CWC.I The physical and chemical properties of water are unique and constant.

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
High School	Science	SC.HS.1.1	The sub-atomic structural model and interactions between electric charges at the atomic scale can be used to explain the structure and interactions of matter.	Plan and conduct an investigation to gather evidence to compare the structure of water and its hydrogen bonds with other substances at the bulk scale to infer the strength of electrical forces between particles by using melting point, boiling point and surface tension. (HS-PS1-3)
High School	Science	SC.HS.1.7	Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems.	Plan and conduct an investigation to provide evidence that the transfer of thermal energy when mixing bodies of water at different temperatures results in a more uniform energy distribution (e.g. cold mountain glacier runoff meets a reservoir on the front range that is warmer or the change in air temperature near a body of water). (HS-PS3-4)
High School	Science	SC.HS.1.9	Although energy cannot be destroyed, it can be converted to less useful forms as it is captured, stored and transferred.	Plan and conduct an investigation to provide evidence that the transfer of thermal energy when mixing bodies of water at different temperatures results in a more uniform energy distribution (e.g. cold mountain glacier runoff meets a reservoir on the front range that is warmer or the change in air temperature near a body of water). (HS-PS3-1)
High School	Science	SC.HS.1.10	Waves have characteristic properties and behaviors.	Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in water and other media. (HS-PS4-1)
High School	Science	SC.HS.3.4	Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes, and these effects occur on different time scales, from sudden (e.g., volcanic ash clouds) to intermediate (ice ages) to very long-term tectonic cycles.	Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes to climate, specifically with precipitation patterns. (HS-ESS2-4)
High School	Science	SC.HS.3.6	The planet's dynamics are greatly influenced by water's unique chemical and physical properties.	Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes. (HS-ESS2-5)
High School	Science	SC.HS.3.7	The role of radiation from the sun and its interactions with the atmosphere, ocean, and land are the foundation for the global climate system. Global climate models are used to predict future changes, including changes influenced by human behavior and natural factors.	Analyze geoscience data to make the claim that one change to Earth's surface (e.g. loss of ground vegetation from fire, flood, etc.) can create feedbacks that cause changes to other Earth systems (e.g. increase in water runoff and soil erosion). (HS-ESS2-2)
Middle School	Science	SC.MS.1.1	The fact that matter is composed of atoms and molecules can be used to explain the properties of substances, diversity of materials, states of matter and phases changes.	Develop models to describe the atomic composition of water molecules and extended structures. (MS PS1-1)
Middle School	Science	SC.MS.1.5	Kinetic energy can be distinguished from the various forms of potential energy.	Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample (e.g. by comparing final water temperatures after different masses of ice melted in the same volume of water with the same initial temperature). (MS-PS3-4)
Middle School	Science	SC.MS.1.6	Energy changes to and from each type can be tracked through physical or chemical interactions. The relationship between the temperature and the total energy of a system depends on the types, states and amounts of matter.	Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample (e.g. by comparing final water temperatures after different masses of ice melted in the same volume of water with the same initial temperature). (MS-PS3-4)
Middle School	Science	SC.MS.2.3	Sustaining life requires substantial energy and matter inputs.	Develop a model to describe how carbon dioxide and water combine to form carbon-based organic molecules and the release of oxygen. (MS-LS1-7)
Middle School	Science	SC.MS.3.6	Water cycles among land, ocean, and atmosphere, and is propelled by sunlight and gravity. Density variations of sea water drive interconnected ocean currents. Water movement causes weathering and erosion, changing landscape features.	Construct an explanation based on evidence for water's role in how geoscience processes have changed Earth's surface at varying time and spatial scales. (MS-ESS2-2)

CWC.I The physical and chemical properties of water are unique and constant.

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
Middle School	Science	SC.MS.3.7	Complex interactions determine local weather patterns and influence climate, including the role of the ocean.	1. Collect data to provide evidence for how the motions and complex interactions of air masses result in the variability of precipitation in Colorado. (MS-ESS2-5) 2. Develop and use a model to describe how unequal heating, rotation of the Earth and geographic land distribution causes patterns of atmospheric and oceanic circulation that determine regional climates and precipitation patterns in regions of Colorado. (MS-ESS2-6)
Fifth Grade	Science	SC.5.1.1	Matter exists as particles that are too small to be seen; measurements of a variety of observable properties can be used to identify particular materials.	Conduct experiments involving water to provide evidence that matter is made of particles too small to be seen (e.g. by dissolving sugar in water and evaporating salt water). (5-PS1-1)
Fifth Grade	Science	SC.5.1.2	Chemical Reactions that occur when substances are mixed can be identified by the emergence of substances with different properties; the total mass remains the same.	Conduct an investigation to determine whether the mixing of two or more substances results in new substances by conducting water quality testing of a local waterway and observing reactions in test tubes. (5-PS1-4)
Fifth Grade	Science	SC.5.3.4	Most of Earth's water is in the ocean and much of Earth's freshwater in glaciers or underground.	Describe and graph the amounts and percentages of freshwater in various local reservoirs including lakes, rivers, and groundwater to provide comparisons about the distribution of freshwater and saltwater water on Earth. (5-ESS2-2)
Fourth Grade	Science	SC.4.1.5	Waves are regular patterns of motion.	Develop a model of waves using water to describe patterns in terms of amplitude and wavelength which can cause erosion issues (e.g. chunk, gully, sheet). (4-PS4-1))
Fourth Grade	Science	SC.4.3.1	Earth has changed over time.	Describe how water can change the land over time by using evidence from patterns in rock formations and fossils in rock layers. (4-ESS1-1)
Fourth Grade	Science	SC.4.3.2	Four major earth systems interact.	Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by analyzing cycles of freezing and thawing of water and volume of water flow. (4-ESS2-1)
Second Grade	Science	SC.2.1.1	Matter exists as different substances that have observable different properties.	Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot by observing the effects of freezing and thawing ice cubes. (2-PS1-4)
Second Grade	Science	SC.2.3.1	Some events on Earth occur quickly; others can occur very slowly.	Describe how the properties of water help shape the landscape quickly or slowly by comparing and contrasting flooding and erosion. (2-ESS1-1)
Second Grade	Science	SC.2.3.2	Wind and water can change the shape of the land; models can show the shape and these changes to the land.	1. Obtain information to identify where water is found on Earth and that it can be solid or liquid. (2-ESS2-3) 2. Develop a model to demonstrate how water can change the shape of land (e.g. through flooding or erosion). (2-ESS2-2)
First Grade	Science	SC.1.1.1	Sound can make matter vibrate and vibrating matter can make sound.	Describe how the movement of waves across the surface of water is caused by vibration. (1-PS4-1)
Pre-K	Science	SC.P.1.1	Recognize that physical properties of objects and/or materials help us understand the world.	Use senses to explore the properties of water by investigating changes in liquid water and solid ice when water is heated, cooled, or combined.
Pre-K	Science	SC.P.1.2	Recognize there are cause - and - effect relationships related to matter and energy.	Observe, describe and discuss properties of water and the transformation of water when it is cooled or heated.

CWC.II Water is essential for life, our economy, and a key component of healthy ecosystems.

