A COOL REACTION

See a cool chemical combination.

THE SETUP
Baking soda and acid react to produce carbon dioxide gas. You may not have noticed how cool this reaction really is.

You will need:
• Water
• A liquid-measuring cup
• A digital meat thermometer
• Measuring spoons
• Vinegar
• Baking soda
• A spoon

Pour about a half cup of warm water in the measuring cup. Take the temperature. One hundred to 120° F works well. Leave the thermometer in the water. Add about two tablespoons of vinegar. Add a teaspoon of baking soda and stir. Watch the thermometer as the bubbles form. When the bubbles stop, stir in another teaspoon of baking soda. Add another tablespoon of vinegar when the reaction dies down. Watch the temperature drop. We’re such cool scientists that we got a twenty-degree drop in about one minute.

INSIDER INFORMATION
Some chemical reactions, like fire itself, give off energy in the form of heat. Other reactions use heat from the surroundings. They’re called endothermic reactions. This reaction between baking soda and an acid (vinegar) is an example. Baking soda is a home remedy that relieves the burning of an upset stomach. It reacts with excess stomach acid and neutralizes it. In the process it lowers the body temperature too, adding to the cooling effect of the medicine.