Stream Study
Synopsis
5th—6th, upper

* Please encourage your students wear their own rubber boots if possible. If not, we have rubber boots to share with children and adults.

Goals & Objectives
This program will:
- Visit a stream or creek within Hartley Park
- Use physical and chemical measurements to determine its health

Students will be able to:
- Use scientific equipment to collect data
- Report the physical, biological, and chemical measurements of the creek
- Interpret sampling results to determine creek health

Activities
In the classroom:
- What is a watershed? How does Tischer Creek fit in?
- How do we measure stream health and why do we care?

In the field:
- Visit the creek and measure its health using temperature, turbidity, biologic sampling, and dissolved oxygen and pH testing
- Record results on data sheets

Bad Weather Alternative
Station Rotation:
(HNC educators will bring samples of water and macroinvertebrates in classroom before your arrival)
- Observe aquatic macroinvertebrates using microscopes and magnifying glasses.
- Conduct temperature readings, turbidity testing, dissolved oxygen and pH testing using water samples brought in from the creek.
- Interpret sampling results to determine creek health
- Sketch organisms with the naked eye vs. microscopic view.

MN Academic Standards supported during HNC program. More standards can be supported with pre- and post lesson activities.

Science
5.1.1.1.1 Explain why evidence
5.1.1.1.2 Science is replicable
5.1.1.1.3 Observations
5.1.1.2.2 Science investigation
5.4.2.1.1 MN natural systems
5.4.2.1.2 Natural systems have parts
5.4.4.1.1 Human interaction
6.1.3.4.1 Investigate natural systems
6.2.1.2.1 Physical changes
6.2.1.2.2 Mass is conserved
7.1.1.1.1 Scientific bias
7.1.1.1.2 Science is repeatable
7.1.1.2.3 Scientific conclusion
7.1.1.2.4 Evaluate explanations others
7.1.3.4.2 Investigate natural system
7.2.1.1.3 Chemical changes
8.1.3.4.2 Safety procedures, tools
8.2.1.2.1 Chemical changes
8.2.1.2.4 Characteristics of acids
9.1.1.2.2 Evaluate the explanations proposed by others
9.1.3.3.2 Scientific inquiry
9.1.3.4.2 Safe and appropriate scientific procedures

Language Arts
5.8.1.1 C, D, 6.9.1.1 C, D, 7.9.1.1 C, D, 8.9.1.1 C, D, 9.9.1.1 C, 11.9.1.1 C

Authenticity
Data such as number of species and individuals contributes to Hartley’s environmental data collection.