

4th Grade

Powders and Crystals

NYS Standard 4 (Science): Physical Setting

- ✓ **Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.**

Major Understandings	Learning Experience/Objectives	Supporting Terms
3.1.b Matter has properties that can be observed through the senses (color, hardness, odor, sound, taste).	<p>Sensing: Students will use their sense of touch, sight and smell to describe the variety of powders and crystals.</p> <p>Using a Pocket Scope: Students will use a pocket scope to observe the mystery substances and decide which are powders and which are crystals.</p>	powder, crystal, baking soda, citric acid, Plaster of Paris, texture, senses, salt, magnify, microscope, specimen
3.2.b Temperature can affect the state of matter of a substance	Heat Test: Students will add heat to the powders and crystals and describe the results.	reaction
3.2.c Changes in the properties or materials of objects can be observed and described.	<p>Water Test: Students will add water to each of the powders and crystals and describe the results.</p> <p>Vinegar Test: Students will add vinegar to each of the powders and crystals and describe the results.</p> <p>Iodine Test: Students will add iodine to each of the powders and crystals and describe the results.</p> <p>BTB Test: Students will add BTB to each of the powders and crystals and describe the results.</p>	mixture, suspension, solution, dissolve, vinegar, iodine, starch, indicator, acid, base, BTB
3.1.f Objects and/or materials can be sorted or classified according to their properties.	<p>Conquering the Unknown: Students will compare known substance to the unknown substances in order to identify them.</p> <p>Super Sleuth: Students will use a variety of tests to identify the composition of a mixture.</p> <p>Classifying Powder and Crystals: Students will group the powders and crystals by common properties.</p>	composition, hypothesis, property, classify