



Thomson Reservoir Investigation

Overview: In preparation for more detailed chemistry investigations at Thomson Reservoir, along the St. Louis River, students will conduct a physical inventory of the Reservoir and experience a virtual overview of the upstream watershed, providing a context to study of the sediments.

Subject Area: Physical Science, Chemistry, Environmental Science

Grade Levels: 8-12th grades

Topics: Earth Science, Geology, Water, Weather

Great Lakes Literacy Principles:

- Natural forces formed the Great Lakes; the lakes continue to shape the features of their watershed.
- The Great Lakes and humans in their watersheds are inextricably interconnected.

Materials:

Google Earth Tour of the St. Louis River
Sediment core (optional)
Maps of St. Louis River Area of Concern.
Thermometers
pH kits
Measuring sticks

Procedure:

1. Provide an overview of the St. Louis River Watershed using the Google Earth tour. Pause the tour over the City of Cloquet and the Thomson Reservoir, to provide context for where the water in the Reservoir is coming from.
2. In Google Earth, return to the Thomson Reservoir. Locate the school, dam, and the trail to the Reservoir for orientation. In order to more fully understand the scale and characteristics of the Reservoir, we'll head outside to investigate it first hand.
3. Students will use the data collection sheets to inventory the physical features, as well as the weather and water conditions, and to sketch and label detailed observations of the Reservoir, with the purpose being familiarity and context for future lessons.
4. Return to the classroom. Students should be prepared to turn in their inventory forms.
5. Hand out the Area of Concern Map and introduce the sediment core and it's characteristics as a basis for future lessons studying sediment in the Reservoir.
6. Given the upstream conditions in the Watershed (via Google Earth) and the physical conditions of the Reservoir itself, make predictions on the following:
 - What is the source of sediment in the Thomson Reservoir?
 - What happens to sediment in the Reservoir after it is deposited?
 - What is the importance or significance of the sediment in the Reservoir from an ecological and human health perspective?

Water temperature (Degrees F): _____

Air Temperature (Degrees F): _____

Snow depth (inches): _____

Ice thickness (inches): _____

Water pH: _____

Sketch and label six features of the Reservoir below. Please be detailed. For example, you might note human-built features such as a dam or roads/trails, or natural features such as trees, islands, rock outcroppings, or specific types of plants.

