

# Where is Earth?

the Local Supercluster

the Local Group

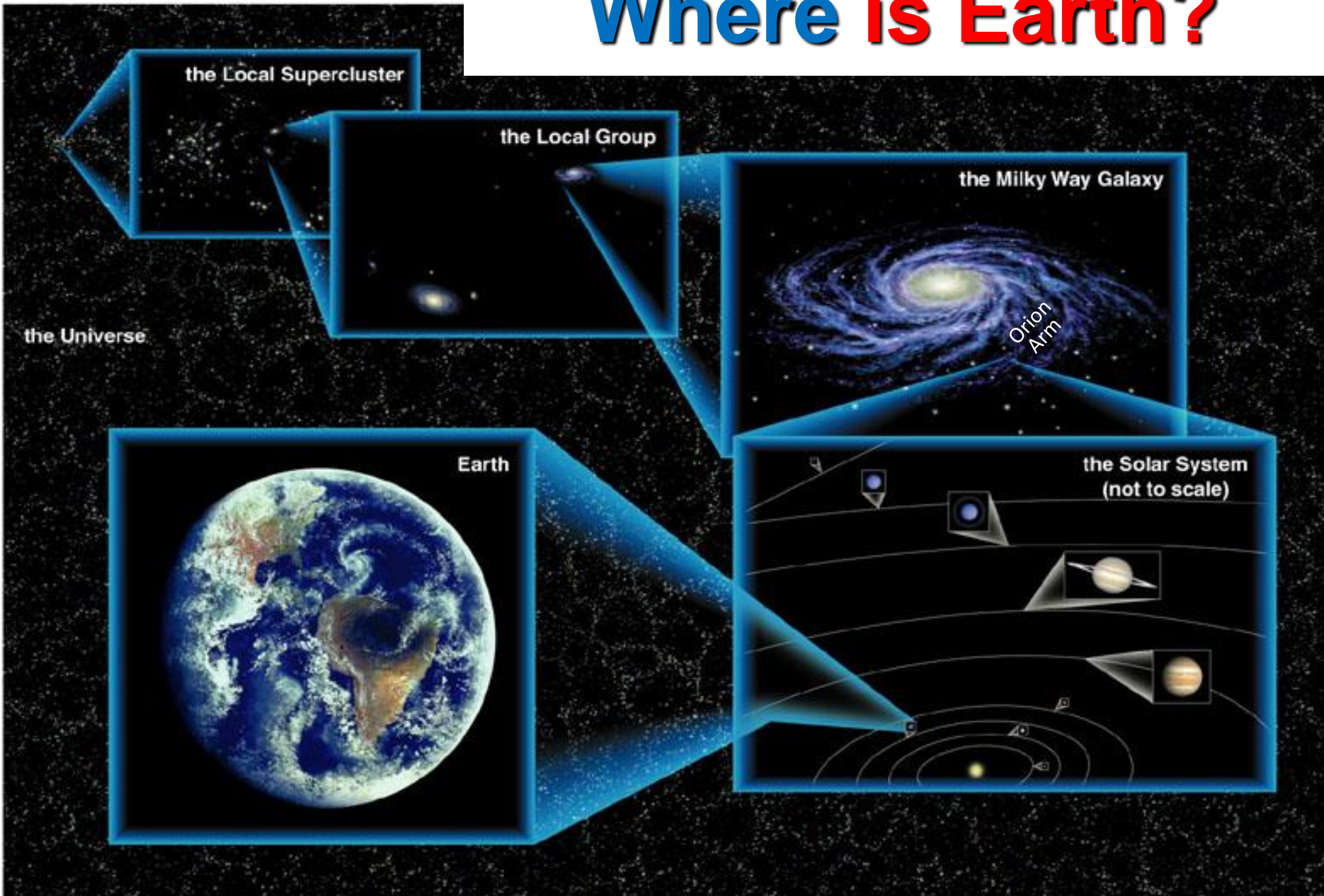
the Milky Way Galaxy

the Universe

Orion Arm

Earth

the Solar System  
(not to scale)



