

HEALTHY WATERWAYS & POLLUTION SOLUTIONS

Overview:

Participate in hands-on activities and experiments to discover how stormwater (rain water and snow/melting ice) impacts our local waterways and aquatic ecosystems. Students will utilize maps to explore how the Omaha watershed fits into the global water system. Through these activities, students will gain a better understanding of litter and pollution prevention.

Standards:

- This unit is designed to meet Nebraska Content Area Standards in science, social studies, and language arts. Specific standards met for each grade level are indicated on each lesson plan.
- This unit is designed for grades 2-5. However, it is easily adapted for middle and high school students.

Materials:

- The resource kit contains all the materials necessary for these activities in this unit.
- Internet access is needed for this unit. Several activities include a web-based video for students. Additionally, two activities include a virtual meeting with a Keep Omaha Beautiful educator.

Objectives:

- Students will understand how Omaha's local watershed contributes to regional, national, and worldwide water bodies.
- Students will comprehend ways communities contribute to water pollution and actions individuals can take to reduce their impact.
- Students will draw maps of their immediate surroundings to gain an understanding of their watershed.
- Students will create models to discover how permeable and impermeable surfaces impact stormwater runoff.
- Students will conduct experiments to explore how plants react to water pollution.
- Students will explore green infrastructure forms and functions (e.g. rain gardens, bioretention ponds).
- Students will design/build models to demonstrate how green infrastructure can affect an area.
- Students will participate in service-learning activities in their neighborhood to help mitigate water pollution.

HEALTHY WATERWAYS & POLLUTION SOLUTIONS

Guidance Note:

Some of these activities are best suited for younger audiences while others are best suited for older students. When registering for this program, a teacher will receive personalized assistance from a Keep Omaha Beautiful educator to **select** activities that fit best with their curriculum and match the skills and abilities of their students.

	Estimated Time	Description
A Drop in the Bucket	10-15 minutes	Students participate in a demonstration to estimate and calculate the available fresh water on Earth. Through this demonstration, students understand that fresh water must be used and managed carefully.
Incredible Journey	30 minutes	Students learn how water moves through the water cycle in this interactive simulation. Students also explore where pollution gets picked up in the water cycle.
It All Flows Down Stream	30 minutes	Students demonstrate how humans contribute to the pollution of a river as it flows through a watershed.
Littter Cleanup Activity	30 minutes	Help take care of your community! This activity can be repeated several times during this unit.
Where Does the Water Go?	20 minutes	Students create a map of their watershed as they do an experiment to discover where stormwater flows.
Build a Mini-City	45 minutes	Students build a model city to see how permeable and impermeable surfaces affect the flow of water.
Pollution in Our Community - Watershed Model	45 minutes	Students learn how to prevent water pollution by modeling scenarios in which pollution enters waterways by way of storm drains.
Pollution and Plants	2 20-minute lessons	Conduct three experiments to determine how pollutants can affect plants - and how plants can help reduce pollution.

HEALTHY WATERWAYS & POLLUTION SOLUTIONS



	Estimated Time	Description
Green Infrastructure	45 minutes	Students learn about different types of green infrastructure.
Pollution Solutions in Our Community - Watershed Model	30 minutes	Students are presented with a water management issue and challenged to engineer a solution.
Storm Drain Decal Installation	60-90 minutes	Students install “no dumping/drains to waterways” decals and distribute educational door hangers following a map of a neighborhood to find the storm drains.

