

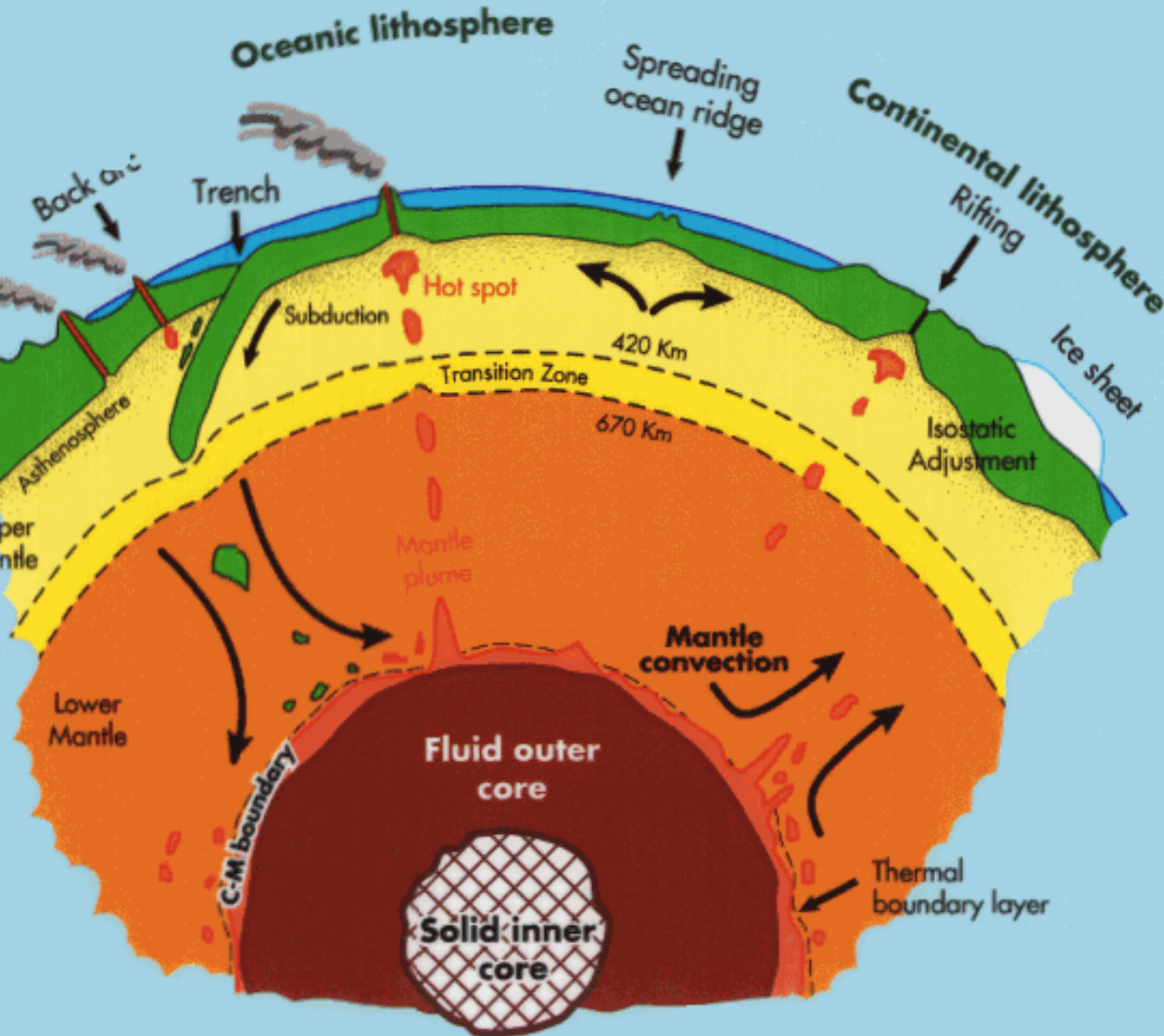
Layers of the Earth

1/25

3 Questions and Summary



Scientists think about the layers of the Earth in **2** different ways.

