

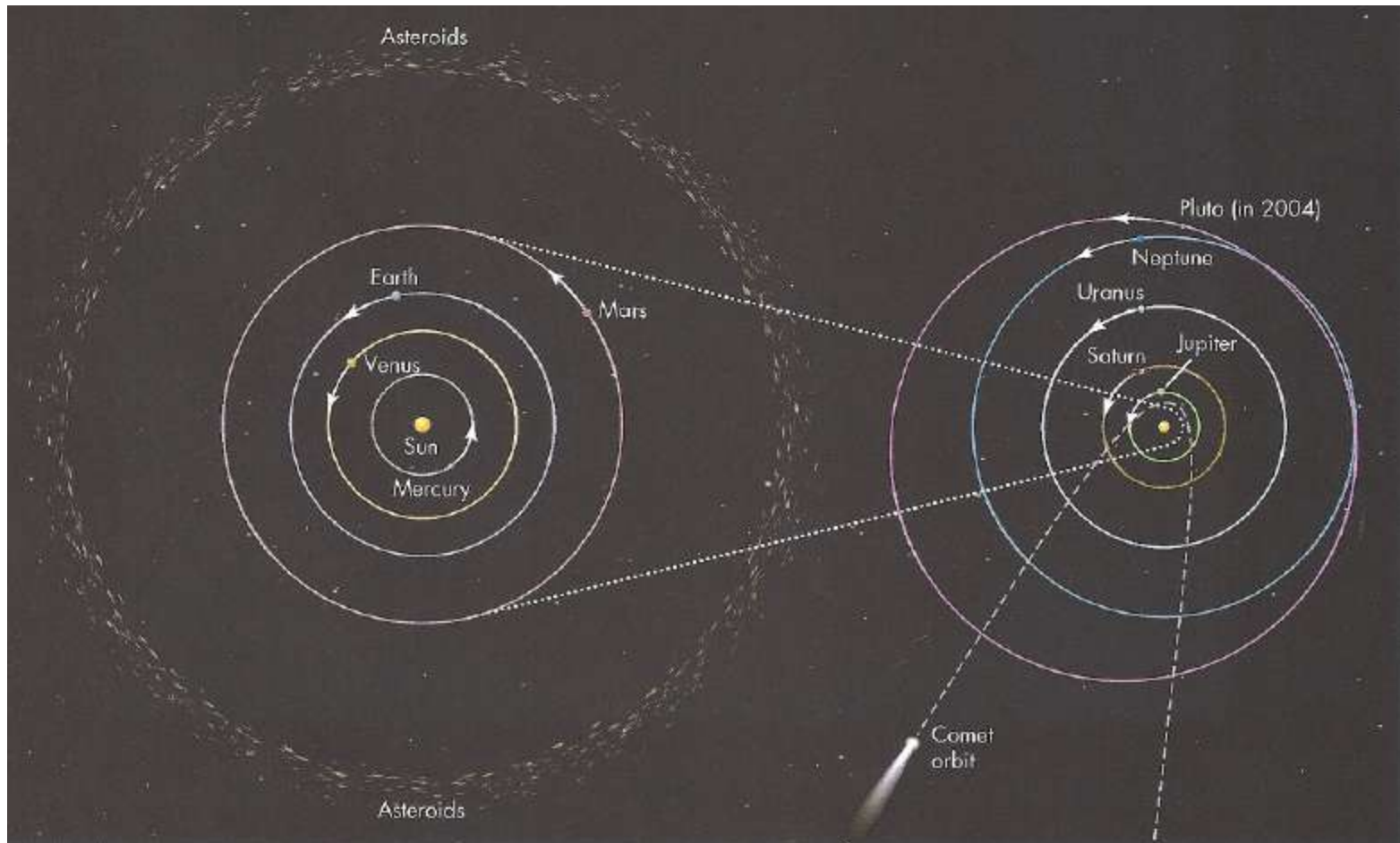
Astrology

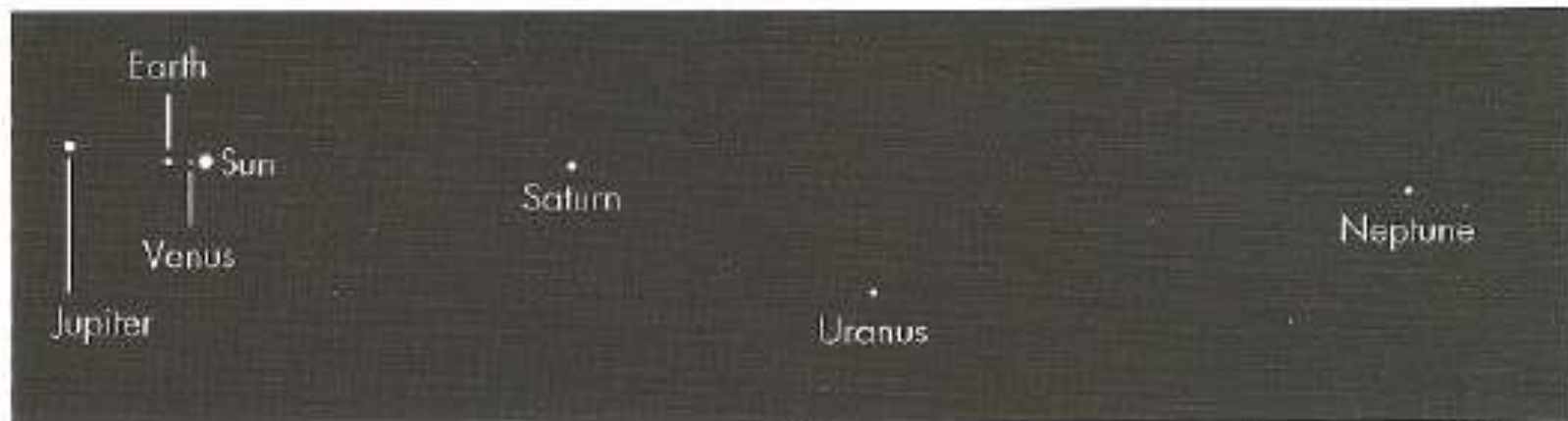
EXAM #1 Review PPT

D. Taylor © 2011

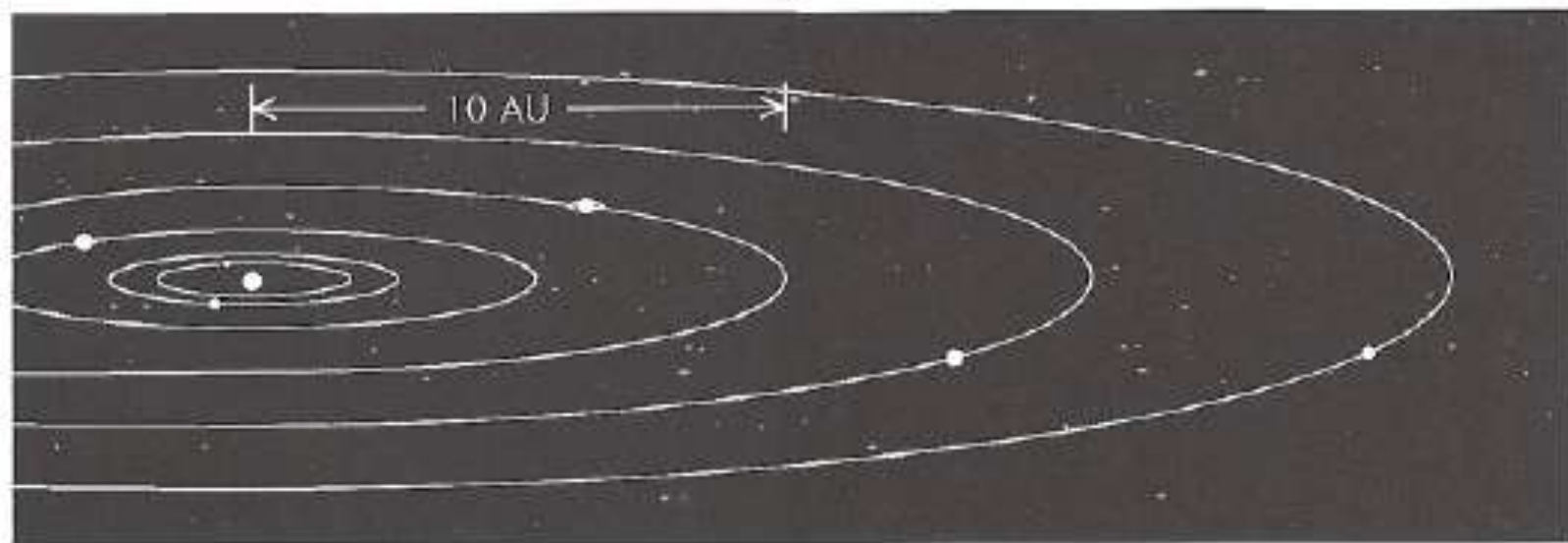
Preview Chapter

- Sense of Scale





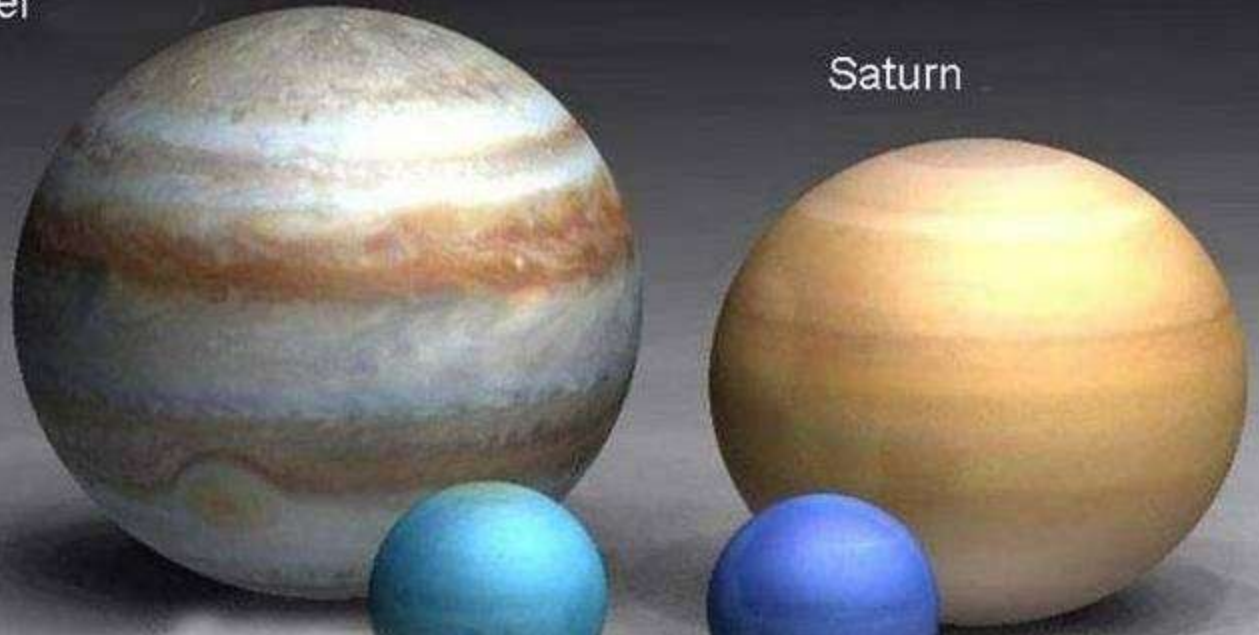
A



B

Jupiter

Saturn



Uranus

Neptune



Earth

Pluto



Earth



Mars

