



WOLF RIDGESM

ENVIRONMENTAL LEARNING CENTER

SCIENCE-FOCUSED VISIT

Textbooks and traditional classrooms place limits on what we can learn about the environment. Our relationship to the earth is complex and requires all of us to make choices. How can the next generation make informed choices without learning directly from what nature can teach us?

"This program is a vital piece of our district's science curriculum. Of the thirty elementary science standards required by the state, eleven can be met through Wolf Ridge activities." - Prior Lake teachers

EXAMPLES OF AVAILABLE HANDS-ON, SCIENCE CLASSES

Northwoods Mammals Through explorations, interactive demonstrations and field surveys, students will learn about component of habitat, carrying capacity, limiting factors and biodiversity.

Birds Use binoculars, paper and electronic field guides, visit feeding stations and play a migration game. Close-up looks at the birds are possible at the bird banding station and "Chickadee Landing." Participants might also visit the raptors during class.

Food and Farming Spend all or part of a day on the Wolf Ridge Organic Farm. Learn how food and seeds are cultivated, and the important role pollinators play in our food systems.

Frozen Lake Study Explore Wolf Lake under the ice from inside dark houses, spying on fish using a solar-powered video camera, and by ice fishing.

Renewable Energy Students experiment with various renewable energy technologies such as photovoltaics, wind turbine engineering, and solar water heating. The concepts of electrical power come to life through experiments with a bicycle generator.

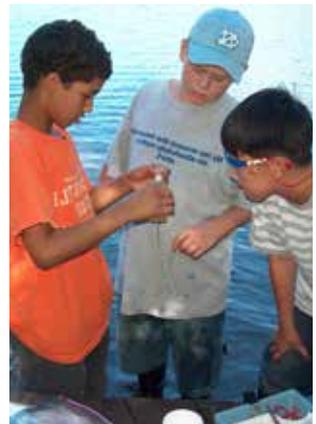
Geology Gain an overview of earth processes, various kinds of rocks and how they were formed and the changes that occur due to erosion.

Stream Study Students wade into Sawmill Creek to collect data and aquatic inhabitants. Findings are logged into iPad field stations, where they evaluate the health of the stream.

Wetland Ecology Students head out in boots to gather data regarding the vegetation, hydrology, and soil composition of several wetland types including swamps, marshes and peat-lands.

SAMPLE CLASS SCHEDULE

Day 1	1:30-4:30	Stream or Lake Study
	6:30-7:30	Live Raptor Presentation
	7:45-9:15	Owl Pellet Dissection
Day 2	8:30-11:30	Changing Climates
	1:30-4:30	Wetland Ecology
	6:30-9:15	Adventure Ropes
Day 3	8:30-11:30	Trees and Keys
	1:30-4:30	Northwoods Mammals
	6:30-9:15	Indoor Rock Climbing
Day 4	8:30-11:30	Pollinators



ROUNDING OUT THE EXPERIENCE

Most groups chose to mix their science curriculum focus with a bit of outdoor skill-building, cultural history, or adventure. Orienteering, GPS, voyageur life, and Ojibwe, are popular options, as are adventure ropes, team games, and rock climbing.





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TEAM-BUILDING AND PERSONAL GROWTH FOCUS

Teachers and parents rave about the change they see in students after a trip to Wolf Ridge. They are kinder to one another, more confident, and truer to themselves. If coming of age and interpersonal skills are some of your main goals, you will be interested in these class options.



It wasn't until I went there myself that I realized that Wolf Ridge is the single greatest tool we have to teach and experience character development.

– Sheila Ross
Orono parent chaperone

Adventure Ropes Many past students tell us this was one of the defining experiences of their youth. Traverse obstacles 25 feet in the air while attached to safety lines.

Indoor Rock Climbing Classmates learn to rely on each other as they belay and set personal goals on the Mystical Mountain and Taylor's Falls indoor walls.

Orienteering Learn how to work well with a team-mate as you navigate the world with a map and compass.

Team Games Build the life skills of trust, communication, cooperation and logical thinking while playing games, solving problems and working through challenges.

Winter Survival Students are challenged to build a fire, make a shelter, and melt snow for hot cocoa in small teams.

GPS and Geocaching Students travel the campus in pairs, finding a series of GPS way-points that lead to our geocache.

MADE MORE MEMORABLE BY EXPERIENCES IN NATURE

Most groups chose to mix their team-building curriculum focus with a bit of field science or cultural history. Animal tracking, voyageur life, Ojibwe, geology, and plant classes are popular options.

See our blog for personal stories about team-building personal growth.





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SUSTAINABILITY-FOCUSED VISIT

Students both live and learn in our new Margaret A. Cargill Lodge. It is the northern-most building to seek certification by *Living Building Challenge*. LBC is the highest international standard for sustainability, taking into account not only non-toxic building materials, but also equity, water use, waste reduction, energy use, connection to nature, and even the day-to-day habits of residents as they live in the building.

This new dorm is not only a living space, but also a teaching tool. Everyday decisions have enduring impacts on the health and vitality of our planet. A Wolf Ridge trip that focuses on sustainability prepares students to make more informed choices now and in the future.

