



**LAKE
WINNIPEG
FOUNDATION**

Let's Learn: Road salt

News

LWF

March 25, 2020

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Many of us are spending a lot more time at home these days. Our Let's Learn series offers family-friendly educational activities and resources to help exercise your brain while keeping the kids entertained. Each post has a different theme related to Lake Winnipeg and offers different types of resources including colouring sheets, activity pages, videos, interactive online activities and experiments. Let's Learn about road salt!

These activities are best suited to the late elementary school to early middle school levels with help from parents.

Did you know that city trucks spread sand and salt on the road when it snows? Sand helps vehicle tires grip the road when it's slippery. Salt prevents the snow from freezing into ice. Check out this video from Reactions (produced by the American Chemical Society) to learn more about how salt lowers the freezing temperature of water:

Salt melting experiment

Now let's see salt in action! This activity is adapted from [Sciencing: Experiments with Salt Melting Ice](#)

What you'll need:

- 3 small pieces of paper
- A pen, pencil, crayon, or marker
- 3 small bowls
- 3 ice cubes
- A teaspoon
- A teaspoon of salt
- A teaspoon of sugar

What to do:

1. On one piece of paper, write "Salt," on another, write "Sugar," and on the last one, write "None." These are your labels.
2. Place the three bowls next to each other on a table. Put one label in front of each bowl.
3. Put one ice cube in each bowl. Put one teaspoon of salt in the bowl labelled "Salt," and one teaspoon of sugar in the bowl labelled "Sugar." Don't add anything to the ice cube in the "None" bowl.
4. Leave it for a few minutes.

What do you see?

When you come back, what do you notice? Did the salt have any effect on the ice cube? Did the sugar? If you leave it to sit longer, which ice cube will melt first?

Road Salt

Now you know why cities use salt on the road. But what happens to the salt when the snow melts? The salty water flows into storm drains. Those are the metal things on curbs and in the street that we often call sewers.

[combined-sewer-system.jpg](#)



Click to enlarge

This image is from the City of Winnipeg website. To learn more about wastewater collection systems in Winnipeg, visit the [City of Winnipeg's Water and Waste page](#).

From the storm drains, the water flows into nearby waterways (such as rivers). If you read [Let's Learn: Lake Winnipeg watershed](#), you already know that water flows from rivers to Lake Winnipeg. Anything put on the ground can end up in the storm drain. Anything in the storm drain can end up in our waterways. How can you help? Don't litter and pick up after your pets!

Bonus experiment: Desalinization

Desalinization? That's a big word! What does it mean?

Desalinization (also called "desalination") means to take salt out of water. Usually, this refers to taking sea water and removing the salt to make it drinkable. Try to take salt out of water at home! This activity is adapted from a [STEAM Powered Family experiment](#).

What you'll need:

- An adult
- A bowl
- A large pot
- 1/4 cup of Salt
- Water
- A spoon
- A boil-safe container (like a ramekin or a mug)
- Aluminum foil
- Ice
- A stovetop

What to do:

1. Fill the bowl 3/4 with water.
2. Add the salt and stir until dissolved. Using warm water will help the salt dissolve faster.
3. Taste the water. What does it taste like?
4. Pour the saltwater into the large pot. Put the pot on the stove.
5. Carefully place the boil-safe container in the middle of the large pot. Be sure not to get any of the saltwater in mug or ramekin!
6. Loosely put aluminum over the top of the pot. Leave enough slack to have a slightly lower point in the middle.
7. Place three or four ice cubes in the middle low point of the foil and turn the stove on to boil.
8. Watch it carefully and when it starts to boil, turn the stove down to let it simmer. Simmer for ten minutes or until the ice cubes melt.
9. Wait for the foil to cool.
10. When it's cool enough to touch, soak up the ice cubes with paper towel or a kitchen towel and remove the foil.
11. What do you see? There's water in the mug/ramekin! Also, there's less water in the pot.

What you learned

First, you'll have to test the two different containers of water. Make sure all the water is cool enough to touch. Put your finger in the mug/ramekin and taste the water. Next, put your finger in the large pot of water. How does that taste?

Boiling the salty water turned only the water (and not the salt) into steam. When the steam hit the cool foil, it condensed and turned into purified water. This made the mug/ramekin water taste like normal water and the water in the pot taste saltier than before.

To learn more about evaporation and condensation, watch this video from the Met Office (the National Weather Service for the UK):

Activity pages



Our [printable activity pages](#) feature two fun-filled puzzles. Can you unscramble the words to find the joke's punchline?

Let your imagination run free with these [printable colouring pages](#) and use your artistic skills to fill in the pictures!

Check out these other posts in our Let's Learn series:

[Let's Learn: Water Pollution](#)

[Let's Learn: Lake Winnipeg Watershed](#)

[Let's Learn: Clouds](#)

[Let's Learn: Hiking](#)