

# Matter and Energy Storyline

## FOSS

**Big Idea: Energy and matter have multiple forms and can be changed from one form to another.**

**Concept I:** Energy has multiple forms and can be changed from one form to another.

**Concept II:** Light is a form of energy that travels in straight lines from a source. An object is seen when light traveling from it enters the eye.

Investigation 1: Part 1 Energy Sources  
Investigate different sources of energy. Define energy as what makes things happen.

Investigation 1: Part 2 Converting Energy  
Determine ways that energy is converted to make different things happen.

Investigation 1: Part 3 Energy on the Move  
Investigate ways that energy can be carried from one place to another (transferred).

Investigation 2: Part 1: Reflected Light  
Use mirrors to reflect light. Observe that light can reflect from mirrors and other surfaces.

Investigation 2: Part 2: Colored Light  
Define white light as a mixture of all the colors of light. Place colored objects into colored-light environments and observe that the apparent color of an object is affected by the color of light striking it.

**Concept III:** Matter has three forms: solid, liquid and gas.

**Concept IV:** Matter can be changed from one form to another.

Investigation 3: Part 1 Fact of the Matter  
Sort a variety of materials based on state. Define characteristics of the different forms of matter.

Investigation 3: Part 2 Weighty Matters  
learn the concept of mass (the stuff of the world) and how to measure mass by weighing. Identify the need for a standard unit of measure.

Investigation 3: Part 3 A Matter of Volume  
Learn the conventions associated with measuring fluid volume.

Investigation 4: Part 1 Measuring Temperature  
Introduction to the concept of temperature and the tool used to measure it, the thermometer.

Investigation 4: Part 2 Melting and Evaporation  
Observe what happens to various substances when heated.

Investigation 4: Part 3 Reactions  
Determine mass of two starting products (vinegar and baking soda), mix them, and determine the mass of the products. Learn that new substances formed when baking soda and vinegar are mixed.