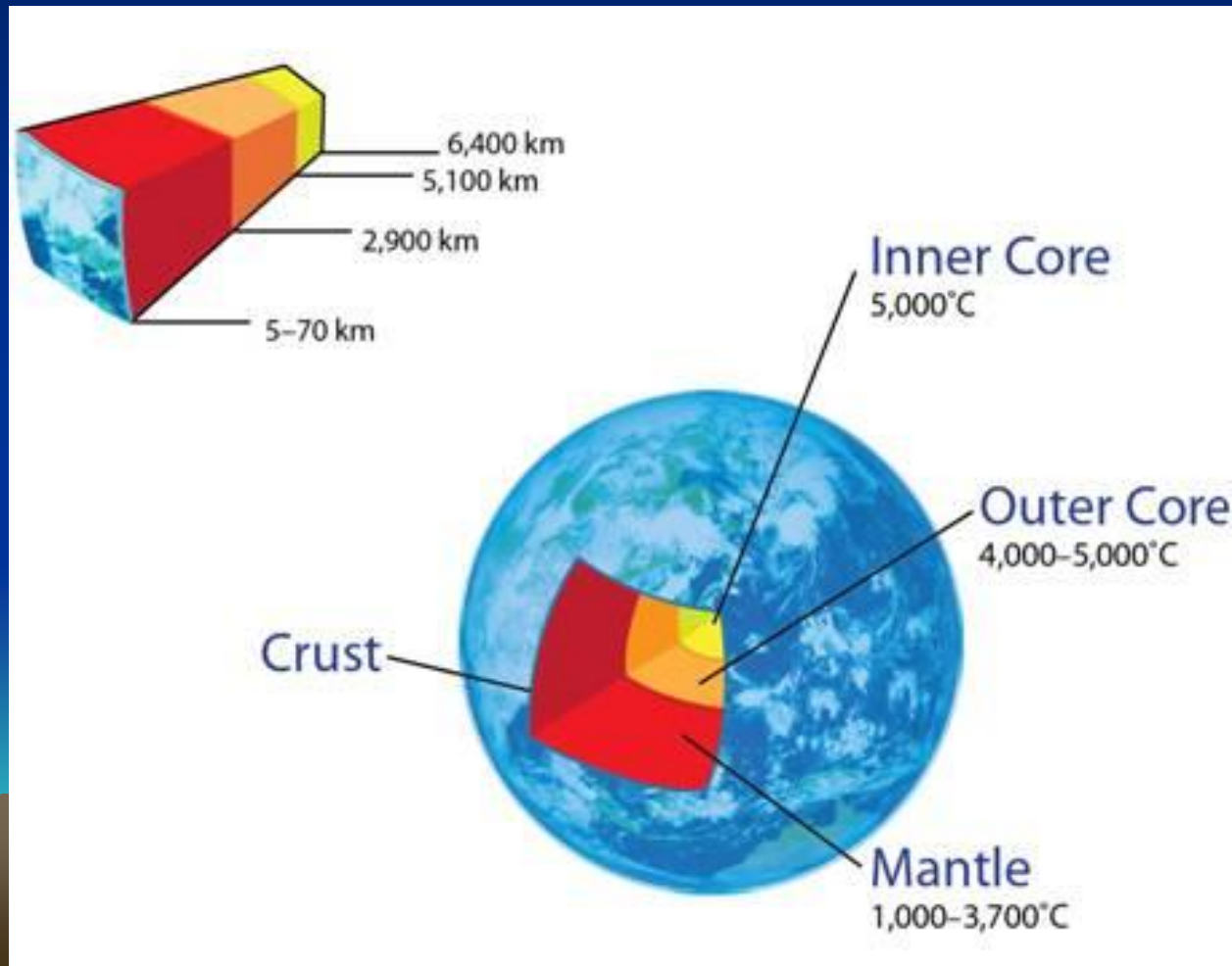


1- By
**CHEMICAL
COMPOSITION**

2- By
**PHYSICAL
Properties
such as
density and
state of matter.**

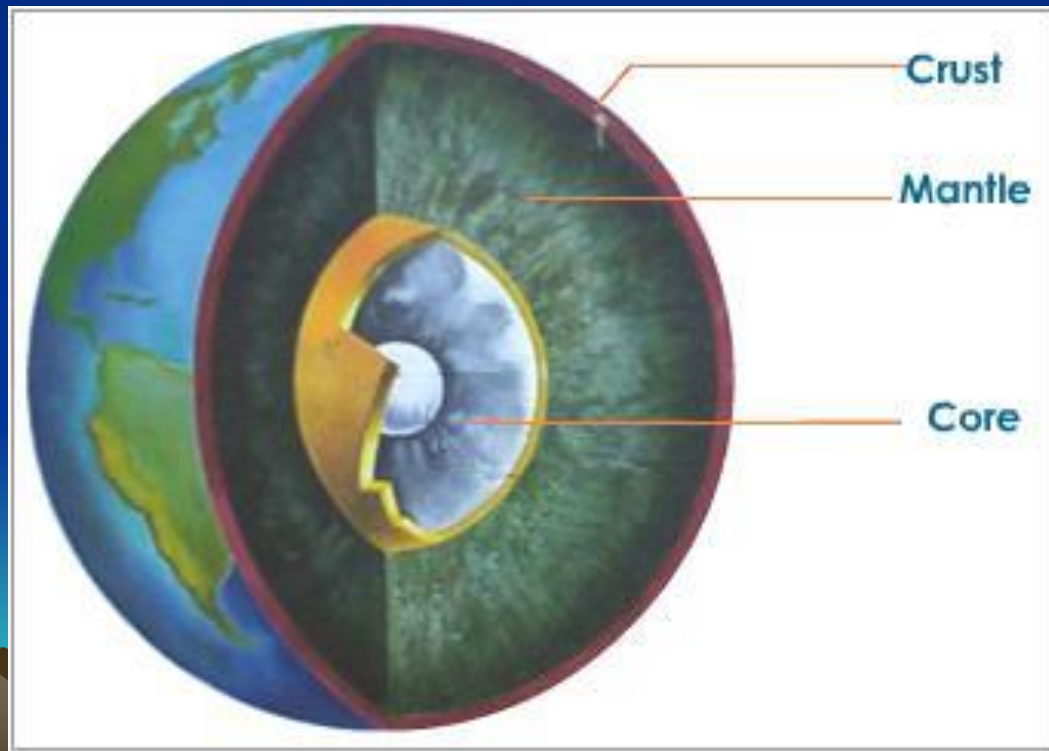
I. Compositional Layers

Based on what each layer is made of



Crust

