

Equilibrium and Milk of Magnesia Rainbow

A Carolina Essentials™ Demonstration

Student Worksheet



Essential Question

How are changes in reaction equilibrium demonstrated and explained?

Demonstration Objectives

1. Recognize and identify the properties of an equilibrium reaction.
2. Apply Le Châtelier's principle to explain the color change.

Reactions

Write a balanced ionic equation for the dissociation of magnesium hydroxide in water.

Write a balanced ionic equation for the reaction of sulfuric acid and magnesium hydroxide in water.

Data and Observations

Record your observations of the magnesium hydroxide/universal indicator solution before the acid is added.

Record your observations of the solution after the acid is added.

Continued on the next page.

Analysis and Discussion

Refer to your balanced equations.

1. Why does the solution change color very quickly when the acid is added? Explain the reactions or processes that are occurring.

2. Why does the solution slowly return to its original color? Explain the reactions or processes that are occurring?

3. Using Le Châtelier's principle, explain the color changes observed in the demonstration.