

Science

CPI Links

Fourth (4th) Grade APA Prioritized CPI links

SCIENCE

STANDARD 5.5 Characteristics of Life: The study of science must include the diversity, complexity, and interdependence of life on Earth. Students should know how organisms evolve, reproduce, and adapt to their environments.

STRAND: A Matter, Energy and Organization in Living Systems

You MUST CHOOSE only one of the following CPIs:

CPI 5.5.4A1 Identify the roles that organism may serve in a food chain		
Essence of the CPI: Understand the role organisms play in moving matter and energy in a food web		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Identify organisms and their roles in an 4 or 5-step food web beginning with the sun ◆ Identify how one organism can be a part of two different food web ◆ Describe what happens when a link of a food web is removed 	<ul style="list-style-type: none"> ◆ Classify organisms by whether they are herbivores, omnivores, or carnivores ◆ Label predator and prey within a food chain ◆ Build a simple food web ◆ Label primary producer and consumer within a food web 	<ul style="list-style-type: none"> ◆ Identify predator and prey ◆ Match herbivores, omnivores, or carnivores to the type of food they eat ◆ Identify decomposers (organisms that break things down) and producers (organisms that make their own food) ◆ Identify the type of food herbivores, carnivores and omnivores eat.

OR

CPI 5.5.4A2 Differentiate between the needs of plants and those of animals.		
Essence of the CPI: Understand that plants and animals have different needs		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Compare and contrast the needs of plants and animals (carbon dioxide/oxygen, water, light, shelter, etc.) 	<ul style="list-style-type: none"> ◆ Identify the needs of plants and animals 	<ul style="list-style-type: none"> ◆ Classify organisms as plants or animals

OR

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CPI 5.5.4A4 Describe the basic functions of the major systems of the human body including, but not limited to:

- Digestive system
- Circulatory system
- Respiratory system
- Nervous system
- Skeletal system
- Muscular system
- Reproductive system

Essence of the CPI: Understand the basic functions of the systems of the human body

Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Outline one major system’s pathway including organs and their functions (e.g., the mouth chews up food, esophagus transports food to the stomach, etc.) ◆ Explain the inter-relationship between two systems 	<ul style="list-style-type: none"> ◆ Identify 5 systems of the body and their functions ◆ Identify parts of a systems and their functions in that system 	<ul style="list-style-type: none"> ◆ Identify at least 5 systems of the human body ◆ Identify the parts of a system

Fourth (4th) Grade APA Prioritized CPI links

STANDARD 5.6 Chemistry Exploring the nature of matter and energy is essential to an understanding of the physical universe. This standard leads students from their experiences with the states and properties of matter to the development of models of the atom and the underlying principles of chemistry.

STRAND: A Structure and Properties of Matter

You MUST CHOOSE only one of the following CPIs:

CPI 5.6.4A1 Sort materials based on physical characteristics that can be seen by using magnification		
Essence of the CPI: Understand that some characteristics can only be observed with magnification		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Compare an object as observed with and without a microscope or magnifying glass (e.g., Record observations of an object without magnification and then use a microscope or magnifying glass and record observations, then compare the two sets of observations) (5.1.A2) ◆ Classify materials based on magnified observations (e.g., salt crystals, iron filings, corn meal, flour, sugar) and explain the classification (5.1.A2) 	<ul style="list-style-type: none"> ◆ Reproduce the images seen in the microscope, label accurately and then sort by physical properties ◆ Determine when to view an object with a hand lens vs. using a microscope 	<ul style="list-style-type: none"> ◆ Use a magnifying glass and/or microscope to identify and sort materials according to the physical characteristics ◆ Use photographs from microscopic images (photomicrographs) to identify actual materials when using a hand lens or microscope

OR

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CPI 5.6.4A3 Recognize that water as an example of matter, can exist as a solid, liquid, or gas and can be transformed from one state to another by heating or cooling.		
Essence of the CPI: Understand matter can exist as a solid, liquid or a gas		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Observe water changing from one state to another (e.g., water freezing or melting, evaporating, etc.), record and explain the observation (5.1A2) ◆ Given a situation, explain what form water will take (solid, liquid or gas) and why (5.1.B2) 	<ul style="list-style-type: none"> ◆ Describe the changes in water from one state to another ◆ Describe physical characteristics (e.g., warm, cold, hard, wet, etc.) of water in each of the three states 	<ul style="list-style-type: none"> ◆ Identify examples of water in solid, liquid and gaseous states