Made of rock, mostly granite and basalt

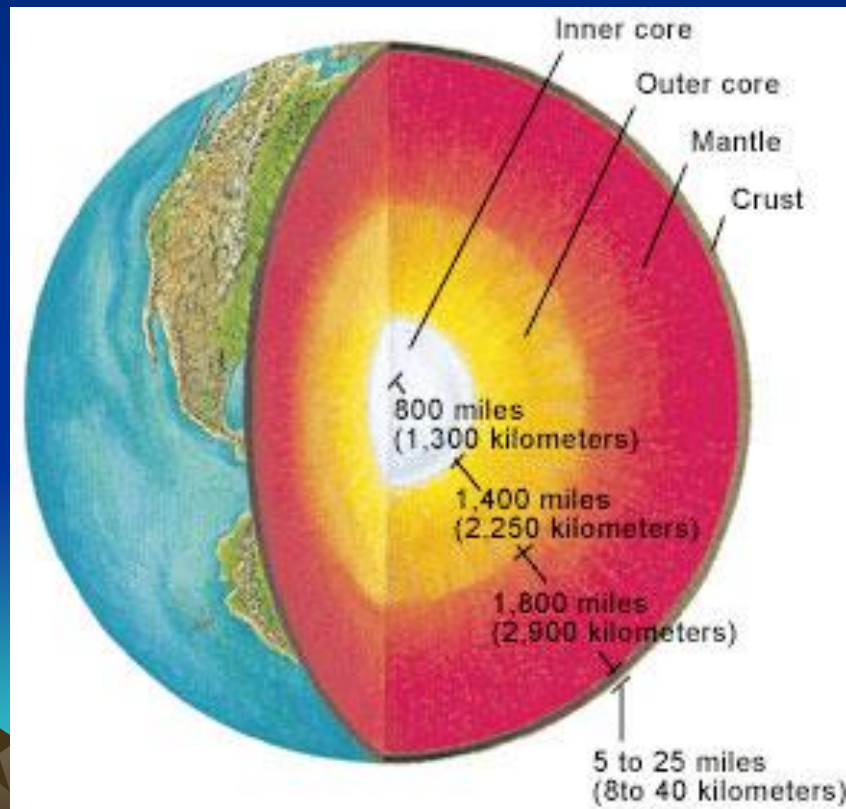




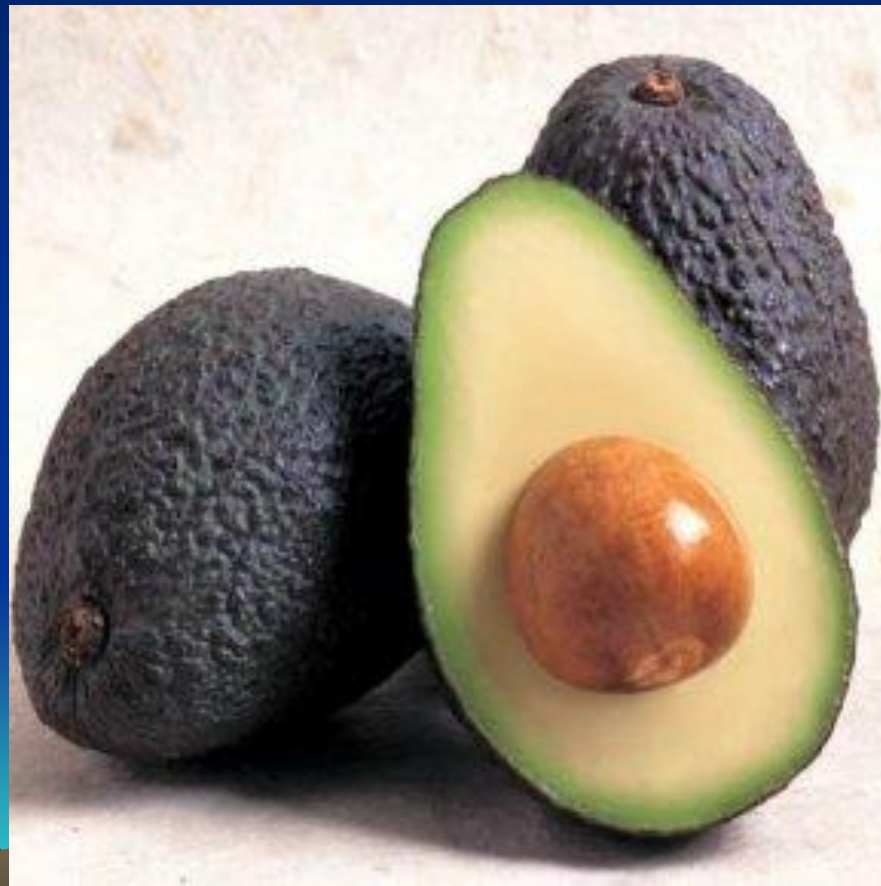


Mantle

Hot rock, lots of iron and magnesium

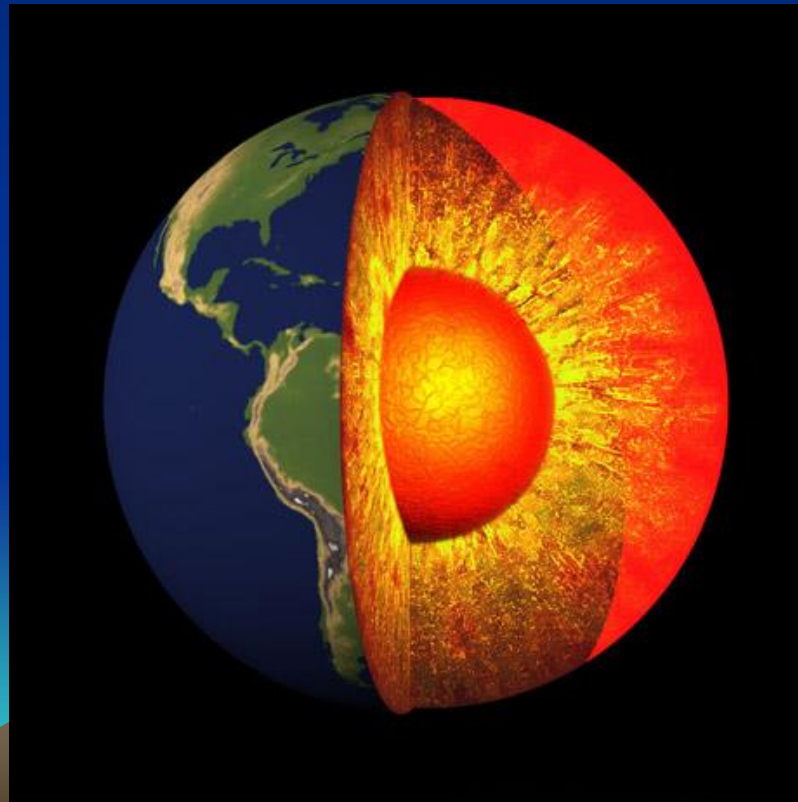


67% of Earth's mass



