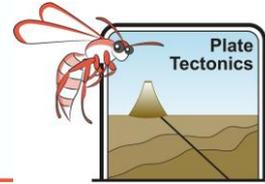


Three Types of Fault - Student Activity



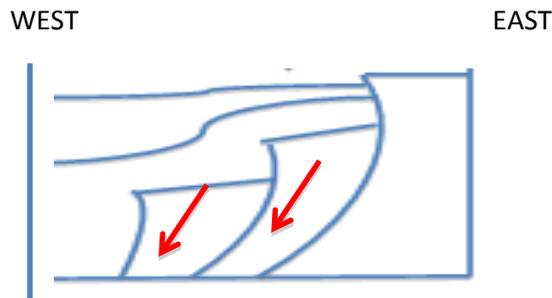
Faults are breaks in rock where one side is displaced from the other. Although Australia lies well away from the stressed margins of the Australian tectonic plate many adjustments have to be made as it travels northward.

Your teacher will present you with materials to make models of the three main types of fault. Four layered blocks of the same size will be required. What is the purpose of the fourth block?

Different types of faults

1. A normal fault

Where the crust is being stretched or extended "**normal**" faults occur. When Australia broke away from the supercontinent Gondwana, the crust was stretched and the major north to south Darling Fault was re-activated. The land to the west slumped down to form the sedimentary basin of the Indian Ocean. Under the city of Perth the land has down faulted at least 15km. The diagram is a section down through the lithosphere.

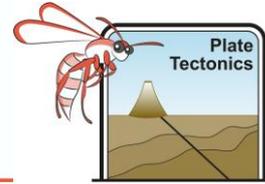


Maximum dimensions (mm)	Control block	Normal faulted block
Length		
Width		
Height		

Sketch of control and normal fault models

Control Block	Normal faulted block
Scale 1:	Scale 1:

Three Types of Fault - Student Activity



2. A reverse fault

Where the crust is being compacted (squashed together), as near Meckering on the Great Eastern Highway between Northam and Cunderdin, blocks slip up over and each other. "Reverse" faults occur. The diagram below is a section down through the lithosphere.



Maximum dimensions (mm)	Control block	Normal faulted block
Length		
Width		
Height		

Sketch of control and reverse fault models

Control Block	Normal faulted block
Scale 1:	Scale 1:

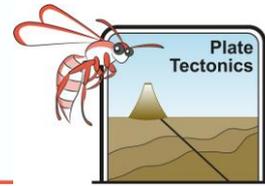
Fascinating fact: Gold bearing quartz veins can be associated with this form of faulting in our Goldfields.

3. Transform faults

Where the movement is mostly horizontal and one block slips alongside another, transverse faults occur. Movement along transform faults has caused major earthquakes in Christchurch, New Zealand. These major earthquakes happened at plate boundaries where stress is greatest.

Maximum dimensions (mm)	Control block	Normal faulted block
Length		
Width		
Height		

Three Types of Fault - Student Activity



Sketch of control and transform models

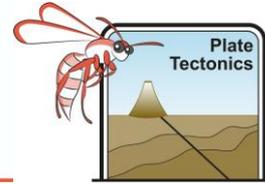
Control Block	Normal faulted block
Scale 1:	Scale 1:

Which form of fault resulted in contraction (shortening) of the crust? Please include your own primary data to support your theory.

Which form of fault resulted in extension of the crust? Please include your own primary data to support your theory.

Which form of fault resulted in horizontal relocation of the crust? Please include your own primary data to support your theory.

Three Types of Fault - Student Activity



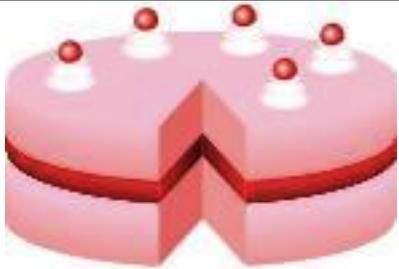
EXTENSION - Finding Fault - Use Your Knowledge

1. Meckering is a small town on the Great Eastern Highway between Northam and Cunderdin in Western Australia. Immediately after the earthquake in October 1968 farmers noticed little scarps a few centimeters high running in bands across their fields. They looked like a series of steps that had been pushed up. Which kind of faults would have caused these? Explain your answer.

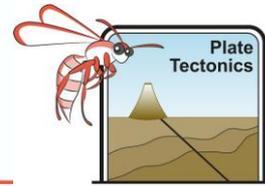
2. In East Africa two major blocks of land are moving apart creating the Great Rift Valley to form between them. Every year the valley between gets wider and wider. What kind of faults would margin this valley? Explain your answer.

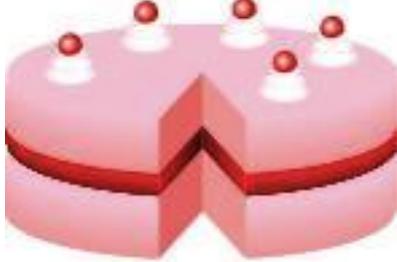
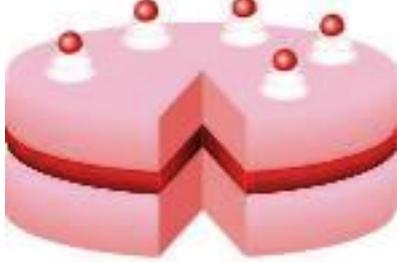
3. When the Cadoux fault reactivated in 1979, farm tracks were displaced sideways and had to be rebuilt. What kind of faults would have caused this? Explain your answer.

This birthday cake is going to suffer faulting. Sketch what would happen if it was to suffer the three main types of faults we have studied.

Original Cake	Type of fault	Result of faulting
		

Three Types of Fault - Student Activity



Original Cake	Type of fault	Result of faulting
		
		

This activity is even better with real cakes!