

# Science Elementary School

	Level 2	Level 3	Level 4
<b>Physical Science</b>			
PS1 Matter and its Interactions	1. Use a model to describe matter as made of tiny particles and make observations that mixing different types of matter can result in new substances.	Develop models that represent matter is made up of tiny particles and conduct an investigation to provide data that mixing different types of matter can result in new substances.	Evaluate and revise models that represent that matter is made of tiny particles and plan an investigation to provide data that mixing different types of matter can result in new substances.
PS2 Motion and Stability: Forces and Interactions	2. Identify questions that can be investigated to provide evidence about the effects of balanced and unbalanced forces on the motions of objects.	Ask questions and conduct investigations to provide evidence about cause and effect relationships between balanced and unbalanced forces and motions of objects.	Ask questions and plan investigations to provide evidence that a pattern can be used to predict the future motion of objects caused by balanced and unbalanced forces.
PS3 Energy	3. Use evidence to support an explanation about the relationship of an object's speed and its energy and predict how changes in energy will be observable when objects collide.	Use evidence to construct an explanation about the relationship of an object's speed and its energy and predict how changes in energy will be observable when objects collide.	Compare and revise explanations describing the relationship of an object's speed and its energy and predict how changes in energy will be observable when objects collide.
PS4 Waves and their Applications in Technologies for Information Transfer	4. Use a model to describe the patterns of wave properties and how reflected light from objects to the eye causes objects to be seen.	Develop a model to describe the patterns of wave properties and how reflected light from objects to the eye causes objects to be seen.	Evaluate and revise a model that describes the patterns of wave properties, and use the model to explain how reflected light from objects to the eye causes objects to be seen.
<b>Life Science</b>			
LS1 From Molecules to Organisms: Structure and Processes	5. Use a model to identify stages in life cycles of organisms, and use evidence to support an argument that plants and animals need internal and external structures to live.	Develop a model that describes patterns in the life cycles of organisms, and use evidence to construct an argument that plants and animals need internal and external structures to live.	Evaluate and revise a model that describes patterns in the life cycles of organisms, and use evidence to construct an argument that explains how plant and animal structures need internal and external structures to live.
LS2 Ecosystems: Interactions, Energy, and Dynamics	6. Use a model to describe the movement of matter through the interactions of the living and non-living components of an ecosystem.	Develop a model that describes the movement of matter through the interactions of the living and non-living components of an ecosystem.	Evaluate and revise a model that describes the movement of matter through the interactions of the living and non-living components of an ecosystem.
LS3 Heridity: Inheritance and Variation of Traits	7. Identify patterns in data that provide evidence that plants and animals inherit traits and that traits can vary within a group of similar organisms.	Analyze and interpret data and use patterns in the evidence to construct an explanation that plants and animals inherit traits from their parents and that traits can vary within a group of similar organisms due to inheritance and the environment.	Analyze and interpret multiple sets of data and use patterns in the evidence to construct an explanation that plants and animals inherit traits from parents and these traits can vary within a group of similar organisms due to inheritance and the environment.
LS4 Biological Evolution: Unity and Diversity	8. Identify data from fossils to provide evidence of the effects of environmental changes on the characteristics of organisms that lived long ago, and use the data to support an argument that some organisms survive better than others in a particular habitat.	Analyze and interpret data from fossils to provide evidence of the effects of environmental changes on the characteristics of organisms that lived long ago, and use the data to construct an argument that some organisms survive better than others in a particular habitat.	Analyze and interpret data from fossils to provide evidence of the effects of environmental changes on the characteristics of organisms that lived long ago, and use the data to evaluate an argument that some organisms survive better than others in a particular habitat.
<b>Earth Science</b>			
ESS1 Earth's Place in the Universe	9. Use graphical displays of data to describe how movements of the Earth around the Sun result in daily and seasonal patterns in shadows, hours of daylight, and appearance of stars in the night sky.	Develop graphical displays of data to describe how movements of the Earth around the Sun result in daily and seasonal patterns in shadows, hours of daylight, and appearance of stars in the night sky.	Compare and evaluate graphical displays of data to describe how movements of the Earth around the Sun result in daily and seasonal patterns in shadows, hours of daylight, and appearance of stars in the night sky.

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ESS2 Earth's Systems	10. Use a model to describe how the systems of the geosphere, biosphere, hydrosphere, and/or atmosphere interact, and graph the amounts of salt water and fresh water in various resevoirs to provide evidence about the distribution of water on Earth.	Develop a model to describe how the systems of the geosphere, biosphere, hydrosphere, and/or atmosphere interact, and describe and graph the amounts of salt water and fresh water in various resevoirs to provide evidence about the distribution of water on Earth.	Evaluate and revise a model to describe how the systems of the geosphere, biosphere, hydrosphere, and/or atmosphere interact, and compare, describe and graph the amounts of salt water and fresh water in various resevoirs to provide evidence about the distribution of water on Earth.
ESS3 Earth and Human Activity	11. Construct an argument about the merit of a design solution that reduces the impact of a weather-related hazard.	Use evidence to construct an argument about the merit of a design solution that reduces the impact of a weather-related hazard.	Use evidence to construct and compare multiple arguments to consider the merits of multiple solutions to reduce the impacts of a weather-related hazard.
<b>Engineering and Design</b>			
ETS1 Engineering Design	12. Identify questions relevant to a design problem caused by people's changing needs and wants and generate solutions based upon specific criteria for success and constraints of the problem.	Define a design problem caused by people's changing needs and wants and generate solutions based upon specific criteria for success and constraints of the problem.	Define a design problem caused by people's changing needs and wants and generate and compare multiple solutions based upon specific criteria for success and constraints of the problem.