
Acids and Bases: Are They Magic?

Mixing an acid (such as vinegar, lemon juice or buttermilk) with a base (such as baking soda) usually results in a gas (often carbon dioxide) being formed. It is the formation of gases that makes foods like cakes and pancakes rise and become light and fluffy. Formation of gases can also change the color of foods.

This test is based on the principle that adding acid or base to grape juice changes the molecular structure of the juice enough that it changes the way light passes through the juice and, therefore, changes the color of the juice.

MATERIALS AND EQUIPMENT

- Grape juice (not grape drink)
- 1 tablespoon baking soda dissolved in 1/2 cup water
- 1 tablespoon vinegar dissolved in 1/2 cup water
- large glass

PROCEDURE

1. Fill the glass halfway with grape juice.
2. Slowly pour in some of the baking soda mixture. What happens?

3. Slowly pour in some of the vinegar solution. What happens?

From: "Foodworks," From Ontario Science Centre, Addison-Wesley Publishing Company, Inc., 1987

