



Teacher's Guide



Lakeshore**Museum**Center

430 W. Clay Avenue at Fourth Street, Muskegon

231-722-0278

www.lakeshoremuseum.org

SCIENCE PROGRAMS

STEAM FOSSILS

Grades: 3–5

Capacity: 30 students

Program Time: 45 minutes

This interactive STEAM-based program sends students on a 400 million year journey into Michigan's past to see how plants, animals, and habitats have changed. See real fossils up close and learn why they became extinct. The conclusion will be a STEAM-based activity to create the ultimate creature of survival! Teachers booking this as an outreach will get a modified program. Supports NGSS for third and fourth grades. 3-LS4-1, 3-LS4-3, 3-LS4-4, 3-LS3-2, 4-ESS1-1 MI, 3-5-ETS1-2, 3-5-ETS1-3

DINOSAURS

Grade: Pre-K

Capacity: 30 students

Program Time: 20 minutes

Discover what fossils are and how they tell the story of dinosaurs. Examine replica fossils and meet the Museum's own dinosaur, Deinonychus (dine-ON-ik-us).

LIGHT AND SOUND WAVES

Grades: 1–4

Capacity: 30 students

Program Time: 45 minutes

How do light and sound travel across vast distances? In this program, students will learn about light and sound waves by getting hands-on with string telephones, flashlights, and a resonance bowl.

Supports grade level content expectations for first grade. 1-PS4-1, 1-PS4-2, 1-PS4-3, 1-PS4-4.

STEM MAGNETS

Grades: Pre-K–2 / 3–5

Capacity: 30 students

Program Time: 30 minutes

What are magnets? Experiment with the properties of magnetism to understand magnets and their uses. Students in third grade and up will conclude with a STEM-based magnet activity to test their understanding.

Supports GLCE for first grade P.Pm.01.31, P.Pm.01.32 and NGSS for third grade. 3-PS2-3, 3-PS2-4, 3-5-ETS1-1, 3-5-ETS1-2

The Lakeshore Museum Center has many science and history programs that support the Michigan State Curriculum. Programs are free of charge. To schedule a museum program, please contact the Programming Department at 231-722-0278.

NEW!



FORCES IN MOTION

Grades: K–3

Capacity: 30 students

Program Time: 30 minutes

Discover how things move. Learn about gravity, inertia, and friction through hands-on experiments and demonstrations.

Supports grade level content expectations for kindergarten and third grades.

P.FM.00.21, P.FM.00.31, P.FM.00.32, P.FM.00.34, P.FM.03.22, P.FM.03.35, P.FM.03.38



WHOOO'S IN THE FOREST?

Grades: Pre-K–2

Capacity: 30 students

Program Time: 20 minutes

This program, focusing on the owl, introduces students to local predators, adaptations, food chains/webs, habitats, and predator/prey concepts. A great precursor to the Museum's Nature's Food Web program for grades 3–5.

Supports grade level content expectations for kindergarten and first grades.

L.OL.00.11, L.OL.01.13

NATURE'S FOOD WEBS

Grades: 3–5

Capacity: 30 students

Program Time: 45 minutes

By studying the food web of an owl, students explore firsthand the complex interdependence between food and energy in living systems. Students will dissect an owl pellet.

Supports grade level content expectations for third and fourth grades.

L.EV.03.12, L.EC.04.11, L.EC.04.21

ROCKING ROCKS

Grades: K–3

Capacity: 30 students

Program Time: 30 minutes

How is a rock made? What are the different types of rocks? Students will identify the three types of rocks—igneous, metamorphic, and sedimentary—through hands-on detective work.

Supports grade level content expectations for kindergarten and third grades.

E.SE.00.11, E.SE.03.13, E.SE.03.14

A BEAK FOR EVERY JOB

Grades: 3–5

Capacity: 30 students

Program Time: 30 minutes

A STEAM-based program for the birds! A beak for every job looks at how our feathered friends have adapted to suit their environment and eating. Learn about how traits are passed down to create the perfect beak for the job. This program will include a STEAM-based activity where the students will discover what beak type is perfect for a food type.

