Grade 5 PLD Table

Policy				
Standards	**Level 1 (Beginning-in need of additional support)** *Students attempt to perform basic science tasks but will require additional support in order to demonstrate knowledge and skills of the K-12 science framework Extended Performance Expectations by using disciplinary core ideas, practices, and/or crosscutting concepts to address more basic and concrete science phenomena and problems in Level 1.*	**Level 2 (Approaching Expectations)** *Students can be expected to demonstrate developing knowledge and skills in some disciplinary core ideas together with some aspects of the practices and crosscutting concepts from the Extended Performance Expectations to address primarily basic and concrete science phenomena and problems in Level 2.* *At Level 2, students are expected to have the knowledge and skills of Level 1 and may be able to demonstrate some of the knowledge and skills described in Level 3.*	**Level 3 (Meeting Expectations)** *Students can be expected to demonstrate knowledge and skills in the majority of disciplinary core ideas, practices, and crosscutting concepts from the K-12 science framework Extended Performance Expectations to address moderately complex science phenomena and problems, some concrete and some abstract in Level 3.* *At Level 3, students are expected to have the knowledge and skills of Level 2 and may be able to demonstrate some of the knowledge and skills described in Level 4.*	**Level 4 (Exceeding Expectations)** *Students can be expected to demonstrate understanding and skills in the disciplinary core ideas, practices, and crosscutting concepts from the K-12 science framework Extended Performance Expectations in more sophisticated ways than students in Level 3 to address science phenomena and problems that are complex, more abstract, and/or multi-factorial. Students are expected to describe, explain, and/or respond to phenomena and problems using reasonably complex evidence, analysis, and inference in Level 4.* *At Level 4, students are expected to have the knowledge and skills described in Level 3.*
Range				
PS-1 Matter and Its Interactions •5-PS1-2 **SEP** •Using Mathematics and Computational Thinking **CCC** •Scale, Proportion, and Quantity	Attempt to identify the appropriate tools or units of measurement (for weight, time temperature, or volume) for a scientific task.	Identify the appropriate tools or units of measurement (for weight, time, temperature, or volume) for a scientific task.	Compare the weight of matter before and after heating, cooling, or mixing by using data.	Show that the weight of matter does not change when substances are heated, cooled, or mixed by measuring, graphing, or using mathematical relationships.
PS-2 Motion and Stability: Forces and Interactions •3-PS2-2 •5-PS2-1 **SEP** •Planning and Carrying Out Investigations (3-PS2-2, Supporting 5-PS2-1) •Engaging in Argument from Evidence (5-PS2-1) •Analyzing and Interpreting Data (Supporting 3-PS2-2) •Developing and Using Models (Supporting 5-PS2-1) **CCC** •Patterns (3-PS2-2, Supporting 5-PS2-1) •Cause and Effect (5-PS2-1)	Attempt to identify patterns the motion of an object by using observations or data. Attempt to identify patterns in the motion of falling objects on Earth by using observations.	Identify patterns in the motion of an object by using observations or data. Identify patterns in the motion of falling objects on Earth by using observations.	Predict the future motion of an object by using observations or data. Show the direction objects move when released on Earth (downward toward Earth's center) by identifying or developing a model.	Determine predictable patterns in the motion of an object by describing observations or measurements that can be made in an investigation. Support the claim that Earth's gravity pulls objects downward (toward Earth's center) by describing evidence (observations, data, or a model).
PS-3 Energy •4-PS3-4 •5-PS3-1 **SEP** •Constructing Explanations and Designing Solutions (4-PS3-4) •Developing and Using Models (5-PS3-1) **CCC** •Energy and Matter (4-PS3-4, 5-PS3-1) •Patterns (Supporting 5-PS3-1)	Attempt to identify various forms of energy present in a system. Attempt to identify that the Sun is a source of energy for ecosystems.	Identify the various forms of energy involved in energy transfers that occur in an everyday object or device. Identify the Sun as a source of energy for ecosystems by using patterns in food chains or drawings of ecosystems.	Describe the various ways that energy transfer can occur between everyday objects or devices. Describe the direction of energy transfer between two organisms (e.g., plant-animal, animal-animal) or between the Sun and a plant by using a model.	Identify which design or improvement will maximize energy transfer from one form to another by designing or modifying a device. Describe how the energy animals obtain from food comes from the Sun by using a model.
