



Importance of Brushing Teeth



FILM

-  **House of Little Scientists: Brushing Teeth**
-  **Smile Action Team**

KEY OBJECTIVES

- 1** To observe how teeth are protected by toothpaste
- 2** To observe how teeth react to stains.
- 3** To observe the effect of sugary drinks on teeth
- 4** To observe the importance of brushing teeth
- 5** To learn about the health effects of acidic and sugary drinks on teeth

INTRODUCTION

Most parents out there have had difficult times trying to make their child's brushing time fun and exciting!! Also, many parents experienced annoying times trying to stop their kid from grabbing artificial sweeteners like soda, candies, etc.

Most parents have had to deal with at least a few complaints of, "Ah, do I have to brush my teeth?" This hands-on science project is a great way to give kids a very visual answer to that question and teach kids about the basics of dental health.

Your teeth are protected by enamel but the foods that you eat can damage that enamel if you don't brush well. Why eggs? Eggshells have the same material as our teeth and bone composition. So, eggs make a great ingredient in this activity.

TOPICS

Dental hygiene **biology** **health**

KEYWORDS

Cavities **plaque**

LEVEL

Early learner

RESOURCE TYPE

Project

INTENDED AUDIENCE SIZE

Small Group

MODE OF DELIVERY

Online

TIME FOR ACTIVITY

24 hours

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GUIDING QUESTIONS

- What liquids dissolve egg shells?
- What happens when you put toothpaste on an egg?
- Which solution is likely to have a long lasting stain?

MATERIALS/PREPARATION

- 8 hard-boiled eggs
- 8 transparent glass jars/drinking glasses
- Vinegar
- Soda drink i.e. coke
- Black coffee
- Sugary drink
- Water
- Toothpaste
- Old toothbrush
- Marker
- Masking tape

TASKS/PROCEDURE

- 1 Boil the coffee or mix it with hot water (for instant coffee) to make black coffee, and leave it to cool.
- 2 Fill two glasses with coca cola, two with vinegar, two with coffee, one with the sugary drink and one with water.
- 3 Label the glasses using the masking tape and the marker.
- 4 Have kids observe what each egg looks like before adding it to any of the solutions.
- 5 Coat three eggs evenly with a good amount of toothpaste. Carefully put one in vinegar, the second one in coca cola and the last one in coffee.
- 6 Put a plain egg in each of the remaining solutions (ie. vinegar, coca cola, coffee, sugary drink, water)
- 7 Let the eggs sit for at least 24 hours and then pull them out of the jars so you can observe any changes.

- 8 Brush the stained "teeth" with the toothpaste and the toothbrush. Observe any changes.

FOSTERING DISCUSSIONS

The egg in the water will look identical to the way it started out. This is what we will use to compare with the rest of the eggs. The egg in the sugary drink will have a rough surface because the sugar will have eaten away at the shell. This is what happens when sugary foods sit on your teeth for too long. The egg in the vinegar was the most interesting because the shell became soft. Some foods have higher acid content like citrus and tomato sauce. Even though these foods are good for us, they need to be cleaned off our teeth. The plain egg in coca cola got stains where the one coated with toothpaste did not have any stains.

In the same way, the plain egg in black coffee showed stains whereas the egg coated with toothpaste did not show any stains. Egg shells are a rich source of calcium carbonate whereas black coffee and coke are acidic in nature. When the plain egg is dropped in the coke and black coffee, the acidic contents immediately start reacting with calcium carbonate and form stains. On the other hand, the eggs coated with toothpaste, when dropped in the coke and black coffee, the fluoride in toothpaste builds a protective layer between the eggshells and acidic solutions. The fluoride in toothpaste makes the eggshell stronger and protects it from reacting to acidic contents of coke and black coffee. Fluoride is the natural mineral that helps the outer layer of eggs and teeth become stronger naturally.

Brushing the stained "teeth" with the toothpaste clears some of the stains but not all.

AUTHORS AND SOURCES

Submitted by Discovery Centre Kenyat