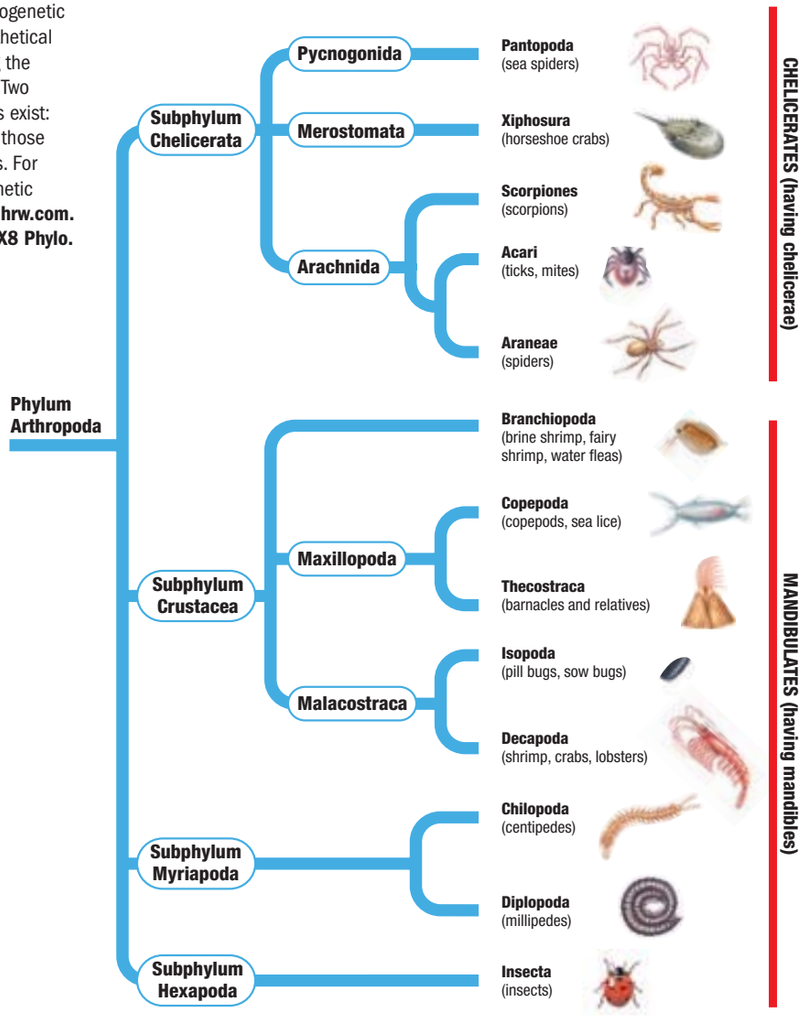
Figure 6 This phylogenetic tree illustrates hypothetical relationships among the arthropod subphyla. Two groups of arthropods exist: those with jaws and those with fangs or pincers. For updates on phylogenetic information, visit **go.hrw.com.** Enter the keyword **HX8 Phylo.**



Section 1 Review

KEY IDEAS

1. **Name** the distinguishing features of arthropods.
2. **Describe** the arthropod life cycle and the molting process.
3. **List** the four main types of arthropods.

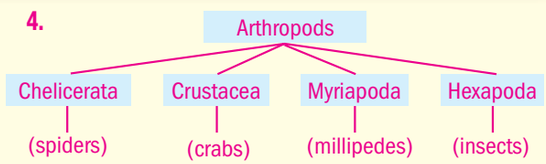
CRITICAL THINKING

4. **Relating Concepts** Draw a concept map of the four major subphyla of arthropods, and give an example of an animal in each group.
5. **Inferring Conclusions** How is the exoskeleton of a growing arthropod similar to a balloon that is inflated inside of a soft drink can? How does molting get around this limitation of the exoskeleton?

CONNECTING KEY IDEAS

6. **Arthropod Diseases** Conduct research in the library or on the Internet about diseases that are transmitted by arthropods. Develop a brochure to present your findings. Include photographs or diagrams of the arthropods and any visible symptoms of the diseases.

Answers to Section Review

1. jointed legs, segmented body, and an exoskeleton
2. As the arthropod grows and develops, its exterior exoskeleton must be shed in a process known as molting. A new exoskeleton has already formed before the old one is shed. After molting takes place, the new exoskeleton hardens.
3. The four main types of arthropods are Chelicerata, Crustacea, Myriapoda, and Hexapoda.
4. 

5. The balloon expands until it equals the volume of the rigid can. A rigid exoskeleton prevents future growth once the animal's body has expanded to that volume. The exoskeleton must be shed for growth to continue.
6. Some suggestions for diseases linked to arthropods in humans are lyme disease, from ticks, and malaria, from mosquitoes.

READING TOOLBOX

Visual Literacy Use a transparency of **Figure 6** to show students how to interpret the phylogenetic tree. Model how to interpret the diagram by reading it from left to right. For example, scorpions are in the group Arachnida, so they share some features with spiders. Students should recognize that there are differences between each group that distinguish them from one another. Ask students, "What subphyla have jaws?" (Crustacea, Myriapoda, and Hexapoda) "What subphyla have pincers?" (Chelicerata) LS **Visual, Logical**

Close

Formative Assessment

Which of the following structures takes in oxygen to deliver it to cells within an arthropod's body?

A. blood (Incorrect. Arthropods have an open circulatory system.)
B. Malpighian tubules (Incorrect. These structures are used for excretion.)
C. spiracles (Incorrect. Air merely enters the body through spiracles.)
D. tracheae (Correct. This internal network delivers oxygen.)