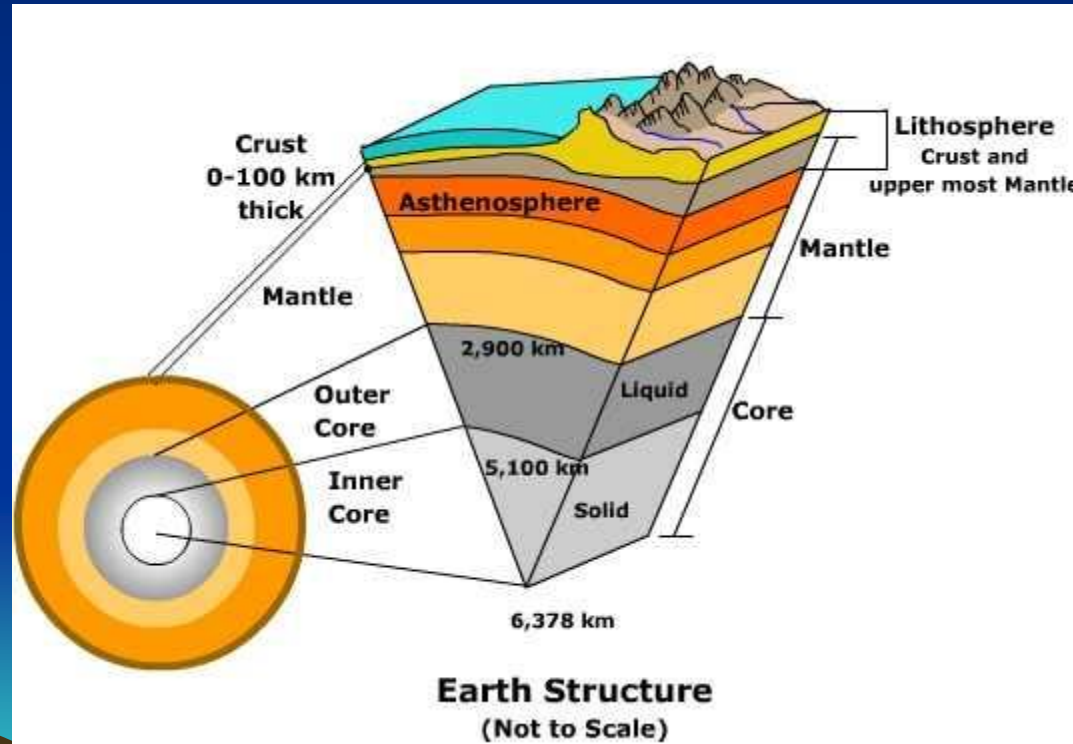
Core

Made of iron and nickel



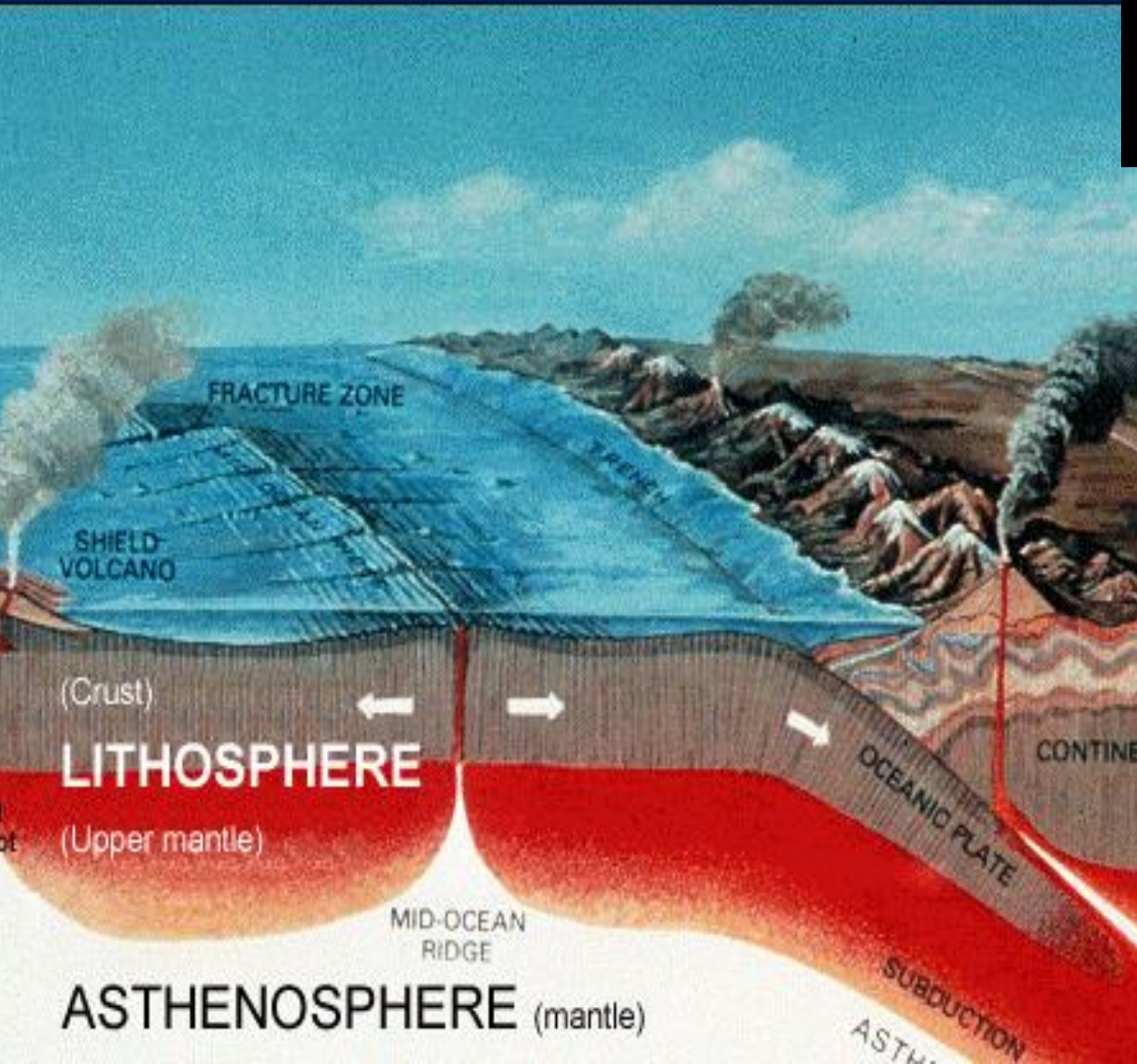
II. Physical Layers

Based on how each layer behaves



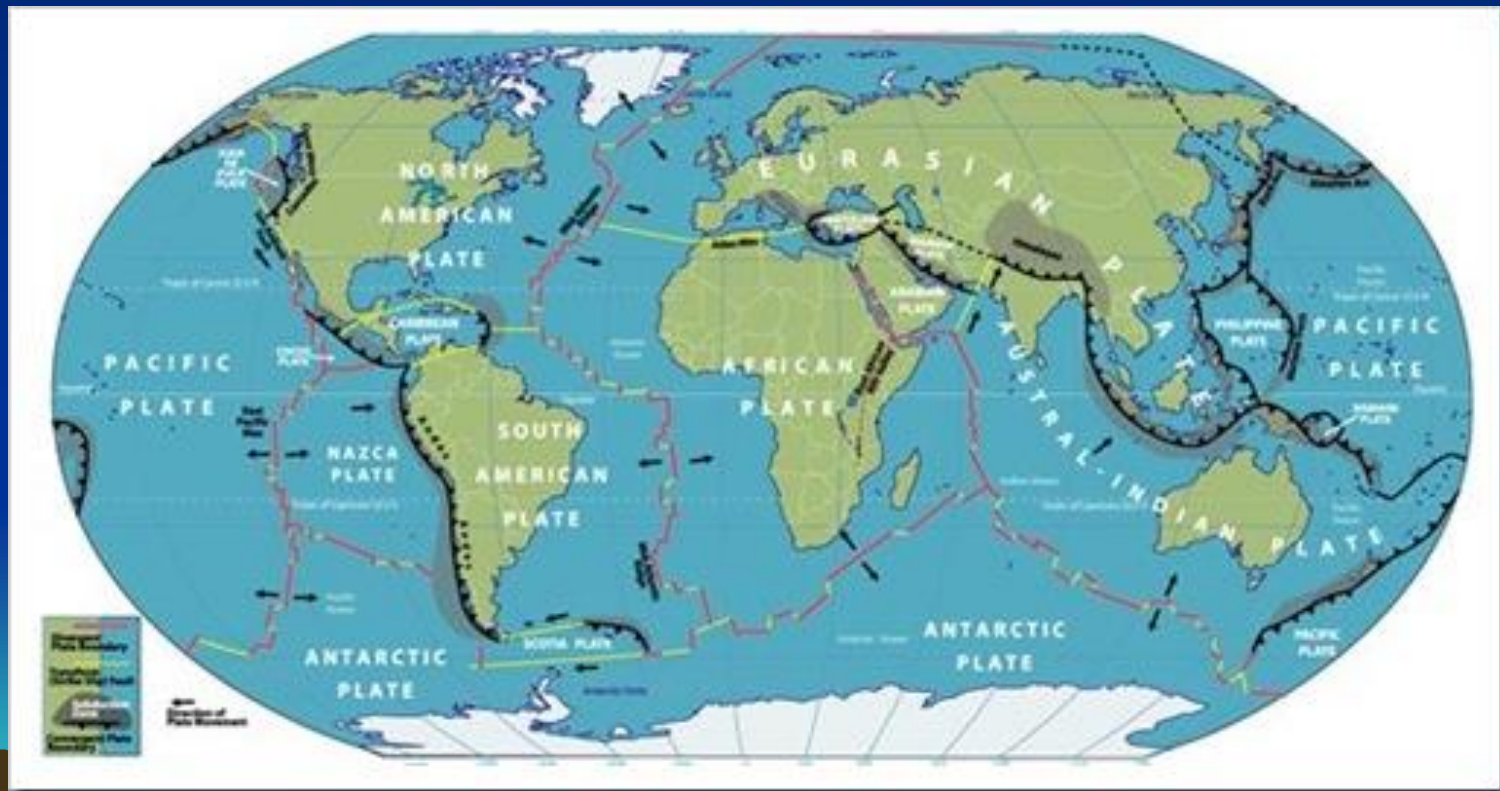
1. Lithosphere

- The solid top layer of the Earth.

