

James Clarkson
**Environmental
Discovery Center**



School Programs



5175 Indian Trail
White Lake, MI 48386
(248) 625-7280

Indian Springs Metropark
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Explore...Discover...Connect

Explore, Discover and Connect!

Use science to explore nature at the Indian Springs Environmental Discovery Center! Here we work to combine your natural wonder with our tools and technological equipment to gain a better understanding and appreciation of what is going on in the ecosystems that surround us. Most programs include an outdoor investigation and an indoor laboratory portion that address specific Michigan Curriculum Framework benchmarks. Pre- and post-visit materials are available on request.

Program Basics:

- Days available: Monday through Friday, year-round
- Times available: 9:00 am to 3:00 pm
- Program length: 2 to 4 hours
- Group size: Minimum 10 students, maximum 100 students (4 classes)
- Fee: \$2.00 per student per hour with a maximum charge of \$5.00 per student (discounts available)
- Park entry fee:
 - No fee for school buses
 - \$5.00 per vehicle daily pass
 - \$25.00 per vehicle annual pass
- Lunch room available Monday - Wednesday
- To register, call (248) 625-7280

Bus rental available through Oakland County. Call for details.

Contact Us:

Phone: (248) 625-7280

E-mail: edc@metroparks.com

Program Activities

You may include the following in your experience:

- hike (45 minutes to 1 ½ hours; weather dependent)
- specimen and data gathering (45 minutes to 1 ½ hours; weather dependent)
- laboratory investigations (45 minutes to 1 ½ hours)
- demonstrations and activities (45 minutes to 1 ½ hours)
- discussion and slide presentation (30 minutes to 1 hour)



Facilities and Equipment

- 12-station computer/environmental science lab with digital microscopes
- 2 additional classrooms
- underwater pond viewing room
- 60 acres of habitat restoration, including wetlands
- additional 6 miles of trails through established ecosystems
- projection equipment
- portable weather stations
- dataloggers, probes and sensors (call for a list)
- GPS units and GIS software
- lab glassware and other equipment

Program Offerings

Ecosystem Explorations

*What do grasslands woodlands, and wetlands have in common?
What makes them unique?*

Ecosystem Exploration (2 hours)

- Hike to the pond and prairie
- Use data loggers and study plots to measure different attributes: light, temperature, soil type and moisture, vegetation types
- Compare and map these environments using traditional and computer methods

Ecosystem Exploration (3 hours)

- As above, plus visit woodlands: join in games and demonstrations (predator/prey; carrying capacity and population growth; succession and other changes over time)
- OR sample aquatic site for pH, temperature, dissolved oxygen

Winter Ecology

What happens to living things during the cold months?

Winter Ecology (1-3 hours in length, depending on topic(s) chosen and depth)

- Learn about survival adaptations of animals and plants
- Measure and compare winter conditions for different adaptations and in relation to snowpack (pending weather conditions)
- Complete a scavenger hunt on a winter ecosystem hike
- Participate in demonstrations and simulations on winter weather

Weather & Climate

How does weather impact our lives? What do we do to measure and predict weather conditions?

Weather and Climate at the EDC (1.5 hours)

- Participate in demonstrations and simulations about basic weather concepts
- Use traditional and high-tech instruments to take weather measurements
- Learn about fronts and forecasting
- Read and make weather maps

Weather and People (2.5 hours) *grades 6th and up*

- As above, plus: learn how people affect weather, from acid rain and air pollution to global temperature change

Weather and Climate at the Detroit/Pontiac National Weather Service Weather Forecast Office (1 hour)

(May be scheduled in conjunction with a field trip at the EDC for no more than 30 students and their chaperones at a time; there is no charge for this activity)

- Visit the severe weather forecasting station for southeast Michigan and find out what they do there!



Energy Resources

How do we use energy? What are the different forms? How can energy be transferred and changed?

Energy in Motion (1.5 hours)

- View a presentation about types of energy
- Visit different activity stations to learn about ways to harness energy, follow energy transformations, make electricity, measure energy, create a battery, examine light energy, and more
- Calculate how much energy you use with your environmental footprint and do the sustainability scavenger hunt



Wetlands & Water Quality

How is water important to living things? What are the characteristics of our local aquatic ecosystems?

