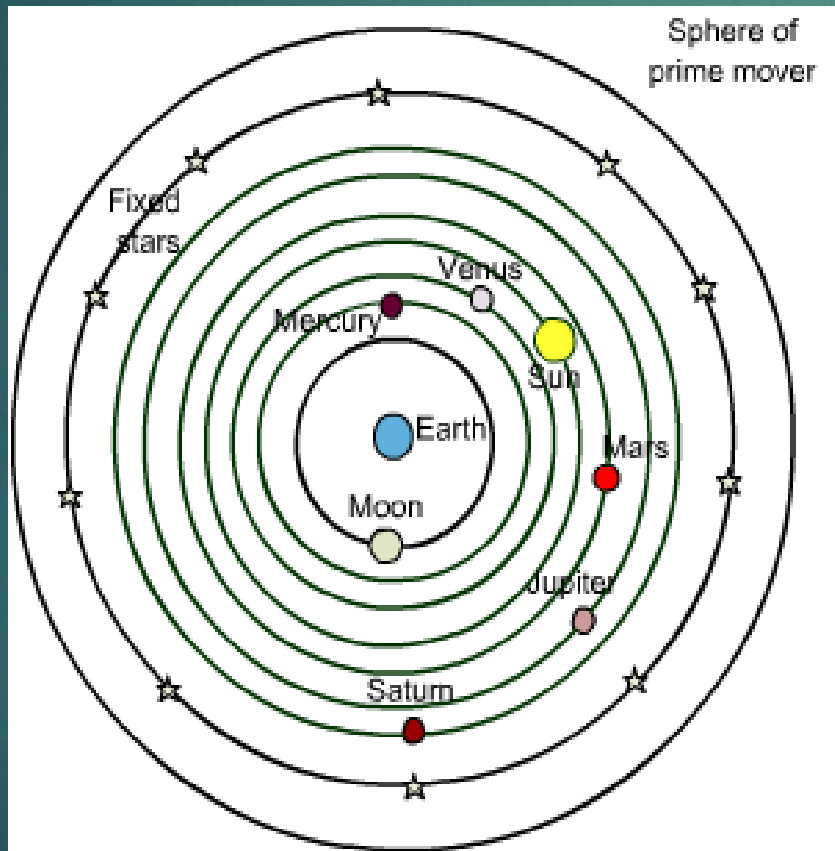
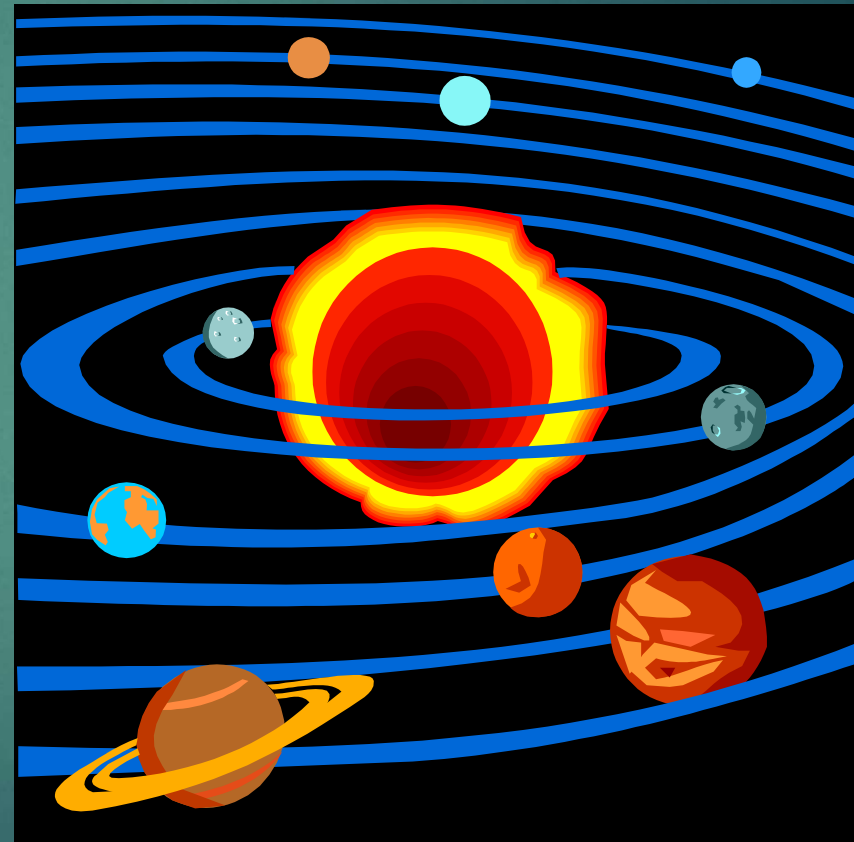


