

SCIENCE MUSEUM OF MINNESOTA

WATER ASSEMBLY, GRADES K-2



Concepts, Learning Goals, & Logistics

GENERAL OUTLINE:

Ice Column Observations

Touch a column of ice. What do you see? What do you feel? What will happen if a really big ice column is placed under a hot light? Experiments give students ways to describe differences between a solid – ice, and a liquid – water.

A Pond in Summer and Winter

A table-top diorama helps students imagine the many ways animals living in a Minnesota pond use the water. Plants also get into the story as “water” travels through the roots, stem and leaves of a plant model. As the weather gets colder, discover what the animals and plants need to do as the liquid water changes to solid ice. See what happens with the return of spring.

People at the Pond

Think of all the different things you could do at a pond in the summer and in the winter. No matter the time of year, people need clean water to drink. The pond animals and plants need clean water too. Discover how our actions can keep the pond a healthy place for them to live.

Science Learning Goals

- Water in nature can be a liquid or solid.
- Animals, plants and people need clean water to live.
- Scientists make observations about water and how water changes.
- Water and seasons change in observable patterns.

Vocabulary Introduced:

- Solid
- Liquid
- Observation

Program Length: 40 minutes

Audience Size: Up to 150 students

Preparation: Science Museum instructor brings all needed equipment and materials. School provides two tables for demonstrations and access to electricity. Allow 45 minutes before and after program for set-up and take-down.

MN Academic Standard Strand: The Nature of Science and Engineering (0.1.1.2.1, 1.1.1.1.1, 1.1.1.1.2)

NGSS Science and Engineering Practices: Analyzing and Interpreting Data (1-ESS1-1), Constructing Explanations and Designing Solutions (1-LS3-1)

NGSS Crosscutting Concepts: Structure and Function (2-LS2-2)

If you have further questions on bringing programming to your school, please contact our Outreach Registration Coordinator at (651) 221-4748 or schooloutreach@smm.org.

SCIENCE MUSEUM OF MINNESOTA

WATER RESIDENCY, GRADES K-2



WATER CHANGES

Students will reflect and expand on what they saw during the K-2 Water assembly: plants need water all year round, and they get that water from the ground through their roots. Then the class becomes a tree and experiences moving “water” from roots to leaves during all four seasons. As the leaves release water vapor into the air, students will see the water cycle in action. Finally, the class will experience a giant water vapor cloud that they can touch!

Science Experience Goals

- Experience how water moves through plants by modeling a tree
- Consider how a tree might prepare for different seasons
- Discover how a cloud forms and sit inside a real cloud

Vocabulary Introduced:

- Roots, trunk, leaves, cloud, dormant

Logistics

Class session length: 30 minutes

Audience Size: Up to 30 students

Preparation: A Science Museum instructor brings all needed equipment and materials. The school provides two tables for assembly demonstration and access to electricity and water. Allow 60 minutes before and after the program for set-up and take-down. The school provides classroom space for the residency sessions.

Standards

MN Academic Standard Strand

1L.3.1.1.1 Develop a simple model based on evidence to represent how plants or animals use their external parts to help them survive, grow, and meet their needs. (P: 2, CC: 6, CI: LS1)

Next Generation Science Standards

Disciplinary Core Ideas:

Weather and Climate (ESS2.D)

Life Science (LS1.C; LS2.C)

Science and Engineering Practices:

Engaging in Argument from Evidence (K-ESS2-2)

Analyzing and Interpreting Data (K-LS1-1)

Crosscutting Concepts

Patterns (K-LS1-1; K-ESS2-1; 2-LS4-1; 2-ESS2-3)