

Unit Activities:

Setting the Stage. Objectives,
Word Splash Predictions,
Foodborne Illness
PowerPoint

Instructional Events:

Gain Attention, Inform Learners of
the Objectives, Stimulate Recall of
Prior Learning, Present the
Stimulus

Materials:

Foodborne Illness
PowerPoint

Student Handouts

Word Splash (pg. 44)
Foodborne Illness: Risks and
Prevention (pg. 49)

Activities:

*Setting the
Stage
(7 minutes)*

Purpose: To capture attention and prepare students to learn and participate

- Write the following question on the board or overhead: **Has anyone in your family (yourself included) ever become sick as a result of food poisoning? Explain what they ate, how long they were sick, and what medical treatment, if any, they required to get better.**
 - Ask students to write down their responses to the question. Allow 3-5 minutes for students to do so.
 - Allow students to share their responses with the class.
 - Pose questions for discussion:
 - Why do you think certain foods caused foodborne illnesses?
 - What do you think could have been done to avoid getting sick?
 - Explain to students that food poisoning results from bacteria that grow in food that is mishandled.

*Inform the
learner of
the
Objectives
(3 minutes)*

Purpose: To help students understand what they are responsible for learning

- Tell students: **In this unit we are going to learn what causes foodborne illnesses, how to prevent them, and the possible outcomes of mishandling foods.**

**Learning
Objectives:**

Students will be able to:

1. Identify and recognize characteristics and symptoms of Foodborne Illnesses.
2. Connect prior knowledge of symptoms and cause of Foodborne Illnesses to relevant vocabulary.

Activities:**Word Splash
Predictions
(15 minutes)**

Purpose: To familiarize students with new words, activate prior knowledge, and provide a guide to the concepts they will learn in this lesson.

Learner Level: Average-High

- Distribute the **Foodborne Illness Word Splash**
- Ask students to read each word and think about how that word is related to foodborne illness.
- Working in pairs or individually, students should then write at least 5 prediction statements similar to the example given on the sheet and underline words used from the Word Splash.
- Remind students that they will complete the Statements of Fact later in the lesson.

Learner Level: Low-Average

- Before class write each of the word splash words on a separate index card.
- Give one card to each student or pair.
- Ask each student to think for 1 minute about how their word might be related to foodborne illnesses.
- Ask each student to share the relation of their word with the class.
- Record student responses of “predictions” on the board.
- Remind students that they will use their word later in the lesson to create Statements of Fact.

**Foodborne
Illness
PowerPoint
(30 minutes)**

Purpose: To provide new information to students

Learner Level: All

- Explain to students that in this presentation they will learn about foodborne illnesses and how to prevent them.
- Use the PowerPoint presentation *Foodborne Illness: Risks and Prevention* (The PowerPoint can be downloaded from www.handsonclassrooms.org)
- Give each student a copy of the worksheet **Foodborne Illness: Risks and Prevention** outline.
- Allow students time to read and answer the preview question (slide 2) before beginning the lecture. Discuss students’ responses before continuing.
- Present and explain slides 3-6. Encourage students to record important details on their outline.
- Allow students time to read and answer the Review Question on slide 7. Discuss students’ responses before continuing.
- Present and explain slides 8-10. Encourage students to record important details on their outline.
- Allow students time to read and answer the Review Question on slide 11. Discuss students’ responses.

Unit Activities:

Review, Word Splash
Statements of Fact, Bacteria
that Cause Foodborne Illness

**Instructional
Events:**

Provide Learner Guidance, Elicit
Performance,

Materials:

Internet or copies of information
if no Internet access

**Student
Handouts**

Wordsplash (from Day 1) (pg. 44)
Bacteria that Cause Foodborne
Illnesses (pg. 53)

Activities:**Review
(5 minutes)**

Daily Review Question: **Yesterday we learned what causes foodborne illnesses. What is one thing that you learned that surprised you the most? Today we are going to focus on the three most common bacteria associated with foodborne illnesses around the world.**

**Word Splash
Statements
of Fact
(10 minutes)**

Purpose: To facilitate the transfer of new knowledge to long-term retention

Learner Level: Average-High

- Ask students to review the predictions they first made on their word splashes. How many were correct?
- Now ask students to write at least 5 statements of fact using words in the word splash. Encourage students to use 5 new words from the Word Splash.
- Discuss these as a class.