LS-1 From Molecules to Organisms: Structures and Processes •4-LS1-1 **SEP** •Engaging in Argument from Evidence •Developing and Using Models (Supporting) •Analyzing and Interpreting Data (Supporting) **CCC** •Systems and System Models •Structure and Function (Supporting)	Attempt to identify the parts of plants or animals that have a specific function by using evidence from data and/or a model.	Identify the parts of plants or animals that have specific functions by using evidence from data and/or a model.	Describe how parts of plants or animals have specific functions that help them survive, grow, or reproduce by using data and/or a model.	Describe evidence to support a claim that parts of plants and/or animals have specific functions that help them survive, grow, or reproduce by using evidence from data and/or a model.
LS-3 Heredity: Inheritance and Variation of Traits •3-LS3-1 **SEP** •Analyzing and Interpreting Data •Obtaining, Evaluating, and Communicating Information (Supporting) **CCC** •Patterns	Attempt to identify patterns in trait variations between parents and their baby/babies by using data or observations.	Identify patterns in trait variations between parents and their offspring by using data or observations.	Describe patterns in trait variation between groups of organisms (e.g., parents and their offspring, siblings, populations of similar organisms) by using data or observations.	Describe how patterns in trait variation between groups of organisms (e.g., parents and their offspring, siblings, populations of similar organisms) provide evidence of inheritance between parents and their offspring and that there are differences in these traits by analyzing and interpreting data.
LS-4 Biological Evolution: Unity and Diversity •3-LS4-1 **SEP** •Analyzing and Interpreting Data •Obtaining, Evaluating, and Communicating Information (Supporting) **CCC** •Scale, Proportion, and Quantity	Attempt to recognize that there was life on Earth long ago by using fossils and/or data.	Identify that plants and/or animals lived on Earth long ago by using information about fossils and/or data.	Describe how modern-day plants or animals compare to their ancestors by using observations of fossils and/or data.	Describe the type of environment in which plants and/or animals lived on Earth long ago by using observations of fossils and/or data.
ESS-1 Earth's Place in the Universe •5-ESS1-2 **SEP** •Analyzing and Interpreting Data •Developing and Using Models (Supporting) **CCC** •Patterns •Systems and System Models (Supporting)	Attempt to identify the positions of the Sun, Moon and Earth in the solar system by using data or a model.	Identify the positions of the Sun, the Moon, and Earth in the solar system by using data or a model.	Identify patterns concerning the rotation of Earth, Earth's orbit around the Sun, or the Moon's orbit around Earth by analyzing data (e.g., length and direction of shadows, day and night, seasonal appearance of stars) or a model.	Predict or infer patterns concerning the rotation of Earth, Earth's orbit around the Sun, or the Moon's orbit around Earth by analyzing data (e.g., length and direction of shadows, day and night, seasonal appearance of stars) or a model.
ESS-2 Earth's Systems •3-ESS2-1 •5-ESS2-1 **SEP** •Analyzing and Interpreting Data (3-ESS2-1) •Planning and Carrying Out Investigations (Supporting 3-ESS2-1) •Developing and Using Models (5-ESS2-1) **CCC** •Patterns (3-ESS2-1) •Systems and Systems Models (5-ESS2-1)	Attempt to describe weather conditions by using observations of weather data. Attempt to identify parts of an Earth system (e.g., geosphere, hydrosphere, atmosphere, biosphere) by using data or a model.	Describe weather conditions by using observations of weather data. Identify parts of an Earth system (e.g., geosphere, hydrosphere, atmosphere, biosphere) by using data or a model.	Describe patterns of weather conditions for a particular season by analyzing weather data. Describe the interaction between two Earth systems (e.g., geosphere, hydrosphere, atmosphere, biosphere) by using a model.	Predict weather conditions for a particular season by analyzing patterns in weather data. Represent the interaction between two Earth systems (e.g., geosphere, hydrosphere, atmosphere, biosphere) by developing a model.
