WE ARE WATER MINNESOTA

IRON RANGE

Youth Water Activity Kit

MPCA

LYRIC YOUTH ARTS PROGRAM

RMB Environmental Laboratories

North St. Louis Soil & Water Conservation District

Minnesota Discovery Center

Clean Water Land & Legacy Amendment

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We Are Water is a program to deepen the connections between the humanities and water through a network of partnerships, a traveling exhibit, and public events. The We Are Water Iron Range Exhibit was developed by state and local partners and hosted at the Minnesota Discovery Center summer of 2021. Due to Covid-19 concerns, we wanted to create a youth & family outreach kit around water. Use this kit to explore water through art, stories, science, and experiences across the Iron Range.

Three watersheds begin here, the ancestral homelands of the Dakota and Ojibwe people. Water (nibi) is integral to the future of indigenous and non-indigenous communities on what is now called the Iron Range and beyond. We Are Water (Nibi)- We Are the Headwaters

We are Water MN is led by the Minnesota Humanities Center in partnership with many state agencies. The program is funded in part by the National Endowment for the Humanities and with money from the Arts and Cultural Heritage Fund and the Clean Water Fund.

Minnesota Humanities Center

MINNESOTA DEPARTMENT OF AGRICULTURE
DEPARTMENT OF HEALTH
DEPARTMENT OF NATURAL RESOURCES
POLLUTION CONTROL AGENCY

CLEAN WATER LAND & LEGACY AMENDMENT

NATIONAL ENDOWMENT FOR THE HUMANITIES

MINNESOTA HISTORICAL SOCIETY

mnhum.org

"Water is life"
Watercolor Painting

Materials included
~ Watercolor Paints
~ Paintbrush
~ Water Cup
~ Paper

Suggested items from home
~ Clipboard or Easel
~Extra Paper
~Pencil

"Fresh water is necessary for the survival of all living organisms on Earth. Our bodies are made up of about 60% water and we cannot survive more than a few days without it. Water is also an integral part of many ecosystems that support us and a myriad of other species."

When you are on an adventure outside, what do you see? Everything in nature sparks creativity as nature is always showing us its organic beauty. When we see water, it is mesmerizing. Our hearts stop and we take a breath to absorb the flow. We put our hands or feet in the water to feel the soft, cooling textures. It creates peace, it creates life. Water is life and we can use it to express ourselves just as much as we use it for survival.

Plein Air Painting is about getting outside of a four walled art space and getting into the fresh air to create landscapes as YOU see them. It is suggested to have an idea in mind as the lighting and weather could change quickly. Find a quiet spot to sit with your painting kit, paper, pencil and clipboard (or hard surface to paint on). Observe the shapes, the lighting and the surrounding areas of the water you are focusing on; be it a stream, a river, a lake or a pond. There is no right or wrong way to paint. It's all about how you feel and see. It's YOUR interpretation. Have fun!

We are Water MN - Youth Outreach

This is a watercolor painting by local artist, Jim DeVries

Tips from Jim DeVries for watercolor outdoors:

1. Take the bare minimum with you when you want to paint outdoors. Often you will hike to a beautiful place where you want to paint, which means you have to carry everything.

2. Often you have an hour or less before some things change, so grab the most important details first so you don't loose them. An example would be the light on a hillside or the way the shadows fall across a path. You can add the less important items later.

3. Water brushes make it simpler in the field. They are filled with water which you can squeeze out to wet your paint or clean your brush. This can eliminate the need for another water source to paint with.