Learner Level: Low-Average

- Refer to student predictions recorded on the board from earlier.
- Discuss which predictions were correct and which were incorrect.
- Ask students to work individually or with a partner to write 5 new statements of fact.
- Encourage volunteers to share their responses. Record these responses on the board.

**Learning
Objectives:**

Students will be able to:

1. Research and communicate characteristics of bacteria that cause Foodborne Illnesses
2. Identify symptoms of Foodborne Illnesses

Activities:***Bacteria that
Cause
Foodborne
Illnesses
(40 minutes)***

Purpose: To allow the learner to practice the new knowledge. The repetition further increases the likelihood of retention of new information.

Learner Level: Average-High

- This activity introduces various foodborne pathogens.
- Distribute the **Bacteria that Cause Foodborne Illnesses** chart.
- Students may work individually or in pairs to complete the sheet.
- Direct students to the following website to complete their worksheet:

<http://www.fightbac.org/content/view/11/18/> and
<http://www.fda.gov/Food/FoodSafety/Foodbornellness/FoodborneIllnessFoodbornePathogensNaturalToxins/BadBugBook/default.htm> (Accessible from the student section of our website: www.handsonclassrooms.org)
- Once students have completed the worksheet, discuss their answers as a group to ensure that all students have the correct information.

Learner Level: Low or if computer access is limited

- Use the above activity with any of the following modifications:
 - Provide students with a hard copy of the website and allow them to use a highlighter to identify information needed to complete their charts.
 - Once they have identified all of the correct information, have them work individually or in pairs to transfer the information to their charts.
 - Before distributing the chart to students, fill in several of the boxes so that students are not overwhelmed by the entire chart.

Unit Activities:

Review, What's the Cause?
Student Reflection

Instructional Events:

Provide Feedback, Assessing
Performance

Student Handouts:

What's the Cause? (pg. 56)

Activities:

Review
(5 minutes)

Daily Review Question: **Yesterday we studied the most common bacteria associated with foodborne illnesses. What types of foods were most often mentioned? Today we are going to research recent outbreaks of foodborne illnesses around the world.**

What's the Cause?
(20 minutes)

Purpose: To assess and facilitate further student learning

Learner Level: All

- Distribute the **What's the Cause** worksheet to students.
- Students should work individually to determine which foodborne pathogen is responsible for the illness described in each scenario based on the knowledge they gained from the Internet Activity.
- Discuss answers as a class; ask students to defend their responses.

Student Reflection
(20 minutes)

Purpose: To determine if students are successfully meeting the learning objectives for this lesson.

Learner Level: All

- Ask student to consider all they've learned so far about foodborne pathogens and foodborne illnesses.
- Have each student write:
 - 3 examples of foodborne bacteria that make you sick
 - 2 ways to prevent foodborne illness.
 - 1 thing they'll tell their parents about foodborne illness tonight.
- Encourage students to share their responses with the class.

Learning Objectives:

Students will be able to:

1. Apply knowledge of symptoms, onset time, and pathogens to identify causative agents in Foodborne Illness scenarios.
2. Evaluate their own understanding of the risks and preventative measures of foodborne illnesses.

Unit Activities:

Review, Researching FBI
Outbreaks Prior to 1865

**Instructional
Events:**

Enhance Retention and
Transfer

Materials:

Internet access, computers

**Student
Handouts:**

-Extra! Extra! Read All About It
assignment sheet (pg. 59)
-Researching FBI prior to 1865
rubric (pg. 60)
-Tips for Writing a Newspaper
article (pg. 61)
-Organizational Chart (pg. 62)
-5 W's Chart (pg. 63)

Activities:**Review
(5 minutes)**

Daily Review Question: **Yesterday we started researching the impact of foodborne illnesses on historical events in the US prior to 1865. What are some interesting facts that you found? Today you are going to continue your research and begin creating your newspapers.**

**Researching
Foodborne
Outbreaks
Prior to
1865:
(50 minutes)**

Purpose: To allow students to develop expertise with the new information and create a construct for transferring knowledge to long-term retention.

