Investigating rocks

Children from infants to sixth class collect and investigate stones, pebbles and rock samples from local and wider environments when studying the Strand Natural environments. Older children also explore the use of stone in the local built environment.

Infant classes

Strand unit Local natural environment
Observe, collect and investigate natural materials; mud, sand, pebbles, stones and rocks in the local environment.
Classify these materials according to colour, texture and hardness.
Record and communicate observations using oral language and pictures.

First and second classes

Strand unit Local natural environment
Observe, collect and examine soil, sand, pebbles, stones and rocks in the local environment.
Compare and contrast and classify the samples into broad sets by investigating the texture, colour, hardness and moisture content.
Study rocks as habitats for living things.
Record and communicate observations using simple drawings, plans, displays, models and sketches.

Third and fourth classes

Strand unit Rocks and soils
Observe, collect and examine rock samples from the local and wider environments.
Compare and contrast these samples according to colour, hardness, texture, size, weight, strength and use.
Explore how rocks influence animal and plant life; physical conditions, soil, water and food supply.

Fifth and sixth classes

Strand unit Rocks and soils
At this level content objectives for rocks and soils are listed separately
Collect and identify some common rocks in the locality.
Explore the use of stone in buildings and other human activities.
Learn about the characteristics of common rock types and where they may be found in Ireland and worldwide.

Sort rock types into major groups; igneous, sedimentary and metamorphic and develop an understanding of the Earth's structure.

Exemplar 8 in the Geography Teacher Guidelines details experiments with rocks. Before allowing children to handle rocks, teachers should read the safety advice contained in the Geography Teacher Guidelines page 113 and Science Teacher Guidelines pages 74 to 81. Rock investigations naturally integrate content with Science Strands Living Things and Materials. The skills developed are the same as those of scientific investigation.

Teachers need to build up a reasonably comprehensive collection of rock samples in the school to include samples from each of the major rock groupings; igneous, sedimentary and metamorphic. A rock pack containing six common kinds of rock from Ireland has been distributed to every school however; it should be supplemented with rock samples from local and wider environments. These samples can be collected when carrying out field work in the local environment. Pupils may be invited to bring rocks from home. The location of those 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 may begin classroom investigations with a brainstorming session, a concept map or KWL chart to find out what the children already know about rocks. Children need to be familiar with the names of the major rock groupings before carrying out investigations Children work in pairs or small groups to carry out all investigations.

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

1. Descriptions of the major rock groups
2. Investigating the properties of rock types
3. Investigating the permeability of rock types
4. Investigating the erosion/weathering of rocks