STAY CREATIVE,
LINDSEY BERGAN
YOUTH PROGRAM COORDINATOR
LYRIC CENTER FOR THE ARTS

LYRIC YOUTH ARTS PROGRAM

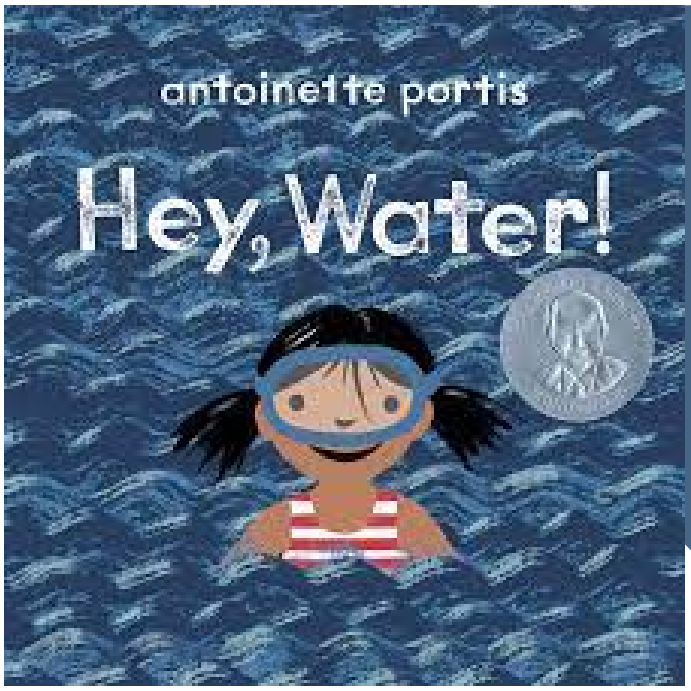
Read about water

Listen to author, Carole Lindstrom, read her book aloud on youtube:
www.youtube.com/watch?v=N-zPU4iSpco&t=7s
Channel name: carolelindstromreads

Or borrow a copy from one of the libraries in the Arrowhead Library System : www.alslib.info/

What's one thing you do to protect water? Write or draw below.

Read about water



Listen to the book,
Hey, Water!
read book aloud on youtube:
www.youtube.com/watch?v=RzjF841CybA
or borrow a copy from a library in the Arrowhead Library System: www.alslib.info/

After reading or listening to the book Hey, Water! by Antoinette Portis, color a picture of one way you used water today.

POP CAN CASTER

Materials

- One clean, empty pop can
- Masking tape
- 6 to 8 lbs test fishing line (about 50 wraps worth
- Fingernail clipper to cut the line
- Hook (included)
- Split shot sinker (included)
- Bobber(Included)

Build Your Pop Can Rig

1. Tie one end of the line to the tab on the soda pop can, or around the top of the can with a knot.
2. Securely tape the knot and fishing line near the top of the soda pop can.
3. Wrap the line around the pop can 50 times. Tape the line down and leave approximately 2 feet of line loose from the can.
4. Attach the bobber, sinker, and hook.

Cast Your Line

1. Unwin about two feet of line.
2. Hold the top end of the pop can in one hand and the bobber in your other hand. Remember to keep your hand off the line wrapped around the can as you cast.
3. Point the bottom of the can at the spot where you want the bobber to fall.
4. Toss the bobber underhanded toward the water.
5. The rest of the line should unwind and follow.

Reel in Your Fish!

If your bobber goes underwater, you've got a bite! Give the line a quick jerk to set the hook in the fish's mouth. Then wind the line around the can, keep it tight until you can grab the fish.

Pop Can Caster instruction from MN DNR.
Watch how it works here: https://www.youtube.com/watch?v=wRslMOG8UR8

Wonder about water

Have you ever seen certain insects stride across water? These creatures take advantage of the strong surface tension of water. What is surface tension? It is a property of the surface of a liquid that allows it to resist an outside force, almost like a shield or skin. Try these two experiments below using dish soap, which reduces the surface tension in water. That's why it's such a great cleaner!

Water and surface tension

Materials

- Small bowl filled halfway with water
- Small bowl filled halfway with milk
- Toothpick
- Liquid dish soap
- Ground pepper
- Liquid food coloring

1. Take the small bowl with water and sprinkle a thin layer of ground pepper on the surface.
2. Dip a toothpick in liquid dish soap. Then, touch the middle of the water with the tip of the toothpick.
3. Watch the grains of pepper as the dish soap touches the water. What happens?
4. Take the small bowl with milk and add two or three drop of food coloring in different places. You can use several colors.
5. Dip a toothpick into the liquid dish soap and then touch the milk with the dipped end. What happens when you do this?

How clear is the water?

Scientists use a tool called a *secchi disk* to measure the turbidity or clarity of water. The more algae and sediment that are in the water, the less clear it is. This makes water clarity a good measure for the overall quality of a lake or stream. In this experiment, you can try taking your own water clarity measurements.

Materials included

- Metal washer
- Piece of rope
- Paper cups
- Ruler (see left margin)

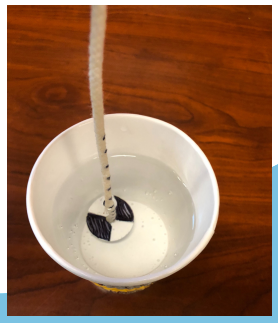
Additional Materials needed

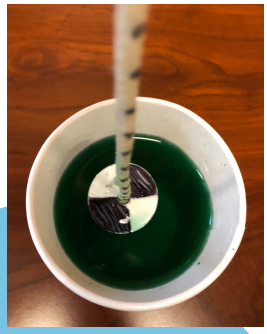
- Pen or permanent marker
- Food coloring (paint or something else that can add color to the water can be used.
- Water

