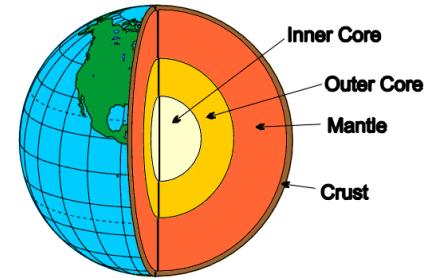


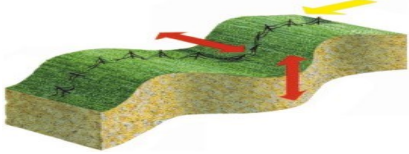
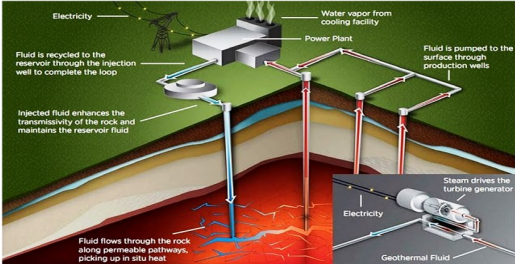
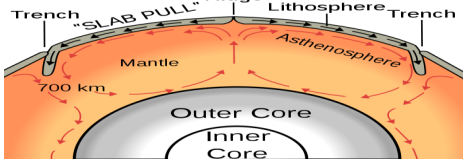
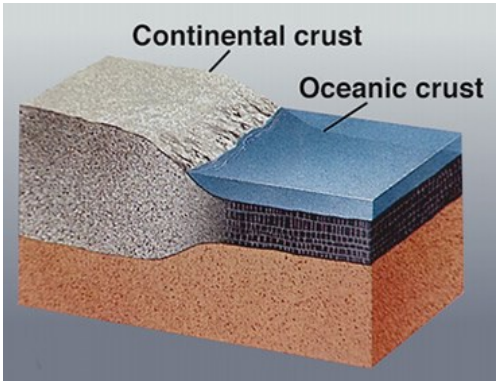
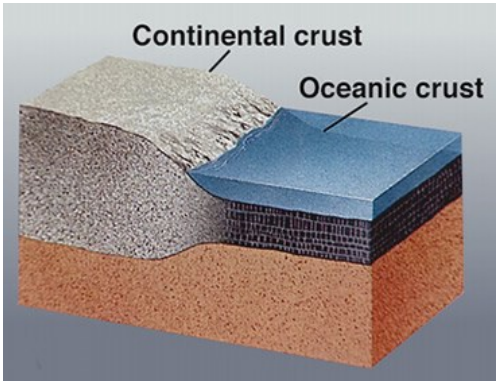
Layers of Earth and Plate Tectonics

S6E5. Obtain, evaluate, and communicate information to show how Earth's surface is formed.

A. Ask questions to compare and contrast the Earth's crust, mantle, inner and outer core, including temperature, density, thickness and composition.



Term	Info	Picture
crust	The outermost layer of Earth: Solid Least dense Thinnest Coldest Made of silicon, oxygen,	<p>Ocean Crust is Thinner Than Continental Crust</p> <p>This diagram shows a cross-section of the crust. The oceanic crust is shown as a thin layer, while the continental crust is shown as a much thicker layer. Labels include Crust, Upper Mantle, Mantle, Outer Core, and Inner Core.</p>
mantle	The second layer of the Earth More dense than crust, less dense than core Mostly solid Thickest layer Warmer than crust, cooler than core Contains magnesium and iron	<p>THE EARTH In Proportion</p> <p>This diagram shows the relative thicknesses of Earth's layers. Continental crust is 35 km thick, oceanic crust is 5 km thick, the mantle is 2900 km thick, the solid core is 1100 km thick, and the fluid core is 4150 km thick.</p>
outer core	The third layer of the Earth More dense and hotter than crust and mantle, less dense and cooler than inner core Liquid Nickel and Iron	<p>This diagram shows the Earth's layers with labels for Crust, Mantle, Outer Core, and Inner Core.</p>
inner core	The fourth and innermost layer SOLID Iron and Nickel Densest, hottest,	<p>This diagram shows the Earth's layers with labels for Inner Core, Outer Core, Mantle, and Crust.</p>
lithosphere	the solid, outer layer of Earth that consists of the crust and the rigid upper part of the mantle	<p>This diagram shows the lithosphere and asthenosphere. The lithosphere is rigid and extends to 60 km depth. The asthenosphere is plastic and extends to 160 km depth. Labels include Oceanic crust, Continental crust, Sea level (0 km), Lithosphere (rigid) (60 km), and Asthenosphere (plastic) (160 km).</p>
asthenosphere	the solid, plastic-like layer of the mantle beneath the lithosphere; made of mantle rock that flows very slowly, which allows tectonic plates to move on top of it	<p>This diagram shows the lithosphere and asthenosphere. The lithosphere is rigid and extends to 60 km depth. The asthenosphere is plastic and extends to 160 km depth. Labels include Ocean, Continent, Lithosphere (rigid), and Asthenosphere (partially molten).</p>

Term	Info	Picture
Seismic waves	a vibration in rock that travels out from the focus of an earthquake in all directions; seismic waves can also be caused by explosions	
Geothermal energy	the energy produced by heat inside of Earth	
Convection currents	When warm air or liquid is less dense and rises and cool air or liquid is more dense and sinks	
Continental crust	The crust of Earth on continents. Made of Granite. Less dense.	
Oceanic crust	The crust of Earth under the oceans. Made of basalt. More dense than continental crust.	

