

Investigating soils

Introduction to soils

Children from infant to sixth class investigate soil samples when studying the strand Natural environments.

Infant classes

Strand unit : Local natural environment

Children collect a variety of natural materials in the local environment; mud sand pebbles stones and rocks. They discuss these materials sort and classify them according to colour, texture and hardness.

First and second classes

Strand unit: Local natural environment

Children observe, collect and examine soil, sand, pebbles, stones and rocks in the local environment. They compare, contrast and classify the samples into broad sets. The texture, colour, hardness and moisture content of each set of materials is then observed and investigated. Observations are recorded and communicated using simple drawings, plans, displays, models and sketches. Soils are studied as habitats for living things.

Third and fourth classes

Strand unit: Rocks and soils

Children observe, collect and examine soil samples from the local and wider environments. They sort and group constituent materials, compare and contrast samples according to colour and texture. They begin to explore how soils influence animal and plant life; physical conditions, water and food supply.

Fifth and sixth classes

Strand unit: Rocks and soils

At this level children are expected to carry out more advanced investigations. Rocks and soils are dealt with separately

Children examine soil samples from different parts of the locality comparing the constituent parts, colour and water retention. They investigate the relationship of plants and farming to soil types and become familiar with ways of changing soil structure.

Exemplar 8 in the Geography Teacher Guidelines details experiments with soils. Before allowing children to handle soil teachers should read the safety advice contained in the Geography Teacher Guidelines page 113 and Science Teacher Guidelines pages 74 to 81. Soil investigations integrate content from the Geography curriculum with the Strand

Living Things and the Strand unit Properties and characteristics of materials from the Science curriculum. The skills developed are the same as those of scientific investigation.

Soil can be examined in situ e.g. when carrying out a habitat study or samples can be taken back to the classroom. Children should have the opportunity to examine different soil samples from local and wider environments. Pupils may be invited to bring soil samples from home. In urban areas most of the soils will be entirely artificial, created when builders landscaped housing estates during construction. In some cases it may be necessary to bring samples from further afield to allow comparisons to be made. The location of soil found in the environment should be noted and the samples when identified can be displayed alongside a map of the locality marking the locations of the finds.

Teachers can begin classroom investigations with a brainstorming session, a concept map or KWL chart to find out what the children already know about soils. Children work in pairs or small groups to carry out all investigations.

On this website we have included the following investigations for third to sixth class;

1. Looking at a soil profile
2. Examining soil samples and their constituents
3. Measuring the moisture content of soil
4. Measuring the permeability of soils
5. A settlement test
6. A soil erosion test