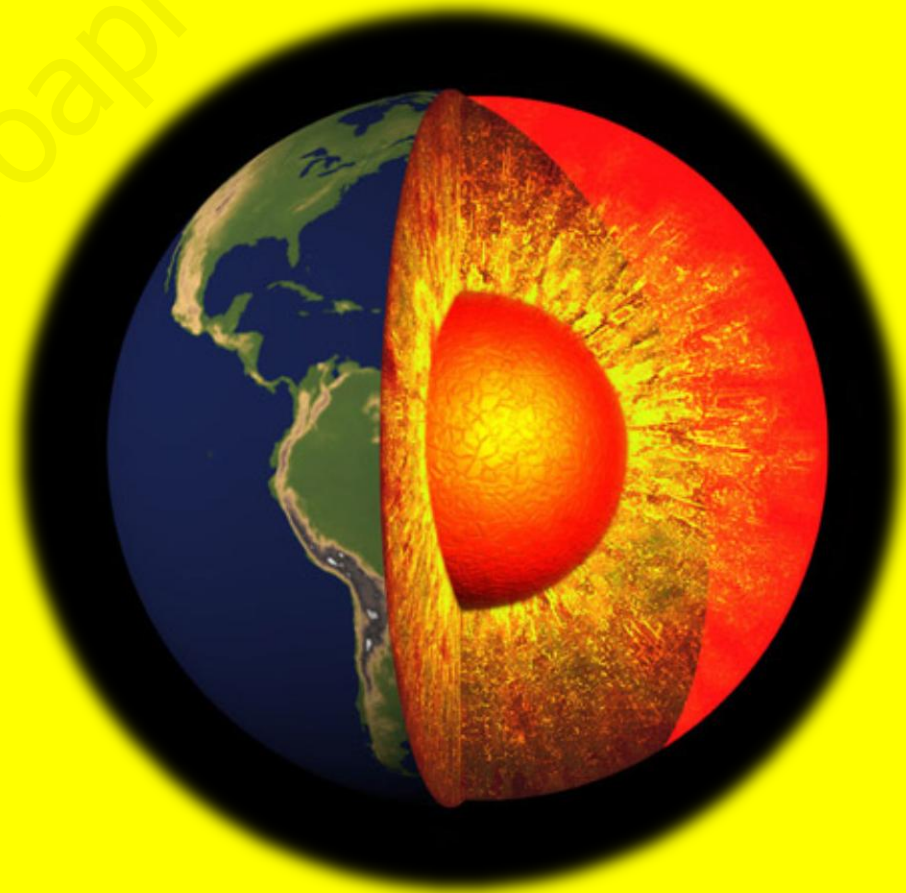


# The Structure of Earth



By  
Alison Dunaway, Ashley Davis, Jamie Brown,  
& Rachel Oliver

**Tell me  
what you  
know  
about the  
layers of  
Earth?**

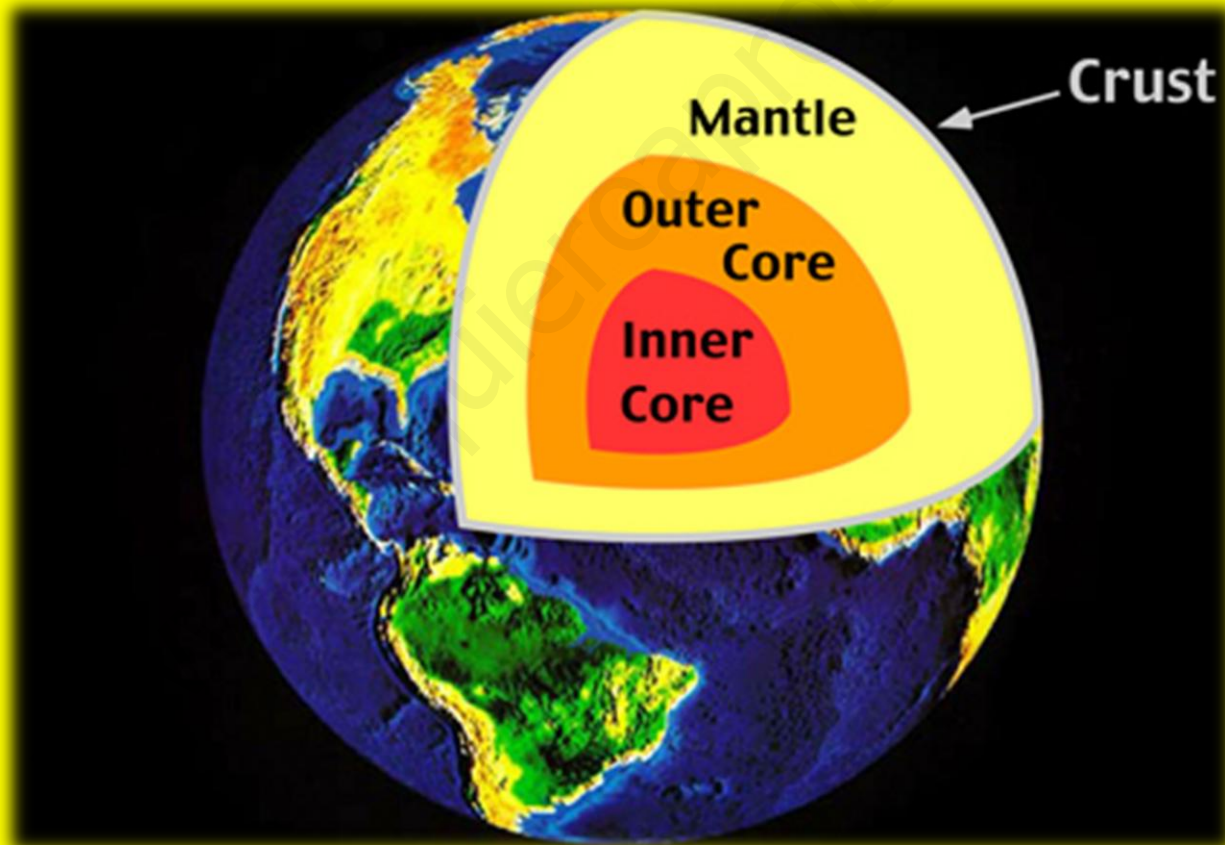


# What do you know about...

- ▣ Earth's physical model-
  - The Crust?
  - The Mantle?
  - The Core (inner and outer)?
- ▣ Earth's chemical model-
  - Lithosphere?
  - Asthenosphere?
  - Mesosphere?
  - Outer Core?
  - Inner Core?

*P.s. if you don't know, we will learn about it now, no worries! 😊*

# Physical Model



# THE CRUST

- ▣ It covers the mantle and is the earth's hard outer shell, the surface on which we are living on.
- ▣ It's made up of solid material but this material is not the same everywhere.
- ▣ It is constantly moving!
  - Which causes earthquakes, mountains, volcanoes, and so much more!
- ▣ It makes up only about 1% of the Earth and is the thinnest layer compared to the other 3 layers.
- ▣ Earth's crust is rocky and brittle and can break during earthquakes.
- ▣ The Earth's surface is also called the crust.

