



Middle School Life Science Essential Standards

Essential Standards Quick Guide

Essential standards are explicitly taught, assessed more than once, and targeted for intervention if students have not yet reached proficiency. Assessments can be both formative and summative. Interventions are implemented within the classroom to support students who are not yet proficient.

All Idaho Content Standards are detailed in the Essential Standards Extended Guide. For the complete standards booklets and for further clarification on supporting content, explanations of standards, and assessment limits please utilize the Idaho Content Standards page. [Idaho Content Science Standards](#)

Essential Standards
From Molecules to Organisms: Structures and Processes
MS-LS-1.1 Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.
MS-LS-1.2 Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.
MS-LS-1.3 Make a claim supported by evidence for how a living organism is a system of interacting subsystems composed of groups of cells.
MS-LS-1.4 Construct a scientific argument based on evidence to defend a claim of life for a specific object or organism.
MS-LS-1.5 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.
MS-LS-1.6 Develop a conceptual model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as matter moves through an organism.
Ecosystems: Interactions, Energy, and Dynamics
MS-LS-2.1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
MS-LS-2.2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
MS-LS-2.3 Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

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MS-LS-2.5 Construct an argument supported by evidence that changes to physical or biological components of an ecosystem affect populations.
MS-LS-2.6 Design and evaluate solutions for maintaining biodiversity and ecosystem services.
Heredity: Inheritance and Variation of Traits
MS-LS-3.1 Develop and use a model to describe why mutations may result in harmful, beneficial, or neutral effects to the structure and function of the organism.
MS-LS-3.2 Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.
Biological Adaption: Unity and Diversity
MS-LS-4.1 Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.
MS-LS-4.2 Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer relationships.
MS-LS-4.4 Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.
MS-LS-4.5 Obtain, evaluate, and communicate information about how technologies allow humans to influence the inheritance of desired traits in organisms.
MS-LS-4.6 Use mathematical models to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.

For Questions Contact

Andrea Baerwald abaerwald@sde.idaho.gov
Idaho Department of Education
650 W State Street, Boise, ID 83702
208 332 6800 | www.sde.idaho.gov