

Winter 2017

Outdoor Science Investigations Field Trip Program January 3 to March 24, 2017



How to Schedule a Field Trip

Teachers should complete a [Field Trip Request Form](#) online. On the form, select a program, several dates, and a location. Your school is encouraged to schedule multiple field trips on the same day for different classes at different times. After we receive your request form, we will schedule your field trip and send you a confirmation letter.

Note: all field trip lessons are correlated to the new Michigan Science Standards (Nov. 2015).

When scheduling, please be sure to allow enough time for us to be able to put on snowshoes (15 min.), in addition to the field trip. An hour is the *minimum* for a winter field trip. 1-1/2 hours to 2 hours is ideal, especially for upper elementary. Field trips are available to schools in the CCISD and GOISD school districts.

Cost: The field trips are \$30 per class (up to 30 students). The CCISD will invoice each school at the end of the season for the total number of field trips provided for each school during that season.

Program Descriptions

*Snowshoeing is part of all field trips, as long as conditions permit!
AND we have new snowshoes for tiny K-2 feet!*



PRE-K & K



Gravity and Forces (1-1.5 hrs)

Students will investigate the push and pull forces on the snow-covered ground. They will also participate in sled activities involving friction and gravity. *Standards addressed: K-PS2-1, K-PS2-2*

GRADE 1



Camouflage (1-1.5 hrs)

What are two local animals that wear a white winter coat? We will take a closer look at these animals and how they are adapted for life in the snow. *Standards addressed: 1-LS1-1, 1-LS3-1*



Winter Warmth (1-1.5 hrs)

How do the animals in our forests keep warm on freezing cold winter days? Students will perform experiments using different types of animal insulation (feathers, wool, fur and lard) to discover techniques various animals use to keep warm. *Standards addressed: 1-LS1-1, 1-LS3-1, K-2-ETS1-1, K-2-ETS1-3*

GRADE 2



Stupendous Snowflakes (1-1.5 hrs)

Why do snowflakes have so many different shapes? Students will learn how snowflakes form and closely examine snowflakes. They will discover that snowflakes have six sides, and then create their own snowflake models out of sticks and snowballs. *Standards addressed: 2-PS1-1, 2-ESS2-3*



Let it Snow! Let it Melt! (1-1.5 hrs)

What makes snow and ice melt? Students make observations and draw conclusions about what makes ice melt, as well as, explore the properties of and differences between solids and liquids. *Standards addressed: 2-PS1-1, 2-PS1-4, 2-ESS2-3*

GRADE 3



Beneath the Snow (1-1.5 hrs)

Is there anything living under the snow? Actually, there is a flurry of activity occurring beneath the surface! Students explore this winter world, searching for signs of animals on the snow, in galls, under bark, and beneath the snow. *Standards addressed: 3-LS4-3, 3-LS4-4, 3-LS3-2*



Winter Birds (1-1.5 hrs)

How do birds cope with the cold? Some birds migrate out of our area for winter, some migrate in, and some stay here year-round. Students will learn the names of some of our winter birds and the variety of survival techniques they use, as well as, search for signs of birds. *Standards addressed: 3-LS2-1, 3-LS4-3, 3-LS4-4, 3-LS3-2*

GRADE 4



Best Insulator (1-1.5 hrs)

Which socks should you wear to play outside—cotton, wool, fleece or quilted? Students will test the insulating qualities of these different materials, collect data, and create a graph of their findings. *Standards addressed: 4-PS3-2, 4-LS1-1, 3-5-ETS-1-1, 3-5-ETS-1-2, 3-5-ETS-1-3*



Think Small (1-1.5 hrs)

Where do small mammals live in the winter, how do they stay warm, and what do they eat? Students will identify winter food webs and search for wildlife signs. *Standards addressed: 4-ESS3-1, 4-LS1-1, 4-LS1-2*

GRADE 5



It's Snow Good (1-2 hrs)