# THE MANTLE

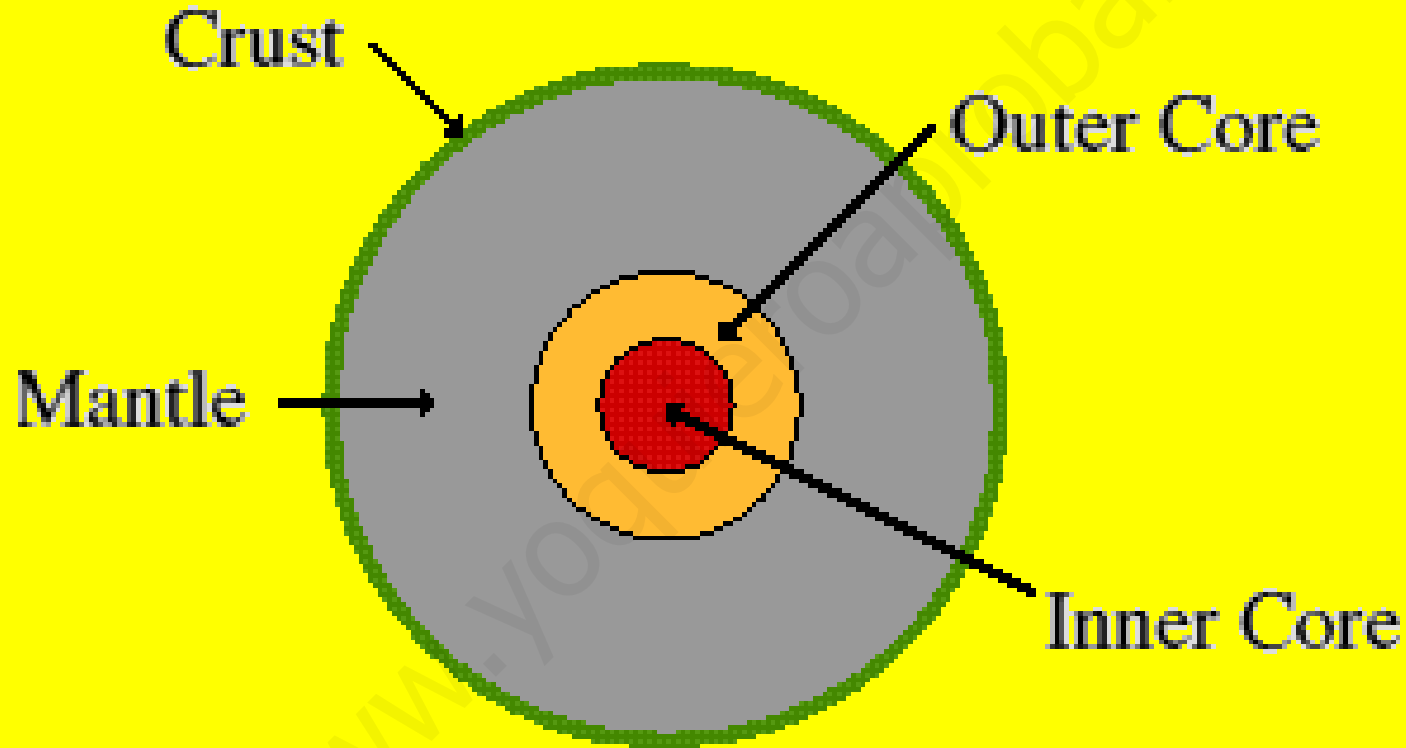
- ▣ It extends to a depth of approximately 1,800 miles, and is made of a thick solid rocky substance that represents about 85% of the total weight and mass of the Earth.
- ▣ It's the largest layer of the Earth.
- ▣ It is largely composed of substances rich in iron and magnesium.

# THE CORE

- ▣ It is approximately 7000 kilometers( 22,967,999 feet!) in diameter and is located at the Earth's center.
- ▣ The **inner core** is generally believed to be solid and composed primarily of iron and some nickel.
- ▣ The **outer core** surrounds the inner core and is believed to be composed of liquid iron and nickel.
- ▣ The core of the Earth is under pressure and is solid.



