



TEACHER GUIDE

TECTONIC PLATES GRADES 6-8

COMMON MISCONCEPTIONS

- **Only the continents sit on tectonic plates.**
There are plates covering the Earth's surface including the oceans. The different plates are often called oceanic and continental plates.
- **There is one plate for each continent.**
Although there are 7 major plates, there are actually quite a few more minor plates. The major plates do not line up with the borders of the continents.
- **The mantle is a liquid like lava.**
The mantle is made up of extremely hot solid rock that is under tons of pressure from all the rock above it. Through convection, the rock in the mantle moves very slowly over many years (geologic timescale), not seconds like lava splashing around.

PLATE BOUNDARIES

There are 3 main plate boundaries. Divergent plates are plates that are moving away from each other. Divergent plate movement can cause new ocean floor to form and for continents to be split apart. Another type of plate boundary is a convergent plate boundary. These boundaries are where tectonic plates move towards each other. This type of plate movement is associated with mountain formation as the plates slowly crash into each other. The last type of plate boundary is the transform boundary. This type of boundary is where two plates slide past each other. The transform boundary can cause major earthquakes as Earth's crust shifts. The famous San Andreas Fault is the result of a transform boundary.

CONTINENTAL DRIFT

In 1913, Alfred Wegener proposed a theory that our 7 continents were once connected as a supercontinent which he named Pangea (sometimes spelled Pangaea). His theory is supported by three main pieces of scientific evidence: the discovery of similar fossils on different continents, the puzzle like shape of continents that seem to fit together, and the discovery of similar rocks and minerals on different continents.

TEACHER TIPS

Tectonic plates are a fairly abstract topic for students. Providing plenty of models can help students visualize this concept. The US Geological Society provides additional free resources for educators. Check them out here: <https://www.usgs.gov/science-support/osqi/yes/resources-teachers/>



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