



Inquiring Minds Want to Know

Science Activities for Young Minds

Cleaning Teeth

WHAT YOU'LL NEED

- Eggs
- Tea or coffee
- Disposable cups
- Toothpaste
- Toothbrush for each child
- Paper towels
- Water
- Cola (optional)

WHAT TO DO

Remember: The purpose is NOT to teach a specific topic but to help children experience the excitement of **science exploration!**

GETTING READY

Hard boil one white egg for each child plus some additional eggs in case some crack.

LET'S GO

1. Have each child write his/her name on a cup and put one hard-boiled egg in it. Then cover the egg with cold tea or coffee. Set the eggs on a counter to soak overnight.

*What do you **predict** will happen to the eggs?*

2. The next day, have each child take his/her egg out of the cup and dry it off with a paper towel. **Observe** the egg for any before-and-after differences.

Were there any changes? Describe the changes you see. Does the egg have a different texture?

3. Show the egg that was not soaked in any tea or coffee.

What do you think caused the differences between your egg and the white one? Do you think it will get white again if we soak it in plain water? In soapy water? Any other ideas?

The egg is stained brown just as our teeth are when we eat and drink.

4. *How do you clean your teeth? What do you think will happen if you use the toothbrush and toothpaste on your egg?*

Have children dump the tea or coffee out of their cups, rinse them, and fill them about one-third full of water. Give each child a small toothbrush and some toothpaste. Invite children to do an **experiment** to see if brushing with toothpaste cleans their eggs. Have children brush first without toothpaste, then with toothpaste. Encourage children to brush gently.



TALK IT OVER

Did you **observe** any changes when you brushed the egg?

What do you think happens when you brush your teeth? Do you brush all your teeth?

Which egg would you like your teeth to look like?

What do you think would happen to your teeth if you brushed them only every other day? What if you never brushed them?

What are some ways that people clean things that get dirty? Dirty hands? Dirty dishes? Dirty pets?

GOOD TO KNOW

9- to 12-year-olds:

Instead of using purchased toothpaste, have youth mix baking soda and water to brush their eggs. Then encourage students to read toothpaste labels to see what the ingredients are.

Soak the eggs in cola overnight and observe what happens to the eggs color and texture. Talk about how soda pop might affect their own teeth.

THE SCIENCE BEHIND IT

On the outside of teeth is a protective layer of enamel, the hardest substance in the body. After eating, a sticky coating called plaque forms on the enamel of our teeth. We must brush off the plaque or it can make teeth change from white to yellow or brown. Plaque can also lead to cavities in the teeth. Tooth decay starts with the enamel, which has no feeling, but once it reaches the second layer, the dentin, it can start to cause a toothache. Cola is an acid and will react with the calcium in the egg shell causing it to soften or weaken (just like in our teeth). This experiment uses a hard-boiled egg as a pretend tooth.

RESOURCES

- ▶ Your local university Extension office – <http://msue.anr.msu.edu/county>.
- ▶ Science Blast website – http://4h.msue.msu.edu/programs/science_technology/science_blast.
- ▶ PBS – <http://www.pbs.org/parents/education/science/activities/preschooler-kindergarten/>.
- ▶ *Brush, Brush, Brush* by Alicia Padron
- ▶ *Melvin the Magnificent Molar!* by Julia Cook & Laura Jana
- ▶ *Brush Your Teeth, Please* by Leslie McGuire

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