# CLEAN WATER UNIVERSITY

*Adventures in stormwater, drinking water, and wastewater.*

## 2025-2026 Teachers' Guide

# Introduction & Table of Contents

## Welcome to Clean Water University, Virtual Edition!

Welcome to the Clean Water University (CWU) Teachers' Guide for the 2025-2026 school year! The City of Springfield, City of Eugene, and Metropolitan Wastewater Management Commission (MWMC) are proud to offer this program to 5th grade classes in the Eugene-Springfield area free of charge. This guide can be used as prep for attending the in-person field trip or, if your class is not attending in-person, for conducting lessons in class. Whether conducting lessons in class or attending CWU in person, the goal of the program is the same: to teach students about the importance of clean water.

This Teachers' Guide is to make CWU as easy to implement into your existing lesson plans as possible. Outlined below and on the following pages, you'll find curriculum on a variety of topics pertaining to clean water with links to videos, activities, and worksheets on the City of Springfield's website. Move through them at whatever pace works best for you and your virtual classroom. Thank you for your participation and enjoy!

## Clean Water University Curriculum Contents

# Incentive Information

## School STEM Program Donation

As a thank you for incorporating Clean Water University into your curriculum and to further science, technology, engineering, and math education in the Eugene-Springfield area, the MWMC will donate $500 to each participating school's STEM program. To ensure this funding is sent to your school, simply confirm participation in Clean Water University with Thomas Gray, City of Springfield/MWMC Communications Coordinator, at igray@springfield-or.gov. The MWMC will then coordinate with your school district's Finance Department to send those funds to your specific school and designate them for your STEM program. If your school doesn't have an official STEM program, the donation can go toward your science curriculum supplies, such as microscopes or other equipment.

SCIENCE TECHNOLOGY ENGINEERING MATHEMATICS

STEM Education

## Class Drawing: Student Scholarships to STEM Discovery Camp

In addition to the school STEM program donation, participating classes will be entered into a drawing for all students in the winning class to receive a membership to the Eugene Science Center for one adult and one child (a $50 value!). This will give the students and a parent/guardian free admission to Eugene Science Center exhibits and to Planetarium stargazing shows for an entire year! Memberships also include discounts on a variety of the Science Center's other offerings. To learn more, visit https://eugenesciencecenter.org/support/membership.

To enter your class in the drawing, submit proof of your class's participation (can be a student's Micro Story Assignment, a screenshot of you leading your class in a game of Jeopardy, etc.) to igray@springfield-or.gov. The winning class will be announced in May 2025, and the teacher will then receive instructions for distributing the memberships to students/parents. Good luck!

eugene SCIENCE CENTER

# Lesson 1: One Water

## Overview & Key Learning Outcomes

In this lesson, students will be introduced to the water systems in our communities and how they connect to each other. Eugene and Springfield share common water sources in the McKenzie and Willamette rivers, which are fed by four different watersheds in Lane County: the McKenzie Watershed, the Middle Fork Willamette Watershed, the Coast Fork Watershed, and the Long Tom Watershed (also called the Upper Willamette.

## Key Words

Fresh Water
Salt Water
Watershed
Ecosystem
Natural Resources
Tributaries

## Teaching Points

- Water in Lane County primarily comes from the Willamette and McKenzie watersheds. Rain, snow, and ice collect in the mountains around the Willamette Valley and flow downhill into streams, creeks, and rivers.
- Eugene and Springfield share common water sources. Everyone has a part to play in protecting clean water, whether it's by working for a water utility or by picking up after yourself when you're out by one of our rivers.
- Humans need fresh water to survive. The oceans are full of salt water, which people can't drink.
- All the water we use, or that moves through our cities, returns back to natural water bodies. That's why it's all one water!

## Procedures/Materials

1. Visit the One Water webpage to show students the One Water Cycle graphic.
2. Watch One Water by Metropolitan Wastewater Management Commission.
3. Watch "What is a Watershed?" by Battle River Watershed
4. Watch "Intro to Watersheds - Oregon Specific" by Mary's River Watershed Council
5. Check out the Oregon Watersheds Map.

# Lesson 2: Natural Water Cycle

## Overview & Key Learning Outcomes

In this lesson, students will be introduced to the water cycle and learn about the continuous movement of water on, above, and below the surface of the earth. They'll learn about the various phases of the water cycle, including evaporation, condensation, precipitation, and absorption.

