

4-H Environmental Sciences Project



CURRICULA & RESOURCES

Michigan 4-H Curricula

- » Science Blast! in the Class Teacher's Guide (4H1909): http://4h.msue.msu.edu/resources/4_h_science_blast_in_the_class_teachers_guide
- » Eco-Survey: http://4h.msue.msu.edu/resources/eco_survey1
- » Junior Citizen Planner: http://4h.msue.msu.edu/programs/environmental_outdoor_education/junior_citizen_planner
- » The Walk: Taking Your Youth Outdoors for Environmental Stewardship and Learning! (4H1593): http://4h.msue.msu.edu/resources/the_walk_taking_your_youth_outdoors_for_environmental_stewardship_learning

WHAT'S IT ALL ABOUT?

Take a journey through fields, forests, wetlands and urban areas to discover the wonders and mysteries of Michigan's natural environment. Explore the outdoors with place-based, experiential activities or investigate environmental topics while indoors with active hands-on activities. Through the 4-H environmental sciences project, you will learn about the interconnections of people and nature. You'll also develop respect for the natural environment while creating a sense of stewardship toward our natural resources.

- » Learn basic science and ecology principles.
- » Develop a greater sense of value, sensitivity and stewardship toward the environment.
- » Take a closer look at environmental issues and work to resolve them.
- » Become more environmentally literate and willing to be an active citizen.
- » Explore different career choices in natural resources.

THE BIG PICTURE

Starting Out:

- » Spend time outdoors engaged in hands-on activities.
- » Investigate a wetland such as a bog, marsh, fen or swamp and the unique plants that grow there.
- » Walk through an old-growth forest.
- » Explore animal habitats and their adaptations.
- » Take a night hike and learn nighttime adaptations.
- » Use forester's tools to inventory a parcel of woods.
- » Learn how to test water quality using chemical kits and a Secchi disc.

Learning More:

- » Wade into a stream collecting macro-invertebrates.
- » Process fish while examining anatomy and stocking data.
- » Learn more about energy development and consumption.
- » Use fishing as a means to explore lake ecology and various fish biology.
- » Identify native and invasive species.
- » Explore water below the surface using a remotely operated vehicle (ROV).

Expanding Horizons:

- » Visit a landfill, wastewater treatment facility or recycling center.
- » Learn about climate change and its effect on the environment.
- » Discover the sources of various types of pollution, and learn how pollution can be prevented.
- » Learn how to live an environmentally responsible lifestyle.
- » Identify ways to conserve energy.
- » Get active locally to help resolve an environmental issue.

Other State Curricula

- » Amphibians & You: A Look at the Amphibian Crisis, Leader's Guide and Student Journal (4H5160) (University of Nebraska Extension): <http://www.4-hmall.org/Catalog/ProductDetails.aspx?ProductId=4H5160>

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FOCUS ON ENVIRONMENTAL SCIENCES

Science

- » Investigate the life cycles of numerous plants, animals, birds, fish and insects.
- » Map invasive species using Global Positioning System (GPS) technology.
- » Assist conservation groups with animal or fish surveys.
- » Work closely with field biologists, fisheries managers and foresters.

Citizenship & Leadership

- » Organize a community cleanup of a local area that needs some rehabilitation or environmental care.
- » Coordinate a recycling drive.
- » Perform a home energy audit.
- » Volunteer at a local nature center or environmental center.
- » Adopt a highway, river, lake or other outside area for cleanup.

Communication

- » Research an environmental issue and prepare a presentation to government officials for resolution.
- » Write articles or newsletters about environmental events and issues as well as natural resource topics.
- » Present environmental projects to local 4-H clubs, schools or civic groups.

Life Skills

- » Use critical-thinking, problem-solving and decision-making skills to help you make good decisions about project management.
- » Keep records on your project expenses and income.
- » Practice personal resiliency through successes and challenges in your project.



Curricula & Resources, Continued

National 4-H Curricula

- » <http://www.4-h.org/resource-library/curriculum/>

Exploring Your Environment

- » Ecosystem Services (08410)
- » Earth's Capacity (08411)
- » Facilitator Guide (08412)

Fishing

- » Take the Bait: Level 1 (07598)
- » Reel in the Fun: Level 2 (07599)
- » Cast into the Future: Level 3 (07600)
- » Sportfishing Helper's Guide (07601)

Other Resources

Books

- » Ranger Rick's NatureScope (National Wildlife Federation): <https://www.librarything.com/series/Ranger+Rick's+NatureScope>

Programs

- » Project Aquatic Wild: http://www.maeoe.com/Project_WILD_006H.html
- » Project F.I.S.H.: <http://www.projectfish.org/>
- » Project Learning Tree: <http://www.michiganplt.org/>
- » Project Wild: <http://www.projectwild.org/growingupwild/Michigan.htm>
- »

HOW CAN YOU GET INVOLVED?

- » Attend 4-H Great Lakes & Natural Resources Camp, 4-H Renewable Energy Camp or 4-H Forestry Fun Camp.
- » Participate in the 4-H Youth Conservation Council.
- » Contact your local Michigan State University (MSU) Extension office for workshops, activities and events.
- » Contact the MSU Extension 4-H state coordinator for environmental education at http://4h.msue.msu.edu/programs/environmental_outdoor_education.
- » If you are interested in a college education in the environmental sciences, visit MSU's website at www.msu.edu.

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