Planets & The Origin of Science

Reading: Chapter 2

• Required: Guided Discovery (p. 44-47)
  Required: Astro. Toolbox 2-1
  Optional: Astro. Toolbox 2-2, 2-3

Next Homework Due. Sept. 26

Office Hours: Monday, Tues. 3-4
**Extra Credit**

1. **Sat. Sept. 15 @ Mt. Tam, Marin.**
   Dr. Jill Tartar will give a talk on:
   “Searching for Aliens, Finding Ourselves”
   https://wonderfest.org/a-cosmic-perspective-sep-15/

2. **SF State Observatory**
   Open Mon, Wed & Thurs at 7:15 PM
   http://www.physics.sfsu.edu/astronomy/observatory/

3. **Observe the Moon yourself...starting tonight!**
In Class Voting Sheet
Print out from: physics.sfsu.edu/~chris/astro115

Bring your voting sheet to EVERY class.

Its mandatory... and fun!
Test Question:

What’s your favorite class?

A. Astronomy
A. Astronomy
A. Astronomy
A. Astronomy
True or False?

The Earth’s shadow is responsible for phases of the Moon.

A. True  
B. False
Question:

Over the course of a year, how does the Sun’s position appear to change?

A. The sun appears in front of every one of the constellations
B. The sun appears in front of just 13 of the constellations
C. The sun appears to tilt
D. The sun appears to shrink significantly.
The Moon is rising in this photo. What time of day is it?

A. Sunrise  
B. Sunset  
C. Noon  
D. Midnight
This photo was taken just before Sunrise. The Moon is on the EASTERN Horizon. What phase is the Moon in?

A. Full Moon
B. First Quarter
C. Crescent
D. Gibbous
Chapter 2
The Motion of the Planets

- What paths do the planets take through space?
- Why do they follow these paths?

- The human quest to answer these questions led to the birth of modern science
Science & Theories

Science does not provide “absolute truth”; it is not always right.

But it is very reliable. How reliable is a Scientific theory?

Would you bet your life on a theory?
Too late...You already have....and wisely.

(eg. Aerodynamics tells us how airplanes work; Electromagnetism allows us to build traffic lights)

A theory has been tested over and over & always passed the test.

Nevertheless, theories that have been used for many years are sometimes refined or abandoned if disproven.

So, science is self-correcting.

How did humans develop this reliable way to understand the world?
Planets: Wanderers in The Sky

- Ancient peoples noticed that five “stars” seemed to move...
- They called them **Planets** which means “wanderers”.

- Every ancient culture was aware of these 5 planets.
- Words for the days of the week derive from the 5 visible planets: Mercury, Venus, Mars, Jupiter, and Saturn.