

Understanding the Universe – Outline Notes

Our Solar system

- A. Why do the planets revolve around the Sun?
- Gravity –
 - Everything with
 - Our mass is very small, so
 - Why does the Sun exert such a large force of gravity?
- B. The Milky Way
- The Milky Way is
 - It contains
 - The next galaxy
 - How many galaxies are there?

Distances in Space

- A. Light Year
- A light year is
 - Astronomers use
 - What is a light year?
- B. How long does it take light to get from the Sun to Earth?
- A light beam needs
 - Traveling at that speed,
 - What is the interesting side effect of using light as a distance measurement?

- How far is it to our nearest galactic neighbor?

C. Astronomical Units

- The distance of
- Distances within
- A light year =
- The sun is how far from earth?
- Why is Earth AU = 1?

Origin of the Universe

A. Scientific Theories about the Beginning

- Astronomers
- Big Bang theory is a combination of what two major ideas?
- How is this measured?

B. Big Bang Theory

- Question scientists were trying to answer:
- What did the universe “spring from”?
- Second question that was proposed:

C. The growing universe

- What is the expansion of the universe called?
- Who named the Big Bang Theory?
- Was there actually a “big bang”?

D. Evidence collected from Hubble

- By witnessing bursts of
- By knowing stars brightness, what can they then determine?
- How old is the universe?