

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

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Example Water-based Objective (NGSS connection)
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)
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)
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)
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.

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

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Example Water-based Objective (NGSS connection)
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.3.9	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)
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)
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 hard-rock mining.
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.
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	Social Studies	SS.2.2.2	People in communities manage, modify, and depend on their environment.	<ol style="list-style-type: none"> <li>1. Explain that people settle in certain areas because of the need to access freshwater.</li> <li>2. Explain how access to freshwater affects a community's ability to thrive.</li> <li>3. Identify examples of how water draws people and wildlife to particular areas.</li> </ol>
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.	Use observations of patterns among all living things that describes plants and animals (including humans) need water to survive. (K-LS1-1)
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 a familiar living things (e.g. a classroom garden or classroom pet).

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

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Example Water-based Objective (NGSS connection)
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)
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)
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 (or a local drinking water supply) from various sources (e.g. surface vs. groundwater). (5-ESS2-2)
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.

**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)	Example Water-based Objective (NGSS connection)
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)
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.	<ol style="list-style-type: none"> <li>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)</li> <li>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)</li> <li>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)</li> </ol>
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)

## 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)	Example Water-based Objective (NGSS connection)
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	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.).
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.3.8	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)
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	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.

Grade	Subject	GLE Code	Grade Level Expectation (GLE)	Example Water-based Objective (NGSS connection)
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.