

Egg-citing Reaction



Goal The student will see the effect of acid (vinegar) on an uncooked egg. This dramatic change can be used to show the wonder of chemical reactions.

This experiment can also highlight the importance of brushing teeth which removes bacteria that can cause acid reactions on the calcium in teeth.

Materials

- 2 raw eggs
- 2 glass jars
- 6-8 oz. wter
- 6-8 white vinegar

Procedure

1. Fill one jar with water and one jar with vinegar.
2. Place one egg in the jar with water and the other egg in the jar with vinegar.
3. Look at the jar with the egg in water (control). Observe what is happening in this jar?
4. Now look at the jar with the egg in vinegar. Observe what is happening in this jar? Bubbles are forming on the egg because it is forming carbon dioxide as it leaches out or takes away the calcium from the egg.
5. After a few minutes, you will also see white frothy foam forming. As the calcium in the egg reacts with the vinegar, calcium carbonate is visible in the solution. Things change during a reaction!
6. After about an hour, feel both eggs. How does the egg feel? The egg in water will feel the same as when you put it in the water. The egg in vinegar will feel a bit powdery and “funny”. The egg is losing its shell.
7. The next day, you can gently hold the raw egg and rinse off the shell while holding the egg under a stream of water. The acid in the vinegar has reacted with the calcium in the egg shell.

Some more interesting ideas:

When doing this with a lesson on oral hygiene, or even tooth structure, you can play up the idea that any acid in your mouth will eventually treat your teeth (which are compared to the eggshell because they have so much calcium) just like the egg shell. The acid in your mouth will leach out the calcium from your teeth, softening the teeth and allowing for an area for bacteria to live in your mouth and cause a cavity.

**What
We've
Learned**

Chemical changes are occurring everywhere and they can be detected by things like bubbles. The acid in the vinegar reacts with the calcium in the eggs shell creating bubbly calcium carbonate.