Component Idea	Scope	Performance Expectation (PE)	Disciplinary Core Idea (DCI)	Science and Engineering Practice(s) (SEP)	Crosscutting Concepts (CCC)
LS1 From Molecules to Organisms: Structure and Processes					
Structure and Function	**System Interactions**	HS-LS1-2	LS1.A	Developing and Using Models	Systems and System Models
	Feedback Mechanisms	HS-LS1-3	LS1.A.4	Planning and Carrying Out Investigations	Stability and Change
	Essential Functions of Life	HS-LS1-1	LS1.A	Constructing Explanations and Designing Solutions	Structure and Function
	Inheritance of Traits	HS-LS3-1	LS1.A | LS3.A	Asking Questions and Defining Problems	Cause and Effect
Organization for Matter and Energy Flow in Organisms	**Synthesis of Macromolecules**	HS-LS1-6 | HS-LS1-7	LS1.C	Constructing Explanations and Designing Solutions | Developing and Using Models	Energy and Matter
	Photosynthesis	HS-LS1-5	LS1.C	Developing and Using Models	Energy and Matter
	Cellular Respiration	HS-LS1-7	LS1.C	Developing and Using Models	Energy and Matter
Growth and Development of Organisms	**Cell Division**	HS-LS1-4	LS1.B	Developing and Using Models	Systems and System Models

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LS2 Ecosystems: Interactions, Energy, and Dynamics					
Cycles of Matter and Energy Transfer in Ecosystems	**The Carbon Cycle**	HS-LS2-5	LS2.B	Developing and Using Models	Systems andSystem Models
	Bioenergetics	HS-LS2-3	LS2.B	Constructing Explanations and Designing Solutions	Energy and Matter
	Transfer of Energy in Ecosystems	HS-LS2-4	LS2.B	Using Mathematics and Computational Thinking	Energy and Matter
Ecosystem Dynamics, Functioning, and Resilience	**Human Impact on the Environment**	HS-LS2-7	LS2.C	Constructing Explanations and Designing Solutions	Stability and Change
Interdependent Relationships in Ecosystems	**Interdependent Relationships in Ecosystems**	HS-LS2-1 | HS-LS2-2	LS2.A	Using Mathematics and Computational Thinking	Scale, Proportion, and Quantity
Ecosystem Dynamics, Functioning, and Resilience	**Ecosystem Dynamics**	HS-LS2-2 | HS-LS2-6 | HS-ETS1-1	LS2.C	Using Mathematics and Computational Thinking | Engaging in Argument from Evidence	Stability and Change
Social Interactions and Group Behavior	**Animal Behavior**	HS-LS2-8	LS2.D	Engaging in Argument from Evidence	Cause and Effect
LS3 Heredity: Inheritance and Variation of Traits					
Variation of Traits	**Variation of Traits**	HS-LS3-2	LS3.B	Engaging in Argument from Evidence	Cause and Effect
	Genetics	HS-LS3-2 | HS-LS3-3	LS3.B	Engaging in Argument from Evidence | Analyzing and Interpreting Data	Cause and Effect | Systems and System Models

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LS4 Biological Evolution: Unity and Diversity					
Evidence of Common Ancestry and Diversity	**Evidence of a Common Ancestry**	HS-LS4-1	LS4.A	Obtaining, Evaluating, and Communicating Information	Patterns
Natural Selection	**Natural Selection**	HS-LS4-2 | HS-LS4-3	LS4.B	Constructing Explanations and Designing Solutions | Analyzing and Interpreting Data	Cause and Effect | Patterns
Adaptation	**Evolution**	HS-LS4-2 | HS-LS4-4	LS4.C	Constructing Explanations and Designing Solutions	Cause and Effect | Patterns
	Envrionmental Influences on Adaptation	HS-LS4-6	LS4.C	Using Mathematics and Computational Thinking	Cause and Effect
	Extinction	HS-LS4-5	LS4.C	Engaging in Argument from Evidence	Cause and Effect
Biodiversity and Humans	**Human Impacts on Biodiversity**	HS-LS4-6	LS4.D	Using Mathematics and Computational Thiking	Cause and Effect