Physical and Chemical Changes
Challenging Changes Lesson

Recommended for grades 4-6 Time frame is 35-45 minutes

Goal: Students will be given the opportunity to be chemists. Students will observe and record the physical properties of a variety of substances and have the opportunity to combine different substances to see whether physical or chemical changes occur. Lab safety and the scientific method are stressed here.

Academic Standards/Benchmarks: Physical Sciences - Compare the characteristics of simple physical and chemical changes. (Based on the Ohio model)

Indicators:
1. Identify characteristics of a simple physical change (e.g., heating or cooling can change water from one state to another and the change is reversible.
2. Identify characteristics of a simple chemical change. When a new material is made by combining two or more materials, it has chemical properties that are different from the original materials (e.g., burning paper, vinegar and baking soda). Gr. 4
2. Describe that in a chemical change new substances are formed with different properties than the original substance (e.g., rusting, burning).
3. Describe that in a physical change (e.g., state, shape, and size) the chemical properties of a substance remain unchanged. Gr. 6

Objectives:
Students will practice using lab safety.
Students will identify physical properties of substances.
Students will use evidence given to determine when a physical change occurs.
Students will use evidence given to determine when a chemical change occurs.

NOTE: It is the responsibility of the district/school to determine which students participate in our programs. This includes, but is not limited to, the district/school identifying students with allergies, those with potential to allergies, and to identify students with special needs who may require personalized accommodations. Prior notification is necessary to develop proper considerations.