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
High School	Science	SC.HS.2.1	DNA codes for the complex hierarchical organization of systems that enable life's functions.	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis in response to water availability (e.g. by measuring stomate response to moisture and temperature and/or root development in response to water levels). (HS-LS1-3)
High School	Science	SC.HS.2.3	Organisms use matter and energy to live and grow.	Use a model to illustrate the need for water in photosynthesis to transform light energy into stored chemical energy. (HS-LS1-5)
High School	Science	SC.HS.2.4	Organisms interact with the living and nonliving components of the environment to obtain matter and energy.	Use mathematical and/or computational representations gathered from a simulation of a drought or flood to support water as a factor affecting carrying capacity of an ecosystem. (HS-LS2-1)
High School	Science	SC.HS.2.5	Matter and energy necessary for life are conserved as they move through ecosystems.	Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in a wetland under aerobic and anaerobic conditions. (HS-LS2-3)
High School	Science	SC.HS.2.6	A complex set of interactions determine how ecosystems respond to disturbances.	Evaluate claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions (such as seasonal floods and droughts), but changing conditions (such as a catastrophic flood or long-term aridification) may result in a new ecosystem (including changes in what food can be produced for people).. (HS-LS2-6)
High School	Science	SC.HS.2.12	The environment influences survival and reproduction of organisms over multiple generations.	Evaluate the evidence supporting claims that changes in environmental conditions may result in (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species by analyzing impacts of drought and flood in different ecosystems, including aquatic environments and wetlands. (HS-LS4-5)
High School	Science	SC.HS.2.13	Humans have complex interactions with ecosystems and have the ability to influence biodiversity on the planet.	Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity in an aquatic environment or wetland ecosystem. (HS-LS4-6)
High School	Science	SC.HS.3.6	The planet's dynamics are greatly influenced by water's unique chemical and physical properties.	Plan and conduct an investigation of how the properties of water and its effects on Earth materials and surface processes may alter dynamics within an ecosystem. (HS-ESS2-5)
High School	Science	SC.HS.3.7	The role of radiation from the sun and its interactions with the atmosphere, ocean, and land are the foundation for the global climate system. Global climate models are used to predict future changes, including changes influenced by human behavior and natural factors.	Analyze geoscience data to make the claim that one change to Earth's surface (e.g. loss of ground vegetation from fire, flood, etc.) can create feedbacks that cause changes to Colorado's ecosystems (e.g. increase in water runoff and soil erosion). (HS-ESS2-2)
High School	Science	SC.HS.3.9	Resource availability has guided the development of human society and use of natural resources has associated costs, risks, and benefits.	Construct an explanation based on evidence for how the availability of water (e.g. access to fresh water in rivers, lakes, and groundwater), occurrence of water-related natural hazards (e.g. floods, droughts), and changes in precipitation related to changes in climate have influenced human activity (e.g. types of crops and livestock that can be raised). (HS-ESS3-1)
High School	Science	SC.HS.3.10	Natural hazards and other geological events have shaped the course of human history at local, regional, and global scales.	Construct an explanation based on evidence for how the occurrence of water-related natural hazards (e.g. floods, droughts, natural sources of water contamination) have influenced human activity. (HS-ESS3-1)
High School	Science	SC.HS.3.11	Sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources, including the development of technologies.	Create a computational simulation to illustrate the relationships among the management of water with the sustainability of human populations, and biodiversity. (HS-ESS3-3)
High School	Social Studies	SS.HS.2.3	The interconnected nature of the world, its people and places.	Explain that the world's population is increasingly connected to and dependent upon the need and sharing of water resources.
High School	Social Studies	SS.HS.3.1	Productive resources (natural, human, capital) are scarce; therefore, choices are made about how individuals, businesses, governments, and nonprofits allocate these resources.	Explain the economic way of thinking: the condition of scarcity requires choice and choice has a cost (opportunity cost) in relation to Colorado's water resources (e.g. transfer of water from food production for use within cities and towns).

CWC.II Water is essential for life, our economy, and a key component of healthy ecosystems.

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
High School	Social Studies	SS.HS.4.1	Research and formulate positions on local, state, and national issues or policies to participate in a civil society.	Engage in civil discourse regarding balanced water solutions by discussing how current water issues demonstrate that the sustainability of water in quality and quantity is essential for life and our economy.
Middle School	Science	SC.MS.2.3	Sustaining life requires substantial energy and matter inputs.	Construct a scientific explanation based on evidence for the need of water in the role of photosynthesis for the cycling of matter and flow of energy into and out of organisms. (MS-LS1-6)
Middle School	Science	SC.MS.2.5	Organisms and populations of organisms are dependent on their environmental interactions both with other living things and with nonliving	Analyze and interpret data to provide evidence for what happens to living things in an ecosystem (including food systems) as water availability increases/decreases. (MS-LS2-1)
Middle School	Science	SC.MS.2.6	Ecosystems are sustained by the continuous flow of energy, originating primarily from the sun, and the recycling of matter and nutrients within the system.	Develop a model to describe the cycling of nutrients in water for aquatic environments, including algal growth, consumption, and decomposition. (MS-LS2-3)
Middle School	Science	SC.MS.2.7	Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem	Evaluate competing design solutions for maintaining biodiversity and ecosystem services (such as water purification in a watershed). (MS-LS2-5)
Middle School	Science	SC.MS.3.7	Complex interactions determine local weather patterns and influence climate, including the role of the ocean.	1. Collect data to provide evidence for how the motions and complex interactions of air masses result in the variability of precipitation in Colorado. (MS-ESS2-5) 2. Develop and use a model to describe how unequal heating, rotation of the Earth and geographic land distribution causes patterns of atmospheric and oceanic circulation that determine regional climates and precipitation patterns in regions of Colorado. (MS-ESS2-6)
Middle School	Science	SC.MS.3.8	Humans depend on Earth's land, ocean, atmosphere, and biosphere for different resources, many of which are limited or not renewable. Resources are distributed unevenly around the planet as a result of past geologic processes.	Construct a scientific explanation based on evidence for why water resources are unevenly distributed, limited or not renewable, such as groundwater. (MS-ESS3-1)
Eighth Grade	Social Studies	SS.8.1.2	The historical eras, individuals, groups, ideas and themes from the origins of the American Revolution through Reconstruction.	Evaluate continuity and change over the course of United States history by examining various eras from the perspective of Colorado residents in particular regions by determining when and where access to water resources were a major source of conflict and compromise.
Fifth Grade	Science	SC.5.1.4	The energy released from food was once energy from the sun.	Use models to describe that energy released from food was once energy from the sun captured by plants in the chemical process with air and water that forms plant matter. (5-PS3-1)
Fifth Grade	Science	SC.5.2.1	Plants acquire their material from growth chiefly from air and water.	Support an argument that plants get the materials they need for growth chiefly from air and water by recording observations from a hydroponic garden. (5-LS1-1)
Fifth Grade	Science	SC.5.2.2	Matter cycles between air and soil and among plants, animals and microbes as these organisms live and die.	Develop a model to describe how water and other matter that is not food is changed by plants into food and cycled among plants, animals, decomposers, and the environment. (5-LS2-1)
Fifth Grade	Science	SC.5.3.3	Earth's major systems interact in multiple ways to affect Earth's surface materials and processes.	Develop a model using an example of how the hydrosphere interacts with Earth's major systems to support a variety of ecosystems and organisms in Colorado. (5-ESS2-1)
Fourth Grade	Science	SC.4.3.2	Four major earth systems interact.	Make observations and/or measurements to provide evidence that rainfall helps to shape the land and affects the types of living things found in a region. (ESS2:A)
Fourth Grade	Science	SC.4.3.4	Energy and fuels that humans use are derived from natural sources and their use affects the environment in multiple ways.	Obtain and combine information to describe how energy and fuels that use water affect the environment (e.g. creation/loss of habitat due to dams). (4-ESS3-1)
Fourth Grade	Social Studies	SS.4.2.2	Connections are developed within and across human and physical systems.	Analyze how people use geographic factors in creating settlements and have adapted to and modified the local physical environment in order to use water resources through the development of irrigation ditches/acequias (to support food production) and hardrock mining.

