

# THE EARTH'S INSIDES

**Objectives:**

To help students uncover the meanings of scientific words by looking at the roots of the words and to model the structure of the inside of the Earth.

**Background:**

Sometimes, words that we use or hear in the processes of science sound weird and seem like nonsense. Most of the time, these words are very descriptive and applicable to their use. Many scientific words use Latin or Greek roots that have general or specific meanings that relate to a certain principle, function, or branch of science. If we understood some of those roots, we might be able to make some connections between those weird words and their actual meanings.

Below are some examples of some common roots that relate to the systems of the Earth. Together, let's see what kind of information we can learn from these roots.

Root	Words containing the root	Possible Meanings	Definition
Hydro			
Litho			
Bio			
Atmo			
Geo			
Asthen			
Sphere			
Meso			
Anthrop			

# The Earth's Insides Diagram

Purpose: the purpose of this diagram is to help you identify the different features (layers) of Earth's structure. There are really two different ways to describe the structure of the Earth. We can do it by describing the Earth's composition and also by describing the areas of different physical properties.

**Before you begin, write a brief definition of the following terms in the space below:**

**Composition:**

**Convection:**

**Materials:** textbook, blank paper, colored pencils, Chromebook, and other (you can use construction paper, glue, scissors, markers, or anything else you need to make a creative diagram of the interior of Earth.)

**Procedures:**

1. Acquire a blank paper from the front desk.
2. Read over the requirements below and begin making your diagram.
3. Using all of the requirements, create an appealing, colorful, informative, and unique diagram of Earth's interior.
4. You may use your textbook, phone, or a chromebook as resources for information.

**Requirements:** (10 points total)

- Show a comparison of the layers of Earth based on composition and physical properties. (1 pt)
- Correctly identify and label the following layers of differing physical properties *with their states of matter*: lithosphere, asthenosphere, lower mantle (mesosphere), outer core, and inner core. (2 pts)
- Correctly identify and label the following layers of differing composition: crust, mantle, core. (1 pt)
- Label the approximate depths (dimensions of each layer). (1 pt)
- Label the relative density and temperature of the different layers. (1 pt)
- Identify and correctly label oceanic and continental crust as they relate to each other. (1 pt)
- Identify where convection currents occur inside the Earth, what they are, what they do, and why they occur. (1 pt)
- Neatness and Creative (1 pt)
- Colored (1 pt)

**Analysis Questions:**

1. What seems to be out of place with the temperatures, density, and depth of the layers of Earth?
2. Explain the discrepancy (not consistent) for the answer to the previous question.
3. What is a possible explanation for the outer core being liquid and the inner core being solid despite their similar compositions and temperatures?
4. You might need to search this up...What are two sources for Earth's internal heat energy?
  - a.
  - b.