



Curiosity Guide #605

Acids and Bases

Accompanies Curious Crew, Season 6, Episode 5 (#605)

Sour Acids

Investigation #4

Description

When life hands you lemons, make lemonade—or test them for acidity!

Materials

- Baking soda
- Antacid tablet
- Lemon
- Vinegar
- Soft drink
- Litmus paper, both blue and red
- Small containers
- A friend
- Orange
- Bar soap
- Soft soap
- Toothpaste

Procedure

- 1) Have a friend taste and describe a small amount of lemon juice compared to an antacid tablet.
- 2) Then have your friend describe the texture of the liquid soap.
- 3) Sort the items into two groups, acids and bases.
- 4) Test a few of the liquids with litmus paper.

My Results

Explanation

Have you ever eaten a lemon? If so, you know that they taste sour and this is because of the citric acid in the lemon juice. Instead of tasting the difference between acids and bases, using litmus paper is a much safer and colorful way to figure out the difference.

Liquids with more hydronium and hydrogen ions are more acidic, while liquids with more hydroxide ions are more basic. Acids, like lemon juice or vinegar, taste sour. Bases like the antacid taste bitter. Bases, like the liquid soap, often feel slimy when touched. Items tested with litmus paper turn red in the presence of an acid and blue in the presence of a base. The base items here include bar soap, liquid soap, antacids, and toothpaste. The acidic items include the orange, lemon, vinegar, and soft drink. The fruit has citric acid, the vinegar has acetic acid, and the soft drink has carbonic acid.

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