

THEME:	Sustainability
SCOPE & SEQUENCE UNIT:	Waste Water Management
OBJECTIVE:	Discovering where the poop goes
ACTIVITY:	Learning from the Expert – Local Waste Water Operator, Municipal Government

Notes:	In-class activity
Teacher Prep.:	Prior to this activity, do “Questions for Guest Speakers” activity. This also implies that you have arranged for a local wastewater operator from the municipal government to come in to speak with the students. Assign a student to thank the guest speaker on behalf of the class at the close of the session. Suggest the student prepare for this by thinking about what they will say and writing it down.
Time:	~50 minutes; 10 minutes student prep., 5 minutes play video, 20 minutes talk, 15 minutes questions/explanations

Skills:

- ◆ Communication (listening, note-taking)
- ◆ Critical thinking
- ◆ Life & career planning
- ◆ Ecological literacy

Objectives:

- ◆ To learn about waste water management
- ◆ To learn to listen actively and discern important information from a guest speaker
- ◆ To practice note taking while listening and following a live presentation

Vocabulary:

Sewage: Liquid and solid waste carried away by water.

Sewage Treatment: A process to remove contaminants from sewage (wastewater).

Hydrogen sulfide: A colourless gas that smells like rotten eggs and is also called sewer gas. It occurs naturally and is also produced by human activities. High levels of the gas can cause death. In sewage treatment, bacteria breaking down organic matter cause hydrogen sulfide. (Bacteria found in our mouth and intestinal tract produce H₂S).

Membrane: A layer of material that acts as a selective barrier, allowing some particles or chemicals to pass through but not others.

Bioreactor: A container that is designed to allow for a chemical process that involves organisms.

Effluent: In the case of sewage treatment, an outflow or discharge of liquid waste.

Materials:

Internet access & projector
Students' questions each written out
Guest Speaker Notes Student Page

Introductory Discussion:

Before the guest speaker arrives, prepare students – reviewing the Student Page (Students can fill in initial information) and ensuring each student has their question ready.

Show the 1 minute video, River to Oceans – Waste Water.. Consider a 2nd playing.

Introduce the guest speaker to the students, their affiliated organization and their topic. Remind the speaker of their speaking time, and that the students will be taking notes and will have questions to ask.

Reflection Discussion:

On the backside of the Student Page, have students draw the process of water treatment, with assistance from the Guest Speaker drawing at the front board. Ask the guest speaker how they decided on their kind of work, and what their training involved. Ask students to offer something new and interesting they learned from the presentation.

Cue student to thank speaker.

Student Page:

Guest Speaker Notes

Resources:

[Rivers to Oceans: Waste Water, by Canadian Wildlife Federation.](#)

Resources – SSI Specific:

[Notes from Guest Speaker Megan Gutierrez, Water System Operation, Capital Regional District of Victoria \(CRD\)](#)

Name: _____ Date: _____
(mm/dd/yyyy)

Guest Speaker: _____

Organization: _____

Topic: _____

My notes: _____

Significant connection for me:
