

## WS5.3 – Soil Detective Toolkit

### Part 3: Visual Reference Guide – Signs of Soil Health

#### Life Below Ground

- Earthworms – Help aerate the soil and break down organic matter.
- Mycelium – Fungal networks that transport nutrients and water.
- Insects – Beetles, ants, and bugs all contribute to decomposition.
- Microbes – Invisible but essential to nutrient cycling.

#### Texture & Colour Clues

- Crumbly texture = healthy structure and good aeration.
- Dark brown/black = high in organic matter.
- Pale or grey = poor fertility or drainage issues.
- Sticky = clay-heavy, needs composting or aeration.
- Gritty = sandy, may need organic matter to retain water.

#### Signs of Healthy Soil

- Earthy smell (like a forest after rain).
- Moist but not soggy.
- Covered with plants, mulch, or organic debris.
- Easy for roots or pencil to push through.
- Rich in decomposing matter and visible layers.

#### How to Build Soil Health

- Composting kitchen scraps and garden waste.
- Using mulch to protect soil surface.
- Planting diverse crops (polyculture).
- Avoiding chemical inputs.
- Practising no-dig or minimal tillage methods.