

## Chapter 7 – Essay Preparation



### Kurt, the Volcanologist & Expedition Leader

I need your help on this expedition! There is a way to reach the center of the Earth by passing down through tunnels in extinct volcanoes.

I have heard of an immense ocean with waves, a light source, wind, and sandy beaches at the center of the earth where magnetism behaves strangely. Dimetrodon dinosaurs and giant salamanders can be found along with immense treasure from lost civilizations like Atlantis.

You must wear warm clothes as it gets colder in temperature the further down you go. We must leave immediately for Iceland and the beginning of our Journey to the Center of the Earth.

Use this depth / temperature chart in your response to Kurt.

**NOTE:** Using temperatures in degrees Celsius and depths in kilometers makes you sound like an “expert!”

Layers of Earth		Average depth (km)	Relative temperature (°C)
Lithosphere {	Crust	15	0
	Upper mantle	410	870
	Aesthenosphere	660	
	Lower mantle	2900	3700
Core {	Outer core	5100	4300
	Inner core	6400	7200

Temperature increases with depth ↓

What can you say about:

- P-waves, s-waves, & seismic waves?
- S-shadow & seismic wave discoveries?
- Layers of the Earth: Crust, mantle, outer core, inner core, etc. ?
- Layers of the earth by name, temperature, & depth ?
- Temperature of the inner core (in Celsius) ?
- Properties of the continental vs. oceanic crust?
- The temperature at which water turns to steam & how this relates to Kurt’s idea that there is an ocean at the center of the Earth?
- When dinosaurs died out?
- Magnetic field, & how this produces the Aurora Borealis?
- Density of earth’s layers as you get closer to the inner core?
- Pressure as you get closer to the inner core?