

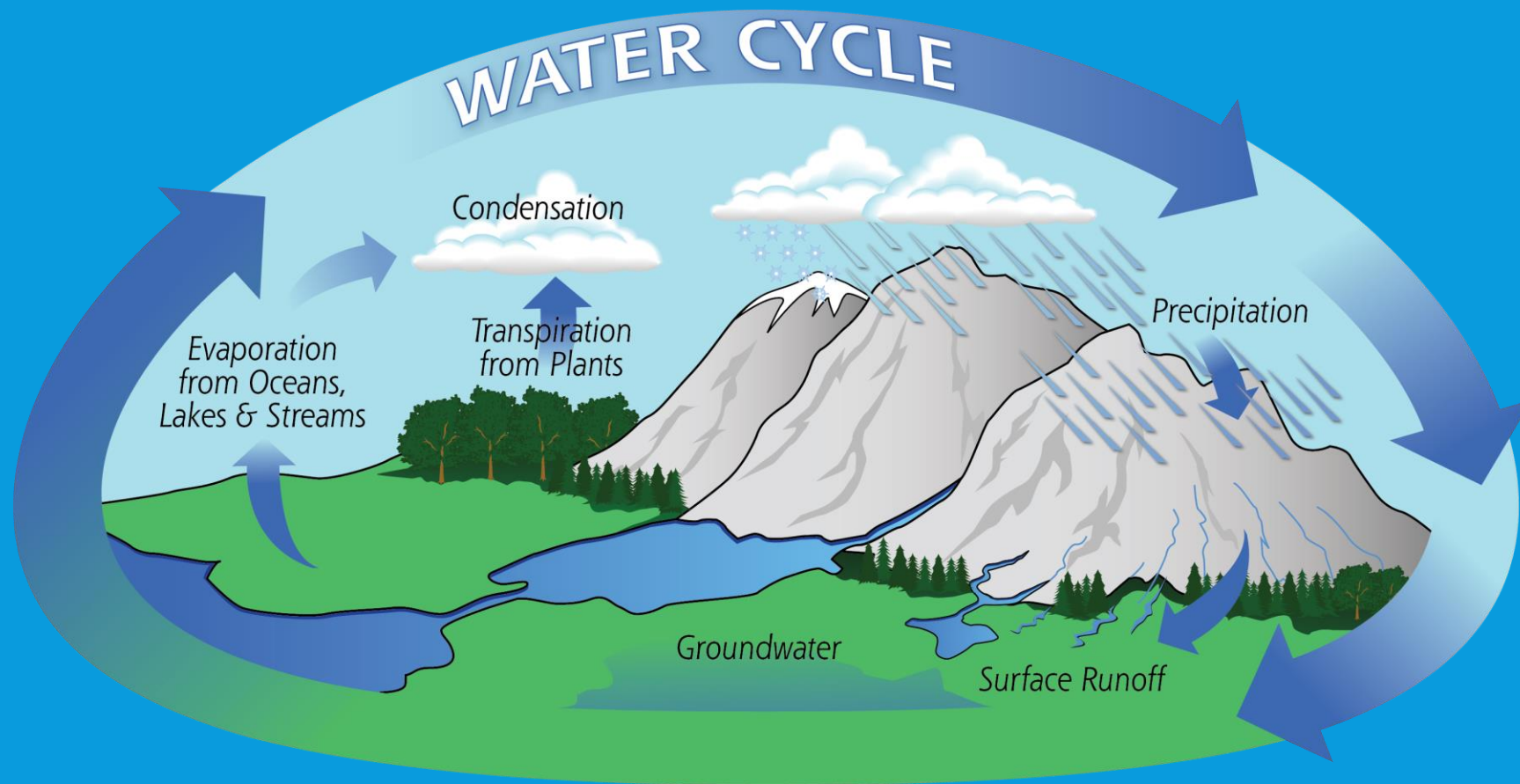
WATER PROFESSIONALS PRESENTATION

Target Audience is 5-8 grade students

TODAY'S LEARNING OBJECTIVES

- Understand:
 - The water cycle
 - Where drinking water comes from
 - Why clean water is important
 - What it takes to get clean water
 - How you can do your part

THE WATER CYCLE



DRINKING WATER TREATMENT

How does water get to your home?

WHERE DOES THE WATER FROM MY TAP COME FROM?

