

**Sixth Grade Physical Science  
Grade Standards, Supporting Skills, and Examples**

**Indicator 1: Describe structures and properties of, and changes in, matter.**

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Knowledge)	<p><b>6.P.1.1. Students are able to identify the subatomic particles that make up atoms.</b></p> <ul style="list-style-type: none"> <li>• Electrons, protons, and neutrons</li> </ul>
(Application)	<p><b>6.P.1.2. Students are able to classify matter based on physical and chemical properties.</b></p> <p><b>Examples:</b> mass, weight, volume, acidity, density, texture, color, melting point, boiling point</p> <ul style="list-style-type: none"> <li>✓ Compare and contrast compounds and elements. Examples: sugar, salt, water (as compounds); Au, Fe, Na (as element symbols)</li> <li>✓ Use the Periodic Table as a tool to describe elements. Examples: symbols, metals/non-metals, groups/rows, families</li> </ul>
(Comprehension)	<p><b>6.P.1.3. Students are able to describe phase changes in matter differentiating between the particle motion in solids, liquids, and gases.</b></p>

**Indicator 2: Analyze forces, their forms, and their effects on motions.**

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Comprehension)	<p><b>6.P.2.1. Students are able to describe how push/pull forces acting on an object produce motion.</b></p> <p><b>Examples:</b> illustration of see-saw, sailboat on water, kite</p> <ul style="list-style-type: none"> <li>✓ Demonstrate how all forces have magnitude and direction.</li> <li>✓ Newton's Laws of Motion</li> </ul>

**Indicator 3: Analyze interactions of energy and matter.**

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Comprehension)	<p><b>6.P.3.1. Students are able to identify types of energy transformations.</b></p> <p><b>Examples:</b> mechanical to electrical, chemical to light, kinetic to potential (and vice versa)</p> <ul style="list-style-type: none"> <li>✓ Explain basic principles of electricity and magnetism including static, current, circuits, and magnetic fields.</li> <li>✓ Investigate the properties of light (electromagnetic spectrum).</li> <li>✓ Illustrate sunlight to chemical (photosynthesis).</li> </ul>

**Sixth Grade Physical Science  
Performance Descriptors**

<b>Advanced</b>	<p><b>Sixth grade students performing at the advanced level:</b></p> <ul style="list-style-type: none"> <li>• draw models of simple atoms indicating appropriate positions of protons, electrons, and neutrons;</li> <li>• identify physical and chemical changes;</li> <li>• explain the role of temperature in phase changes of matter;</li> <li>• predict motion(s) of an object acted on by multiple push/pull forces;</li> <li>• given a scenario, identify energy transformation(s).</li> </ul>
<b>Proficient</b>	<p><b>Sixth grade students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• identify the subatomic particles that make up atoms;</li> <li>• classify matter based on physical and chemical properties;</li> <li>• describe phase changes in matter differentiating between the particle motion in solids, liquids, and gases;</li> <li>• describe how push/pull forces acting on an object produce motion;</li> <li>• identify types of energy transformations.</li> </ul>
<b>Basic</b>	<p><b>Sixth grade students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• label the protons, neutrons, and electrons of an atom;</li> <li>• classify matter based on physical property;</li> <li>• given an illustration of particle motion, can identify solids, liquids, and gases;</li> <li>• given an illustration, identify push/pull forces;</li> <li>• give an example of one energy transformation.</li> </ul>

**Sixth Grade Physical Science  
ELL Performance Descriptors**

<b>Proficient</b>	<p><b>Sixth grade ELL students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• label the protons, neutrons, and electrons of an atom;</li> <li>• classify matter based on physical property;</li> <li>• given an illustration of particle motion, can identify solids, liquids, and gases;</li> <li>• given an illustration, identify push/pull forces;</li> <li>• give an example of one energy transformation;</li> <li>• ask questions related to science topics.</li> </ul>
<b>Intermediate</b>	<p><b>Sixth grade ELL students performing at the intermediate level:</b></p> <ul style="list-style-type: none"> <li>• label the protons and neutrons of an atom;</li> <li>• identify physical properties of matter;</li> <li>• given an illustration of particle motion, can identify solids and liquids;</li> <li>• given an illustration, identify push or pull forces;</li> <li>• identify potential energy transformation;</li> <li>• give simple oral responses to questions on topics presented in class.</li> </ul>
<b>Basic</b>	<p><b>Sixth grade ELL students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• label the protons, neutrons, and electrons of an atom;</li> <li>• recognize that matter has physical properties;</li> <li>• given an illustration of particle motion, identify solids;</li> <li>• given an illustration, identify push forces;</li> <li>• recognize kinetic energy;</li> <li>• participate in science activities and experiments with other students;</li> <li>• use correct pronunciation of science words;</li> <li>• respond correctly to yes or no questions on topics presented in class.</li> </ul>
<b>Emergent</b>	<p><b>Sixth grade ELL students performing at the emergent level:</b></p> <ul style="list-style-type: none"> <li>• use correct pronunciation of science words;</li> <li>• use non-verbal communication to express scientific ideas.</li> </ul>
<b>Pre-emergent</b>	<p><b>Sixth grade ELL students performing at the pre-emergent level:</b></p> <ul style="list-style-type: none"> <li>• observe and model appropriate cultural and learning behaviors from peers and adults;</li> <li>• listen to and observe comprehensible instruction and communicate understanding non-verbally.</li> </ul>

**Seventh Grade Physical Science  
Grade Standards, Supporting Skills, and Examples**

After careful consideration of current research and input from educators throughout the state, the Committee revised former standards to facilitate effective instruction and student mastery. Grade seven standards emphasize Life Science.