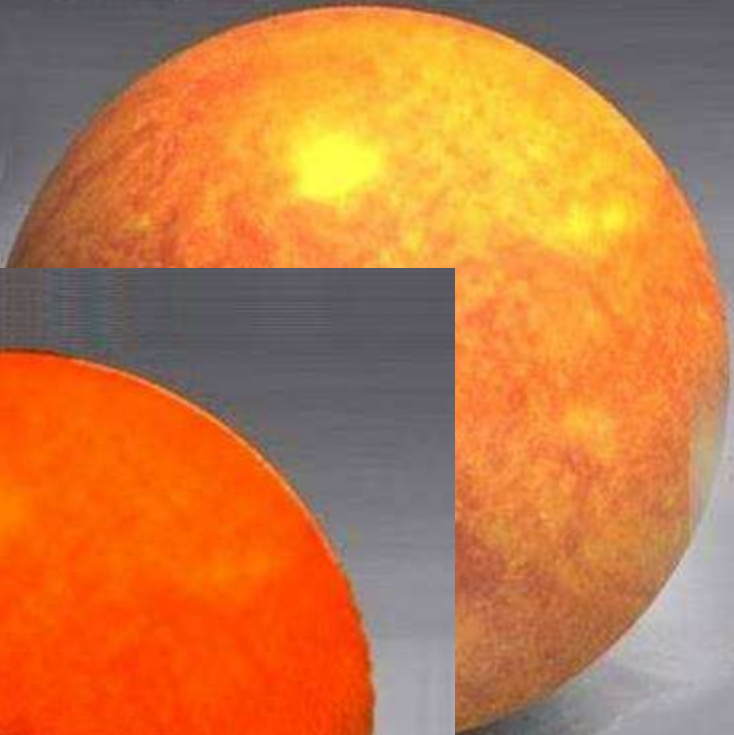


Mercury



Pluto





Betelgeuse

Antares



Rigel

Aldebaran

Sun (1 pixel)

Sirius Pollux

Arcturus

Jupiter is invisible at this scale

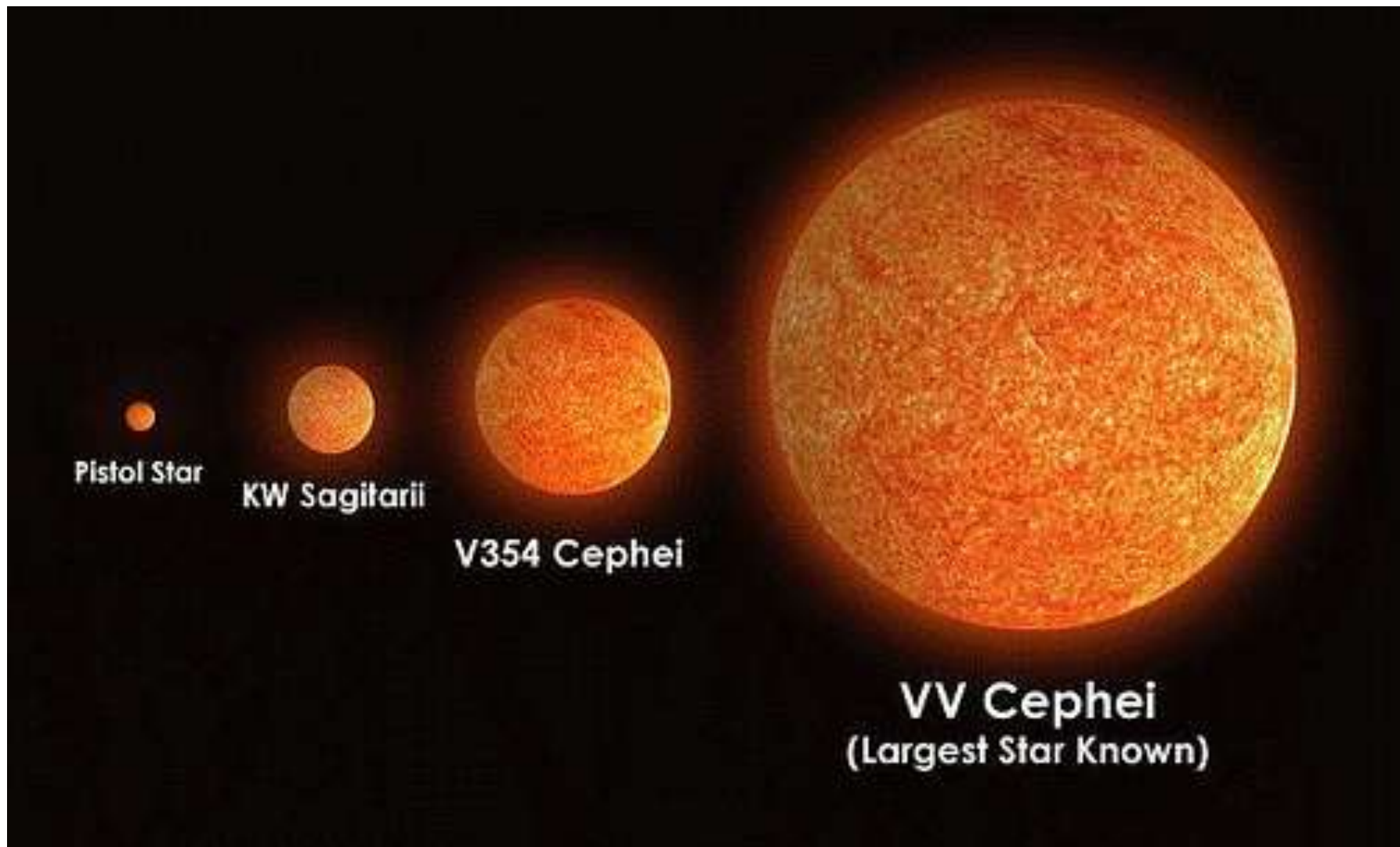




Antares



Pistol Star

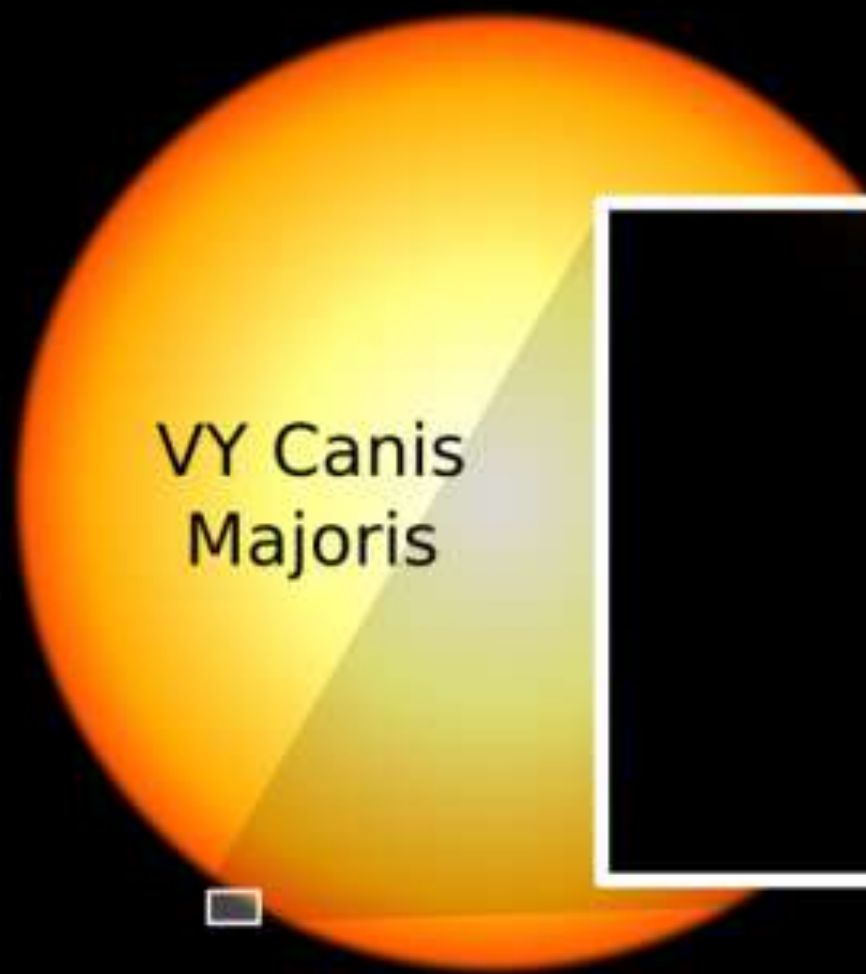


Pistol Star

KW Sagittarii

V354 Cephei

VV Cephei
(Largest Star Known)



