

PROVISIONAL PROGRAMME

Aim

To investigate the biotic and abiotic factors between two microhabitats of a pond. Using new investigation skills to design and carry out a terrestrial invertebrate study in the afternoon.

Introduction

- Background to Freshwater Ecosystems
- Food chains and Food Webs
- Sampling methods; random, systematic, stratified
- Ethical and Risk assessment of the fieldwork.

Freshwater study (am)

Meadow Pond

- Random Sampling using Sweep sampling of 2 microhabitats
- Field identification of invertebrates using dichotomous keys
- Measuring abiotic factors
- Construct Pyramids of numbers and biomass

Terrestrial invertebrate study (pm)

Woodland

- Design and carry out experiment to study the energy transfer between trophic levels in a terrestrial ecosystem.

Follow up

- Summary, conclusion and limitations of scientific investigation.
- Exam questions to demonstrate application of skills?

SPECIFICATION LINKS

Topic 5: On the wild side

- Explain that the numbers and distribution of organisms in a habitat are controlled by biotic and abiotic factors.
- Carry out calculations to determine the efficiency of energy transfer between trophic levels.
- Explain how the concept of niche accounts for the distribution and abundance of organisms in a habitat.

Covers aspects of core practical:

Describe how to carry out a study on the ecology of a habitat to produce valid and reliable data (including the measurement of abiotic factors e.g. solar energy input, climate, topography, oxygen availability and edaphic factors.)

**RECOMMENDED DAY LENGTH
9.30-16.00**

SAFETY All activities and sites are Risk Assessed. Recommended 1 adult per group.

CLOTHING Appropriate outdoor clothing. Indoor & outdoor footwear. Students may bring their own rubber gloves for fieldwork.

VISITING TEACHER ROLE Teachers to support FSC staff by circulating the students, keeping them on task. Teachers are responsible for behaviour.

RESOURCES All resources are provided.

ICT We have the option of using a digital camera to record techniques.



ASSESSMENT

Progress assessed by open ended questioning, peer discussions, presentations and use of knowledge and skills in different situations.

PRIOR LEARNING

Simple definitions and terms

FUTURE LEARNING

Consider effects of human Influences and management on the environment

HOW SCIENCE WORKS

2, 3, 4, 5, 6