

Unit Four - Safe and Sound

Bacteria Activities

Select one of the following activities:

- **Charmed, I'm Sure**: Between the 1200's and 1700's, the bubonic plague regularly struck the cities of Europe and killed an estimated 20 percent of the population. Because no one knew what caused the plague – or more importantly, how to prevent or cure it – people relied on potions and magic charms. Pretend a mysterious illness has hit your school. Decide what its symptoms are, and give it a name. Then, keeping the disease's symptoms in mind, design a magic charm or potion that people can use for protection.
- **Beneficial Bacteria**: We often hear about disease-causing bacteria and their effects. Yet, a significant number of bacteria are helpful to humans and the environment. Make a display or poster about good bacteria. Collect articles and ads from newspapers or magazines. Include photos or pictures and add information about where the bacteria can be found.
- **Plan Ahead**: Most places in the world have outbreaks of bacterial illnesses. Most illnesses vary, depending on location. In recent years, cholera (*Vibrio cholerae*) has cropped up in some parts of South America and Lyme disease (*Borrelia burgdorferi*) has plagued parts of North America. Both continents have also had outbreaks of food poisoning (*Escherichia coli*). Investigate these three illnesses, and create information sheets that explain how they can be avoided.
- **I Just Can't Resist**: Most antibiotics are broad-spectrum, meaning they knock out many different types of bacteria. This also means that they can't tell good bacteria from bad. We've had antibiotic medicines for a little over half a century, but in that time some bacteria have developed resistance to just about every antibiotic invented. The overuse of antibiotics in recent years is also causing problems. Investigate antibiotic resistance, and then create a display, poster or brochure that includes recommendations for fighting this threat.
- **Lunch Time**: Outdoor meals are ideal breeding grounds for bacteria. If food is not handled carefully, food poisoning can result. Research *Escherichia coli* (*E. coli*), *Salmonella enteritidis*, and *shigella*, three types of bacteria responsible for food poisoning. Then plan a make-believe outdoor picnic when the weather is warm. What should you serve? How should the food be prepared and kept to avoid food poisoning?