Elementary School				
Students that are a level_____may be able to do things like...	1	2	3	4
Earth Science				
ESS1: Earth's Place in the Universe	Identify data, either in graphical displays or in a model, that would help explain observable features of Earth's landscape, the appearance of stars in the night sky, or the patterns created from the orbit and rotation of the Sun-Earth-Moon system.	Represent data in graphical displays and explain the ordered observable features of Earth's landscape, the appearance of stars in the night sky, or the patterns created from the orbit and rotation of the Sun-Earth-Moon system.	Analyze and interpret graphical displays of data to use as evidence in order to explain the ordered, observable features of Earth's landscape, the appearance of stars in the night sky, or the patterns created from the orbit and rotation of the Sun-Earth-Moon system.	Evaluate and revise graphical displays of data to make a prediction regarding the ordered, observable features of Earth's landscape, the appearance of stars in the night sky, or the patterns created from the orbit and rotation of the Sun-Earth-Moon system.
ESS2: Earth's Systems	Make observations from data and/or collect information to identify parts of a model and reveal patterns that would show how the interactions between Earth's four major systems might cause patterned features of Earth, including climate, distribution of water, and physical and biological constructive and deconstructive forces.	Represent data sets or graphs, and/or carry out investigations using models or information that shows how the interactions between Earth's four major systems might cause patterned features of Earth, including climate, distribution of water, and physical and biological constructive and deconstructive forces.	Develop and/or use simple models, carry out investigations, or evaluate evidence using mathematical thinking, reasoning, and information regarding how the interactions between Earth's four major systems might cause patterned features of Earth, including climate, distribution of water, and physical and biological constructive and deconstructive forces.	Revise a model, analyze data sets from an investigation using mathematical thinking, and research how to better communicate or predict how the interactions between Earth's four major systems might cause patterned features of Earth, including climate, distribution of water, and physical and biological constructive and deconstructive forces.

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ESS3: Earth and Human Activity	Use information and observations from sources to identify either weather-related hazards that affect humans or human activity that affects Earth's resources and environments.	Identify reliable sources and use obtained information to compare multiple solutions to help explain the cause and effect relationship of either weather-related hazards on humans or human activity on Earth's resources and environments.	Obtain and use evidence from reliable sources to generate and evaluate the merits or accuracy of a solution that could explain and reduce the cause and effect relationship of either weather-related hazards on humans or human activity on Earth's resources and environments.	Evaluate, compare, and revise a solution to a problem, using evidence obtained from reliable sources, to predict changes that can occur in the cause and effect relationships of either weather-related hazards on humans or human activity on Earth's resources and environments.
Life Science				
LS1: From Molecules to Organisms: Structures and Processes	Identify components of a model that represent parts of a life cycle or behavioral system of organisms; **and** make observations about organisms that need food for energy and materials to grow and repair their internal and external structures.	Develop and/or use a simple model to represent the life cycles or behavioral systems of organisms; **and** identify data as evidence to support an argument that organisms need food for energy and materials to grow and repair their internal and external structures.	Develop and/or use a model to describe patterns in the life cycles or behavioral systems of organisms; **and** use evidence to construct an argument that organisms need food for energy and materials to grow and repair their internal and external structures.	Evaluate and revise a model that describes patterns in the life cycles or behavioral systems of organisms when a variable changes; **and** compare and refine arguments that organisms need food for energy and materials to grow and repair their internal and external structures.
LS2: Ecosystems: Interactions, Energy, and Dynamics	Identify the parts of a model that represents interactions of organisms within an ecosystem and the cycling of matter through those interactions; **and** identify data that can show how an ecosystem changed.	Develop and/or use a simple model to describe the interactions of organisms within an ecosystem and the cycling of matter through those interactions; **and** collect evidence that shows how an ecosystem can change.	Develop and/or use a model to describe the interactions of organisms within an ecosystem and the cycling of matter through those interactions; **and** use evidence to explain the effects of a change in one part of the ecosystem.	Evaluate and revise a model that describes the interactions of organisms within an ecosystem and the cycling of matter through those interactions when more information is given; **and** predict the effects of a change in one part of the ecosystem.