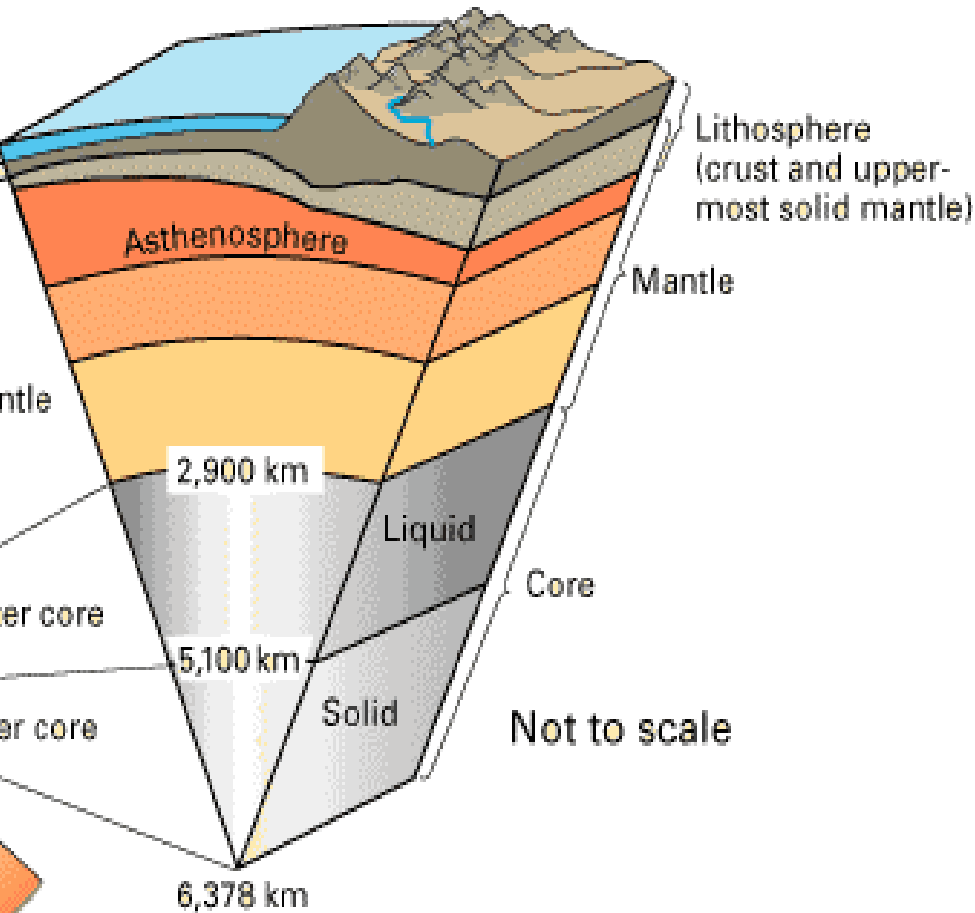


- Includes the crust and the upper part of the mantle.

Rigid, cold, broken into plates



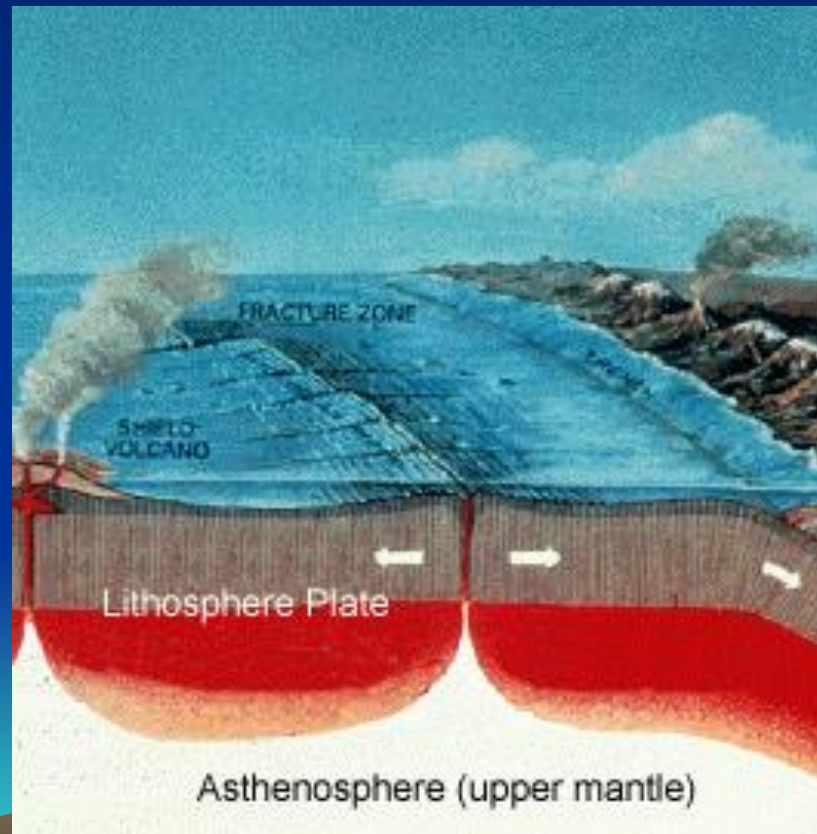
2. Asthenosphere



- Thin layer of mantle under the lithosphere.

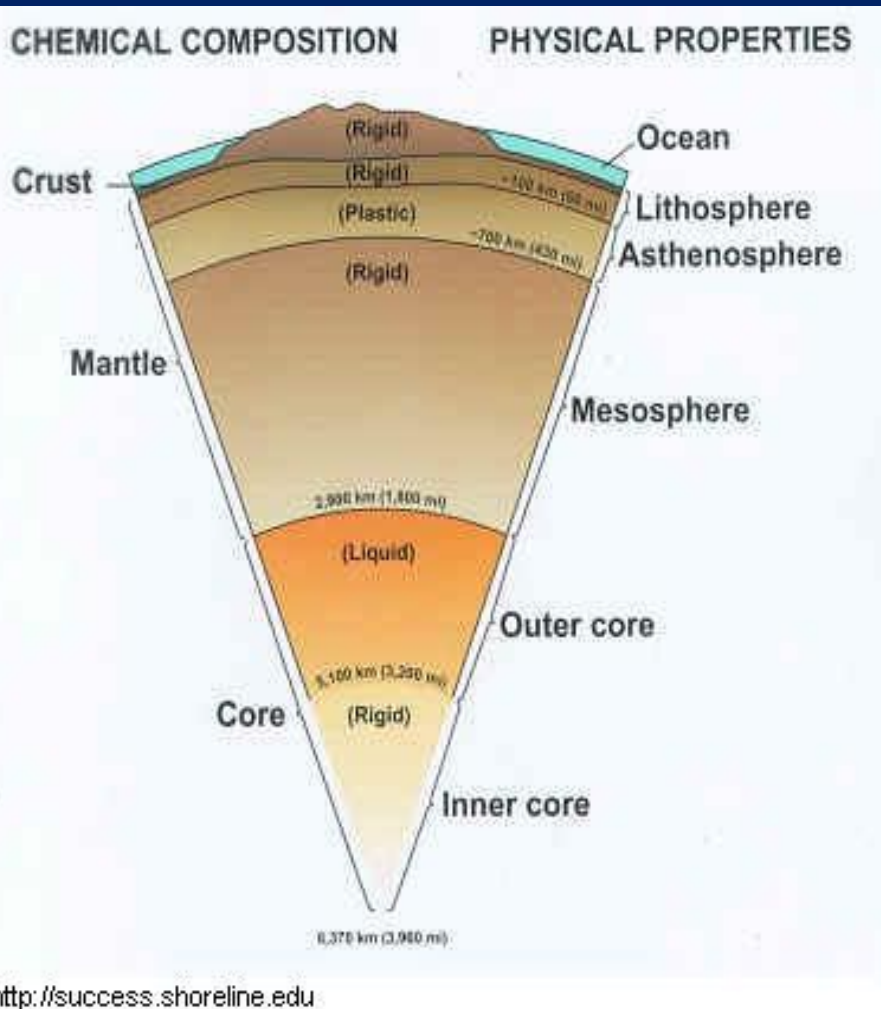
- More liquid than rest of the mantle-“low viscosity”

