

Demonstration of Carbon Dioxide as an Acid

Equipment needed:

Distilled water
0.10 N sodium hydroxide solution
Phenol Red
Graduated cylinder (for 50 ml of water)
Straws

Fill a beaker with 50 ml of distilled water.

Add 10 drops of 0.10 N sodium hydroxide solution and 5 drops of phenol red.

Beakers cannot be left sitting after preparation or change may occur due to carbon dioxide in air.

Phenol red is a pH indicator. It remains red in a basic solution, changes to orange in a neutral solution and changes to yellow in an acidic solution.

While at rest a student will exhale through a straw into the solution.

Students should observe the color change from red to orange as the pH moves into a neutral range.

Next the students should observe the color change from orange to yellow as more exhaled air enters the solution causes the pH to move into the acidic range.