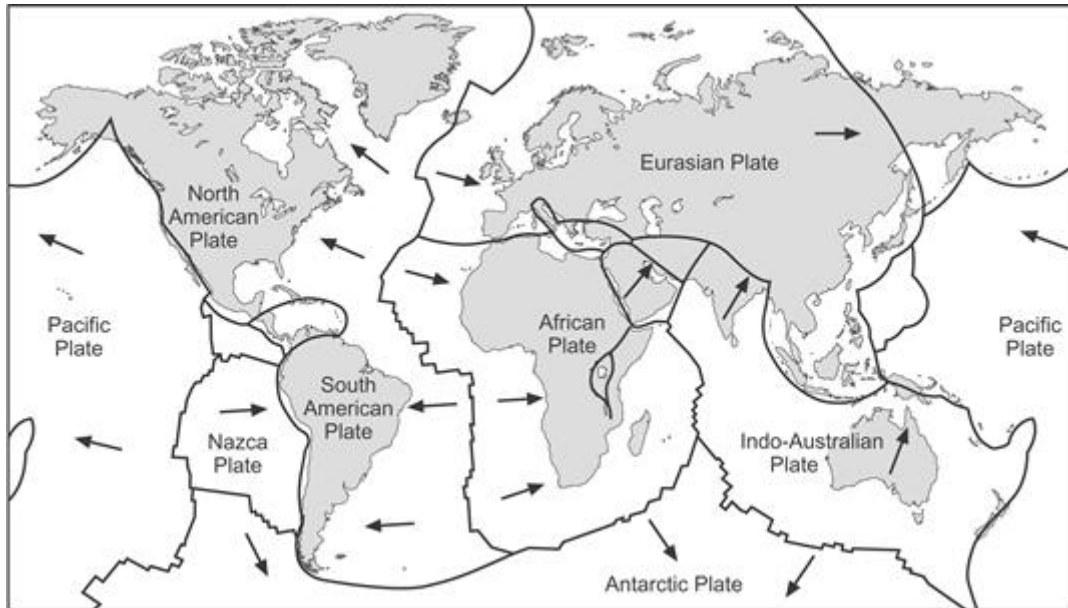
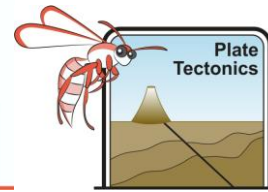


Plate Boundaries - Student Activity



List the eight major plates shown on the map above

There are many minor plates.

Does Australia sit at the edge of a continental plate? _____

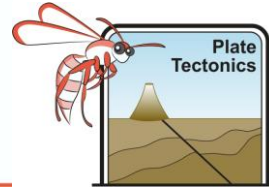
Does the location of Australia mean it will be unaffected by plate tectonic movements? Explain your answer.

Convergent, or Destructive, Plate Boundaries

Convergent boundaries are called “destructive boundaries” as crust length is shortened. Using the information gained from the previous experiments on viscosity and density, suggest what might happen when:

- A continental plate converges with an oceanic plate, for example where the oceanic Nazca Plate is moving west towards the South American Plate. (See diagram above)

Plate Boundaries - Student Activity



- B. Two continental plates converge, for example where the Indian Plate is converging with the Eurasian Plate

- C. Older denser oceanic crust converges with younger less dense oceanic crust, for example where older Australian Plate meets the younger New Zealand Plate

Using the map name three convergent plate boundaries.

Divergent Boundaries

Constructive boundaries, also known as **divergent boundaries**, occur where two plates move apart. They are called constructive because sea floor spreading extends the crust.

Teacher Demonstration - Stretching the Crust

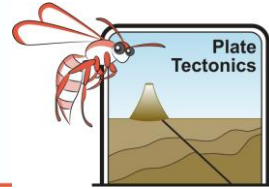


Tension thins the crust, and normal faulting produces a rift valley. Molten mafic material from oceanic crust and the mantle rises to form mid-oceanic ridges and flat basalt plains. Mafic volcanic rocks are free flowing therefore earthquakes and volcanic activity is not very destructive.

E.g. Mid-Atlantic Ridge where the North American Plate moves away from the Eurasian Plate.

Using the map name three divergent plate boundaries. _____

Plate Boundaries - Student Activity



Where are most divergent boundaries found? _____

Transform Boundaries

These occur when two plates scrape past each other. There is no volcanic activity but strong earthquakes occur. Friction builds up to be released in a series of earthquakes.

Using the map name a transform plate boundary _____

Animations of these three boundaries can be found at:

<http://adjr06.tripod.com/id8.html>

Summary

Complete the following summary statements.

At destructive (convergent) boundaries crust is _____

At constructive (divergent) boundaries _____

At transform boundaries crust is _____

Molten continental crust is _____

Molten oceanic crust is _____

Extension Activity

Students may wish to replicate movement at plate boundaries by:

1. Making their own stop – go animations using cameras and plasticine/clay.
2. Drawing cartoons or posters explaining the different types of movement and the results of their movement.
3. Dramatic performances with students taking on the parts of plates and observers.
4. Using Google satellite imaging to locate major active plate margins.