Marshmallow Ingredients
Investigation #4

Description
Why is a marshmallow sweet? Find out!

Materials
• Sugar
• Corn syrup
• Gram scale
• Marshmallows
• Paper
• Pencil
• Digital scale

Procedure
1) Ask a friend to predict how many grams of sugar are in a regular marshmallow.
2) Measure the mass of a regular marshmallow and record the number.
3) Sprinkle enough sugar on the digital scale to show 4 grams.
4) How does that compare to the overall mass of the marshmallow?

My Results
Explanation

A regular-sized marshmallow contains about 4 grams of sugar, and the serving size is generally 4 marshmallows, for a total of 16 grams of sugar. Corn syrup and dextrose, often listed in the ingredients, are different sugars included in that total. Sugar is a main ingredient that makes up much of the mass. Another primary contributor of the marshmallow’s mass is air, making up most of the marshmallow’s total volume.

Add to your knowledge: Making a marshmallow takes about an hour. Food engineers use ingredients that determine a marshmallow’s interesting properties. Most marshmallows are made from sugar, corn syrup, gelatin, water, and air.

Gelatin is animal protein molecules from collagen. When the protein molecules combine with warm water, the molecular helices unravel and lengthen. As the marshmallow cools, some of the strands twist back together in threes, while others remain flexible. This combination of firm helices with bendy strands makes traditional marshmallows very elastic and squooshy! What fun!

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