By the end of the lesson, students will be able to:

- Explain where water comes from.
- Identify the various stages of the water cycle.
- Recognize water as an essential resource.

## Key Words

Water Cycle
Water Droplet
Water Vapor
Surface Water
Evaporation
Condensation
Precipitation
Runoff
Absorption
Aquifer

## Teaching Points

- Water is essential to all life. Without it, humans, animals, and plants couldn't survive.
- All water moves continuously and is recycled over and over again. The same water we use today has been here for billions of years - that means the water you drink could be the same water thirsty dinosaurs were drinking 65 million years ago! It's also the only water we'll ever have in the future.
- While water hasn't changed much over billions of years, what does change is the stage of the water cycle that it's in. The four main stages of the water cycle are evaporation, condensation, precipitation, and runoff.

## Procedures/Materials

1. Start by asking students where they think their water comes from when they take a bath or shower, wash their hands, or do the dishes.
2. Play The Water Cycle! Science for Kids to give students an overview of the water cycle.
3. Take a look at the Water Cycle Diagram handout from the U.S. Geological Survey together as a class. Identify the various stages of the water cycle that were explained in the video.
4. To close the lesson, have students complete the Water Cycle Word Search.

# Lesson 3: Drinking Water

## Overview & Key Learning Outcomes

In this lesson, students will learn where their drinking water comes from, how it's cleaned, and the tools used to transport the water to the faucets in their homes. They'll be introduced to the various steps in the process of cleaning drinking water to ensure high water quality.

By the end of the lesson, students will be able to:

- Explain how drinking water gets to their home.
- Identify various sources of drinking water.
- Recognize that water must be properly cleaned before it can become drinking water.

## Key Words

Drinking Water
Water Quality
Fresh Water
Groundwater
Aquifer
Flocculation
Clarification
Filtration
Disinfection
Chlorine
Ozone
Pipes
Pumps

## Teaching Points

- All humans and animals must consume water in order to survive. On average, 9-13 year olds should drink about 7-9 cups of water per day to stay hydrated.
- Though 71% of earth's surface is water, only 0.3% of that water is usable by humans. The other 99.7% is in the oceans, soils, icecaps, and floating in the atmosphere. That's why it's important that we take good care of the fresh water that we can use!
- Most of the water used by humans comes from lakes, rivers, and aquifers: water stored underground.
- In Eugene, drinking water comes from the McKenzie River. In Springfield, drinking water comes from a large aquifer under the City and from the Middle Fork Willamette River.
- Before water from these sources can become drinking water, it has to be cleaned to remove bacteria, viruses, and micro-pollutants. Then water quality tests are conducted to make sure the water is safe to drink.
- In Eugene and Springfield, the three organizations that clean our drinking water are the Eugene Water & Electric Board (EWEB), the Springfield Utility Board (SUB), and Rainbow Water District (RWD). They do such a good job that what comes out of our faucets is often even cleaner than what the State of Oregon and U.S. government require!
- After it's treated, drinking water is stored in reservoirs until it's needed, and then distributed to homes and businesses through a system of pumps and underground pipes throughout the region.

## Procedures/Materials

1. Ask students where they think their drinking water comes from and how it gets to the faucets in their home.
2. Play the How do we get clean drinking water? - Interesting Engineering YouTube video to introduce students to the sources of drinking water and the process of cleaning it.
3. Have students complete the Drinking Water Word Search to become more familiar with key words associated with the drinking water treatment process and pollutants that can affect our water sources.
4. If time allows, visit the Eugene Water & Electric Board, the Springfield Utility Board, or the Rainbow Water District website at eweb.org, subutil.com, or rwdonline.net to learn more about their treatment processes and water quality standards.

# Lesson 4: Stormwater

## Overview & Key Learning Outcomes

In this lesson, students will learn about the various measures that affect the quality of water in our rivers and streams. They'll also learn about stormwater runoff and how it can impact that water quality.

By the end of the lesson, students will be able to:

- Identify the key measures that help us determine the health of a river, stream, or lake.
- Explain why high levels of water quality are important to human, animal, and plant life.
- Recognize the role stormwater plays in the quality of our local waterways.

