oldU.1 Science Practices

Content Area: **Science**
Course(s):
Time Period: **September**
Length: **15 Days**
Status: **Published**

Unit Summary

In this unit, students will practice the skills necessary to participate in scientific inquiry. Students will create graphs and data tables, analyze evidence, and utilize technology in order to gather evidence and collaborate with peers.

Standards

SCI.6-8.MS-PS2-3.1	Asking questions and defining problems in grades 6–8 builds from grades K–5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models.
SCI.6-8.MS-PS2-5.2.1	Cause and effect relationships may be used to predict phenomena in natural or designed systems.
SCI.6-8.MS-PS3-2.2.1	Develop a model to describe unobservable mechanisms.
SCI.6-8.MS-PS2-2.3	Planning and carrying out investigations to answer questions or test solutions to problems in 6–8 builds on K–5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or design solutions.
SCI.6-8.MS-PS2-5.3.1	Conduct an investigation and evaluate the experimental design to produce data to serve as the basis for evidence that can meet the goals of the investigation.
SCI.6-8.MS-PS2-2.3.1	Plan an investigation individually and collaboratively, and in the design: identify independent and dependent variables and controls, what tools are needed to do the gathering, how measurements will be recorded, and how many data are needed to support a claim.
SCI.6-8.MS-PS2-2.3.2	Conduct an investigation and evaluate the experimental design to produce data to serve as the basis for evidence that can meet the goals of the investigation.
SCI.6-8.MS-PS3-2.4.1	Models can be used to represent systems and their interactions – such as inputs, processes, and outputs – and energy and matter flows within systems.
SCI.6-8.MS-PS2-4.4.1	Models can be used to represent systems and their interactions—such as inputs, processes and outputs—and energy and matter flows within systems.

Student Learning Objectives

Develop a model to describe unobservable mechanisms. (MS-PS3-2)

Plan an investigation individually and collaboratively, and in the design: identify independent and dependent variables and controls, what tools are needed to do the gathering, how measurements will be recorded, and how many data are needed to support a claim. (MS-PS3-4)

Construct and interpret graphical displays of data to identify linear and nonlinear relationships. (MS-PS3-1)

Apply scientific ideas or principles to design, construct, and test a design of an object, tool, process or system. (MS-PS3-3)

Construct, use, and present oral and written arguments supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon. (MS-PS3-5)

Scale, Proportion, and Quantity: Proportional relationships (e.g. speed as the ratio of distance traveled to time taken) among different types of quantities provide information about the magnitude of properties and processes. (MS-PS3-1),(MS-PS3-4)

Systems and System Models: Models can be used to represent systems and their interactions – such as inputs, processes, and outputs – and energy and matter flows within systems. (MS-PS3-2)

Driving Questions

What skills do scientists have that make them successful?

What skills do you use in the science classroom that you can apply outside of school?

Why is scientific inquiry and collaboration between scientists important to the global community?