Colorado Springs Utilities
It's how we're all connected

Program Outline

Water Wise -
Water Cycle, Supply, Treatment, Conservation

Objective: Educate our youth customers so they understand where their water comes from, how water is cleaned so it is safe to drink, efficient water use, what happens to it after they have used it and that Colorado Springs Utilities is a trusted entity.

Target grades: 6th – 8th grade

Time commitment: 50-minute presentation. Extra time for optional pre/post activities: Water Cycle in a Bag, Water Filter Experiment, Water Conservation Wizard Workbook

Standard/ GLE Code: SC.MS.3.6, SC.MS.3.8

Colorado Springs Utilities provides water, electric, gas and wastewater services.

- Water challenge (show 4 vials of water: raw, treated, non-potable and effluent).

Water Cycle

- Discuss urban water cycle:
  a) Raw water from mountains.
  b) Treated water – used in community.
  c) Water resource recovery – released to downstream users (reclaimed effluent) or reused in town (non-potable).
    - Student Activity: Water Cycle in a Bag (optional pre/post activity).

Where Does Your Water Come From?

- There are 8 major river basins (or watersheds) in Colorado, defined by the Continental Divide.
    - Define what a watershed is, show Continental Divide.
- Colorado Springs Utilities uses water from 3 of the major river basins – the Arkansas, the South Platte, and the Colorado River.
- The primary source of our water comes from snowmelt in the Rocky Mountains.
- 65% of our water comes from the Western Slope.
- Some of our water has travelled nearly 100 miles to get to town.
    - Videos of our raw water collection system infrastructure – tunnels, reservoirs, pipes, pump stations.
    - Student Activity: In-person = pipeline game

How Does the Water Get Cleaned?

- There are 6 water treatment plants in Colorado Springs.
- Water is treated using 4 steps: coagulation/flocculation; sedimentation; filtration; disinfection.
- Laboratory testing confirms it is safe to drink.
- Safe drinking water is delivered to homes and business through more than 2,000 miles of distribution pipe.
    - Student Activity: Water Filter Experiment (optional pre/post activity).

Are You Water Wise?

- The average water use in Colorado Springs is 72 gallons per person per day.
- 63% of water is used inside the home, 37% outside for landscaping.
- Conservation is critical to ensuring enough water for the future.
- Best way for students to use water wisely is taking shorter showers, turning off the faucet when brushing teeth and washing hands, testing toilets for leaks, installing water efficient fixtures.

- Student Activity: Water Conservation Wizard Workbook with 5-minute shower timer and toilet leak testing tablets; calculate water savings with efficient use habits and fixtures (optional pre/post activity). Answer key is here.

What Happens to Water After it Goes Down the Drain?

- Wastewater is reclaimed at the Water Resource Recovery Facilities.
- There are 5 steps to the water resource recovery process (wastewater treatment): preliminary, primary, secondary, disinfection, and tertiary. We will focus on the first four steps.
- 90% reclaimed water flows down Fountain Creek to the Arkansas River.
- 10% of wastewater effluent is reused in town on our non-potable system.
- The water passes approximately 200 communities along its way to the Atlantic Ocean via the Gulf of Mexico.

Summary - Review Key Messages

- The majority of our water is not local - our water supply is melted snow from the Rocky Mountains (up to 100 miles away).
- We have a complex water system to support our community, and Colorado Springs Utilities is a trusted expert managing these supplies.
- We live in a dry climate with limited water – it's up to all of us to conserve and use it efficiently.