
Coal City Unit District #1
Fourth Grade
Science Curriculum

SC.4:1 Students will demonstrate an understanding of the effects of environmental changes and behaviors that enable living things to survive in changing habitats. (NGSS 4-LS1-1, NGSS 4-LS1-2)

- SC.4:1-1 Identify animal structures used for sensing the environment.
- SC.4:1-2 Explain how living things have internal and external structures they use to respond to a changing habitat.
- SC.4:1-3 Analyze how living things make use of internal and external structures that function to support survival.
- SC.4:1-4 Support an argument that an animal's sensory system is used to receive information to further its likelihood of survival.

SC.4:2 Students will demonstrate an understanding of the Earth's structure, features, processes and formations and how they continually change due to Earth forces. (NGSS 4-ESS1-1, NGSS 4-ESS2-2)

- SC.4:2-1 Identify unique features of fossils and their locations.
- SC.4:2-2 Explain the effects that earthquakes, volcanoes, glaciers, or rainfall have on the landscape over time.
- SC.4:2-3 Identify the basic characteristics of earthquakes and volcanoes

SC.4:3 Students will demonstrate an understanding of the effects of weathering and erosion on the Earth's surface. (NGSS 4-ESS2-1)

- SC.4:3-1 Define erosion, weathering, and deposition.
- SC.4:3-2 Predict the outcome of landform weathering and erosion using different variables.
- SC.4:3-3 Identify the effects of weathering on the Earth's surface.
- SC.4:3-4 Conduct an experiment to demonstrate erosion.
- SC.4:3-5 Identify variables that could be used to show the rate of erosion.
- SC.4:3-6 Differentiate between the effects that erosion, deposition and weathering have on the Earth.

SC.4:4 Students will demonstrate an understanding of the Earth’s resources, how they affect the environment, and how they are continually changing. (NGSS 4-ESS3-1)

SC.4:4-1 Compare and contrast renewable and nonrenewable resources

SC.4:4-2 Collect information from sources to determine the effects of renewable, nonrenewable, and natural resources on the environment.

SC.4:4-3 Identify natural resources found on Earth

SC.4:5 Students will demonstrate an understanding of the impacts of natural Earth processes on humans. (NGSS 4-ESS3-2)

SC.4:5-1 Identify Earth’s natural hazards: earthquakes, tsunamis, and volcanic eruptions.

SC.4:5-2 Identify ways humans can reduce the impact of natural hazards.

SC.4:5-3 Analyze a situation to reduce the natural (disaster) hazard impact on humans. (e.g., earthquake, tsunami, flood)

SC.4:6 Students will demonstrate knowledge of energy in motion, the transfer of energy, relationships between energy forces, and converting stored energy into a desired form for practical use. (NGSS 4-PS3-1, NGSS 4-PS3-2, NGSS 4-PS3-3, NGSS 4-PS3-4)

SC.4:6-1 Define energy.

SC.4:6-2 Identify how energy and motion affect the transfer of energy.

SC.4:6-3 Determine how collisions/motions affect the transfer of energy.

SC.4:6-4 Identify the basic forms of energy as the ability to cause motion or create change.

SC.4:6-5 Identify how energy can be gained, lost, or stored.

SC.4:6-6 Identify how energy can be transferred.

SC.4:6-7 Analyze an experiment to show the transfer of energy between substances. (e.g., potential to kinetic, electrical circuits, radiant to thermal, heat lamp-hands get warm)

SC.4:6-8 Investigate how the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds. (e.g., ramps, higher/lower)

SC.4:6-9 Predict the outcome of experiments involving the collision of objects.

SC.4:6-10 Design, test and revise a device that will convert electrical energy into motion, light, or sound.

SC.4:7 Students will demonstrate knowledge of wave properties, patterns and the transfer of waves. (NGSS 4-PS4-1, NGSS 4-PS4-2, NGSS 4-PS4-4)

- SC.4:7-1 Identify the properties of waves.
- SC.4:7-2 Explain how waves affect objects.
- SC.4:7-3 Analyze a diagram/scenario/model to show an understanding of waves.
- SC.4:7-4 Analyze a model/illustration of waves that demonstrate objects moving using different variables.
- SC.4:7-5 Identify how waves use patterns to transmit information.
(e.g., computers, cell phones, walkie talkie, t.v./dish)

SC.4:8 Students will demonstrate knowledge of the engineering process to create simple design solutions which include criteria for success. (NGSS 3-5-ETS1, NGSS 3-5-ETS1-2, NGSS 3-5-ETS1-3)

- SC.4:8-1 Identify the engineering steps in a STEM activity.
- SC.4:8-2 Identify criteria and constraints in a STEM activity.
- SC.4:8-3 Create a plan using the engineering process to complete a STEM activity.
- SC.4:8-4 Interpret individual and group results in a STEM activity.