- There are many ways clean and safe drinking water is provided to homes and businesses. Most cities pump water underground however some cities use water from a lake or river.
- In order for you to have that clean tap water, water utility workers have 3 main jobs:
 - Protect and replenish water found in lakes, rivers, wetlands, and underground – often called "source water"
 - "Clean" the water so it is safe to drink and use
 - Send that clean water to the public through pipes



PROTECTING SOURCE WATER

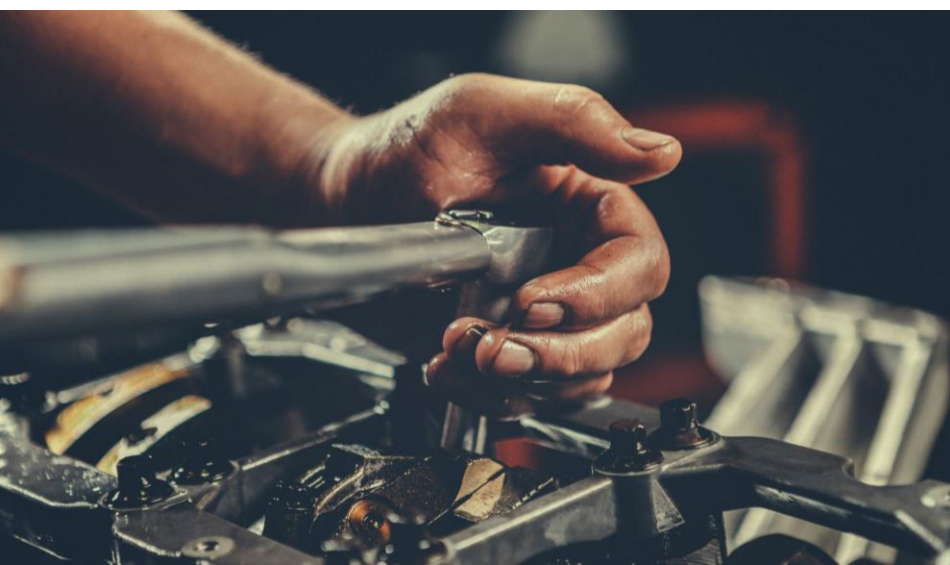
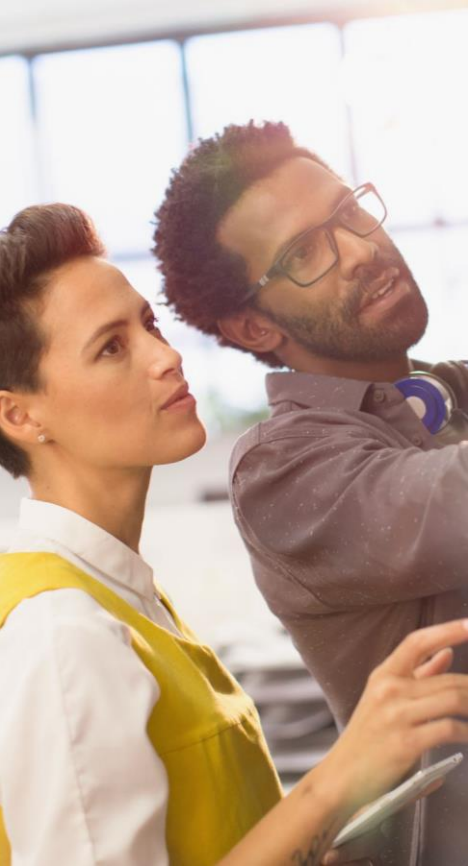
- There are 2 primary sources of water:
 - Surface water - water found above the Earth's surface such as in a lake, river, wetland, etc.
 - Groundwater - water found below the Earth's surface. Most water used for drinking water is found in an aquifer.
- **Source water is usually unsafe to drink. Do you know why?**

WATER TREATMENT

- Water utilities' have to treat or "clean" the water to make it safe for use.
- Safe water is called potable.

- Do you know where your drinking water comes from?
- Do you know what type of treatment process your utility provider uses?

- Here are some videos showing how city's treat and distribute clean drinking water
- Surface Water - Minneapolis
- Groundwater that is softened - Bloomington



WHO ARE THE KEY PLAYERS IN DRINKING WATER TREATMENT?

