

LEARNING OBJECTIVES

- 1) Compare and contrast Dark MATTER with Dark ENERGY (how are they similar, how are they different). Describe the scientific evidence (observations for each) that suggests their existence.
- 2) Label and describe the four stages of solar system formation, as outlined in the current scientific theory called 'nebular theory'.
- 3) Provide at least five pieces of evidence supporting the 'nebular theory' through the observed physical properties of our Solar System.

Required Textbook readings for class: 57-58 (Dark Matter, Dark Energy) 70-80 (3.3)

1. What is the observational evidence for Dark Matter? For Dark Energy?
2. What are the primary differences between terrestrial planets and Jovian planets (size, composition, location in the solar system, etc).
3. What kind of objects lay beyond Neptune? What created the Asteroid Belt?
4. Label and describe the four phases of the nebular theory for planet formation (p. 79).
5. How does condensation temperature explain the varying composition of the 'seeds' leading to planetesimal formation.
6. Provide several examples in the Solar System (composition, dynamics, etc) which support the nebular theory for its formation.

Additional items which may prove useful for class work:

<http://www.youtube.com/watch?v=tFLOsRSuW0E&feature=related>