Session title	Pond Explorers	
Key Question	Various available (see session description below)	
Session description	With purpose-built raised ponds and specialist equipment, including electronic microscope and screen, WWT Martin Mere is one of the best places in the country to come pond dipping. Sessions can be adapted to suit your needs, with a focus on one of the following key questions: ▪ How can we group and classify pond animals? ▪ How are pond animals adapted to their habitats? ▪ How is energy passed along a pond food chain? ▪ How can we describe the life cycles of pond animals? ▪ How do adaptations lead to the evolution of species?	
Key Stage	KS2	
Duration	1 hour	

Curriculum links	Lower KS2 Science ▪ Recognise that living things can be grouped in a variety of different ways. ▪ Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. ▪ Recognise that environments can change and that this can sometimes pose dangers to living things. ▪ Construct and interpret a variety of food chains, identifying producers, predators and prey. Upper KS2 Science ▪ Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. ▪ Describe how living things can be classified into broad groups according to observable characteristics and based on similarities and differences. ▪ Recognise that living things have changed over time. ▪ Identify how animals and plants are suited to their environment in different ways and that adaptation may lead to evolution.	
Learning outcomes	All learners will…	More able learners…
	Be able to observe, identify and classify two animals which can be found in a pond Be able to use pond dipping and other equipment safely and effectively Y3 – be able to observe and describe an animal's structure in order to identify and classify it Y4 – be able to describe how environments can change and pose dangers to living things, e.g. Water pollution and one way that we can measure it OR be able to describe a simple pond food chain. Y5 - be able to describe two or more types of life cycle: ('complete' metamorphosis, e.g. midge, 'incomplete' metamorphosis e.g. water boatman, or no metamorphosis e.g. snails).	Y3 – will be able to describe how an animal's structure affects its movement and how it avoids being eaten Y4 – will be able to either (booked teacher choice) describe how pond animals indicate water quality OR describe a simple food chain, including 'producers' and 'consumers', (plants, prey and predator). Y5 – will be able to describe two or more types of life cycle Y6 – will be able to describe two adaptations and how these may lead to the evolution of animals. Some will be able to describe some other benefits of being adapted to a habitat.

	Y6 - be able to describe two adaptations and how these may lead to evolution of pond animals	
Key vocabulary	Identify, group, classify. Work scientifically, investigate, enquire, habitat, micro-habitat, environment, wetland. Y3 - Structure, feature, survive, adapt, adaptation Y4 - Producer, consumer, prey, predator, food chain, herbivore, carnivore, pollution. Y5 - Exoskeleton. (endoskeleton), life cycle, metamorphosis, egg, hatch, (complete metamorphosis, incomplete metamorphosis). Y6 - Adapt, adaptation, adapted, evolution, (natural selection).	

Session Outline	Time
Introduction	5 mins
Learners are given a brief intro to WWT Martin Mere and are introduced to the key question.	
Section 1: Observation	5 mins
Learners look in the ponds and are encouraged to think enquiringly about what they see.	
Section 2: Pond dipping activity	15 mins
Learners pond dip, using the equipment safely (as demonstrated by the leader).	
Section 3: Follow-up activities in outdoor classroom	30 mins
Learners use our ID charts to identify their animals in the trays.	
Learners draw and name two or more animals on A5 card	
Learners view the animals on the screen and the session leader reinforces the ID using the magnetic picture cards and names	
Differentiation: Y3 – Learners talk to their partners about their drawn animals and how they think they are adapted to survive in the pond. Y4 – Learners talk to their partners about either the threats to pond creatures OR how selected animals from their catch fit together into a food chain. Y5 - The session leader develops learners' understanding of three types of life cycle. Using the visual examples, learners discover which type of life cycle their animal has. Y6 - Learners talk to partners about how an adaptation of one of their animals is useful in helping the animal survive environmental changes.	
Y3 – Learners annotate their drawings with appropriate adaptations for their animal/s. Y4 – Learners either decide how polluted the water is by considering the total catch by the class OR fill in the blanks to make up to three food chains on the reverse of their drawings. Y5 - Learners annotate their drawings with the life cycle of their animal. Some learners picked to share the life cycle with the whole group. Y6 – Some learners share their ideas with the whole group, the leader developing learners' understanding of adaptations.	
Y3 – Learners write a question to take away and think about – asking ‘how’ questions about how animals are adapted to survive. Y4 – Learners write questions to take away and think about - e.g. how can we measure pollution in other ways OR invent a longer food chain involving pond life.	

Y5 - Learners write a 'why' question connected with life cycles on the back of their A5 card. Y6 - Session leader postulates a scenario where there is more flooding, so more water, flowing more quickly. What adaptations would pond animals need to survive? (eg. streamlined bodies, hooks on feet, sticky, fast-moving, diggers, sticky eggs etc.) So, in a million years' time, what would they look like? Learners describe their ideas in words/drawings.	
Plenary	5 mins
Learners are invited to ask any further questions.	
	60 mins