



# Science Experiment: Monster Marshmallows

## Project: Foods

### **Supplies:**

- Microwave
- Paper plates
- Marshmallows
- Toothpicks

**Time: 15 minutes**

### **What to Do:**

1. Put two marshmallows on a paper plate and cook it in the microwave for 60 seconds.
2. Observe the marshmallows as they cook.
3. Once they have cooked for 60 seconds take them out of the microwave and let them set for a few seconds.
4. Pull off one marshmallow and observe it for color, content, and texture.
5. After the other marshmallow has shrunk back down pull it and form it into other shapes.

### **Reflect:**

1. What happened to the marshmallows in the microwave? Why did they do this?
2. What color is the marshmallow on the outside? What color is the marshmallow on the inside?
3. How does it taste? Is it soft or crunchy?
4. What happened to the other marshmallow? Did it keep the shape you formed? Was it hard or crunchy when you ate it?
5. How is the reaction different when you roast a marshmallow over a fire versus putting it in the microwave?

### **Apply:**

1. Are there any other situations where food reacts this way when being heated up?
2. What are some different textures of candy you've had? Why are some soft? Hard? Chewy?
3. How can you use this knowledge about heat and evaporation when baking or cooking in relation to the desired texture of your food?

**Resources:** Marshmallows are basically sugar, water, and air. In the microwave the water particles heat up quickly and vibrate, causing the water particles to heat up, which softens the sugar and the air bubble. As the particles heat up they move faster causing the bubble to expand, thus making the marshmallow grow. When you take it out of the microwave it cools and shrinks back down. Some of the water evaporates out which makes it crunchy or hard.

<http://www.exploratorium.edu/cooking/candy/activity-mallows.html>