Experiment

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Earthquake

FAULT MODEL

A fault is a place where there is a break in the Earth's crust. You can use clay to make your own model of a fault.

Instructions for teachers

- Read the following introduction about earthquakes and explain that today we will be doing a fun experiment to show how fault lines work to create an earthquake.
- Divide the class into small groups and provide each group with the materials below to complete the experiment.
- Provide students with the instructions below or read them aloud to the class as they undertake the experiment.
- Following the experiment ask students if they have learned something new about earthquakes and ask for any questions regarding earthquakes. Could we have an earthquake in Cairns?

Experiment:

Earthquakes often begin at a fault in the Earth's crust. If rock near a fault suddenly begins to move, it creates pressure that causes an earthquake. Here's a simple way to show how it works:

Materials:

- Three different colours of clay
- Dull knife

Instructions:

Step 1: Get three pieces of clay, each in a different colour, and pound each piece into a flat rectangle.

Step 2: Stack them on top of one another and press them together. The three pieces of clay represent layers of the Earth's crust.

Step 3: Use a dull knife to cut all the way through the layers, in the middle. Put the two sections of clay together, but don't match them up exactly as they were before you cut them apart. The cut is like a fault in the Earth's crust.

Step 4: Push in on the outside edges of both sections of clay. The clay along the "fault" will buckle And slide. Earthquake!

Discuss:

Earthquakes often begin at a fault in the Earth's crust.

- Where are the nearest faults to us here?
- When was Cairns last affected by an earthquake?
- What might cause an earthquake in Cairns?

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Curriculum links

F	Science	ACSSU004: Science as a Human Endeavour; Earth & Space Science	Daily and seasonal changes in our environment, including the weather, affect everyday life
1	Science	ACSSU019: Earth and Space Sciences; Science understanding	Observable changes occur in the sky and landscape
1	Science	ACSHE021: Science as a Human Endeavour; Nature & development of science	Science involves asking questions about, and describing changes in, objects and events
1	Science	CSIS024: Questioning and predicting	Respond to and post questions, and make predictions about familiar objects and events
2	Science	ACSSU032: Science Understanding; Earth and space science	Earth's resources, including water, are used in a variety of ways
2	Science	ACSHE034: Science as a Human Endeavour	Science involves asking questions about, and describing changes in, objects and events
2	Science	ACSHE035: Science as a Human Endeavour	Science involves asking questions about, and describing changes in, objects and events
3	Science	ACSHE050: Science as a Human Endeavour; Nature & development of science	Science involves making predictions and describing patterns and relationships
4	Science	ACSHE062: Science as a Human Endeavour; Use & influence of science	Science knowledge helps people to understand the effect of their actions
4	Science	ACSSU075: Science Understanding; Earth and Space science	Earth's surface changes over time as a result of natural processes and human activity
5	Geography	ACHGK030: Geographical Knowledge and Understanding	The impact of wildfires or floods on environments and communities and how people can respond
6	Science	ACSSU096: Science Understanding; Earth and Space Sciences	Sudden geological changes or extreme weather conditions can affect Earth's surface
6	Science	ACSHE098: Science as a Human Endeavour; Nature & development of science	Science involves testing and development predictions by gathering data and using evidence to develop explanations or events and phenomena
6	Science	ASHE099: Science as a Human Endeavour; Nature and development of science	Important contributions to the advancement of science have been made by people from a range of cultures
6	Science	ACSHE100: Science as a Human Endeavour; Use and influence of science	Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives