Science A–Z

CHANGING LANDFORMS (5–6)

Correlation of Resources to National Science Standards

Use the chart below to discover how selected Science A–Z resources in the Changing Landforms 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	*Earth's Changing Face* (3 reading levels)	**4-ESS1-1; 4-ESS2-1; 4-ESS2-2; 5-ESS2-1; MS-ESS2-1; MS-ESS2-2; MS-ESS2-3; MS-ESS3-1**
Project-Based Learning Pack	*Protecting People from a Volcanic Eruption*	**4-ESS3-2; 3-5-ETS1-1, 3-5-ETS1-2; MS-ESS3-2; MS-ETS1-1; MS-ETS1-2**
Process Activity	*Erosion*	**4-ESS2-1; 5-ESS2-1; MS-ESS2-2; MS-ESS3-2; MS-ESS3-4**
FOCUS Book	*Landslides*	**4-ESS2-1; 4-ESS3-2; 5-ESS3-1; 3-5-EST1-1; 3-5-ETS1-2; MS-ESS2-2; MS-ETS1-1; MS-ETS1-2; MS-ETS1-3**
FOCUS Book	*Earthquakes*	**4-ESS2-2; 3-5-ETS1-2; 3-5-ETS1-3; MS-ESS2-2; MS-ETS1-1; MS-ETS1-2; MS-ETS1-3**
FOCUS Book	*The Great Lakes*	**4-ESS2-1; 4-ESS2-2; 5-ESS2-1; 5-ESS2-2**
FOCUS Book	*Waterfalls*	**4-ESS2-1; 4-ESS2-2; 5-ESS2-1; MS-ESS2-2**
FOCUS Book	*What's Inside Planet Earth?*	**MS-ESS2-1; MS-ESS2-2**
Investigation Pack	Topic: Erosion I. Files: *Sea Stacks; Hoodoos; Mesas and Buttes; Sinkholes; Yardangs; The Matterhorn* Mystery File: *Alluvial Fans*	**4-ESS1-1; 4-ESS2-1; 5-ESS2-1; MS-ESS2-2; MS-ESS2-3**
Debate	*Beach Erosion*	**4-ESS2-1; 4-ESS3-2; 5-ESS2-1; 5-ESS3-1; MS-ESS3-3**
Science Video	*Deep-Ocean Volcanoes*	**4-ESS2-2**
Science Video	*Greenland's Grand Canyon* (no audio)	**4-ESS1-1; 4-ESS2-2**

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Resource Type	Resource Title	Performance Expectations
Science Video	*MLK Fountain* (no audio)	**MS-ESS2-2**
Science Video	*Tsunami Strike: Japan*	**MS-ESS3-2**
Career Files	*Seismologist; Volcanologist; Land Surveyor*	**4-ESS1-1; 4-ESS2-2; MS-ESS2-2; MS-ESS2-3**
Quick Read	*From Fire to Land* (3 reading levels)	**4-ESS1-1; MS-ESS2-2; MS-ESS2-3**
Quick Read	*How Deep is Deep?* (3 reading levels)	**4-ESS1-1; 5-ESS2-1; MS-ESS2-3**
Quick Read	*Open Pit Mining* (3 reading levels)	**MS-ESS3-1; MS-ESS3-4**
Science Diagram	*Describe and Compare Rocks*	**5-PS1-3**
Science Diagram	*Earth's Layers*	**4-ESS2-2**
Science Diagram	*The Rock Cycle*	**4-ESS2-1; MS-ESS2-1**

Performance Expectations Key

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.

5-PS1-3. Make observations and measurements to identify materials based on their properties.

5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

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.

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.

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

MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

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MS-ESS2-3. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

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-ESS3-2. Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.

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

MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

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.

MS-ETS1-2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

MS-ETS1-3. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.