

Disciplinary Core Ideas in Life Sciences

Core Idea 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?

Core Idea 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 Ecosystems Dynamics, Functioning, and Resilience

What happens to ecosystems when the environment changes? and affect its systems?

LS2.D Social Interactions and Group Behavior

How do organisms interact in groups so as to benefit individuals?

Core Idea 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?

Core Idea 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 the environment influence populations of organisms over multiple generations?

LS4.D Biodiversity and Humans

What is biodiversity, how do humans affect it, and how does it affect humans?