Energy in My Home Students conduct experiments and explore options that demonstrate how choices they make at home impact energy production needs.

Renewable Energy Students use activities and games to study wind, solar or biomass renewable energy.

Changing Climate Through photography and with a focus on phenology, students learn about the earth's changing atmosphere and its effects. Mid-Apr.-Oct.

Seeds of Change Grinding grains, baking cornbread and playing games will give the students a perspective on different methods of farming and seed development.

Food and Farming A hands-on exploration of growing nutrient-dense food, from the science of soils to the plate. Seasonally appropriate learning activities focus on pollinators, planting, plant care, and harvesting food for meals in the Wolf Ridge dining hall. April-October.

ALL DAY OPTION: FOOD AND FARMING

Farming 101 and *Plants & Pollinators* classes can be combined into an all-day experience down on our organic farm.

Classes are aligned with MN Standards

For example, *Energy in my Home* meets the following 6th grade Minnesota Science Standards: 6.1.2.1.1, 6.1.2.1.4, 6.1.1.1.1

ADD AN ADVENTURE TWIST

Most groups chose to mix their sustainability curriculum focus with a bit of adventure. Adventure ropes, rock climbing, hiking, skiing, snowshoeing, and canoeing are popular choices to compliment other classes.





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OUTDOOR SKILLS-FOCUSED VISIT

Outdoor skill classes help students discover ways to be comfortable and safe outdoors. Skills that give them the confidence to keep connecting to and learning about their environments for a lifetime.

GPS and Geocaching Students travel the campus in pairs, finding a series of GPS waypoints that lead to our geocache.

Skiing Beginning lessons are offered before setting out to explore Wolf Ridge's ski trails.

Snowshoeing Learn various types of snowshoes, their history and uses before heading off-trail to either the Ojibwe site or Wolf Lake.

Indoor Rock Climbing Climbing at either the Mystical Mountain or the Taylor's Falls indoor wall. Learn about equipment, belaying, and climbing techniques used by climbers.

Canoeing Explore Wolf or Raven Lake after learning a bit of canoeing history, equipment, and paddling techniques.

Superior View Hike Three-mile hike along the Wolf Ridge and the Superior Hiking Trail trail systems to a spectacular view of Lake Superior

Frozen Lake Study Explore Wolf Lake under the ice from inside dark houses, spying on fish using a solar-powered video camera, and by ice fishing.

Orienteering Learn how to navigate the world with a map and compass. Chose beginning or competitive skill level.

SAMPLE CLASS SCHEDULE

Day 1	1:30-4:30	Frozen Lake Study
	6:30-7:30	Live Raptor Presentation
	7:45-9:15	Night Hike
Day 2	8:30-11:30	Superior Snowshoe
	1:30-4:30	Adventure Ropes
	6:30-9:15	Canoeing
Day 3	8:30-11:30	Cross Country Skiing
	1:30-4:30	Animal Signs
	6:30-9:15	Indoor Rock Climbing
Day 4	8:30-11:30	GPS and Geocaching

ROUNDING OUT THE EXPERIENCE

Most groups chose to mix their outdoor skill curriculum focus with a bit of field science, cultural history, or adventure. Animal ecology, voyageur life, Ojibwe heritage, geology, and plant classes are popular options, as are adventure ropes, rock climbing, and team games.





PARTNER WITH US TO PROVIDE FIELD SCIENCE EXPERIENCES AND CREDIT TO YOUR STUDENTS



Let's face it, the planet needs dedicated scientists studying how ecosystems function and change. Most schools have great resources in the classroom, but might be lacking opportunity to connect motivated young people with real science outdoors. Take a look at how these creative partnerships between schools and Wolf Ridge are advancing and inspiring tomorrow's ecologists.

"That summer inspired me to think strongly on pursuing a future career in environmental science. I switched my schooling focus to more science based and soaked in as much knowledge pertaining to the outdoors as I could."

-Aimee, 2014

CREDIT PARTNERSHIPS

Murray E2 is a year-round, academically rigorous class is offered at Murray Jr. High School in St. Paul during the school day. Successful completion enables students to jump from a general to a pre-AP biology course upon entering high school. The class includes two weekends and a two-week summer field science experience at Wolf Ridge.

S.E.A.K. is a year round weekly after school program at Patrick Henry High School in Minneapolis and Denfeld High School in Duluth, that culminates with a 3 week field research program at Wolf Ridge in the summer. Students earn both high school and college credits for participating in and passing this class.

Contact luciana.ranelli@wolf-ridge.org to explore setting up a partnership with Wolf Ridge for your school's students.

SUMMER CREDIT ACADEMIES FOR INDIVIDUAL STUDENTS

Our **Credit Academies** take place during the summer. Students attend as individuals, and choose to study freshwater ecology (three weeks) and/or environmental ethics (two weeks) in the field. Students create and present their own scientific research. College credit is available for these rigorous summer science courses, which are taught by certified science teachers who are employed by Wolf Ridge for the summer. We also offer Ornithology Field Camps at the beginner and advanced level for students interested in exploring bird banding and related research techniques.

