

6th Grade Science Essential Curriculum

Ecosystems

Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. [MS-LS2-2](#)

Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. [MS-LS2-4](#)

Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. [MS-LS1-5](#)

Evaluate competing design solutions for maintaining biodiversity and ecosystem services. [MS-LS2-5](#)

Water

Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed [MS-PS1-4](#)

Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. [MS-ESS2-4](#)

Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample [MS-PS3-4](#)

Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer. [MS-PS3-3](#)

Our Extreme Planet

Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions. [MS-ESS2-5](#)

Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects. [MS-ESS3-2](#)

Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates. [MS-ESS2-6](#)

Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century. [MS-ESS3-5](#)

A Balanced Body

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-LS1-1](#)

Develop and use a model to describe the functions of a cell as a whole and ways the parts of cells contribute to the function [MS-LS1-2](#)

Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells. [MS-LS1-3](#)

Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism [MS-LS1-7](#)

Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories. [MS-LS1-8](#)