

**Third 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
(Comprehension)	<p><b>3.P.1.1. Students are able to describe physical properties of matter using the senses (touch, smell, etc.).</b></p> <p><b>Examples:</b> color, size, shape, hardness, opacity, flexibility, texture, smell, temperature, weight</p> <ul style="list-style-type: none"> <li>• Define the five senses.</li> <li>• Define solid, liquid, and gas.</li> </ul>
(Application)	<p><b>3.P.1.2. Students are able to use tools to relate composition to physical properties.</b></p> <p><b>Example:</b> Use a magnifying glass to observe that matter is made of component parts.</p> <ul style="list-style-type: none"> <li>• Describe the basic characteristics of matter in relation to space and mass.</li> <li>• Recognize changes in matter from one state to another using water.</li> </ul>
(Application)	<p><b>3.P.1.3. Students are able to demonstrate how a different substance can be made by combining two or more substances.</b></p> <ul style="list-style-type: none"> <li>• Identify a mixture.</li> </ul> <p>Examples: Flour and water make paste. Flour, water, and salt make play-dough.</p>

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

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	(Mastery of this indicator does not emerge until fourth grade.)

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

<b>Bloom's Taxonomy Level</b>	<b>Standard, Supporting Skills, and Examples</b>
(Knowledge)	<p><b>3.P.3.1. Students are able to define energy and differentiate between sources of renewable and non-renewable energy.</b></p> <ul style="list-style-type: none"> <li>• Describe renewable and non-renewable energy. Examples, renewable: wind and water Examples, non-renewable: coal and oil</li> </ul>
(Application)	<p><b>3.P.3.2. Students are able to demonstrate how sound consists of vibrations and pitch.</b></p> <ul style="list-style-type: none"> <li>• Relate the rate of vibration to the pitch of sound. Example: tuning fork vibrations</li> <li>• Low tones are caused by slow vibrations; high tones are caused by fast vibrations. Example: Varied levels of water in glass containers being struck create different pitches.</li> </ul>
(Knowledge)	<p><b>3.P.3.3. Students are able to identify how sound is used as a means of communication.</b></p> <ul style="list-style-type: none"> <li>• Give examples of kinds of communication. Examples: telephone ringing, train whistle, fire alarm, sirens, voice, and animal noises</li> </ul>

**Third Grade Physical Science  
Performance Descriptors**

<b>Advanced</b>	<p><b>Third grade students performing at the advanced level:</b></p> <ul style="list-style-type: none"> <li>• compare and contrast the physical properties of granite and calcite;</li> <li>• predict what would happen if we overused a renewable or non-renewable energy/resource;</li> <li>• demonstrate how sound travels.</li> </ul>
<b>Proficient</b>	<p><b>Third grade students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• use a magnifying glass to observe and describe the physical properties of a rock;</li> <li>• demonstrate how individual materials combine to make a different substance;</li> <li>• define energy and label pictures of renewable and non-renewable energy;</li> <li>• demonstrate how sound consists of vibrations and how pitch changes;</li> <li>• explain the different ways sound is used to communicate.</li> </ul>

<b>Basic</b>	<p><b>Third grade students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• recognize physical properties of object;</li> <li>• use flour and water to make a substance;</li> <li>• sort pictures of renewable and non-renewable energy;</li> <li>• recognize different pitches.</li> </ul>
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**Third Grade Physical Science  
ELL Performance Descriptors**

<b>Proficient</b>	<p><b>Third grade ELL students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• recognize physical properties of objects (solids, liquids, gases);</li> <li>• sort pictures of renewable and non-renewable energy;</li> <li>• recognize different pitches.</li> </ul>
<b>Intermediate</b>	<p><b>Third grade ELL students performing at the intermediate level:</b></p> <ul style="list-style-type: none"> <li>• know that objects have physical properties;</li> <li>• sort pictures of renewable energy;</li> <li>• name different pitches.</li> </ul>
<b>Basic</b>	<p><b>Third grade ELL students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• name one physical property of a given object;</li> <li>• sort pictures of energy sources;</li> <li>• know that different pitches exist;</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>Third 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>Third 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>