VY Canis
Majoris

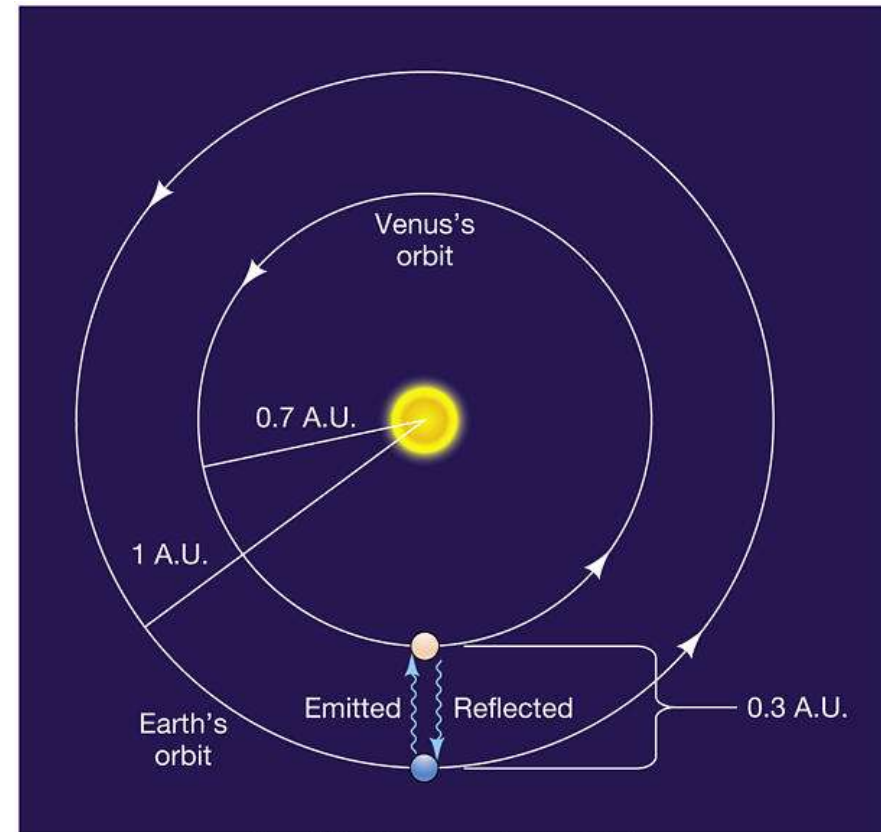


•
Sun

Scale of the Universe???

Preview Chapter

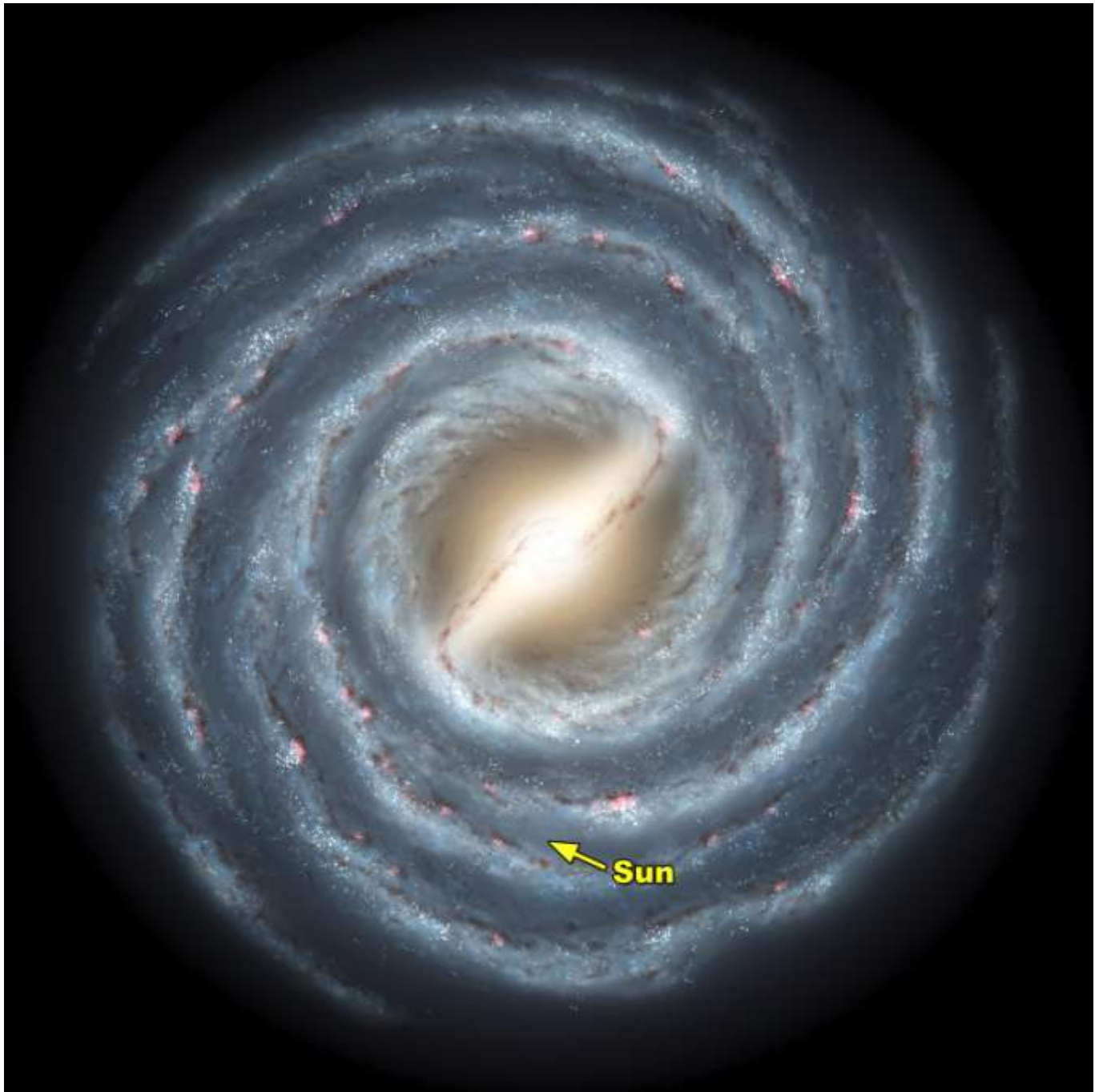
- Astronomical Unit
 - Distance between Sun and Earth
 - Earth orbit radius
 - 93,000,000 miles
 - 1.5×10^{11} meters



