

Strand 7.2: Changes to Earth over Time	Earth's processes are dynamic and interactive and are the result of energy flowing and matter cycling within and among Earth's systems. Energy from the sun and Earth's internal heat are the main sources driving these processes. Plate tectonics is a unifying theory that explains crustal movements of the Earth's surface, how and where different rocks form, the occurrence of earthquakes and volcanoes, and the distribution of fossil plants and animals.	
Standard: 7.2.4	Develop and use a scale model of the matter in the Earth's interior to demonstrate how differences in density and chemical composition (silicon, oxygen, iron, and magnesium) <u>cause</u> the formation of the crust, mantle and core.	
SEP/CCC	Developing and using models Develop and use a model to describe phenomena.	<u>Cause and effect: mechanism and explanation</u>
DCI	ESS2.A: Earth's Materials and Systems All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms.	
Student Friendly Objective	I can create a scale model of the Earth based on density and chemical composition.	
Big Idea	The interior of the Earth has layers.	
Vertical Learning Progression Alignment	Precious Science Content (Discussed in K-5 Standards)	Future Science Content (Discussed in 9-12 Standards)
	Earth's physical features occur in patterns, as do earthquakes and volcanoes.	- Earth's atmosphere - Density calculations
6-8 Band	Energy flows and matter cycles within and among Earth's systems, including the sun and Earth's interior as primary energy sources. Plate tectonics is one result of these processes.	
What students will be doing this year:	- Components of the model - To make sense of a given phenomenon, students develop a model in which they identify the relevant components, including: - Crust, Mantle and Core and their relative sizes - Composition: silicon, oxygen, iron, magnesium and nickel - Relationships - In the model, students describe relationships between components, including: - The chemical composition and relative densities - Connections - Students use the model to describe - How the cycling of energy and matter form the layers of the earth	