

Chemical Reactions with Seashells

Overview:

Have you ever gone to the beach and collected a bunch of seashells? Seashells come in all different types (sizes, colors). *Why are seashells so different?* Seashells are exoskeletons of mollusks such as oysters and clams used for protection from predators. Mollusks create this shell out of calcium carbonate which builds up and hardens. As the animal grows, the exoskeleton grows too.

In this science experiment, you will get to be a scientist and test the presence of calcium carbonate. An easy test for the presence of calcium carbonate uses vinegar.

Materials:

- Any type of sea shells
- Clear glass cup or bowl
- 1 cup of white vinegar

Instructions:

1. Gather materials
2. Place a shell in a glass and add enough vinegar to cover the shell ~1 cup depending on the size of the shell.
3. Observe.
*You may notice bubbles forming on the shell. These are carbon dioxide bubbles created by the chemical reaction between calcium carbonate, a base, and acetic acid in the vinegar, an acid. The shell is breaking down in this process.
4. Leave the shell in the vinegar for a few days, the vinegar will break down the shell. The remains of the shell will thin and brittle.

Fun Fact: Geologists use this type of test to determine the presence of limestone in rock. Limestone contains calcium and will react with an acid in the same way.