ESS-3 Earth and Human Activity •5-ESS3-1 **SEP** •Obtaining, Evaluating, and Communicating Information **CCC** •Cause and Effect (Supporting) •Systems and System Models	Attempt to identify a natural or human impact on the environment by using data.	Identify a natural or human impact on the environment by using data.	Describe an effect (positive or negative) of human activities on the environment by using data.	Describe how humans are using science to protect Earth's resources and/or the environment by using data.

Grade 8 PLD Table

Policy				
Standards	**Level 1 (Beginning - in need of additional support)** *Students at Level 1 are beginning to access the science content and can be expected to need additional support to demonstrate knowledge and skills of the K-12 science framework Extended Performance Expectations.* *Students attempt to perform basic tasks but will require additional support in order to demonstrate knowledge and skills of the K-12 science framework Extended Performance Expectations by using disciplinary core ideas, practices, and/or crosscutting concepts to address more basic and concrete science phenomena and problems in Level 1.*	**Level 2 (Approaching Expectations)** *Students at Level 2 can be expected to demonstrate developing knowledge and skills of the K-12 science framework Extended Performance Expectations.* *Students can be expected to demonstrate developing knowledge and skills in some disciplinary core ideas together with some aspects of the practices and crosscutting concepts from the K-12 science framework Extended Performance Expectations to address primarily basic and concrete science phenomena and problems at Level 2.* *At Level 2, students are expected to have the knowledge and skills of Level 1 and may be able to demonstrate some of the knowledge and skills described in Level 3.*	**Level 3 (Meeting Expectations)** *Students at Level 3 can be expected to demonstrate knowledge and skills of the K-12 science framework Extended Performance Expectations.* *Students can be expected to demonstrate knowledge and skills in the majority of disciplinary core ideas, practices, and crosscutting concepts from the K-12 science framework Extended Performance Expectations to address moderately complex science phenomena and problems, some concrete and some abstract at Level 3.* *At Level 3, students are expected to have the knowledge and skills of Level 2 and may be able to demonstrate some of the knowledge and skills described in Level 4.*	**Level 4 (Exceeding Expectations)** *Students at Level 4 can be expected to demonstrate understanding and skills of the K-12 science framework Extended Performance Expectations.* *Students can be expected to demonstrate understanding and skills in the disciplinary core ideas, practices, and crosscutting concepts from the K-12 science framework Extended Performance Expectations in more sophisticated ways than students in Level 3 to address science phenomena and problems that are complex, more abstract, and/or multi-factorial. Students are expected to describe, explain, and/or respond to phenomena and problems using reasonably complex evidence, analysis, and inference at Level 4.* *At Level 4, students are expected to have the knowledge and skills described in Level 3.*
Range				
PS-1 Matter and Its Interactions • MS-PS1-2 **SEP** • Analyzing and Interpreting Data • Planning and Carrying Out Investigations (Supporting) **CCC** • Patterns • Scale, Proportion, and Quantity (Supporting)	Attempt to identify properties of a substance by using data or observations.	Identify properties of a substance by using data or observations.	Determine the identities of substances by using data or observations on the properties of substances.	Determine whether a chemical reaction occurred by using data or observations on the properties of substances before and after an interaction.
PS-2 Motion and Stability: Forces and Interactions • MS-PS2-2 **SEP** • Planning and Carrying Out Investigations • Analyzing and Interpreting Data (Supporting) **CCC** • Stability and Change • Cause and Effect (Supporting)	Attempt to identify the effects of pushes and pulls on objects by using data from an investigation.	Identify the effects of pushes and pulls on objects by using data from an investigation.	Identify the change in an object's motion when the mass of the object or the force on the object is changed by using data from an investigation.	Describe how the mass of an object or the force on an object will change the motion of the object by using data from an investigation.
PS-3 Energy • MS-PS3-5 **SEP** • Engaging in Argument from Evidence • Asking Questions and Defining Problems (Supporting) • Analyzing and Interpreting Data (Supporting) **CCC** • Energy and Matter	Attempt to determine whether energy is being transferred in a system by asking questions or by using data.	Determine whether energy is being transferred in a system by asking questions or by using data.	Identify the forms of energy that increase or decrease when the kinetic energy of an object changes by using data as evidence.	Make or support a claim that a transfer of energy occurs when the kinetic energy of an object changes by using data as evidence.
