


Component Idea	Scope	Performance Expectation (PE)	Disciplinary Core Idea (DCI)	Science and Engineering Practice(s) (SEP)	Crosscutting Concepts (CCC)
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LS1 From Molecules to Organisms: Structure and Processes

Structure and Function	What are Cells?	MS-LS1-1	LS1.A (A)	Planning and Carrying Out Investigations	Scale, Proportion, and Quantity
	Anatomy of a Cell	MS-LS1-2	LS1.A (B)	Developing and Using Models	Structure and Function
	Bodies and Systems	MS-LS1-3	LS1.A (C)	Engaging in Argument from Evidence	Systems and System Models
Growth and Development of Organisms	Reproduction in Plants and Animals	MS-LS1-4	LS1.B	Engaging in Argument from Evidence	Cause and Effect
	Growth of Plants	MS-LS1-4	LS1.B	Engaging in Argument from Evidence	Cause and Effect
Organization for Matter and Energy Flow in Organisms	Introduction to Photosynthesis	MS-LS1-6	LS1.C PS3.D	Constructing Explanations and Designing Solutions	Energy and Matter
	Energy Flow in Organisms	MS-LS1-7	LS1.C PS3.D	Developing and Using Models	Energy and Matter
Information Processing	Sensory Receptors	MS-LS1-8	LS1.D	Obtaining, Evaluating, and Communicating Information	Cause and Effect

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 LS2 Ecosystems: Interactions, Energy, and Dynamics					
Interdependent Relationships in Ecosystems	Organism Interactions in Ecosystems	MS-LS2-1	LS2.A	Analyzing and Interpreting Data	Cause and Effect
	Competition in Ecosystems	MS-LS2-1	LS2.A (B) LS2.A (C)	Analyzing and Interpreting Data	Cause and Effect
	Predation in Ecosystems	MS-LS2-2	LS2.A (D)	Constructing Explanations and Designing Solutions	Patterns
Cycle of Matter and Energy Transfer in Ecosystems	Matter and Energy in Food Webs	MS-LS2-3	LS2.B	Developing and Using Models	Energy and Matter
Ecosystem Dynamics, Functioning, and Resilience	The Dynamic Nature of Ecosystems	MS-LS2-4	LS2.C (A)	Engaging in Argument from Evidence	Stability and Change
	Ecosystem Biodiversity	MS-LS2-5	LS2.C (B) ETS1.B ETS1.B	Engaging in Argument from Evidence	Stability and Change
Biodiversity and Humans	Changes in Biodiversity	MS-LS2-5	LS4.D(0) ETS1.B	Engaging in Argument from Evidence	Stability and Change

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LS3 Heredity: Inheritance and Variation of Traits

Inheritance of Traits	Genes and Gene Mutations	MS-LS3-1	LS3.A (A)	Developing and Using Models	Structure and Function
	Inheritance	MS-LS3-2	LS3.A (B)	Developing and Using Models	Cause and Effect
Variation of Traits	Genetic Variation	MS-LS3-2	LS3.B (A)	Developing and Using Models	Cause and Effect
	Mutations	MS-LS3-1	LS3.B (B)	Developing and Using Models	Structure and Function
Growth and Development of Organisms	Reproduction and Variation	MS-LS3-2	LS1.B: (0)	Developing and Using Models	Structure and Function



LS4 Biological Evolution: Unity and Diversity

Evidence of Common Ancestry and Diversity	Fossil Record	MS-LS4-1	LS4.A (A)	Analyzing and Interpreting Data	Patterns
	Evolutionary History and Relationships	MS-LS4-2	LS4.A (B)	Constructing Explanations and Designing Solutions	Patterns
	Embryonic Development	MS-LS4-3	LS4.A (C)	Analyzing and Interpreting Data	Patterns
Natural Selection	Natural Selection and Populations	MS-LS4-4	LS4.B (A)	Constructing Explanations and Designing Solutions	Cause and Effect
	Artificial Selection	MS-LS4-5	LS4.B (B)	Obtaining, Evaluating, and Communicating Information	Cause and Effect
Adaptation	Adaptation by Natural Selection	MS-LS4-6	LS4.C (0)	Using Mathematics and Computational Thinking	Cause and Effect