Minnesota Science

Grade 2

Adopted 2019

Grade 2

Physical Science

1. Asking questions and defining problems. 2P.1.1
    1. Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read. 2P.1.1.1
        1. Ask questions about an object's motion based on observation that can be answered by an investigation. 2P.1.1.1.1
2. Planning and carrying out investigations. 2P.1.2
    1. Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena. 2P.1.2.1
        1. Plan and conduct an investigation to describe how heating and cooling affects different kinds of materials based upon their observable properties. 2P.1.2.1.1
2. Using mathematics and computational thinking. 2P.2.2
    1. Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds. 2P.2.2.1
        1. Identify and predict quantitative patterns of the effects of balanced and unbalanced forces on the motion of an object. 2P.2.2.1.1
1. Developing and using models. 2P.3.1
    1. Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others. 2P.3.1.1
        1. Develop a simple diagram or physical model to illustrate how some changes caused by heating or cooling can be reversed and some cannot. 2P.3.1.1.1
2. Obtaining, evaluating and communicating information. 2P.4.2
    2. Students will be able to gather information about and communicate the methods that are used by various cultures, especially those of Minnesota American Indian Tribes and communities, to develop explanations of phenomena and design solutions to problems. 2P.4.2.2
        1. Obtain information and communicate how Minnesota American Indian Tribes and communities and other cultures apply knowledge of the natural world in determining which materials have the properties that are best suited for an intended purpose. 2P.4.2.2.1

Earth and Space Science

1. Analyzing and interpreting data. 2E.2.1
    1. Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables. 2E.2.1.1
        1. Represent data to describe typical weather conditions expected during a particular season. 2E.2.1.1.1
        2. Analyze data from tests of objects designed to reduce the impacts of weather-related hazards and compare the strengths and weaknesses of how each performs. 2E.2.1.1.2
2. Obtaining, evaluating and communicating information. 2E.4.2
    1. Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats. 2E.4.2.1
        1. Obtain and use information from multiple sources to identify where water is found on Earth. 2E.4.2.1.1
        2. Obtain and use information from multiple sources, including electronic sources, to describe climates in different regions of the world. 2E.4.2.1.2

Life Science

2. Constructing explanations and designing solutions. 2L.3.2
    2. Students will be able to use their understanding of scientific principles and the engineering design process to design solutions that meet established criteria and constraints. 2L.3.2.2
        1. Engineer a device that mimics the structures and functions of plants or animals in seed dispersal. 2L.3.2.2.1
1. Engaging in argument from evidence. 2L.4.1
    1. Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counterarguments. 2L.4.1.1
        1. Construct an argument with evidence that evaluates how in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. 2L.4.1.1.1