Soft layer over which plates move



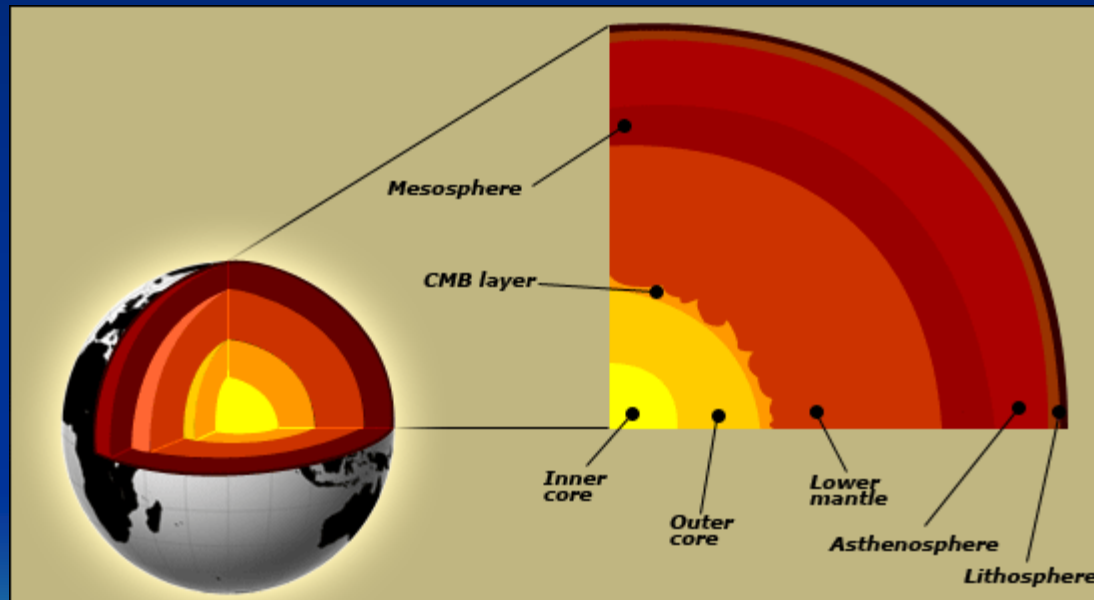
3. Mesosphere

- The rest of the **mantle**

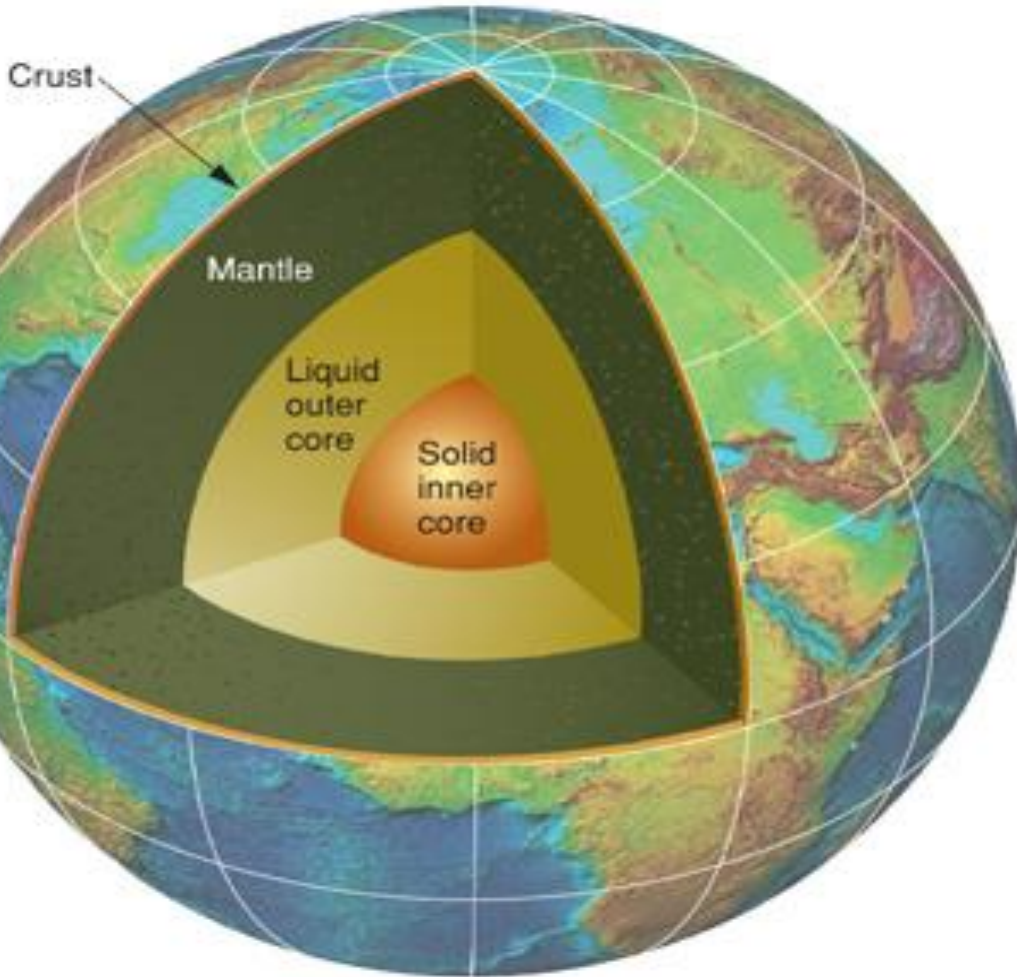


- ▶ Hotter, but higher pressures keep this layer more rigid.
- ▶ “high viscosity”