CWC.II Water is essential for life, our economy, and a key component of healthy ecosystems.

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
Fourth Grade	Social Studies	SS.4.4.1	Identify, investigate, and analyze multiple perspectives on civic issues.	Give example of issues faced and multiple perspectives in regards to allocation and availability of water as Colorado's population grows and the state faces uncertainty over future climate and provide possible solutions.
Third Grade	Science	SC.3.2.5	Sometimes differences in characteristics between individuals of the same species provide advantages in survival and reproduction.	Construct an argument with evidence that describes how differences in characteristics between individuals of the same species (including food crops and livestock) provide advantages in survival and reproduction in the event of a drought or flood. (3-LS4-3)
Second Grade	Science	SC.2.2.1	Plants depend on water and light to grow and on animals for pollination or to move their seeds around.	Plan and conduct an investigation to determine if plants need sunlight and water to grow. (2-LS2-1)
Second Grade	Science	SC.2.3.2	Wind and water can change the shape of the land; models can show the shape and these changes to the land.	Develop a model of how water can change the shape of the land and how the resulting landforms, together with the materials on the land, provide homes for living things. (2-ESS2-2; ESS2:A)
Second Grade	Social Studies	SS.2.2.2	People in communities manage, modify, and depend on their environment.	1. Explain that people settle in certain areas because of the need to access freshwater. 2. Explain how access to freshwater affects a community's ability to thrive. 3. Identify examples of how water draws people and wildlife to particular areas.
Second Grade	Social Studies	SS.2.3.1	Resources are scarce, so individuals may not have access to the goods and services they want.	Give examples for how different individuals and even different communities make choices regarding water use.
Second Grade	Social Studies	SS.2.4.2	Identify and compare multiple ways that people understand and resolve conflicts and differences.	Analyze ways that diverse individuals, groups and communities work through conflict and promote equality, justice, and responsibility by using the example of management of water as a scarce public resource.
First Grade	Social Studies	SS.1.2.2	Describe the characteristics of a community and how they are influenced by the environment.	1. Provide examples for how families use water. 2. Analyze how weather (rain and snow), climate (precipitation patterns) and environmental characteristics (proximity to water) influence individuals and the cultural characteristics of a family in Colorado.
Kinder garten	Science	SC.K.2.1	To live and grow, animals obtain food they need from plants or other animals, and plants need water and light [and nutrients].	Use observations of patterns among all living things that describes plants and animals (including humans) need water to survive (and humans and other animals need food that we get from plants and animals). (K-LS1-1)
Kinder garten	Science	SC.K.3.2	Plants and animals meet their needs in their habitats and impact one another; people can prepare for severe weather.	Use a model to represent the relationship between water and the needs of different plants or animals (including humans) and the places they live. (K-ESS3-1)
Kinder garten	Social Studies	SS.K.1.1	Ask questions and discuss ideas about the past.	Ask questions about why people in the past settled in certain places near water access or traveled using rivers.
Kinder garten	Social Studies	SS.K.2.2	People live in different places around the world.	Identify where towns and cities in the West are located and whether that location depends on a river for water.
Kinder garten	Social Studies	SS.K.3.2	Describe choices people make about how to use the money they earn (PFL).	Give examples of difference between spending income on something you want versus something you need (like water).
Pre-K	Science	SC.P.2.1	Recognize that living things have unique characteristics and basic needs that can be observed and studied.	Describe how habitats provide for the basic needs of plants and animals, including water, to grow and survive by observing familiar living things (e.g. a classroom pet or a classroom garden that also produces garden or classroom that can also produce food).
Pre-K	Science	SC.P.2.2	Recognize that living things develop in predictable patterns.	Identify the common need for water of familiar living things (e.g. a classroom pet or classroom garden).
Pre-K	Social Studies	SS.P.1.1	Recognize change and sequence over time.	Understand that people change the way they live over time by examining how people use water to survive and grow plants for food.
Pre-K	Social Studies	SS.P.2.1	Develop spatial understanding, perspectives, and connections to the world	Develop an awareness of where water is located around the school, neighborhood and community.

CWC.III Water is a scarce resource, limited and variable

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
High School	Science	SC.HS.3.7	The role of radiation from the sun and its interactions with the atmosphere, ocean, and land are the foundation for the global climate system. Global climate models are used to predict future changes, including changes influenced by human behavior and natural factors.	Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate and precipitation patterns in Colorado. (HS-ESS2-4)
High School	Science	SC.HS.3.9	Resource availability has guided the development of human society and use of natural resources has associated costs, risks, and benefits.	Construct an explanation based on evidence for how the availability of water (e.g. access to fresh water in rivers, lakes, and groundwater), occurrence of water-related natural hazards (e.g. floods, droughts), and changes in precipitation related to changes in climate have influenced human activity. (HS-ESS3-1)
High School	Science	SC.HS.3.10	Natural hazards and other geological events have shaped the course of human history at local, regional, and global scales.	Construct an explanation based on evidence for how the occurrence of water-related natural hazards (e.g. floods, droughts, natural sources of water contamination) have influenced human activity. (HS-ESS3-1)
High School	Science	SC.HS.3.12	Global climate models used to predict future climate change continue to improve our understanding of the impact of human activities on the global climate system.	Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change, specific to precipitation and temperature, and the associated future impacts to Earth's systems and their associated impacts (e.g. aridification). (HS-ESS3-5)
High School	Social Studies	SS.HS.2.2	Geographic variables influence interactions of people, places, and environments.	Identify, evaluate, and communicate strategies to respond to constraints placed on human systems by analyzing the scarcity and variability in available water resources in Colorado.
High School	Social Studies	SS.HS.2.3	The interconnected nature of the world, its people and places.	Explain how the uneven distribution of limited and variable water resources in the world can lead to conflict, competition, or cooperation among nations, regions, and cultural groups.
High School	Social Studies	SS.HS.3.1	Productive resources (natural, human, capital) are scarce; therefore, choices are made about how individuals, businesses, governments, and nonprofits allocate these resources.	Explain the economic way of thinking: the condition of scarcity requires choice and choice has a cost (opportunity cost) by using Colorado's water resources as an example.
High School	Social Studies	SS.HS.3.2	Economic systems, market structures, competition, and government policies affect market outcomes.	1. Use supply and demand analysis to explain how competitive markets efficiently allocate scarce resources such as water (e.g. a farmer's purchase of water to produce food or a town's purchase of water to serve its residents). 2. Compare and contrast market outcomes for water markets in Colorado with different levels of water supply and demand.
Middle School	Science	SC.MS.2.5	Organisms and populations of organisms are dependent on their environmental interactions both with other living things and with nonliving	Analyze and interpret data to provide evidence for what happens to living things in an ecosystem as water availability increases/decreases. (MS-LS2-1)
Middle School	Science	SC.MS.3.8	Humans depend on Earth's land, ocean, atmosphere, and biosphere for different resources, many of which are limited or not renewable. Resources are distributed unevenly around the planet as a result of past geologic processes.	Construct a scientific explanation based on evidence for how the uneven distribution of Colorado and Earth's groundwater resources are the result of past and current geoscience processes. (MS-ESS3-1)
Eighth Grade	Social Studies	SS.8.2.2	Competition for control of space and resources in early American History.	Interpret from a geographic perspective the expansion of the United States by addressing issues of access to water resources, along with land, security, and sovereignty.
Sixth Grade	Social Studies	SS.6.1.2	The historical eras, individuals, groups, ideas, and themes within regions of the Western Hemisphere and their relationships with one another.	Examine, from multiple perspectives, the use of water in agricultural development, and the development of irrigation systems (canals, etc.), particularly within desert regions. (e.g. Ancestral Puebloans civilization expansion, decline and reconfiguration into Puebloan cultures of Rio Grande valley)
Sixth Grade	Social Studies	SS.6.2.2	Regional differences and perspectives in the Western Hemisphere impact human and environmental interactions.	1. Classify and analyze how water affects human interactions with the environment. 2. Identify physical water features (e.g. transbasin diversions, irrigation canals and mountain snowpack) and the positive and negative impacts on human systems in different regions.