Supports NGSS for third and fourth grades. 3-LS3-1, 3-LS3-2, 3-LS4-2, 4-LS1-1, 3-5-ETS1-1, 3-5-ETS1-2

HANDS-ON SCIENCE TOUR

Grades: K–5

Capacity: 30 students

Program Time: 30 minutes for K–1; 45 minutes for 2–5

After a brief guided tour of the Science Center, students will explore magnets, sound, reflection, electricity, view a tornado, observe the seasonal globe, and explore 30 hands-on drawers.

SHOCKING!

Grades: K–5

Capacity: 30 students

Program Time: 30 minutes for K–1; 45 minutes for 2–5

Experiment and learn about the properties of electric current and static electricity through demonstrations and hands-on activities.

Supports grade level content expectations for fourth grade. P.EN.04.12, P.EN.04.51

BODY WORKS: IT'S ALL UP TO YOU!

Grades: K–5

Capacity: 30 students

Program Time: 30 to 45 minutes

Learn how to live a healthy life. Explore hands-on displays that teach proper nutrition, the importance of exercise and activity, and the consequences of not living a healthy life.

NON-CONTACT FORCES

Grade: 5

Capacity: 30 students

Program Time: 30 minutes

A continuation of our *Forces in Motion* program, students will learn the differences between contact and non-contact forces through demonstrations and hands-on experiments.

Supports grade level content expectations for fifth grade. P.FM.05.21, P.FM.05.22

HISTORY PROGRAMS

MUSKEGON “THE LUMBER QUEEN”

Grades: 2–5

Capacity: 30 students

Program Time: 1 hour

Discover the importance of lumbering in the development of Muskegon County. Students will see tools of the trade and the Museum’s sawmill. The video “Logging in Michigan” will be shown.

Supports grade level content expectations for fourth grade.
H3.0.1, H3.0.2, H3.0.3, H3.0.4



MICHIGAN’S FIRST ECONOMIC ENDEAVOR: *THE FUR TRADE*

Grades: 3–5

Capacity: 30 students

Program Time: 45 minutes

Discover Michigan’s first industry, the fur trade. Students will learn what items were traded, who traded them, and why. Explore what life as a fur trader was like by entering a replica fur trader’s cabin.

Supports grade level content expectations for third grade.
H3.0.1, G4.0.2, H3.0.6, E1.0.3, E1.0.4

MICHIGAN’S FIRST PEOPLE

Grades: 2–5

Capacity: 30 students

Program Time: 45 minutes

This program covers pre-contact Indian culture in Michigan. Examine artifacts, furs, and a Woodland Indian wigwam.

Supports grade level content expectations for third grade.
G4.0.2, G5.0.2, H3.0.5, H3.0.1, H3.0.4

COLORFUL QUILTS

Grades: K-5

Capacity: 30 students

Program Time: 30 minutes

What makes a quilt a quilt? Learn how quilt designs tell stories of pioneer days. Students will examine quilts and create their own quilt block patterns.

Supports grade level content expectations for kindergarten and first grades.

K-G.GS.00.03, 1-G.SR.01.04

MICHIGAN'S PIONEER COMMUNITY

Grades: Pre-K-3

Capacity: 30 students

Program Time: 45 minutes

What was it like to live in early Michigan? How did the pioneers arrive and survive in our state? Students will learn about everyday living and the chores of pioneer children as well as make and taste their own butter.

Supports grade level content expectations for kindergarten, first, second, and third grades.

K-H2.0.4, 1-H2.0.5, 1-H2.0.6, 1-G5.0.1, 2-H2.0.4, 2-H2.0.5, 3-H3.0.3, 3-H3.0.5, 3-H3.0.6, 3-H3.0.7, 3-G4.0.2

TIN PUNCHING

Grades: 3-5

Capacity: 30 students

Program Time: 45 minutes

Discover the importance of tin during the early pioneer and colonial days. See how it was used to create different objects and view examples of punched tin. Students will tin punch and take their projects home.



THE PHILANTHROPY OF CHARLES HACKLEY

Grades: 2–5

Capacity: 30 students

Program Time: 30 minutes

Learn about the gifts Charles Hackley gave to Muskegon. Students grasp the concepts of economics and philanthropy by becoming mill workers or lumber barons dealing with the cost of living in the late 1800s. Your students will experience first-hand the importance of giving back to their community.