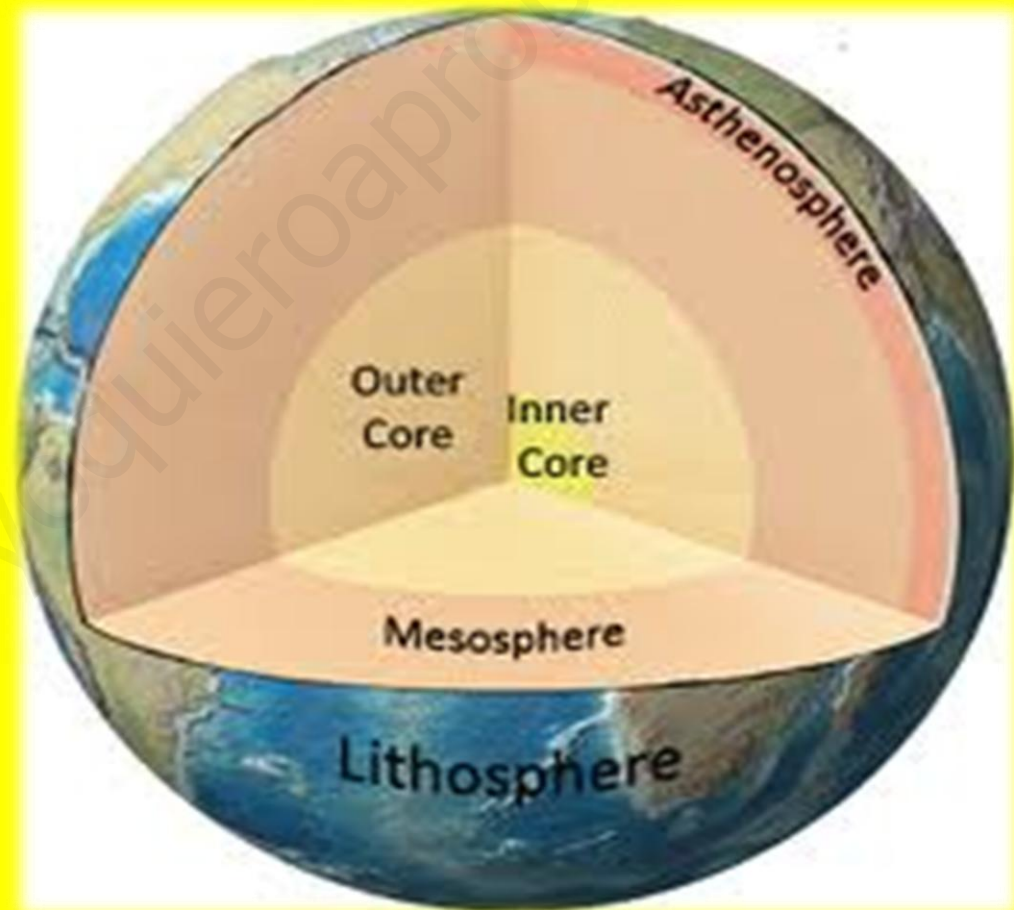
# PHYSICAL MODEL



*Cross section through the Earth  
( Not to scale )*

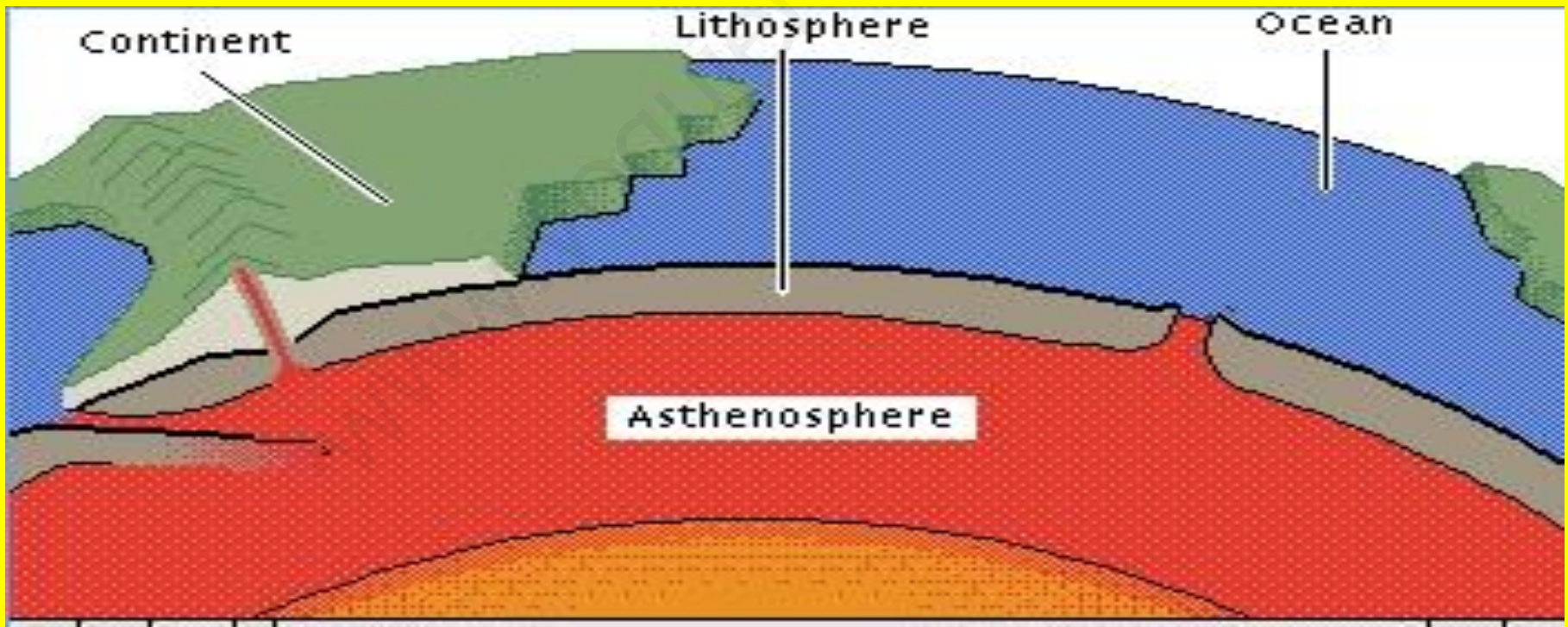