Preview Chapter

- Milky Way





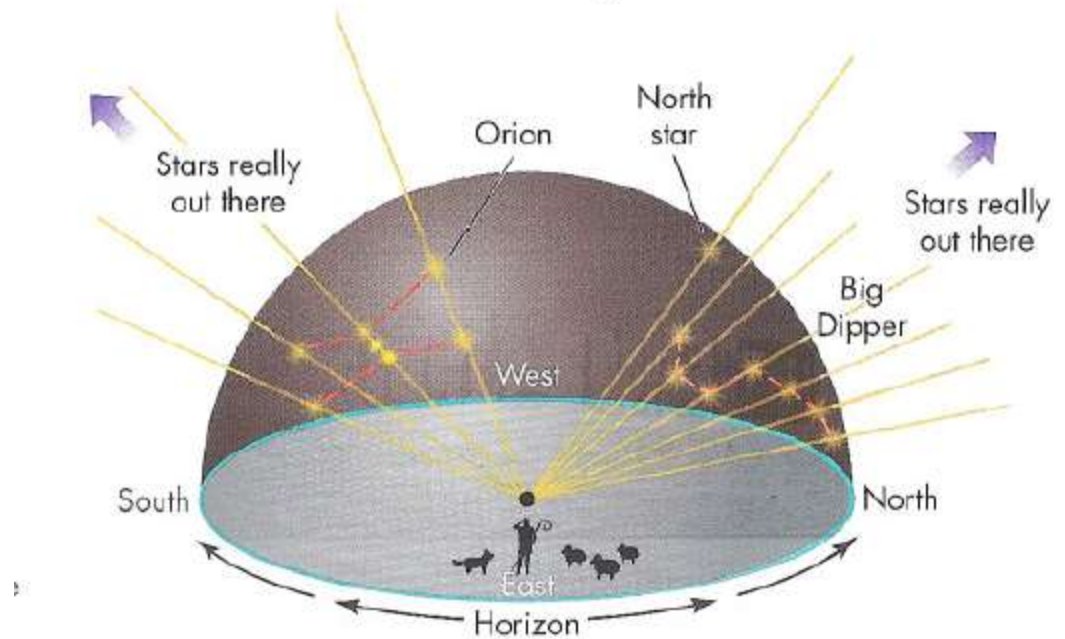


Preview Chapter

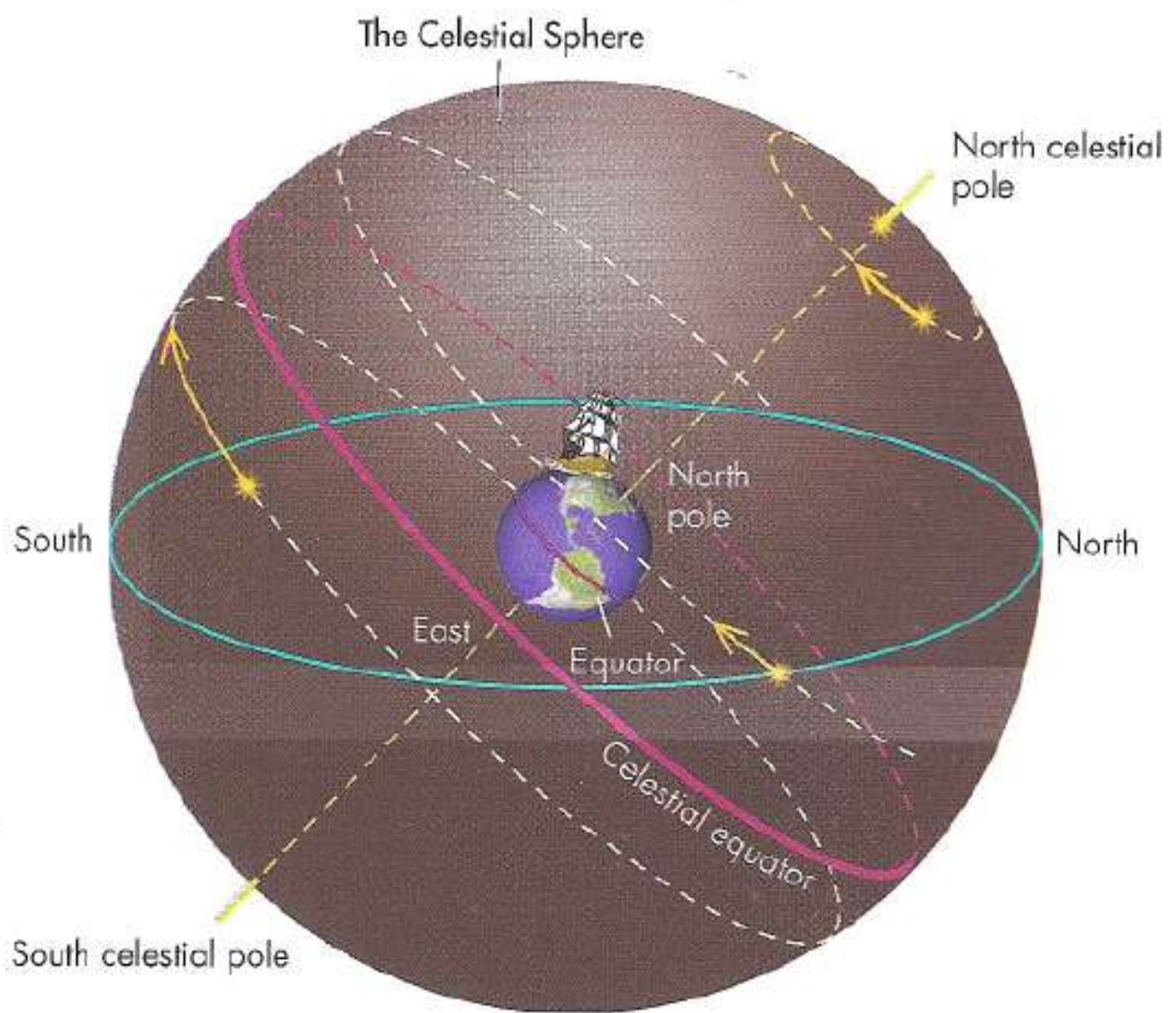
- Light Year
 - DISTANCE light travels in space in a full year
 - ~ 6 TRILLION miles
 - Light takes $8 \frac{1}{3}$ minutes to get here from the sun!

Chapter 1

- Celestial Sphere



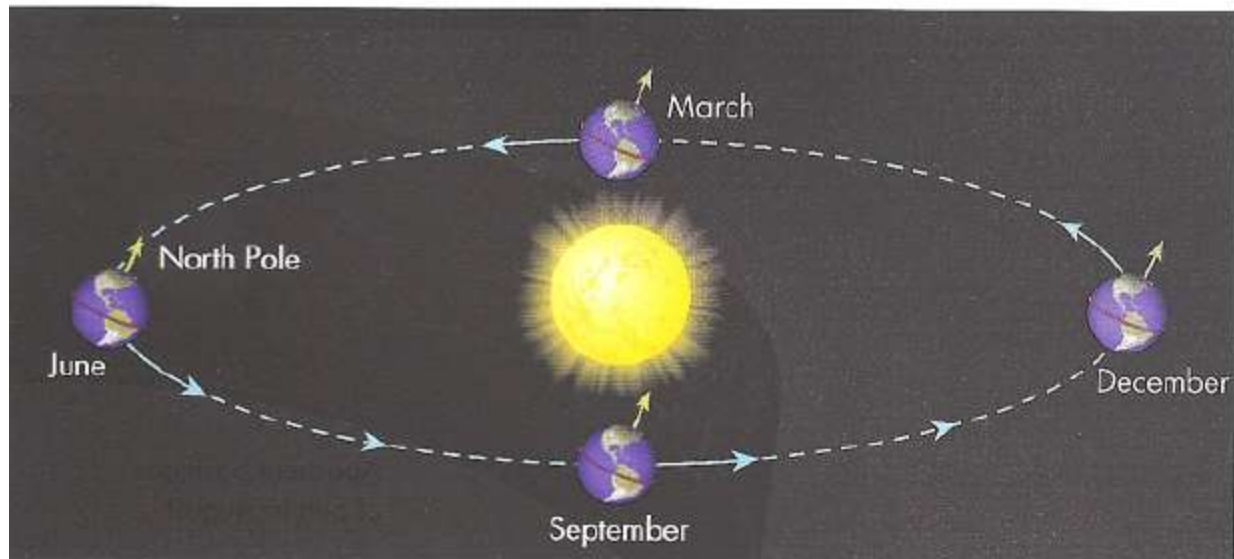
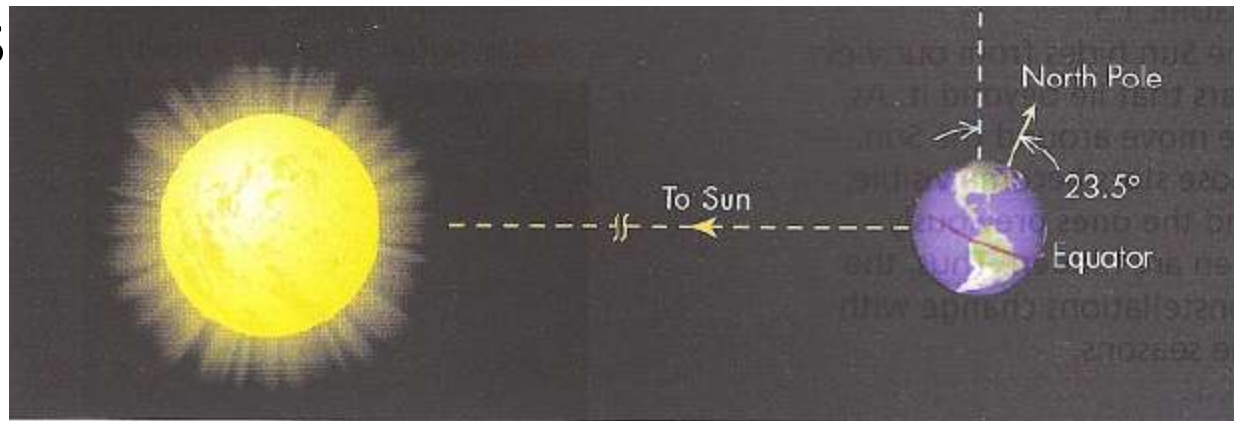
Our Experience of the Celestial Sphere.

