

## Arthropods

### Insects, Arachnids, and Crustaceans

#### Reading and Discussion

Arthropods are animals that are a part of the **Phylum Arthropoda**, which means “jointed feet”. They are known by their jointed limbs and cuticles. An arthropod's body consists of segments, and each segment has a pair of appendages. Arthropods are **invertebrates**, which means that they do not have a backbone or spinal column. There are over one million species of arthropods. The arthropod phylum includes:

1. **insects**
2. **arachnids**
3. **crustaceans**

**Insects** are one of the most diverse groups of animals. They have segmented bodies that are supported by an **exoskeleton**. An exoskeleton is an external skeleton that protects and supports an animal's body. An insect's hard exoskeleton is primarily made up of something called **chitin**. The body of an insect is made up of three segments:

- a head
- a thorax
- an abdomen

The head supports an insect's antennae. The thorax is the segment that includes the insect's six legs. Not all insects have wings, but, if they do have wings, these wings are also located on the thorax. The abdomen section has most of the digestive, respiratory, excretory, and reproductive systems. Insects do not use lungs to breathe. Instead, they have a system of internal sacs and tubes that help to deliver oxygen directly to their body tissues.

**Arachnids** are mainly land animals, but they can also be found in freshwater environments. Most arachnids have eight legs. Their legs come in pairs. The first pair is known as the **chelicerae** and is used primarily for feeding and defense. The next pair of legs is called the **pedipalps**, which have been adapted for feeding, moving, and reproductive functions. Two of the distinguishing characteristics of arachnids are that they have no antennae and no wings. Most arachnids feed on the bodies of insects and other small animals. Many arachnids are also venomous, which means that they secrete venom from special glands in order to kill their prey or their enemies. Arachnids typically lay eggs, which hatch and the young resemble adults. There are some exceptions, like scorpions, who bear live young.

**Crustaceans** are another large group of arthropods. The scientific study of crustaceans is known as **carcinology**. Many crustaceans are familiar creatures, like **lobsters**,

Name \_\_\_\_\_

Date \_\_\_\_\_

**crabs, shrimp, crayfish, and barnacles.** Most crustaceans are aquatic, meaning that they live in watery environments. There are a few crustaceans that have adapted to life on land though, such as terrestrial hermit crabs. Most crustaceans molt. Molting takes place when a crustacean sheds its exoskeleton. Molting allows the animal to grow.

While **insects, arachnids, and crustaceans** are all parts of the same phylum, they have different characteristics. This helps us to classify new creatures when we find them, by noting how similar or how different they are to creatures that we already know.

Name \_\_\_\_\_

Date \_\_\_\_\_

## Activities

**Activity A:** Write **arachnid, insect, crustacean** next to the name of each creature:

1. Shrimp \_\_\_\_\_
2. Spider \_\_\_\_\_
3. Fly \_\_\_\_\_
4. Crab \_\_\_\_\_
5. Barnacle \_\_\_\_\_
6. Scorpion \_\_\_\_\_
7. Ant \_\_\_\_\_

**Activity B:** Fill in the blanks:

1. The first pair of legs on an arachnid is primarily used for:  
\_\_\_\_\_.
2. An \_\_\_\_\_ is an external skeleton that protects and supports an animal's body.
3. This term means that an animal does not have a backbone:  
\_\_\_\_\_.
4. The scientific study of crustaceans is called: \_\_\_\_\_.
5. Arachnids generally have \_\_\_\_\_ legs, and insects typically have \_\_\_\_\_ legs.
6. The body of an insect is made up of these three segments:  
\_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

## **Answer Key**

### **Activity A**

- |             |            |
|-------------|------------|
| 1. Shrimp   | Crustacean |
| 2. Spider   | Arachnid   |
| 3. Fly      | Insect     |
| 4. Crab     | Crustacean |
| 5. Barnacle | Crustacean |
| 6. Scorpion | Arachnid   |
| 7. Ant      | Insect     |

### **Activity B**

1. The first pair of legs on an arachnid is primarily used for: **feeding and defense**.
2. An **exoskeleton** is an external skeleton that protects and supports an animal's body.
3. This term means that an animal does not have a backbone: **invertebrate**.
4. The scientific study of crustaceans is called: **carcinology**.
5. Arachnids generally have **8** legs, and insects typically have **6** legs.
6. The body of an insect is made up of these three segments:  
**head**    **thorax**    **abdomen**