

Exploration

Seeing underground

Pa I 5min

Students make a list of the physical properties of rocks which might be detected from above the ground even though the rocks are buried.

Explaining Geophysical anomalies in the UK

A P 15min

Provide students with gravity and magnetic maps of the UK and ask them to explain them by comparing the maps to a geological map of the UK.

Explaining Geophysical anomalies

A P 5 min

Students are given distinctive geophysical maps and asked to explain the anomalies. Examples could be a circular very low gravity anomaly (salt dome) and a strong positive linear magnetic anomaly (basic dyke).

Geiger counter

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The Geiger counter is placed over various radio-active rocks and minerals and also over ones which are not radio-active.

Isle of Arran puzzle

A I 5 min

Students are shown gravity and magnetic maps of the Isle of Arran and asked to suggest an explanation as to why areas of granite have high magnetic and gravity values. There are thought to be gabbro intrusions below.

Resistivity

E P F 1 min per sample

Students use a damp tester or voltmeter to test the resistivity of a variety of rocks and minerals and of sand and sandstones saturated with salt water, oil and gas.



Geochemical stream samples

Pa I 5 min

Students locate the likely position of a mineral vein from copper values in parts per million found in a stream.

Geochemical soil samples

Pa I 20 min

Students contour the values to suggest where drilling should take place.

Introduction to stereo air photographs

A I 5 min per photo

Students are given a stereoscope and stereo pairs of dramatic landforms e.g. Victoria Falls, a volcano or Meteor Crater.

Interpreting stereo air photographs

A I 15 min per photo

Students are given stereo pairs of areas with folded and faulted beds. They must make a labelled sketch map of the area.