

Lesson 2-1: Polling the students' knowledge
~20 minutes

Student Version	Teacher Discussion Notes	Materials
N/A	<p>For your own knowledge, poll the class to gauge student understanding of antibiotic resistance.</p> <ul style="list-style-type: none">• You may find that many of them don't have a comprehensive grasp of antibiotic resistance and may carry with them misconceptions. Don't worry. In the engagement step, students will have the opportunity to gain more background knowledge and to have their misconceptions addressed.• You may want to alter this quiz based on your knowledge of the class's experience with this topic and/or use this quiz again after the engagement step to assess their growth. This pre-quiz should not be counted as a grade now, but the post-quiz could be graded.	Student Poll

Antibiotic Resistance Student Poll Answer Key

1. What is a bacteria?

- a. A contagious disease that results when you don't wash your hands or when you're with someone else who is sick
- b. A protein-capsule pathogen that inserts genetic material into your cells to reproduce
- c. A variety of unicellular organisms that cover almost every surface on earth and have both positive and negative impacts on other living things
- d. Single-celled organisms that produce molds on breads and cheeses

2. What are antibiotics used for?

Antibiotics are used to kill bacteria. Often they are prescribed when an infection is making people sick. They are also given to livestock to prevent them from getting sick and to promote growth.

3. How does an antibiotic work?

Antibiotics target structures in bacterial cells that are not found in human cells. They impair these structures causing the death of the bacteria, but not of human cells.

4. What is a gene?

A gene is a segment of DNA or RNA that codes for a certain protein that has a certain function or appearance. Genes proscribe the structures that make up living things.

5. What two ways do bacteria transfer genes to other bacteria?

Through inheritance-- bacteria reproduce by binary fission. Each cell duplicates its DNA and then divides in two.

Through conjugation-- bacteria form pili (a protein structure in the shape of a tube) connecting to another bacterium and exchange DNA without reproducing. This exchange can happen between bacteria of the same or different species.

6. What do you know about antibiotic resistance?

Answers may vary.