

Have you ever wanted to measure the speed of light, but you didn't have access to fancy equipment, or a professional lab? It turns out that measuring the speed of light is something you can do right in your own kitchen. No fancy equipment needed.

The only high tech equipment you need is a kitchen microwave. Add to that:

A ruler

A calculator

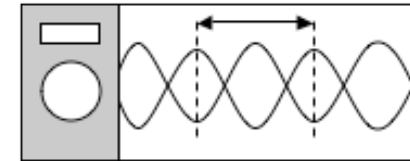
A food item, preferably either a chocolate bar, marshmallows or a roll of fruit by the foot.



The speed of light, aka its velocity, is a known number of 300,000,000 meters per second. Microwaves travel at the speed of light. We want to know if we can use a microwave to calculate the same velocity. We use the equation
Velocity = Frequency x Wavelength

We use the frequency of the microwave, written on the back of the microwave, and should be 2450MHz.

Now all we need is the wavelength.



If your microwave has a turntable, remove it. Place your chosen food in the microwave, spread out from side to side.

Turn on the microwave for 10 seconds, but watch closely so you don't burn the food.

Pulling the food out, you should see several cooked spots along a line.

Using the ruler, the spots should measure 6 cm apart. Each spot is half a wavelength, so a full wavelength is 12 cm, or .12 m.

Velocity = 2450MHz x .12 m

Velocity = 294,000,000 meters per second

That is pretty close to 300,000,000 meter per second!!!

