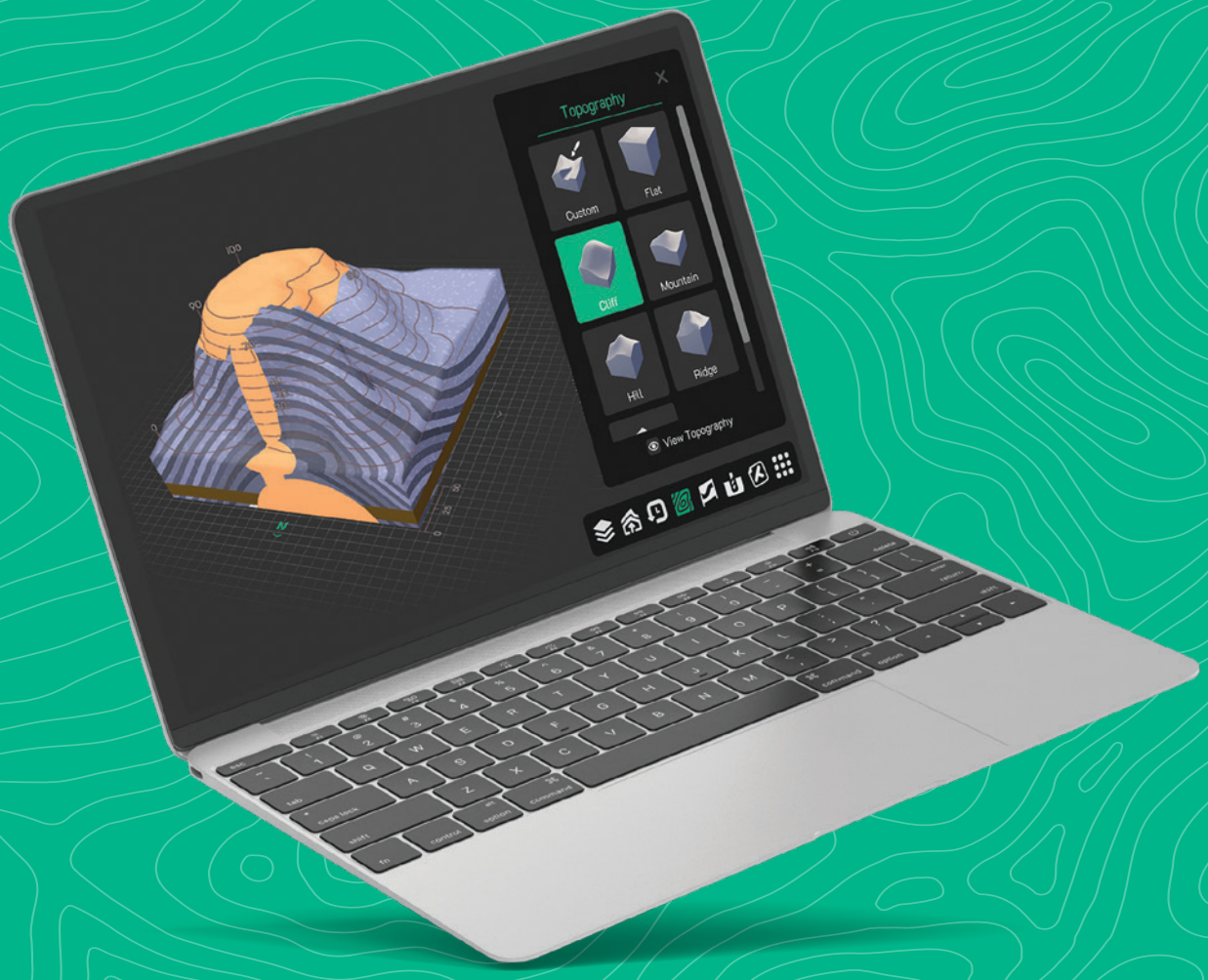
VisibleGeology

EARTH SCIENCE WEEK

Lesson plan

Exploring geothermal energy and granitic plutons



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An initiative by SEEQUENT

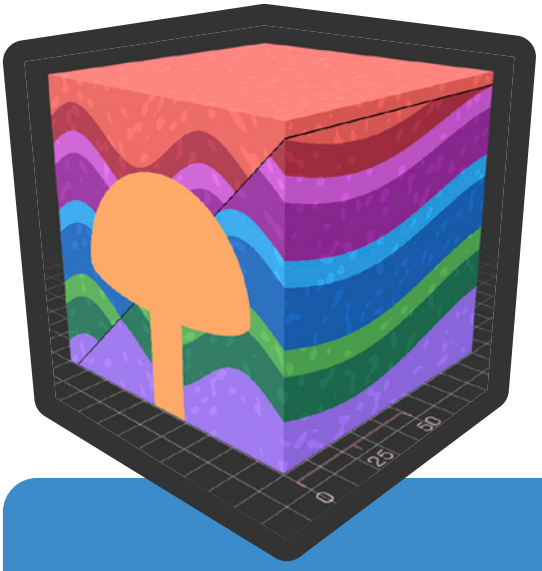
Exploring geothermal energy and granitic plutons

Geothermal energy is heat from within the Earth that can be used as a renewable energy source. It is most accessible in areas with tectonic activity. One source is a granitic pluton, a large body of magma that remains hot for millions of years. Groundwater seeps into the ground, heats up by nearby hot rock, and is trapped by a cap rock, creating a geothermal reservoir. Wells can be drilled to release steam, which spins turbines to generate electricity.

An example is the Geysers Geothermal Field in California, where heat from a buried pluton powers homes. Understanding the geology helps identify safe and effective locations for geothermal energy use.

Let's analise a geological model of a geothermal system in Visible Geology

In what sequence do you think the events occurred to create the geothermal reservoir shown in the model? (Put a number beside each event to show the order in which you think they happened, starting with 1 for the earliest event.)



- ☐ Folding of rock layers
- ☐ Intrusion of granitic pluton
- ☐ Fracturing and faulting
- ☐ Deposition of beds
- ☐ Infiltration and heating of groundwater

It's time to check your work!

Open the model in Visible Geology by scanning the QR code or visiting www.visiblegeology.com/?sharecode=fzh-2KNXqvfe6bVyHBREE7j

Use your mouse to explore the 3D model. Navigate to the history tool to check your work. How did you do? Did the order surprise you?

Check your work!