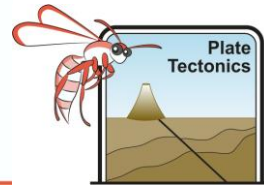


## Australian Earthquakes & Faults – Student Activity



Since Australia and its continental shelf lie well within the greater Australian Continental Plate we do not suffer from the major quakes felt on continental plate margins where the crust may be crumpled upwards, subducted downwards or sheared against another continental plate. Adjustments to stress within our plate causes earthquakes however.

Most Australian earthquakes happen in the upper 20km of the crust where rocks are cold and brittle. Some faults allow almost constant friction free movement whilst others build up stress until it is released in damaging movement. When rocks are required to move past each other along a fault line they will resist until the force applied exceeds “limiting friction”. This results in sporadic jerky movements which are felt as earthquakes. Movement is greatest at the margins of crustal plates where noticeable earthquakes are felt.

Students may experience this jerky movement by pushing two bricks past each other or by pushing a brick over a cement surface.

[www.ga.gov.au/earthquakes/staticPageController.do?page=earthquake-activity](http://www.ga.gov.au/earthquakes/staticPageController.do?page=earthquake-activity)

### Materials per student or group:

- 1 brick and a cement or hard rough surface to pull it over
- String
- Newton spring balance
- Water (bucket)



What can be done to make this experiment a “Fair Trial”?

[Repeat the experiment.](#)

### Method:

1. Trial your activity to ensure your equipment will result in data that is accurate and precise.
2. Tie the string round the brick and lift it freely into the air. Read the force required to move it through air (3 readings).
3. Place the brick on concrete and increase force until it will move it across the surface of the concrete. (3 readings)

What was the difference in force between rock and air and rock and rock?

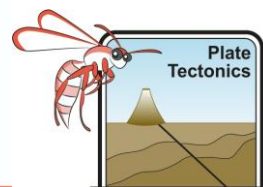
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How could this experiment be improved to model movement along a fault line?

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## Australian Earthquakes & Faults – Student Activity



4. Wet the surface of the concrete and repeat step 3. What do you observe?

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What effect do you think water would have on fault movement?

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