



Fifth Grade Frameworks Pacing Guide

Crosscutting Concepts: Cause and Effect; Stability and Change; Matter and Energy

Topics: Chemical and Physical Changes

6-week Instructional Segment

Anchoring Phenomenon	Standard	Instructional Segments	Disciplinary Core Ideas	Science and Engineering Practices	Instructional Notes
<p>Elephant Toothpaste This is a video that shows a solid and a liquid creating a gas in the experiment for elephant toothpaste which is a chemical reaction.</p> <p>OR</p> <p>Why a candle burns Did you know that it is the gas from the melting wax that burns and not the wick? Bewilder your students with this phenomenon too!</p>	<p>S5P1. a, b, c</p>	<p>Balloon Blow up!</p>	<p>From A Framework for K-12 Science Education: <i>By the end of 5th grade.</i></p> <p>PS1.A: Structure and Properties of Matter</p> <ul style="list-style-type: none"> ● Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and is detected by other means. (e.g., by weighting or by its effects on other objects.) For example, a model showing that gases are made from matter particles that are too small to see and are moving freely can explain many observations including the shape of an inflated balloon. ● The amount (weight) of matter is conserved when it changes forms, even in transitions in which it seems to vanish (e.g., sugar in solution, evaporation in a closed container.) <p>PS1.B: Chemical Reactions</p> <ul style="list-style-type: none"> ● When two or more different substances are mixed, a new substance with different properties may be formed; such occurrences depend on the substances and the temperature. ● No matter what reaction or change in properties occurs, the total weight of the substances does not change. (Boundaries: Mass and weight are not distinguished at this grade level.) 	<ul style="list-style-type: none"> ● Planning and carrying out investigations ● Engaging in argument from evidence ● Obtaining, evaluating, and communicating information 	<ul style="list-style-type: none"> ● Use safety goggles for eye protection. <p>By the end of this unit, students are using the following language in their speaking and writing during EXPLAIN or ELABORATE.</p> <ul style="list-style-type: none"> ● Mixture ● Solution ● Reaction ● Solid ● Liquid ● Gas <p>Bundled Curriculum Standard S5L4 - microorganisms can be reviewed or introduced with the experiment using yeast.</p>