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

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

Bloom's Taxonomy Level	Standards, Supporting Skills, and Examples
(Comprehension)	<p><b>4.P.1.1. Students are able to describe observable physical changes and properties in matter.</b></p> <p><b>Examples:</b> solubility (matter dissolving into water) and density (floating and sinking)</p> <ul style="list-style-type: none"> <li>• Define matter.</li> </ul>
(Analysis)	<p><b>4.P.1.2. Students are able to explain how some physical properties remain the same as the mass is changed.</b></p> <p><b>Example:</b> A block of salt will taste the same as a grain of salt.</p> <ul style="list-style-type: none"> <li>• Define mass.</li> </ul>
(Comprehension)	<p><b>4.P.1.3. Students are able to differentiate between the states of matter caused by changes in temperature using water.</b></p> <p><b>Example:</b> from ice to water to water vapor</p> <ul style="list-style-type: none"> <li>• Define states of matter.</li> </ul>

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

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Application)	<p><b>4.P.2.1. Students are able to demonstrate how forces act over a distance.</b></p> <p><b>Example:</b> <i>magnetism</i></p> <ul style="list-style-type: none"> <li>• Define force.</li> </ul>

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

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Knowledge)	<p><b>4.P.3.1. Students are able to identify materials as being conductors or insulators of electricity.</b></p> <p><b>Examples:</b> aluminum, wood, paper, plastic, glass, rubber band, iron, and steel</p> <ul style="list-style-type: none"> <li>• Define a conductor and an insulator.</li> </ul>
(Application)	<p><b>4.P.3.2. Students are able to construct and define a simple circuit.</b></p> <p><b>Examples:</b> open and closed circuits</p> <ul style="list-style-type: none"> <li>• Give examples of simple circuits.</li> <li>✓ Define parallel and series circuits.</li> </ul>
(Application)	<p><b>4.P.3.3. Students are able to use magnets, electromagnets, magnetic fields, and compasses to explore magnetic energy.</b></p> <ul style="list-style-type: none"> <li>• Define magnets and their properties.</li> <li>✓ Explain that electrical circuits can produce magnetic force.</li> <li>✓ Demonstrate polarity using magnets and dry cells.</li> </ul>

**Fourth Grade Physical Science  
Performance Descriptors**

<b>Advanced</b>	<p><b>Fourth grade students performing at the advanced level:</b></p> <ul style="list-style-type: none"> <li>• create water vapor;</li> <li>• design an electromagnet;</li> <li>• design an invention which conducts electricity;</li> <li>• demonstrate the difference between parallel and series circuits.</li> </ul>
<b>Proficient</b>	<p><b>Fourth grade students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• describe what happens to water when it is heated or cooled;</li> <li>• use magnets to define and demonstrate force at varying distances;</li> <li>• sort materials by their conductivity;</li> <li>• construct and define a simple electrical circuit.</li> </ul>
<b>Basic</b>	<p><b>Fourth grade students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• identify the three states of water;</li> <li>• explore the capabilities of magnets;</li> <li>• construct a simple electrical circuit.</li> </ul>

**Fourth Grade Physical Science  
ELL Performance Descriptors**

<b>Proficient</b>	<p><b>Fourth grade ELL students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• identify the three states of water;</li> <li>• know that magnets attract and repel;</li> <li>• construct a simple electrical circuit;</li> <li>• ask questions related to science topics.</li> </ul>
<b>Intermediate</b>	<p><b>Fourth grade ELL students performing at the intermediate level:</b></p> <ul style="list-style-type: none"> <li>• identify two states of water;</li> <li>• recognize the capabilities of magnets;</li> <li>• identify a simple electrical circuit;</li> <li>• give simple oral responses to questions on topics presented in class.</li> </ul>
<b>Basic</b>	<p><b>Fourth grade ELL students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• identify the liquid state of water;</li> <li>• explore magnets;</li> <li>• know that simple electrical circuits exist;</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>Fourth 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>Fourth 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>