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LS3: Heredity: Inheritance and Variation of Traits	Collect and record data from pictures, drawings, and/or text to help explain that organisms inherit the information that dictates how they look and function; **and** make an observation about an organism when its environment changes.	Use data collected from tables and various graphical displays to support an explanation that organisms inherit the information that dictates how they look and function; **and** identify information that would help explain what happens to an organism if the environment changes.	Analyze and interpret various forms of data to construct an explanation that organisms inherit the information that dictates how they look and function; **and** construct an explanation using evidence that supports that an organism has changed in response to environmental changes.	Construct, analyze, and interpret tables and graphical displays of data in order to construct and revise an explanation that organisms inherit the information that dictates how they look and function; **and** predict what would happen to an organism if its environment continues to change.
LS4: Biological Unity and Diversity	Identify patterns in past or present organism characteristics that can be used as evidence to support that when there is a change in the environment, certain individual organisms could have variations in traits that lead to advantages in survival and reproduction; **and** use observations from pictures, drawings, and/or writings to support that current, living organisms can only survive in particular environments or resemble organisms that once lived on Earth.	Demonstrate relationships in past and present organism characteristics that could either provide evidence that when there is a change in the environment, certain individual organisms could have variations in traits that lead to advantages in survival and reproduction, or that living organisms resemble organisms that once lived on Earth; **and** identify data that can be used to compare the merits of a solution that can affect a population of organisms.	Analyze and interpret past and present organism characteristics to either provide evidence that when there is a change in the environment, certain individual organisms could have variations in traits that lead to advantages in survival and reproduction, or that living organisms resemble organisms that once lived on Earth; **and** analyze and compare the merits of a solution that can affect a population of organisms.	Analyze and interpret past and present organism characteristics to evaluate and revise a constructed explanation that states that with a change in the environment, certain individual organisms could have variations in traits that lead to advantages in survival and reproduction, or that living organisms resemble organisms that once lived on Earth; **and** compare sets of data to help argue the merits of a solution that could affect a population of organisms.
Physical Science				

Students that are a level_____may be able to do things like...	1	2	3	4
PS1: Matter and Its Interactions	Make observations about variables that are controlled to determine if a chemical reaction occurs and a new substance is created, measuring and graphing quantities to show that matter is always conserved regardless of the change that occurs; **and** use a model to show that matter is made of particles too small to be seen.	Organize and test variables that are controlled to determine if a chemical reaction occurs and a new substance is created, measuring and graphing quantities to show that matter is always conserved regardless of the change that occurs; **and** develop a simple model to show that matter is made of particles too small to be seen.	Plan and conduct an investigation in which variables are controlled to determine if a chemical reaction occurs and a new substance is created, measuring and graphing quantities to show that matter is always conserved regardless of the change that occurs; **and** develop a model to show that matter is made of particles too small to be seen.	Revise and conduct an investigation in which variables are controlled to determine if a chemical reaction occurs and a new substance is created, measuring and graphing quantities to show matter is always conserved regardless of the change that occurs; **and** evaluate and revise a model to show that matter is made of particles too small to be seen.
PS2: Motion and Stability: Forces and Interactions	Use questions and components of an investigation to observe the relationship between magnetism and/or gravity and an object's motion.	Use observations from an investigation to provide evidence to support an argument about cause and effect relationships between balanced and unbalanced forces (magnetism and/or gravity) and an object’s motion.	Ask questions, plan and conduct an investigation, and/or use produced data to provide evidence to create and support an argument about cause and effect relationships between balanced and unbalanced forces (magnetism and/or gravity) and an object’s motion.	Ask questions, conduct and compare two different investigations, and/or use produced data to provide evidence to predict cause and effect relationships between balanced and unbalanced forces (magnetism and/or gravity) and an object’s motion.
PS3: Energy	Ask questions based on observations about how energy can be used as a fuel or food or transferred from stored and/or motion energy to different forms like sound, light, and electrical currents.	Make observations using produced data to ask questions about how energy can be used as a fuel or food or transferred from stored and/or motion energy to different forms like sound, light, and electrical currents.	Use models to ask questions and/or use produced data to provide evidence on how energy can be used as a fuel or food or transferred from stored and/or motion energy to different forms like sound, light, and electrical currents.	Evaluate and revise models and/or use produced data to ask questions to make predictions or provide evidence for how energy can be used as a fuel or food or transferred from stored and/or motion energy to different forms like sound, light, and electrical currents.

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PS4: Waves and their Applications in Technologies for Information Transfer	Identify parts of a wave model; and identify observations that would help explain how reflected light from objects causes objects to be seen.	Develop and/or use a simple model to make observations about waves and the transfer of information; **and** record evidence that would help explain how reflected light from objects causes objects to be seen.	Create a solution or develop/and or use a model to describe and compare patterns of waves and the transfer of information; **and** use evidence to support an explanation for how reflected light from objects causes objects to be seen.	Revise a model to make predictions and compare patterns of waves and transfer of information; **and** use evidence to construct an explanation for how reflected light from objects causes objects to be seen.