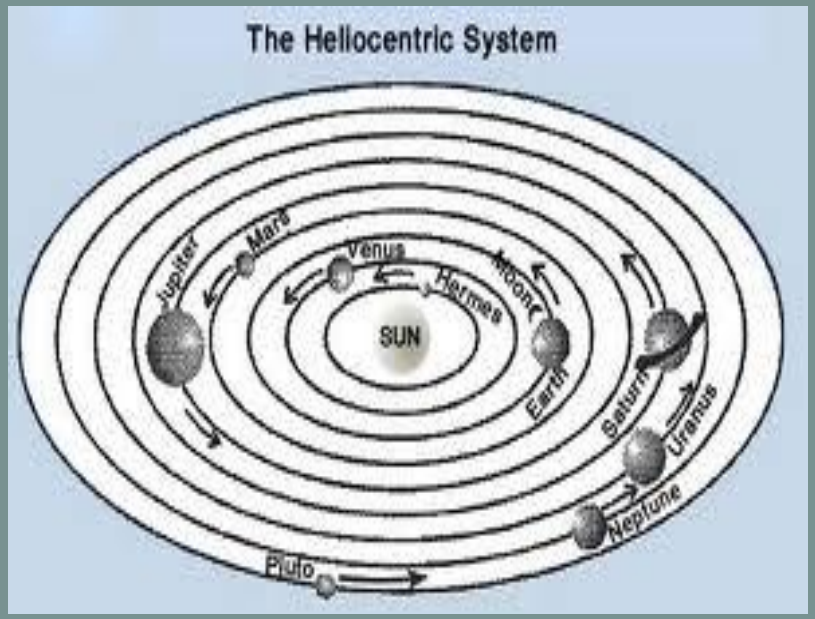
The Scientific Revolution

- 1500-1700
- A new way of thinking about the physical universe

Copernicus

- 1543: a sun centered universe; heliocentric
- Many rejected this idea…why?

