

**Disciplinary Core Ideas**

***Life Sciences***

**LS1—From Molecules to Organisms: Structures and Processes**

*How do organisms live, grow, respond to their environment, and reproduce?*

**LS1.A: STRUCTURE AND FUNCTION:** *How do the structures of organisms enable life’s functions?*

**LS1.B: GROWTH AND DEVELOPMENT OF ORGANISMS:** *How do organisms grow and develop*?

**LS1.C: ORGANIZATION FOR MATTER AND ENERGY FLOW IN ORGANISMS**: *How do organisms obtain and use the matter and energy they need to live and grow?*

**LS1.D: INFORMATION PROCESSING:** *How do organisms detect, process, and use information about the environment?*

**LS2—Ecosystems: Interactions, Energy, and Dynamics**

*How and why do organisms interact with their environment and what are the effects of these interactions?*

**LS2.A: INTERDEPENDENT RELATIONSHIPS IN ECOSYSTEMS:** *How do organisms interact with the living and nonliving environments to obtain matter and energy?*

**LS2.B: CYCLES OF MATTER AND ENERGY TRANSFER IN ECOSYSTEMS:** *How do matter and energy move through an ecosystem?*

**LS2.C: ECOSYSTEM DYNAMICS, FUNCTIONING, AND RESILIENCE**: *What happens to ecosystems when the environment changes?*

**LS2.D: SOCIAL INTERACTIONS AND GROUP BEHAVIOR:** *How do organisms interact in groups so as to benefit individuals?*

**LS3—Heredity: Inheritance and Variation of Traits**

*How are characteristics of one generation passed to the next?**How can individuals of the same species and even siblings have different**characteristics?*

**LS3.A: INHERITANCE OF TRAITS:** *How are the characteristics of one generation related to the previous generation?*

**LS3.B: VARIATION OF TRAITS:** *Why do individuals of the same species vary in how they look, function, and behave?*

**LS4—Biological Evolution: Unity and Diversity**

*How can there be so many similarities among organisms yet so many different kinds of plants, animals, and microorganisms? How does biodiversity affect humans?*

**LS4.A: EVIDENCE OF COMMON ANCESTRY AND DIVERSITY**: *What evidence shows that different species are related?*

**LS4.B: NATURAL SELECTION:** *How does genetic variation among organisms affect survival and reproduction?*

**LS4.C: ADAPTATION:** *How does genetic variation among organisms affect survival and reproduction?*

**LS4.D: BIODIVERSITY AND HUMANS**: *Why do individuals of the same species vary in how they look, function, and behave?*