Science A-Z

ENERGY RESOURCES (5–6)

Correlation of Resources to National Science Standards

Use the chart below to discover how selected Science A–Z resources in the Energy Resources unit support certain Next Generation Science Standards (NGSS). While a single reading resource, science activity, comprehension support, or lesson cannot satisfy an entire Performance Expectation, using these resources together can help students develop the understandings and abilities they will need in order to satisfy each standard listed below. Most standards cited align with the grade level of this Science A–Z unit. For a reverse correlation tool that connects the standards to resources, visit our NGSS correlations page: www.sciencea-z.com/main/NextGenerationScienceStandards.*

Check the Performance Expectations Key below this chart for the complete text of the standards cited for each resource.

Resource Type	Resource Title	Performance Expectations
Unit Nonfiction Book	*Energy Resources* (3 reading levels)	**4-PS3-2; 4-ESS3-1; 5-ESS3-1; MS-PS1-3; MS-ESS2-1; MS-ESS2-4; MS-ESS3-1; MS-ESS3-3; MS-ESS3-5**
Process Activity	*Solar Cooker*	**4-PS3-4; 3-5-ETS1-1; MS-ETS1-1; MS-PS3-3; MS-ESS3-3**
Investigation Pack	Topic: Renewable Energy I. Files: *Tidal Power; Biofuel; Hydroelectric Power; Solar Energy; Wind Energy; Geothermal Energy* Mystery File: *Muscle Power*	**4-PS3-2; 4-ESS3-1; 5-ESS3-1; MS-ESS3-1; MS-ESS3-3**
Debate	*Solar Energy*	**4-PS3-4; 4-ESS3-1; 5-ESS3-1; MS-ESS3-3; MS-ESS3-5**
Science Video	*Oil Spills and Pom-Poms*	**4-ESS3-1; 5-ESS3-1; MS-ESS3-3**
Science Video	*Oil Spills: Causes, Effects, and Solutions*	**4-ESS3-1; 5-ESS3-1**
Science Video	*Yellowstone Geyser* (no audio)	**MS-ESS3-1**
Career Files	*Electric Car Engineer; Solar Panel Installer; Wind Turbine Technician*	**4-PS3-4; 4-ESS3-1**
Quick Read	*Fission and Fusion* (3 reading levels)	**4-PS3-3; MS-ESS3-1**
Quick Read	*Oil Spills at Sea* (3 reading levels)	**4-ESS3-1; 5-ESS3-1; MS-ESS3-3**
Science Diagram	*Electricity from Steam*	**4-PS3-2; 4-PS3-4**
Science Diagram	*Greenhouse Effect*	**4-ESS3-1**
Science Diagram	*Light Energy Converts to Heat Energy*	**4-PS3-2; MS-ESS2-1**

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Performance Expectations Key

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.

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

5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

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.

MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.

MS-PS3-3. Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.

MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.

MS-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.

MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

MS-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

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.