OR

CPI 5.6.4A4 Show that not all materials respond in the same way when exposed to similar conditions.		
Essence of the CPI: Understand that not all materials respond the same to heat or other materials		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Using previous knowledge, predict how different materials will react when exposed to temperature changes and explain why (5.1.A2) ◆ Using previous knowledge, predict how different materials will react when they undergo a chemical change and explain why (5.1.A2) 	<ul style="list-style-type: none"> ◆ Classify materials based on similar properties ◆ Classify materials based on their reaction to similar conditions (e.g., those that sink, those that float) ◆ Identify whether a change is chemical or physical and explain why 	<ul style="list-style-type: none"> ◆ Identify the basic physical properties of matter (e.g., hardness, color, weight, texture, luster [shiny]) ◆ Identify that different materials may react differently under similar conditions (e.g., in water a rock sinks, and a stick floats) ◆ Identify changes as chemical or physical

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STANDARD 5.8 Earth Science The study of science should include a study of the planet Earth and its relationship to the rest of the universe. This standard describes what students should know about the composition of the Earth and the forces that shape it.

STRAND: B Atmosphere and Water

You MUST CHOOSE only one of the following CPIs:

<p>CPI 5.8.4B2 Recognize that most of Earth’s surface is covered by water and be able to identify the characteristics of those sources of water.</p> <ul style="list-style-type: none"> • Oceans • Rivers • Lakes • Underground sources • Glaciers 		
<p>Essence of the CPI: Recognize that most of the Earth’s surface is water and that water moves through a predictable cycle</p>		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Explain why the amount of water on Earth never increases or decreases ◆ Describe the flow of water through the cycle 	<ul style="list-style-type: none"> ◆ Describe various water sources ◆ Describe how weather affects water sources 	<ul style="list-style-type: none"> ◆ Locate different water sources (e.g, oceans, lakes, rivers, glaciers) on globes, maps, etc. ◆ Identify water vs. land on globes, maps, etc.

OR

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<p>CPI 5.8.4B3 Observe weather changes and patterns by measurable quantities such as temperature, wind direction and speed, and amounts of precipitation.</p>		
<p>Essence of the CPI: Understand that weather can be observed and recorded (temperature, wind direction and speed, cloud type and precipitation).</p>		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Gather weather information (e.g., temperature, precipitation, wind speed and direction) directly or from various sources (e.g., weather station, radio, internet, newspaper, etc.) and illustrate the change over time ◆ Use a collection of weather data to observe and describe weather patterns and predict future weather conditions in a specific area 	<ul style="list-style-type: none"> ◆ Describe weather conditions (e.g., temperature, precipitation, etc.) across time ◆ Describe changes in wind (e.g., direction, speed, etc.) ◆ Use a collection of weather data to evaluate the weather patterns 	<ul style="list-style-type: none"> ◆ Identify the weather in given situations ◆ Identify the type of precipitation likely at a given temperature (70 degrees –rain vs. 20 degrees--snow)

OR

<p>CPI 5.8.4B4 Observe that when liquid water disappears, it turns into a gas (vapor) in the air and can reappear as a liquid when cooled, or as a solid if cooled below its freezing point.</p>		
<p>Essence of the CPI: Understand that liquid water can be changed by adding or removing heat, therefore driving the water cycle</p>		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Produce a situation where water changes from one state to another and explain the changes ◆ Compare and contrast two of the following: condensation, evaporation, precipitation 	<ul style="list-style-type: none"> ◆ Describe what will happen to liquid water in a given situation ◆ Classify examples of water as condensation, evaporation, and precipitation and explain 	<ul style="list-style-type: none"> ◆ Identify what will and will not change the state of liquid water (e.g., temperature, movement, etc.) ◆ Identify examples of water as condensation, evaporation, or precipitation (e.g., dew on grass, rain, steam, etc.)

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STANDARD 5.9 Astronomy and Space Science The study of science should include a study of the planet Earth and its relationship to the rest of the universe. This standard describes what students should know about astronomy and space science.