**Fifth 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>5.P.1.1. Students are able to define matter on the basis of observable physical properties.</b></p> <p><b>Examples:</b> mass, volume, density, magnetism, physical state, and the ability to conduct heat, electricity, and sound</p> <ul style="list-style-type: none"> <li>• Explain the relationships among elements, molecules, and matter. Examples: carbon dioxide, water</li> <li>✓ Explain differences and similarities between a solution and other mixtures and changes that occur within. Examples: solution (sugar dissolving in water) and mixture (trail mix)</li> </ul>

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

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Knowledge)	<p><b>5.P.2.1. Students are able to identify forces in specific situations that require objects to interact, change directions, or stop.</b></p> <ul style="list-style-type: none"> <li>• Give examples of ways gravitational forces affect every object.</li> </ul>
(Analysis)	<p><b>5.P.2.2. Students are able to analyze the structure and design of simple and compound machines to determine how the machines make work easier by trading force for distance.</b></p> <ul style="list-style-type: none"> <li>• Distinguish between simple and compound machines. Examples: lever, pulley, wheel, axle, inclined plane, wedge, screw Example: how scissors cut paper</li> </ul>

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

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Application)	<p><b>5.P.3.1. Students are able to demonstrate and explain how to measure heat flow into an object.</b></p> <p><b>Example:</b> Measure temperatures of various materials placed in sunlight.</p> <ul style="list-style-type: none"> <li>• Interpret a thermometer.</li> </ul>
(Correspondence)	<p><b>5.P.3.2. Students are able to describe the Sun's ability to produce energy in the forms of light and heat.</b></p> <ul style="list-style-type: none"> <li>• Understand that the Sun produces energy.</li> </ul> <p>Example: energy from the Sun stored in coal and plants</p> <ul style="list-style-type: none"> <li>✓ Describe significant characteristics of different forms of energy.</li> <li>✓ Explain energy transfers and transformation of light.</li> </ul>
(Correspondence)	<p><b>5.P.3.3. Students are able to describe basic properties of light.</b></p> <p><b>Examples:</b> reflection, scattering, color spectrum, shadows</p>

**Fifth Grade Physical Science  
Performance Descriptors**

<b>Advanced</b>	<p><b>Fifth grade students performing at the advanced level:</b></p> <ul style="list-style-type: none"> <li>• demonstrate how compound machines make work easier by trading force for distance.</li> </ul>
<b>Proficient</b>	<p><b>Fifth grade students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• identify matter according to its observable physical properties;</li> <li>• demonstrate how simple machines make work easier by trading force for distance;</li> <li>• measure the temperature of two different objects to compare heat flow;</li> <li>• describe basic properties of light (reflection, scattering, color spectrum, shadows).</li> </ul>
<b>Basic</b>	<p><b>Fifth grade students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• define matter;</li> <li>• identify a simple machine;</li> <li>• measure temperature;</li> <li>• identify the spectrum of light.</li> </ul>



**Fifth Grade Physical Science  
ELL Performance Descriptors**

<b>Proficient</b>	<p><b>Fifth grade ELL students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• define matter;</li> <li>• identify a simple machine;</li> <li>• measure temperature;</li> <li>• identify the spectrum of light;</li> <li>• ask questions related to science topics.</li> </ul>
<b>Intermediate</b>	<p><b>Fifth grade ELL students performing at the intermediate level:</b></p> <ul style="list-style-type: none"> <li>• use appropriate vocabulary to describe matter (volume, mass, density);</li> <li>• name a simple machine;</li> <li>• measure temperature;</li> <li>• name the colors observed in the spectrum of light;</li> <li>• give simple oral responses to questions on topics presented in class.</li> </ul>
<b>Basic</b>	<p><b>Fifth grade ELL students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• use appropriate vocabulary to describe solids;</li> <li>• know that simple machines exist;</li> <li>• recognize a thermometer;</li> <li>• recognize the different colors in the spectrum of light;</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>Fifth 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>Fifth 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>