



Warm-Up

p. 699, 1. What is the name of the lake shown on p. 698?

Crater Lake

p. 699, 2. What is unique about this lake? And how deep is it?

It is deepest in the USA, 589 m or 1932ft

p. 699, 3. What is the name of the mountain it is on?

Mt. Mazama



Objectives

- **Identify** Earth's different geologic layers.
- **Explain** how the presence of magnetic bands on the ocean floor supports the theory of plate tectonics.
- **Describe** the movement of Earth's lithosphere using the theory of plate tectonics.
- **Identify** the three types of plate boundaries and the principal structures that form at each of these boundaries.

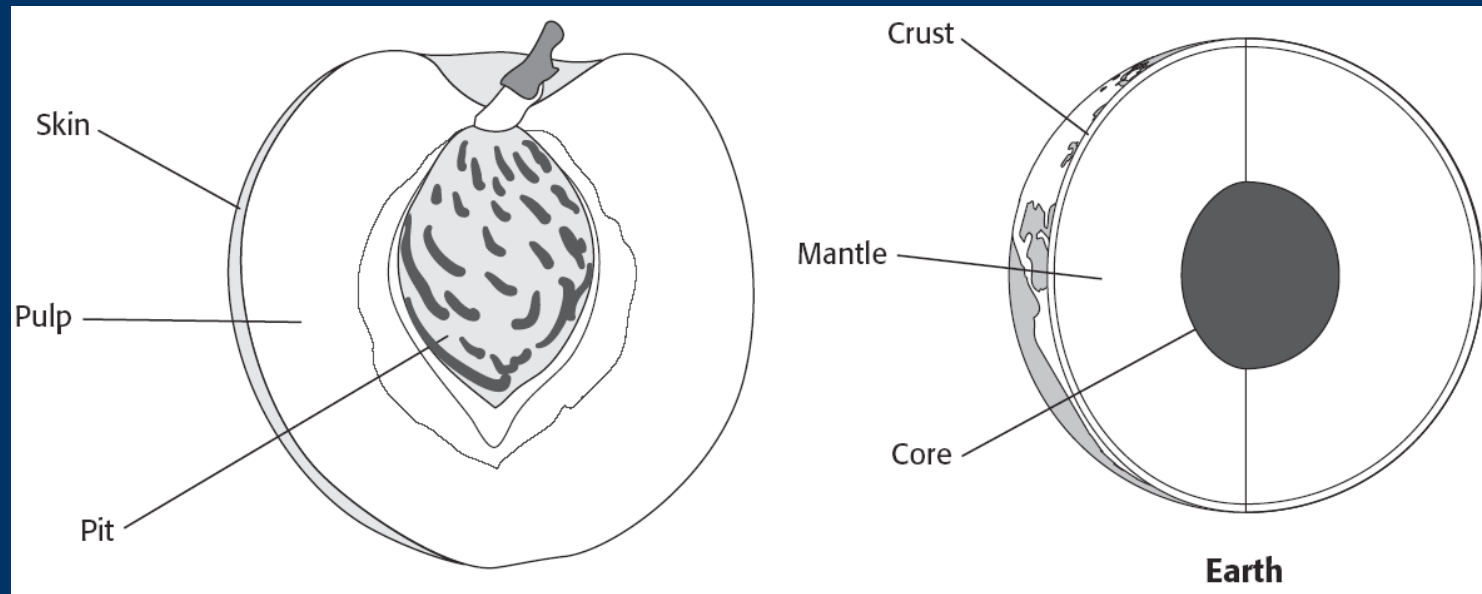
Chapter 21

Section 1 Earth's Interior and Plate Tectonics



Bellringer

A peach can be used as a model for some aspects of Earth's structure. Compare the drawing of the cross section of the peach below with the cross section of Earth to its right, and answer the following questions.



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Bellringer, continued

1. Describe the outer layer of the peach (the skin). What aspect of Earth's structure does the outer layer of the peach represent?

Crust

2. The peach pulp is the next layer. How would you describe it? What aspect of Earth's structure does the peach pulp represent?

Mantle – more fluid like - softer

3. The pit is the innermost part of the peach. What is the pit like? What aspect of Earth's structure does the peach pit represent?

Solid and rigid part – core(inner core)



Earth's Land – (Solid part)

Lithosphere/Geosphere – is the solid outermost part of the earth.



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What is Earth's Interior Like?

- The Earth is made up of 4 sections or layers: **the crust, the mantle and the core/(inner and outer)**
- **Crust** the thinnest and solid outermost layer of Earth above the mantle – oceanic – 3-5 miles, continental – 12-25 miles
- **Mantle** the thickest layer of rock between Earth's crust and core – 1800 miles
- **Core** the center part of the Earth below the mantle
- **Outer core** liquid Fe, Ni. **Inner core** – solid Fe, Ni



