



Instructor: Karen Chicaese (2003 Science Teacher Workshop participant)

School District: Diocese of Metuchen

Lesson Title: Compare/Contrast Pasteurization and Food Irradiation

Grades: 6,7,8

Subject: Science/Health

Overview: Students will research two topics and compare them using a visual aid.

Objectives: Students will be able to research and interpret information and organize facts on a graphic organizer. As an extension, students will be able to work cooperatively with a partner and create a Power Point presentation using information from the graphic organizer and additional data, including the process of each method, facilities used, and costs involved.

Materials and Resources: Research materials (internet, encyclopedias, books, etc.), paper, pen, computer with Power Point software.

Motivator: List two terms on the board and solicit definitions from students. It is anticipated that many may know something about pasteurization, but few, if any, will know anything about food irradiation. List what they know on the board and talk about how food irradiation is similar to pasteurization.

Lesson: Instruct students that they will research each topic and gather the following information:

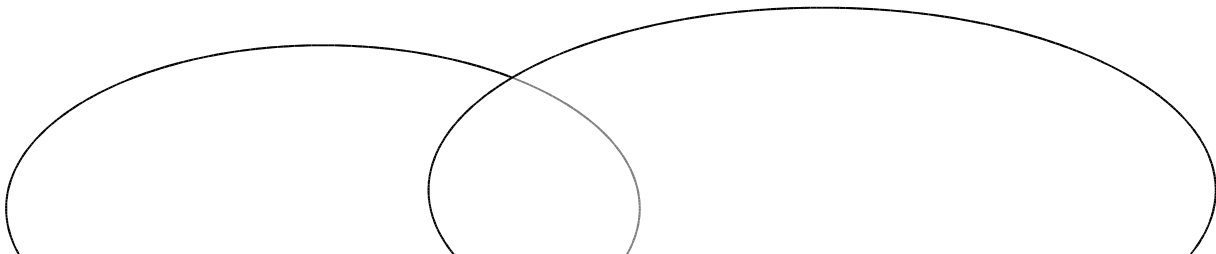
- A definition of each
- How the two are similar
- How the two are different
- Risks of each
- The process of each
- Describe the facility used for each
- Explain costs involved

Students will break up into groups/partners and research facts about the two topics.

Assessment: Students will organize their information on a graphic organizer, such as a venn diagram, listing at least 5 facts under similarities and 5 facts under differences. (This can vary depending on the age/grade of students.)

Extension: As an extension, students can organize all of their information into a Power Point presentation. Scanning in their graphic organizers can be a good introduction for their slide show. Illustrations can be obtained from either clipart or scanned materials.

Example:



Pasteurization:

- milk, wine, beer, fruit juice
- process of killing bacteria by application of heat
- widely used and available

Food Irradiation:

- meat poultry, fresh fruits, vegetables, spices
- eliminates disease – causing microorganisms by exposing the food to controlled amounts of ionizing radiation (cold process)
- although approved in the US, not widely available yet.

Similarities:

- both greatly reduced or eliminate diseases transmitted through food.