CWC.III Water is a scarce resource, limited and variable

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
Fifth Grade	Science	SC.5.3.4	Most of Earth's water is in the ocean and much of Earth's freshwater in glaciers or underground.	Describe and graph the amounts and percentages of saltwater and freshwater in various reservoirs to provide evidence for the statement "water is a scarce resource, limited and variable" by comparing the amount of water available for human use in Colorado (e.g. for a local drinking water supply or food production) from various sources (e.g. surface vs. groundwater). (5-ESS2-2)
Fifth Grade	Social Studies	SS.5.2.1	Use geographic tools and sources to research and answer questions about United States geography.	Identify physical water features on maps and describe the influence of accessible resources and their use on development of local and regional communities.
Fifth Grade	Social Studies	SS.5.2.2	Causes and consequences of movement.	Describe how migration patterns reflect application of technology often involving water quantity for agriculture and manufacturing (e.g. construction of irrigation ditches/acequias allowed for food production in new areas).
Fourth Grade	Science	SC.4.3.4	Energy and fuels that humans use are derived from natural sources and their use affects the environment in multiple ways.	Obtain and combine information to describe that energy and fuels are derived from scarce, limited, and variable natural resources such as water and their uses affect the environment. (4-ESS3-1)
Fourth Grade	Social Studies	SS.4.2.1	Use geographic tools to research and answer questions about Colorado geography.	Describe how the geography of Colorado and western states differ from other regions of the United States, including the role of snowpack as a main source of water, along with more limited average annual rainfall, versus the eastern United States region where average annual rainfall is generally more plentiful.
Fourth Grade	Social Studies	SS.4.2.2	Connections are developed within and across human and physical systems.	Analyze how people use geographic factors in creating settlements and have adapted to and modified the local physical environment in order to use water resources through the development of irrigation ditches/acequias and hardrock mining.
Fourth Grade	Social Studies	SS.4.3.2	Determine the opportunity cost when making a choice (PFL).	Determine the opportunity cost of different water allocation scenarios in Colorado, including among water users (such as agriculture, municipalities, industry, fish and wildlife, energy production, recreation, etc.).
Fourth Grade	Social Studies	SS.4.1.1	Analyze primary and secondary sources from multiple points of view to develop an understanding of the history of Colorado.	Explain, through multiple perspectives, how water use in each region have shaped the settlement of the state by using examples from American Indians, Spanish explorers, trappers/traders, and settlers in the mining, trading, agriculture, and industrial industries.
Third Grade	Social Studies	SS.3.2.1	Use geographic tools to develop spatial thinking.	Identify water related issues (including availability or scarcity of food) and the different strategies used by groups of people that live in arid, desert areas with limited and variable water sources by using examples from local history or the present (i.e. acequias, Native Americans, fur trappers, etc.).
Third Grade	Social Studies	SS.3.2.2	The concept of region is developed through an examination of similarities and differences in places and communities.	Construct an argument for how the quantity of water available for plants, animals, and humans varies by major river basin in Colorado and within river basins has resulted in similarities and differences seen today.
Second Grade	Social Studies	SS.2.2.2	People in communities manage, modify, and depend on their environment.	Explain how communities manage and use scarce freshwater resources and certain nonrenewable groundwater sources.
Second Grade	Social Studies	SS.2.3.1	Resources are scarce, so individuals may not have access to the goods and services they want.	1. Explain scarcity by giving examples of behaviors related to water and limited water (i.e., water restrictions). 2. Investigate how different individuals and communities water use varies.
Kinder garten	Social Studies	SS.K.2.2	People live in different places around the world.	Compare where towns and cities in the West are located to other places in the United States or the world in relation to water (e.g. people may spread out more away from rivers if the precipitation/rainfall is more consistent throughout the year).

CWC.IV Water cycles naturally through Colorado's watersheds, often intercepted and manipulated through an extensive infrastructure system built by people.

