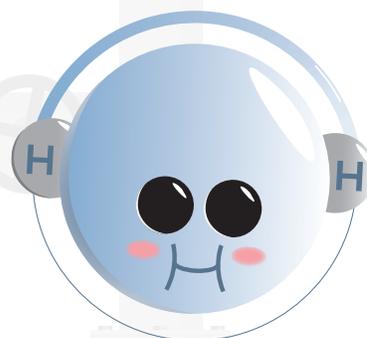




# Micro-Lesson #3: Pollution Prevention

Featuring:



"DRIP" THE  
WATER DROP!

# Pollution Prevention

## Introduction

Through this micro-lesson, students will investigate the proper behaviours to prevent pollution and learn that negative behaviours can have a negative impact on our environment. This Micro-Lesson contains:

Activity / Demo	Key Question	Objective
<b>Colouring Page #2 -</b> Where Does Wastewater Go?	Where does the water that goes down our drains go?	Develop an awareness that wastewater ultimately ends up in the environment
<b>Colouring Page #3 -</b> Plants and Wildlife	What plants and animals can we protect in Hamilton?	Understand plants and animals require clean water to live
<b>Demonstration -</b> Own Your Throne	Why can't certain items be flushed?	Understand how certain items impact pipes and sewers
<b>Activity #2 -</b> Own Your Throne	What can be flushed?	Identify which items belong in the toilet and which belong in the garbage

## Warm-up

All of us need water to live. More specifically we need clean water to live. Ask your students to think about where their water goes after they flush the toilet, have a bath, brush our teeth etc. The answer will likely be "down the drain" but where does the drain lead to? Is that water in the drain really dirty?

The water that goes down our drains and toilets is called "wastewater" and is extremely toxic to humans, plants and wildlife. Wastewater goes through sewers to the wastewater treatment plant to be cleaned before going back into the environment (Hamilton Harbour). It's important it gets cleaned so that there is no harm to the environment including our water, plants and wildlife. Students can complete **Coloring Page #2 - Where Does Wastewater Go?** and **Coloring Page #3 - Plants and Wildlife** to see how we are connected to our environment.

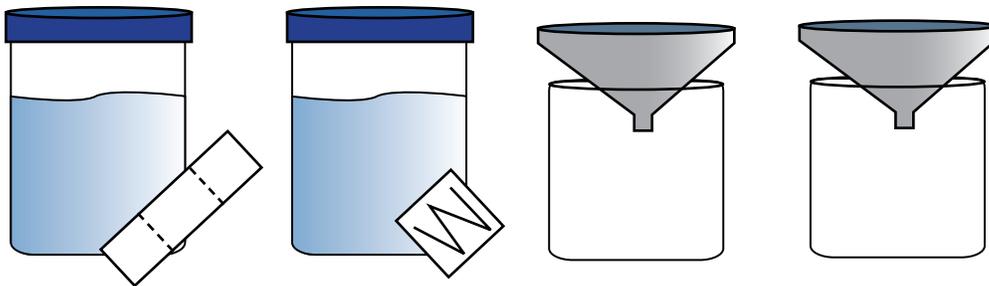
# Pollution Prevention

## Demonstration

One of the easiest things that we can do at home to prevent pollution and protect our sewers is to only flush the 3Ps (pee, poo and toilet paper) down the toilet and put garbage in the garbage bin. When garbage like baby wipes, cotton swabs, floss or any other garbage gets flushed down the toilet, these items can create blockages in the pipes in your home or in the sewer systems. These blockages can lead to dirty wastewater overflowing into your homes or into the environment resulting in costly repairs! Explain to your students that they are going to do an activity to see why only the 3Ps should be flushed down the toilet.

### Materials Needed:

- 2 - Clear containers with lids
- 2 - Clear, open top containers
- 1 - Funnel
- 3 - Squares of toilet paper
- 1 - Wipe (or papertowel)
- Optional: Extra funnel



Set up the demonstration by filling 2 clear containers with lids halfway with water and placing funnels in the other two containers. Please keep in mind that if using glass containers extra precautions will need to be taken if the students will be handling them. Place the toilet paper beside one container with lid and the wipe beside the other. Explain that the containers represent toilets that they are going to pretend to flush, the funnels are the pipes in your home and the empty containers are the sewer! Ask the students to touch and feel the toilet paper and then the wipe (please read safety warnings depending on the type of wipe you are using). Ask the students to describe how each item feels and looks before placing them in the water. Are they soft/tough, weak/strong, etc. Then, ask the students what they think will happen to them once they are put in water. Will they stay the same, fall apart, etc.

