

Earth Science Performance Expectations

		Materials in our World	Balance and Motion	Solids and Liquids	Measuring Matter	Energy and Electro	Motion, Force, and Models	Mixtures and Solutions	Animals Two by Two	Plants and Animals	Insects and Plants	Structures of Life	Environments	Living Systems	Trees and Weather	Air and Weather	Pebbles, Sand, and Silt	Water	Soils, Rocks, and Landforms	Weather on Earth	Sun, Moon, and Plants	
K	K-ESS2-1	Use and share observations of local weather conditions to describe patterns over time.													✓							
	K-ESS2-2	Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.													✓							
	K-ESS3-1	Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.							✓	✓					✓							
	K-ESS3-2	Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.													✓							
	K-ESS3-3	Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the environment.	✓							✓						✓						
1	1-ESS1-1	Use observations of the sun, moon, and stars to describe patterns that can be predicted.														✓						
	1-ESS1-2	Make observations at different times of year to relate the amount of daylight to the time of year.														✓						
2	2-ESS1-1	Make observations from media to construct an evidence-based account that Earth events can occur quickly or slowly.															✓		✓			
	2-ESS2-1	Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.															✓		✓			
	2-ESS2-2	Develop a model to represent the shapes and kinds of land and bodies of water in an area.														✓	✓	✓				
	2-ESS2-3	Obtain information to identify where water is found on Earth and that it can be solid or liquid.														✓	✓	✓	✓			
3	3-ESS2-1	Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.														✓					✓	
	3-ESS2-2	Obtain and combine information to describe climates in different regions of the world.												✓							✓	
	3-ESS3-1	Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.																		✓	✓	
4	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-ESS3-1	Obtain and combine information to describe that energy and fuels are derived from natural resources and their use affect the environment.							✓												✓	✓
5	5-ESS1-1	Support an argument that the apparent brightness of the sun and stars is due to their relative distances from Earth.																				✓
	5-ESS1-2	Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.																			✓	✓
	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.							✓	✓					✓	✓			✓		✓	

Earth Science Core Ideas

Weather and Climate														✓		✓				✓	
Biogeology															✓				✓		
Human Impacts on Earth Systems	✓						✓	✓						✓	✓			✓		✓	
Natural Resources	✓						✓	✓	✓	✓					✓				✓	✓	
Natural Hazards															✓				✓	✓	
The Universe and its Stars																✓					✓
Earth and the Solar System																✓				✓	✓
The History of Planet Earth																	✓		✓		
Earth Materials and Systems														✓			✓		✓		
Plate Tectonics and Large-Scale Systems														✓		✓	✓			✓	
The Roles of Water in Earth's Surface Processes															✓	✓	✓	✓		✓	

Engineering Design Performance Expectations

Grade	Performance Expectation	Physical Science							Life Science						Earth Science							
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K-2-ETS1	K-2-ETS1-1	✓	✓																			
	K-2-ETS1-2	✓	✓	✓						✓											✓	
	K-2-ETS1-3	✓	✓	✓																	✓	
3-5-ETS1	3-5-ETS1-1				✓	✓	✓											✓				
	3-5-ETS1-2					✓	✓						✓					✓				
	3-5-ETS1-3					✓	✓						✓					✓		✓		

Engineering Design Core Ideas

Core Idea	Physical Science	Life Science	Earth Science
Defining and Delimiting Engineering Problems	✓	✓	✓
Developing Possible Solutions	✓	✓	✓
Optimizing Design Solution	✓	✓	✓

Science and Engineering Practices

Practice	Physical Science	Life Science	Earth Science
Asking Questions and Defining Problems	✓	✓	✓
Developing and Using Models		✓	✓
Planning and Carrying Out Investigations	✓	✓	✓
Analyzing and Interpreting Data	✓	✓	✓
Using Mathematics and Computational Thinking		✓	✓
Constructing explanations and Designing Solution		✓	✓
Engaging in Argument from Evidence		✓	✓
Obtaining, Evaluating, and Communicating Information	✓	✓	✓

Crosscutting Concepts

Concept	Physical Science	Life Science	Earth Science
Patterns	✓	✓	✓
Cause and Effect	✓	✓	✓
Scale, Proportion, and Quantity		✓	✓
System and System Models		✓	✓
Energy and Matter in Systems		✓	✓
Structure and Function	✓	✓	✓
Stability and Change of Systems	✓	✓	✓



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