

Session Outline

GCSE Science/Biology – Ecological Fieldwork techniques

Specification links: Each Session is tailored to the exam board specifications. Please refer to the supporting document for your chosen exam board

Exam board required practicals:

AQA: Investigate the relationship between organisms and their environment using field work techniques including quadrats and belt transects

Edexcel: investigate the population size of a common species in a habitat.

OCR (A&B) - Application of appropriate sampling techniques to investigate the distribution and abundance of organisms in an ecosystem via direct use in the field (to include: biotic and abiotic factors). Investigation the differences in habitats using ecological sampling techniques.

WJEC Investigation into the distribution and abundance of organisms

Learning objectives	Session structure	Assessment for learning
<p>Investigate the relationship between organisms and their environment.</p> <p>Use appropriate fieldwork techniques to collect data.</p> <p>Understand the effects of abiotic factors on an ecosystem</p> <p>Assess the limitations of the techniques used.</p> <p>Understand where and when to apply the appropriate technique</p>	<p>Introduction Welcome to the RSPB. Students will be introduced to the inspiring location of our nature reserves and explore the need of ecologists to understand the biodiversity of the world around us.</p> <p>Practical Fieldwork</p> <p>Students will investigate the distribution and abundance of organisms using a range of ecological fieldwork techniques such as random sampling with quadrats and belt transects. They will use first hand data to estimate population sizes, and determine the affect of biotic and abiotic factors on the inspiring ecosystems of our amazing nature reserves. By collecting this data students will have to opportunity to consider how environments change and how conservation organisations act locally and globally to manage landscapes for humans and wildlife.</p> <p>Plenary activity</p> <p>Using their experiences in the field students will evaluate and consider the limitations of their methodology and present their findings</p>	<p>RSPB Learning staff will use a variety of teacher and student led individual and group activities throughout the session to assess for learning.</p>
Before your visit	After your visit	Key terms
<p>An understanding of the concept of biodiversity will aid students in gaining the most out of the day</p>	<p>Use the data collected to cover vital maths skills such as drawing and interpreting charts and calculating simple statistics</p>	<p>Biodiversity, distribution, abundance, sampling, estimates, quadrats, biotic, abiotic, limitations</p>