**Features Of Arthropods** (p. 664 – 682)

**I. Jointed Appendages**

**1. Insects, scorpions, spiders, & crustaceans belong to the phylum \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**2. Define the term appendage.**

Appendage –

**3. What are jointed appendages of arthropods used to do?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4. Describe the body structure of ancient trilobites.**

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**II. Arthropod Diversity**

**1. The total number of arthropod species is greater than the sum of all other animal species.**

Circle One : True False

**2. List the three subphyla of the phylum Arthropoda.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - horseshoe crabs, spiders, scorpions, mites, & ticks

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - lobster, shrimps, crabs, crayfish, pill bugs, barnacles

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - insects, centipedes, millipedes

**III. Arthropod Body Plan**

**1.** **Circle the correct characteristics of arthropods.** *(Circle all that apply.)*

Segmentation : Present Not present

Head Region : Distinct Undistinguishable

Skeleton : Endoskeleton Exoskeleton

Respiration : Gills Modified Lungs

Circulation : Closed Circulation Open Circulation

Excretion : Nephridia Malpighian Tubules

**2. List the three main body regions of most arthropod bodies.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. Match the following terms with the correct definitions.**

1. \_\_\_\_\_\_\_\_ Cephalothorax A. Process of shedding & discarding exoskeletons.

2. \_\_\_\_\_\_\_\_ Compound Eye B. Composed of multiple units with lenses & retinas.

3. \_\_\_\_\_\_\_\_ Chitin C. Excretory units; slender, finger-like extensions.

4. \_\_\_\_\_\_\_\_ Ecdysis D. Air openings on the side of arthropods.

5. \_\_\_\_\_\_\_\_ Tracheal Tubes E. Body region with head fused with the thorax.

6. \_\_\_\_\_\_\_\_ Spiracles F. Network of branching tubes for respiration.

7. \_\_\_\_\_\_\_\_ Malpighian Tubules G. Tough, but brittle, material of exoskeletons.

**IV. Arachnid Modifications**

**1. List the four main groups of arachnids.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2. Circle the letter of each sentence that is false concerning arachnids.**

a. Arachnids include horseshoe crabs and sea spiders.

b. The body of arachnids is made up of a cephalothorax and abdomen.

c. Almost all arachnids are terrestrial carnivores.

d. Since arachnids do not have jaws, they liquefy prey tissue with enzymes.

**3. What is the function of chelicerae?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4. Define the term pedipalps.**

Pedipalps –

**5. Circle the letter of each sentence that is true about spiders.**

a. Spider chelicerae are modified into fangs.

b. Poison glands of spiders secrete toxins that liquefy prey.

c. Only the black widow and brown recluse are dangerous to humans in the United States.

d. All spiders create elaborate, beautiful webs.

**6. Define the term spinnerets.**

Spinnerets –

**V. Scorpions & Mites**

**1. Circle the letter of the sentence that is false about scorpions and mites.**

a. Scorpions have a segmented stinger-tipped abdomen.

b. The pedipalps of scorpions are grasping pincers used for defense.

c. Examples of mites are chiggers and ticks.

d. Mites are capable of passing infections when feeding or biting.

**VI. Insect Diversity**

**1. Insects mainly live in which type of habitat?**

Circle One : Freshwater Marine Terrestrial

**2. Define the term mandible.**

Mandible –

**3. Approximately, how many insect species exist on Earth? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4. Match each insect body region with the correct characteristics.**

1. \_\_\_\_\_\_\_\_ Head A. Region with mandible, compound eyes, and antennae.

2. \_\_\_\_\_\_\_\_ Thorax B. Section with three pairs of jointed walking legs & wings.

3. \_\_\_\_\_\_\_\_ Abdomen C. Region with 9 – 11 segments .

**5. Differentiate between the stages of complete and incomplete metamorphosis.**

Complete : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Incomplete : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6. How does insect flight create an evolutionary advantage?**

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**7. List the four determining factors of caste in a bee colony.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**8. Differentiate between centipedes and millipedes.**

Centipedes : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Millipedes : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**VII. Crustaceans**

**1. List four examples of crustaceans.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2. The most successful terrestrial crustaceans are isopods (pill bugs & sow bugs).**

Circle One : True False

**3. Circle the letter of the sentence that is false concerning aquatic crustaceans.**

a. Copepods are among the most abundant multicellular organisms on Earth.

b. Almost ¼ of all crustaceans are decapods (shrimps, lobsters, & crabs).

c. Forceful flexing of thorax muscles propel decapods through water.

d. Barnacles are sessile, hermaphroditic crustaceans.