

**Kindergarten Nature of Science
Grade Standards, Supporting Skills, and Examples**

Indicator 1: Understand the nature and origin of scientific knowledge.

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

Indicator 2: Apply the skills necessary to conduct scientific investigations.

Note: These skills should be taught and practiced in grade-level study of Physical, Life, and Earth/Space Science although mastery is not expected at these grade levels.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	<ul style="list-style-type: none"> ✓ Students are able to use scientific thinking skills of observing and communicating. <ul style="list-style-type: none"> • Use their senses and simple instruments/tools to make observations. Example: Use hand lenses, balance scales. • Use non-standard units of measurement to compare objects. Example: Compare length of various leaves to determine which are longer/shorter than a given example. ✓ Students are able to safely conduct simple experiments.

**Kindergarten Nature of Science
Performance Descriptors**

Note: At the K-2 level, the teachers need to focus on observing and collecting information about the progress students are making related to the checkmark statements. The skills and concepts addressed in this goal are to be included across the other goals. Appropriate scientific instruction should provide students the opportunity to actively engage in scientific investigations.

**Kindergarten Nature of Science
ELL Performance Descriptors**

Proficient	Kindergarten ELL students performing at the proficient level: <ul style="list-style-type: none">• ask questions related to science topics.
Intermediate	Kindergarten ELL students performing at the intermediate level: <ul style="list-style-type: none">• give simple oral responses to questions on topics presented in class.
Basic	Kindergarten ELL students performing at the basic level: <ul style="list-style-type: none">• participate in science activities and experiments with other students;• use correct pronunciation of science words;• respond correctly to yes or no questions on topics presented in class.
Emergent	Kindergarten ELL students performing at the emergent level: <ul style="list-style-type: none">• use correct pronunciation of science words;• use non-verbal communication to express scientific ideas.
Pre-emergent	Kindergarten ELL students performing at the pre-emergent level: <ul style="list-style-type: none">• observe and model appropriate cultural and learning behaviors from peers and adults;• listen to and observe comprehensible instruction and communicate understanding non-verbally.

**First Grade Nature of Science
Grade Standards, Supporting Skills, and Examples**

Indicator 1: Understand the nature and origin of scientific knowledge.

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

Indicator 2: Apply the skills necessary to conduct scientific investigations.

Note: These skills should be taught and practiced in grade-level study of Physical, Life, and Earth/Space Science although mastery is not expected at these grade levels.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	<p>✓ Use scientific thinking skills of observing, communicating, and comparing.</p> <ul style="list-style-type: none"> • Enhance observations by using senses and simple instruments/tools to identify differences in properties. Example: Use magnets, balance scales, hand lenses, rulers for simple experiments. • Record observations and data. Example: Use pictures, numbers, graphs, or written statements to record experiment data. • Measure length, mass, and volume using non-standard and standard units when appropriate. Example: Use a balance scale to determine how many cubes it takes to balance a rock sample. <p>✓ Use safety procedures in conducting science investigations. Example: Explain why food used in an experiment is not for eating; wash hands after handling living things. Example: When exploring light/heat sources, do not touch hot things.</p>

First Grade Nature of Science Performance Descriptors

Note: At the K-2 level, the teachers need to focus on observing and collecting information about the progress students are making related to the checkmark statements. The skills and concepts addressed in this goal are to be included across the other goals. Appropriate scientific instruction should provide students the opportunity to actively engage in scientific investigations.

First Grade Nature of Science ELL Performance Descriptors

Proficient	First grade ELL students performing at the proficient level: <ul style="list-style-type: none"> • ask questions related to science topics.
Intermediate	First grade ELL students performing at the intermediate level: <ul style="list-style-type: none"> • give simple oral responses to questions on topics presented in class.
Basic	First grade ELL students performing at the basic level: <ul style="list-style-type: none"> • participate in science activities and experiments with other students; • use correct pronunciation of science words; • respond correctly to yes or no questions on topics presented in class.
Emergent	First grade ELL students performing at the emergent level: <ul style="list-style-type: none"> • use correct pronunciation of science words; • use non-verbal communication to express scientific ideas.
Pre-emergent	First grade ELL students performing at the pre-emergent level: <ul style="list-style-type: none"> • observe and model appropriate cultural and learning behaviors from peers and adults; • listen to and observe comprehensible instruction and communicate understanding non-verbally.

**Second Grade Nature of Science
Grade Standards, Supporting Skills, and Examples**

Indicator 1: Understand the nature and origin of scientific knowledge.

Note: These skills should be taught and practiced in grade-level study of Physical, Life, and Earth/Space Science although mastery is not expected at these grade levels.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	<p>✓ Explore scientific contributions made by people.</p> <p>Example: Share a presentation with the class on Alexander Graham Bell, Ben Franklin, Rachel Carson, Thomas Edison, George Washington Carver, Wright brothers.</p>

Indicator 2: Apply the skills necessary to conduct scientific investigations.

Note: These skills should be taught and practiced in grade-level study of Physical, Life, and Earth/Space Science although mastery is not expected at these grade levels.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	<p>✓ Use scientific thinking skills of observing, communicating, classifying, and comparing.</p> <ul style="list-style-type: none"> • Measure length, volume, mass, and temperature in appropriate units. <p>Examples: Use rulers to measure plant growth. Use balance scales to compare the mass (weight) of rocks.</p> <p>Example: Read thermometers on a daily basis to record outside temperature as part of a daily weather log.</p> <ul style="list-style-type: none"> • Make predictions based on observations rather than random guesses. <p>Example: Given a collection of objects, predict which will sink and which will float.</p> <ul style="list-style-type: none"> • Record and interpret observations and data. <p>Example: Use data from weather journal to create a monthly weather graph.</p> <p>Example: Make a timeline to illustrate the life cycle of an insect.</p> <p>✓ Write descriptions and/or draw pictures to represent</p>

	<p>sequences of steps, events, and observations.</p> <p>Examples: Create scientific diagrams illustrating a life cycle; write the steps for doing an experiment with magnets.</p> <p>✓ Recognize importance of safety procedures and equipment.</p> <p>Example: Direct projectiles away from peers when flying gliders.</p>
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**Second Grade Nature of Science
Performance Descriptors**

Note: At the K-2 level, the teachers need to focus on observing and collecting information about the progress students are making related to the checkmark statements. The skills and concepts addressed in this goal are to be included across the other goals. Appropriate scientific instruction should provide students the opportunity to actively engage in scientific investigations.

**Second Grade Nature of Science
ELL Performance Descriptors**

Proficient	<p>Second grade ELL students performing at the proficient level:</p> <ul style="list-style-type: none"> • ask questions related to science topics.
Intermediate	<p>Second grade ELL students performing at the intermediate level:</p> <ul style="list-style-type: none"> • give simple oral responses to questions on topics presented in class.
Basic	<p>Second grade ELL students performing at the basic level:</p> <ul style="list-style-type: none"> • participate in science activities and experiments with other students; • use correct pronunciation of science words; • respond correctly to yes or no questions on topics presented in class.
Emergent	<p>Second grade ELL students performing at the emergent level:</p> <ul style="list-style-type: none"> • use correct pronunciation of science words; • use non-verbal communication to express scientific ideas.
Pre-emergent	<p>Second grade ELL students performing at the pre-emergent level:</p> <ul style="list-style-type: none"> • observe and model appropriate cultural and learning behaviors from peers and adults; • listen to and observe comprehensible instruction and communicate understanding non-verbally.