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
High School	Science	SC.HS.1.7	Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems.	Create a computational model to calculate the change in energy as water moves through the water cycle (e.g. evaporation of water to form clouds, condensation of atmospheric water vapor to form precipitation). (HS-PS3-1)
High School	Science	SC.HS.1.9	Although energy cannot be destroyed, it can be converted to less useful forms as it is captured, stored and transferred.	1. Create a computational model to calculate the change in energy as water moves through the water cycle (e.g. evaporation of water to form clouds, condensation of atmospheric water vapor to form precipitation). (HS-PS3-1) 2. Design, build, and refine a device that models a watershed or municipal drinking water system to convert one form of energy into another form of energy. (HS-PS3-3)
High School	Science	SC.HS.2.6	A complex set of interactions determine how ecosystems respond to disturbances.	1. Evaluate claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions (such as localized beaver dam construction), but changing conditions (such as major dam construction, land clearing or shift to regenerative agriculture or new crops) may result in a new ecosystem. (HS-LS2-6) 2. Design, evaluate and refine a solution for reducing the impacts of human activities (such as dams) on the environment and biodiversity. (HS-LS2-7)
High School	Science	SC.HS.3.4	Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes, and these effects occur on different time scales, from sudden (e.g., volcanic ash clouds) to intermediate (ice ages) to very long-term tectonic cycles.	Analyze geoscience data to make the claim that one change to Earth's surface (loss of ground vegetation from fire, flood, aridification, etc.) can create feedbacks that cause changes to other Earth systems (increase in water runoff and soil erosion or changes in food production). (HS-ESS2-2)
High School	Science	SC.HS.3.6	The planet's dynamics are greatly influenced by water's unique chemical and physical properties.	Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes by investigating stream transportation and deposition using a stream table. (HS-ESS2-2)
High School	Science	SC.HS.3.7	The role of radiation from the sun and its interactions with the atmosphere, ocean, and land are the foundation for the global climate system. Global climate models are used to predict future changes, including changes influenced by human behavior and natural factors.	Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate and precipitation patterns in Colorado. (HS-ESS2-4)
High School	Science	SC.HS.3.9	Resource availability has guided the development of human society and use of natural resources has associated costs, risks, and benefits.	Construct an explanation based on evidence for how the availability of water (e.g. access to fresh water in rivers, lakes, and groundwater), occurrence of water-related natural hazards (e.g. floods, droughts, natural sources of water contamination), and changes in precipitation have influenced human activity within a Colorado watershed. (HS-ESS3-1)
High School	Social Studies	SS.HS.2.1	Use geographic tools and resources to analyze Earth's human systems and physical features to investigate and address geographic issues.	Create, analyze and interpret maps to display and explain the affect of water resources on spatial patterns of cultural and environmental characteristics at various scales.
High School	Social Studies	SS.HS.2.2	Geographic variables influence interactions of people, places, and environments.	Identify, evaluate, and communicate strategies to respond to constraints placed on human systems by the physical environment by using the intercepting and manipulating water from the natural water cycle as an example.
High School	Social Studies	SS.HS.2.3	The interconnected nature of the world, its people and places.	Analyze how cooperation and conflict influence the division and control of Earth by using examples from the development of Colorado's extensive water infrastructure and management systems.
High School	Social Studies	SS.HS.3.1	Productive resources (natural, human, capital) are scarce; therefore, choices are made about how individuals, businesses, governments, and nonprofits allocate these resources.	Apply knowledge and skills to analyze how individuals, businesses (including agricultural producers), governments, and nonprofits deal with the challenges of water scarcity by manipulating and intercepting water through an extensive infrastructure system built by people.

CWC.IV Water cycles naturally through Colorado's watersheds, often intercepted and manipulated through an extensive infrastructure system built by people.

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
Middle School	Science	SC.MS.1.5	Kinetic energy can be distinguished from the various forms of potential energy.	Develop a model illustrating how energy (e.g. the sun and gravity) is exchanged to power the water cycle and move water from one location to another. (MS-PS1-4)
Middle School	Science	SC.MS.1.6	Energy changes to and from each type can be tracked through physical or chemical interactions. The relationship between the temperature and the total energy of a system depends on the types, states and amounts of matter.	Plan an investigation to determine the relationship of the sun's energy on masses of different snowpack and resulting volumes of liquid water for use downstream. how the sun's energy interacts with different masses of snowpack to provide different volumes of liquid water for use downstream. (MS-PS3-4)
Middle School	Science	SC.MS.3.6	Water cycles among land, ocean, and atmosphere, and is propelled by sunlight and gravity. Density variations of sea water drive interconnected ocean currents. Water movement causes weathering and erosion, changing landscape features.	1. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity by using a Colorado watershed as an example. (MS-ESS2-4) 2. Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions in Colorado. (MS-ESS2-5) 3. Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates and precipitation patterns within Colorado. (MS-ESS2-6)
Middle School	Science	SC.MS.3.7	Complex interactions determine local weather patterns and influence climate, including the role of the ocean.	1. Collect data to provide evidence for how the motions and complex interactions of air masses result in the variability of precipitation in Colorado. (MS-ESS2-5) 2. Develop and use a model to describe how unequal heating, rotation of the Earth and geographic land distribution causes patterns of atmospheric and oceanic circulation that determine regional climates and precipitation patterns in regions of Colorado. (MS-ESS2-6)
Middle School	Science	SC.MS.3.8	Humans depend on Earth's land, ocean, atmosphere, and biosphere for different resources, many of which are limited or not renewable. Resources are distributed unevenly around the planet as a result of past geologic processes.	Construct a scientific explanation based on evidence for how the uneven distribution of Colorado's groundwater resources are limited and some are virtually non-renewable. The distribution of groundwater is significantly changing in Colorado as a result of removal with potential impacts on food supply and municipal water supplies. (MS-ESS3-1)
Sixth Grade	Social Studies	SS.6.2.1	Use geographic tools and resources to research and make geographic inferences and predictions about the Western Hemisphere.	Use technology like radar and Snotel site data to extrapolate data regarding snowpack and quanity of water available in different regions.
Sixth Grade	Social Studies	SS.6.2.2	Regional differences and perspectives in the Western Hemisphere impact human and environmental interactions.	1. Classify and analyze how water affects human interactions with the environment. 2. Identify physical water features (e.g. transbasin diversions, irrigation canals and mountain snowpack) and the positive and negative impacts on human systems in different regions.
Fifth Grade	Science	SC.5.3.3	Earth's major systems interact in multiple ways to affect Earth's surface materials and processes.	Develop a model using an example to describe why 85% of Colorado's precipitation falls west of the Continental Divide by modeling the influence of the hydrosphere (e.g. gulfs of Mexico and California, Pacific Ocean, Mississippi Valley), atmosphere (prevailing winds), and the geosphere (e.g. the state's mountain ranges) on precipitation patterns in the state. (5-ESS2-1)
Fifth Grade	Science	SC.5.3.5	Societal activities have had major effects on land, ocean, atmosphere and even outer space	Obtain and combine information about ways human activities have affected the natural water cycle in Colorado. (ESS3:C)
Fifth Grade	Social Studies	SS.5.2.2	Causes and consequences of movement.	Describe how migration patterns reflect application of technology often involving diverting water for agriculture and manufacturing (e.g. construction of irrigation ditches/acequias allowed for food production in new areas).
Fourth Grade	Science	SC.4.3.1	Earth has changed over time.	Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation that water has changed a landscape over time. (4-ESS1-1)
Fourth Grade	Science	SC.4.3.2	Four major earth systems interact.	Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by analyzing cycles of freezing and thawing of water and volume of water flow. (4-ESS2-1)

