**Study guide for arthropods and homework:**

**Part one: General characteristics**

1. Arthropods approximately compose how much of the animal kingdom?
2. Why are arthropods considered Ecdysozoans?
3. Is there a unique morphological synapomorphy for this group?
4. Describe the types of respiratory systems used by arthropods. Describe in particular the tracheal system of arthropods. What are the benefits and disadvantages of such a system?
5. Be able to describe an open circulatory system.
6. a. Be able to diagram the flow of hemolymph in the hemocoel of an insect. b. How would this diagram compare to one drawn for "circulation" in a shrimp or crayfish?
7. Give example of excretory systems used by arthropods. Are Malphigian tubes the excretory system used by all arthropods?
8. Describe the compound and simple eyes of arthropods. Be able to contrast the way arthropods and you see the world.
9. Contrast the way muscle fibers are innervated in vertebrate and arthropod systems.

10. Exoskeletons

a. Be able to list some of the **benefits** and **problems** associated with having an exoskeleton.

b. Be able to discuss how exoskeletons have favored small size in arthropods and may even impose today a limit on the size of successful arthropods. You should be able to discuss at least three separate limitations on size imposed by exoskeletons and the systems associated with them, such as tracheal respiratory systems.

11. What is a foot? How do spines and claws function to make a better “distributed” foot?