

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?*

