

SCIENCES — GEOLOGY / GEOGRAPHY · P4–P7

# Gleann Mòr na h-Alba — Scotland's Geology

P4–P7

## Scotland's geological story

1

### Ancient rocks

Scotland has some of the oldest rocks on Earth. The Lewisian Gneiss of the outer Hebrides is approximately 3 billion years old — among the oldest exposed rocks anywhere. The Torridonian sandstone of the northwest Highlands is 800 million years old.

2

### The Caledonian Mountains

Scotland was once part of a mountain range as high as the Himalayas — the Caledonides (c.400 million years ago). The eroded stumps of these mountains are today's Scottish Highlands.

3

### The Great Glen Fault

A major geological fault running northeast-southwest through Scotland — from Fort William to Inverness. Loch Ness, Loch Lochy, and Loch Oich sit along this fault line. Geological movement along this fault happens occasionally.

4

### The Highland Boundary Fault

A major fault running from Arran to Stonehaven, separating the Scottish Highlands (ancient metamorphic and igneous rocks) from the Central Belt (younger sedimentary rocks, coal and oil shale).

5

### Ice Ages

The last Ice Age (ended approximately 10,000 years ago) dramatically shaped Scotland. Glaciers carved the U-shaped glens, the deep sea lochs (fjords), and deposited till and moraines across the lowlands.



6

**James Hutton and deep time**

Edinburgh geologist James Hutton (1726-1797) studied Scottish rocks and concluded the Earth must be millions of years old — far older than the biblical 6,000 years. His concept of 'deep time' revolutionised science.