Learning Targets:

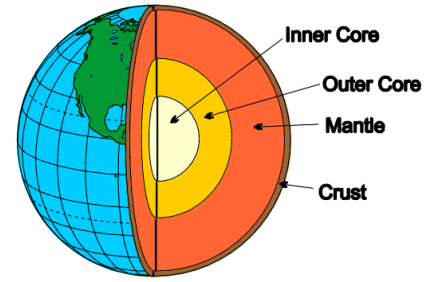
1. I can compare and contrast the Earth's crust, mantle, and core including temperature, thickness, density, and composition (including liquid and/or solid).
2. I can compare and contrast the inner and outer core.
3. I can describe challenges that stand in the way of sending explorers to the center of the earth.
4. I can compare and contrast the lithosphere and asthenosphere.



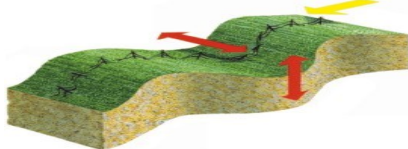
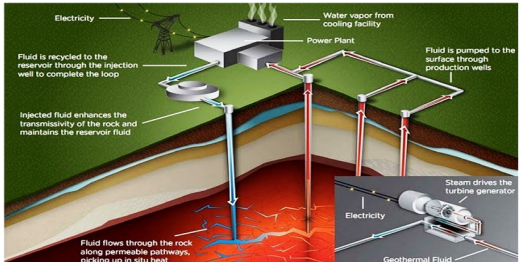
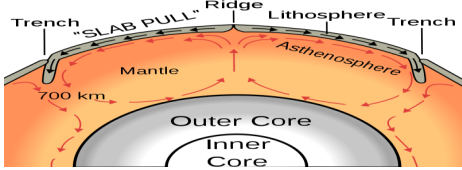
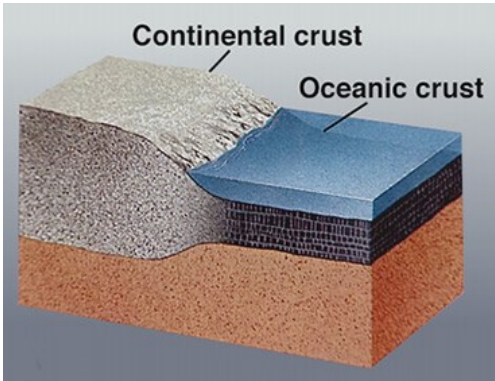
Layers of Earth and Plate Tectonics

S6E5. Obtain, evaluate, and communicate information to show how Earth's surface is formed.

A. Ask questions to compare and contrast the Earth's crust, mantle, inner and outer core, including temperature, density, thickness and composition.



Term	Info	Picture
crust		<p>A diagram comparing the thickness of oceanic crust and continental crust. The oceanic crust is shown as a thin layer, while the continental crust is shown as a much thicker layer. Labels include Crust, Upper Mantle, Mantle, Outer Core, and Inner Core.</p>
mantle		<p>A diagram titled 'THE EARTH In Proportion' showing the relative sizes of Earth's layers. The layers are labeled: Continental Crust (35 km), Ocean Crust (5 km), Mantle (2900 km), Fluid Core (4520 km), and Solid Core (1100 km).</p>
outer core		<p>A diagram of Earth's internal layers with labels: Mantle, Outer Core, Inner Core, and Crust.</p>
inner core		<p>A diagram of Earth's internal layers with labels: Inner Core, Outer Core, Mantle, and Crust.</p>
lithosphere		<p>A diagram showing the Lithosphere (rigid) and Asthenosphere (plastic) layers. The Lithosphere is shown as a rigid layer extending to 60 km depth, and the Asthenosphere is shown as a plastic layer extending to 160 km depth. Labels include Ocean crust, Continental crust, and Sea level (0 km).</p>
asthenosphere		<p>A diagram showing the Lithosphere (solid) and Asthenosphere (partially molten) layers. The Lithosphere is shown as a solid layer extending to 60 km depth, and the Asthenosphere is shown as a partially molten layer extending to 160 km depth. Labels include Ocean, Continent, and Mantle.</p>

Term	Info	Picture
Seismic waves		
Geothermal energy		
Convection currents		
Continental crust		
Oceanic crust		

Learning Targets:

1. I can compare and contrast the Earth's crust, mantle, and core including temperature, thickness, density, and composition (including liquid and/or solid).
2. I can compare and contrast the inner and outer core.
3. I can describe challenges that stand in the way of sending explorers to the center of the earth.
4. I can compare and contrast the lithosphere and asthenosphere.

