

IRRADIATION

RESEARCH QUESTIONS

Name _____ Date _____ Class/Hour _____

These questions are designed to help you and your team discover some interesting information about irradiated food.

Use the following resources to answer your assigned questions:

- **Food Safety A to Z Reference Guide**
- Food Facts: Food Irradiation – What You Need to Know
www.fda.gov/Food/IngredientsPackagingLabeling/IrradiatedFoodPackaging/ucm261680.htm
- Irradiation: A Safe Measure for Safer Iceberg Lettuce and Spinach
www.fda.gov/forconsumers/consumerupdates/ucm093651.htm
- Irradiation and Food Safety Answers to Frequently Asked Questions
www.fsis.usda.gov/wps/portal/fsis/topics/Food-safety-education/get-answers/Food-safety-fact-sheets/production-and-inspection/irradiation-and-Food-safety/irradiation-Food-safety-faq
- Irradiation of Food
www.cdc.gov/nczved/divisions/dfbmd/diseases/irradiation_food

1. What is food irradiation and how is it done?
2. Does the FDA have a role in the irradiation of food? If so, please explain.
3. When used as approved, what four effects does irradiation have on food?
4. Why is the prevention of foodborne illness so important?
5. What role does irradiation play in preventing foodborne illnesses? Provide some examples.
6. What are some foodborne illness-causing microorganisms that can be controlled through irradiation?
7. Irradiation is also used to control insects. How is this done?
8. What is the difference between irradiation used to control foodborne illness-causing microorganisms and irradiation used to control insect pests?
9. In the United States, when was food irradiation first approved by the FDA and for what purpose? When was it first actually used and for what purpose?
10. What famous group of high-flying individuals routinely eats meat sterilized by irradiation? Explain why.
11. The healthcare industry has found that food sterilized through irradiation is particularly useful for certain groups of people. Please identify these groups and explain why sterilized foods are better for them.
12. How is the process of sterilizing foods through irradiation different from the irradiation of foods for general use?
13. Explain how gamma rays are used to irradiate food. Include a description of how "the source" is safely stored.
14. Explain how the electron beam is used to irradiate foods. How is this method of irradiation different from gamma rays?
15. Explain how X-rays are used to irradiate foods. How are X-rays similar to and different from gamma rays?
16. How are food irradiation and pasteurization alike, and how are they different?
17. What effect does irradiation have on the taste, texture, or appearance of food?
18. Compare the nutrient value of irradiated and non-irradiated foods.
19. In addition to the FDA, which is part of the U.S. Department of Health and Human Services, what other organizations have endorsed the safety of irradiated foods? What other countries, aside from the United States, irradiate their food?
20. In the United States, what foods have been approved for irradiation?
21. How can you identify foods in the grocery store that have been irradiated? Explain the difference in labeling between bulk food and individual ingredients.
22. How can you identify foods in a restaurant that have been irradiated?
23. Are consumers ready to buy irradiated foods? Why or why not?
24. Do consumers need to follow different or additional food handling procedures when using irradiated foods?