

# Virtual River Quest 2021

## “Bacteria: The Real Workers at WLSSD”

MN Standard  
6.1.2.1.1  
The Nature of Science & Engineering  
WI Next Generation  
MS-ETS1-1  
Engineering Design

### Synopsis

Before WLSSD began treating wastewater from homes and businesses in the Duluth and Cloquet area in 1978, the St. Louis River was not much better than a sewer. Dirty water was often dumped directly into the river. People did not come to fish or swim; fish kills and big mats of sludge were not uncommon sights. Today, the St. Louis River is a much nicer place, a place where people enjoy boating (like the Vista Fleet!), fishing and swimming. WLSSD played a large role in the river’s recovery by treating dirty water before it was returned to the river using an engineered process that mimics what happens in nature.

In WLSSD’s River Quest presentation, students will see samples of dirty water and learn about the process WLSSD uses to clean it. Students will see tiny, living microorganisms used in wastewater treatment through the use of a microscope and television screen.

### Optional In-Class Laboratory Activity

Contact Sarah (below) for pick up or possible delivery of wastewater sludge. A single drop of sludge guarantees lots of protozoans to inspect under the microscope.

### Reference Materials Available at [wlsd.com](http://wlsd.com)

Wastewater Treatment at WLSSD:

<http://wlsd.com/services/wastewater/treatment-process>

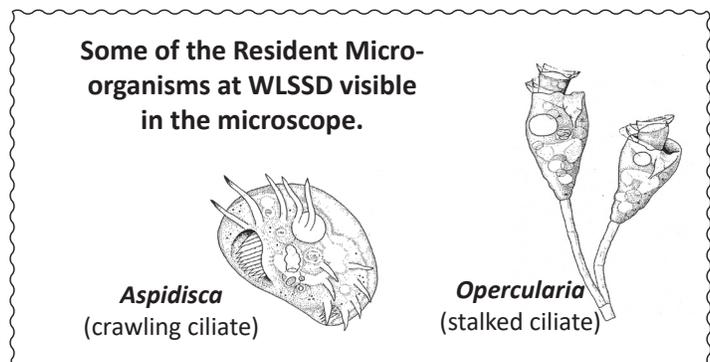
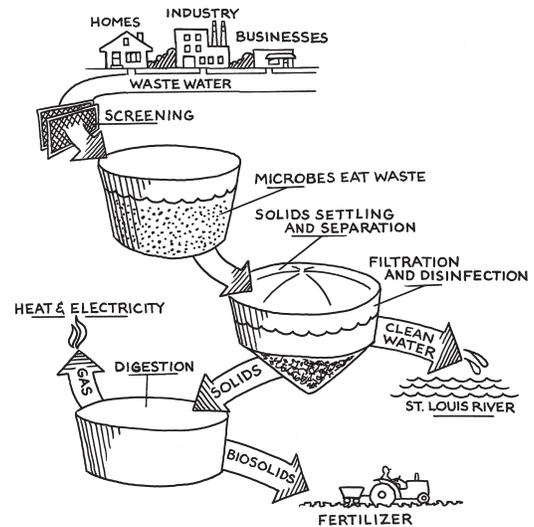
“Return to the River: Restoring Clean Water” :

[vimeo.com/4532327](https://vimeo.com/4532327) 19 minute video produced by WLSSD describes the wastewater treatment process. DVDs available by request @ 740-4784

“[Household Hazardous Wastes](#)” for more info about what should be brought to the HHW facility.

### Vocabulary List:

- Influent
- Effluent
- Bacteria
- Biosolids
- Household Hazardous Waste



WLSSD offers onsite tours of our solid waste facilities (including the garbage transfer station, the organics composting site and the HHW facility) for elementary students. Wastewater treatment plant tours are available to students age 13 and older. Onsite tours resume August 2021. [Virtual tours available.](#) To schedule a tour, contact:

Western Lake Superior Sanitary District  
Sarah Lerohl  
Environmental Program Coordinator

218-722-3336 or  
[sarah.lerohl@wlsd.com](mailto:sarah.lerohl@wlsd.com)



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