# What do we see from Earth?

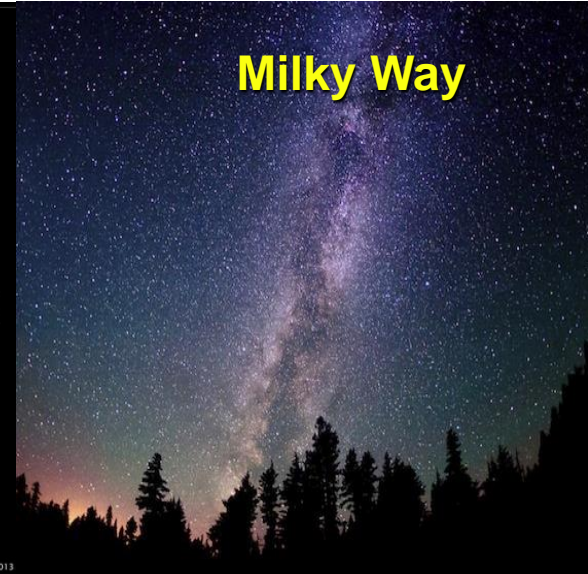
Sun



Moon



Milky Way



Meteorites



Constellation Orion



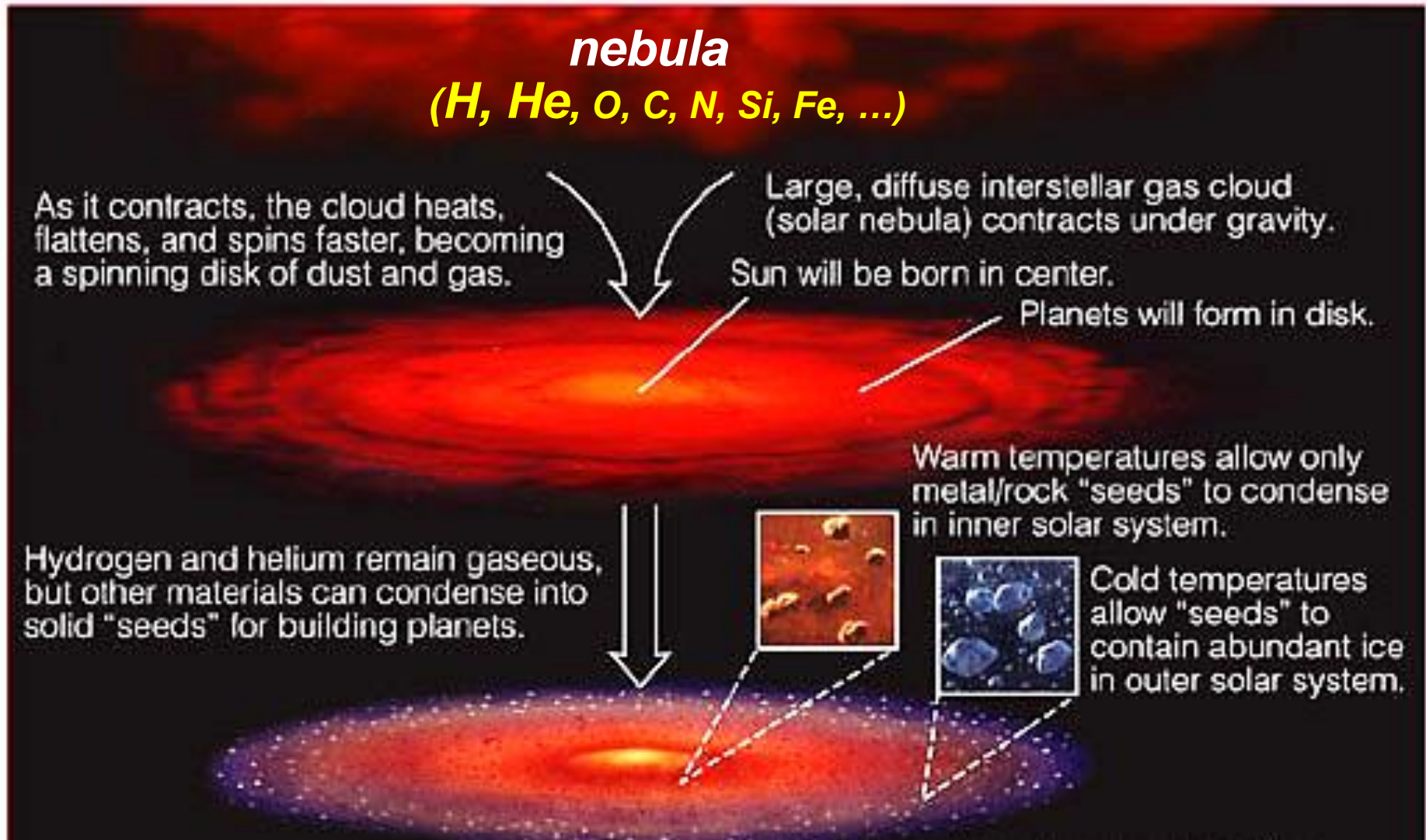
Mars



# The Formation of the Solar System

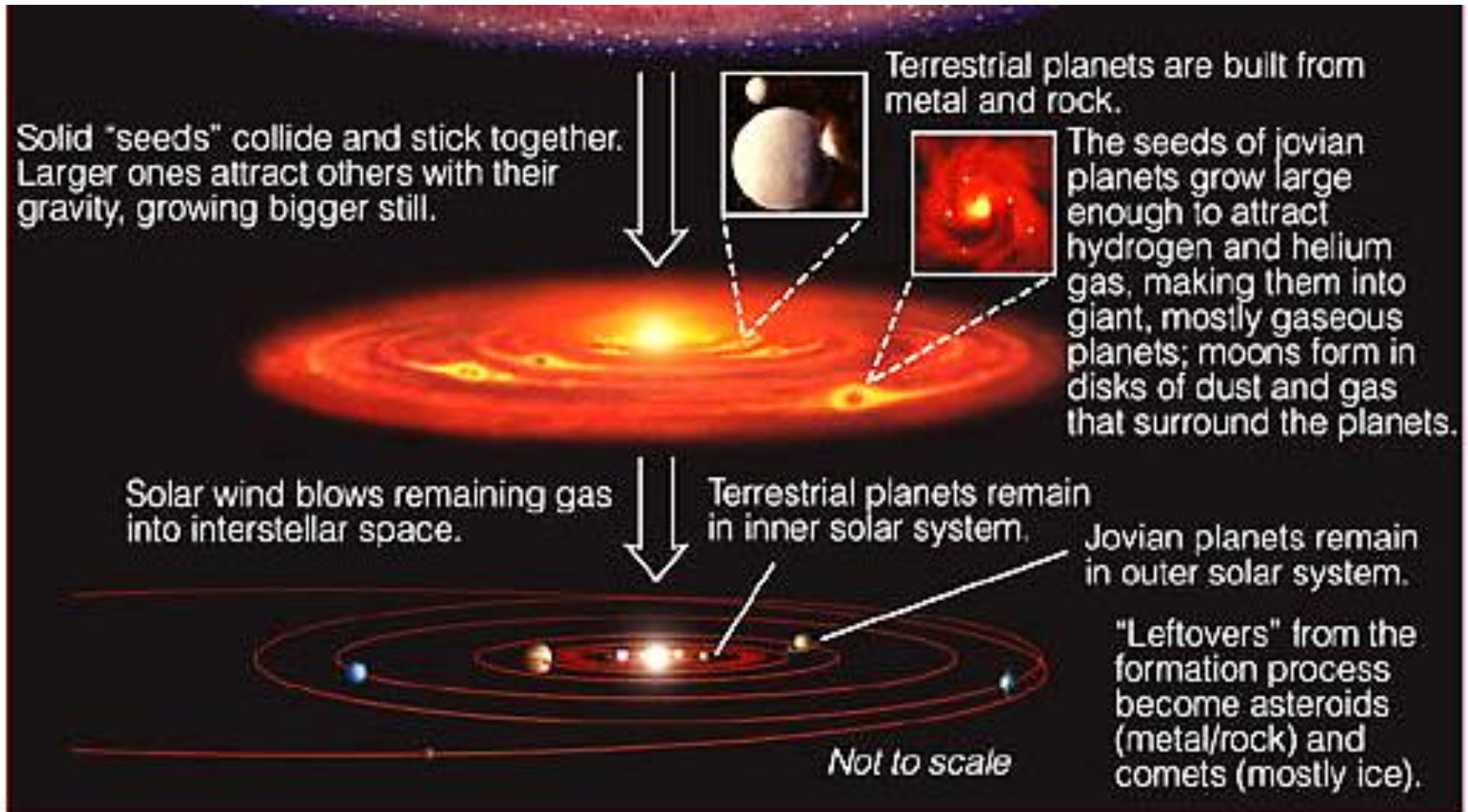
(~4.6 billion years ago)