# Chemical model



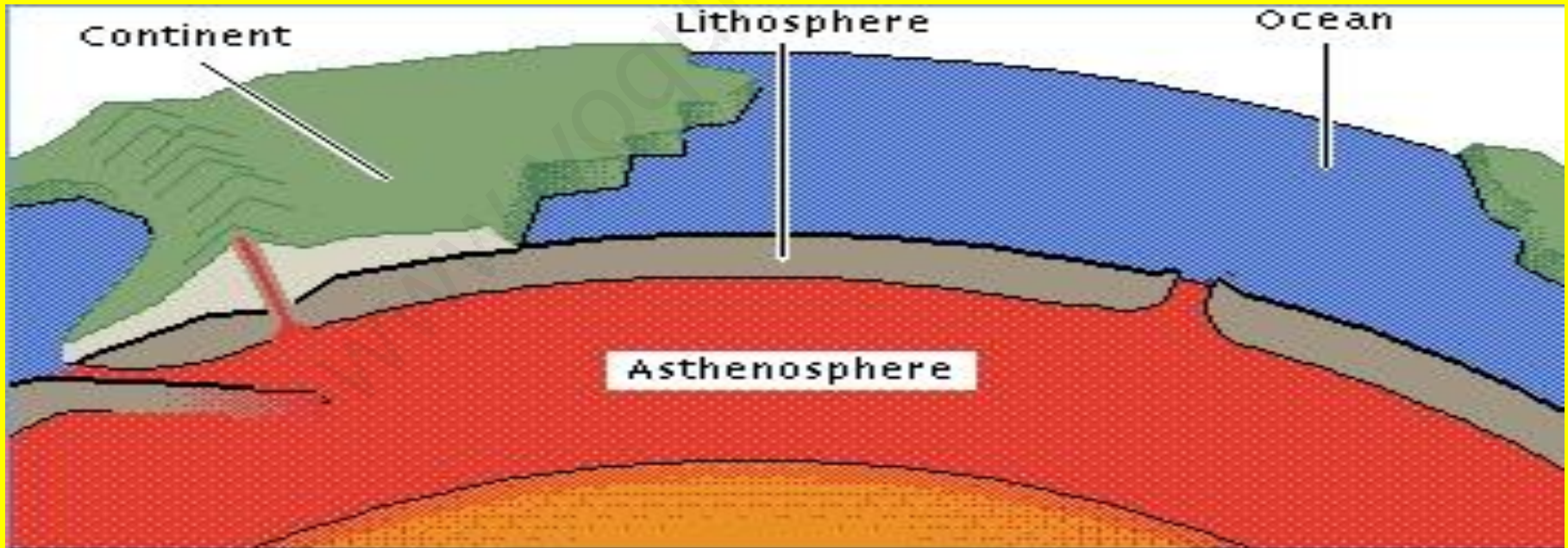
# LITHOSPHERE

- ▣ Is the solid crust and the uppermost part of the mantle.
- ▣ consisting mainly of the cold, rigid, rocky crust of the earth.



