

Storyline – Solids and Liquids

K-6 Unifying Concept: *Our physical world is governed by the properties and interactions of matter.*

Grade level Concept: *Materials can exist in different states of matter - solid, liquid, and gas. Solids and liquids have different properties. Solids and liquids may change when they interact.*

<p>Investigation One: Solids</p> <p>Sub-concept: Solids are one state of matter.</p>	<p>Investigation 1:1 <i>Introduce Solids</i> Students are introduced to a variety of solid materials and describe the properties of the objects. New vocabulary is developed in order to communicate those properties.</p>	<p>Investigation 1:2 <i>Sort Solid Objects</i> Students sort a set of solid objects in a variety of ways to discover similarities among the solids.</p>	<p>Investigation 1:3 <i>Construct with Solids</i> Students use solid materials to build structures - towers, bridges, and tunnels – and find the best materials to use for each application.</p>	<p>Addendum <i>Measuring Solids</i> As measurement is on the Washington state GLEs , I have added a worksheet for students to do using standard measurement of common classroom items.</p>
<p>Investigation Two: Liquids</p> <p>Sub-concept: Liquids are a state of matter.</p>	<p>Investigation 2:1 <i>Liquids in Bottles</i> Students investigate different liquids to develop their concept of a liquid. They work at centers to tip, swirl, shake, roll, and otherwise investigate seven different liquids in small, clear plastic bottles.</p>	<p>Investigation 2:2 <i>Properties of Liquids</i> Students describe the properties of liquids. Vocabulary is developed for the properties and practiced with liquid vocabulary games.</p>	<p>Investigation 2:3 <i>Liquid Level</i> Students observe liquids in different containers. They discover that liquids have level surfaces and take the shape of their containers. The definitions of liquids and solids are refined.</p>	
<p>Investigation Three: Bits and Pieces</p> <p>Sub-concept: Solid materials come in all sizes and shapes.</p>	<p>Investigation 3:1 <i>Solids in Containers</i> Students work in learning centers with solid materials representing five particle sizes. Students investigate the properties of the materials by pouring them from one container to another.</p>	<p>Investigation 3:2 <i>Separating Soup Mix</i> Students use screens of three sizes to separate a mixture of five solid materials.</p>	<p>Investigation 3:3 <i>Solids in Bottles</i> Students use funnels to put the five solid materials into clear bottles with caps. They observe how the particles look, sound, and move when they shake and roll the bottles.</p>	<p>Investigation 3:4 <i>Separating Beads with a Screen</i> Students work with representational materials to demonstrate their understanding of the use of screens to separate materials.</p>
<p>Investigation Four: Solids and Liquids with Water</p> <p>Sub-concept: Solids change, remain unchanged, or dissolve when mixed with water.</p>	<p>Investigation 4:1 <i>Solids and Water</i> Students investigate mixtures made of water and familiar solid materials. They attempt to return the solids to their starting condition.</p>	<p>Investigation 4:2 <i>Liquids and Water</i> Students add water to bottles of familiar liquids. They mix and record the results of the mixing and the settling a day later.</p>	<p>Investigation 4:3 <i>Toothpaste Investigation</i> Students apply their knowledge of solids and liquids to determine if toothpaste is solid or liquid.</p>	<p>Addendum <i>Matter Soup Party</i> As a culminating activity, I have students display their completed Science Journals and supplemental items. We also make “Matter Soup”: vegetable soup with the broth representing liquid, veggies representing solids and the steam as it is cooking representing gas.</p>