

Earth Science Activity Bag

Plate Tectonics: Student Activity Guide

The ground around us looks like it's all in one piece, but if you look at the Earth from far away, the surface of our planet is broken into pieces. The pieces are big, the size of whole countries. The pieces are called tectonic plates and those plates move around. They move very slowly, and in the process, they do a lot of interesting things that we are about to explore.

These directions will get you started. Your teacher will be in contact to guide you and provide information.

Materials from the bag

- 1 Plates Puzzle pieces, punch-out
- 1 Tectonic Plates document

Part 1: The Puzzle

1. Get your puzzle sheet from the bag and punch the puzzle pieces out of the sheet.
2. Place all of your pieces face-up on a table. The backside of each piece is labeled "back."
3. Put the puzzle together as best you can.

Part 2: What do you notice?

1. *What do you notice about the puzzle? Does it look like anything you recognize?*
2. Get the Tectonic Plates document from the bag. Look at the side labeled, "Tectonic Plates with Continents."
3. The puzzle pieces represent the tectonic plates. Tectonic plates are pieces of the surface of the earth that can move around independently.
4. *What do you notice about the pieces and the continents?*

Part 3: Moving Plates

1. Take the Tectonic Plates sheet from the bag. Look at the side labeled, "Tectonic Plates with Mountains and Ridges." This sheet shows where some of the Earth's mountain ranges and ridges are.
2. *What do you notice about where they are?*

What's going on?

The tectonic plates that make up the earth are moving. They have been moving for millions of years. Amazing things happen where they come in contact with one another. This YouTube video shows what is moving them around: <https://www.youtube.com/watch?v=ryrXAGY1dmE>

Many geologic features come from the tectonic plates' movement. Melted rock called magma swirls below the surface, and it slowly moves the plates. The magma rises and falls under the surface, making slow currents. As the plates move, some separate; some collide; some slide over or under one another; and some rub sideways against each other. Around the earth, we find volcanoes where magma comes through the crust. Moving plates also lift mountains and move continents. Where plates collide, slide under one another, or slip from side to side, we sometimes find volcanoes. As plates move against each other, they up pressure until they suddenly shift to release the pressure. That quick movement causes earthquakes and tsunamis.