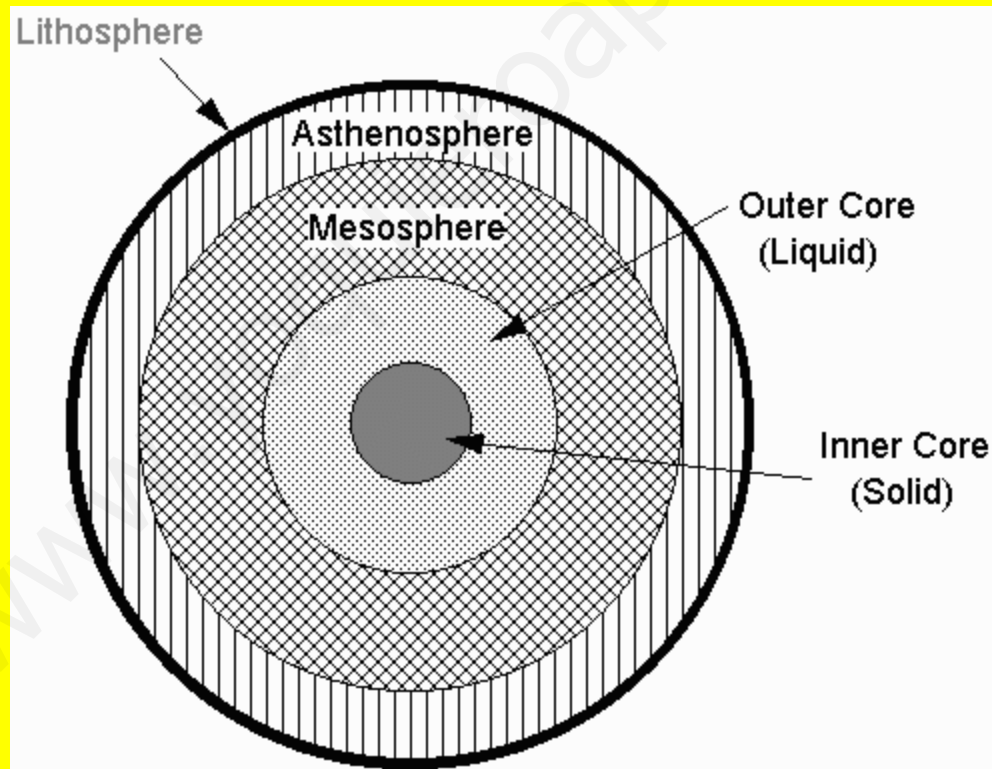
# ASTHENOSPHERE

- ▣ Is a semi-liquid layer of the mantle below the lithosphere.
- ▣ The asthenosphere is what helps move the rigid crustal plates above in the lithosphere.
- ▣ Consists of Molten Rock



# MESOSPHERE

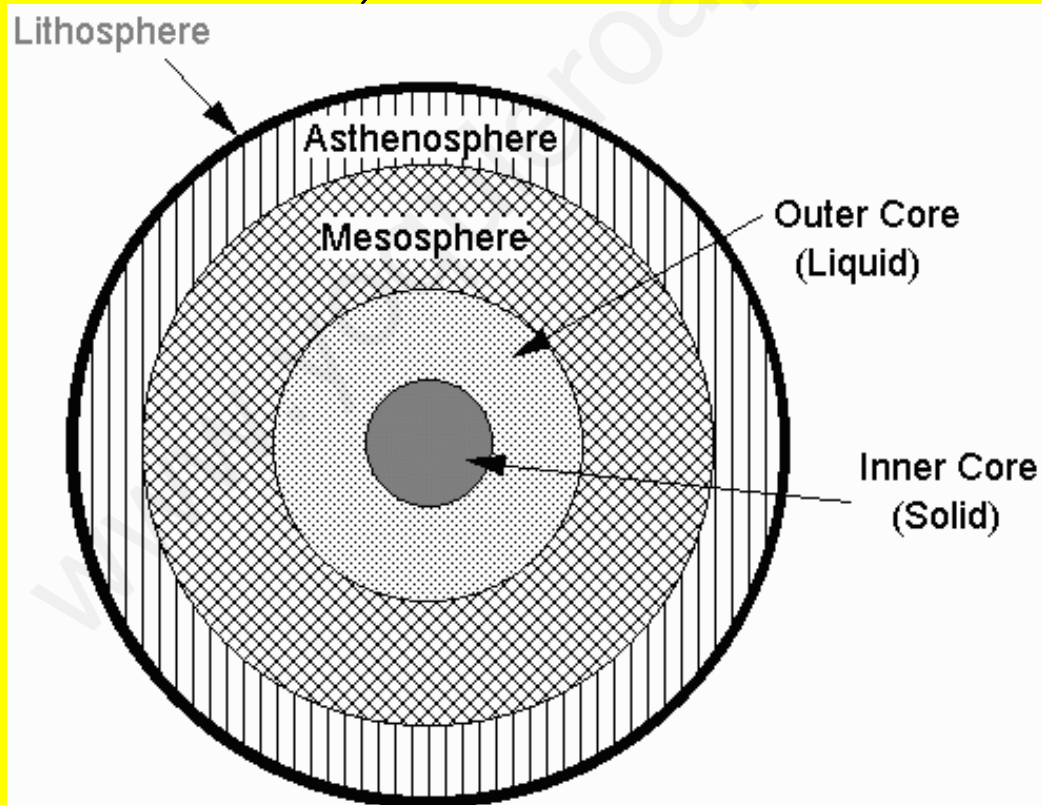
- ▣ Is the solid remaining layer of the mantle below the asthenosphere.