## Key Words

Water Quality
Water Testing
Laboratory
Turbidity
Dissolved Oxygen
Phosphates
Nitrates
Temperature
pH
Stormwater
Runoff

## Teaching Points

- Water is essential to human, animal, and plant life. As we learned in the previous lesson, only 0.3% of the earth's water is usable by humans, and most of the fresh water we can use above the ground comes from rivers and streams. That's why it's important that we take good care of our rivers and maintain high water quality for human use, outdoor recreation, and aquatic life.
- Some of the key measures that help determine water quality are turbidity, dissolved oxygen, nutrients, temperature, and pH. More on each of these points is covered in the Water Quality Lecture Notes document.
- Stormwater is rain that becomes runoff as it flows over buildings, driveways, and streets. We get quite a bit of rain here in the Eugene-Springfield area - about 47 inches per year! Stormwater flows into storm drains and open channels, which connect to local waterways that eventually lead to the McKenzie and Willamette Rivers.
- As the runoff flows across the ground, it picks up pollutants from things like litter, chemicals, vehicle fluids, soaps, and pet waste. Since stormwater isn't cleaned the way drinking water and wastewater are, these pollutants can end up in our local waterways. It's important we keep pollution out of stormwater.
- There are some simple actions community members like you and your family can take to help us keep our water clean from street to stream! These include scooping your pet's poop, picking up litter, avoiding use of certain chemicals and fertilizers, and fixing leaking cars.

## Procedures/Materials

1. Go over the water quality measures defined in the Water Quality Lecture Notes document.
2. Have students complete the Water Quality Prep Worksheet, where they'll answer questions based on defined key words at the top of the page. Discuss the answers of the worksheet on the Water Quality Prep Answer Key, explaining the turbidity, dissolved oxygen, phosphates, nitrates, temperature, and pH of the McKenzie River. Ask students how close their guesses about the McKenzie River were to the actual numbers.
3. Open the "Only Rain Down the Drain" Interactive Game. Play together as a class, allowing for group discussion between each question before answering.
4. If time allows, visit the City of Springfield or City of Eugene's Stormwater webpages to learn more about what each of the cities do to protect our local waterways.

# Lesson 5: Aquatic Macroinvertebrates

## Overview & Key Learning Outcomes

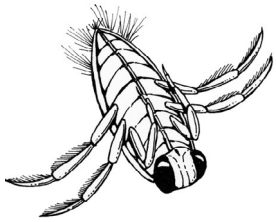
In this lesson, students will learn about aquatic macroinvertebrates, their place in the food web, and the importance of clean water to their survival - and ultimately the survival of their predators. They'll learn about the different bugs prevalent in our area's waterways.

By the end of the lesson, students will be able to:

- Define a macroinvertebrate and recognize their important role in the food web.
- Explain the connection between clean water and the food web.
- Identify some common macroinvertebrates such as mayflies, dragonflies, and aquatic earthworms.

## Key Words

Aquatic
Macroinvertebrate
Metamorphosis
Larva
Nymph
Life Cycle
Food Web



## Teaching Points

- Aquatic macroinvertebrates are organisms that don't have a spine (invertebrate), are visible to the naked eye (macro), and live in the water (aquatic). These creatures are an important part of the food web in our area's waterways. They are prey to fish, frogs, and other aquatic animals.
- Some examples of macroinvertebrates are mayflies, dragonflies, damselflies, scud, aquatic earthworms, aquatic beetles, snails, water boatman, backswimmers, and caddisflies. (Each of these insects is shown in detail in the Macros Guide document.)
- Just like us, maroinvertebrates require clean water to survive. No clean water would mean no macroinvertebrates, which in turn would mean trouble for the fish and frogs that eat them. All living things require water, and a lack of clean or cold water can disrupt the food web.
- In order to protect macroinvertebrates and the food web in our local waterways, it's important to take good care of our rivers and streams.

## Procedures/Materials

1. Ask students if they have spotted any insects near the Willamette or McKenzie rivers and if they know what kinds of insects they have seen.
2. Play the CWU: Macroinvertebrates video to give students an overview of these bugs, where they're found, and why they're important to our local environment.
3. Open the CWU Macros Guide document and go through the photos of each of the macroinvertebrates. Have students refer to their Macroinvertebrates Overview handout and discuss the life cycle of a mayfly. Ask students if, after watching the video and viewing close-up images of these bugs, they now recognize insects they've seen near the Willamette or McKenzie Rivers.
4. Have students access their printed Aquatic Life in our Local Waterways Coloring Books and color in outlines of the different macros. If time allows, ask for volunteers to share their favorite colored-in bug and present one fact they learned during today's lesson.