# Pollution Prevention

## Demonstration

Explain to the students that they will place the toilet paper in one container with water (the "toilet") and the wipe in the other. Once the items are in the containers with the lids on tightly, each of them can be shaken up/down and left/right to mimic a toilet flushing for 15-20 seconds. Observe what each item looks like after "flushing the toilet".

Explain that after we flush a toilet the dirty water goes through pipes in our home (the funnel) and into the sewer system (the empty container) to be taken away. Instruct the students to open the first container with toilet paper and carefully dump it into the funnel. Ask the students to describe what they see happening. Is everything flowing freely? Did anything get stuck?

If performed successfully, the toilet paper should break down enough after being shaken to flow freely through the funnel and into the empty container. Explain to the students that the same thing happens in your toilet. Since the toilet paper breaks down easily, it can flow freely through the sewer system.

Ask the students to repeat this process for the container with the wipe. Did anything happen differently. Why or why not?

If performed successfully, the wipe should get caught in the funnel and not allow the water to move freely into the container. NOTE: You may need to add more water into the funnel if the wipe enters the funnel last. Explain to the students that the same thing happens in your toilet. Wipes and other garbage don't break down easily and can clog pipes in your home and the sewer system. Without anywhere to go, the dirty water can back up into your home or into the environment!

Stress that the dirty water that goes down our toilet and drains is very toxic and can harm humans, wildlife, plants and the environment. The students can do their part by only flushing the 3Ps - Pee, poo and toiletpaper!

## Engage

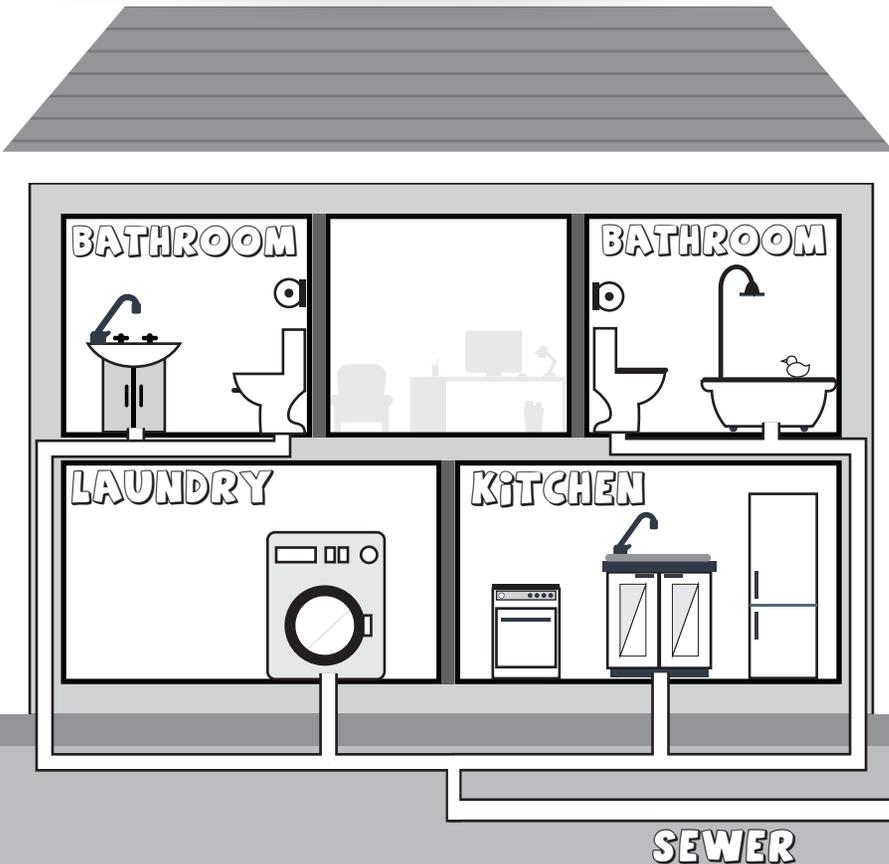
To reinforce this message, students can complete **Activity #2 - Own Your Throne!**

# Where Does Wastewater Go?

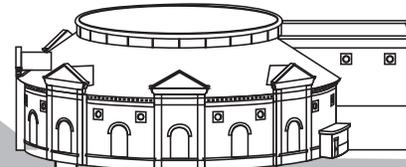
Did you know that all of that dirty water that goes down your drains has to end up somewhere? The sewer system takes the dirty water to be cleaned before going into Hamilton Harbour!



