



Curiosity Guide #503

Rocks

Accompanies Curious Crew, Season 5, Episode 3 (#503)

Fizzy Rocks

Investigation #2

Description

I'm busy getting fizzy!

Materials

- Variety of rocks, some of which are limestone
- Clear glass or bowl
- Vinegar
- Magnifying glass
- Protective glasses

Procedure

- 1) Fill a clear glass or bowl half full of vinegar.
- 2) Predict what will happen when you place a small piece of limestone in the container of vinegar.
- 3) What do you notice after several minutes?
- 4) Take the limestone out of the glass or bowl.
- 5) Do you see anything left behind in the container?
- 6) Does something similar happen when you test different kinds of rocks?

My Results

Explanation

Limestone is a special kind of sedimentary rock. Sedimentary rocks are formed when weathered, smaller bits of rock get deposited and compressed for a long period of time. Eventually, those compressed rock pieces stick together and form different kinds of rocks, including conglomerate, sandstone, shale, or limestone. Rocks that contain calcium carbonate can erode when they encounter acids, and limestone contains calcium carbonate. Vinegar is acetic acid, and limestone is a base. An acid plus a base causes a chemical reaction. So, vinegar combined with limestone creates a chemical reaction. When acids and bases combine, they produce water and salts. Putting the limestone rock in the vinegar starts the chemical reaction. As the acid starts to dissolve the calcium carbonate, we can see the release of carbon dioxide bubbles that fizz upward. In time the vinegar becomes water, and a calcium salt called calcium acetate is created. The salt is left behind as particles on the bottom of the container. Testing different rocks to see if they fizz or not will show you if the rock contains calcium carbonate.

Think about this: Have you ever noticed that rocks come in all different shapes sizes, and colors? And have you ever wondered what rocks are made of? Well, rocks are made from two or more different minerals, which makes every rock uniquely special. Because rocks are so different from one another, geologists, the scientists who study rocks, classify rocks on how they were formed. These include sedimentary, metamorphic, and igneous rocks. Time to dig into each one of these!

Extend your investigation! Could it be time to start a rock collection? Getting started is easy. Take a walk around your neighborhood and look for rocks with interesting characteristics! You can find out more about rock-collecting by going to your library or by looking on the internet. Try "rock collecting kids tips" in your Search box.

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