STRAND: A Earth, Moon, Sun System

You MUST CHOOSE only one of the following CPIs:

CPI 5.9.4A1 Observe patterns that result from the Earth’s position relative to the sun and rotation of the Earth on its axis.		
Essence of the CPI: Understand the reasons for day, night and year		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Compare and contrast the Earth’s revolution around the sun and rotation on its axis ◆ Explain how the revolution around the sun is measured in years ◆ Predict how a change in speed of the Earth’s rotation or revolution would affect the calendar 	<ul style="list-style-type: none"> ◆ Identify various examples of movement of the Earth as either a revolution or rotation ◆ Explain how the rotation of Earth on its axis causes day and night 	<ul style="list-style-type: none"> ◆ Identify or define sun, moon, Earth, revolution and rotation ◆ Identify daytime or nighttime based on the Earth’s rotation (in relation to the sun)

OR

CPI 5.9.4A2 Recognize and describe the phases of the moon.		
Essence of the CPI: Identify the basic pattern of the moon’s appearance and classify as new, first quarter, full, or third quarter		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Identify the phases of the moon and describe the moon’s position relative to the earth/sun for each phase ◆ Observe and record phases of the moon and discuss noted patterns 	<ul style="list-style-type: none"> ◆ Illustrate the order of the phases of the moon in relation to the sun and Earth 	<ul style="list-style-type: none"> ◆ Identify sun, Earth, and phases of the moon (e.g., new moon, first quarter, full moon, last quarter)

Eighth (8th) Grade APA Prioritized CPI Links

SCIENCE

STANDARD 5.5 Characteristics of Life: The study of science must include the diversity, complexity, and interdependence of life on Earth. Students should know how organisms evolve, reproduce, and adapt to their environments.

STRAND: B Diversity and Biological Evolution

You MUST CHOOSE only one of the following CPIs:

CPI 5.5.8B1 Compare and contrast kinds of organisms using their internal and external characteristics.		
Essence of the CPI: Compare and contrast organisms using both internal and external characteristics		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none">◆ Using internal and/or external characteristics compare and contrast two animals from different classes (mammals, reptiles, amphibians, insects, fish, or birds) of the animal kingdom.◆ Using internal and/or external characteristics compare and contrast two or more organisms between two kingdoms.	<ul style="list-style-type: none">◆ Classify various organisms into two or more kingdoms of life using their internals and/or external characteristics.◆ Determine the appropriate eco-system for a given organism.	<ul style="list-style-type: none">◆ Identify characteristics of plants and animals.

OR

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CPI 5.5.8B2 Discuss how changing environmental conditions can result in evolution or extinction of a species.		
Essence of the CPI: Explain how changes in the environment affect the survival of a species		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Identify an environmental change and the resulting effect in a species (e.g., global warming → ice melting → polar bears have fewer hunting areas → polar bears dying) ◆ Explain how a change in habitat will affect a particular species (e.g., cutting down trees, building dams, etc.). 	<ul style="list-style-type: none"> ◆ Classify traits as inherited or acquired ◆ Explain how an adaptation has affected an organism’s ability to survive in a given environment. ◆ Describe the survival needs of different organisms based on their environments. 	<ul style="list-style-type: none"> ◆ Classify organisms as living or extinct (alligators vs. tyrannosaurus rex). ◆ Identify the appropriate adaptation for various environments.

OR

CPI 5.5.8B3 Recognize that individual organisms with certain traits are more likely to survive and have offspring.		
Essence of the CPI: Understand the concept of Natural Selection in heredity		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Explain how different organisms use their unique adaptations to survive (e.g., camouflaged animals are less likely to be seen by predators) and how that affects their chances of reproducing ◆ Identify and explain why traits influence organisms’ survival rates and which of those traits would be passed down to the next generation 	<ul style="list-style-type: none"> ◆ Identify inherited traits that effect an organisms ability to survive ◆ Identify acquired traits that effect an organisms ability to survive 	<ul style="list-style-type: none"> ◆ Identify inherited traits ◆ Identify acquired traits

Eighth (8th) Grade APA Prioritized CPI Links

STANDARD 5.6 Chemistry Exploring the nature of matter and energy is essential to an understanding of the physical universe. This standard leads students from their experiences with the states and properties of matter to the development of models of the atom and the underlying principles of chemistry.