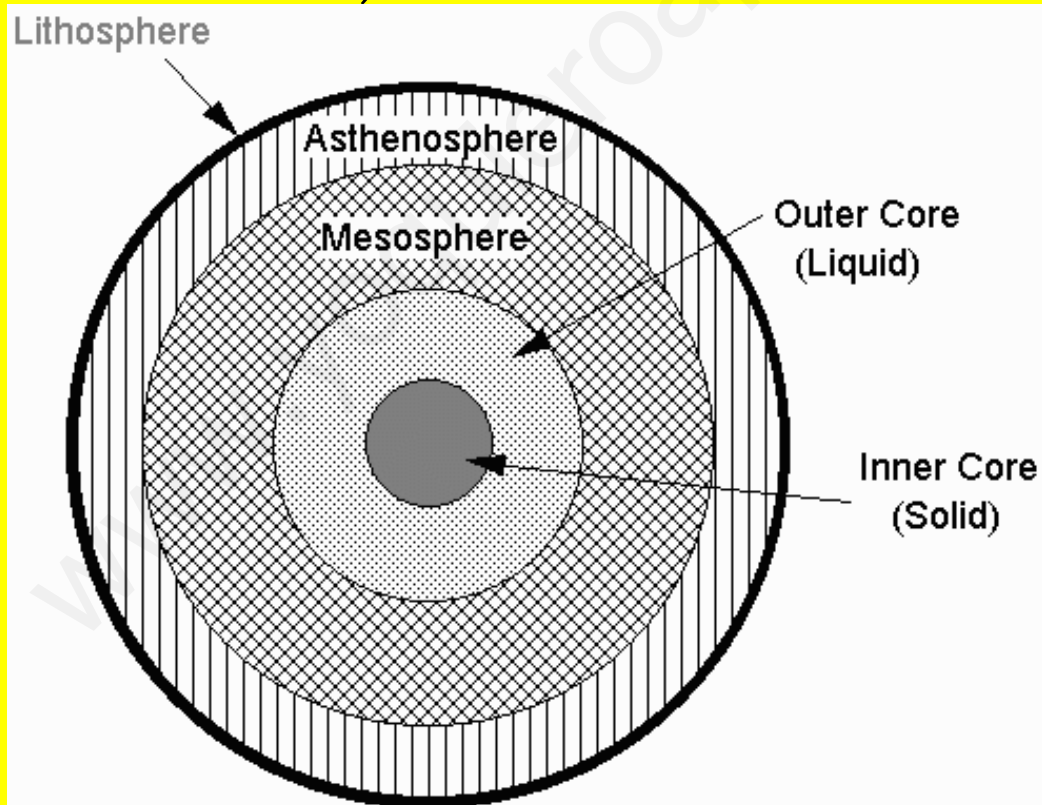
# OUTER CORE

- ▣ Is a liquid layer below the mesosphere.
- ▣ Consists of liquid Iron and Nickel (same as physical model.)

