# Self-Inflating Balloons

## Stuff You'll Use:

- self-inflating balloon

## What to Do:

1. Make some observations before inflating the balloon.
2. Place the balloon on the table and move the "mysterious" item inside to the center of the balloon.
3. Hit the center of the balloon with the bottom of your fist.
4. Shake the balloon. Make observations. What do you think causes the sounds? Feel the temperature of the balloon. Is it cooler or warmer than before? Squeeze the balloon. How does it feel? Shake the balloon until it stops inflating.

## How It Works:

Self-Inflating Balloons contain two chemicals that are kept from reacting until the balloon is activated by hitting it. One of these chemicals is baking soda. In some cases the baking soda is mixed with a binder to form a small pellet. The other chemical is citric acid that is dissolved in water and stored in its own plastic bag.

Hitting the balloon bursts the bag of liquid, allowing the citric acid to react with the baking soda to form the carbon dioxide gas that accounts for the fizzing, popping, and expanding of the balloon. Interestingly, the balloon also cools as a result of an endothermic process that results when the baking soda dissolves in the liquid water from the inner plastic bag.

## More Fun?

This brief version of the self-inflating balloon activity is great for a quick classroom experience or a fun student take-home. For an in-depth lesson and more detailed science explanation, see "Investigating a Self-Inflating Balloon" in ***Chemistry with Charisma, Volume One.*** You can purchase *Chemistry with Charisma* and self-inflating balloons from our partner, Educational Innovations (***www.teachersource.com/***).

To see a movie with highlights from our teacher workshop presenting this activity, go to our Youtube Channel at ***www.youtube.com/user/terrificsciencestaff.***