STRAND: Chemical Reactions

You MUST CHOOSE only one of the following CPIs:

CPI 5.6.8B1 Show how substances can chemically react with each other to form new substances having properties different from those of the original substances.		
Essence of the CPI: Understand that chemical reactions create new substance(s) with different properties.		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none">◆ Predict what sign/change (e.g., change in odor, change in color, energy is absorbed or released, etc.) of a chemical reaction will occur, observe chemical reactions and collect data on the signs a reaction occurred. Compare the prediction to the results. (5.1.8B1)◆ Analyze and describe substances before and after a chemical reaction (5.1.8B3)	<ul style="list-style-type: none">◆ Compare and contrast mixture and a chemical reaction◆ Identify examples of chemical reactions as synthesis (making something) or decomposition (breaking something down).	<ul style="list-style-type: none">◆ Identify common signs of a chemical change (e.g., change in odor, change in color, energy is absorbed or released, etc.)◆ Identify examples of a chemical reaction (e.g., burning wood, rusting nail, etc.).

OR

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CPI 5.6.8B2 Show that in most chemical reactions energy is transferred into or out of a system.		
Essence of the CPI: Understand the chemical reactions involve energy exchange		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Predict whether a reaction will be exothermic (energy goes out) or endothermic (energy goes in), observe the reaction and compare the prediction to results (5.1.8B1) ◆ Compare and explain the effect of temperature on a chemical reaction, observe the effects and compare the results of the prediction. (5.1.8B1) 	<ul style="list-style-type: none"> ◆ Describe the affect that temperature may have on various chemical reactions (e.g., speed up, slow down, no change). ◆ Explain how to determine if an energy transfer is exothermic or endothermic, given various examples. 	<ul style="list-style-type: none"> ◆ Identify the energy transfer of various chemical reactions as exothermic or endothermic.

OR

CPI 5.6.8B3 Demonstrate that regardless how substances within a simple closed system interact, the total mass of the system remains the same.		
Essence of the CPI: Understand that when substances react in a closed system, mass remains the same.		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Compare the mass of substances before and after chemical reactions and determine if the mass is the same or different, then make predictions about other chemical reactions (5.1.8B3) ◆ Determine if the mass of individual items from a group of like objects is constant across the group (e.g., do all pennies displace the same amount of water?). Explain. 	<ul style="list-style-type: none"> ◆ Determine the mass of substances before and after a physical change (e.g., cutting paper) and compare the weights before and after ◆ Compare and contrast objects of similar size and shape that have different masses. ◆ Compare and contrast objects that have similar mass and different sizes and shapes. 	<ul style="list-style-type: none"> ◆ Determine the mass of various substances ◆ Identify substances with similar masses.

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STANDARD 5.7 Physics All students will gain an understanding of natural laws as they apply to motion, forces, and energy transformations

STRAND: B Energy Transformations

You MUST CHOOSE only one of the following CPIs:

CPI 5.7.8B1 Identify that the sun is a major source of the Earth's energy and that solar energy includes visible, infrared, and ultraviolet radiation.		
Essence of the CPI: Understand that the sun is the main source of energy for the Earth		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Analyze and describe how the sun warms the Earth's surface, water, and air. ◆ Predict how an organism would be impacted by the absence of solar energy over time. 	<ul style="list-style-type: none"> ◆ Classify positive and negative effects of solar energy. ◆ Describe practical applications of solar energy. 	<ul style="list-style-type: none"> ◆ Identify characteristics of the sun ◆ Identify reasons that the Earth needs the sun

OR

CPI 5.7.8B3 Describe how heat can be conducted through materials or transferred across space by radiation and know that if the material is fluid, convection currents may aid the transfer of heat.		
Essence of the CPI: Understand that heat can be transferred by conduction (through materials), radiation (across space) and convection (through fluids).		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Explain that certain objects may lose or gain their thermal energy at different rates. ◆ Distinguish the difference between temperature variations in several locations (e.g., urban/rural, developed/undeveloped) ◆ Describe an insulator and how it works. 	<ul style="list-style-type: none"> ◆ Classify objects as insulators or conductors. ◆ Describe practical uses of insulators and conductors. 	<ul style="list-style-type: none"> ◆ Classify examples of thermal energy as conduction, convection, or radiation. ◆ Explain characteristics of conduction, convection and radiation.

OR

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CPI 5.7.8B4 Show light is reflected, refracted, or absorbed when it interacts with matter and that colors may appear as a result of this interaction.