Geocentric vs Heliocentric

▶ “Geo” means Earth

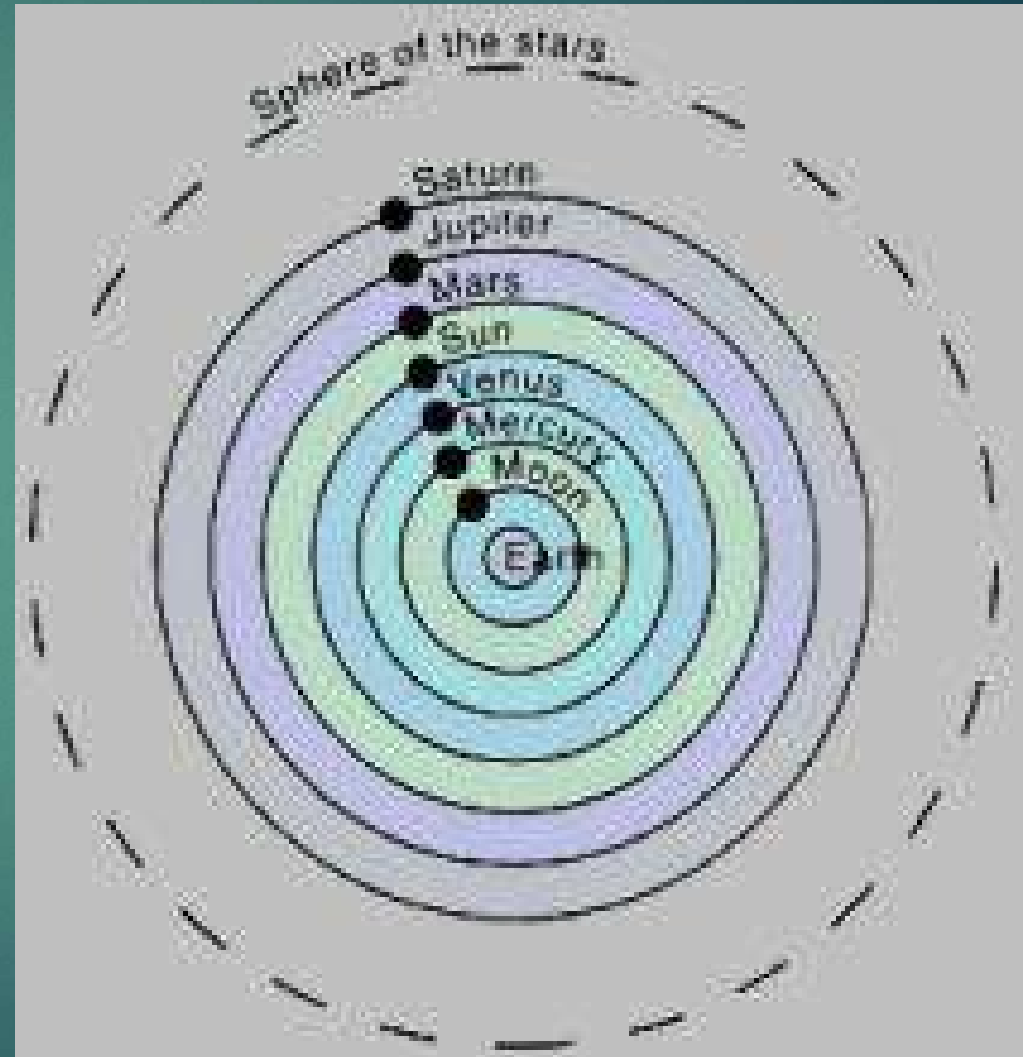


▶ “Helio” means sun



The Geocentric Theory

- ▶ The **earth** is located at the center of the **universe** and all the planets revolve around the earth.



Geocentric Cont.....

- ▶ The Geocentric theory was believed by the Catholic church especially because the church taught that G-d put earth as the center of the universe which made earth special and powerful.

