Your friend sees a beetle, spider or centipede moving along the ground getting closer... closer and screams, "Eeek! Look at that bug!" But what is a bug? How are beetles, spiders and centipedes alike? How are they different?

How They Are Alike

All three are arthropods. Arthropods have a hard outer skin or exoskeleton. Arthropods also have segmented bodies and jointed legs.

How They Are Different

These animals each belong to a different subgroup of arthropods. Beetles are insects. Spiders are arachnids. Centipedes are myriapods.

Insects have six legs and three body sections or segments. Their body sections are the head, the thorax (or middle section) and the abdomen. Insects also have one pair of antennae, and most have wings. In addition to beetles, insects also include butterflies, grasshoppers, ladybugs, flies, crickets, ants, bees, wasps, roaches, stink bugs, praying mantises and more. In fact, there are at least a million different kinds of insects in the world, and maybe a lot more than that. New species are still being discovered all the time. You could live to be over two thousand seven hundred years old and see a different kind of insect every day and still not see them all!

Arachnids have eight legs and two body sections or segments. Their body sections are the cephalothorax (the head and middle section joined into one) and the abdomen. Sometimes these two sections are joined so they look like only one section. Arachnids have
no antennae and no wings. In addition to spiders, arachnids also include scorpions, mites, ticks and harvestmen. What are harvestmen? Another name for the daddy longlegs. That's right, the daddy longlegs is not really a spider.

Myriapods have more than eight legs and more than three body sections or segments. They also have one pair of antennae and no wings. The most well known myriapods are centipedes and millipedes. Centipedes have one pair of legs per body section and millipedes have two. Most myriapods have anywhere from 20 to 400 legs. And one rare species of millipede has up to 750 legs. Good thing they don't have to wear shoes!

So the next time someone says, "Look at that bug!", see if you can tell if it's an insect, arachnid or myriapod.

**About the Author**

Guy Belleranti works as a docent at Reid Park Zoo in Tucson, Arizona. The information in this article comes mainly from his experiences working with animals and teaching others.
1. What do arachnids, insects, and myriapods have in common?
   a. They are all six-legged animals.
   b. They all have jointed legs.
   c. They are all types of spiders.
   d. They all have antennae.

2. Tell whether each bug is an arachnid, insect, or myriapod. Write A, I, or M on each line.
   ant - ____________ scorpion - ____________ centipede - ____________
   tick - ____________ mite - ____________ fly - ____________

3. According to the article, how are millipedes and centipedes different?
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

4. The author says that one rare species of millipede has up to 750 legs. Which sentence below says the same thing?
   a. One rare species of millipede has up to 325 pairs of legs.
   b. One rare species of millipede has up to 375 pairs of legs.
   c. One rare species of millipede has up to 425 pairs of legs.
   d. One rare species of millipede has up to 475 pairs of legs.

5. What is an exoskeleton?
   ___________________________________________________________________
Match each vocabulary word from the article with the correct definition.

<p>| | | |</p>
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<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>segments</td>
<td>a. able to be bent; able to be moved at a joint</td>
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<tr>
<td>2</td>
<td>antennae</td>
<td>b. ten hundreds</td>
</tr>
<tr>
<td>3</td>
<td>abdomen</td>
<td>c. ten thousand hundreds</td>
</tr>
<tr>
<td>4</td>
<td>thorax</td>
<td>d. body sections</td>
</tr>
<tr>
<td>5</td>
<td>cephalothorax</td>
<td>e. back body section of an insect or arachnid</td>
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<tr>
<td>6</td>
<td>thousand</td>
<td>f. middle body section of an insect</td>
</tr>
<tr>
<td>7</td>
<td>million</td>
<td>g. front body section of an arachnid</td>
</tr>
<tr>
<td>8</td>
<td>jointed</td>
<td>h. long, thin body parts on the heads of some bugs</td>
</tr>
</tbody>
</table>

◆ **Now try this:** On a sheet of lined paper, use each vocabulary word from above in a sentence.
In the article, “Going Buggy” you learned about insects, arachnids, and myriapods.

Think of a species of bug that you have seen before. Draw a picture of it. Then, tell whether it is an insect, arachnid, or myriapod. Tell how you know.
1. What do arachnids, insects, and myriapods have in common?  
   a. They are all six-legged animals.  
   b. **They all have jointed legs.**  
   c. They are all types of spiders.  
   d. They all have antennae.

2. Tell whether each bug is an arachnid, insect, or myriapod. Write A, I, or M on each line.
   - ant - I  
   - scorpion - A  
   - centipede - M  
   - tick - A  
   - mite - A  
   - fly - I

3. According to the article, how are millipedes and centipedes different?
   
   **Centipedes have one pair of legs per body section. Millipedes have two pair of legs per body section.**

4. The author says that one rare species of millipede has up to 750 legs. Which sentence below says the same thing?  
   a. One rare species of millipede has up to 325 pairs of legs.  
   b. **One rare species of millipede has up to 375 pairs of legs.**  
   c. One rare species of millipede has up to 425 pairs of legs.  
   d. One rare species of millipede has up to 475 pairs of legs.

5. What is an exoskeleton?  
   
   **a hard outer skin**
**ANSWER KEY**

*Going Buggy*

by Guy Belleranti

Match each vocabulary word from the article with the correct definition.

| d 1. segments | a. able to be bent; able to be moved at a joint |
| h 2. antennae | b. ten hundreds |
| e 3. abdomen  | c. ten thousand hundreds |
| f 4. thorax   | d. body sections |
| g 5. cephalothorax | e. back body section of an insect or arachnid |
| b 6. thousand | f. middle body section of an insect |
| c 7. million | g. front body section of an arachnid |
| a 8. jointed | h. long, thin body parts on the heads of some bugs |

**Now try this:** On a sheet of lined paper, use each vocabulary word from above in a sentence.