

Rollin' Through the Shed

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

What's the purpose of this activity?

Children learn about water pollution by pretending to be water drops moving through various parts of a watershed.

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

Key Messages:

- Water flows in a continuous cycle
- Water may pick up a variety of contaminants along the cycle
- We must do our part to prevent water contamination

Materials

- 5 dice pieces
- An assortment of colour-coded (pink, orange, yellow, green, blue) pieces of construction paper (cut into small 2-3' squares)

Set-up Information

- Choose an indoor or outdoor space to run the activity. Ideally the space will allow the children to roll or walk to five different areas
- Place a pile of the same-colour of paper squares at each of the five areas
- Place a dice piece at each area
- Create a 'start' and 'end' of the area. The area will be the watershed.

(Before you begin you should have five areas with a pile of same coloured squares and a dice piece).

What will I be doing?

You will be helping children pretend to be rain drops who are travelling across the watershed, picking up containments from a number of sources along their way.

Want to customize the activity to your specific location? Pretend children are rolling across your sub-watershed! Discover which sub-watershed you live here:

<https://www.gisapplication.lrc.gov.on.ca/OFAT/Index.html?site=OFAT&viewer=OFAT&locale=en-US>

You will also be explaining the contaminants, and posing and answering questions about how they affect water.

Facts to help:

- The City and County of Peterborough is within the Otonabee Region Watershed.
- Each sub-watershed (such as Jackson Creek) flow into the Otonabee River and Little Lake.
- The Otonabee Region Watershed flows into Rice Lake before entering Lake Ontario.

Activity Script (Let's Start the Activity)

"You are going to pretend to be a rain drop! What do you think happens to a raindrop after it lands on the ground?"

Wait for answers

"When raindrops fall on the ground, they group together and travel along the ground. The area where they travel to, from where they hit the ground to where they end up in a water body, is called a watershed. We live in the Otonabee Watershed. If a raindrop falls in Peterborough, it goes on a big adventure and eventually reaches the Otonabee River. Have you ever seen the Otonabee River?"

Wait for answers.

"The Otonabee River is the big river that runs through town. You might have seen it when you go to the zoo."

*"Water drops reach the ground through something called **precipitation**. Say it with me.... Precipitation!"*

Point to the watershed area that you have set-up.

"This spot is going to represent where the raindrops fall. The other end is going to be the Otonabee River. The space in between is where raindrops flow on their way to the Otonabee River. What do you notice about the space where the raindrops will travel?"

Answer: there are different colours of paper and dice

*"This area is called a watershed. We are going to trace the life of a water drop as it moves through a **watershed**"*

"Does anybody know what a watershed is?"

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- It is an area of land where all water drains to a certain point.

*“As raindrops travel over the ground, they roll through dirt and other pollutants. The paper squares on the ground represent the dirt and other pollutants. Scientists call these **contaminants**. When you hear me say the word contaminant, I want you to answer by saying eeewwwww”.*

Practice and have the children answer.

KEY INSTRUCTIONS *“When I say ‘it’s raining’, just like a raindrop, you are going to roll (or walk) along the ground until you reach the Otonabee River. On your way stop at each **contaminant** (wait for the ewww) area and roll the dice. Pick up the same number you roll worth of paper squares (for example, if you roll a three, take three pieces of paper). Make sure you stop at each **contaminant** (wait for the ewww) area. When you get to the other end, we’ll see what pollution you picked up. Does anyone have any questions?”*

Answer any questions.

“It’s raining!”

Let the children roll

When the children are done rolling have them put their paper of square into piles of the same colour.

“Who has a lot of pink squares?”

Wait for answers.

*“You brought with you the **contaminant** (wait for the ewww) animal waste, like dog poop or manure! This can make water unsafe to drink, and can impact the habitat for creatures who call the river home.”*

“Who has a lot of white squares?”

Wait for answers.

*“You brought with you the **contaminant** (wait for the ewww) nitrogen or dust. This can make plants in the water overgrow the make it difficult for creatures to have enough dissolved oxygen in the water.”*

“Who has a lot of green squares?”

Wait for answers.

*“You brought with you the **contaminant** (wait for the ewww) pesticide. This can make water harmful to*

drink.”

“Who has a lot of yellow squares?”

Wait for answers.

*“You brought with you the **contaminant** (wait for the ewww) silt or soil. This can clog ecosystems and make it difficult for creatures to find food.”*

“Who has a lot of black squares?”

Wait for answers.

*“You brought with you the **contaminant** (wait for the ewww) gas or oil. This can decrease the ability for creatures like ducks and otters to stay warm in the water, making them very cold”.*

PINK	Animal wastes	Agriculture, River
WHITE	Nitrogen, Dust	Air, River
GREEN	Pesticides	Lawns, River
YELLOW	Silt, Soil	Development, River
BLACK	Gas, oil	Roads, River

“Many of these contaminants (wait for the eww) are not dumped directly into the river but wash into the river when it rains.”

“What can we do as a family to help keep rain drops clean?”

- Don't use pesticides on lawns
- Use cars less so we don't have to build more roads and so we create fewer emissions (the dirty air that comes out of cars) which is picked up by water in the air causing acid rain. Fewer roads mean less road salt in the winter. Road salt also pollutes our water.
- We should also NEVER pour solvents, paints, motor oils or other chemicals down the drain because these end up in our water supply and harm plants, animals, and people.
- Don't throw litter on the ground or into waterways
- Don't cut grass right to the edge of a ditch, stream, creek or lake – leave a natural 'buffer' which will delay many forms of runoff and contamination

Clean Up Procedures:

Gather all materials and save to play again.