Earth Science

Chapter 1: Earth’s Interior

Essential Questions:

|  |  |
| --- | --- |
| What does a geologist do? | Geologists study the processes that create Earth’s features and search for clues about Earth’s history. |
| What are the characteristics of Earth’s crust, mantle, and core? | Three main layers make up Earth’s interior: the crust, the mantle, and the core. Each layer has its own conditions and materials. |
| Key Terms |  |
| Geologists | Scientists who study the forces that make, and shape planet Earth. |
| Rock | The material that forms Earth’s hard surface. |
| Geology | The study of the planet Earth. It began in the late 1700s. |
| Constructive forces | Shape the surface by building up mountains and landmasses. |
| Destructive forces | Are those that slowly wear away mountains and, eventually, every other feature on the surface. |
| continents | On Earth, seven great landmasses surrounded by oceans. They are made up of layers of rock and that they were mostly granite because granite is less dense than other substances. |
| Seismic waves | When earthquakes occur they produce seismic waves. The speed of these seismic waves and the paths they take reveal how the planet is put together. |
| Temperature | Temperature increases under pressure. |
| Pressure | The force pushing on a surface area. Because of the weight of the rock above, pressure inside Earth increases as you go deeper. |
| Crust | The layer of rock that forms the Earth’s outer skin. |
| Oceanic crust | The oceanic crust consists of basalt and is the thinnest part of the crust. |
| Basalt | A dark dense rock with a fine texture that makes up oceanic crust. |
| Continental crust | The continental crust consists of Granite and is the thickest part of the continent. |
| Granite | Is a rock that has larger crystals than basalt and is not as dense. It is usually light in color. |
| Lithosphere | The uppermost part of the mantle and the crust together form a rigid layer called the lithosphere. |
| Mantle | A layer of hot rock. |
| Asthenosphere | The soft layer of hot material flow slowly. The lithosphere floats on top of the. |
| Outer core | Is a layer of molten metal that surrounds the inner core. In spite of enormous pressure, the outer core behaves like a liquid. Iron and nickel. Behaves like a thick liquid |
| Inner Core | is a dense ball of solid metal. The great pressure at this depth squeezes the atoms of iron so tightly that they cannot spread out and become liquid. |
| Earth’s Magnetic Field | Currents in the liquid outer core force the solid inner core to spin. Like a planet within a planet, the inner core spins inside the Earth at a slightly faster rate than the rest of the planet. This movement creates Earth’s magnetic field, which causes the planet to act like a giant bar magnet. |