

# Layered Earth Geology Correlations For Washington State Science Standards



<b>Middle School: Grades 5-8</b>		<b>Lesson Plans</b>
<b>Grade 6:</b> 6-8 2E	The solid Earth is composed of a relatively thin crust, a dense metallic core, and a layer called the mantle between the crust and core that is very hot and partially melted	A2
6-8 ES2F	The crust is composed of huge crustal plates on the scale of continents and oceans which move centimeters per year, pushed by convection in the upper mantle, causing earthquakes, volcanoes, and mountains	B3
6-8 ES2G	Landforms are created by processes that build up structures and processes that break down and carry away material through erosion and weathering	B3, D1-4, F1
6-8 ES2H	The rock cycle describes the formation of igneous rock from magma or lava, sedimentary rock from compaction of eroded particles, and metamorphic rock by heating and pressure	C3
6-8 ES3A	Our understanding of Earth history is based on the assumption that processes we see today are similar to those that occurred in the past	G1
6-8 ES3D	Earth has been shaped by many natural catastrophes, including earthquakes, volcanic eruptions, glaciers, floods, storms, tsunami, and the impacts of asteroids	G3
<b>High School: Grades 9-12</b>		<b>Lesson Plans</b>
<b>Grade 9:</b> 9-11 ES2C	Earth is a system that contains essentially a fixed amount of each stable chemical element existing in different chemical forms. Each element on Earth moves among reservoirs in the solid Earth, oceans, atmosphere, and organisms as part of biogeochemical cycles driven by energy from Earth's interior and from the Sun	A1, B3, C2
9-11 ES3A	Interactions among the solid Earth, the oceans, the atmosphere, and organisms have resulted in the ongoing evolution of the Earth system. We can observe changes such as earthquakes and volcanic eruptions on a human time scale, but many processes such as mountain building and plate movements take place over hundreds of millions of years	B1-3
9-11 ES3B	Geologic time can be estimated by several methods (e.g., counting tree rings, observing rock sequences, using fossils to correlate sequences at various locations, and using the known decay rates of radioactive isotopes present in rocks to	G1

measure the time since the rock was formed).

9-11 ES3D

Data gathered from a variety of methods have shown that Earth has gone through a number of periods when Earth was much warmer and much colder than today

G1-3