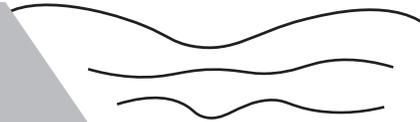
YOU CAN HELP KEEP OUR ENVIRONMENT CLEAN BY ONLY FLUSHING PEE, POO AND TOILET PAPER AND KEEPING CHEMICALS OUT OF YOUR DRAINS!



TREATMENT PLANT



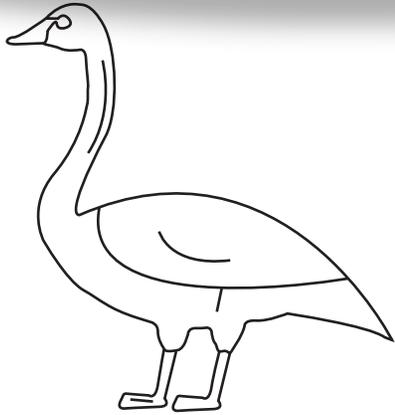
HAMILTON HARBOUR



# Be a Water Hero!

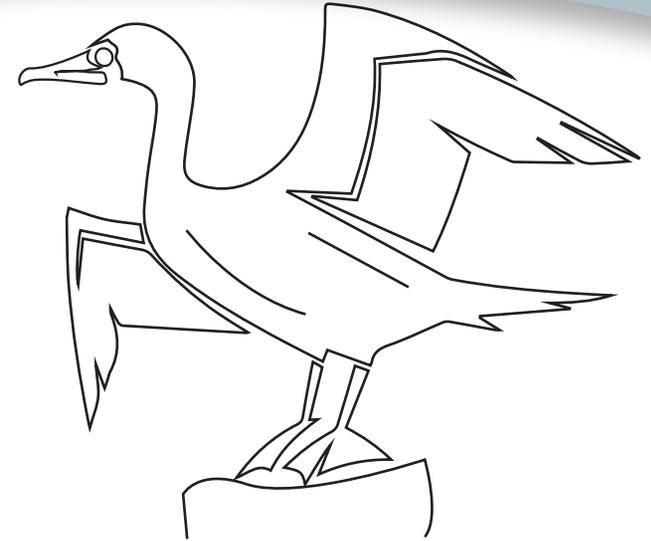
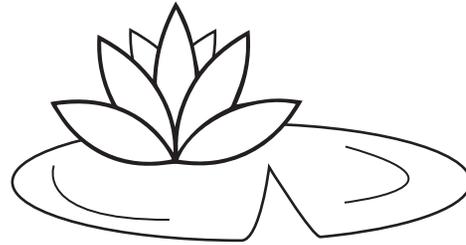


There are lots of plants and wildlife in Hamilton that need clean water to live (just like you!). Here are a few of them that you can help protect by not pouring chemicals down any drain or flushing garbage.



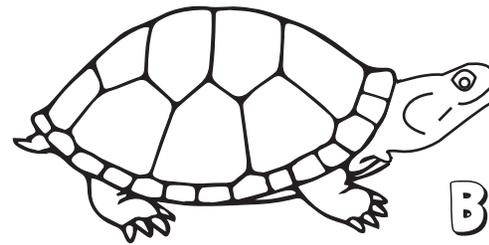
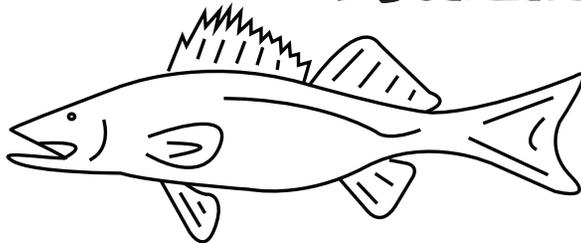
**TRUMPETER  
SWAN**

**WHITE WATER LILY**



**DOUBLE-CRESTED  
CORMORANT**

**PICKEREL**



**BLANDING'S  
TURTLE**

# Activity #2

## Own Your Throne!



ONLY THE 3PS - PEE, POO AND TOILET PAPER SHOULD BE FLUSHED DOWN THE TOILET! GARBAGE LIKE WIPES, FLOSS AND COTTON SWABS BELONG IN THE TRASH. CAN YOU DRAW A LINE FROM EACH ITEM TO THEIR PROPER PLACE?

