

The Effects of Sweets and Other Foods on Healthy Teeth

Materials Needed

- Hard-boiled eggs
- Soft drink, such as cola or root beer
- Dried chicken bones
- Vinegar
- Water and sugar solutions
- Water and salt solutions
- Fluoride (from a local dentist, or a dental supply store or pharmacy)

Below are a handful of experiments designed to demonstrate the potential effects of sweets and other foods on healthy teeth. Children and students can work in small groups to perform the experiments.

Experiment 1

For this simple experiment, fill one container with water and another with a brown soft drink -- cola or root beer, for example. Place a hard-boiled egg into each container. Leave the eggs in the soft drink overnight. Pour out the liquid the next day and examine the eggs. Compare the eggs left in the soda to the egg left in the water. How are the eggs different? Why is it important to brush each night to keep teeth clean and white?

Experiment 2

Before doing this experiment, you need to collect chicken bones and set them aside to dry for a few days. Place one of the bones in a plastic cup; then pour vinegar in the cup to cover the bone. Leave the other bone exposed to the air. Let the bones sit for several days, and then compare the two bones. What has happened? (The bones soaked in vinegar will be noticeably softer. Vinegar is an acid. It has eaten away some of the bones' calcium.) From this activity, you'll learn that brushing and flossing teeth removes harmful food particles from teeth. And, food left between teeth eventually turns to a type of acid that can decay teeth.

Experiment 3

If you're able to collect extracted teeth from a local dentist, you can adapt Experiment 2 in the following way: Brush nail polish onto half of a tooth and let it dry. Put the teeth in a variety of solutions -- including water, water with sugar, a soft drink, water with salt, and vinegar -- to see what effects those solutions have on the teeth. Compare the effects and draw conclusions about tooth care.

Note: with any science experiment, it is recommended that an adult be present for supervision.