Water Quality - Biology Focus (2.5 hours)

- Dip in the pond with nets for benthic macroinvertebrates
- Use microscopes and keys to identify organisms and relate their presence to water quality
- Join in games and demonstrations about wetlands

Water Quality - Biology Focus (3-4 hours)

- As above, plus: hike to 3 different types of wetlands and complete a scavenger hunt

Environmental Chemistry Focus (2 hours) *grades 6th and up*

- Visit pond and test for temperature, pH, dissolved oxygen and other components
- Hike to two different wetland ecosystems and compare them/complete scavenger hunt
- Join in games and demonstrations about water quality

Environmental Chemistry Focus (3 hours) *grades 6th and up*

- As above, plus: analyze data and map wetlands and habitats using computer GIS software or traditional methods

Environmental Chemistry and Biology Focus (4 hours) *grades 6th and up*

- Visit pond and test for temperature, pH, dissolved oxygen and other components
- Hike to two different wetland ecosystems and compare them/complete scavenger hunt
- Dip in the pond with nets for macroinvertebrates
- Use microscopes and keys to identify macroinvertebrates and determine what that means for water quality



Michigan Geology

How do different rocks form and then end up where we find them? What processes shape our landscape?

Michigan Geology - Rock Cycle Focus (2.5 hours)

- Participate in a rock cycle simulation
- Handle igneous, metamorphic and sedimentary rocks
- Examine a Michigan geologic map
- Discover how Earth materials are used in a building-wide scavenger hunt
- Learn about fossils and fossil formation
- Take a glacial geology hike (alternative to fossil formation presentation)

Michigan Geology - Glaciers Focus (2 hours)

- View a presentation about glaciers in Michigan and the landforms they left behind
- Participate in a “glaciers in motion” demonstration with glacial goo
- Take a glacier clues hike to look for evidence of glaciers in the park

Michigan Geology - Soil Science (2 hours)

- Collect soil cores at different locations and compare layers
- Learn about and look for different organisms that live in the soil
- Sample soil type, moisture, temperature and pH
- Look at soil under the microscope



Educator Resource Center

Looking for the right activity to illustrate a concept? Need some natural artifacts to use in an activity? Give us a call! We have:

- an extensive library of reference books, curriculum and activity guides, and story books
- puppets and animal models
- posters and charts
- a limited selection of natural artifacts, such as bones and skins

We can work with you to put an activity or a series of lesson plans together.



Professional Development

We are also able to host professional development workshops. You can either use our facilities (for a fee - please call for details) or our staff for training in various fields of life, earth and environmental science. Various workshops can be planned throughout the school year and summers. SB-CEUs and graduate credit can be made available. We can also host field trips and classes from teacher education programs.

Planning Your Visit

Please have the following information available when you call to make a field trip reservation:

- Name of your group
- School address, email and phone number
- Field trip date
- Alternate date
- Arrival time
- Departure time
- Field trip activities you would like to schedule
- Number of students
- Number of adults
- Transportation mode
- Accommodations necessary for students with special needs

Confirmation

A confirmation letter, information for teachers and chaperones, and a map will be emailed after you schedule your appointment.

For more information call 248-625-7280 or email edc@metroparks.com

Directions to Indian Springs

From I-75

Take exit #93. Go south on Dixie Hwy. 1 ¼ miles to White Lake Rd. Turn right and go about 2 miles to Andersonville Rd. Turn right and go ½ mile to White Lake Rd. Turn left and travel about 4 miles to the park entrance, which will be on your right.

From M-59

Westbound (from Waterford and areas east): Travel west on M-59 to Teggerdine Rd. (about 4 miles west of the Oakland-Pontiac Airport). Turn right and go 3 miles north to White Lake Rd. Turn left and go 1 mile to the park entrance, which will be on your right.

Eastbound (from Highland and areas west): Travel east on M-59 to Ormond Rd. (about 11 miles from US-23). Take the boulevard turn (past Ormond Rd. and around the median) to go north on Ormond Rd. Go 3 miles on Ormond Rd. to White Lake Rd. Turn right and go 2 miles to the park entrance, which will be on your left.

Once inside the park

Go about 3 ½ miles along the park road, past the Golf Course and the Meadowlark Picnic Area, to the Environmental Discovery Center. The parking lot entrance will be on your left. If you continue along the park road, you will reach the Nature Center.

