Oregon Science

Grade 6

Adopted 2022

Earth & Space Science

ESS2. Earth's Systems 6.ESS2

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. 6.ESS2.4
5. Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions. 6.ESS2.5
6. 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. 6.ESS2.6

ESS3. Earth and Human Activity 6.ESS3

3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment. 6.ESS3.3
5. Ask clarifying questions based on evidence about the factors that have caused climate change over the past century 6.ESS3.5

Engineering, Technology, and the Application of Science

ETS1. Engineering Design MS.ETS1

1. Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions. MS.ETS1.1
2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. MS.ETS1.2
3. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success. MS.ETS1.3
4. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved. MS.ETS1.4

Life Science

LS1. From Molecules to Organisms: Structures and Processes 6.LS1

1. Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells. 6.LS1.1
2. Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. 6.LS1.2
3. Construct an explanation supported by evidence for how the body is composed of interacting systems consisting of cells, tissues, and organs working together to maintain homeostasis. 6.LS1.3
4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively. 6.LS1.4
5. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. 6.LS1.5
8. Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories. 6.LS1.8

LS3. Heredity: Inheritance and Variation of Traits 6.LS3

2. Develop and use models to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation. 6.LS3.2

Physical Science

PS3. Energy 6.PS3

3. Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer. 6.PS3.3
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. 6.PS3.4
5. Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object. 6.PS3.5