PS-4 Waves and Their Applications in Technologies for Information Transfer • MS-PS4-2 **SEP** • Developing and Using Models • Planning and Carrying Out Investigations (Supporting) **CCC** • Structure and Function	Attempt to identify whether a wave is being reflected, absorbed, or transmitted through a material by using data or a model.	Identify whether a wave is being reflected, absorbed, or transmitted through a material by using data or a model.	Describe the path of a wave that is reflected, absorbed, or transmitted through different materials by using a model.	Represent what happens to waves when they are reflected, absorbed, or transmitted through different materials by developing a model.
LS-1 From Molecules to Organisms: Structures and Processes • MS-LS1-3 • MS-LS1-5 **SEP** • Engaging in Argument from Evidence (MS-LS1-3) • Developing and Using Models (Supporting MS-LS1-3) • Obtaining, Evaluating, and Communicating Information (Supporting MS-LS1-3) • Constructing Explanations and Designing Solutions (MS-LS1-5) • Analyzing and Interpreting Data (Supporting MS-LS1-5) • Asking Questions and Defining Problems (Supporting MS-LS1-5) **CCC** • Systems and System Models (MS-LS1-3) • Cause and Effect (MS-LS1-5)	Attempt to identify structures that are part of human body systems and those that are not by using charts, diagrams, or graphic organizers. Attempt to identify factors that could be affecting the growth of an organism by asking questions.	Identify structures that are part of human body systems and those that are not by using charts, diagrams, or graphic organizers. Identify factors that could be affecting the growth of an organism by asking questions.	Identify those parts that belong to a particular body system and the organization of those parts by using a model. Determine whether a particular factor is affecting the growth of organisms by analyzing data.	Make a claim about two body systems (e.g., circulatory, respiratory, muscular, digestive, nervous, excretory) working together to carry out various functions by using evidence. Explain how the growth of organisms is influenced by various environmental and/or genetic factors by using data.
LS-2 Ecosystems: Interactions, Energy, and Dynamics • MS-LS2-1 • MS-LS2-3 SEP • Analyzing and Interpreting Data (MS-LS2-1) • Developing and Using Models (MS-LS2-3) CCC • Cause and Effect (MS-LS2-1) • Energy and Matter (MS-LS2-3)	Attempt to identify resources (e.g., food, water, nutrients, space) that are necessary for the growth or survival of organisms or populations of organisms by using data. Attempt to identify the role of organisms (e.g., producer, consumer, decomposer) or nonliving things (e.g., the Sun, water, minerals, air) in cycling energy or matter in an ecosystem by using a model.	Identify resources (e.g., food, water, nutrients, space) that are necessary for the growth or survival of organisms or populations of organisms by using data. Identify the role of organisms (e.g., producer, consumer, decomposer) or nonliving things (e.g., the Sun, water, minerals, air) in cycling energy or matter in an ecosystem by using a model.	Describe the effects of resource availability on organisms and/or populations of organisms by using data or observations. Identify how energy is transferred or that matter is cycled from one specific part of an ecosystem to another specific part by using a model.	Identify evidence of a cause-effect relationship between resource availability and growth of organisms and/or populations of organisms by analyzing data. Describe how energy is transferred or how matter is cycled among living and nonliving parts of ecosystems by developing a model.
ESS-1 Earth's Place in the Universe • MS-ESS1-1 **SEP** • Developing and Using Models **CCC** • Patterns • Systems and System Models (Supporting)	Attempt to show the positions of Earth (with its tilt), the Sun, and the Moon as Earth orbits the Sun and the Moon orbits Earth in the solar system by identifying a model.	Show the positions of Earth (with its tilt), the Sun, and the Moon as Earth orbits the Sun and the Moon orbits Earth in the solar system by identifying a model.	Describe or compare the positions of the Sun, the Moon, and Earth or the amount or path of light in the cyclic patterns of seasons, lunar phases, or eclipses by using a model.	Compare or show patterns in seasons, lunar phases, or eclipses by using or developing a model of the Earth-Sun-Moon system.