Solid, lower part of mantle

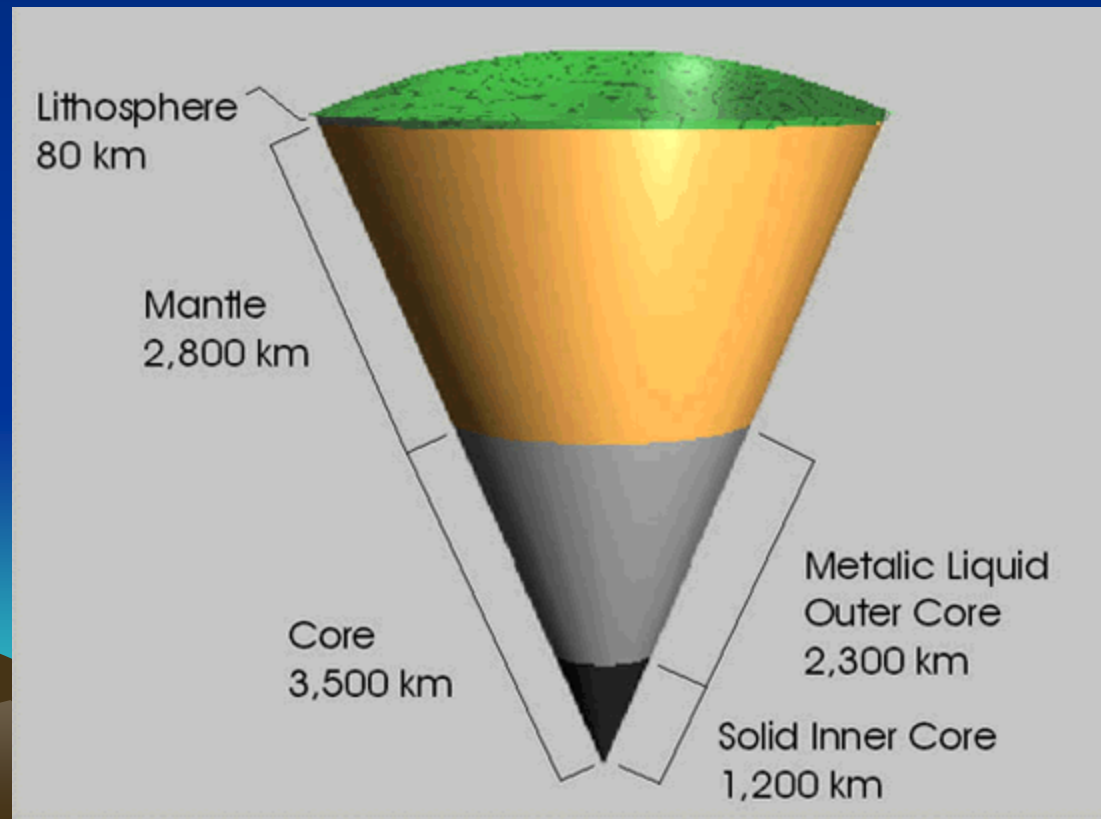


4. Outer Core



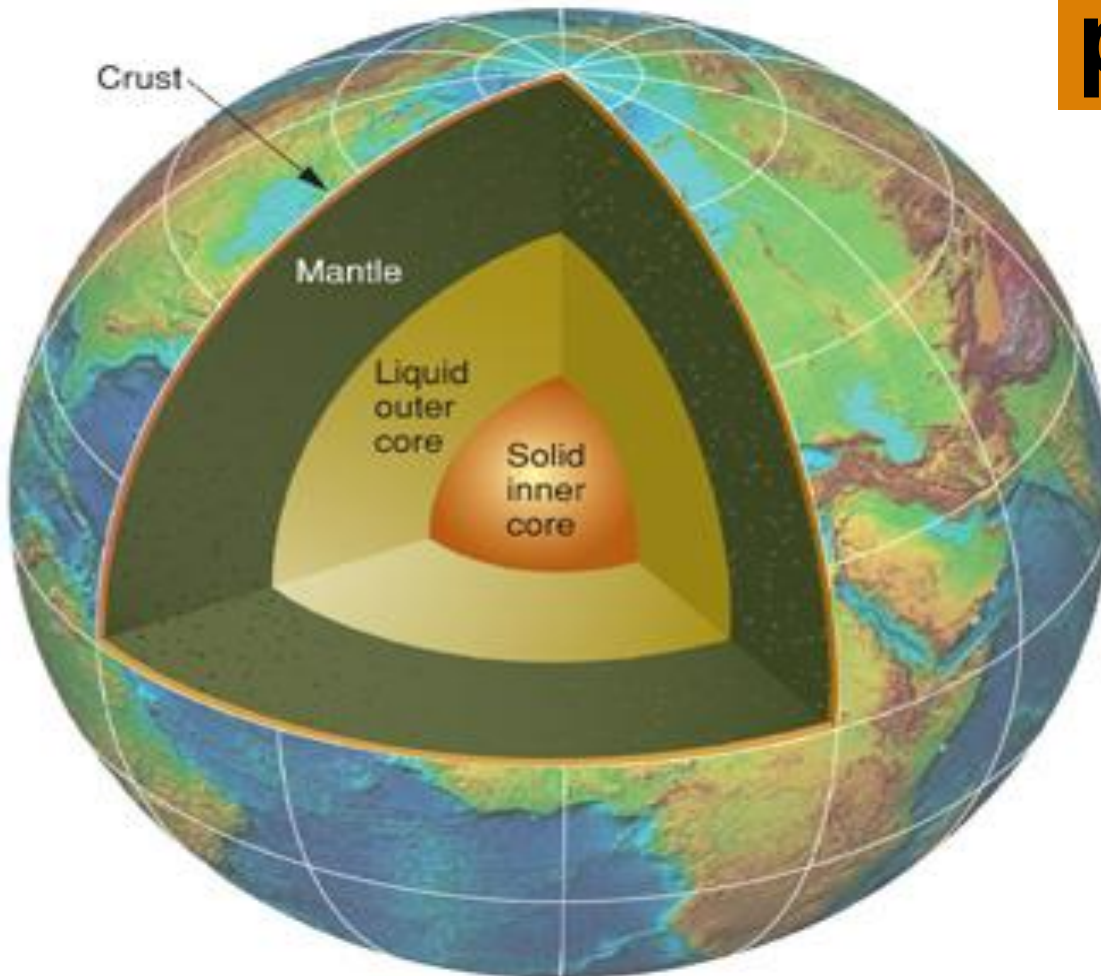
- **Liquid-
low
viscosity**
- **Believed
to be the
cause of
Earth's
magnetic
field.**