## *Nebular Hypothesis*



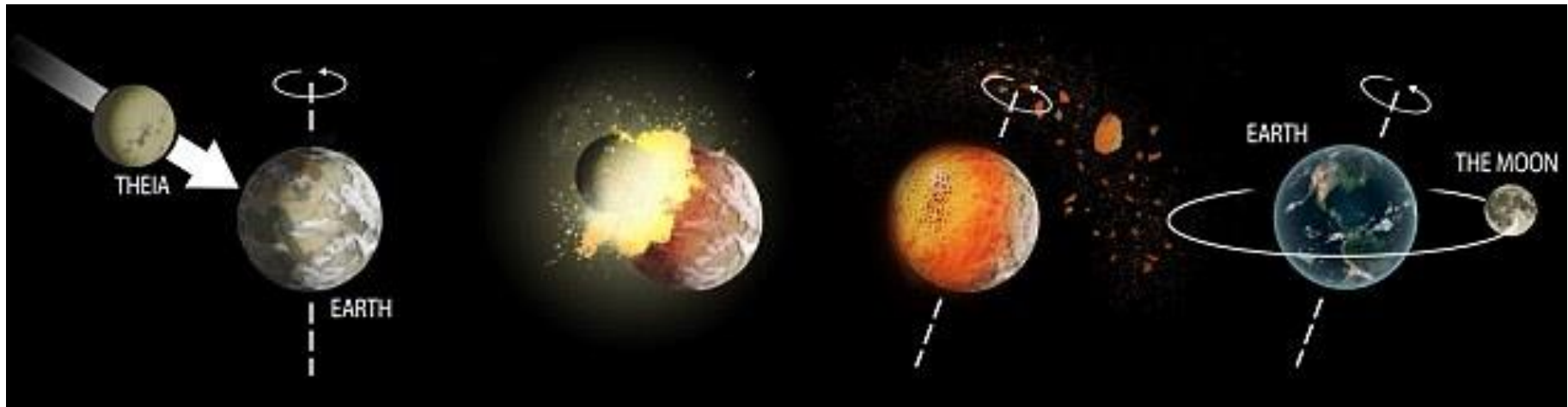
# The Formation of the Solar System

The Sun, planets, moons, comets, asteroids are believed to form within 50-100 million years.