Learner Level: Average-High

- Distribute the **Extra! Extra! Read All About It** assignment sheet to each student.
- Students will use the websites on the assignment sheet to find information relating the impact of food and waterborne diseases on one important historical event in the US prior to 1865 which is, the Civil War and soldiers
- Their research will be presented in the format of a newspaper.
- Each newspaper must consist of at least four sections, two of which should be Headline News and Health & Wellness.
- Students may choose the other two sections from the options given on the assignment sheet or other sections approved by the teacher.
- All sections should have at least one article.
- Students should work in groups to research their topics and construct the newspapers.
- Encourage students to be creative, while also reporting accurately.
- Use the **Researching Foodborne Illnesses Prior to 1865** rubric to assess students' work.

**Learning
Objectives:**

Students will be able to:

1. Demonstrate proficient research skills by locating and evaluating a variety of teacher selected non-fiction
2. Critically analyze connections between foodborne illnesses and historic events, such as the Civil War and Trail of Tears.
3. Locate and analyze written information on foodborne illnesses and their impact on historical events to prepare a newspaper that effectively communicates the connections between the two.

**North
Carolina
Standards:**

Competency Goal 4

Activities:

*Researching
Foodborne
Outbreaks
Prior to 1865
(50 minutes)*

Learner Level: Low-Average or if computer access is limited

- Distribute the **Extra! Extra! Read All About It** assignment sheet to each student.
- Provide each student (or small groups) with hard copies of selected outbreaks to read.
- Students will use the hard copies of websites to find information relating the impact of food and waterborne diseases on one important historical events in the US prior to 1865 which is, the Civil War and soldiers
- Their research will be presented in the format of a newspaper.
- Each newspaper must consist of at least four sections two of which should be Headline News and Health & Wellness.
- Students may choose the other two sections from the options given on the assignment sheet or other sections approved by the teacher.
- Students should work in groups to research their topics and construct the newspapers.
- All sections should have at least one article.
- Encourage students to be creative, while also reporting accurately.
- Use the **Researching Foodborne Illnesses Prior to 1865** rubric to assess student's work.

Specific websites for research include:

Effects of Disease in Civil War:

<http://www.-ugs.csusb.edu/honors/02/ResKristi.htm>

<http://www.uncp.edu/home/canada/work/allam/17841865/history/health.htm>

<http://www.mdfieldhospital.com/Surgery.htm>

<http://www.cl.utoledo.edu/canaday/quackery/quack8.html>

<http://members.aol.com/cwsurgeon0/cwsurgery.html>

<http://www.sonofthesouth.net/leefoundation/civil-war-medicine.htm>

<http://www.spartacus.schoolnet.co.uk/USAcivilwar6.htm>

General:

<http://www.americanforeignrelations.com/Ga-He/Health-and-Disease.html>

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4829a.html>

Unit Activities:

Review, Debriefing, Self-Assessment

Instructional Events:

Enhance Retention and Transfer

Student Handouts:

Extra! Extra! Read All About It! (pg. 59)

Activities:**Review
(5 minutes)**

Daily Review Question: **Last week we learned about the causes and prevention of foodborne illnesses. You also researched some specific bacteria that can make you sick and learned about outbreaks of foodborne illnesses worldwide. Did any of you handle your food differently this weekend as a result of what you learned last week? Today we are going to discuss your research findings and outbreak maps and finish up with a reflection on what you have learned over the past week.**

**Debriefing:
(25 minutes)**

- Lead a brief classroom discussion on the following:
 - Are there connections between a country's standard of living and outbreaks of foodborne illnesses? If so, what do you think those connections are?
- There is no right or wrong answers here. Students should be able to justify their discussion based on the standard of living data they collected.

**Self-Assessment
(10 minutes)**

- Students should complete the **Foodborne Illness Outbreak Map Self-Assessment**

Learning Objectives:

Students will be able to:

1. Summarize symptoms of Foodborne Illness and preventative measures.
2. Construct a well supported argument to justify their position on possible relationships between standard of living and foodborne illnesses.
3. Describe the relationship between advances in science, technology, and outbreaks of foodborne illnesses.

North Carolina Standards:

Competency Goal 4