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Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
Fourth Grade	Science	SC.4.3.4	Energy and fuels that humans use are derived from natural sources and their use affects the environment in multiple ways.	Obtain and combine information to describe how the use of energy and fuels also uses water and affects the environment by analyzing hydroelectric dams and water used for cooling in Colorado's power plants. (4-ESS3-1)
Fourth Grade	Science	SC.4.3.5	A variety of hazards result from natural process; humans cannot eliminate natural hazards but can reduce their impacts' effect.	Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans, including the use of dams to reduce impacts of flooding and for storing water for times of drought. (4-ESS3-2)
Fourth Grade	Social Studies	SS.4.2.1	Use geographic tools to research and answer questions about Colorado geography.	Describe how the geography of Colorado and western states differ from other regions of the United States, including the role of snowpack as a main source of water, along with more limited average annual rainfall, versus the eastern United States region where average annual rainfall is generally more plentiful.
Fourth Grade	Social Studies	SS.4.2.2	Connections are developed within and across human and physical systems.	Analyze how people use geographic factors in creating settlements and have adapted to and modified the local physical environment. This includes the development of irrigation ditches/acequias (and return flows of irrigation water to streams), farming and ranching practices, and hardrock mining in order to use, conserve, and protect water resources.
Third Grade	Social Studies	SS.3.2.1	Use geographic tools to develop spatial thinking.	Discuss how snow and mountainous geography impacts access to water resources in different regions of the United States, particularly in the West.
Second Grade	Science	SC.2.3.1	Some events on Earth occur quickly; others can occur very slowly.	Use information from several sources to provide evidence that water influences Colorado's geography by comparing and contrasting slow moving water (e.g., flow of a creek or river) and fast moving water (e.g., flooding). (2-ESS1-1)
First Grade	Social Studies	SS.1.2.1	Locate places and spaces using geographic tools.	Use maps to trace the paths of rivers and streams to the oceans and to identify where man made structures (cities, reservoirs, etc.) are located in relation to natural features.
First Grade	Social Studies	SS.1.3.1	Individuals work in different types of jobs to earn an income.	Give examples of professions/jobs in the local community where individuals help plan, build and maintain water infrastructure (e.g. for producing food, cleaning and delivering drinking water, cleaning water after human use, maintaining parks and recreation opportunities, etc.).
Kinder garten	Science	SC.K.3.1	Patterns are observed when measuring the local weather, including how humans and other organisms impact their environment.	Use and share observations of local weather conditions to describe patterns of precipitation over time. (K-ESS2-1)
Kinder garten	Science	SC.K.3.2	Plants and animals meet their needs in their habitats and impact one another; people can prepare for severe weather.	Use a model to represent the relationship between water and the needs of different plants or animals (including humans) and the places they live. (K-ESS3-1)
Pre-K	Social Studies	SS.P.2.1	Develop spatial understanding, perspectives, and connections to the world	Develop an awareness of where water is located (e.g. ditches, reservoirs, or streams) around the school, neighborhood and community.

CWC.V The quality and quantity of water, and the timing of its availability, are all directly impacted by human actions and natural events.

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
High School	Science	SC.HS.2.6	A complex set of interactions determine how ecosystems respond to disturbances.	Design, evaluate, and refine a solution for reducing the impacts of human activities on (and potentially providing benefits to) water quality/quantity, the environment and biodiversity (including food production, urbanization, dam construction, and dissemination of invasive species). (HS-LS2-7)
High School	Science	SC.HS.2.13	Humans have complex interactions with ecosystems and have the ability to influence biodiversity on the planet.	Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity in an aquatic environment or wetland ecosystem. (HS-LS4-6)
High School	Science	SC.HS.3.4	Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes, and these effects occur on different time scales, from sudden (e.g., volcanic ash clouds) to intermediate (ice ages) to very long-term tectonic cycles.	Analyze geoscience data to make the claim that one change to Earth's surface (e.g. loss of ground vegetation from fire, flood, etc.) can create feedbacks that cause changes to other Earth systems (e.g. increase in water runoff and soil erosion). (HS-ESS2-2)
High School	Science	SC.HS.3.6	The planet's dynamics are greatly influenced by water's unique chemical and physical properties.	Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes by investigating stream transportation and deposition using a stream table or testing the solubility of different materials as evidence of chemical weathering and recrystallization. (HS-ESS2-2)
High School	Science	SC.HS.3.7	The role of radiation from the sun and its interactions with the atmosphere, ocean, and land are the foundation for the global climate system. Global climate models are used to predict future changes, including changes influenced by human behavior and natural factors.	1. Analyze geoscience data to make the claim that one change to Earth's surface (e.g. loss of ground vegetation from fire, flood, aridification, etc.) can create feedbacks that cause changes to other Earth systems (e.g. increase in water runoff and soil erosion). (HS-ESS2-2) 2. Analyze geoscience data to make the claim that one change to Earth's surface (increase in water vapor or carbon dioxide in the atmosphere, etc.) can create feedbacks that cause changes to other Earth systems (increase in variability and severity of weather patterns, increasing surface temperatures, etc.) (HS-ESS2-2)
High School	Science	SC.HS.3.9	Resource availability has guided the development of human society and use of natural resources has associated costs, risks, and benefits.	Construct an explanation based on evidence for how the availability of water (e.g. access to fresh water in rivers, lakes, and groundwater), occurrence of water-related natural hazards (e.g. floods, droughts), and changes in precipitation related to changes in climate have influenced human activity. (HS-ESS3-1)
High School	Science	SC.HS.3.10	Natural hazards and other geological events have shaped the course of human history at local, regional, and global scales.	Construct an explanation based on evidence for how the occurrence of water-related natural hazards (e.g. floods, droughts, natural sources of water contamination) have influenced human activity. (HS-ESS3-1)
High School	Science	SC.HS.3.11	Sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources, including the development of technologies.	Evaluate or refine a technological solution that reduces impacts of human activities on natural systems and increases the sustainability of water in Colorado. (HS-ESS3-4)
High School	Science	SC.HS.3.12	Global climate models used to predict future climate change continue to improve our understanding of the impact of human activities on the global climate system.	Use a computational representation to illustrate the relationships among the hydrosphere (water) and Earth's other systems and how those relationships are being modified due to human activity. (HS-ESS3-6)
High School	Social Studies	SS.HS.1.2	Key concepts of continuity and change, cause and effect, complexity, unity and diversity, and significant ideas in the United States from Reconstruction to the present.	Examine and evaluate the systemic impact of racism and nativism and major scientific and technological innovations on access to clean, safe drinking water in Colorado over time.
High School	Social Studies	SS.HS.2.2	Geographic variables influence interactions of people, places, and environments.	Explain how altering the environment by altering water supplies has brought prosperity to some places and created environmental dilemmas for others by examining differences between tribal nations and nontribal communities, consequences of poverty on access to clean drinking water, rural versus urban access to water, immigration/settlement and its impact on access to water resources, etc.).

