Mass State Education Framework | 2016 | Connections and Relationships in Systems
Grade 5: Earth and Space Sciences

In grade 5, students model, provide evidence to support arguments, and obtain and display data about relationships and interactions among observable components of different systems.By studying systems, grade 5 students learn that objects and organisms do not exist in isolation and that animals, plants and their environments are connected to, interact with, and are influenced by each other.

They study the relationships between Earth and other nearby objects in the solar system and the impact of those relationships on patterns of events as seen from Earth.

They learn about the relationship among elements of Earth's systems through the cycling of water and human practices and processes with Earth's resources.

They also learn about the connections and relationships among plants and animals, and the ecosystems within which they live, to show how matter and energy are cycled through these (building on the theme of grade 4).

An ability to describe, analyze, and model connections and relationships of observable components of different systems is key to understanding the natural and designed world.

ESS2. Earth's Systems

5-ESS2-1. Use a model to describe the cycling of water through a watershed through evaporation, precipitation, absorption, surface runoff, and condensation.

State Assessment Boundary:

- Transpiration or explanations of mechanisms that drive the cycle are not expected in state assessment.

5-ESS2-2. Describe and graph the relative amounts of salt water in the ocean; fresh water in lakes, rivers, and groundwater; and fresh water frozen in glaciers and polar ice caps to provide evidence about the availability of fresh water in Earth's biosphere.

State Assessment Boundary:

- Inclusion of the atmosphere is not expected in state assessment.

ESS3. Earth and Human Activity

5-ESS3-1. Obtain and combine information about ways communities reduce human impact on the Earth's resources and environment by changing an agricultural, industrial, or community practice or process.

Clarification Statement:

- Examples of changed practices or processes include treating sewage, reducing the amounts of materials used, capturing polluting emissions from factories or power plants, and preventing runoff from agricultural activities.

State Assessment Boundary:

- Climate change or social science aspects of practices such as regulation or policy are not expected in state assessment.

5-ESS3-2(MA). Test a simple system designed to filter particulates out of water and propose one change to the design to improve it.*