**Eighth Grade Physical Science  
Grade Standards, Supporting Skills, and Examples**

After careful consideration of current research and input from educators throughout the state, the Committee revised former standards to facilitate effective instruction and student mastery. Grade eight standards emphasize Earth/Space Science.

**Indicator 1: Describe structures and properties of, and changes in, matter.**

<b>Bloom's Taxonomy Level</b>	<b>Standard, Supporting Skills, and Examples</b>
(Analysis)	<p><b>8.P.1.1. Students are able to classify matter as elements, compounds, or mixtures.</b></p> <p><b>Example:</b> Na and Cl are elements that, chemically combined, form salt (NaCl) (compound).</p> <p><b>Example:</b> Salt and water form a mixture that can be physically separated.</p> <p>✓ Formulas</p>
(Application)	<p><b>8.P.1.2. Students are able to use the Periodic Table to compare and contrast families of elements and to classify elements as metals, metalloids, or non-metals.</b></p> <ul style="list-style-type: none"> <li>• Describe the relationship between the organization and the predictive nature of the Periodic Table.</li> <li>• Use the Bohr model to show the arrangement of the subatomic particles of atomic numbers 1 through 18.</li> </ul> <p>✓ Compare and contrast other atomic models.</p>
(Comprehension)	<p><b>8.P.1.3. Students are able to compare properties of matter resulting from physical and chemical changes.</b></p> <p><b>Examples:</b> weathering, burning, melting, acid rain</p> <p>✓ Ionic/covalent bonding</p>

**Indicator 2: Analyze forces, their forms, and their effects on motions.**

*See note above.*

**Indicator 3: Analyze interactions of energy and matter.**

*See note above.*

**Eighth Grade Physical Science  
Performance Descriptors**

<b>Advanced</b>	<p><b>Eighth grade students performing at the advanced level:</b></p> <ul style="list-style-type: none"> <li>• create models of elements, compounds, or mixtures;</li> <li>• explain the predictive nature of the Periodic Table;</li> <li>• predict properties of matter resulting from physical and chemical changes.</li> </ul>
<b>Proficient</b>	<p><b>Eighth grade students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• classify matter as elements, compounds, or mixtures;</li> <li>• use the Periodic Table to compare and contrast families of elements and classify elements as metals, metalloids, non-metals;</li> <li>• compare properties of matter resulting from physical and chemical changes.</li> </ul>
<b>Basic</b>	<p><b>Eighth grade students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• define elements, compounds, and mixtures;</li> <li>• use the Periodic Table to identify elements as metals, metalloids, non-metals;</li> <li>• identify physical and chemical changes.</li> </ul>

**Eighth Grade Physical Science  
ELL Performance Descriptors**

<b>Proficient</b>	<p><b>Eighth grade ELL students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• define elements, compounds, and mixtures;</li> <li>• use the Periodic Table to identify elements as metals, metalloids, non-metals;</li> <li>• identify physical and chemical changes;</li> <li>• ask questions related to science topics.</li> </ul>
<b>Intermediate</b>	<p><b>Eighth grade ELL students performing at the intermediate level:</b></p> <ul style="list-style-type: none"> <li>• define elements and compound;</li> <li>• read the names of elements on the Periodic Table;</li> <li>• identify physical changes;</li> <li>• give simple oral responses to questions on topics presented in class.</li> </ul>
<b>Basic</b>	<p><b>Eighth grade ELL students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• define an element;</li> <li>• recognize that the Periodic Table is used to organize the elements;</li> <li>• recognize that matter changes;</li> <li>• participate in science activities and experiments with other students;</li> <li>• use correct pronunciation of science words;</li> <li>• respond correctly to yes or no questions on topics</li> </ul>

	presented in class.
<b>Emergent</b>	<b>Eighth grade ELL students performing at the emergent level:</b> <ul style="list-style-type: none"><li>• use correct pronunciation of science words;</li><li>• use non-verbal communication to express scientific ideas.</li></ul>
<b>Pre-emergent</b>	<b>Eighth grade ELL students performing at the pre-emergent level:</b> <ul style="list-style-type: none"><li>• observe and model appropriate cultural and learning behaviors from peers and adults;</li><li>• listen to and observe comprehensible instruction and communicate understanding non-verbally.</li></ul>