ESS-2 Earth's Systems • MS-ESS2-2 • MS-ESS2-4 **SEP** • Constructing Explanations (MS-ESS2-2) • Obtaining, Evaluating, and Communicating Information (Supporting MS-ESS2-2) • Developing and Using Models (MS-ESS2-4) **CCC** • Scale, Proportion, and Quantity (MS-ESS2-2) • Cause and Effect (Supporting MS-ESS2-2) • Energy and Matter (MS-ESS2-4)	Attempt to identify the process or agent that causes a particular change to Earth's surface by using observations as evidence. Attempt to trace the path of water through Earth's systems by using a model.	Identify the process or agent that causes a particular change to Earth's surface by using observations as evidence. Trace the path of water through Earth's systems by using a model.	Identify whether a geological process or event on Earth was small/large scale and/or whether a process or event happened gradually/rapidly by using information in charts, diagrams, or graphic organizers. Describe the state of water or how water changes state in various parts of the water cycle by using a model.	Explain how geological processes on Earth have caused changes to Earth's surface at various time or spatial scales by using evidence to support an explanation. Describe how the Sun's energy or the force of gravity move water through the water cycle by developing a model.
ESS-3 Earth and Human Activity • MS-ESS3-3 **SEP** • Constructing Explanations and Designing Solutions • Engaging in Argument from Evidence (Supporting MS-ESS3-3) • Asking Questions and Defining Problems (Supporting MS-ESS3-3) **CCC** • Cause and Effect	Attempt to identify an environmental problem caused by human activities/impact by using data.	Identify an environmental problem caused by human activities/impacts by using data.	Make a claim about how a particular method would work to reduce a human impact on the environment by using data.	Select or evaluate a design for a method that is intended to minimize a human impact on the environment by using data.

Grade 11 PLD Table

Policy				
Standards	**Level 1 (Beginning - in need of additional support)** *Students at Level 1 are beginning to access the science content and can be expected to need additional support to demonstrate knowledge and skills of the K-12 science framework Extended Performance Expectations.* *Students attempt to perform basic tasks but will require additional support in order to demonstrate knowledge and skills of the K-12 science framework Extended Performance Expectations by using disciplinary core ideas, practices, and/or crosscutting concepts to address more basic and concrete science phenomena and problems in Level 1.*	**Level 2 (Approaching Expectations)** *Students at Level 2 can be expected to demonstrate developing knowledge and skills of the K-12 science framework Extended Performance Expectations.* *Students can be expected to demonstrate developing knowledge and skills in some disciplinary core ideas together with some aspects of the practices and crosscutting concepts from the K-12 science framework Extended Performance Expectations to address primarily basic and concrete science phenomena and problems at Level 2.* *At Level 2, students are expected to have the knowledge and skills of Level 1 and may be able to demonstrate some of the knowledge and skills described in Level 3.*	**Level 3 (Meeting Expectations)** *Students at Level 3 can be expected to demonstrate knowledge and skills of the K-12 science framework Extended Performance Expectations.* *Students can be expected to demonstrate knowledge and skills in the majority of disciplinary core ideas, practices, and crosscutting concepts from the K-12 science framework Extended Performance Expectations to address moderately complex science phenomena and problems, some concrete and some abstract at Level 3.* *At Level 3, students are expected to have the knowledge and skills of Level 2 and may be able to demonstrate some of the knowledge and skills described in Level 4.*	**Level 4 (Exceeding Expectations)** *Students at Level 4 can be expected to demonstrate understanding and skills of the K-12 science framework Extended Performance Expectations.* *Students can be expected to demonstrate understanding and skills in the disciplinary core ideas, practices, and crosscutting concepts from the K-12 science framework Extended Performance Expectations in more sophisticated ways than students in Level 3 to address science phenomena and problems that are complex, more abstract, and/or multi-factorial. Students are expected to describe, explain, and/or respond to phenomena and problems using reasonably complex evidence, analysis, and inference at Level 4.* *At Level 4, students are expected to have the knowledge and skills described in Level 3.*
Range				
PS-1 Matter and Its Interactions •HS-PS1-2 **SEP** •Constructing Explanations and Designing Solutions •Obtaining, Evaluating, and Communicating Information (Supporting) •Developing and Using Models (Supporting) **CCC** •Patterns •Energy and Matter (Supporting)	Attempt to show how substances react in a chemical reaction by using provided information to complete an incomplete chemical reaction model.	Show how substances react by using provided information to complete an incomplete chemical reaction model.	Identify or classify elements that will react similarly in chemical reactions by using a periodic table model.	Construct an explanation for why specific chemical reactions occur by using a periodic table.