Aristotle (384-322 B.C.)

- ▶ Developed an early model based on the concept of uniform circular motion. He placed the earth at the center of the universe and all of the planets, sun and stars around it.



▶ Aristotle reasoned that if the earth rotated about its axis, we should fly off into space. Since we don't, the earth must be stationary.

Ptolemy (140 A.D.)

- ▶ Ptolemy advanced the geocentric theory in a form that prevailed for 1400 years.
- ▶ He added mathematics to support the theory



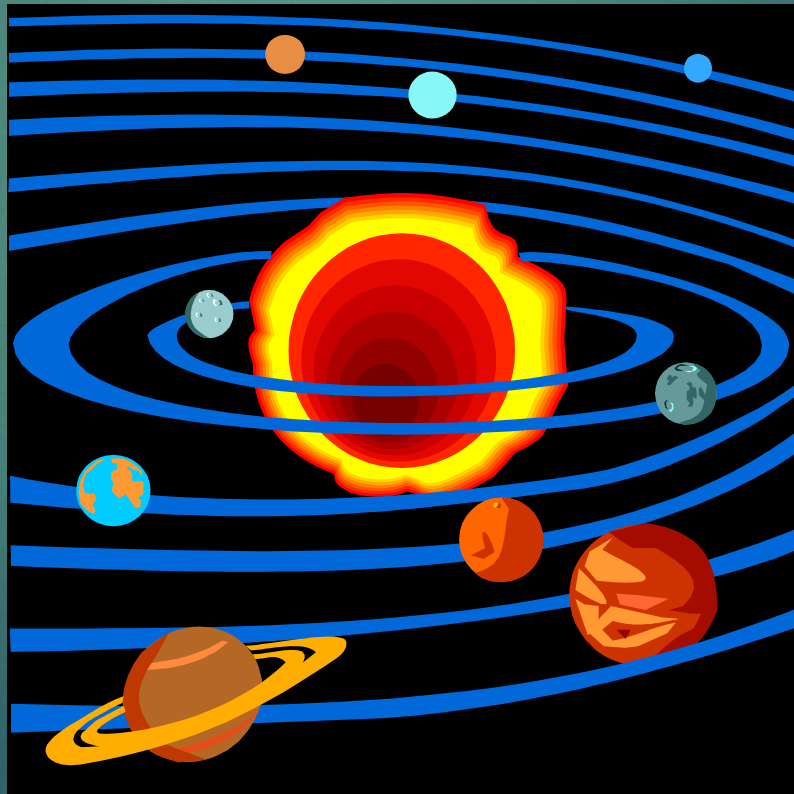
Copernicus (1473-1543)



- ▶ Polish astronomer who advanced the theory that the Earth and other planets revolve around the Sun. This was highly controversial at the time.
- ▶ Ptolemy's model had been widely accepted in Europe for 1000 years when Copernicus proposed his model.

The Heliocentric Theory

- ▶ The Sun is the center of our *solar system*



- ▶ Copernicus was told by many scholars that he should make his new findings accessible to others by publishing it. In 1543 the book called "On the Revolutions of the Heavenly Bodies" was released. Copernicus's book had a great impact that angered the Catholic and Protestant Church.
- ▶ The Church became so angry – the Geocentric theory made human beings seem closer to God and since earth was in the center that meant humans were more special. The heliocentric theory changed that perspective completely, making humans lose that position in the universe.

Galileo (1564-1642)

- ▶ An Italian scientist, Galileo was renowned for his contributions to physics, astronomy, and scientific philosophy. He is regarded as the chief founder of **modern science**.
- ▶ Galileo was condemned by the Catholic Church for his view of the cosmos based on the theory of Copernicus.



Galileo's Books

- ▶ Galileo published his discoveries and support for the Copernican model in two books published in 1616 and 1632.
- ▶ After his first book, "*Starry Messenger*", was published he was warned by the Church not to publicly support Copernicus again.

Heliocentric Theory Prevails

- ▶ Galileo supported Copernicus' theory which clashed with the religious views of the time, he underwent many trials and tribulations, and was even sentenced to house arrest for his remaining years.
- ▶ His view has withstood the test of time.
- ▶ Today we talk about our Solar System, **not** our Earth system

1633



Galileo Stands Trial at Vatican