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NE Michigan Water Monitoring

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Students across Northeast Michigan have been spending time outside the classroom this spring while participating in place-based education projects, and collecting water quality data to be shared across the region through National Geographic's Great Lakes FieldScope website (www.GreatLakes.FieldScope.org).

The students are collecting both biotic (living) and abiotic (nonliving) data incorporating inquiry and experiential learning through partnerships developed within the Northeast Michigan Great Lakes Stewardship Initiative (NEMIGLSI).

The LaMotte Pond Water Tour, a testing kit geared for grades 4-8, is the tool of choice for testing abiotic parameters including ammonia, nitrates, dissolved oxygen and pH levels. NEMIGLSI partner's help students



AuGres Sims students from Michael Fields' 4th grade classroom participating in streamside biosurveys.

determine the possible sources of the four abiotic physical parameters, and ask them to make careful observations of land uses around the water as well as upstream.



After making a variety of observations, the students engage in a discussion answering these three key questions:

1. How are the abiotic factors important to the ecosystem?
2. How do these physical parameters get into the water?
3. What level of each parameter do you think we will find today (high, moderate, or low)?

To test biotic parameters, a modified version of the MiCorps Streamside Biosurvey is used to record data, concentrating mostly on aquatic macroinvertebrates. One question posed during a water quality monitoring discussion was, "What are aquatic macroinvertebrates?" Using their own frame of reference, students determined aquatic macroinvertebrates are small

organisms without backbones that live in the water.

Macroinvertebrates are collected by the students using dip nets and sorted into ice cube trays for easy counting and identifying. While engaged in their exploration of aquatic macroinvertebrates students are learning about the life cycle of dragonflies, complete and incomplete metamorphoses, and predator-prey relationships involving macroinvertebrates.

While fascinated with this inquiry and experiential education, students in Northeast Michigan are gaining a deeper understanding of their community and are playing a vital role in helping to monitor one of our precious resources, the Great Lakes.

Visit www.NEMIGLSI.org for more info.