



Teacher's Notes

Activity 2: ROCKING AROUND IRELAND



Activity summary:

This is a desk-based introduction to geological maps where students familiarise themselves with the geology of Ireland.

Level: 5th and 6th class

Time required: 25 mins (activity) plus 5-10 mins (set-up)

Curriculum links: *SESE Geography:*

Strand: Natural Environments

Unit: The local natural environment

Unit: Rocks and Soil

Unit: Land, rivers and seas of Ireland

Strand: Environmental Awareness

Unit: Environmental Awareness

Strand: Human Environments

Unit: People living and working in the local area and a contrasting part of Ireland

SESE Science:

Strand: Materials

Unit: Science and the Environment

Objectives:

- To learn how to read and to understand the Geological Map of Ireland
- To learn how to appreciate the diverse geology of Ireland
- To appreciate how the geology of the local area shares similarities with other places in Ireland
- To consider how Ireland is made up of many rock types that were formed hundreds of millions of years ago.

Skills and concepts development:

Maps, Globes and Graphical Skills

- Using Pictures, Maps and Models
- Maps and Globes

A Sense of Place and Space

- A Sense of Place
- A Sense of Space

Geographical Investigation Skills\Working Scientifically\Designing and Making

- Observing
- Investigating and Experimenting
- Estimating and Measuring
- Analysing
- Recording and communicating
- Evaluating

Background information and context:

The geological map used in this exercise is a simplified map of the Geology of Ireland. It shows the regional distribution of different rock types, each coded as a different colour. These rocks, and the relationships between them, tell us about Ireland's past. The map also shows the location of active (working) mines.

Prior Knowledge:

Students should be familiar with the following:

- the counties of Ireland
- the approximate location of Carrauntoohil (southwest Kerry)
- the approximate location of the Giant's Causeway (Antrim)
- the approximate location of their town

Apparatus and materials:

- 15 laminated maps of the geology of Ireland
- Student worksheets

Organisation of Students:

- Students can work in pairs

Activity:

- Each pair of students is given one geology map
- Students use the map to answer questions on the worksheet

Student questions and answers:

Q1. Name three counties in Ireland where you find large areas of granite.

A. *Any three of: Galway, Wicklow, Carlow, Donegal, Down.*

Q2. There is only one area of basalt in Ireland. How old is it?

A. *60 million years.*

Q3. What makes the basalt at the Giant's Causeway so interesting? Hint: look at the picture!

A. *It forms extremely regular hexagonal columns.*

Q4. Carrauntoohil is Ireland's highest mountain. What rock is it made of? How old is it?

A. *Sandstone; 380 million years old.*

Q5. What is the only county in Ireland where you find chalk deposits?

A. *Antrim.*

Q6. What rock type lies under the following towns and cities?

A. *Belfast – Sandstone; Dublin – limestone; Ennis – limestone; Letterkenny – schist and gneiss.*

Q7. How many different rock types are there in County Clare?

A. *There are only three rock types in Co. Clare: limestone, shale, and sandstone. Students may guess that there are five types of rock in Clare as there are five colours on the map, but use of the key will reveal that sandstone and shale are common to four of the colours (the colours are different because the sandstones and shales fall into four different age groups).*

Q8. In what county is Ireland's only gold mine?

A. *Tyrone.*

Q9. What other metals and minerals are mined in Ireland (name four)?

A. *Zinc, lead, gypsum, and salt.*

Q10. What county in Ireland do you think has the most complicated geology? Why?

A. *Acceptable answers are: Galway, Mayo, or Wexford (as these counties have many different rock types).*

Q11. What do you notice about areas of sandstone? Do they tend to form highlands or lowlands? Why do you think this is?

A. *Highlands; sandstone is a hard (strong) rock that is resistant to erosion.*

Q12. What do you notice about areas of limestone? Do they tend to form highlands or lowlands? Why do you think this is?

A. *Lowlands; limestone is a soft rock and dissolves in weak acid (i.e. rain).*

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