



How to Pond Dip to Investigate Biodiversity

1. **Get Ready:** Gather your equipment – a net, tray, small pots, and an ID chart. Fill the tray with pond water to keep creatures safe.
2. **Dip Carefully:** Gently sweep the net in a figure-eight motion through weeds and shallow areas of the pond. Avoid stirring up too much mud.
3. **Empty the Net:** Tip your net into the tray of pond water and wait a moment for creatures to move.
4. **Observe and Identify:** Use a magnifying glass and ID chart to identify the pond life (like snails, water beetles, or larvae). Record what you find.
5. **Release Safely:** Once you've finished observing, carefully return all animals to the pond where you found them.

Pond dipping helps us explore and understand **biodiversity** — the variety of living organisms in a habitat. By observing which species are present, and how many of each, we can learn a lot about the **health of the pond ecosystem**.

A healthy pond usually contains a wide range of creatures, such as water beetles, snails, insect larvae, and even amphibians. Each of these species plays a role in the **food chain** and contributes to the balance of the ecosystem. For example, some creatures help break down dead plants, while others are food for birds and fish.

How to Soil Sample to Investigate Soil Texture and Type

1. **Collect a Sample:** Use a trowel or small spade to collect soil from just below the surface. Try different locations to compare types.
2. **Feel the Texture:** Take a small amount of damp soil and rub it between your fingers:
 - a. **Sandy soil** feels gritty.
 - b. **Clay soil** feels sticky and smooth.
 - c. **Silty soil** feels soft and silky.

Soil investigation is especially important in:

Horticulture (Gardening and Plant Cultivation)

- Gardeners and landscape designers need to know what kind of soil they are working with to choose the right plants.
- For example, clay soil holds water well but may cause root rot in some plants, while sandy soil drains quickly and suits drought-tolerant species.
- Testing helps improve soil by adding compost or sand to balance texture and nutrients.

Agriculture (Farming and Food Production)

- Farmers test soil to decide what crops to grow and how to fertilise the land.
- Good soil texture helps crops grow strong roots, absorb nutrients, and withstand weather changes.
- Understanding soil types supports **sustainable farming**, preventing erosion, nutrient loss, and overuse of chemicals.

How Wind Impacts Trees, Plants, and Garden Structures

Wind can have both **positive and negative effects** on gardens and natural environments:

Trees and Plants

- Strong wind can **break branches**, **uproot trees**, or **dry out soil and leaves**.
- It can **damage delicate plants** or bend stems, making it harder for them to grow straight.
- Some plants benefit from wind for **pollination** or **seed dispersal** (e.g. dandelions, sycamore seeds).
- Wind also helps plants develop **stronger stems** by moving them gently as they grow.