

Subject: Science

Grade: Ninth - Physical Science

Standard: # 3 - The Physical Setting

Key Concept: The configuration of atoms in a molecule determines the molecule's properties.

Generalization: Acids and bases are two types of compounds that have distinctive properties.

Background: Students have just finished their study of acids and bases, including acid-base theories, the concept of pH, and acid-base reactions. This lesson serves as an end of chapter assessment.

This lesson is tiered in *product* according to *learning style*.

Each tier will prepare a specific product geared towards upper elementary/middle school students. A rubric should be given to each tier so students know the expectations before they begin the project.

Tier I: *Bodily-kinesthetic*

This group will prepare an investigation that can be used to teach one aspect of acids and bases.

Tier II: *Verbal-linguistic*

This group will write and illustrate a book that can be used to teach one aspect of acids and bases.

Tier III: *Musical*

This group will write words and music (or use a familiar tune) to prepare a song that teaches one aspect of acids and bases.

Tier IV: *Logical-mathematical*

This tier will develop a game that can be used to teach some aspect of acids and bases.

Assessment:

Teacher observation and student interviews during the investigation will serve as formative assessments. Rubrics for each tier will provide the basis for summative assessment. You may want to add a presentation rubric since students should share their products with each other as well as the target learners (upper elementary/middle school students).