Essence of the CPI: Understand that the color spectrum is a result of light being reflected, refracted (bends), and/or absorbed when interacting with matter.

Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Explain the impact glass and water have on light (e.g., why it is difficult to catch a fish in an aquarium). ◆ Compare and contrast light absorption on two different objects (e.g., why a black t-shirt is hotter than a white t-shirt). ◆ Compare and contrast reflection and refraction. 	<ul style="list-style-type: none"> ◆ Describe how reflection and absorption create visible light (i.e., the color of matter). ◆ Illustrate examples of refracted light versus reflected light 	<ul style="list-style-type: none"> ◆ Identify examples of reflected, refracted (e.g., light through water), and/or absorbed light. ◆ Recognize the colors that make up white light (ROYGBIV)

Eighth (8th) Grade APA Prioritized CPI Links

STANDARD 5.9 Astronomy and Space Science The study of science should include a study of the planet Earth and its relationship to the rest of the universe. This standard describes what students should know about astronomy and space science.

STRAND: Solar System

You MUST CHOOSE only one of the following CPIs:

<p>CPI 5.9.8B1 Describe the physical characteristics of the planets and other objects within the solar system and compare Earth to the rest of the planets.</p>		
<p>Essence of the CPI: Compare the Earth’s physical characteristics to those of other objects in the solar system (including planets)</p>		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Compare and contrast the physical aspects of the Earth to other objects in the solar system (e.g., size, amount of water, etc.) ◆ Analyze similarities and differences between objects in the solar system, including relative distance from the sun, relative sizes, etc. 	<ul style="list-style-type: none"> ◆ Compare the physical aspects of various objects in the solar system to each other ◆ Classify objects in the solar system as terrestrial (rocky) or gaseous 	<ul style="list-style-type: none"> ◆ Identify various objects in the solar system. ◆ Identify physical characteristics planets (e.g., size, amount of water, etc.)

High School APA Prioritized CPI Links

SCIENCE

STANDARD 5.5 Characteristics of Life: The study of science must include the diversity, complexity, and interdependence of life on Earth. Students should know how organisms evolve, reproduce, and adapt to their environments.

STRAND: Matter, Energy and Organization in Living Systems

You MUST CHOOSE only one of the following CPIs:

CPI 5.5.12A2 Explain how plants convert light energy to chemical energy		
Essence of the CPI: Understand the process of photosynthesis.		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Demonstrate and explain the roles different parts of a plant have in converting light energy into chemical energy (e.g., choose the best representation to show what chloroplasts do 5.1.12A1) ◆ Explain the transfer of light energy to chemical energy 	<ul style="list-style-type: none"> ◆ Describe how photosynthesis and respiration are recycled ◆ Explain how plants use chemical energy to make food ◆ Differentiate the role cell parts have in respiration and photosynthesis 	<ul style="list-style-type: none"> ◆ Identify the structure and function of plant cells ◆ Recognize the elements of photosynthesis

OR

CPI 5.5.12A3 Describe how plants produce substances high in energy content that become the primary source of energy for life		
Essence of the CPI: Understand plants role in the energy cycle of life		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Predict what would occur if a component were missing from the energy cycle of life ◆ Explain how a change in a food web will affect the rest of the web ◆ Explain how a change in an energy pyramid will affect the rest of the web 	<ul style="list-style-type: none"> ◆ Explain how plants' energy is transferred to other organisms ◆ Create an energy pyramid 	<ul style="list-style-type: none"> ◆ Identify components of the energy cycle of life ◆ Create a food web

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STRAND: Diversity and Biological Evolution

You **MUST CHOOSE** only one of the following CPIs:

CPI 5.5.12B1 Explain that through evolution that Earth’s present species developed from earlier distinctly different species		
Essence of the CPI: Understand and explain the process of evolution		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Compare and contrast two distinct generations of a species and explain the changes ◆ Identify reasons for animal extinction and provide examples ◆ Differentiate between gradual speciation (when a new species comes into being gradually) and punctuation speciation (when a new species comes into being through brief intervals of rapid change) 	<ul style="list-style-type: none"> ◆ Compare and contrast modern animals’ traits to their ancestors ◆ Discuss how a change in habitat will affect the survival of an endangered species ◆ Describe characteristics of speciation 	<ul style="list-style-type: none"> ◆ Explain how different organisms use their unique adaptations to survive (e.g., camouflaged animals are less likely to be seen by predators) ◆ Recognize the connection between modern animals and their earlier ancestors ◆ Demonstrate examples of evolution as the inheritance of favorable traits of a population over time ◆ Provide examples of endangered species