# Lesson 6: Wastewater Treatment

## Overview & Key Learning Outcomes

In this lesson, students will learn about where their dirty water goes after they flush the toilet, wash the dishes, or take a shower. They'll learn about the underground pipe system that takes water from their home to the Regional Wastewater Treatment Plant, the steps that are taken to clean wastewater, and that all cleaned water is returned to the Willamette River.

By the end of the lesson, students will be able to:

- Explain where their wastewater goes to be cleaned.
- Explain why effectively cleaning wastewater helps to protect our community's health and local environment.
- Identify the key steps in the wastewater treatment process.

## Key Words

Wastewater
Treatment Plant
Pump Station
Pipes
Influent
Effluent
Clarifiers
Aeration Basins
Disinfection
Laboratory Testing

## Teaching Points

- As wastewater goes down the drain, it enters into a system of pipes underground. Large pumps help to move the wastewater through the pipes to the Metropolitan Wastewater Management Commission's, or MWMC's, Wastewater Treatment Plant. The MWMC is a partnership of the Cities of Eugene and Springfield, along with Lane County, and cleans wastewater for the whole region - about 30 million gallons of it every day (that's 45 Olympic-size pools)!
- Once wastewater arrives at the treatment plant, it goes through a series of different treatment processes over about 24 hours, and then it is returned to the Willamette River. The three main stages of wastewater treatment are physical, biological, and chemical. The different treatment processes we use remove large and small solids from the wastewater, along with bacteria and other pollutants. We'll learn more about those different processes in the Wastewater Treatment video.
- Cleaning water thoroughly is very important in keeping our community safe, while also protecting our local environment. The Willamette River is a popular spot for activities like kayaking and swimming. We want to keep it clean so people in the community can continue to enjoy our beautiful river. Additionally, aquatic life needs clean water to survive! By cleaning wastewater, we're helping to protect a variety of animals and plants in the food web. Water is a limited resource and cleaning dirty water ensures we aren't wasting it.

## Procedures/Materials

1. Ask students where they think their water goes after they flush the toilet, wash their hands, etc.
2. Play the MWMC Wastewater Treatment video to give students an overview of the process.
3. Have students access their Wastewater Treatment Process Maze handout and complete the maze to connect the water droplet to the river.
4. Have students access their Wastewater Wise worksheet. Explain that students will track their water usage over a 24-hour period to see just how much water they use. They'll then brainstorm three ways they could reduce their water usage. Have the class reconvene a few days later and discuss the ideas they came up with. (This activity can be used as a homework assignment, extra credit, etc.)
5. If time allows, explore the MWMC website to learn more about the partnership and treatment plant.

# Lesson 7: Microorganisms

## Overview & Key Learning Outcomes

In this lesson, students will learn about the good bacteria, or microorganisms, that play a key role in the wastewater treatment process. They'll learn how these small bugs make a big impact in the overall biological health of wastewater.

By the end of the lesson, students will be able to:

- Define a microorganism.
- Explain the role microorganisms play in the wastewater treatment process.
- Identify some of the common microorganisms present in the biological treatment of wastewater.

## Key Words

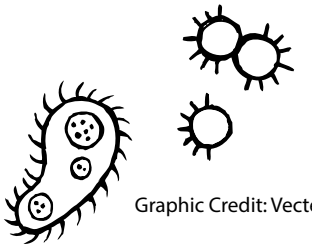
Microorganism
Bacteria
Biological Treatment
Aeration Basins
Secondary Clarifiers
Oxidation
Organic Matter

## Teaching Points

- Microorganisms are organisms that are so small they can only be seen with a microscope.
- Microorganisms play an important role in the biological treatment of wastewater at the Wastewater Treatment Plant. The good bacteria, or good bugs as we like to call them, are mixed with incoming wastewater in the aeration basins. They're called aeration basins because we pump air, or oxygen, into the basins through a process called oxidation. If a person tried to swim in an aeration basin, they couldn't because there is so much air they would sink to the bottom! Adding this oxygen into the water helps to break down any remaining solids, or pollutants, in the water.
- As the pollutants remaining in the water are breaking down, the microorganisms eat them out of the water. These good bugs get fat and heavy, settling to the bottom of the secondary clarifiers to take a quick rest before they go back into the aeration basins to eat more solids.
- The average life cycle for bacteria in the aeration basins is five days. The presence of the right amount of microorganisms is an important indicator that the wastewater is being properly treated.

