Kansas Science

# Grade 4

Adopted 2013

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| **Energy** 4-PS3 | **4-PS3-1.** | **Use evidence to construct an explanation relating the speed of an object to the energy of that object.** 4-PS3-1 |
| | **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-PS3-2 |
| | **4-PS3-3.** | **Ask questions and predict outcomes about the changes in energy that occur when objects collide.** 4-PS3-3 |
| | **4-PS3-4.** | **Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.** 4-PS3-4 |
| **Waves and their Applications in Technologies for Information Transfer** 4-PS4 | **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-PS4-1 |
| | **4-PS4-2.** | **Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.** 4-PS4-2 |
| | **4-PS4-3.** | **Generate and compare multiple solutions that use patterns to transfer information.** 4-PS4-3 |
| **From Molecules to Organisms: Structures and Processes** 4-LS1 | **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-LS1-1 |
| | **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-LS1-2 |
| **Earth's Place in the Universe** 4-ESS1 | **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-ESS1-1 |
| **Earth's Systems** 4-ESS2 | **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-ESS2-1 |

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| | **4-ESS2-2.** | **Analyze and interpret data from maps to describe patterns of Earth's features.** 4-ESS2-2 |
| **Earth and Human Activity** 4-ESS3 | **4-ESS3-1.** | **Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.** 4-ESS3-1 |
| | **4-ESS3-2.** | **Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.** 4-ESS3-2 |
| **Engineering Design** 3-5-ETS1 | **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-ETS1-1 |
| | **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-ETS1-2 |
| | **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.** 3-5-ETS1-3 |