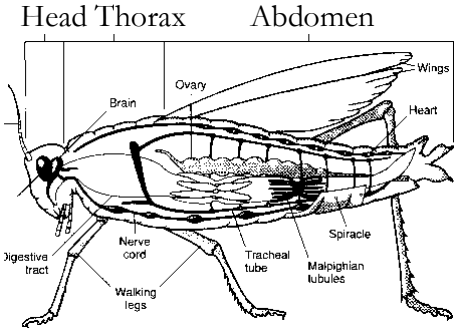
Name: _____
Date: _____

Invertebrate Review Package

28-1: Introduction to Arthropods

1. The accompanying diagram shows the internal structures of a representative arthropod, the grasshopper. Refer to the diagram to answer the questions that follow.



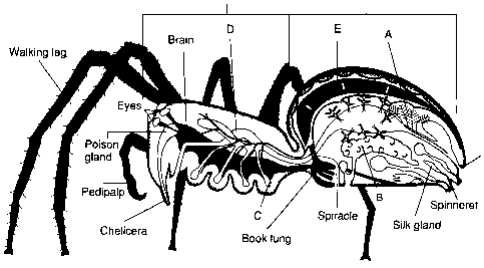
a. Which structures are found in the head of a grasshopper?
b. What structure connects the brain to the rest of the body?
c. What is the long structure that runs along the top of the abdomen? What is its function?
d. What relationship exists between a spiracle and a tracheal tube? What is the function of the tracheal tubes?
e. What is the function of the Malpighian tubules? How is their function related to their location?

28-2: Spiders and Their Relatives

1 Study the following list of animals. Identify those that are arachnids by putting an A in the blank. Identify those that are chelicerates but not arachnids by putting a C in the blank. If the animal is not a chelicerate, do not put a mark in the blank.

_____a. Horseshoe crab
_____b. Grasshopper
_____c. Red velvet mite
_____d. Wolf spider
_____e. Praying mantis
_____f. Tarantula
_____g. Trilobite
_____h. Scorpion
_____i. Tick
_____j. Centipede
_____k. Hummingbird
_____l. Chigger

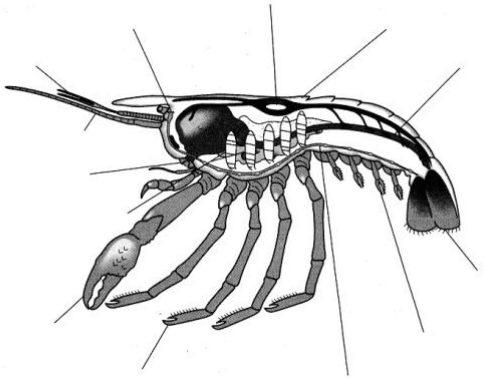
2 The internal structures of a typical spider are shown in the accompanying diagram. Use the diagram to answer the questions that follow.



a. Hw many major body parts does a spider have? What are they called? Label these body parts on the diagram.
b. Based on the diagram, what is the relationship between the poison gland and the chelicera? What would you expect the function of the chelicera to be?
c. Identify structure A and describe its function.
d. Which lettered structure is the heart?
e. What appears to be the relationship between the silk gland and the spinneret?

28-3: Crustaceans

1. Identify and label the following structures on the accompanying diagram of a crayfish: *abdomen, brain, carapace, cephalothorax, claw, first antenna, gills, heart, intestine, mandible, nerve cord, second antenna, swimmeret, tail, walking leg.*



2. Complete the table as follows: a: List each type of major appendage on a crayfish;
b: Tell whether each type of appendage is attached to the head, thorax, or abdomen;
c: Briefly describe the function of each type of appendage.

Major Appendages on a Crayfish

Appendage	Location	Function

28-4: Insects and Their Relatives

1. If the statement correctly describes insects, write "correct" in the space provided. If the statement does not correctly describe insects, write "incorrect" and explain why the statement is incorrect in the space provided.
a. The bodies of insects are characterized by two main sections and five pairs of legs.
b. Many insects undergo a developmental process called metamorphosis, which can be incomplete or complete.
c. Unlike many arthropods, insects have no mouthparts.

d. Many insects form societies in which members are dependent upon one another for survival.
e. Many insects use chemicals called pheromones to communicate with one other.
f. Insects are characterized by a long, wormlike body composed of many leg-bearing segments.
g. Almost all insects are aquatic.
h. Insects have two pairs of antennae and often have a hard exoskeleton that contains calcium.
i. Insects may communicate through "dancing."

2. On the accompanying diagram of a typical insect, label the following structures:
abdomen, antenna, compound eye, head, leg, mandibles, thorax, wings