OR

CPI 5.5.12B2 Explain how the theory of natural selection accounts for extinction as well as increase in the proportion of individuals with advantageous characteristics within a species		
Essence of the CPI: Understand and the theory of natural selection		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Compare and contrast modern animals’ traits to their ancestors and explain the catalyst for this evolution to occur ◆ Explain how advantageous traits increase the proportion of individuals with that trait within a species ◆ Explain how natural selection accounts for extinction 	<ul style="list-style-type: none"> ◆ Demonstrate how traits are passed down from one organism to another ◆ Classify traits as advantages or detrimental in a given environment 	<ul style="list-style-type: none"> ◆ Identify environmental conditions that are conducive to a given species’ survival ◆ Describe how adaptations increase the likelihood of survival

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STANDARD 5.10 Environmental Studies Creating an awareness of the need to protect, conserve, and preserve natural resources is a goal of science education. This standard calls for students to develop knowledge of environmental issues, including management of natural resources, production and use of energy, waste management, and the interdependence of ecosystems.

STRAND: Natural Systems and Interaction

You MUST CHOOSE only one of the following CPIs:

<p>CPI 5.10.12A1 Distinguish naturally occurring process from those believed to have been modified by human interaction or activity.</p> <ul style="list-style-type: none"> • Climate change • Ozone production • Erosion and deposition • Threatened and endangered species 		
<p>Essence of the CPI: Identify the difference of human impact versus naturally occurring processes on the environment</p>		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Create an experiment and draw conclusions about the effects of human activities on naturally occurring processes (see science example) (5.1.12A2) ◆ Identify a natural form of a process and provide several effects human activity has had on that process (e.g., endangered species and those endangered due to human destruction of the environment and hunting) 	<ul style="list-style-type: none"> ◆ Identify and explain human efforts that have been implemented to diminish the effects of natural processes (dikes, dams, terracing, etc.) on the environment ◆ Explain the effect of naturally occurring processes on the environment of NJ ◆ Compare and contrast human impact versus naturally occurring processes on the environment 	<ul style="list-style-type: none"> ◆ Identify natural processes that effect the world ◆ Identify environmental changes that are a results of human impact

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STRAND: Human Interaction and Impact

You **MUST CHOOSE** only one of the following CPIs:

CPI 5.10.12B1 Assess the impact of human activities on the cycling of matter and the flow of energy through ecosystems.		
Essence of the CPI: Critique how humans affect ecosystems		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Explain how human activities may positively or negatively affect an ecosystem ◆ Describe and explain how human practices affect the environment over time 	<ul style="list-style-type: none"> ◆ Compare and contrast practices that affect the use of natural resources (e.g., deforestation/reforestation) ◆ Identify the components of multiple ecosystems 	<ul style="list-style-type: none"> ◆ Identify ways that meeting human needs affects the environment (e.g., cutting down trees to plant crops for food, cars/transportation leads to pollution) ◆ Identify the components of an ecosystem

OR

CPI 5.10.12.B2 Use scientific, economic, and other data to assess environmental risks and benefits associated with societal activity		
Essence of the CPI: Analyze environmental risks and benefits, using scientific, economic and other data		
Matched Link	Near Link	Far Link
<ul style="list-style-type: none"> ◆ Compare scientific and economic data on how different societal activities affect the environment (e.g., carbon footprint and cost of flying from NJ to CA vs. the carbon footprint and cost of driving to CA) and explain your findings ◆ Use scientific and economic data to argue for or against an environmental policy (e.g., Creating genetically modified foods) 	<ul style="list-style-type: none"> ◆ Evaluate the economic benefits and drawbacks of a societal activity on an environmental practice (e.g., beach erosion, strip mining) ◆ Classify positive and negative ways humans affect the environment ◆ Identify and explain how humans are trying to diminish their negative impact on the environment 	<ul style="list-style-type: none"> ◆ Demonstrate how personal activities affect the local environment (e.g., comparing your carbon footprint when you walk to school and when you take the bus) ◆ Identify ways that humans impact the environment