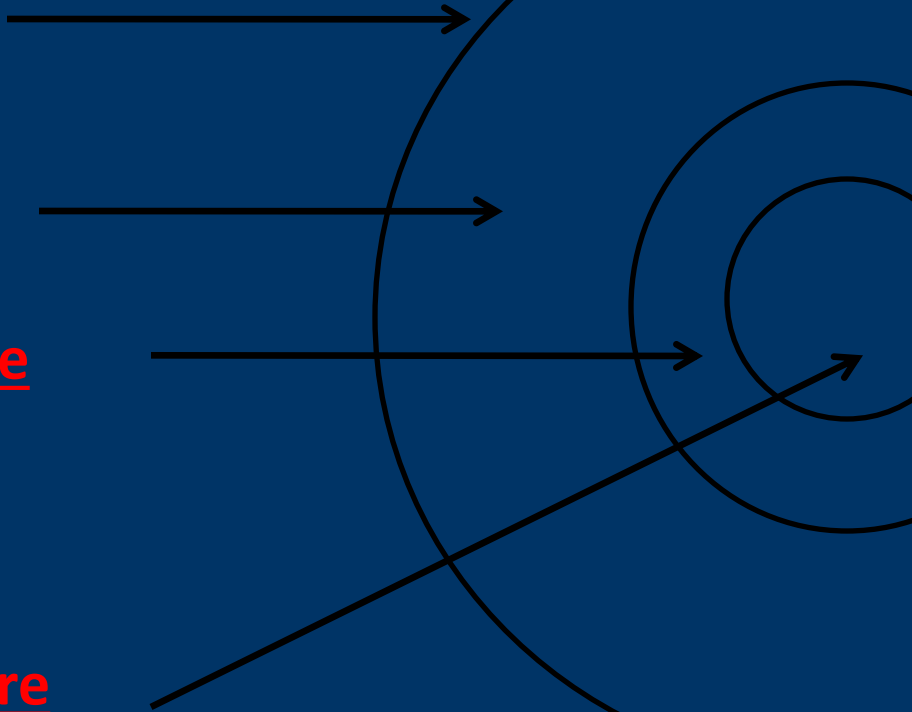
Parts of the Earth

Crust

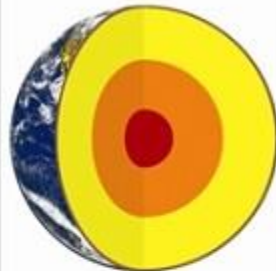
Mantle

Outer Core

Inner Core



Earth



inner earth



crust



mantle

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What is Earth's Interior Like? *continued*

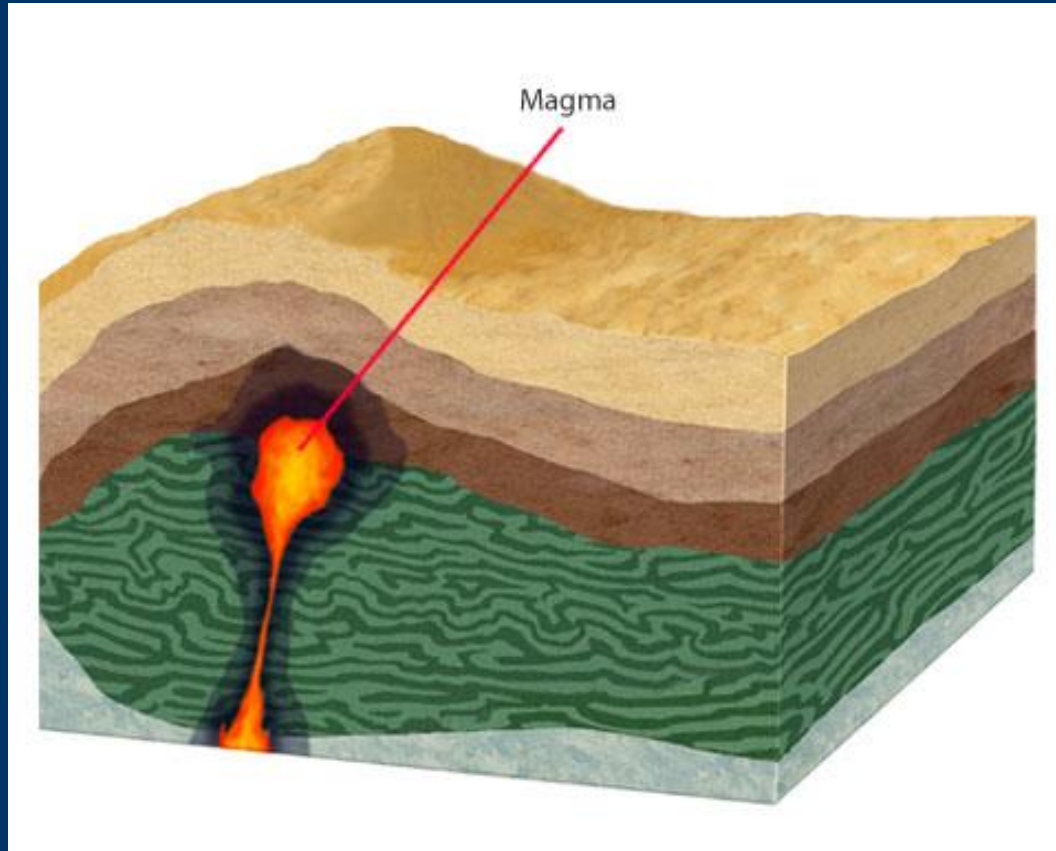
- Earth's interior gets warmer with depth.
 - Geologists believe that the mantle is much hotter than the crust, reaching temperatures higher than 1250° C (2280° F).
 - The core is hotter than the mantle, reaching temperatures higher than 6000° C (10,800° F).
 - Inner core due to high pressure remains a solid even though temp. is extremely hot

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Magma



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What is Earth's Interior Like? *continued*

- Radioactive elements contribute to Earth's high internal temperature.
 - The breakdown of radioactive isotopes **uranium**, **thorium** and **potassium** give off energy that contributes to Earth's high internal temperatures.





Cool down

1. What is the thickest layer of the solid Earth (geosphere)?

Mantle

2. What contributes to the high temperatures of Earth interior layers?

Breakdown of - Radioactive elements