

Microwave Cooking

Summary

Microwaves are useful for cooking as well as reheating. Microwave cooking requires proper techniques and safety.

Main Core Tie

Food And Nutrition

[Strand 2 Standard 1](#)

Time Frame

2 class periods of 45 minutes each

Materials

white board and markers, supplies for demo, textbooks, supplies for labs.

Background for Teachers

Microwaves use waves similar to radio waves to cook food. There is no radiation in these waves. Microwaves are attracted to and absorbed by fat, sugar, and water molecules. The molecules move around creating friction, or heat, which cooks the food. The microwaves bounce around until they are absorbed. Safe microwave containers are glass, and plastics indicated for microwave use. Metal should not be used in a microwave because it reflects the microwaves back to the core which will cook and damage it. An empty microwave will also reflect the microwaves back to the core. Microwaves can reheat food, cook foods (including candy, cookies, casseroles, vegetables, and meat), boil water, and help clean pans. Tips for using the microwave: 1. Don't overcook. Food may not look done when it is, and will continue to cook a little after it is taken out. Some microwaves are more powerful and need less cooking time. Follow the recipe or use less time. 2. Double the food = Double the time. For example 1 potato cooks in 5 min., and 2 potatoes cook in 10 min. 3. Microwaves are highly attracted to fat, sugar and water, which causes them to cook faster. They become very hot. To prevent burns, use hot pads, and leave a vent on covered foods to release steam. Also avoid overcooking water as it can explode. 4. Use a turn table, or turn and stir the food yourself to help cook food evenly. Hot spots, or high concentrations of microwaves will overcook, and need to be moved. 5. Layer food with the thick pieces outward, and thin pieces in the middle. Microwaves cook from the outside in. This will prevent food from getting overcooked. 6. Use round pans instead of square pans. The corners of square pans cook too fast. 7. Reheat leftovers hot enough to kill bacteria. Let it cool before you eat it. 8. To clean off cooked on marshmallow or caramel, fill the pan with water, and cook for 1-2 minutes, until marshmallow or caramel is soft enough to be removed.

Student Prior Knowledge

Students will understand better if they have used a microwave before.

Intended Learning Outcomes

Students will take notes. Students will describe procedures for using a microwave correctly. Students will cook a dessert in the microwave using correct procedures.

Instructional Procedures

1. Lecture about microwave principles while students take notes. A movie would also work. Demo

something similar to what they will be making the next day. I demo making caramel. Compare the demo to the correct procedures. You can even mess up to help the students understand :) 2. Students read about microwaves in the textbook. I have students answer questions or tell me 5 microwave tips they read about. 3. For the lab, students make a dessert similar to the one demonstrated, such as caramel popcorn or rice krispie treats. 4. If there is extra time, students can copy a few microwave recipes.

Strategies for Diverse Learners

For visual students, have them draw microwave concepts and explain them to you.

Assessment Plan

Observe students during the lab to see if they are following microwave procedures. Give suggestions when needed.

Authors

[Valerie Aubrey](#)