Smithsonian

COOKING INNOVATIONS

Lesley Ward

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Machines in the Kitchen

Look around your kitchen. It is home to some amazing machines. They are machines that help make it easier for you to make food. But it was not always that simple. Cooking **innovations** have come a long way. They often make our lives easier.

Chefs are thankful for these innovations. They use them to try new things. Chefs are scientists. Their kitchens are their laboratories. They try new ways to make food. Sometimes, they make something completely new!

This woman takes food out of her oven in the early 1900s.

Innovations like these can make cooking easier.

Discovering Fire

Before early humans learned how to make fire, their diets were much different. Early humans ate plants, fruit, and raw meat!

Many years later, humans started cooking their food. They might have used fires that were started by lightning. This was probably the first time humans ate cooked meat.

Over the years, humans learned to make their own fires. They learned how to keep fires burning for a long time. Families and friends ate around fires. Fire was their stove.

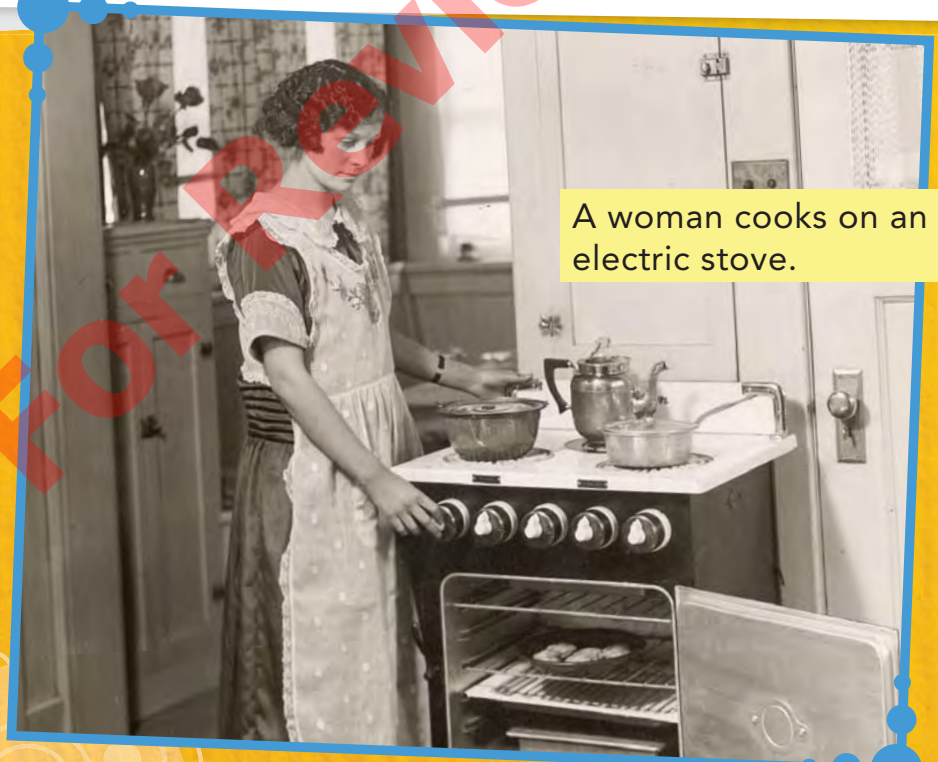
Some people still eat raw meat.

These chickens are being cooked over a campfire.