Supports grade level content expectations for second grade. H2.0.3, H2.0.5, C3.0.3

OUR COMMUNITY YESTERDAY AND TODAY

Grades: 2–5

Capacity: 30 students

Program Time: 45 minutes

Take a historic downtown walking tour during which students will learn about the past and current uses and occupants of many of Muskegon’s historic businesses and residences. Learn about the McCracken Building, the story of Charles Hackley’s father, what life was like for the Spaniola family running a market on Western Avenue, and many more interesting facts about historic downtown Muskegon.

Supports grade level content expectations for second grade. H2.0.4, H2.0.6, E1.0.2, G4.0.3

GUIDED EXHIBIT TOUR

Grades: All Ages

Capacity: 30 students

Program Time: Varies

Dive into Muskegon County natural or cultural history with a guided tour of *Michigan: From the Depths of Time, Coming to the Lakes*, or take a tour of the entire museum.

SELF-GUIDED TOUR OF THE LAKESHORE MUSEUM CENTER

Grades: All Ages

Capacity: 60 students

Explore the Lakeshore Museum Center on your own! We recommend that you divide your class into small groups to avoid congestion. Reservations are required.

Eye Spy and Challenge worksheets are available: www.lakeshoremuseum.org

PLANNING YOUR VISIT

MUSEUM SCHEDULING GUIDELINES

Free Admission for Muskegon County Schools!

Out-of-county schools call the Programming

Department at 231-722-0278 or visit

www.lakeshoremuseum.org for admission rates.



Planning your visit:

1. Select a program and several possible dates and times.
2. Please call at least two weeks in advance to schedule a guided program. Reservations are also required for self-guided tours. No more than two programs will be scheduled at one time.
3. You will receive a program confirmation by e-mail.
4. At least one adult for every 10 children is required, unless otherwise noted. Supervision is the responsibility of the teachers and chaperones.
5. Students are required to wear name tags.
6. Please let us know if you have any special needs. Museum handicap accessible entrance is on Fourth Street. (Press the buzzer to notify us of your arrival.)

Please take note:

1. Running late? Please call. Our volunteers are asked to wait 15 minutes unless notified.
2. Cancellations must be made at least 24 hours prior to your scheduled visit.
3. Our programs are free for groups within Muskegon County.

SPECIAL PROGRAMS

FIRE SAFETY WEEK

Grade: 2

Capacity: 2 classes per session

Program Dates: October

Location: Fire Barn Museum

The City of Muskegon Fire Department and the Lakeshore Museum Center present a Fire Safety Education program each fall during Fire Prevention Week. This program is offered free and is available to schools within the city of Muskegon. Call 231-724-5534 to schedule.



FROM FURS TO FIRE: THIRD GRADE MICHIGAN HISTORY WEEK

Grade: 3

Capacity: 9 classes per day

Program Dates: November

During this interactive educational experience, students will learn how Michigan Indians survived prior to western contact, and once contact was made, how they used furs to obtain goods and technology from the fur traders.

Supports grade level content expectations for third grade.

H3.0.1, H3.0.4, H3.0.5, H3.0.6, E1.0.3, E1.0.4, G4.0.2, G5.0.2

Registration is required. Call 231-724-5533 to register for the scheduling lottery.

ENVIROWORKS

Ages 6–11

Capacity: 30 participants per session

Program Dates: July

Enviroworks is a one-week camp that targets elementary school children and challenges them to explore their environment. It is conducted weekdays from 9 am until noon during the last two full weeks of July. This program is free, but registration is required.

Registration begins the last Friday in May. To register call the museum at 231-722-0278.

OUTREACH PROGRAMS

Outreach Programs can be brought into the classroom for teachers in Muskegon County. Teachers provide a table and the Museum provides the rest! Choose one of the 10 programs listed below. To schedule an Outreach Program call the Programming Department at 231-724-5533.

OUT-OF-COUNTY OUTREACH PROGRAMS

Outreaches are now available to schools within a 40-mile radius of the museum. Contact the Programming Department at 231-724-5533 if you are unsure if your school is within this radius.

Cost: \$100 for the first presentation for up to 30 students, and \$50 for each additional presentation of up to 30 students, plus federal mileage rate for round trip from museum. \$100 deposit is required two weeks prior to program with remainder due the day of program.



