Chapter 8: Blood and Body Defenses

Throughout the chapter, refer back to the building blocks of the body by asking students questions such as *What's a molecule? What's a cell? What's an organ? What's a tissue?*

Blood
Have students create an organizational outline showing the organization of blood tissue. For example:

Blood
- Plasma (55%)
  - Water
  - Sugar, potassium, salt, hormones
- Blood cells (45%)
  - White blood cells
    - basophils, eosinophils, lymphocytes, monocytes, lymphocytes
  - Red blood cells
    - Hemoglobin (each oxygen cell has 250 million)
  - Platelets

Body Defenses
Draw a virus on one side of the board. On the other side of the board draw three long vertical lines. Label each one. The line closest to the virus is the first line of defense, the next line is the second line of defense the third line is the adaptive defenses. Tell the students that these defenses are like armies against the virus. Write down examples of defenses at each line. Then tell students how the virus gets through the first two lines, but then is destroyed by something in the third line.

Divide a paper into three parts. Label the parts: first line defenses, second line defenses, adaptive defenses. Give students a list of body defenses. Have them categorize the defenses.

Give each student a body defense. Have them all stand up and ask each other questions about their defense such as *What does this defense do exactly? Where do you find this defense?*

Have students imagine that they are a virus or bacterium which ends up traveling deep into the lungs. Have them write a story in the first person whereby they encounter a body defense, yet are able to overcome it. For example, *I am a virus. I enter the body through the nose. I easily get through the nasal hairs and am able to escape the mucus in the nose and the throat. As I enter the trachea leading to the lungs, I dodge the cilia. Those little hairs couldn't get me! Now I'm in the lungs. Oh-Oh…here comes a B-cell. He recognizes me! The helper T-cell agrees with him. The B-cell has made antibodies. I am gone!*