PS-2 Motion and Stability: Forces and Interactions •HS-PS2-3 •HS-PS2-5 **SEP** •Constructing Explanations and Designing Solutions (HS-PS2-3) •Engaging in Argument from Evidence (Supporting HS-PS2-3) •Developing and Using Models (Supporting HS-PS2-3) •Planning and Carrying Out Investigations (HS-PS2-5) •Analyzing and Interpreting Data (Supporting HS-PS2-5) **CCC** •Cause and Effect (HS-PS2-3, HS-PS2-5) •Systems and System Models (Supporting HS-PS2-3) •Stability and Change (Supporting HS-PS2-5)	Attempt to identify how forces are acting on a macroscopic object during a collision in a model. Attempt to identify examples of electric current producing magnetic fields or magnetic fields producing electric current by using data or observations.	Identify how forces are acting on a macroscopic object during a collision in a model. Identify examples of electric current producing magnetic fields or magnetic fields producing electric current by using data or observations.	Construct a claim for how a familiar device functions to minimize the forces on a macroscopic object during a collision. Predict or draw conclusions about how a change to a system affects how electric current produces magnetic fields or how magnetic fields produce electric current by using data.	Select, evaluate, or revise the design of a familiar device that minimizes the forces on a macroscopic object during a collision. Plan or conduct an investigation to determine cause-and-effect relationships between magnetic fields and electric current.
PS-3 Energy •HS-PS3-2 **SEP** •Developing and Using Models •Asking Questions and Defining Problems (Supporting) **CCC** •Energy and Matter	Attempt to identify questions that would determine whether an object's kinetic or potential energy is changing in a system.	Identify questions that would determine whether an object's kinetic or potential energy is changing in a system.	Show how kinetic and potential energy change in a system when an object's position changes or when the particles making up an object change their motion by using a model.	Develop or use models to describe how energy is conserved at the macroscopic or particle level when kinetic and/or potential energy are transferred or converted from one form to another in a system.
LS-2 Ecosystems: Interactions, Energy, and Dynamics •HS-LS2-2 **SEP** •Using Mathematics and Computational Thinking •Obtaining, Evaluating, and Communicating Information (Supporting) **CCC** •Scale, Proportion, and Quantity •Cause and Effect (Supporting)	Attempt to identify factors that affect population size or biodiversity by using provided information.	Identify factors that affect population size or biodiversity by using provided information.	Describe how a factor affects population size or biodiversity in an ecosystem by interpreting data.	Explain how a factor affects population size or biodiversity in an ecosystem at different scales (e.g., habitat size compared to population size) by using mathematical representations of data.
LS-3 Heredity: Inheritance and Variation of Traits •HS-LS3-1 **SEP** •Asking Questions and Defining Problems •Developing and Using Models (Supporting) •Obtaining, Evaluating, and Communicating Information (Supporting) **CCC** •Cause and Effect •Structure and Function (Supporting) •Patterns (Supporting)	Attempt to identify the function of DNA or chromosomes by using provided information.	Identify the function of DNA or chromosomes by using provided information.	Describe how genes and traits are inherited from parents to offspring by using a model.	Ask questions that will provide information about the cause-and-effect relationships among DNA/chromosomes and/or traits that are inherited from parents to offspring.
