NGSS and TEKS Alignment by The Science Duo

Life Science Standards

Middle School Science

Alignment of NGSS Life Science Standards (MS-LS) to Texas Essential Knowledge and Skills Standards (6-8th Grade)

Quick Guide Version (with product links)

Life Science

MS-LS1 From Molecules to Organisms: Structures and Processes			
NGSS Standard	TEKS	Bundle Links in The Science Duo Shop	Bundle Links on TPT
MS-LS1-1	6.13A, 6.13B, 7.13B, 8.13A	6.13A, 6.13B, 7.13B, 8.13A	6.13A, 6.13B, 7.13B, 8.13A
MS-LS1-2	6.8B, 6.13A, 6.13B, 7.13B, 8.13A, 8.13B	6.8B, 6.13A, 6.13B, 7.13B, 8.13A, 8.13B	6.8B, 6.13A, 6.13B, 7.13B, 8.13A, 8.13B
MS-LS1-3	6.13A, 7.13A, 7.13B, 8.13A	6.13A, 7.13A, 7.13B, 8.13A	6.13A, 7.13A, 7.13B, 8.13A
MS-LS1-4	6.13C, 7.13C, 7.13D, 8.12C, 8.13C	6.13C, 7.13C, 7.13D, 8.12C, 8.13C	6.13C, 7.13C, 7.13D, 8.12C, 8.13C
MS-LS1-5	6.12A, 6.13C, 7.13C, 7.13D, 8.12C, 8.13C	6.12A, 6.13C, 7.13C, 7.13D, 8.12C, 8.13C	6.12A, 6.13C, 7.13C, 7.13D, 8.12C, 8.13C
MS-LS1-6	6.8B, 8.6E	6.8B, 8.6E	6.8B, 8.6E
MS-LS1-7	6.8B, 8.6E	6.8B, 8.6E	6.8B, 8.6E
MS-LS1-8	7.13A	7.13A	7.13A

MS-LS2 Ecosystems: Interactions, Energy, and Dynamics			
NGSS Standard	TEKS	Bundle Links in The Science Duo Shop	Bundle Links on TPT
MS-LS2-1	6.12A, 6.12B, 7.12A, 7.12B, 8.12A	6.12A, 6.12B, 7.12A, 7.12B, 8.12A	6.12A, 6.12B, 7.12A, 7.12B, 8.12A
MS-LS2-2	6.12A, 6.12B, 6.12C, 7.12A, 7.12B, 7.14A, 7.14B, 8.12A	6.12A, 6.12B, 6.12C, 7.12A, 7.12B, 7.14A, 7.14B, 8.12A	6.12A, 6.12B, 6.12C, 7.12A, 7.12B, 7.14A, 7.14B, 8.12A
MS-LS2-3	6.8B, 6.12A, 6.12B, 7.12B, 7.14B, 8.12A	6.8B, 6.12A, 6.12B, 7.12B, 7.14B, 8.12A	6.8B, 6.12A, 6.12B, 7.12B, 7.14B, 8.12A

MS-LS2-4	6.12A, 6.12B, 6.12C, 6.13C, 7.12B, 7.14A, 7.14B, 8.12A, 8.12B, 8.13C	6.12A, 6.12B, 6.12C, 6.13C, 7.12B, 7.14A, 7.14B, 8.12A, 8.12B, 8.13C	6.12A, 6.12B, 6.12C, 6.13C, 7.12B, 7.14A, 7.14B, 8.12A, 8.12B, 8.13C
MS-LS2-5	6.8B, 6.12A, 6.12B, 6.12C, 6.13C, 7.12A, 7.12B, 7.14B, 8.12A, 8.12C	6.8B, 6.12A, 6.12B, 6.12C, 6.13C, 7.12A, 7.12B, 7.14B, 8.12A, 8.12C	6.8B, 6.12A, 6.12B, 6.12C, 6.13C, 7.12A, 7.12B, 7.14B, 8.12A, 8.12C

MS-LS3 Heredity: Inheritance and Variation of Traits			
NGSS Standard	TEKS	Bundle Links in The Science Duo Shop	Bundle Links on TPT
MS-LS3-1	6.13C, 7.13D, 8.13B, 8.13C	6.13C, 7.13D, 8.13B, 8.13C	6.13C, 7.13D, 8.13B, 8.13C
MS-LS3-2	7.13C, 7.13D, 8.13B, 8.13C	7.13C, 7.13D, 8.13B, 8.13C	7.13C, 7.13D, 8.13B, 8.13C