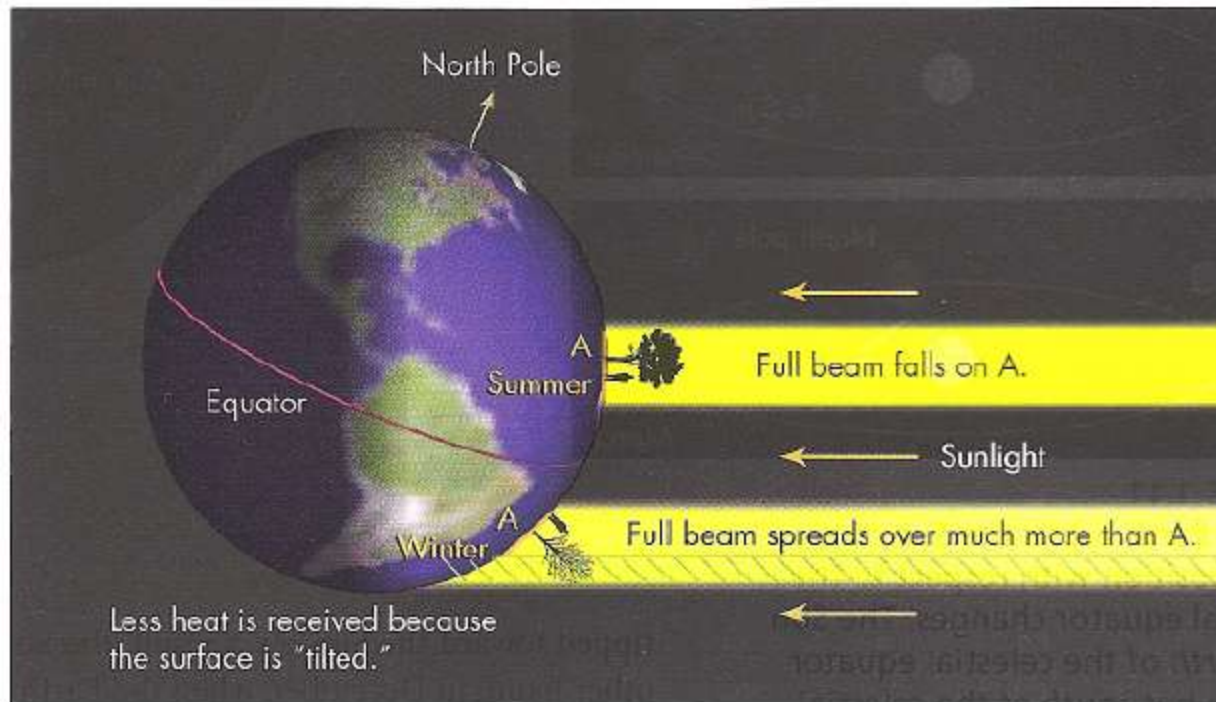
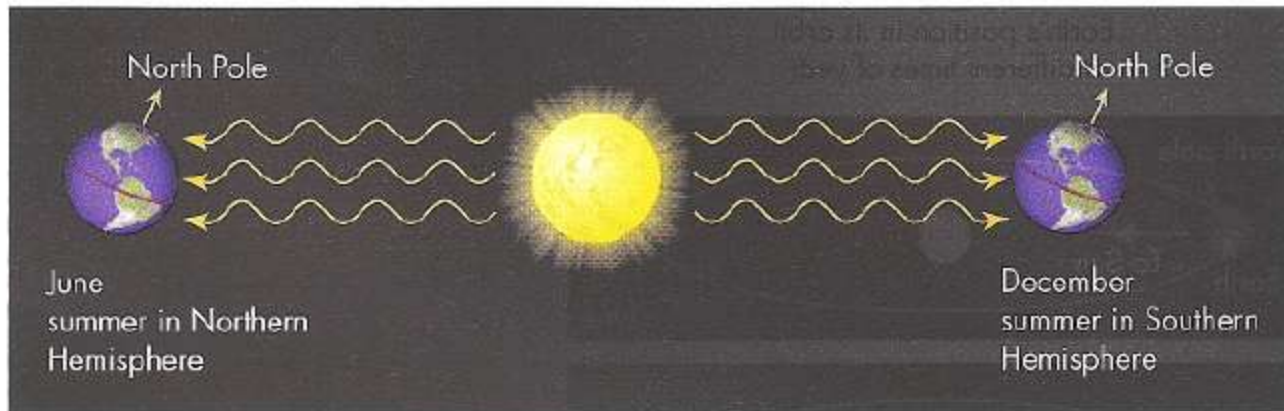