## Procedures/Materials

1. Play the CWU: Microorganisms video to give students an overview of the role microorganisms play in the wastewater treatment process.
2. Open the CWU Microorganisms Field Guide document and show students the photos illustrating each of the micros. Zoom in on each of the magnifying glasses in the document to take a closer look at examples of protozoa, bacteria, and metazoa.
3. Leaving the Microorganisms Field Guide document open, have students access their Tell a Micro Story worksheet. For this activity, they'll select a micro from the document, give it a name, draw a picture of it, and tell their micro's story. If time allows, have volunteers share their work.



Graphic Credit: Vecteezy.com

# Lesson 8: Pollution Prevention

## Overview & Key Learning Outcomes

In this lesson, students will learn about the pollutants that can affect our wastewater collection system, Wastewater Treatment Plant, and ultimately, our local waterways. They'll learn about everyday actions they can take to make a difference in the pollution prevention effort.

By the end of the lesson, students will be able to:

- Recognize the importance of preventing pollution from entering the wastewater collection system.
- Identify actions that community members can take to prevent pollution, such as keeping trash out of the toilet.
- Explain what happens to pollutants when they are flushed/ poured down the drain.

## Key Words

Pollution
FOG (Fats, Oils, & Grease)
Toilet
"Flushable" Wipes
Pipes
Clog
Backups
Waste
Environment
Source Reduction

## Teaching Points

- About 99.9% of what comes into the Wastewater Treatment Plant is water and 0.1% is pollutants. The MWMC's treatment processes remove more than 97.5% of solids. The best way to remove pollutants from water though is to prevent them from entering the wastewater system in the first place! That's what we refer to as source reduction, or reducing pollutants at the source (toilet, drain, etc.).
- Some common pollutants that we have to physically remove from wastewater at the treatment plant are fats, oils, grease, "flushable" wipes, baby wipes, paper towels, car fluids, fertilizers, paints, medications, plastics, and hygiene products. After solids are removed from wastewater, they are ground up and then taken over to the landfill. Since these materials will end up having to be trashed anyway, it's best to dispose of them properly rather than send them down the drain.
- Fats, oils, and grease can cause a lot of issues if poured down the drain for both families and the entire community. These materials harden in wastewater pipes and can cause clogs, which are often expensive to fix. Instead of pouring fats, oils, and grease down the kitchen sink, try pouring them in a can, waiting until they harden, and then throwing the can away in the trash.
- Items like "flushable" wipes, baby wipes, and paper towels can also cause clogs in pipes. These items aren't designed to dissolve in water the way toilet paper is, so they can get stuck in pipes and pumps, leading to blockages and backups. Remember, the toilet is not a trash can! The only things that should be flushed are the three Ps - pee, poop, and (toilet) paper.
- Taking simple steps like these can make a big difference in protecting our local waterways.

## Procedures/Materials

1. Play the MWMC Pollution Prevention video to give students an overview of the pollutants that often enter the wastewater collection system and the actions we can take to prevent them.
2. Have a class discussion about what students can do to prevent pollution based on the video.
3. Have students access the Flush With Care handout, where they'll unscramble key words pertaining to pollution prevention.
4. Try the Pollution Flashcards Activity with your class.
5. If time allows, visit the MWMC's Pollution Prevention webpage to learn more.

# Lesson 9: Sustainability

## Overview & Key Learning Outcomes

In this lesson, students will learn about the Metropolitan Wastewater Management Commission's efforts to sustainably manage its resources, benefitting both the community it serves and the environment it protects. They'll learn about byproducts of the wastewater treatment process like biosolids and recycled water that are reused to help poplar trees on our Biocycle Farm grow.

By the end of the lesson, students will be able to:

- Explain the benefits of sustainability efforts in protecting our local environment.
- Identify the byproducts of the wastewater treatment process that the MWMC beneficially reuses: biosolids, recycled water, and renewable natural gas.
- Recognize that the Biocycle Farm uses waste to produce wood, a renewable resource for our community.