Liquid layer, hot molten metal

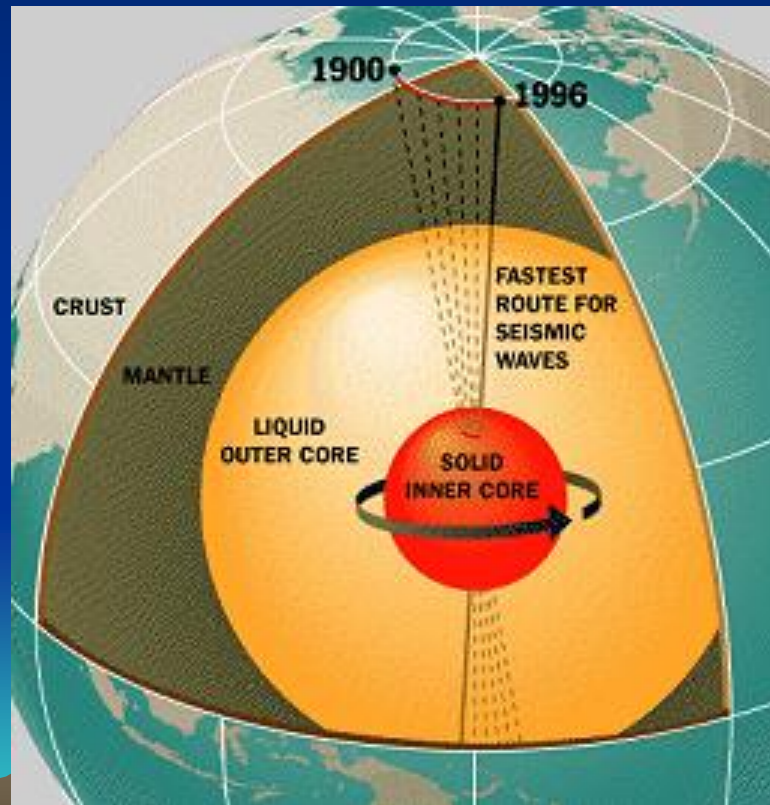


5. Inner Core

Solid due to
pressure



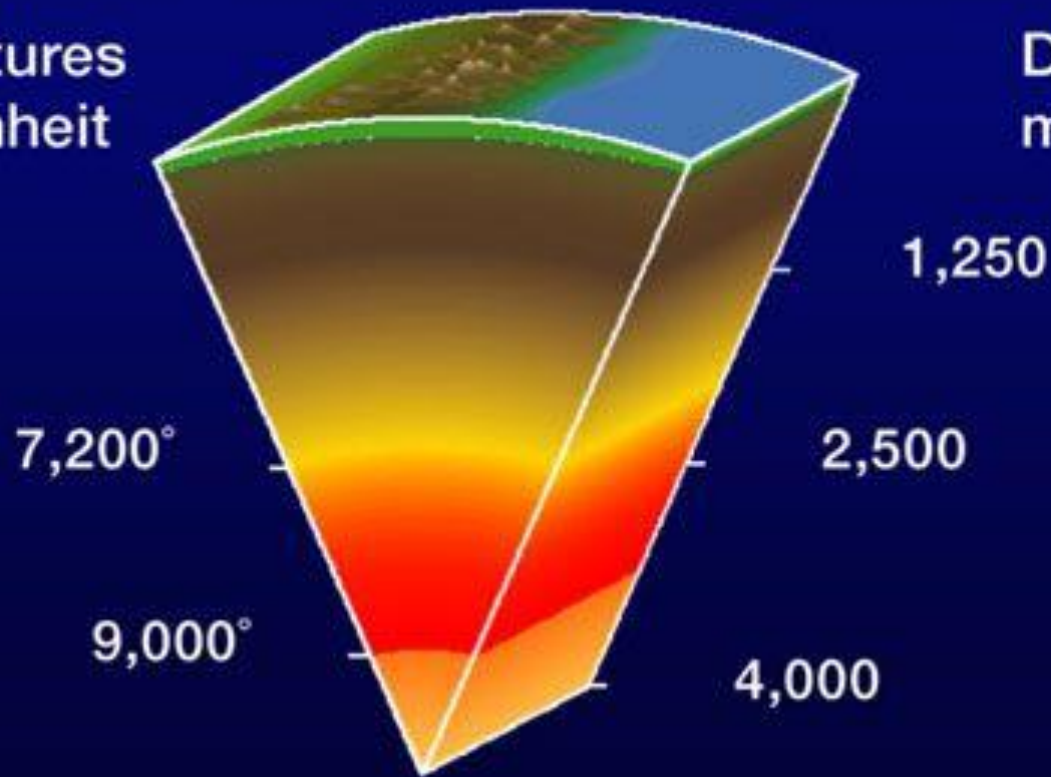
Solid, under extreme pressure and heat



Temperatures in the Earth

Temperatures
in Fahrenheit

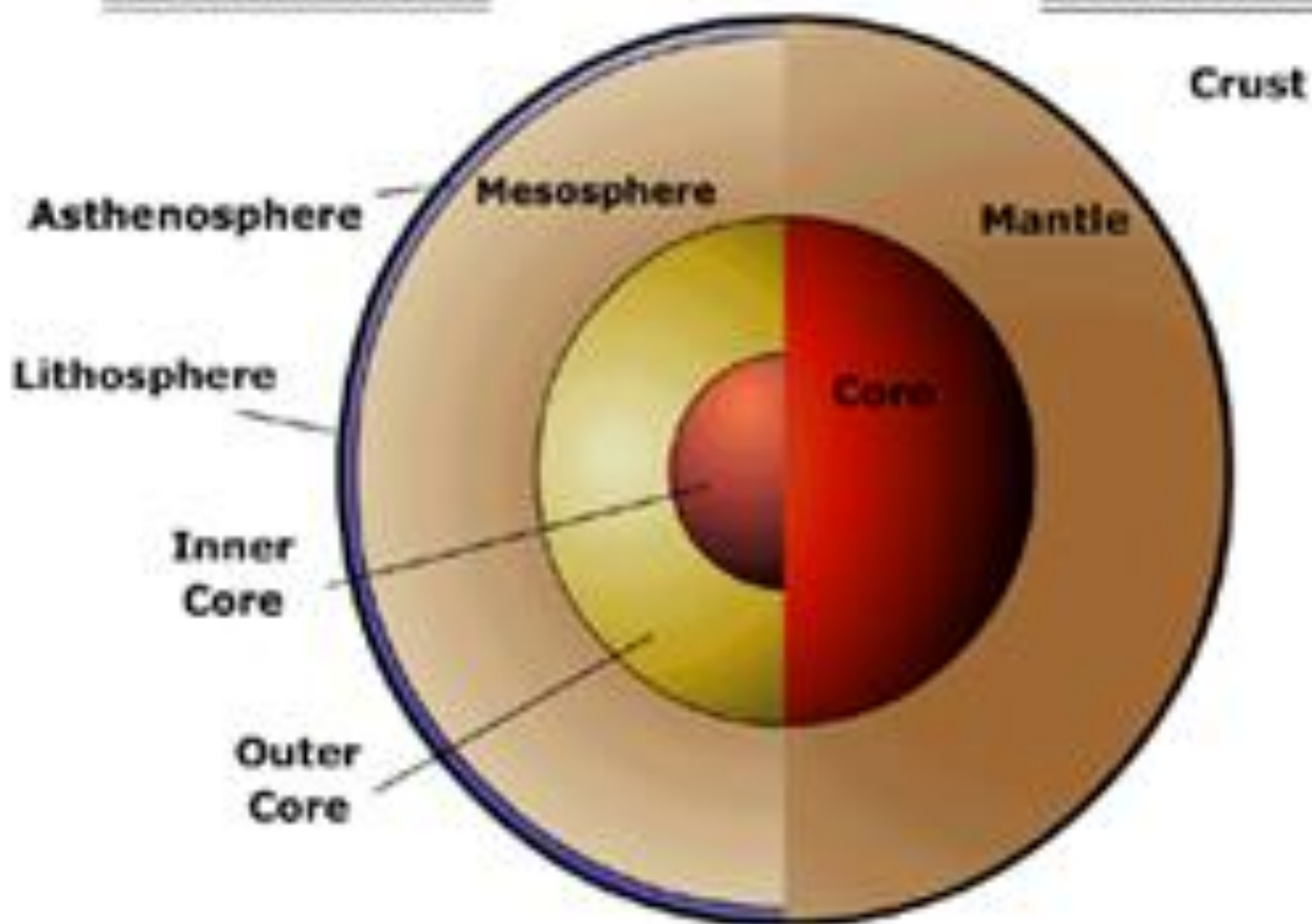
Depth in
miles



Physical Layers

Earth

Composition Layers



Summary