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Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
High School	Social Studies	SS.HS.2.3	The interconnected nature of the world, its people and places.	Explain that the world's population is increasingly connected to and dependent upon other people for sharing water resources.
High School	Social Studies	SS.HS.3.1	Productive resources (natural, human, capital) are scarce; therefore, choices are made about how individuals, businesses, governments, and nonprofits allocate these resources.	Apply knowledge and skills to analyze how individuals, businesses, governments, and nonprofits deal with the challenges of water scarcity by using examples such as water trusts, construction of water storage and other water infrastructure, market systems for water rights, water courts, mitigating impacts of water rights transfers from agricultural land, and development of the Colorado Water Plan.
Middle School	Science	SC.MS.1.1	The fact that matter is composed of atoms and molecules can be used to explain the properties of substances, diversity of materials, states of matter and phases changes.	1. Analyze and interpret data on the properties of water and other substances before and after the substances interact to determine if a chemical reaction has occurred. (MS-PS1-2) 2. Develop a model that predicts and describes changes in particle motion, temperature, and state of water when thermal energy is added or removed. (MS-PS1-4)
Middle School	Science	SC.MS.3.6	Water cycles among land, ocean, and atmosphere, and is propelled by sunlight and gravity. Density variations of sea water drive interconnected ocean currents. Water movement causes weathering and erosion, changing landscape features.	1. Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions in Colorado. (MS-ESS2-4) 2. Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates within Colorado. (MS-ESS2-6)
Middle School	Science	SC.MS.3.7	Complex interactions determine local weather patterns and influence climate, including the role of the ocean.	1. Collect data to provide evidence for how the motions and complex interactions of air masses result in the variability of precipitation in Colorado. (MS-ESS2-5) 2. Develop and use a model to describe how unequal heating, rotation of the Earth and geographic land distribution causes patterns of atmospheric and oceanic circulation that determine regional climates and precipitation patterns in regions of Colorado. (MS-ESS2-6)
Middle School	Science	SC.MS.3.8	Humans depend on Earth's land, ocean, atmosphere, and biosphere for different resources, many of which are limited or not renewable. Resources are distributed unevenly around the planet as a result of past geologic processes.	Construct a scientific explanation based on evidence for how the uneven distribution of Colorado and Earth's groundwater resources are the result of past and current geoscience processes and how their distributions are significantly changing in Colorado and on Earth as a result of removal by humans. (MS-ESS3-1)
Eighth Grade	Social Studies	SS.8.2.1	Use geographic tools to research and analyze patterns in human and physical systems in the United States.	Use geographic tools to research and analyze the use of waterways for different demographics such as settlers, traders, and miners,
Eighth Grade	Social Studies	SS.8.2.2	Competition for control of space and resources in early American History.	Interpret from a geographic perspective the expansion of the United States by addressing issues of access to water resources, along with land, security, and sovereignty.
Sixth Grade	Social Studies	SS.6.2.1	Use geographic tools and resources to research and make geographic inferences and predictions about the Western Hemisphere.	Identify uses of technology in agriculture for maximum water efficiency such as automated headgates and sprinkler systems.
Sixth Grade	Social Studies	SS.6.2.2	Regional differences and perspectives in the Western Hemisphere impact human and environmental interactions.	1. Classify and analyze how water affects human interactions with the environment. 2. Identify physical water features (e.g. transbasin diversions, irrigation canals and mountain snowpack) and the positive and negative impacts on human systems in different regions.
Fifth Grade	Science	SC.5.1.2	Chemical Reactions that occur when substances are mixed can be identified by the emergence of substances with different properties; the total mass remains the same.	Conduct an investigation to determine whether the mixing of two or more substances results in new substances by conducting water quality testing of a local waterway and observing reactions in test tubes. (5-PS1-4)

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Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
Fifth Grade	Science	SC.5.3.3	Earth's major systems interact in multiple ways to affect Earth's surface materials and processes.	Develop a model using an example to describe why 85% of Colorado's precipitation falls west of the Continental Divide by modeling the influence of the hydrosphere (e.g. gulfs of Mexico and California, Pacific Ocean, Mississippi Valley), atmosphere (prevailing winds), and the geosphere (e.g. the state's mountain ranges) on precipitation patterns in the state. (5-ESS2-1)
Fifth Grade	Science	SC.5.3.4	Most of Earth's water is in the ocean and much of Earth's freshwater in glaciers or underground.	1. Describe and graph the amounts and percentages of saltwater and freshwater in various local reservoirs including lakes, rivers, and ground water to provide comparisons about the distribution of freshwater and saltwater on Earth and in Colorado. (5-ESS2-2) 2. Provide evidence for the statement "water is a scarce resource, limited and variable" by comparing the amount of water available for human use in Colorado (or a local drinking water supply) from various sources (e.g. surface vs. groundwater). (5-ESS2-2)
Fifth Grade	Science	SC.5.3.5	Societal activities have had major effects on land, ocean, atmosphere and even outer space	1. Describe how human activities have had major effects on the quality and quantity of water and the timing of its availability. (ESS3:C) 2. Obtain and combine information about ways individual communities use science ideas to protect the water resources and water's role in the environment. (5-ESS3-1)
Fifth Grade	Social Studies	SS.5.2.2	Causes and consequences of movement.	1. Discuss allocation of water resources amongst different user groups. 2. Describe how migration patterns reflect application of technology often involving water quantity for agriculture and manufacturing (e.g. construction of irrigation ditches/acequias allowed for food production in new areas).
Fourth Grade	Science	SC.4.3.4	Energy and fuels that humans use are derived from natural sources and their use affects the environment in multiple ways.	Obtain and combine information to describe how the use of energy and fuels also uses water and affects the environment by analyzing hydroelectric dams and water used for cooling in Colorado's power plants. (4-ESS3-1)
Fourth Grade	Science	SC.4.3.5	A variety of hazards result from natural process; humans cannot eliminate natural hazards but can reduce their impacts' effect.	Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans, including the use of dams to reduce impacts of flooding and for storing water, a shift to regenerative agriculture or new food crops in response a changing climate, and the management of watersheds and water supplies to reduce the potential for pollution-related hazards. (4-ESS3-2)
Fourth Grade	Social Studies	SS.4.2.1	Use geographic tools to research and answer questions about Colorado geography.	Describe how the geography of Colorado and western states differ from other regions of the United States, including the role of snowpack as a main source of water, along with more limited average annual rainfall, versus the eastern United States region where average annual rainfall is generally more plentiful.
Fourth Grade	Social Studies	SS.4.2.2	Connections are developed within and across human and physical systems.	Analyze how people use geographic factors in creating settlements and have adapted to and modified the local physical environment. This includes the development of irrigation ditches/acequias (and return flows of irrigation water to streams), farming and ranching practices, and hardrock mining in order to use, conserve, and protect water resources.
Third Grade	Social Studies	SS.3.2.1	Use geographic tools to develop spatial thinking.	1. Discuss how snow and mountainous geography impacts access to water resources in different regions of the United States. 2. Identify the different strategies used by groups of people that live in arid, desert areas with limited and variable water sources by using examples from local history or the present (i.e. acequias, Native Americans, fur trappers, etc.).
Third Grade	Social Studies	SS.3.2.2	The concept of region is developed through an examination of similarities and differences in places and communities.	Discuss the differences in each region's (e.g. river basin's) use of water (groundwater/aquifers, surface water, reservoirs) and identify regional culture's relationship with water.