Chapter 1

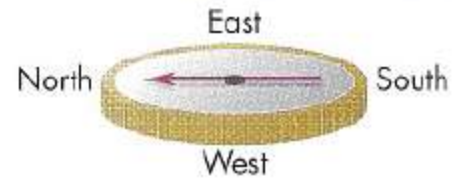
- Earth Seasons





Chapter 1

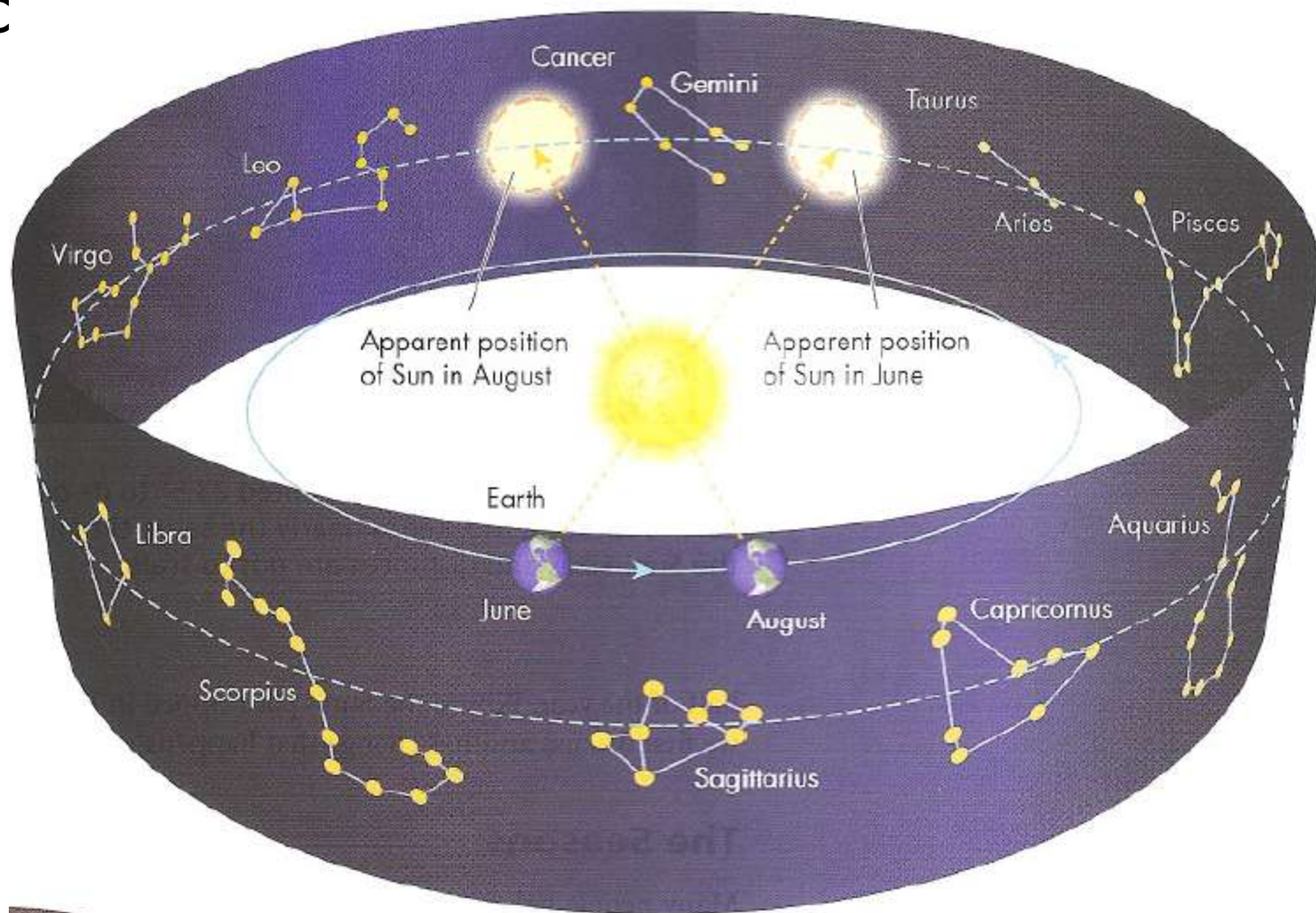
- Solstice & Equinox

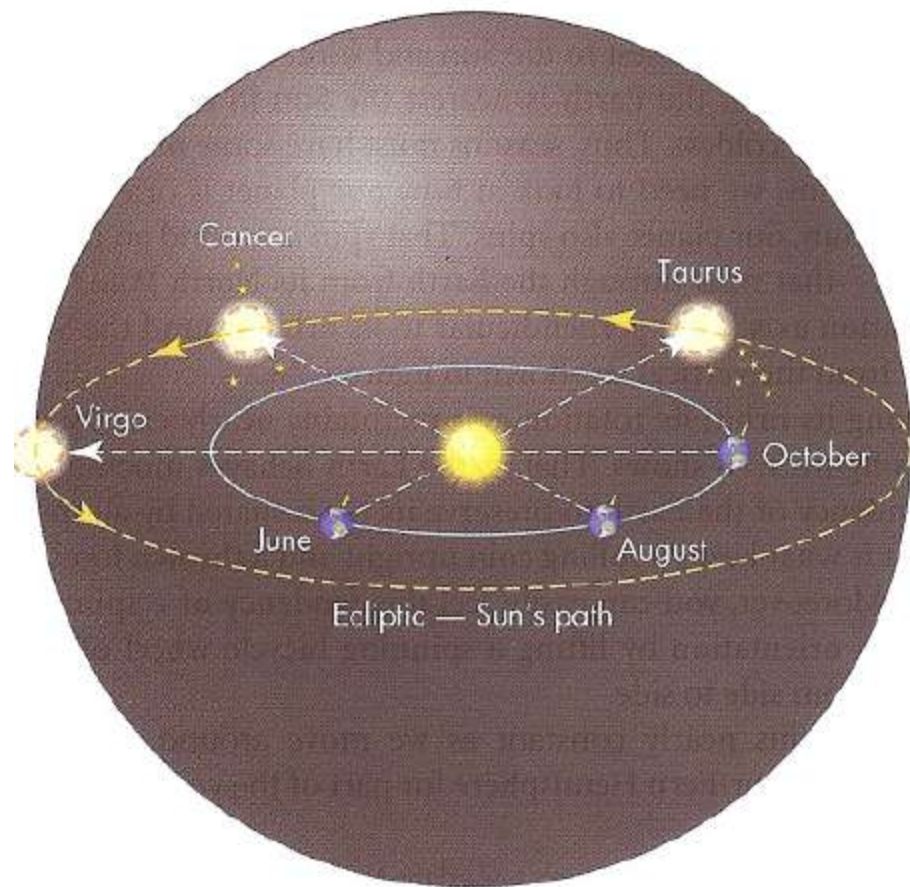


A

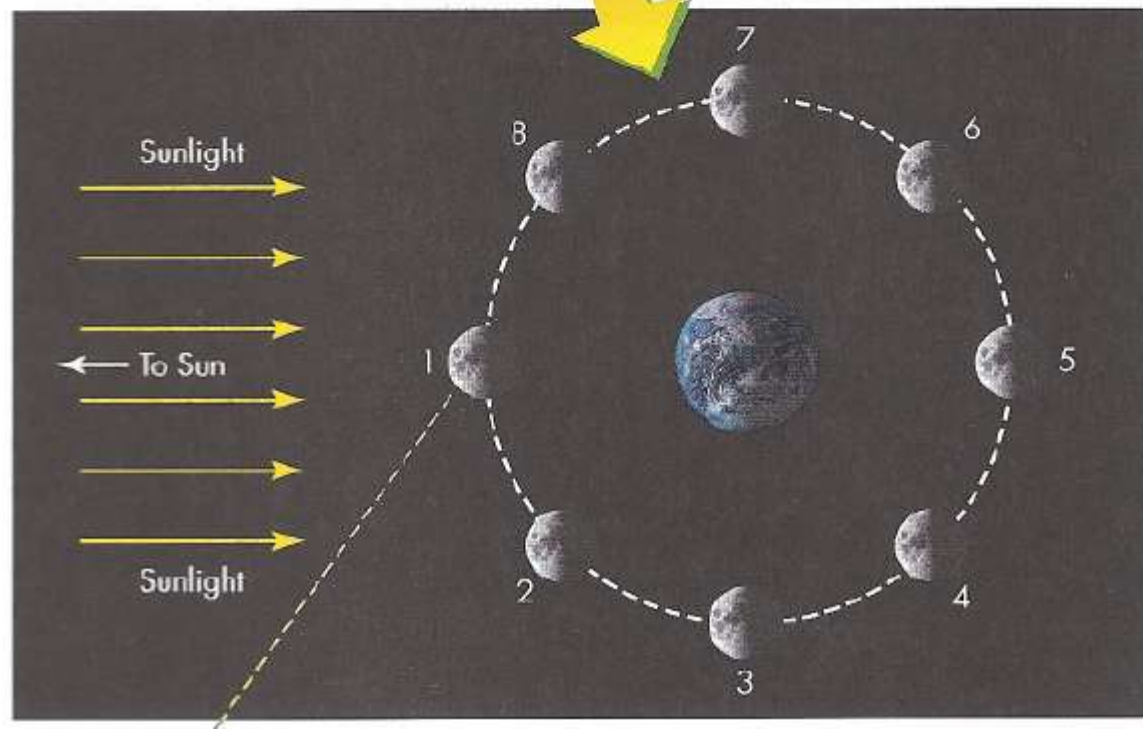
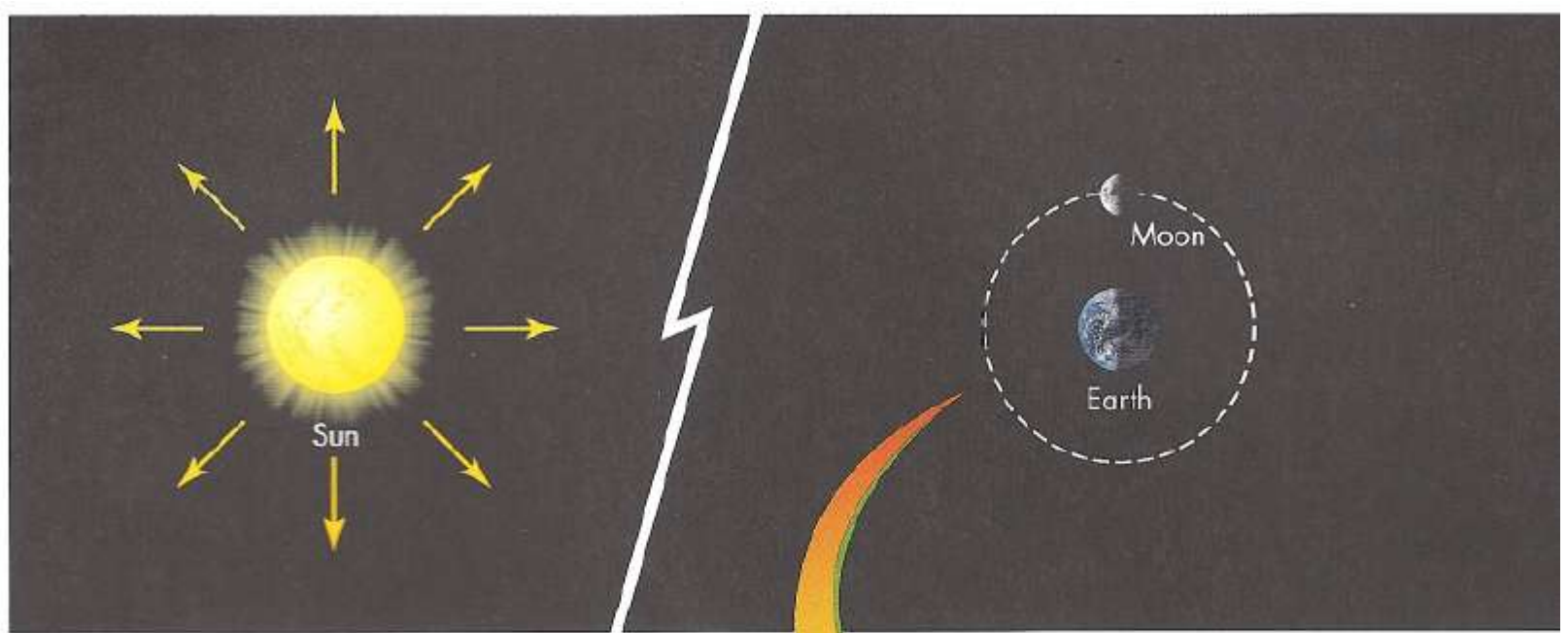
Chapter 1

- Zodiac



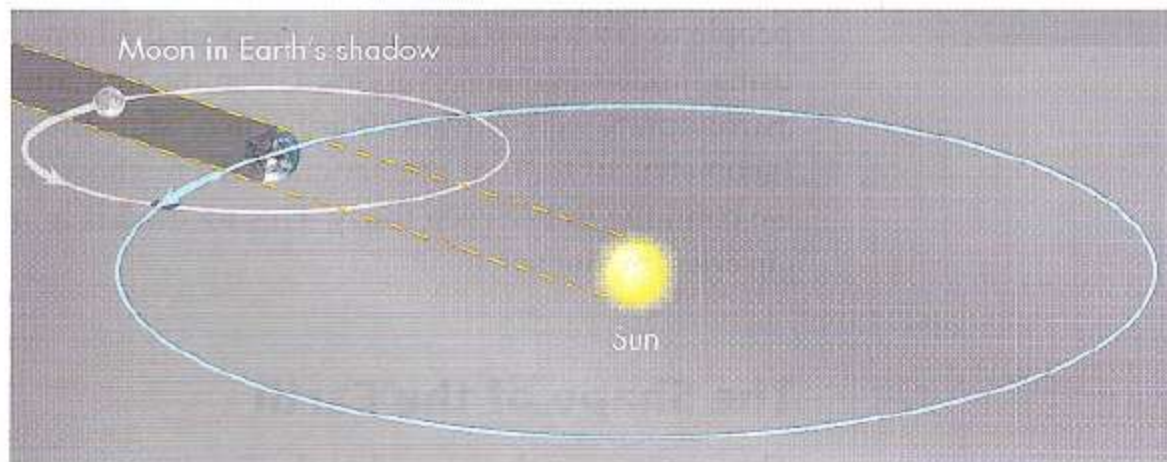
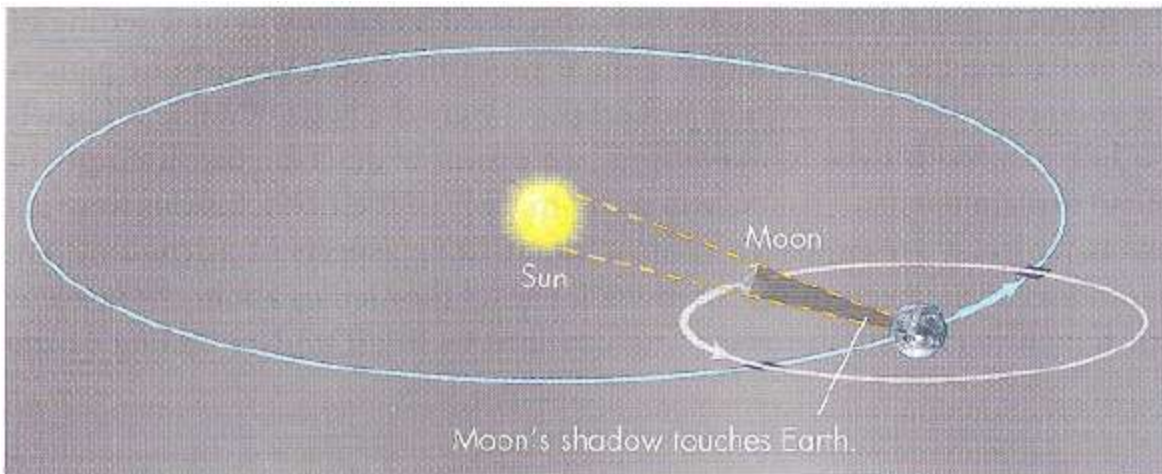