## Key Words

Sustainability
Recycling
Beneficial Reuse
Natural Resources
Renewable
Non-Renewable
Byproduct
Recycled Water
Biosolids
Biocycle Farm
Poplar Tree
Renewable Natural Gas
Fossil Fuels
Waste

## Teaching Points

- As we learned during our Wastewater Treatment lesson, the MWMC cleans water for the Eugene-Springfield area. They strive to do so in a sustainable way. Sustainability is the act of taking good care of the resources we have and reducing waste.
- One example of sustainability in action is the MWMC's use of biosolids on its poplar tree farm. Human waste is a natural part of everyday life, and it has to be removed from wastewater during the treatment process. Rather than trashing solids in the landfill, the MWMC transports them underground to the Biosolids Management Facility, where they're turned into a safe fertilizer.
- That fertilizer helps poplar trees on the MWMC's Biocycle Poplar Farm grow. It's also applied on grass farms to help local farmers. After the poplar trees grow for about 12 years, they're harvested and turned into plywood, wood chips, and other wood products that are sold in the community.
- The MWMC uses recycled water, or treated wastewater, to irrigate the poplar trees, along with landscaping at the treatment plant. This allows us to save our drinking water and recycle water we already have!
- Another example of the MWMC's sustainability efforts is the reuse of energy produced during the wastewater treatment process. The MWMC was the first public utility in Oregon to begin operating a Renewable Natural Gas facility, which collects and cleans gas from the wastewater treatment process, and then turns it into a renewable fuel that can be used for cars instead of gasoline!

## Procedures/Materials

1. Play the MWMC Sustainability video to give an overview of the MWMC's sustainability efforts.
2. Have students complete their Waste to Wood worksheet, where they'll fill in missing key words using a word bank to tell the story of biosolids and recycled water being used on the poplar farm. Go over the answers on the Waste to Wood Answer Key.
3. Ask students what sustainability means to them and what ideas they have for reducing waste.
4. If time allows, visit the MWMC's Biosolids Management Facility and Biocycle Farm webpages.

