



The Science of Smiles

Try this fun experiment to engage children in learning about the factors that impact the health of their mouths while teaching them the scientific process.

Share your results with us! We'd love to see photos or videos of your students completing these experiments and hear what they learned! Tag us on social media or email to Programs@ncohf.org.



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Egg-cellent Eggs-periment

Egg shells have a similar chemical composition to tooth enamel, making them a great subject for testing how different liquids effect oral health. This experiment is easy to adapt for different ages.

What you'll need:

- Cups (clear are best) and a marker to label them
- At least 6 raw, white eggs
- A selection of 4-6 liquids. Choose water and milk to serve as healthy drink options. Compare to sodas (with and without sugar,) acidic juices like apple juice, orange juice or lemonade, coffee/tea, sports drinks or energy drinks. You will also get a fun result with vinegar, which isn't a drink but can be compared to the acid secreted by the bacterial that cause tooth decay.
- Pen/pencil and paper to note predictions and results
- Toothbrush and toothpaste (optional)

Process:

1. Place each egg in a cup labeled with the beverage, pour a different liquid over each egg until it is covered.
2. Ask students to predict what will happen to each egg after soaking for 24 hours.
3. Refrigerate for 24 hours, then examine the eggs and observe how the liquid has impacted the shell.
4. Encourage students to draw conclusions about what they observe.
5. Optional: Allow eggs to sit for a longer period of time. Does the result change?
6. Optional: Use the toothpaste and toothbrush to scrub the egg. How difficult is it to remove the stains?

Notes for Instructor:

- You will note a difference in the deterioration of the shell with more acidic drinks. Since diet soda still contains acid, compare it to the results of soda containing sugar.
- This experiment is an excellent companion to the Share Your Smile Powerpoint presentation about Streptococcus mutans as it reinforces the effect acid has on tooth enamel.

Oral Health Tips

It's better to consume acidic drinks with a meal. Do not sip on them all day long.

To lessen impact on tooth enamel, **swish with tap water after having acidic drinks.**

Wait 30 minutes to allow enamel to harden before brushing to avoid wearing away.

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