



Outdoor Learning Lesson Series for Teachers –

Woodland Science & Ecology

This pack focuses on curiosity, discovery, and observation – connecting pupils with the living woodland around them. Each lesson blends hands-on investigation with reflection on how nature's systems sustain life.

Welcome to Woodland Science & Ecology

Through this pack, pupils become nature detectives – observing, recording, and exploring the interconnected web of woodland life. Every lesson encourages respect for living things, inquiry-based learning, and stewardship of our shared environment.

Lesson 1 – Tree ID Detectives

Pupils learn to identify common trees by leaves, bark, and seeds while exploring the importance of biodiversity.

Learning Objectives

- Identify key characteristics of native woodland tree species.
- Understand why biodiversity supports healthy ecosystems.
- Record scientific observations using simple classification tools.

Equipment

- Tree ID sheets
- Clipboards
- Pencils
- Magnifying glasses

Steps

1. Introduce the idea of biodiversity and why different trees matter.
2. Show pupils how to use ID sheets or apps to identify tree types.
3. Explore the woodland, collecting samples (fallen leaves, seeds).
4. Record data and compare tree diversity in different areas.

Reflection / Extension

- What surprised you about how many species grow nearby?
- How do trees create habitats for other life?
- If your favourite tree could talk, what might it say about its role here?

Lesson 2 – Soil Secrets

A hands-on investigation into what lives beneath our feet. Pupils examine soil layers, texture, and decomposers that recycle life.

Learning Objectives

- Understand the structure and role of soil in ecosystems.
- Investigate decomposers and their role in nutrient cycling.
- Develop observation and data recording skills.

Equipment

- Trowels
- Magnifiers
- White trays
- Soil ID charts
- Small jars

Steps

5. Collect small soil samples from different areas (sunny vs shaded).
6. Examine texture, smell, and moisture; identify visible life (worms, beetles).
7. Discuss decomposition – what happens when leaves fall?
8. Draw or photograph soil profiles and label layers.

Reflection / Extension

- What did you discover living in the soil today?
- Why is decomposition important for life above ground?
- How can we protect this unseen world beneath our feet?

Lesson 3 – Mini Beast Hunt & Food Webs

Through an exploration of woodland invertebrates, pupils build a food web and learn about interdependence in nature.

Learning Objectives

- Identify common invertebrates using classification keys.
- Understand predator-prey relationships and food chains.
- Visualise ecological balance and interdependence.

Equipment

- Bug pots
- ID keys
- Clipboards
- Chalk or string for food web activity

Steps

9. Explore under logs and leaves to find small creatures (return gently).
10. Record findings and group animals by how they feed and move.
11. Draw a simple food web on the ground using chalk or string.
12. Discuss how removing one species affects the whole web.

Reflection / Extension

- What surprised you about the variety of life you found?
 - How are all living things connected?
- What would happen if part of the web disappeared?

