Grade 4

Quarter 1: Animals Using their Senses (Communication)
Mystery Sci , SS Unit
4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.
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-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-PS4-3. Generate and compare multiple solutions that use patterns to transfer information.*

Quarter 2: Changing Earth
4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.
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-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.*
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.

Quarter 3: Energy and Motion

4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.
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-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.
4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.*

Quarter 4: Energy (ETS)
4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and that their uses affect the environment.
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.*

Science & Engineering Practices

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Engineering and Design Performances Embedded throughout units
*Smithsonian incorporates the Engineering Standards required.

4 - Energy

4-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.

4-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.

4-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.

NGSS Practices Rubrics, Grade 4 Curr Folder, Grade 4 Gizmos, Interim NGSS Assessments, Grade 4 NGSS Unwrapped