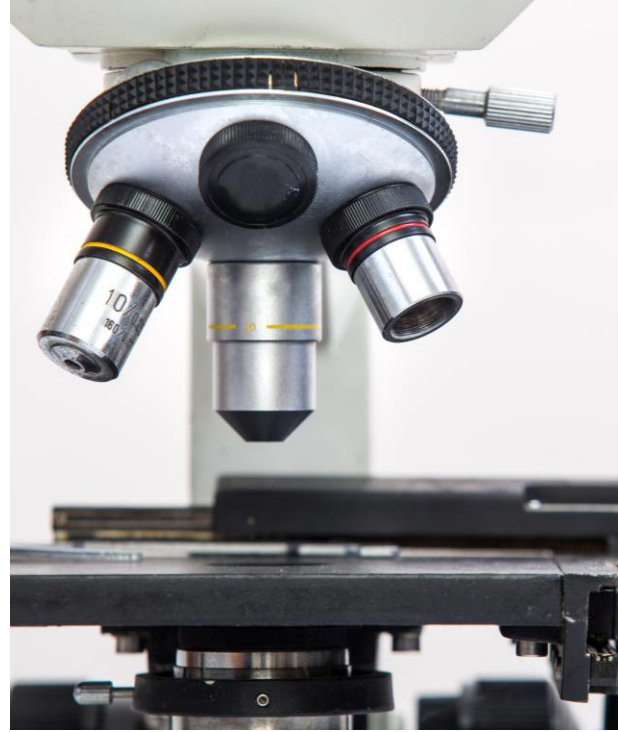
- Scientists
- Operators
- City officials
- Plumbers
- Engineers

WASTEWATER TREATMENT

What happens to all that water that goes down the drain?

WHAT ARE THE STEPS BETWEEN TOILET AND PLANT?

- Here is a video showing how wastewater is conveyed and treated at the City of Rochester, Minnesota.
 - <https://www.youtube.com/watch?v=solMYubjzwQ>
- The primary job of wastewater utility staff is to safely convey and treat contaminated water so people don't get sick and fish and animals are not harmed.



WHO ARE THE KEY PLAYERS IN WASTEWATER TREATMENT?

- Scientists
- Operators
- Mechanics
- Engineers
- Administrative Support
- Managers



STORMWATER

Where does rainwater go?

STORMWATER

- Managing stormwater is much more complex than most people think. Stormwater management starts with managing what happens on the landscape.
- Because stormwater is generated from rainwater falling to the earth's surface, what that rainwater comes into contact with impacts what happens to the rainwater.
- Water resource professionals help determine what can be built, where it can be built, and how it is built. These same professionals also educate people on how their actions can affect the quality of the rainwater.
- Here is a video showing rainwater runoff and how human decisions can make rainwater cleaner or dirtier.
 - [Managing Stormwater Runoff - YouTube](#)

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WHO ARE THE KEY PLAYERS IN STORMWATER MANAGEMENT?

- Scientists
- Engineers
- Educators
- Elected officials
- Landscapers



WATER CONSERVATION

WHY SHOULD WE CONSERVE WATER?



HOW CAN YOU CONSERVE WATER?

- Turn off the tap
- Water wisely
- Shorten showers
- Find the leaks
- Reuse



WATER INDUSTRY CAREERS

Interested in working in the water/wastewater industry?

WHY WORK IN THE WATER INDUSTRY?

- Water/Wastewater Utility Careers:
 - Stable jobs, can't outsource
 - Everyone needs clean, safe water
 - Great career growth
 - Excellent benefits, good pay
 - Current shortage of skilled workers



GOOD PAY, GOOD BENEFITS, SECURE JOBS

- Most positions only require a high school diploma or 2-year skilled technical degree.
- Most positions require licenses from the state. Able to obtain licensures while getting paid to work.
- 2022 National Average salary for water and wastewater treatment operators was \$55,690 per year.
- 2022 annual mean wage for operators in Minnesota was \$58,130-\$98,580.



ADDITIONAL RESOURCES FOR TEACHERS AND STUDENTS

- DrinkTap.org: <http://www.drinktap.org>
- How Water Works: <http://www.awwa.org/resources-tools/water-knowledge/how-water-works.aspx>
- Only Tap Water Delivers: <http://www.awwa.org/resources-tools/public-affairs/communications-tools/only-tap-water-delivers/only-tap-water-delivers-materials.aspx>
- United States Environmental Protection Agency (EPA): <https://www.epa.gov/students>
- Work for Water: <http://www.awwa.org/resources-tools/water-knowledge/how-water-works.aspx>