

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

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Comprehension)	<p>6.L.1.1. Students are able to illustrate the difference between plant and animal cells.</p> <ul style="list-style-type: none"> • Plant cells have chloroplasts and cell walls. ✓ Identify basic cell organelles and their functions. ✓ Recognize cells as the building blocks of living things. • Observe cells with a compound microscope.
(Comprehension)	<p>6.L.1.2. Students are able to explain the importance and scientific use of a classification system.</p> <ul style="list-style-type: none"> • Management of diversity for organization and categorization • Uniform scientific communication <p>Example: identification and classification of newly-discovered organisms</p> <ul style="list-style-type: none"> ✓ Kingdom, phylum, class, order, family, genus, species ✓ Kingdom classification system (monera, protista, plantae, fungi, animalia)

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	<ul style="list-style-type: none"> ✓ Investigate the lineage of organisms to predict traits and features. <p>Examples: family genealogy, Mendel's pea plants, Punnett Squares</p> <ul style="list-style-type: none"> ✓ Describe the difference between a hybrid and a purebred trait.

Indicator 3: Analyze how organisms are linked to one another and the environment.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	<ul style="list-style-type: none"> ✓ Model cycles in ecosystems. Examples: water, carbon dioxide/oxygen ✓ Describe the relationship between characteristics of biomes and the organisms that live there. ✓ Describe how organisms adapt to biotic and abiotic factors in a biome.

**Sixth Grade Life Science
Performance Descriptors**

Advanced	<p>Sixth grade students performing at the advanced level:</p> <ul style="list-style-type: none"> • explain the reasons for the differences between plant and animal cells; • design a classification system.
Proficient	<p>Sixth grade students performing at the proficient level:</p> <ul style="list-style-type: none"> • illustrate the difference between plant and animal cells; • explain the importance and scientific use of a classification system.
Basic	<p>Sixth grade students performing at the basic level:</p> <ul style="list-style-type: none"> • name two similarities and differences between plant and animal cells; • list the five kingdoms.

**Sixth Grade Life Science
ELL Performance Descriptors**

Proficient	<p>Sixth grade ELL students performing at the proficient level:</p> <ul style="list-style-type: none"> • name two similarities and differences between plant and animal cells; • list the five kingdoms; • ask questions related to science topics.
Intermediate	<p>Sixth grade ELL students performing at the intermediate level:</p> <ul style="list-style-type: none"> • name a similarity and difference between a plant and an animal cell; • list three of the five kingdoms; • give simple oral responses to questions on topics presented in class.

<p style="text-align: center;">Basic</p>	<p>Sixth grade ELL students performing at the basic level:</p> <ul style="list-style-type: none"> • recognize similarities and differences between plant and animal cells; • list two of the five kingdoms; • 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.
<p style="text-align: center;">Emergent</p>	<p>Sixth 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.
<p style="text-align: center;">Pre-emergent</p>	<p>Sixth 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.

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

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Knowledge)	<p>7.L.1.1. Students are able to identify basic cell organelles and their functions.</p> <ul style="list-style-type: none"> • Observe cells with a compound microscope. Examples: cell membranes, cell wall, cytoplasm, vacuoles, nucleus • Describe the function of the cell membrane to include active transport and passive transport (diffusion, osmosis). • Describe cell walls as providing support and shape. • Describe cytoplasm. • Describe vacuoles. • Describe the function of the nucleus. <ul style="list-style-type: none"> ✓ DNA replication ✓ Protein synthesis (ribosomes) ✓ Transcription/translation ✓ Endoplasmic reticulum ✓ Lysosomes ✓ Chloroplasts role in photosynthesis ✓ Mitochondria role in respiration
(Comprehension)	<p>7.L.1.2. Students are able to identify and explain the function of the human systems and the organs within each system.</p> <ul style="list-style-type: none"> • Skeletal/support • Muscular • Digestive • Respiratory • Circulatory • Reproductive ✓ Endocrine

