

# 4<sup>th</sup> Grade

## Density

### 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
<p><b>3.1c Objects have properties (length, width, size, shape, mass or weight, temperature, texture, and reflectiveness) that can be observed and measured. Two objects cannot occupy the same place at the same time.</b></p> <p><b>3.1d Measurements can be made with standard and nonstandard units.</b></p> <p><b>3.1e The material(s) an object is made up of determine some specific properties of the object (sink/float). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders.</b></p> <p><b>3.1f Objects and/or materials can be sorted or classified according to their properties.</b></p>	<p><b>Mass, Volume, and Density:</b> Students will use their background knowledge to describe their understandings of mass, volume, and density.</p> <p><b>Measuring the Mass of Solids:</b> Students will assemble and use a double pan balance to measure the mass of three balls: a super ball, black rubber ball, and a glass ball and serial order the balls by mass.</p> <p><b>Measuring the Mass of Liquids:</b> Students will measure the mass of 20 cubic centimeters of three liquids: rubbing alcohol, water, and salt water and serial order the liquids by mass.</p> <p><b>Measuring the Volume of Solids and Liquids:</b> Students will measure the volume of solids and liquids.</p> <p><b>Density:</b> Students will calculate the density of solids and liquids and place the solids and liquids in serial order.</p> <p><b>Using the Property of Density to Measure Mass:</b> Students will demonstrate an understanding of how the density of fresh water can be used to measure the mass of objects.</p>	<p>mass, density, volume, strategy, balance, level, calibrate, mass, plasticine, zeroing, serial order, volume, cubic centimeters, displacement, formula, compare, contrast</p>