

Microwaves

Student: _____ Date: _____

Introduction: This story is about microwaves. Microwave ovens cook food very differently from conventional ovens. Let's learn about microwaves and how they work.

Microwaves are not new. They have been around since the beginning of time. They are similar to radio and light waves, but they have a different rate of vibration or movement.

Microwaves vibrate water or fat particles in foods at a rate of more than two billion times a second. The friction, or rubbing, of the vibration makes the heat that cooks the food.

During World War II, a scientist named Dr. Percy Spencer was working for a radar company. Radar is an electronic instrument used to find objects and track them, using radio waves.

Dr. Spencer walked in front of a magnetron tube one day and the candy bar in his pocket melted. The tube also caused popcorn kernels to start popping! What a discovery!

Electricity is used to put microwaves to work. This is what happens in a microwave:

1. The microwaves are produced by a special tube.
2. A wave guide directs them into the oven.
3. A stirrer causes the waves to reflect.
4. The waves bounce around the oven area where the food is placed.

Remember to be careful around microwaves because they can cause burns, cataracts, and damage to the nervous system.

A. Comprehension Questions

1. What do microwaves do?

2. How fast do microwaves vibrate water or fat in foods?

3. What does the "stirrer" in the microwave do?

4. What did the radio waves do to Dr. Spencer's candy bar?

B. Vocabulary Expansion

1. Vibrate

a. What does the word **vibrate** mean?

b. Think of something that **vibrates**.

c. What are two words that mean the same thing as **vibrate**?

2. Particle

a. What is a **particle**?

b. Look carefully around you and name two **particles** that you see.

c. Think of four words that can be used to end this sentence:

"Jane found a particle of _____."

3. Friction

a. What causes **friction**?

b. Make up a sentence that includes the words **particle** and **friction**.

c. Give two examples of **friction**?

4. Tube

a. How is a **tube** different from a box?

b. Make up a sentence of your own with this word.

5. Reflect

a. Define the word **reflect**.

b. Name three things that **reflect** light.

c. Use the word **reflect** in a sentence.

6. Cataract

a. What is a **cataract**?

b. Use the word in a sentence of your own.