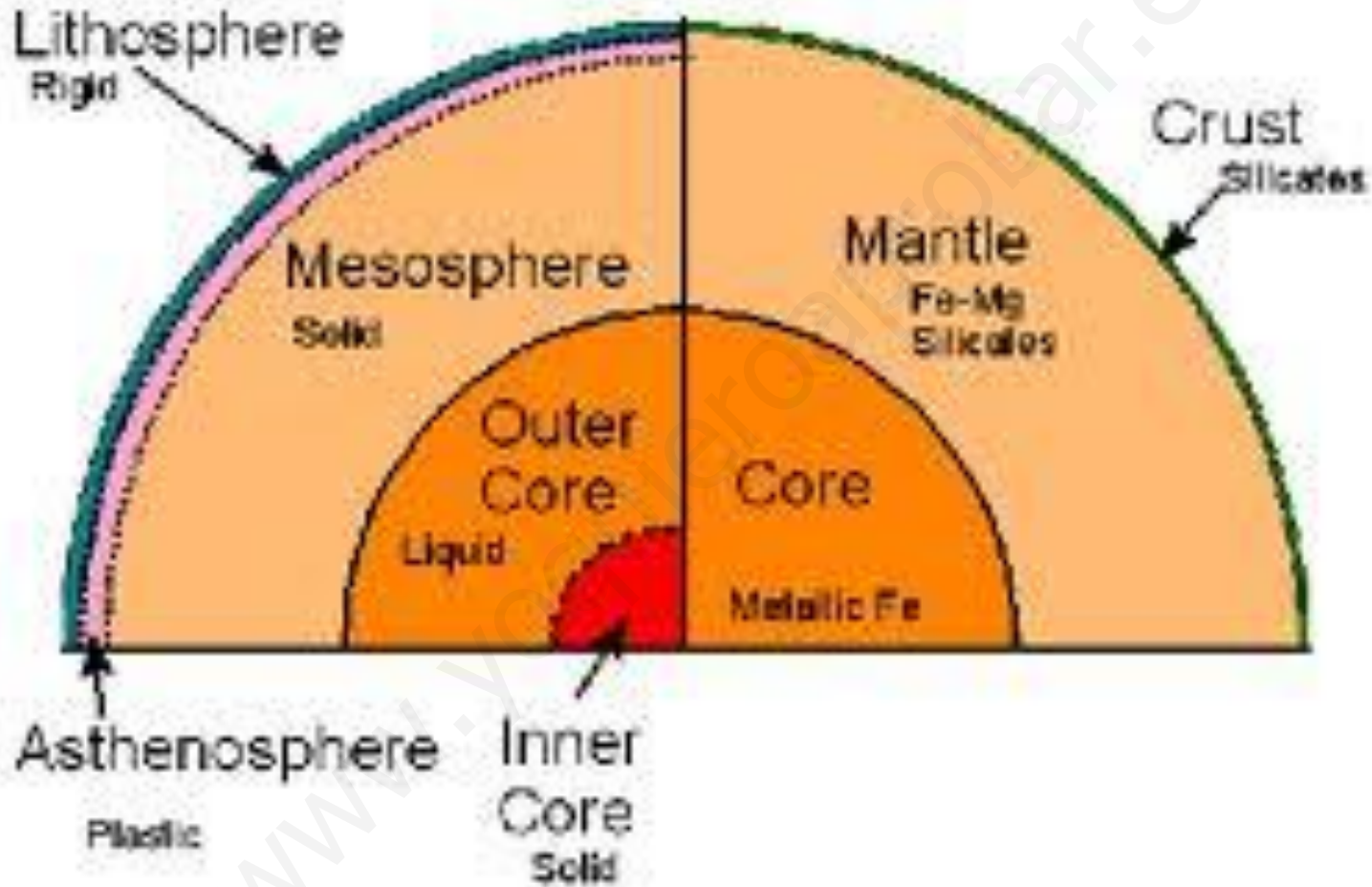


# INNER CORE

- ▣ Is a solid center of the Earth.
- ▣ Consists of solid iron compounds (same as physical model.)



# MODELS OF EARTH



Chemical

Physical



# WHAT LOOKS LIKE THE EARTH?



# YELLOWSTONE NATIONAL PARK

- ▣ This national park is known for their geysers, grand prismatic spring, and its large caldera.
- ▣ This caldera is very large and beautiful but is also a very dangerous super volcano.
- ▣ Volcanoes are from hotspots forming through the mantle, while the plates of the crust move around creating tunnels that are able to carry magma through them to the crust, and explode.
  - The Yellowstone Caldera was the top of a very old volcano. It is now waiting to erupt once again.

**Now lets see what you know  
now!**

Physical model?

Chemical model?

How does the Earth's structure  
influence Yellowstone  
Caldera?

# **THE END**

Thank you for letting us come into your  
classroom today! 😊