Investigate the characteristics of that wonderful white substance that falls around us for months on end. Students will take measurements of snow volume at various depths, look closely at melting snow, and participate in a snow scavenger hunt. *Standards addressed: 5-PS1-2, 5PS1-3, 3-5-ETS1-3*



Track & Tale (1-2 hrs)

Finding tracks in the snow not only allows us to guess what critters passed by, but also what might have been happening at the time. Was there a chase? Was a rabbit nibbling quietly? What other types of animal sign can tell a story? *Standards addressed: 5-LS1-1, 5-LS2-1*

GRADE 6



Winter Populations (1-2 hrs)

Students will investigate how white-tail deer populations are affected by winter. What other animals make up the surrounding forest community and how do these animals interact in winter? *Standards addressed: MS-LS2-1, MS-LS2-3, MS-LS2-4, MS-LS2-5*



Winter Survival (1-2 hrs)

Students will practice team building and survival skills as they work together to decide from a list of items that would be most useful: whistle, compass, tarp or tin can? We will explore the concept of “wind chill” and learn techniques for building a winter shelter *Standards addressed: MS-ETS1-1, MS-ETS1-3*

GRADES 7-8 (All Field Trips 1-2 hrs)

Physics of Snow

Discover why snow and ice can take so many forms, from icicles, to drifts, to sheets of ice, to snowflakes.

Wildlife Signs

Students will search for tracks and other signs of animals and interpret what they find.

Winter Survival

How do animals adapt to the cold and find food, water and shelter? Students will participate in a variety of activities focusing on animal adaptations and survival.

Winter Plants

Students will gain experience identifying trees, shrubs, forbs, and weeds in the winter their importance to wildlife, insects and humans.



landscape and explore

Important information

[Field Trip Request Form](#)

Required Clothing:

All students **MUST** wear hat, mittens or gloves, winter coat, snow pants and/or long underwear & winter boots (no tennis shoes allowed!!). Due to the added risk of being outdoors in the wintertime, Field Trip leaders have the option to not allow students to participate, if they are not appropriately dressed.

Meeting Location

You will meet your presenter(s) at the field trip site, unless other arrangements are made. All winter field trip locations listed below have a warming hut.

Locations for Winter Field Trips:

- Lake Linden-Hubbell School Forest
- Swedetown Ski Chalet
- Maasto Hiihto Ski Chalet
- Nara Chalet & Preserve
- Ottawa National Forest Visitor Center
- Paavola Wetlands
- MTU Ford Forestry Center
- Wolverine Ski Trails
- Your school
- Suggest a site (*warming hut required*)



Cancellation Policy: the Center will not cancel any field trips due to weather, it is the responsibility of the teacher to decide if a field trip should be cancelled. **To cancel a field trip, please call the Field Trip Coordinator at (906) 370-1052 at least 2 hours in advance (3 hours for Gogebic/Ontonagon schools).**

For more information, contact:

Brian Doughty, Field Trip Coordinator
Email: bwdoughty@mtu.edu
Phone: 906-487-3341 (office) or 248-798-4382 (cell)

The Western U.P. Center for Science, Mathematics & Environmental Education is a partnership of Copper Country & Gogebic-Ontonagon Intermediate School Districts and the Michigan Tech Center for Science & Environmental Outreach serving schools and communities in Houghton, Baraga, Gogebic, Ontonagon and Keweenaw Counties. The Center's mission is to enhance the teaching and learning of Science, Technology, Engineering, and Math (STEM).

Field Trip Financial Support

The Outdoor Science Investigation Field Trip Program has been funded since 2008 with a grant from the Wege Foundation to Michigan Tech. In 2012 and 2015, snowshoes were purchased with support from the Keweenaw Community Foundation and the MEEMIC Foundation, respectively. In 2016, another grant from the Keweenaw Community Foundation is funding technology to support outdoor investigations.