LS-4 Biological Evolution: Unity and Diversity •HS-LS4-1 •HS-LS4-3 **SEP** •Obtaining, Evaluating, and Communicating Information (HS-LS4-1, Supporting HS-LS4-3) •Analyzing and Interpreting Data (HS-LS4-3, Supporting HS-LS4-1) **CCC** •Patterns (HS-LS4-1, HS-LS4-3) •Stability and Change (Supporting HS-LS4-1)	Attempt to identify how organisms have changed over time by using provided information. Attempt to identify physical traits that can vary in an organism by using provided information.	Identify how organisms have changed over time by using provided information. Identify physical traits that can vary in an organism by using provided information.	Draw conclusions about patterns of relatedness among organisms by using data (e.g., DNA sequences, amino acid sequences, structures found in organisms, embryos, fossils). Describe changes in the distribution of physical traits that can vary in a population by using data.	Describe how comparing patterns in data (e.g., DNA sequences, amino acid sequences, structures found in organisms, embryos, fossils) provide evidence for evolution and common ancestry of living things. Demonstrate that organisms with helpful traits increase in proportion to organisms lacking those traits by using data as evidence.
ESS-1 Earth's Place in the Universe •HS-ESS1-6 **SEP** •Constructing Explanations and Designing Solutions •Asking Questions and Defining Problems (Supporting) •Analyzing and Interpreting Data (Supporting) **CCC** •Stability and Change •Patterns (Supporting)	Attempt to identify patterns in data about ancient Earth materials, meteorites, or other planetary surfaces by using data.	Identify patterns in data about ancient Earth materials, meteorites, or other planetary surfaces by using data.	Describe Earth's formation and early history by asking questions about ancient Earth materials, meteorites, and other planetary surfaces.	Explain Earth's formation and early history by using data about ancient Earth materials, meteorites, or other planetary surfaces.
ESS-2 Earth's Systems •HS-ESS2-4 •HS-ESS2-5 **SEP** •Developing and Using Models (HS-ESS2-4) •Planning and Carrying Out Investigations (HS-ESS2-5) •Analyzing and Interpreting Data (Supporting HS-ESS2-5) •Asking Questions and Defining Problems (Supporting HS-ESS2-5) **CCC** •Cause and Effect (HS-ESS2-4, Supporting HS-ESS2-5) •Energy and Matter (Supporting HS-ESS2-4) •Structure and Function (HS-ESS2-5)	Attempt to identify how energy flows between two Earth systems by using a model. Attempt to identify testable questions about how water affects Earth's materials and surface processes.	Identify how energy flows between two Earth systems by using a model. Identify testable questions about how water affects Earth's materials and surface processes.	Describe how energy from the Sun drives Earth's climate system by using a model. Use data or observations to draw conclusions about how water affects Earth's materials and surface processes.	Predict or draw conclusions about how various factors (e.g., large volcanic eruptions, human activity, solar output, changes to Earth's orbit and axis, changes to atmospheric composition, etc.) cause changes to Earth's climate (measured as changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, biosphere distribution) by using models. Plan or conduct an investigation of the properties of water and its effects on Earth materials and surface processes (e.g., stream transportation and deposition using a stream table, frost wedging by the expansion of water as it freezes, or chemical weathering and crystallization by testing the solubility of different materials)
ESS-3 Earth and Human Activity •HS-ESS3-4 **SEP** •Constructing Explanations and Designing Solutions •Engaging in Argument from Evidence (Supporting) •Analyzing and Interpreting Data (Supporting) **CCC** •Stability and Change •Cause and Effect (Supporting)	Attempt to identify the impact of positive or negative local human activities on natural systems by using data.	Identify the positive or negative impacts of local human activities on natural systems by using data.	Construct a claim about how a local technological solution reduces the negative impact of human activities on natural systems.	Evaluate or refine the design of a local technological solution that reduces the negative impact of human activities on natural systems.

CSAA	Cognia Science Alternate Assessment
MSAA	Multi-State Alternate Assessment
PLD	Performance Level Descriptor
EPE	Extended Performance Expectation
DCI	Disciplinary Core Ideas
SEP	Science and Engineering Practices
CCC	Crosscutting Concepts
ESS	Earth and Space Science
PS	Physical Science
LS	Life Science