

Down the Sewer



This activity center is part of the **Water Protection** theme.

What's the purpose of this activity?

This activity introduces students to the idea that many household chemicals are classified as hazardous waste. It also informs students that the water and other substances/items that go into roadside sewer (storm) drains do NOT go to a sewage treatment plant before entering our natural waterways.

Ensure that students understand the key terms **highlighted** in the activity by using them in several different contexts throughout the presentation.

Key messages:

- Hazardous wastes need to be disposed of differently than normal recyclables and garbage
- Hazardous wastes, if disposed of incorrectly, can harm our natural waters and the animals that live in them

Materials

Permanent:

- one garbage bin
- two blue recycling boxes
- one generic container
- hazardous waste signs
- various discarded objects like paint cans, motor oil jugs, newspaper, etc

Supplies:

- many rubber gloves

What will I be doing?

You will be explaining the process of sorting residential wastes, what the warning symbols on packaging mean and some alternatives to hazardous materials.

In this exercise, students are going to learn about what happens to water that washes off our streets, sidewalks, parking lots and roofs and goes into the sewers. *Does everybody know what a **storm drain** is?* These are the drains on the side of the road along the curb, or in the gutter. (display diagram)

Has anybody ever looked down the sewer? What did you see down there? A lot of what's down there is very bad for the natural environment.

Has anybody participated in the "Yellow Fish" storm drain-marking program before? What is it? It's a program run by local conservation authorities that educates people about where the storm drains empty into and provides them with equipment and instructions for marking the sewers in their neighborhoods with yellow fish to remind people to stop dumping any garbage, substances or other items down the drains. We are going to learn more about storm sewers today.

The water that goes into storm drains and sewers is NOT treated at the sewage treatment plant. What does this mean? It goes right into the natural waterways like lakes and rivers. If it's dirty, it can kill plants, birds, fish and other animals. (Encourage the children to find out what happens to ducks at "No water off a Duck's back.") Eventually it will come back to us as the water we drink or wash with. Even small amounts make a difference. *Does anyone know what **bioaccumulation** is?* Plants absorb hazardous wastes that are dumped into the water supply and animals in turn eat these plants. Chemicals can accumulate and concentrate to dangerous levels.

When the water is polluted it also means that many places where you used to be able to swim have to be closed.

Ask students to explain **recycling**. What is recycling? Does anybody know what **hazardous** means? It means dangerous, kind of like poison. Do you know what **hazardous wastes** are? We are going to see which things (from the pile of various objects on the table) are garbage, which are hazardous wastes and which are recyclables. Choose some students to put on the rubber gloves. Each student who handles items MUST wear gloves for safety.

Important: Make sure that nobody is allergic to latex (You can ask the parent volunteer about this). The others will aid them in sorting the various materials into the 3 bins. One is garbage, another is recyclables, and the third is hazardous wastes. Give the children one minute (or less) to do this. You, or a student wearing gloves, then go through the "garbage" bin and hold up the things in it one at a time. Should this be in the garbage? Varies with item. *Is it OK to put any of these things in the sewer?* It's NOT.

Go through the “recyclables” bin. *Is it OK to pour any of the things from these containers (NOT the containers themselves) in the sewer?* Answers will vary depending upon the container. For example, the pop can is NOT OK to put in the sewer, but pouring the pop in the sewer and recycling the can is OK.

Go through the *hazardous wastes* bin. It will NOT be OK to pour ANY of those substances down the sewer and, of course, the containers should not be put into the sewers either. Review the symbols on the containers as they are held up and ask the kids if they know what each symbol is. Ask them to explain why they are hazardous (ex: corrosive, explosive, etc.), or if they don't know, provide a brief explanation of the symbol. Emphasize that these substances are hazardous to people AND ecosystems.

What happens if we pour or put things in the sewer that don't belong there? They end up in our waterways, they poison plants, birds fish and other animals. They also end up in the “intake” of our water treatment plant (or the next town along the river) and need to be removed through the treatment process.

What's the message we should tell our friends and family? The sewer is not a garbage can. Don't pour hazardous chemicals into the sewer or down the drain at home and if you aren't sure what it is TAKE IT TO A HAZARDOUS WASTE DISPOSAL SITE.

What can we do? 1. Take hazardous materials to a hazardous waste depot or call your local health department. 2. Do we need to use hazardous materials? Not necessarily, there are many alternatives to hazardous materials, there are lots of books that list pesticide-free substances for gardens and homes and non-toxic cleaning products that are healthier for people, too. Some stores sell these ready-made. Free booklets are available at many places that tell you how to make your own alternatives. You can call places like the Children's Water Education Council, Greenpeace, Ministry of the Environment, Peterborough Green Up or your municipality and they would be glad to suggest alternatives. Preventing pollution starts with you!

Background Information:

The 2X3 rings, like the ones on pop or beer cans, pose a hazard to birds on land and in water. Birds and fish get caught in them and cannot move around. When you throw them out, snip the rings, make sure they go in the garbage or recycle bin (some municipalities recycle them). Do NOT throw ANY objects into the sewer.

The Peterborough Hazardous Waste Depot is located on Pido Road south of the Bypass. You can call for their hours of operation. Also, the City of Peterborough will set aside days when you can place your hazardous waste at your curb just like the garbage, and they will pick it up for you.

Participate in the “Yellow Fish Road” storm drain marking programs. Teachers, parents, Boy Scout, Girl Guides and other youth group leaders can all participate for free by contacting Otonabee Region Conservation Authority or the closest authority to your home.

Clean Up Procedures:

Stack blue recycling boxes within each other and place all containers and signs neatly within. Ensure all materials are gathered and piled neatly in the boxes so as to leave the area tidy for the following day.