



***The World of Microbes: Bacteria***

**Summary:**

Students will discover the common pathogens responsible for disease spread and methods to prevent the spread of disease caused by pathogens.

**Target Grades:**

6th – 9th

**TEKS**

Biology 11 (C) summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems;

**Learning Objectives:**

* Define Bacteria.
* Describe where bacteria lives.
* Describe how bacteria can help us.
* Describe how bacteria can harm us.
* List three methods to protect against disease-causing bacteria (pathogens).

**Background Information:**

1. Microbes
   1. Archaea
   2. Fungi
   3. Algae
   4. Protozoa
   5. Viruses
   6. Bacteria
2. Bacteria characteristics
   1. Micro-organisms (**microbes**)
   2. Single-cell
   3. Also called germs
   4. Alive
   5. Habitat
      1. Soil
      2. Skin
      3. Gut
      4. Nose
3. Washing
   * 1. Washing with soap rids us of some, but not all
4. Bacteria pros and cons
   1. Good bacteria
      1. Help digest our food
      2. Keep our defenses in good shape
   2. Bad bacteria
      1. Called **pathogens**
      2. Cause infections
      3. Can make us very ill or kill us
         1. Typhoid - *Salmonella typhi*
         2. E. Coli - Escherichia coli
         3. Cholera - *Vibrio cholerae*
         4. Tetanus - *Clostridium tetani*
         5. Tuberculosis - *Mycobacterium tuberculosis*
5. Fighting bad bacteria
6. Wash often with soap and warm water
7. Take antibiotics only if you are ill from bacterial infection
8. Get **vaccinated** for bacterial diseases

**Prior to Viewing the Video**

* Have students work in small groups to describe bacteria. They will have two minutes to create the description which might include definitions, drawings, examples, or places where bacteria are found.

**After Viewing the Video**

* Students should return to groups and correct and/or add to their descriptions (provide guidance to the groups ensuring they note that bacteria can be beneficial as well as harmful). In addition to creating more detailed descriptions of bacteria, students should also list three methods to prevent the spread of harmful bacteria.