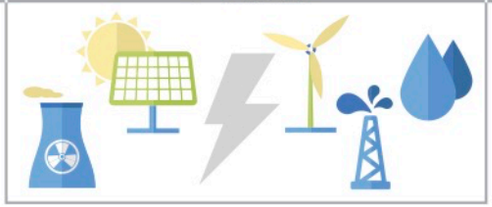
4th Grade NGSS Integrated Course Sequence

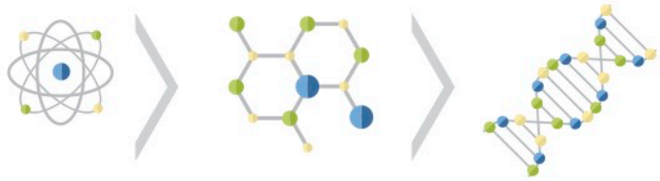
DCI

Energy
6 - 8 weeks



Waves
3-4 weeks

From Molecules to Organisms
9-12 weeks



Earth's Place in the Universe
2-3 weeks

Earth's Systems
2-3 weeks

Earth and Human Activity
6-8 weeks

Standards

4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.

4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.

4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

4-PS4-1. Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.

4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

4-PS4-3. Generate and compare multiple solutions that use patterns

4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.

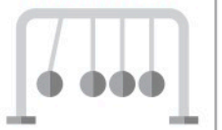
4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock formations and fossils in rock layers for changes in a landscape over time to support an explanation for changes in a landscape over time.

4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

Mosa Mack Units

Newton's Laws



Electricity

Waves

Nervous System

Interaction of Body Systems

Plant Structure

Rock Cycle

Plate Tectonics

Earthquakes and Volcanoes

Renewable Resources

Extension Units

Scientific Method

Engineering Design Standards

3–5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3–5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3–5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.