

7th Grade Science MSSS Curriculum Standards

Earth's Processes

Develop a model to describe the cycling of Earth's materials & the flow of energy that drives this process. ([MS-ESS2-1](#))

Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. ([MS-ESS2-2](#))

Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions. ([MS-ESS2-3](#))

Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, & groundwater resources are the result of past & current geoscience processes. ([MS-ESS3-1](#))

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-LS4-1](#))

Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history. ([MS-ESS1-4](#))

Flow of Energy

Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object. ([MS-PS3-1](#))

Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system. ([MS-PS3-2](#))

Ask questions about data to determine the factors that affect the strength of electric & magnetic forces. ([MS-PS2-3](#))

Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact. ([MS-PS2-5](#))

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-LS1-6](#))

Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. ([MS-LS2-3](#))

Chemistry & Matter

Develop models to describe the atomic composition of simple molecules & extended structures. ([MS-PS1-1](#))

Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred. ([MS-PS1-2](#))

Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved. ([MS-PS1-5](#))

Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes. ([MS-PS1-6](#))

Human Impact on Earth

Analyze & interpret data to provide evidence for the effects of resource availability on organisms in an ecosystem. ([MS-LS2-1](#))

Apply scientific principles to design a method for monitoring & minimizing a human impact on the environment. ([MS-ESS3-3](#))

Gather & make sense of information to describe that synthetic materials come from natural resources & impact society. ([MS-PS1-3](#))

Construct an argument supported by evidence for how increases in human population and per capita consumption of natural resources impact Earth's systems. ([MS-ESS3-4](#))