LAB #_____ Invertebrates

Lab Instructor_____ Name_____
Date _____ Period_____

Objective: To classify and identify some characteristics of invertebrates

******Use full sentences when answering all questions.******

Background

Scientists have devised a way of grouping organisms. Classification is the system that organizes life according to their structure, embryological development, and body chemistry. The science of classification is called *taxonomy*. To understand how various living things have evolved, you will observe the major structural characteristics of invertebrates. These animals may be flat or round, segmented or non-segmented, jointed or non-jointed, appendaged or non-appendaged, radially symmetrical or bilaterally symmetrical.

Pre-Lab

Read the entire lab description and appropriate text pages to answer the following questions.

1. Define the term chordate.

2. Why is having a backbone considered advantageous?

3. a. List five vertebrate animals. b. List five invertebrate animals (other than those mentioned in this lab).

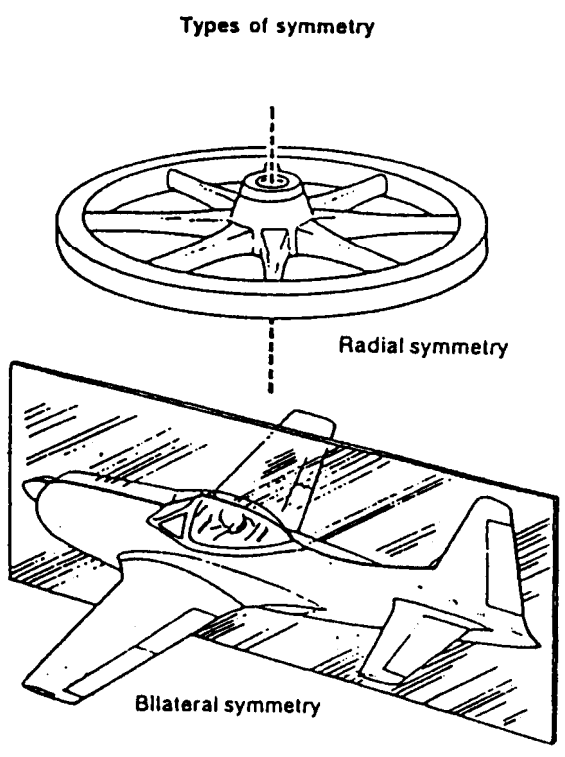
LAB

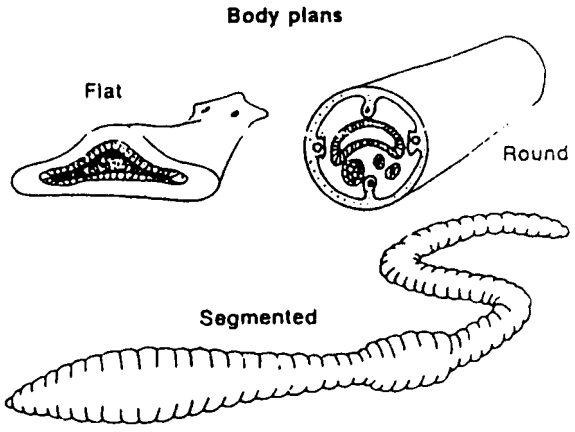
Suggested Materials

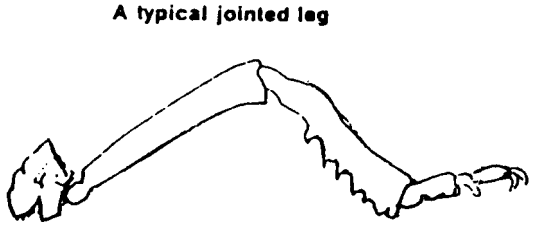
Various preserved specimens:
Annelida (earthworm), Arthropda (grasshopper), Coelenterata (jellyfish), Echinoderms (sea star), Mollusca (clam), Platyhelminthes (flatworm), Porifera (sponges)
Charts and diagrams showing structural characteristics, hand lens

Procedures and Observations

Study the diagrams below. Complete Table 1.







Name_____

Period_____

TABLE 1. General characteristics of invertebrates

Specimen name	Symmetry	Body plan	Covering[1]	Appendages[2]	Habitat
Annelida (earthworm)					
Arthropda (grasshopper)					
Coelenterata (jellyfish)					
Echinoderms (sea star)					
Mollusca (clam)					
Platyhelminthes (flatworm)					
Porifera (sponges)					

Note: [1] descriptive terms that may include: spiny, scaly, smooth

[2] either yes or no and, if yes, a brief description of the appendage(s)

Conclusions

1. Are the symmetry, body plan, covering, and appendages critical to the survival of a species? Explain.

2. Of the specimens observed, which one is the most advanced in terms of evolutionary changes? Explain.

3. What are the contributing characteristics that make the grasshopper the most advanced species among the other animals?

4. Make a general statement about organisms that dwell on land in comparison to water dwellers with respect to the following:

a. Nutrition

b. Regulation

c. Circulation

d. Respiration

e. Movement

f. Excretion