

# 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 above 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 learnt 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?

# Experiment

Classroom resources provided by Cairns Regional Council



## Curriculum links

7	Science	ACHE121: Science as a Human Endeavour; Use & influence of science	People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity
7	Geography	ACHGK042: Knowledge and Understanding	Causes, impacts and responses to atmospheric or hydrological hazard
7	Geography	ACHGS053: Geographical Inquiry and Skills; Communicating	Present findings, arguments and ideas in a range of communication forms selected to suit a particular audience and purpose; using geographical terminology and digital technologies as appropriate
7-8	Health & Physical Education	ACPPS072: Personal, Social and Community Health; Being healthy, safe and active	Practise and apply strategies to seek help for themselves or others
8	Science	ACSHE136: Science as a Human Endeavour; Use and influence of science	People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity
8	Geography	ACHGK053: Knowledge and Understanding; Landforms and landscapes	Causes, impacts and responses to atmospheric or hydrological hazard
9	Science	ACSHE160: Science as a Human Endeavour; Use and influence of science	People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities
9	Science	ACSSU180: Science Understanding; Earth & Space Sciences	The theory of plate tectonics explains global patterns of geological activity and continental movement
9-10	Health & Physical Education	ACPPS092: Personal, Social and Community Health: Being healthy, safe and active	Propose, practise and evaluate responses in situations where external influences may impact on their ability to make healthy and safe choices
10	Geography	ACHGK073: Geographical Knowledge & Understanding Unit 1: Environmental change and management	The application of systems thinking to understanding the causes and likely consequences of the environmental change being investigated
10	Geography	ACHGK074: Knowledge & Understanding; Environmental change & management	The application of geographical concepts and methods to the management of the environmental change being investigated
10	Geography	ACHGK075: Knowledge & Understanding; Environmental change & management	The application of environmental economic and social criteria in evaluating management responses to the change