

Teacher’s Guide for “The Bacteria Blues”

CT State Standards	National Science Standards
C. 21 Describe how freezing, dehydration, pickling, and irradiation prevent food spoilage caused by microbes	Structure and Function in Living Systems Disease is a breakdown of structures or functions of an organism. Some diseases are the result of damage by infection by other organisms

- I. Vocabulary Covered in “The Bacteria Blues”
 - 1. Cocci – circular shaped bacteria
 - 2. Bacilli – rod shaped bacteria
 - 3. Spirilla – spiral shaped bacteria
 - 4. Preservation – ways to stop food from spoiling
 - 5. Irradiation - exposing food through radiation which destroys microorganisms

- II. Understanding the major concepts of “The Bacteria Blues”
 - A. Benefits of Bacteria
 - 1. Verse 1 and 2 of this song focus on benefits that bacteria provide us
 - 2. Some of the major benefits of bacteria include: Making food products (yogurt, sourdough bread, soy sauce, cheeses, etc.) Environmental cleanup (oil eating bacteria), major ecological decomposers (break down garbage and dead organisms), aid in digestive process, and help make medicines

 - B. How bacteria cause us harm
 - 1. Verse 3 of the song focuses on harmful bacteria
 - 2. Diseases such as strep throat, pneumonia, tuberculosis, Lyme disease, botulism, and pink eye can all be caused by bacteria

 - C. How we protect our foods from bacteria
 - 1. Verse 4 of the song focuses on food preservation
 - 2. Some of the major ways we preserve our food include, refrigeration, freezing, irradiation, salting, and pickling.

Extension: Topics B and C lend themselves nicely to student research projects and presentations. Either assign or let your students pick a particular bacterial disease or form of food preservation and let them explore in depth. Then they can become the teacher and share with their classmates their findings.

Student Worksheet for “The Bacteria Blues”

Part I. Fill in the correct word with each of the statements below

1. What is a circular shaped bacterium called? _____
2. The process by which we kill microorganisms through radiation is called _____
3. What is a rod shaped bacterium called? _____
4. The term used to describe any ways in which food spoilage is prevented _____
5. What is a spiral shaped bacterium called? _____

Part II. Answer the following short answer questions using complete sentences.

1. Explain three ways in which bacteria are beneficial to humans in society. Be specific in your examples.

2. Explain why bacteria can be harmful to society.

3. Explain what food preservation is, why it is important to humans, and give three detailed examples of types of food preservation