	<ul style="list-style-type: none"> ✓ Immune ✓ Nervous ✓ Excretory ✓ Integumentary
(Application)	<p>7.L.1.3. Students are able to classify organisms by using the currently recognized kingdoms.</p> <p>Examples: monera, protista, plantae, fungi, animalia</p> <ul style="list-style-type: none"> ✓ Identify and compare the basic structure and function of major taxa. ✓ Describe the levels of organization within organisms. <p>Example: cells to tissues to organs to systems to organisms</p>
(Comprehension)	<p>7.L.1.4. Students are able to describe and identify the structure of vascular and non-vascular plants.</p> <p>Examples: structures of root stems, leaves, and flowers</p>

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Comprehension)	<p>7.L.2.1. Students are able to distinguish between processes involved in sexual and asexual reproduction.</p> <ul style="list-style-type: none"> • Model the process of cell division. <p>Examples: mitosis and meiosis</p> <ul style="list-style-type: none"> ✓ Identify the role of genetics in the transmission of traits and characteristics in organisms. <p>Examples: Punnett Square, selective breeding, adaptations, natural selection, multiple traits, pedigree</p>

Indicator 3: Analyze how organisms are linked to one another and the environment.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Application)	<p>7.L.3.1. Students are able to predict the effects of biotic and abiotic factors on a species' survival.</p> <p>Examples: adaptations, genetic defects, population disturbances, over-reproduction, animal behavior, flooding, global warming, oil spills, human activity</p> <p>✓ Describe processes by which matter and energy flow through an ecosystem.</p> <p>Examples: photosynthesis, respiration, nitrogen cycle</p> <p>✓ Use geospatial technologies to investigate natural phenomena.</p> <p>Examples: GPS, GIS, remote sensing</p>

**Seventh Grade Life Science
Performance Descriptors**

Advanced	<p>Seventh grade students performing at the advanced level:</p> <ul style="list-style-type: none"> • compare and contrast hierarchical levels within the five kingdoms; • identify organism by taxonomic level using a dichotomous key; • given the characteristics of a plant, classify it as vascular or non-vascular; • compare and contrast sexual and asexual reproduction in plants and animals.
Proficient	<p>Seventh grade students performing at the proficient level:</p> <ul style="list-style-type: none"> • identify basic cell organelles and their functions; • identify and explain the function of the human systems and the organs within each system; • classify organisms by using the currently recognized kingdoms; • describe and identify the structure of vascular and non-vascular plants; • distinguish between processes involved in sexual and asexual reproduction; • predict the effects of biotic and abiotic factors on a species survival.
Basic	<p>Seventh grade students performing at the basic level:</p> <ul style="list-style-type: none"> • label the basic cell parts using a word bank; • using a list, order the organization of organisms; • give examples and characteristics of organisms from each kingdom;

	<ul style="list-style-type: none"> • using a word bank, label the parts of a flower; • define sexual and asexual reproduction.
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**Seventh Grade Life Science
ELL Performance Descriptors**

Proficient	<p>Seventh grade ELL students performing at the proficient level:</p> <ul style="list-style-type: none"> • label the basic cell parts using a word bank; • using a list, order the organization of organisms (cell, tissue, organ, system); • give examples and characteristics of organisms from each kingdom; • using a word bank, label the parts of a flower; • define sexual and asexual reproduction; • ask questions related to science topics.
Intermediate	<p>Seventh grade ELL students performing at the intermediate level:</p> <ul style="list-style-type: none"> • recognize the basic cell parts; • recognize that organisms range from simple to complex; • give examples of organisms from each kingdom; • label two parts of a flower (leaf and stem); • define sexual or asexual reproduction; • give simple oral responses to questions on topics presented in class.
Basic	<p>Seventh grade ELL students performing at the basic level:</p> <ul style="list-style-type: none"> • recognize that cells have parts; • recognize that organisms have more than one part; • give examples of organisms; • recognize that a flower has parts; • define sexual reproduction; • 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>Seventh 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>Seventh 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.

**Eighth Grade Life 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.

