

**Third 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
	<ul style="list-style-type: none"> ✓ Identify scientific contributions. <ul style="list-style-type: none"> • Automobile • Telephone • Flight • Motors ✓ Explain science as a process involving asking and answering questions.

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"> ✓ Use investigations in science to acquire knowledge. <p>Example: Investigate plant growth given environmental variables.</p> <ul style="list-style-type: none"> • Make observations. • Make predictions. • Ask questions. • Plan investigations. • Use appropriate scientific equipment and proper safety procedures in all investigations. • Use appropriate metric measurement to collect, record, chart, and/or graph data. • Interpret data. • Communicate results.

**Third Grade Nature of Science
Performance Descriptors**

Note: At the third grade 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.

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

Proficient	<p>Third grade ELL students performing at the proficient level:</p> <ul style="list-style-type: none"> • ask questions related to science topics.
Intermediate	<p>Third grade ELL students performing at the intermediate level:</p> <ul style="list-style-type: none"> • give simple oral responses to questions on topic presented in class.
Basic	<p>Third 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>Third 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>Third 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.

**Fourth 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
	<ul style="list-style-type: none"> ✓ Identify people who have revolutionized scientific thinking. <ul style="list-style-type: none"> • Samuel Morse • Thomas Edison • Benjamin Franklin ✓ Describe science as the process of asking and answering questions and comparing the results to what is already known. Example: KWL Chart

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"> ✓ Use investigations in science to acquire knowledge. Example: Investigate the effect of surface area and air temperature on evaporation. <ul style="list-style-type: none"> • Make observations. • Make predictions. • Ask questions. • Form a simple hypothesis. • Plan investigations. • Use appropriate scientific equipment and proper safety procedures in all investigations. • Use appropriate metric measurement to collect, record,

	<p>chart, and/or graph data.</p> <ul style="list-style-type: none"> • Interpret data. • Communicate results. <p>✓ Recognize the effect of manipulated variables on the outcomes of events.</p>
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**Fourth Grade Nature of Science
Performance Descriptors**

Note: At the fourth grade 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.

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

Proficient	<p>Fourth grade ELL students performing at the proficient level:</p> <ul style="list-style-type: none"> • ask questions related to science topics.
Intermediate	<p>Fourth 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>Fourth 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>Fourth 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>Fourth 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.

**Fifth 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
	<ul style="list-style-type: none"> ✓ Investigate scientific contributions of people who have revolutionized scientific thinking. ✓ Describe science as a body of knowledge and an investigative process. ✓ Describe how scientific knowledge increases and changes over time.

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"> ✓ Use investigations in science to accumulate knowledge. Example: Record daily weather conditions to form a weather pattern. • Make observations. • Make predictions. • Differentiate between a hypothesis and a prediction. • Ask questions. • Formulate hypotheses based on cause and effect relationships. • Plan investigations. • Use appropriate scientific equipment and proper safety procedures in all investigations. • Use appropriate metric measurement to collect, record, chart, and/or graph data. • Interpret data and recognize numerical data that are contradictory or unusual in experimental results. • Communicate results. • Define variables that must be held constant in a specific experimental situation.

**Fifth Grade Nature of Science
Performance Descriptors**

Note: At the fifth grade 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.

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

Proficient	Fifth grade ELL students performing at the proficient level: <ul style="list-style-type: none"> • ask questions related to science topics.
Intermediate	Fifth 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	Fifth 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	Fifth 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	Fifth 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.