• M



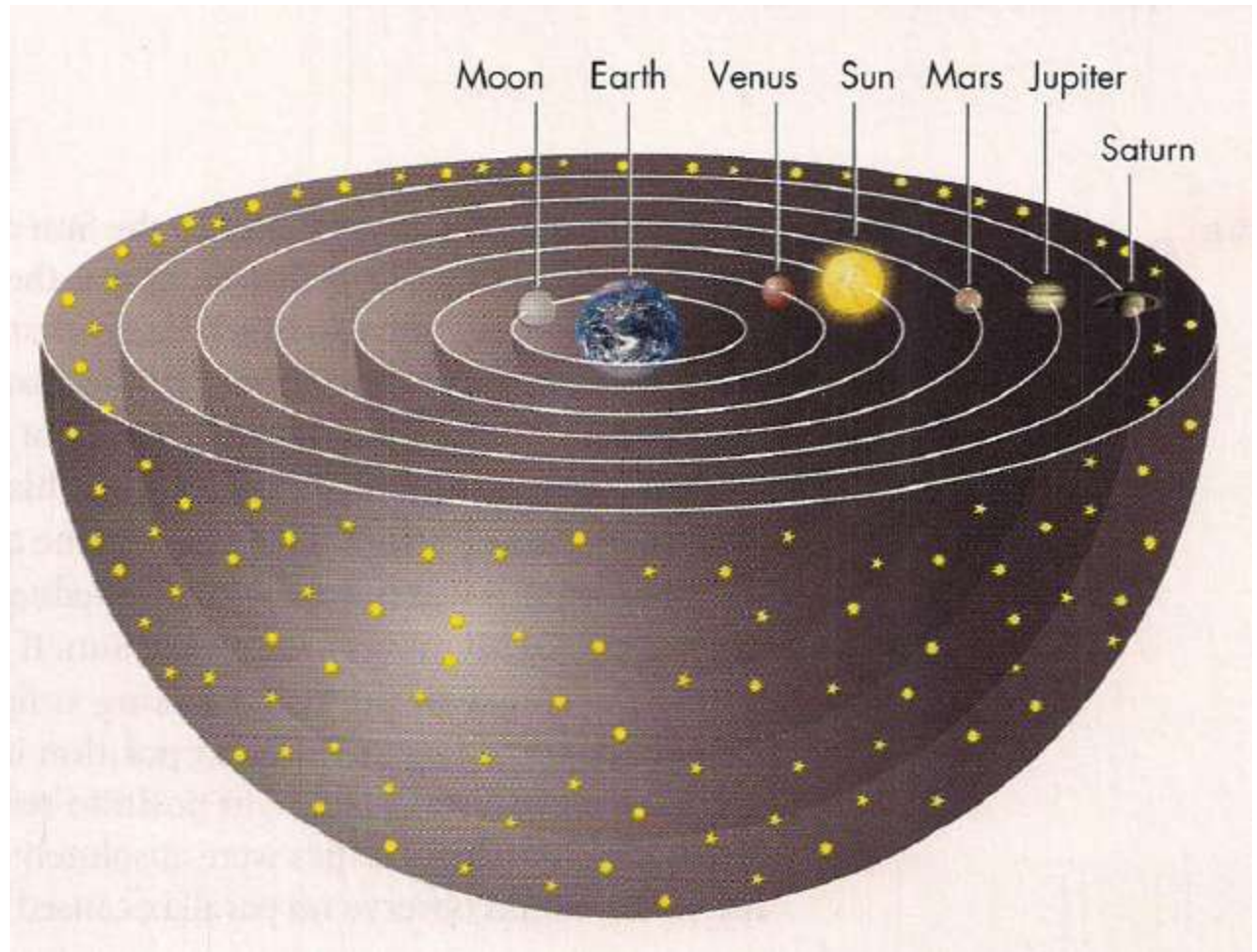
Chapter 1

- Eclipses



Chapter 1

- Ptolemy



Chapter 1

- Copernicus

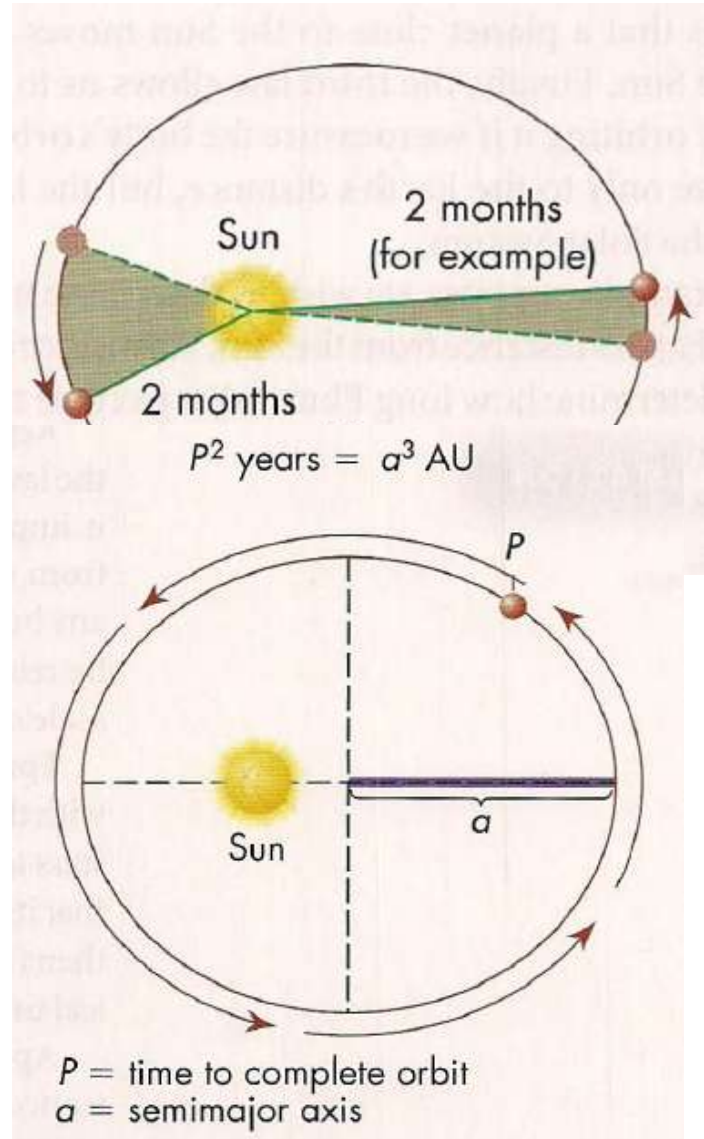
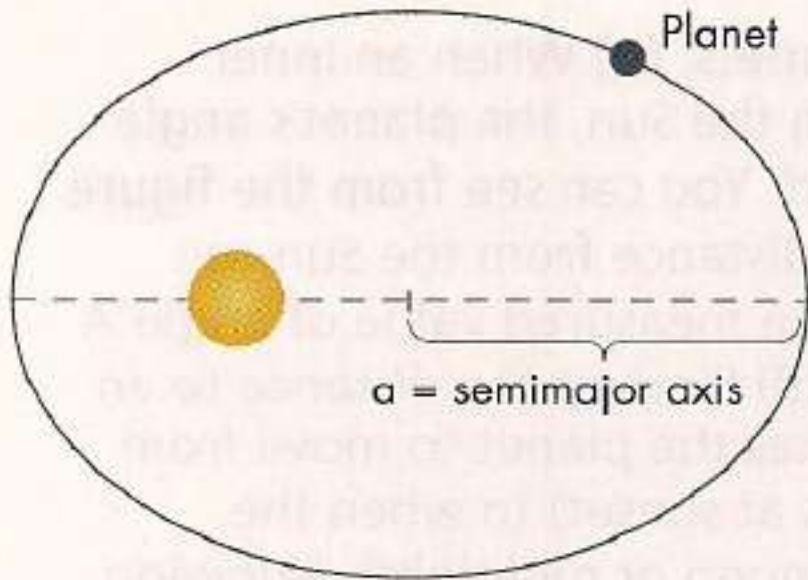
TABLE 1.1

Planetary Distances According to Copernicus

Planet	Distance in AU According to Copernicus	Actual Distance
Mercury	0.38	0.39
Venus	0.72	0.72
Earth	1.00	1.00
Mars	1.52	1.52
Jupiter	5.22	5.20
Saturn	9.17	9.54

