



7th Grade:Rocking the World

Course Description: Earth's surface is more than meets the eye. Throughout this lesson, students will become geologists and learn about the different layers of the earth, types of rocks, the rock cycle, and how rocks form. We'll also look at how tectonic plates move within Earth's crust and how this movement has affected natural land formations over time.

Day 1: Starting at the crust, Earth's surface layer, we can explore further the deeper regions of Earth, like the mantle, core, lithosphere, asthenosphere, mesosphere, outer core, inner core. By the end of this lesson, will be able to identify the different layers of the earth. We will bring in a fossilized insect for students to observe and explore the concept of the geologic timescale.

Demonstration: Students will be able to work together in small groups to create a poster of the earth's layers. Students will utilize different materials to represent Earth's varying layers and label each layer. We will bring in a burrowing species on this day to talk about how temperature, and structure change as you go deeper into Earth's layers. To connect the burrowing species to the lesson, we'll have the students think of a hypothetical where a burrowing species keeps digging until it gets to the center of the Earth. Students will select a burrowing animal that they draw and cut out so it can journey on an adventure through Earth's layers on their posters.

Day 2: Students will learn how earthquakes, mountains, valleys are all influenced by the shifting and colliding of the Earth's tectonic plates. They will be able to identify the main types of plate tectonic boundaries— convergent, divergent, and transform, and describe what effects each boundary has on Earth's natural formations.

Demonstration: Students will use giant hamster balls to move like tectonic plates. Those who are not in giant hamster balls will stand outside of their range with their own beach balls to move like tectonic plates. For example, when students call out "convergent" those in the hamster balls would collide as the plates would while students on the outskirts will through their balls into the center.

Day 3: During this lesson, students will be identifying the different types of rocks—igneous, sedimentary, and metamorphic, and how they form. We will bring in a fossilized insect to discuss how they were preserved in sedimentary rocks.

Demonstration: Students will be playing a rock game to familiarize themselves with different rocks and how they form. This game will involve players who are sedimentary, igneous, and metamorphic. Students will act as detectives to figure out what rock a student is based on clues, they will get on how that rock is formed.

Day 4: Building on their knowledge of how rocks form, students will learn about the rock cycle and how the different types of rocks are connected to each other.

Demonstration: Students take what they have learned to create a giant 3D rock cycle as a class with different materials to represent each portion of the rock cycle. We will bring in a flat rock scorpion that utilizes rocks for their home for students to observe. We will also be creating a volcano for students to discuss how igneous rocks form, reinforcing the information they learned about how igneous rocks form.