



Science Interns Module: Matter 5th Grade

Overview

This four-lesson module helps students learn (1) that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved, and (2) to identify materials based on their properties, and (3) that the particles that make up matter are too small to be seen. They also prepare to teach three mini-stations to younger students at their school. In lesson 1, students learn that the total weight of matter is conserved through several experiments. In lesson 2, students observe chemical reactions to discover the properties of mystery powders. In lesson 3, students learn that the particles that make up matter are too small to be seen and make a marshmallow model of a sucrose molecule. Finally in lesson 4, students are assigned their teaching station and practice teaching about matter to younger students.

Phenomena

- Total weight of matter is conserved no matter the type of change to that matter.
- Materials can be identified by their properties.
- Matter is made up of particles too small to see.

Next Generation Science Standards

- 5-PS1-1 Develop a model to describe that matter is made of particles too small to be seen. [Clarification Statement: Examples of evidence supporting a model could include adding air to expand a basketball, compressing air in a syringe, dissolving sugar in water, and evaporating salt water.]
- 5-PS1-2 Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. [Clarification Statement: Examples of reactions or changes could include phase changes, dissolving, and mixing that form new substances.]
- 5-PS1-3 Make observations and measurements to identify materials based on their properties. [Clarification Statement: Examples of materials to be identified could include baking soda and other powders, metals, minerals, and liquids. Examples of properties could include color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility; density is not intended as an identifiable property.]

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Using Mathematics & Computational Thinking	PS1.A Structure and Properties of matter	Scale, Proportion, and Quantity
Planning and Carrying Out Investigations	PS1.B Chemical Reactions	Scientific Knowledge Assumes an Order and Consistency in Natural Systems
Developing and Using Models		Cause and Effect

Date: _____

Asombro staff: _____