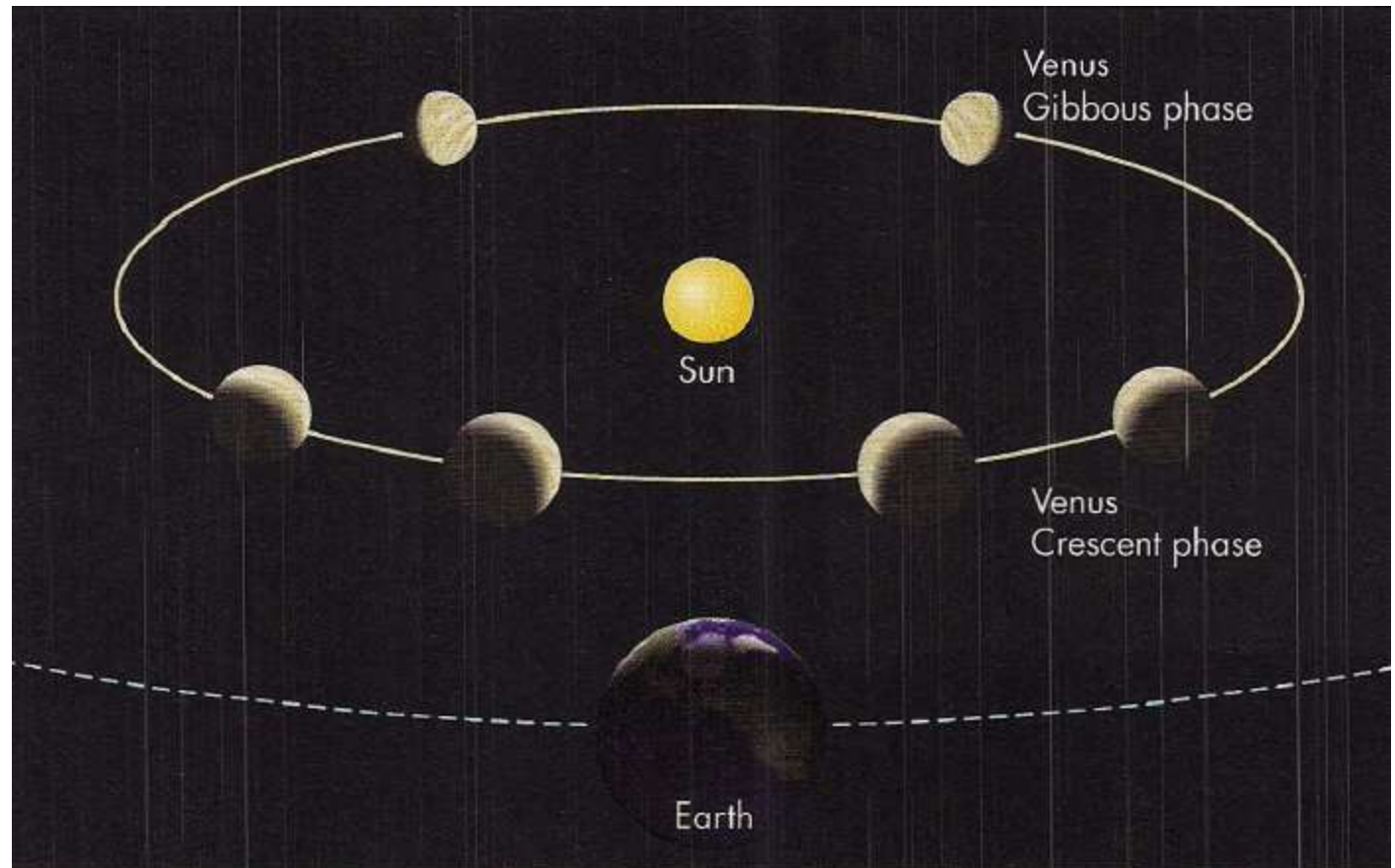
Chapter 1

- Tycho & Kepler



Chapter 1

- Galileo

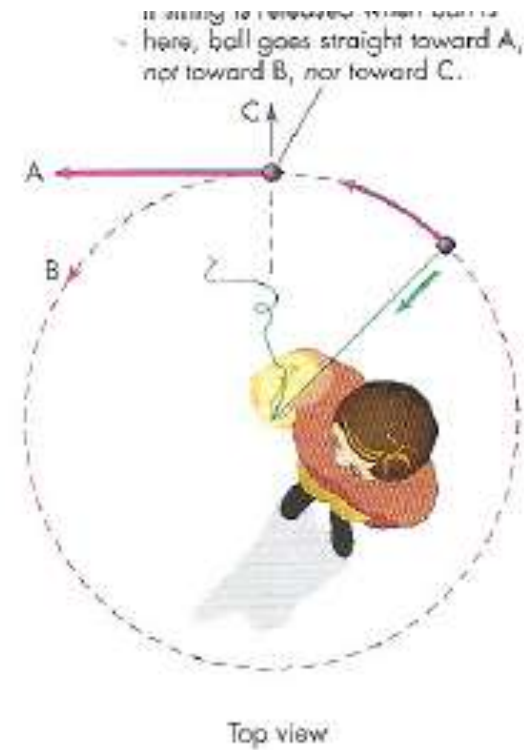


Chapter 1

- Newton
 - Birth of physics and astrophysics

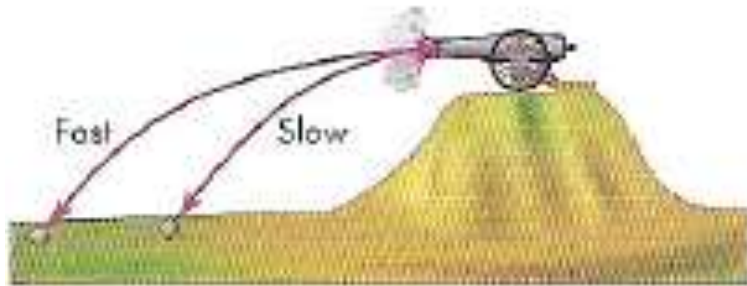
Chapter 2

- NL1



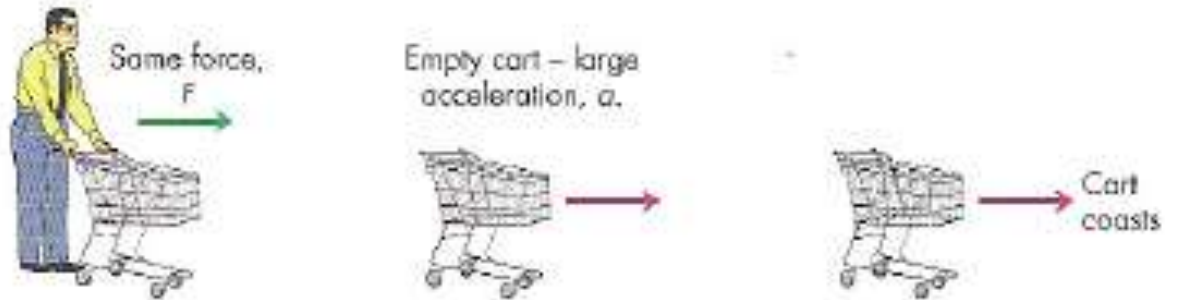
Chapter 2

- Orbital Motion & Gravity?



Chapter 2

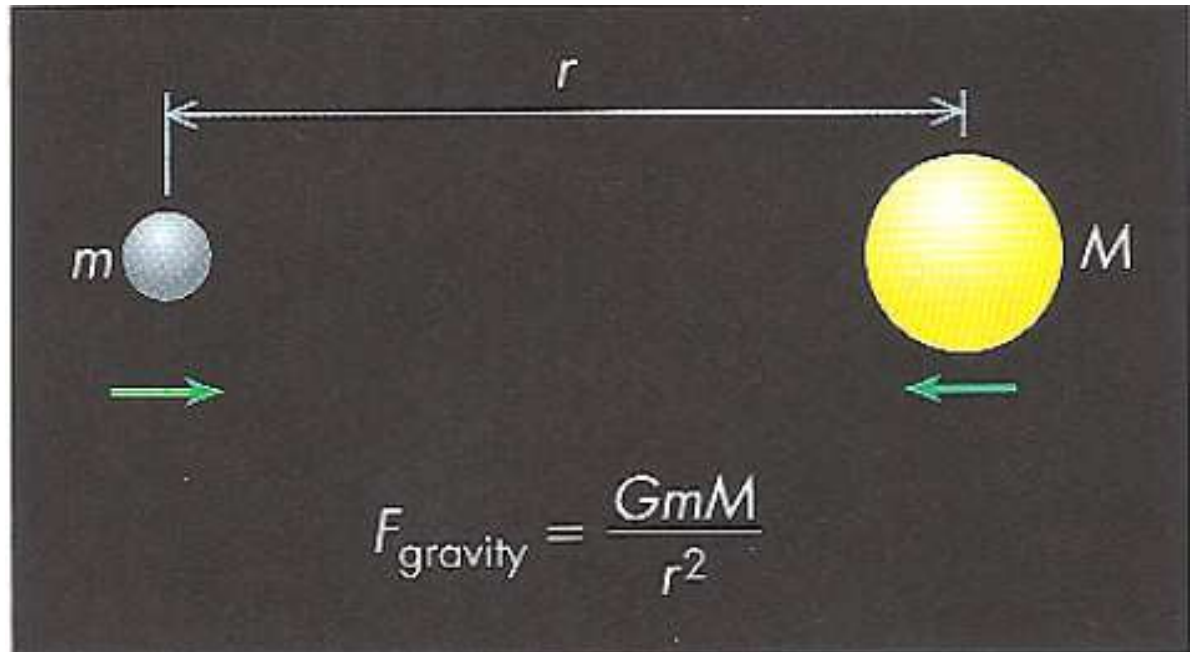
- NL2



Chapter 2

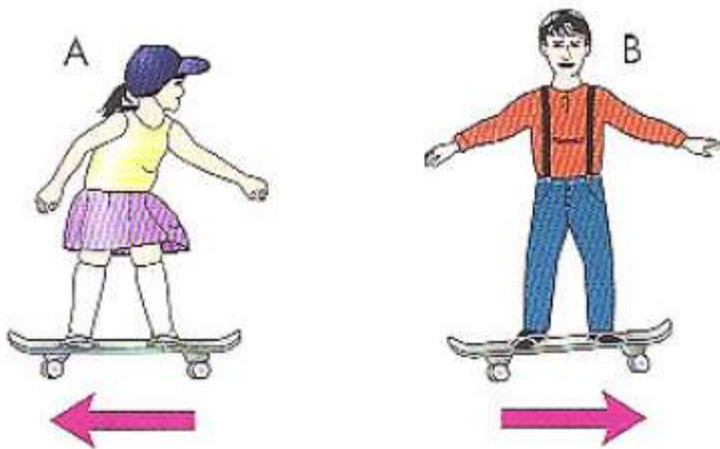
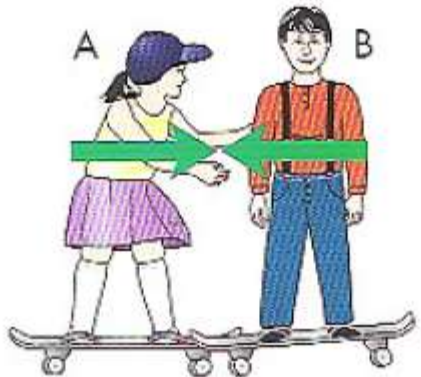
- LUG

$$F_G = G \frac{M_1 M_2}{d^2}$$



Chapter 2

- NL3



Chapter 2

- Ta Da!!!