# Formation of the Moon

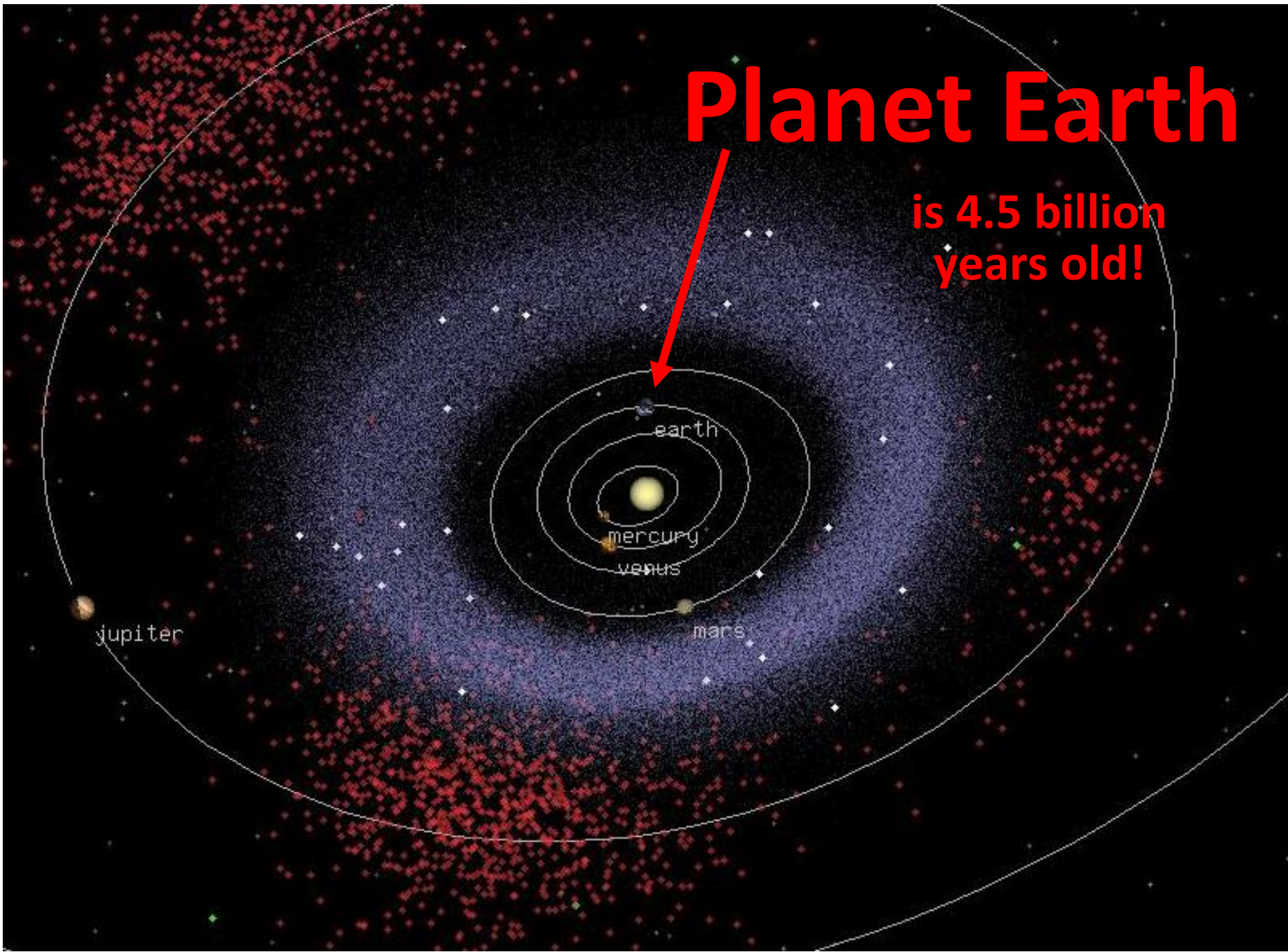
## The Giant Impact Hypothesis



- Suggests that the Moon formed out of the debris left over from a **collision between Earth and an astronomical body the size of Mars**, approximately 4.5 billion years ago, about 20 to 100 million years after the Solar System coalesced.
- The colliding body is sometimes called **Theia**.
- **Fun Fact:** Earth and Moon have almost **identical composition!**

# Planet Earth

is 4.5 billion  
years old!



earth

mercury

venus

mars

jupiter