



## Monster Marshmallows

### What are marshmallows made of?

Marshmallows are basically sugar, water, and air.

### What happens when they heat up in the microwave?

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.

### Why does the size and texture change after you take it out of the microwave?

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.

### Why does the marshmallow brown on the inside rather than on the outside as you would find it to do if held over a campfire?

Over a campfire the heat is applied to the outside of the marshmallow through radiant heat. Within a microwave oven the molecules within the food are exposed to electromagnetic energy which causes them to move and vibrate. As they do so heat is created thus the heating is occurring inside the food rather than from an outside heat source.

### Try making your own marchmallow monster.

| Supplies  | Instructions  |
|---|---|
| <ul style="list-style-type: none"> <li>• Microwave</li> <li>• Paper plates</li> <li>• Marshmallows</li> <li>• Toothpicks</li> </ul> <p>Allow about 15 minutes</p> | <ol style="list-style-type: none"> <li>1. Put two marshmallows on a paper plate and cook it in the microwave for 60 seconds.</li> <li>2. Observe the marshmallows as they cook.</li> <li>3. Once they have cooked for 60 seconds take them out of the microwave and let them set for a few seconds.</li> <li>4. Pull off one marshmallow and observe it for color, content, and texture.</li> <li>5. After the other marshmallow has shrunk back down pull it and form it into other shapes.</li> </ol> |

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