Biology 2010  Readings and Study Questions for Lectures of March 8, 10 and 20.

READINGS
From Text (Campbell et al. Biology, 5th ed.)  Chapters 32 and 33 (pages 643-648).

STUDY QUESTIONS

1. What is meant by the phrase “Cambrian Explosion”? What absolute time interval does it represent? What do you think caused it?

2. Identify or define the following and briefly indicate the evolutionary importance of each.
   - Ediacaran fauna
   - Hox genes
   - Choanoflagellates
   - Calcareous spicules
   - Spongocoel
   - Archaeocytes

3. What features distinguish animals?

4. Distinguish Homeoboxes from Homeotic genes.

5. Explain how the animal phylogeny based on the sequences of 18S ribosomal DNA and Hox genes differs from the traditional animal phylogeny. What is the traditional phylogeny based on? What does the new phylogeny suggest about the nature of the Cambrian explosion?

6. Describe the fauna of Ediacaran period.

7. Diagram the basic body design of an asconoid sponge. Include the basic structural and cellular elements. What limits the size of these animals?

8. Explain the mechanism of induced flow in sponges.

9. Which groups of organisms were most affected by the Permian and Cretaceous extinctions. Why do mass extinctions happen?