

Our Living Landscape



Soil Topic Activity Guide: How to Get Into Soil

Aim of activity

To know some basic facts about soil and begin to understand the importance of worms

Note: This activity could be easily combined with our *How to love worms* activity.

Resources

3 transparent plastic pots with small holes pierced through the bottom

Soil samples (e.g. clay, sand & gravel, loam)

Jug or bottle of water

Area of the school garden or playing field, where digging can be done (and ideally with worms in the earth)

Garden fork



Delivery of activity

We recommend teachers prepare for delivering this activity by watching our video '**How to get into soil**' [[click here](#)]. To get the children more involved in this demonstration, ask them to bring in a sample of soil from their own garden or local park; alternatively you could put them in groups to dig up soil from different areas in the school grounds.

A Step by Step Guide:

1. Introduction

Introduce the activity with a few facts which will grab the children's attention, e.g.:

- Soil is made up of minerals, air, water and organic matter.
- Top soil is the uppermost layer of soil (usually the first 10-25cm). It can take up to 1,000 years to make 1cm of topsoil.
- There are more microorganisms in a handful of soil than there are people on the planet.

2. Key points to get across during the activity

- Soil is vital and precious. It is the basis of our life support system and needs to be looked after with care.
- Soil is needed by plants to anchor roots, hold water and provide nutrients. We cannot feed ourselves without it.
- Soil is full of life. It provides a home/habitat for invertebrates and microorganisms.
- Soil stores and filters our fresh water.

2. Instructions - Outside on a dry day

- Explain the three different types of soil contained in each prepared pot. Draw attention to the holes pierced in the bottom of each pot.
- Pass the pots around the group so the children can look at the different soils more closely.
- Taking each pot in turn, pour in a small amount of water and lift the pot up so the children can see whether the water is coming out and, if so, at what rate. Alternatively, invite 3 children to come to the front and pour the water into the containers one at a time.
- Discuss the results – what happens to the water? Which type of soil acts like a sponge? Which would be best for growing plants?
- Lead the children over to the area identified for digging.
- Dig up some large clods of earth and ask the children to examine them. Encourage them to touch and handle the earth.
- Discuss the soil's structure and type – is there any organic matter? Are there any worm holes or other signs of other invertebrates?

If children are to bring in their own sample of soil:

- Tell the children firstly to ask a parent or neighbour if they can dig up a small amount of soil from the garden (just 100g or a small cup's worth). Check that there is no dog or cat poo there before collecting it. Don't take out any small stones, roots or twigs. Bring it to school in a named container with a secure lid.
- Take some time to look at the soil. Put it in a plastic or paper cup with holes in the bottom. Pour in some water and see whether the soil acts like a sponge, or the water runs straight through it or the water sits on top. Is everyone's soil the same?

3. Ask the group to consider the following questions...

What are the three main kinds of soil?

Soil can be broadly divided into sand, silt and clay:

- *Sand has the largest particles and is coarse and gritty. It allows water and air to move into through the soil because there are large holes between them;*
- *Silt has the middle-sized particles and is smooth. It feels like flour or soft brown sugar. It holds water that plants can use.*
- *Clay has the smallest soil particles and is fine and sticky. It holds a lot of water, but doesn't give as much to the plants as silt. It also holds nutrients.*

What is the best kind of soil?

An ideal soil would have equal amounts of sand, silt, and clay particles. But most soils are not ideal. Some are mostly sand, others are mostly clay or silt, depending on where they are found. Soil with about equal mixtures of these three particles is called loam.

Additional Activities and Further Information

- Soil Science Factsheets: <https://soils.org.uk/education/downloads/>.
- RHS Soil activity ideas: <https://schoolgardening.rhs.org.uk/Resources/Lesson-Plan/Soils-lesson-plan>.
- Videos of worms and other soil creatures: <https://www.soilassociation.org/causes-campaigns/save-our-soil/meet-the-unsung-heroes-looking-after-our-soil/>.
- Wild about worms: <https://www.wildaboutgardens.org.uk/sites/default/files/2021-01/WORMS%20WAG%202018%20-%20Booklet%20Digi%200.pdf>.
- Wild about beetles: <https://www.wildaboutgardens.org.uk/sites/default/files/2021-03/200204%20RSWT%20WAG2021%20Booklet%20WEBSPREADS%20cardinal%281%29%201.pdf>.