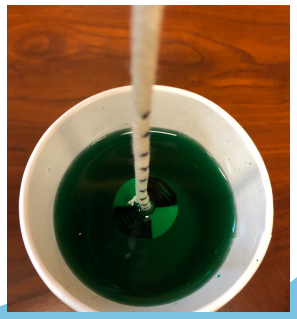
Instructions

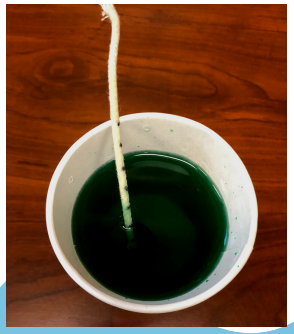
1. Take the piece of rope and tie a simple knot at the end.
2. Lay the rope along the ruler and mark each 1/2" starting above the knot.
3. Thread the un-knotted end through the washer, painted side up. You've made a miniature secchi disk!
4. Set out your paper cups and fill them with water.
5. In one cup, put in 20 drops of food coloring. In another cup, put 5 drops of food coloring. Leave one cup with just water.
6. Lower the mini-secchi disk into the cup with plain water. You should be able to see if perfectly clear all the way to the bottom.
7. Lower the mini-secchi disk into the cup with 5 drops of food coloring. This should be a little harder to see as you lower it into the water.
8. Lower the mini-secchi disk into the water with 20 drops of food coloring. Make note of how many 1/2" ticks until you can't see the disk anymore. If you can still see it at the bottom, add more food coloring until you can't see it anymore all the way at the botom.

If you enjoyed this activity, you can do it with an actual lake or stream by becoming a citizen water monitor! Learn more at www.pca.state.mn.us/water/citizen-water-monitoring/









Water Journeys

Visit these places across the Iron Range to learn more about water, the journeys they take, and the journeys they take us on.

1. **Hull Rust Mine Overlook:** From the overlook you can view a rare three-way continental divide, where water heads in three different directions across the continents. Also known as the Hill of Three Waters, It's a sacred and historic meeting place for Ojibwe and Dakota people.
2. **Minnesota Discovery Center**: The museum of the Iron Range explores the land and the people of the region through indoor and outdoor exhibits and events.
3. **Hill Annex State Park:** Visit this historic mine which is also known for it's fossil discoveries from the Cretaceous Period when the area was a shallow inland sea. Check if park is open before visiting.
4. **Laurentian Divide:** Hike trails in the Superior National Forest across the Divide where water heads either north to Hudson Bay or South to the Atlantic Ocean.

1 Hull Rust Mine Overlook

2 Minnesota Discovery Center

3 Hill Annex Mine State Park

4 Laurentian Divide Misabe wiidjiw

Olcott Park & Virginia Heritage Museum

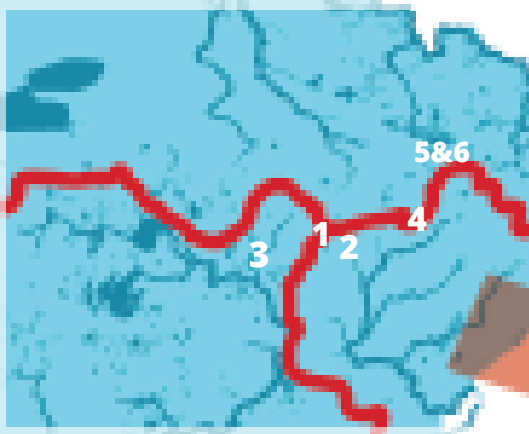
5

Bois Forte Heritage Center

6

7

Lake Vermilion-Soudan Underground Mine State Park



5. Olcott Park and Virginia Heritage Museum: Check out the newly restored historic water fountain in the park and visit the museum to learn about how water was used in the logging days.

6. **Bois Forte Heritage Center**: on the shores of Lake Vermilion, the museum is owned by the Bois Forte Band and is dedicated to telling the Bois Forte Ojibwe story including their journey across the Great Lakes to where they are today.

7. **Lake Vermilion-Soudan Underground Mine State Park:** In addition to miles of shoreline along Lake Vermilion, this park has water underground that host ancient microbes!

Thank you!

Miigwech!

To everyone who helped with We Are Water planning and events including:

LYRIC YOUTH ARTS PROGRAM

MINNESOTA DISCOVERY center

Rutabaga PROJECT

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1854 TREATY AUTHORITY • BOIS FORTE • GRAND PORTAGE

And many, many more!

www.wearewateironrange.com

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