

CIGNA Children's Dental Health Month  
Fun Dental Experiments

**Recommended for Grades 4-6 only with adults present or supervising**

You can also use these activities to customize the large-group lesson plans for classroom or small-group use  
These hands-on experiments can be done for one child or for a group of children.

*Experiments from [About.com](http://About.com)*

**BOILED EGGS:** This experiment demonstrates the importance of brushing their teeth every day.

**You will need:**

- One hard boiled egg per child
- Coke, Pepsi or other dark colored soda
- One toothbrush per child
- Toothpaste containing fluoride

**Starting the Experiment**

Before the experiment, boil an egg(s).

Place the egg in the soda for a day.

**What will happen:**

When you are talking to children about the importance of brushing their teeth take the egg out and show it.

The egg will be stained and look like plaque. It will be discolored and yellowish.

Give the child a toothbrush with a little toothpaste on it.

Let them brush the "plaque" off of the egg.

**ACID ATTACK:** This experiment simulates an acid attack on bones, which are rich in calcium just like teeth.

**You will need:**

- 2 clean chicken bones (save them after a chicken dinner)
- 1 container
- 1 bottle of white wine vinegar

**Starting the Experiment**

Pour several inches of vinegar into the container.

Soak the chicken bones in the vinegar overnight.

**What will happen:**

Check out the bones after they've soaked in the vinegar overnight.

Are they softer or harder?

Be sure to throw the bones away in the garbage after you're finished.



HIDDEN SUGAR: This experiment identifies the sugar content in food. Sugar is a major factor in the growth of plaque and tooth decay. Note: An adult MUST supervise this experiment.

**You will need:**

- 1 bottle of Benedict's solution (ask the school science department)
- Assorted small pieces of food – cookies, crackers, bread, fruit
- Several glass test tubes (one per food item to be tested)
- 1 heat source (burner, gas or electric)
- Tongs

**Starting the Experiment**

Place a piece of food in each test tube and then pour 30 – 40 ml of Benedict's solution over the food.

Heat the test tubes one at a time over the burner, using the tongs to hold the test tubes.

**What will happen:**

Benedict's solution is blue. The presence of sugar will turn the solution to orange.

Are there some foods that you thought were sugar-free that have sugar?

THE POWER OF FLUORIDE: This experiment simulates the protection power of Fluoride.

**You will need:**

- 1 bottle of Fluoride rinse solution (available from your dentist, local dental supply company and some pharmacies)
- 2 eggs
- 1 bottle of white sugar
- 3 containers large/tall enough to hold an egg and 6 inches of liquid

**Starting the Experiment**

Pour four inches of Fluoride rinse solution into one of the containers and then place an egg in the solution

Let it sit for five minutes. Remove the egg.

Pour four inches of vinegar into each of the remaining two containers.

Put the egg that has been treated with the Fluoride into one container of vinegar.

Put the second, untreated egg in the other container of vinegar.

**What will happen:**

One egg will start to bubble as the vinegar (an acid) starts to attach the minerals in the egg shell.

Which egg do you think will start to bubble?



FLOSS IS THE BOSS: In this experiment, your fingers represent your teeth, and the peanut butter between them represents food that becomes between your teeth while you eat.

**You will need:**

- A rubber glove
- A jar of peanut butter and something to spread it with
- A container of dental floss
- A toothbrush
- Some toothpaste

**Starting the Experiment**

Put the glove on one hand and hold up that hand as though you're a policeman who is stopping traffic.

Spread your fingers apart and have someone spread peanut butter between your fingers.

Make sure to get the peanut butter deep between your finger joints.

Tighten your fingers together again and hold up as though you're going to "high five" a friend.

Use the toothbrush and toothpaste to try to scrub the peanut butter away.

Do not move your fingers apart while attempting to "brush."

Look to see if the toothbrush removes the peanut butter from between your fingers.

If it does not, have someone else try to remove the peanut butter from between your fingers using dental floss.

Remember, keep your fingers together.

**What will happen:**

Which does a better job of removing the peanut butter from between your fingers: The toothbrush and paste or the floss? A toothbrush simply can't reach all the places between your teeth.

Dental floss can do a much better job of removing food from between your teeth.

If it's not removed, it can cause gum disease and cavities.

