

Melissa DePaoli

Title of Lesson – Food Borne Disease

Unit – Bacteria and viruses (Pathogens)

Objective 1 – Students will be able to identify 4 different food borne diseases as well as preventative measures.

Objective II – Students will also be able to identify proper food handling techniques for pork, chicken, beef, seafood and fruits and vegetables.

Background (Kyle – The following are the standards that the students are tested on. They take benchmark quizzes that cover every standard. My school district requires this and even though I teach Ag Biology my students take a district final that every single other biology student in the district takes as well, whether they are Ag bio or regular bio. There are minimal agricultural questions on the final. The following are the standards and benchmarks that are required of this unit.)

- Lesson 1 of 3 in unit
- Physiology – Organisms have a variety of mechanisms to combat disease. As a basis for understanding the human immune response:
 1. *Students know* the role of the skin in providing nonspecific defenses against infection.
 2. *Students know* the role of antibodies in the body's response to infection.
 3. *Students know* how vaccination protects an individual from infectious diseases.
 4. *Students know* there are important differences between bacteria and viruses with respect to their requirements for growth and replication, the body's primary defenses against bacterial and viral infections, and effective treatments of these infections.
 5. *Students know* why an individual with a compromised immune system (for example, a person with AIDS) may be unable to fight off and survive infections by microorganisms that are usually benign.
 6. *Students know* the roles of phagocytes, B-lymphocytes, and T-lymphocytes in the immune system.
- LifeKnowledge Precept
- Key Terms - Please see attached power point

Logistical Information


- 106 minutes
- Food Borne Illness Center Website
<http://www.nal.usda.gov/fnic/foodborne/fseducation/fsestoriesdb.html>
- Laptop computer, LCD projector

Interest Approach

I will pretend that I am a detective and investigate what students ate for breakfast and lunch. I will ask them what they ate, where at and if they are feeling ok. It will give them some time to think about the things they eat, who prepares them and where they come from. **To help my students interact with me here I think I would set-up a mock restaurant or something of that sort in my classroom, maybe show them a health department report and read through all of the problems from a particular restaurant. They can identify the problems in the restaurant and see what health concerns might arise based on the problems.**

Summary of Content

1. Power point of key terms (Students will take notes)
2. "Story Time" Discussion of food borne disease and its history (Students will participate and will be told different stories of different outbreaks)
3. Notes on types of diseases and examples of each disease
4. Food prep/Handling – The proper way
5. Student Activity with diseases
6. Quick quiz

Subject Matter (outlined)	Teaching Methods
<ol style="list-style-type: none"> 1. Power point of key terms 2. Question about fast food workers 3. History of food borne disease 4. Types of disease <ol style="list-style-type: none"> a. Bacteria <ol style="list-style-type: none"> 1. Campylobacter 2. Salmonella 3. E. Coli b. Parasites <ol style="list-style-type: none"> 1. Ghiardia c. Viruses 5. Food Prep/ Handling <ol style="list-style-type: none"> d. Proper cooking and storage temperature e. Irradiation f. Washing hands 	<p>TLD </p> <p>Ask students how they feel about 2/3 of fast food workers being their age without any courses in food safety.</p> <p>Questions...? Food borne diseases are typically caused by what kind of organisms? Which food borne disease is most prevelant in the United States? What is a common water borne disease?</p> <p>Story about boiling water in Colorado</p> <p>Tell story about Typhoid Mary</p> <p>Have students visualize bringing groceries home, where do they put them in the car, in the fridge, on the counter, etc.</p>

Question to ask: What can be done in the Ag. industry to prevent food borne disease?

Review



Students will be given scenarios that deal with different viruses and bacteria. They will use what they have learned and apply it to their scenario.

Evaluation/Quick Quiz

See attached

Power point

See attached (Kyle – I am working on condensing my ppts into one)