MS-LS4 Biological Evolution: Unity and Diversity			
NGSS Standard	TEKS	Bundle Links in The Science Duo Shop	Bundle Links on TPT
MS-LS4-1	6.13C, 7.9C, 8.13C	6.13C, 7.9C, 8.13C	6.13C, 7.9C, 8.13C
MS-LS4-2	No TEKS match this standard.		
MS-LS4-3	7.13C* **This TEKS does not fully cover this standard but provides background knowledge.*	7.13C	7.13C
MS-LS4-4	6.13C, 7.13C	6.13C, 7.13C	6.13C, 7.13C
MS-LS4-5	7.13D	7.13D	7.13D
MS-LS4-6	7.13D, 8.13C	7.13D, 8.13C	7.13D, 8.13C

Extended Version with Standards (no links)

MS-LS1 From Molecules to Organisms: Structures and Processes

NGSS Standard	TEKS
MS-LS1-1 Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.	6.13A describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function.
	6.13B identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.
	7.13B describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals.
	8.13A identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells.
MS-LS1-2 Develop and use a model to describe the function of a cell as a whole and ways the parts of cells contribute to the function.	6.8B describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.
	6.13A describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function.
	6.13B identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.
	7.13B describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals.
	8.13A identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells.
	8.13B describe the function of genes within chromosomes in determining inherited traits of offspring.
MS-LS1-3 Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.	6.13A describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function.
	7.13A identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems.

	7.13B describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals.
	8.13A identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells.
MS-LS1-4 Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.	6.13C describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.
	7.13C compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.
	7.13D describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.
	8.12C describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.
	8.13C describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.
MS-LS1-5 Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.	6.12A investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.
	6.13C describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.
	7.13C compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.
	7.13D describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.
	8.12C describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.
	8.13C describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.
MS-LS1-6 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy	6.8B describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.
	7.12A diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.
	7.12B describe how ecosystems are sustained by the continuous flow of energy

into and out of organisms.	and the recycling of matter and nutrients within the biosphere.
	8.6E investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.
	8.12A explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.
	8.13A identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells.
MS-LS1-7 Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.	6.8B describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.
	8.6E investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.
	8.13A identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells.
MS-LS1-8 Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior of storage as memories.	7.13A identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems.

MS-LS2 Ecosystems: Interactions, Energy, and Dynamics

NGSS Standard	TEKS
MS-LS2-1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.	6.12A investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.
	6.12B describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.
	7.12A diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

	7.12B describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.
	8.12A explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.
MS-LS2-2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.	6.12A investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.
	6.12B describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.
	6.12C describe the hierarchical organization of organism, population, and community within an ecosystem.
	7.12A diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.
	7.12B describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.
	7.14A describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.
	7.14B describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.
	8.12A explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.
MS-LS2-3 Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.	6.8B describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.
	6.12A investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.
	6.12B describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.
	7.12B describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.
	7.14B describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

	8.12A explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.
MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.	6.12A investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.
	6.12B describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.
	6.12C describe the hierarchical organization of organism, population, and community within an ecosystem.
	6.13C describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.
	7.12B describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.
	7.14A describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.
	7.14B describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.
	8.12A explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.
	8.12B describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.
	8.13C describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.
MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services.	6.8B describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.
	6.12A investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.
	6.12B describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.
	6.12C describe the hierarchical organization of organism, population, and

	community within an ecosystem.
	6.13C describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.
	7.12A diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.
	7.12B describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.
	7.14B describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.
	8.12A explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems.
	8.13C describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

MS-LS3 Heredity: Inheritance and Variation of Traits

NGSS Standard	TEKS
MS-LS3-1 Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.	6.13C describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.
	7.13D describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.
	8.13B describe the function of genes within chromosomes in determining inherited traits of offspring.
	8.13C describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.
MS-LS3-2 Develop and use a model to describe why asexual reproduction results in offspring with identical	7.13C compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.
	7.13D describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

genetic information and sexual reproduction results in offspring with genetic variation.	8.13B describe the function of genes within chromosomes in determining inherited traits of offspring.
	8.13C describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

MS-LS4 Biological Evolution: Unity and Diversity

NGSS Standard	TEKS
MS-LS4-1	6.13C describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.
	7.9C analyze the characteristics of Earth that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere.
	8.13C describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.
MS-LPS4-2	No TEKS match this standard.
MS-LS4-3	7.13C compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.* *This TEKS does not fully cover this standard but provides background knowledge.
MS-LS4-4	6.13C describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.
	7.13C compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.
MS-LS4-5	7.13D describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.
MS-LS4-6	7.13D describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.
	8.13C describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.