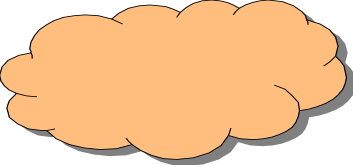

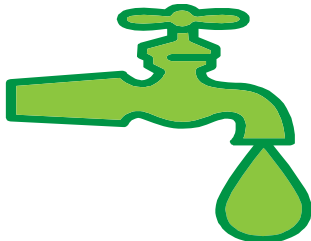
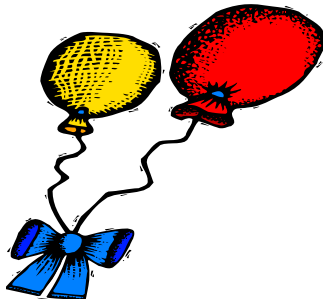


3 STATES OF MATTER: Solid, Liquid, Gas

**Academic Vocabulary— Science, 5-8** (adapted from *Building Academic Vocabulary* by Robert Marzano.)

Provide a student-friendly description, explanation, or example of the term.	Students <i>restate in their own words</i> in writing.	Students construct a <i>picture, symbol, or graphic representation</i> of the term.	Students <i>discuss</i> terms with one another—comparing pictures, descriptions and make additions revisions to notebook entries.
<p><b>MATTER</b>                      Matter is anything that has mass and occupies space. Often described in terms of <i>phases (states) of matter</i> because matter can change according to temperature... Phases include <i>solid, liquid, gas</i>.</p>	<p>Matter has mass (a measurement of how much matter there is in a body) &amp; occupies space. It can change according to temperature.</p>	<p>Matter= solid, liquid, or gas</p> 	<p>Students discuss, analyze, compare... add, revise notebook entries as necessary.</p>
<p><b>SOLID</b>                      Atoms are in a fixed position —tightly packed and strongly attracted to each other. They may vibrate but resist separation. Can be changed to liquid or gas phase by adding thermal energy. <i>Examples: rock, shoe, book, etc...</i></p>	<p>Solids are made up of fixed atoms that are tightly packed. They can vibrate but can't change positions or be separated. A rock is an example of a solid.</p>		<p>Students discuss, analyze, compare... add, revise notebook entries as necessary.</p>

3 STATES OF MATTER: Solid, Liquid, Gas

<p><b>LIQUID</b>          Atoms are strongly attracted but not as much as in a solid. Atoms remain close but are free to change positions. They take the shape of the container—they flow... May be changed to solid or gas by adding thermal energy.  <i>Examples: water, soft drinks, milk, tea, urine, fruit juices, tears, rain, etc...</i></p>	<p>Liquids are made of atoms that are closely packed but they can change positions. They take the shape of the container they're in. <i>Example is water...</i></p>		<p>Students discuss, analyze, compare... add, revise notebook entries as necessary.</p>
<p><b>GAS</b>          Molecules have very little attraction on each other. They move freely and are not very dense. They fill the container they're in-- adding thermal energy can change their physical state...  <i>Examples: hydrogen, oxygen, nitrogen, water vapor, fizz in carbonated drinks, etc...</i></p>	<p>Gases are made of atoms that move around freely and have little attraction to each other (atoms are far apart...). <i>Example is the air in a balloon.</i></p>		<p>Students discuss, analyze, compare... add, revise notebook entries as necessary.</p>
<p>Engage students periodically in <i>games and activities</i> that help them add to their knowledge of the terms. Many examples can be found in chapter 4 of <i>Building Academic Vocabulary</i> by Robert Marzano.</p>			