



As You Read...

Think about:

- 1. What are the layers of the Earth?**
- 2. What are the Earth's systems?**



Earth as viewed from space. Which parts of the Earth systems can you see in this photo?

Digging Deeper



EARTH, A CONSTANTLY CHANGING PLANET

Earth Systems

The Earth has many features and parts that work together in important ways. One way to study the Earth is to look at its different parts and understand how they are connected. With this information, you can begin to understand how the planet works and how it is always changing. Parts of the Earth that work together are known as systems. Planet Earth has four main systems: the atmosphere, the biosphere, the hydrosphere, and the geosphere.

Atmosphere

The picture shows Earth as viewed from space. Notice the clouds that surround the planet. They are part of an envelope of gases, called the atmosphere, that surround the Earth. When you look up into the sky from the Earth's surface, you are looking into the Earth's *atmosphere*. The gases in the atmosphere play an important role in all the Earth systems. For example, 21% of the Earth's atmosphere is oxygen. Many organisms (living things) need the oxygen in the air to live. Another important gas in the atmosphere, carbon dioxide, is used by plants to make food. Ozone is a naturally occurring gas found in a layer of the atmosphere called the stratosphere. At this level, ozone protects life on Earth from harmful energy given off by the Sun. Finally, the swirling cloud layer that you see in the photograph is condensed water vapor. This water vapor plays an important role in Earth's weather systems.