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Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
Second Grade	Science	SC.2.3.2	Wind and water can change the shape of the land; models can show the shape and these changes to the land.	1. Obtain information to identify where water is found in Colorado (i.e., the Earth) and that it can be solid or liquid. (ESS2-3) 2. Compare multiple solutions designed to slow or prevent water from changing the shape of the land. (2-ESS2-1)
Second Grade	Social Studies	SS.2.2.2	People in communities manage, modify, and depend on their environment.	1. Discuss how communities allocate water resources so that all members have access. 2. Discuss how water contributes to the interaction of a community with their environment.
First Grade	Social Studies	SS.1.2.2	Describe the characteristics of a community and how they are influenced by the environment.	Identify how the community interacts with water and weather (e.g. when growing food, watering gardens, etc.) and discuss impacts/consequences.
Kinder garten	Science	SC.K.3.1	Patterns are observed when measuring the local weather, including how humans and other organisms impact their environment.	Construct an argument supported by evidence for how plants and animals (including humans) can manipulate water in the environment to meet their needs (e.g. use of dams, watering landscapes).
Kinder garten	Science	SC.K.3.2	Plants and animals meet their needs in their habitats and impact one another; people can prepare for severe weather.	1. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather, such as drought and floods events. (K-ESS3-2) 2. Communicate solutions that will reduce the impact of humans on the water. (K-ESS3-3)

CWC.VI Water is a public resource governed by water law

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
High School	Science	SC.HS.3.9	Resource availability has guided the development of human society and use of natural resources has associated costs, risks, and benefits.	Construct an explanation based on evidence for how the availability of water (e.g. access to fresh water in rivers, lakes, and groundwater), occurrence of water-related natural hazards (e.g. floods, droughts), and changes in precipitation related to changes in climate have guided the development of human society in Colorado and how social regulations can change the balance of factors. (HS-ESS3-1)
High School	Science	SC.HS.3.11	Sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources, including the development of technologies.	Create a computational simulation to illustrate the relationships among the management of water with the sustainability of human populations and biodiversity. (HS-ESS3-3)
High School	Social Studies	SS.HS.2.2	Geographic variables influence interactions of people, places, and environments.	Research and interpret multiple viewpoints on issues that shape policies and programs for water resource use and explain how the management of water supplies has brought prosperity to some places and created environmental dilemmas for others by examining Colorado examples (e.g differences between tribal nations and nontribal communities, consequences of poverty on access to clean drinking water, rural versus urban access to water, immigration/settlement and its impact on access to water resources, etc.).
High School	Social Studies	SS.HS.2.3	3. The interconnected nature of the world, its people and places.	Analyze how cooperation and conflict influence the division and control of Earth by using examples of Colorado's water administration and treaties/interstate compacts over water resources as an example.
High School	Social Studies	SS.HS.3.2	Economic systems, market structures, competition, and government policies affect market outcomes.	1. Explore the role of government in addressing market failures by using examples from the allocation and appropriation of water in Colorado as a public resource for beneficial use by public agencies and private persons through a water right (the right to use a portion of the public's water resources). 2. Analyze negative/positive externalities of water markets in Colorado such as the impact of agricultural water rights purchases on the dry-up of agricultural land and the role of the Colorado government in anti-speculation policies. 3. Compare and contrast the market outcomes created by various water market structures with different levels and types of government or public control.
High School	Social Studies	SS.HS.4.1	Research and formulate positions on local, state, and national issues or policies to participate in a civil society.	1. Identify which level of government is appropriate for various water-related policies and demonstrate an ability to appropriately engage individually and/or in groups with that level of government. 2. Engage in civil discourse regarding balanced water solutions, by discussing how current water issues demonstrate that the sustainability of water in quality and quantity is essential for life and our economy, advocating for individual or group rights related to water, demonstrating civic duty in ensuring sustainability of water resources, and demonstrating civic participation in decision-making processes regarding sustainable water resources.
High School	Social Studies	SS.HS.4.2	Purposes, roles and limitations of the structures and functions of government.	1. Understand the role of the judicial system surrounding water law and evaluate the effectiveness of the justice system surrounding water in protecting life, liberty, and property for all persons in the United States and in Colorado. 2. Analyze and explain the possibilities and limitations of water governance in Colorado's communities and the inherent competition among values.
High School	Social Studies	SS.HS.4.3	Evaluate the impact of the political institutions that link the people to the government.	Analyze the legal system around water in Colorado and the evolution of water law in Colorado over time in response to changing social wants (e.g. the inclusion of instream flows as a beneficial use).

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Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Evidence Outcome - adapted for water focus (Connected NGSS Performance Expectation)
Eighth Grade	Social Studies	SS.8.1.1	Investigate and evaluate primary and secondary sources about United States history from the American Revolution through Reconstruction to formulate and defend a point of view with textual evidence.	Analyze evidence from multiple sources including those with conflicting accounts to evaluate the shift of much of Colorado's government from Spanish to Mexican to American, and explain attendant water disputes and settlement issues by using place=based regional documents (Particularly the issues of Mexican land grants being nullified by the American government after the power shift in 1848 and the influx of Anglo settlers to Colorado in 1862).
Eighth Grade	Social Studies	SS.8.1.2	The historical eras, individuals, groups, ideas and themes from the origins of the American Revolution through Reconstruction.	Evaluate continuity and change over the course of United States history by examining various eras from the perspective of Colorado residents in particular regions by determining when and where access to water resources were a major source of conflict and compromise.
Eighth Grade	Social Studies	SS.8.2.1	Use geographic tools to research and analyze patterns in human and physical systems in the United States.	Use geographic tools to research and analyze the use of waterways for different demographics such as settlers, traders, and miners,
Eighth Grade	Social Studies	SS.8.2.2	Competition for control of space and resources in early American History.	Analyze how economic, political, cultural, and social processes interact to shape patterns of human population, interdependence, cooperation and conflict by using the administration and appropriation of water resources in Colorado as an example.
Fifth Grade	Science	SC.5.3.5	Societal activities have had major effects on land, ocean, atmosphere and even outer space	Obtain and combine information about ways individual communities use science ideas to protect the water resources and water's role in the environment. (5-ESS3-1)
Fourth Grade	Social Studies	SS.4.1.1	Analyze primary and secondary sources from multiple points of view to develop an understanding of the history of Colorado.	Discuss how mining, trading, agriculture, and industrial industries have each shaped Colorado history through their use of natural resources, including water.
Fourth Grade	Social Studies	SS.4.1.2	The historical eras, individuals, groups, ideas, and themes in Colorado history and their relationship to key events in the United States within the same historical period.	Describe how historical events impact how natural resources, including water, are allocated today (e.g. War of 1848, Homestead Act of 1862).
Fourth Grade	Social Studies	SS.4.4.2	The origins, structures, and functions of the Colorado government.	Explain the unique origins of the judicial system surrounding water in Colorado.
Third Grade	Social Studies	SS.3.4.2	The origins, structures, and functions of local government.	Identify the origins, structures, and functions of local government related to management of local water resources (e.g. water law, water courts, water quality permitting). Describe how local government provides opportunities for people to exercise their rights and initiate change by examining a local water issue.
Second Grade	Social Studies	SS.2.4.2	Identify and compare multiple ways that people understand and resolve conflicts and differences.	Analyze ways that diverse individuals, groups and communities work through conflict and promote equality, justice, and responsibility by using the example of management of water as a scarce public resource.
Kinder garten	Social Studies	SS.K.4.1	Understand that civic participation takes place in multiple groups and in various forms.	Differentiate among examples of civic participation by using the example of a citizen who is engaged and informed in water issues as a public resource (e.g. participating in a stream cleanup and participating in a ditch company).
Kinder garten	Social Studies	SS.K.4.2	Participate in making fair and reasoned decisions using democratic traditions.	Explain that rules around sharing water in class in can be used as a means of resolving conflict and recognize that such democratic traditions exist in how Coloradans share water.
Pre-K	Social Studies	SS.P.4.2	Rules allow groups to work effectively.	Recognize that rules allow groups to work effectively by sharing water or lining up to fill water bottles in a classroom.