# Wrap-Up Jeopardy Game

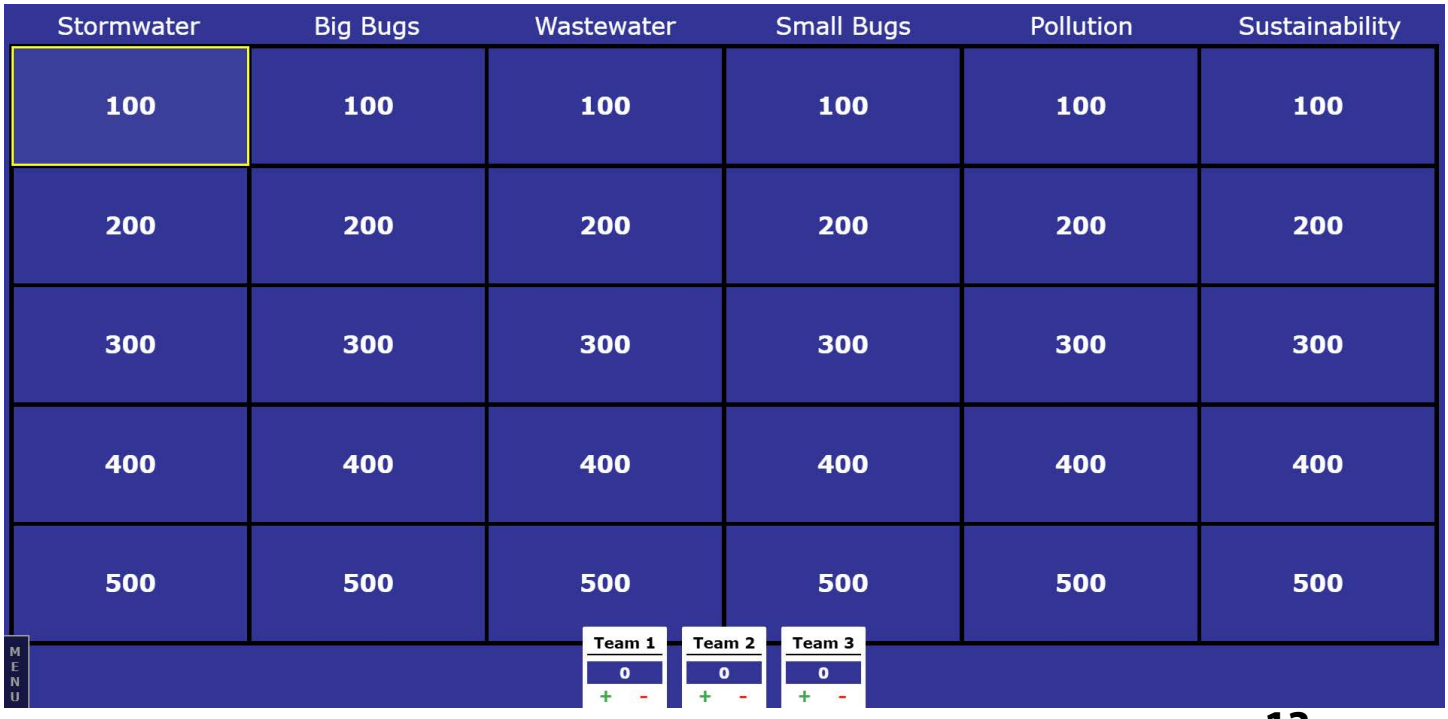
## Wrap-Up Game

To help students review what they've learned during Clean Water University, play a fun game of Jeopardy. Students will have the opportunity to answer questions on water quality, macroinvertebrates, wastewater treatment, microorganisms, pollution prevention, and sustainability. Never played Jeopardy on PowerPoint in a virtual environment? Have no fear, we've outlined instructions for you!

Copy and paste this address if link does not work:
https://jeopardylabs.com/play/clean-water-university-jeopardy

## How to Play CWU Jeopardy in a Virtual Classroom

1. Go to the Clean Water University Jeopardy Game webpage. Set your preferred number of teams for your class. Click "Start" when you're ready to play. You can press F11 to make the game fullscreen.
2. Select which team will go first. This team gets to select which category and point value they want for their first prompt. After that, whichever team gets the prompt correct gets to choose the next prompt. If no team gets the correct answer, the prompt is chosen by whichever team chose previously.
3. When a team answers the prompt correctly, they receive the number of points listed on the prompt. You can record this with the score boxes at the bottom of the screen. Click the green + icon to add the point value of the most recent prompt, or type the amount into the box. (Optional: you may also use the red - icon to take away points for an incorrect answer.)
4. Proceed through the game until all prompts have been exhausted. There is no Daily Double or Final Jeopardy in this game. If you wish, you may add a question for Final Jeopardy.
5. Tally the final scores for each team and reveal your winner! Have fun!



# Conclusions

## In Closing

That's it! You've made it to the end of our Clean Water University virtual curriculum for the 2020-2021 school year. Thank you so much again for your participation. We hope you found the materials valuable in teaching your students about the importance of clean water. We would love to hear your feedback. Please feel free to send any questions or comments to mwmcpartners@springfield-or.gov and be on the lookout for a feedback survey in April that will be emailed to you.

As a reminder if you haven't done so already, please submit proof of your participation in Clean Water University to igray@springfield-or.gov to enter your entire class into a drawing for scholarships to the Eugene Science Center's STEM Discovery Camp. See page 3 for more details on both this incentive and the $500 donation to participating schools' STEM/science programs.

## Recap of Key Learning Outcomes

- Explain where water comes from.
- Identify the various stages of the water cycle.
- Recognize water as an essential resource.
- Explain how drinking water gets to their home.
- Identify various sources of drinking water.
- Recognize that water must be properly cleaned to rid it of pollutants before it can become drinking water.
- Identify the key measures that help us determine the health of a river, stream, or lake.
- Explain why high levels of water quality are important to human and animal life.
- Recognize the role stormwater plays in the quality of our local waterways.
- Define a macroinvertebrate and recognize their important role in the food web.
- Explain the connection between clean water and the food web.
- Identify some common macroinvertebrates such as mayflies, dragonflies, and aquatic earthworms.
- Explain where their wastewater goes to be cleaned.
- Explain why effectively cleaning wastewater helps to protect our community's health and local environment.
- Identify the key steps in the wastewater treatment process.
- Define a microorganism.
- Explain the role microorganisms play in the wastewater treatment process.
- Identify some of the common microorganisms present in the biological treatment of wastewater.
- Recognize the importance of preventing pollution from entering the wastewater collection system.
- Identify actions that community members can take to prevent pollution, such as keeping trash out of the toilet.
- Explain what happens to pollutants when they are flushed/poured down the drain.
- Explain the benefits of sustainability efforts in protecting our local environment.
- Identify the byproducts of the wastewater treatment process that the MWMC beneficially reuses: biosolids, recycled water, and renewable natural gas.
- Recognize that the Biocycle Farm uses waste to produce wood, a renewable resource for our community.