can explain and analyse the wide range of interrelationships and interdependencies between the human actions and physical processes that shape places, spaces, environments and landforms over time. o I can give comprehensive explanations for the distinctive features of places, spaces and landscapes at a variety of scales in my locality and in Wales, as well as in the wider world, along with the processes at work in them. o I can give comprehensive explanations for the spatial patterns of places, environments and landforms at a range of scales and predict how patterns and trends may continue or change in the future in my locality and in Wales, as well as in the wider world. o I can give comprehensive explanations and analysis of how and why places, spaces, environments and landforms have changed over time		
Learning outcomes	All learners	More able learners	
	<u>All learners</u> will be able to group creatures into their 'classes'; Crustaceans, molluscs, insects etc. <u>All learners</u> will be able to describe the organisms in the food chain using terminology such as **producers** and **consumers.** <u>All learners</u> will be able to create a food web.	<u>Some learners</u> will be able to describe in detail how the web would be affected if one organism was removed	
Key vocabulary	Adaptations Habitat Lifecycle Vertebrate Invertebrate Primary / secondary / tertiary Producer / consumer	Camouflage Larva(e) Exoskeleton Species Arachnid	Carnivore Herbivore Omnivore Detritivore Insect

Session Outline	Time
Introduction	5 mins
Learners are introduced to the centre, staff and volunteers running the session and the key question, explaining what we will be focusing on today.	
Section 1: How do animals live in a pond?	5 mins
Prediction stage – learners make predictions on the creatures they will find and begin to think about their adaptations.	
Section 2: Pond Dipping	20 mins
Using nets, learners will dip in our purpose-built ponds to discover as many different species as possible.	
Section 3: Identification & Exploration	10 mins
Learners will identify the creatures using an identification chart and use the facts from the chart to understand how the different species have adapted to living in a pond. Learners will begin to understand whether they are e.g. carnivores and how this affects their layer in a food chain.	
Section 4: Observation	15 mins

Learners will observe some of the species in more detail under a digital microscope and discuss what they have learned about their adaptations and how they are mutually interdependent by creating simple food chains / webs.	
Plenary	5 mins
Learners will review what they have learnt and ask any further questions.	