Investigating the Pond Ecosystem

Investigating the pond ecosystem - half-day/full day option depending on requirements
Students will investigate the relationship between different feeding levels within a pond ecosystem and whether environmental conditions affect the diversity of species found. Students will use appropriate equipment to carefully collect animals from ponds within the Suntrap grounds. They will use keys to identify the different species and record all animals caught. They will also measure environmental conditions, e.g. light, temperature, pH, oxygen. Students will make predictions, collect their primary data and analyse their results, drawing conclusions. Depending on requirements, we can also look at adaptations of animals found in the pond ecosystem and relate this to the environmental conditions, e.g. low oxygen environments. This can be done as a comparison between two ponds for a full day option.

Learning Objectives

- To collect, analyse and interpret data from a primary source
- To use keys and observations to identify living organisms
- To use living indicators to assess the effects of human activity on the environment
- To calculate biomass and represent data collected in a pyramid of biomass

Some suggestions for visit preparation
1. Re-cap important vocabulary; *habitat, organism, species, herbivore, carnivore*
2. Use simple keys to sort pictures of living things.

Some suggestions for visit follow up
1. Complete the suggested follow up questions from the worksheet.
2. Write up the investigation.

National Curriculum Links

Science - from 2014

Working Scientifically
- Experimental skills and investigations
- Handling information and problem solving
- Scientific attitudes
- Measurements

Subject Content – Biology
- Interactions and Interdependencies
- Ecosystems
- Human Interactions with Ecosystems

AQA Science A and AQA Biology	Unit B1 (Core) B1.4 Interdependence and adaptation B1.5 Energy and biomass in food chains Unit B2 (Additional) B2.4 Organisms in their environment
AQA Science B	Unit 1 (My World) Theme 2 (Life on our planet) – Biomass and energy flow through the biosphere
OCR 21st Century Biology A	Module B4: The processes of life
OCR Gateway Biology B	Module B2: Understanding our Environment B2a: Classification B2b: Energy Flow B2d: Interdependence B2e: Adaptations B2g: Population and Pollution
EdExcel Biology	B1: Influences on Life Topic 1: Classification, variation and inheritance B2: The components of life Topic 2: Organisms and Energy

EVENT SPECIFIC RISK ASSESSMENT

Visit details: **Ponds** Carried out by……Suntrap Forest Education Centre…… Date 05/01/18

ISSUE List significant hazards, which may result in serious harm or affect several people. Consider venue, activity, group, plan B, etc	**HOW TO MANAGE IT** What procedures will we have? (Control measures)	WHO TO BE INFORMED **S**	**Pu**	**Pa**
Deep water (falling in, slippery banks)	• care exercised near water edges & follow instructions (no running around pond)	*	*	
	• only one person on dipping station at a time	*	*	
	• throw line to be taken when using the large pond (by Suntrap staff)	*	*	
	• Suntrap staff demonstrate safe collecting technique at the pond	*	*	
Water borne diseases	• Open cuts should be covered with micropore tape our gloves should be worn	*	*	
	• wash hands at the end of the activity	*	*	
Hazardous equipment (cuts and burns)	• exercise care when using hand lenses on a sunny day	*	*	
Getting lost	• stay within the designated area directed by Suntrap staff	*	*	

You must also ensure that appropriate persons are aware of any Generic procedures, but these do not need to be repeated here. **S-Staff Pu-Pupils Pa-Parents**

The activity must only take place if the residual risk following implementation of control measures is deemed to be "low".