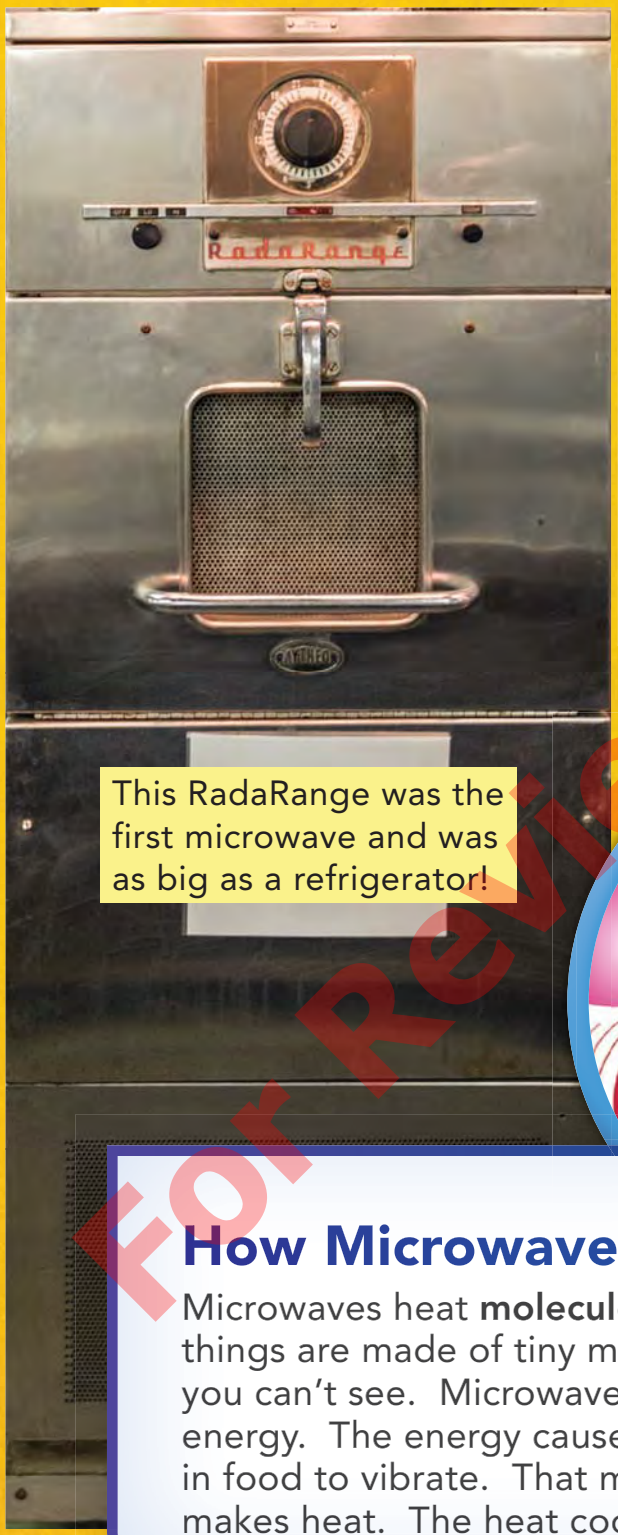
Early humans ate cooked plants.

People kept cooking with fire for thousands of years. In the 1890s, **electric** stoves were invented. These stoves made cooking faster and easier. There was no smoke and no ash. Plus, they helped keep homes warm. More and more people bought stoves. They were a hit.

In 1946, things changed again. An inventor named Percy Spencer was in his lab. He was studying radiation—a way heat travels. At one point, he reached down. His pocket was gooey. He realized radiation had melted his candy bar! Spencer learned he didn't need fire to cook. This led to the invention of the microwave.



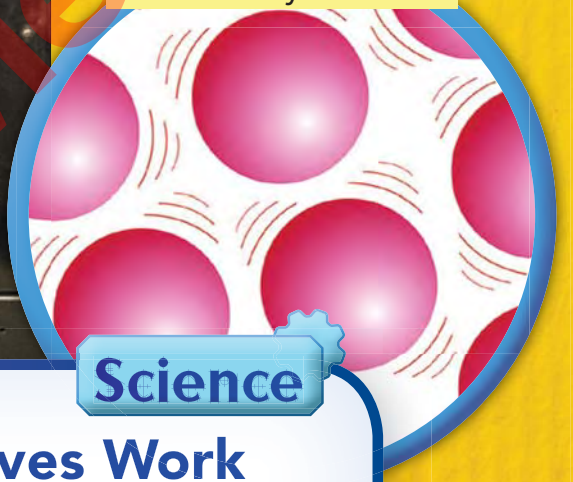
A woman cooks on an electric stove.



This RadaRange was the first microwave and was as big as a refrigerator!

Molecules in cold solid foods are packed together.

Molecules in heated solid foods move more freely.



Science

How Microwaves Work

Microwaves heat **molecules** in food. All things are made of tiny molecules that you can't see. Microwaves send out energy. The energy causes molecules in food to vibrate. That movement makes heat. The heat cooks the food.

STEAM CHALLENGE

Define the Problem

A chef has just moved to a new restaurant. But the new kitchen is smaller than she is used to. The chef has hired you to design a new tool for her. Your tool must be able to do multiple tasks to save space.

Constraints: Your tool must be made with no more than 10 items.

Criteria: Your tool must do two different kitchen tasks, such as stirring and flipping.

Research and Brainstorm

What are the most important tasks in the kitchen? Why should one tool be able to do multiple tasks?

Design and Build

Sketch a design of your tool. What purpose will each part serve? What materials will work best? Build the model.

Test and Improve

Test your tool. Was your tool able to perform both tasks? How can you improve it? Improve your design and try again.

Reflect and Share

What foods would your tool not work with? How could you change your tool for someone who normally could not do those tasks? How could you add technology to your tool?