

PHYS 122: Life in the Universe
Class Session 2, January 6, 2011

LEARNING OBJECTIVES

- 1) List three unique characteristics in the early Greek philosophy that differed from earlier cultures and paved the way for modern science methods.
- 2) Provide three characteristic examples of the differences between the methods of science and pseudo (non-)science.
- 3) Explain the difference between a scientific theory and the “popular” usage of the term theory. Give two examples of a scientific theory.

Required Textbook readings for class: 16 – 20, 33 – 38, inclusive

Relevant questions to guide your reading, class preparation and for pre-class quiz (if you can answer these, you will do fine on the quiz):

1. Explain the role astronomy had on peoples of ancient cultures.
2. In what ways were the Greek philosophies about interpreting nature like modern science?
3. List the three hallmarks of Science.
4. Why is simplicity in models important? What is Occam’s Razor?
5. What are some characteristics indicating something may be pseudoscience?
6. When scientists realized Newton’s theory for gravity began to have ‘problems’, did it mean it was wrong?
7. What are the characteristics of a scientific theory?