Plate Tectonics Worksheet

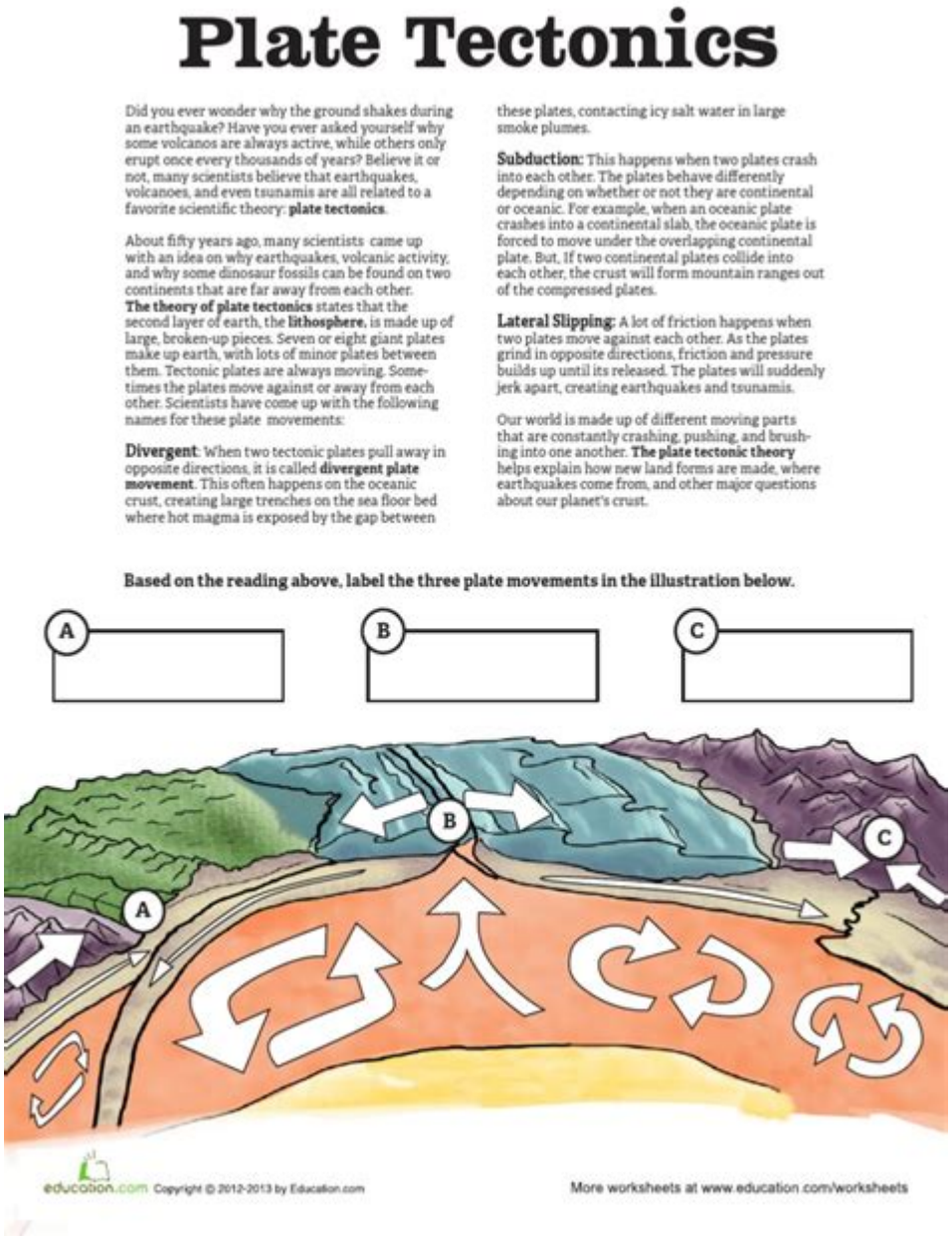

Plate Tectonics

Did you ever wonder why the ground shakes during an earthquake? Have you ever asked yourself why some volcanos are always active, while others only erupt once every thousands of years? Believe it or not, many scientists believe that earthquakes, volcanoes, and even tsunamis are all related to a favorite scientific theory: **plate tectonics**.

About fifty years ago, many scientists came up with an idea on why earthquakes, volcanic activity, and why some dinosaur fossils can be found on two continents that are far away from each other. **The theory of plate tectonics** states that the second layer of earth, the **lithosphere**, is made up of large, broken-up pieces. Seven or eight giant plates make up earth, with lots of minor plates between them. Tectonic plates are always moving. Sometimes the plates move against or away from each other. Scientists have come up with the following names for these plate movements:

Divergent: When two tectonic plates pull away in opposite directions, it is called **divergent plate movement**. This often happens on the oceanic crust, creating large trenches on the sea floor bed where hot magma is exposed by the gap between these plates, contacting icy salt water in large smoke plumes.

Subduction: This happens when two plates crash into each other. The plates behave differently depending on whether or not they are continental or oceanic. For example, when an oceanic plate crashes into a continental slab, the oceanic plate is forced to move under the overlapping continental plate. But, if two continental plates collide into each other, the crust will form mountain ranges out of the compressed plates.

Lateral Slipping: A lot of friction happens when two plates move against each other. As the plates grind in opposite directions, friction and pressure builds up until its released. The plates will suddenly jerk apart, creating earthquakes and tsunamis.

Our world is made up of different moving parts that are constantly crashing, pushing, and brushing into one another. **The plate tectonic theory** helps explain how new land forms are made, where earthquakes come from, and other major questions about our planet's crust.

Based on the reading above, label the three plate movements in the illustration below.

Plate tectonics worksheet is an essential educational tool designed to help students understand the fundamental concepts of plate tectonics, a theory that describes the large-scale movements of Earth's lithosphere. This theory not only explains the formation of mountains, earthquakes, and volcanoes, but also the dynamic processes that shape our planet over geological time. In this article, we will explore the significance of a plate tectonics worksheet, its components, and how it can enhance learning in the field of geology and Earth sciences.

Understanding Plate Tectonics

Plate tectonics is a scientific theory that describes the structure and motion of the Earth's plates. The Earth's outer shell, or lithosphere, is divided into several large and small plates that float on the semi-fluid asthenosphere beneath them. These plates are constantly moving, albeit very slowly, leading to various geological phenomena.

The Key Concepts of Plate Tectonics

To better understand plate tectonics, it is essential to grasp the following key concepts:

- **Lithosphere and Asthenosphere:** The lithosphere includes the Earth's crust and the upper part of the mantle, while the asthenosphere is the semi-fluid layer beneath it.
- **Tectonic Plates:** These are large pieces of the lithosphere that move independently and interact with each other.