

# Earn your Guelph Wastewater badge!

Wastewater is all the water (and everything in it) that goes down the toilet or drains in our homes and local businesses. Remember: What Goes Down Comes Around!

This challenge will teach you about treating wastewater and help you build good wastewater habits.



## How to earn your badge:

**Read** the wastewater management webpage at [guelph.ca/wastewater](http://guelph.ca/wastewater)

**Gather** items you need for your pocket treatment plant Wastewater mixture

- Big bowl or small bucket
- Food coloring
- Sand
- Rice
- Beads
- Small toys,
- Toilet paper
- Etc

Treatment plant processes

- Two additional containers or large bowls
- Coffee filter(s)
- Napkin(s)
- Ladle

### Craft

Create a big bowl of your own wastewater using food coloring, sand, gravel, rice, beads, small toys, toilet paper, etc. Be as creative as you'd like!

### Treat your wastewater: Screening, settling and filtering

- Stir up your mixture – note how it looks.
- Screen your mixture into a bucket, bowl or large container by pouring your mixture through a cooling rack, sports racket or porous sieve. Items screened out can be removed from the process.
- Let the remaining mixture sit for 10 minutes. Have you noticed any changes?
- Run only the top layer of remaining wastewater through a filter (coffee filter, paper towel, cloth, or a combination).

### Reflect

- Now that you've treated your wastewater, how does your water compare to the original mixture?
- Were there any items, material or colour that remained in your final mixture? If so, are there additional processes that would be able to treat for this?
- What types of items or substances should not be flushed or drained? Why not?

### Keep it safe

- Do not drink the water after the wastewater treatment process. There is a separate process to make sure the water we drink is safe.
- Run your experiment in an area where your mixture can be spilled safely or easily cleaned – outdoors, a garage, tiled surface, etc.
- Get a parent or guardian to help you 'treat' your wastewater. Your mixture can be quite heavy. An extra pair of hand and eyes on the process can be very helpful.

### Take it further

- Test out different types of filters like cloths, napkins, paper towels, etc. and compare how they filter the water. Do they take less or more time? Which ones worked the best?
- Research a more in-depth wastewater treatment process. Compare your treatment plant with the actual process. How is it different? How is it similar?

Only pee, poo and toilet paper should be flushed down the toilet. Items like garbage, wet wipes, fats, oils and greases should not go down the drain. There are also some things we don't treat for like salts, medications and certain chemicals that wind up in our local waterways. To protect our rivers, medications and chemicals can be dropped off at Guelph's Waste Resource Innovation Centre.

Remember, What Goes Down Comes Around!

## Reach out to us!

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