Lesson Two:
The Temperate Woodland Ecosystem

Objectives

- To gain an appreciation of a real-world ecological system

- To create a new form of data presentation

- To be able to extrapolate data to suit new geographical scenarios

Context and Rationale

This lesson places the ecological theory previously under investigation into a real-world context through an investigation into an area of temperate woodland in the UK. Students will gain vital case study knowledge as well as the chance to practice and update their map analysis skills. The main part of the lesson considers the different species found in a temperate woodland, their relative ratios, and how one might present quite simple discrete data in more original ways. Students will also be challenged by the task of working with data that does not easily fit into a regular scale. There is also the opportunity to extrapolate known data based on knowledge of alternative geographical scenarios.

This lesson is also presented as a walk-through PowerPoint presentation **'Lesson Two Walkthrough'**.

Starter

The location of Parkhurst Forest can be discussed with students through the means of **'Location Parkhurst Forest Presentation'**, or self-explored through the use of digital learning devices and *Digimap for Schools (www.digimapforschools.edina.ac.uk)*. Students should be able to comment on its site and situation of the woodland in relation to the River Medina, Newport and the rest of the Isle of Wight.

Given **'Parkhurst Forest Map'**, students should then be able to complete the map skills task presented on **'Woodland Map Skills Tasks'** or through **'Woodland Map Skills Presentation'** (this presentation also contains the answers to the tasks).

Body

Students can be introduced to Parkhurst Forest through **'Parkhurst Forest Introduction Presentation'** or **'Parkhurst Forest Introduction'**. This part of the lesson should begin with a discussion of the nature of discrete data and how it can be used in data presentation (and indeed, how it should not be used). Students should then be presented with **'Parkhurst Forest Species Datasheet'** and given some time to think of a way they might present the data. This can be fed into a class discussion or students can write a description of their data presentation method and why they think it is appropriate to the data.

The different graphics on **'Woodland Species Data Presentation'** can be used to give students ideas about how to present data that has a large range (the difference between the minimum and maximum

frequency values). Teachers can highlight the range presented by the data and how using percentages this can sometimes remove some of the scaling issues. Once given a piece of graph paper, students can be given the opportunity to try their hand at creating the composite bar charts for Parkhurst Forest or complete the composite bar charts on **'Incomplete Parkhurst Forest Composites Sheet'**.

Plenary

Students can be introduced to the nature of Acute Oak Decline disease through **'Acute Oak Decline Presentation'** as well as the meaning of 'extrapolation' of data. Students can then be given **'Acute Oak Decline Graphs'** and with ideas about a typical temperate woodland food web, students can predict how each of the species in the graph will change in the future (by drawing dotted lines) with the introduction of Acute Oak Decline to the area. Once they have had a go on their own, students can use an interactive white board to draw their ideas and present them to their peers, which can lead to further discussion about the interdependence between different species, as well as predator-prey cycles.

Homework or Extension / Enrichment Tasks

Returning to their thoughts about data presentation, students can write a section of text that shows justification for choosing a composite bar chart as a way of presenting that data, followed by a section discussing the limitations of that particular method.

Differentiation Possibilities

Alternative resources are available for students with SEND, EAL, and those with less confidence in the subject matter:

'Alternative Lesson Two Walkthrough'

'Alternative Location Parkhurst Forest Presentation'

'Alternative Woodland Map Skills Tasks'

'Alternative Woodland Map Skills Presentation'

'Alternative Woodland Species Data Presentation'

'Alternative Acute Oak Decline Graphs'

'Alternative Acute Oak Decline Presentation'