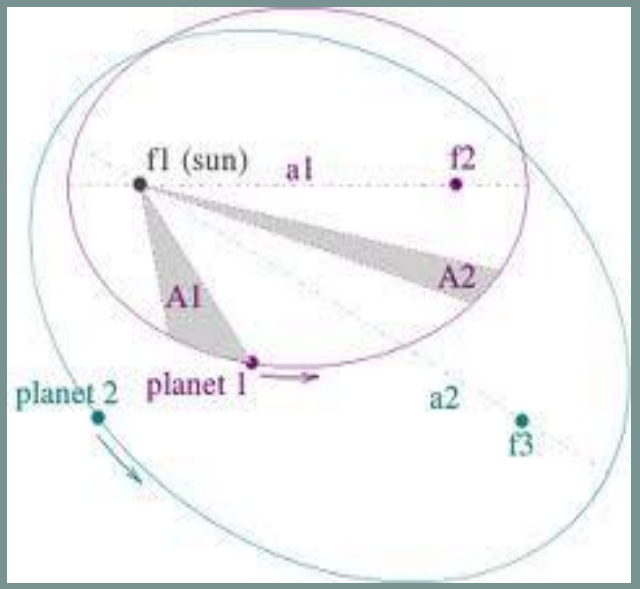


Tycho Brahe

- Provided the evidence that proved Copernicus's theory

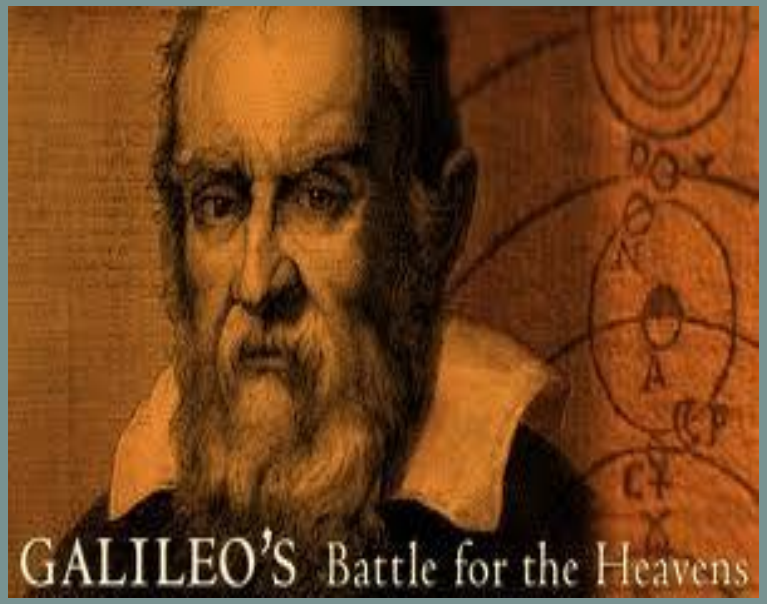
Johannes Kepler

- Was able to calculate the orbits of the planets; elliptical in shape



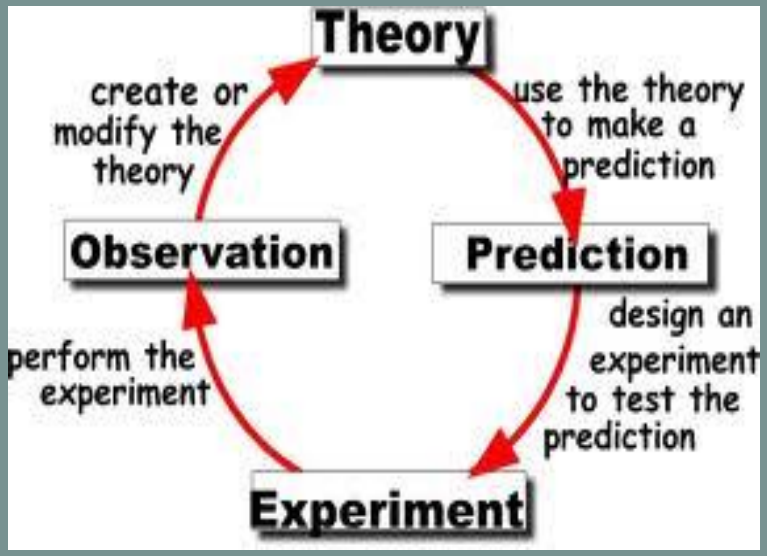
Galileo

- With his telescope; the first person to see mountains on the moon and sunspots
- His discoveries caused an uproar…why?



The Trial

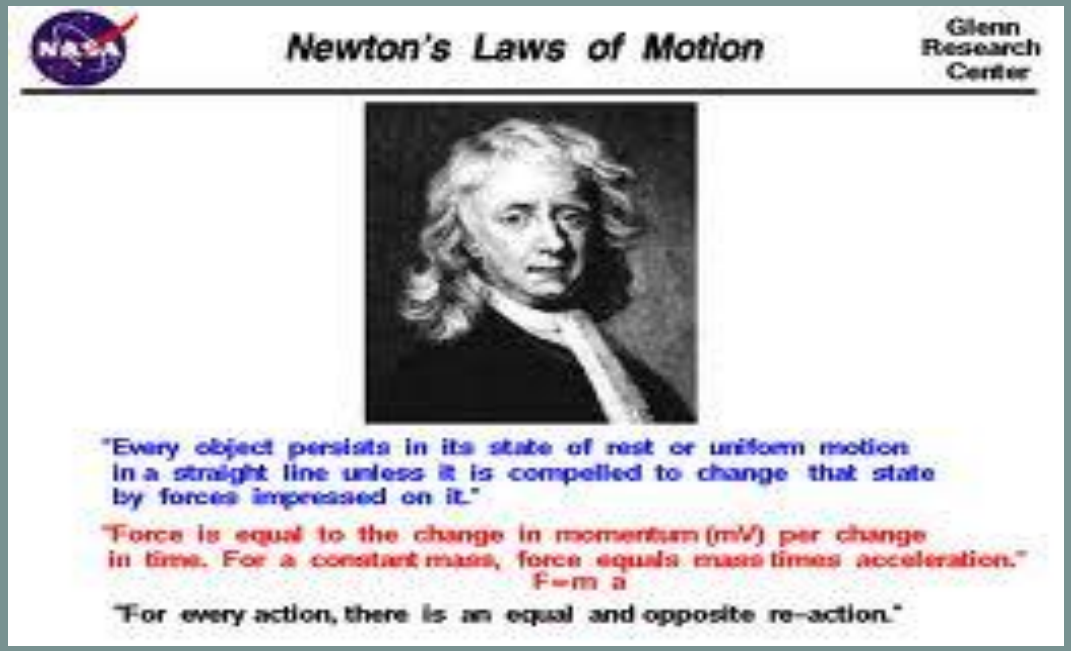
- 1633…threatened with death unless he renounced his beliefs…
- The new scientific method; based on observation and experimentation



Newton

Gravity

- Math based…gravity keeps planets moving and keeps us tied to earth
- Nature follows uniform laws



More Advances

- Chemistry was no longer magic
- Robert Boyle: the difference between elements and compounds

Medicine

- Vesalius: first accurate and detailed study of anatomy
- Pare: closing wounds with stiches; ointments
- Harvey: circulation of blood

Bacon/Descartes

- What is knowledge and how do we produce it?
- Rejected idea that church teachings should direct scientific inquiry
- Truth is known at the END of investigation

Francis Bacon (1561–1626)

Rene Descartes (1596–1650)

Different Methods

- Bacon: experimentation/observation…practical application of science
- Descartes: “I think therefore I am”
- Emphasized human reasoning