STEAM Fossils

Dinosaurs

Food Webs

STEM Magnets

Michigan's First People

Quilts

Shocking!

Tin Punching

Rocking Rocks

Non-Contact Forces

BIG Lesson

Grades: 2-5

Requirements: Teachers must complete a special training program and be able to spend one full week at the museum. Please call 231-724-5526 for the next training date and/or more information.

Have you ever wanted more from a museum visit? Do you wish that you could have a study trip that incorporates special activities, behind-the-scenes tours, experiments, and guest speakers? Imagine the impact that a week-long study trip held at the Lakeshore Museum Center could have on your students for the remainder of the year!

The BIG Lesson model focuses on partnerships between community resources and schools that encourage hands-on and minds-on learning for students. This teacher-led, student-centered model uses an object-based, interdisciplinary approach to teaching and learning. By utilizing behind-the-scenes tours of the museum and guest speakers, students work cooperatively on a research topic.

POSSIBLE TOPICS ARE:

HABITATS

LUMBERING

THE NATURAL HISTORY
OF MUSKEGON

MICHIGAN AND/OR
MUSKEGON HISTORY

FOOD CHAINS

NATIVE AMERICANS

IMMIGRATION

ANIMAL ADAPTATIONS



What the students have to say about the BIG Lesson:

“Thank you for letting us come. I was hoping that the week would last forever.”

–Colleen, fourth grade student

“If I were to contain the help you gave us it would be bigger than the mastodon.”

–Daniel, fifth grade student



HISTORIC SITES OF THE LAKESHORE MUSEUM CENTER

HACKLEY AND HUME GUIDED TOUR

Grades: K–12

Capacity: 45 people

Program Time: 1 hour

Tour the homes of Muskegon's most prominent lumber barons. Students will learn how life was different in the 1890s and 1920s compared to today through hands-on experiences. Second graders will focus on how Charles Hackley shaped our community, while fourth grade classes will learn more about Hackley's role in the lumber industry of Muskegon.

Supports grade level content expectations for second and fourth grades.

2-H2.0.3, 2- H2.0.4, 2- H2.0.6, 4-H3.0.1, 4-H3.0.3, 4-H3.0.4

Visit our website at www.lakeshoremuseum.org for class admission rates.



FIRE BARN MUSEUM TOUR

Grades: K–12

Capacity: 30 students

Program Time: 30 minutes

Through viewing two floors of firefighting equipment and photographs from the 19th and 20th centuries, students will discover how firefighters have been protecting and serving the Muskegon community for over 135 years.

Supports grade level content expectations for second grade.

H2.0.4, H2.0.5, H2.0.6, C3.0.2, C3.0.3

SCOLNIK HOUSE OF THE DEPRESSION ERA TOUR

Grades: K–12

Capacity: 30 students

Program Time: 30 minutes

This is a hands-on house museum representing fictional working class families in Muskegon from 1929 through 1939. The house museum focuses on how immensely our community changed during the Great Depression.

Supports grade level content expectations for second and fourth grades.

2-H2.0.4, 2-H2.0.5, 2-H2.0.6, 4-H3.0.4, 4-H3.0.9



Tours of the Historic Sites can be scheduled to coordinate with Museum Programs. Tours at the houses may be arranged September, October, May and limited dates in April. Call for reservations: 231-724-5534.

LOAN KITS

The Lakeshore Museum Center has a wide variety of Educational Loan Kits available at no cost. These kits contain many useful and fun tools to enhance almost any lesson. These tools include:

Books • Posters • Videos • Artifacts • Specimens
CDs • Experiments • Activities

Resource binders include lesson plans, helpful teaching tips, artifact/specimen explanations, and websites for additional information.

Loan Kits are available at no cost and can be checked out for a maximum of two weeks.

To reserve a Loan Kit, or if you have any questions, please call 231-724-5533.

It is recommended that you reserve Loan Kits several weeks in advance.

A late fee of \$5.00 per day will be charged for kits that are not returned on time.

Pictures and inventories of each of the Loan Kits are available by request.

E-mail: pat@lakeshoremuseum.org for more information.



MICHIGAN FOSSILS

Look at real Michigan fossils and explore topics on habitat change, extinction, and what fossils can tell us about Michigan's past. This kit ties in with the Museum's newest gallery: *Michigan: From the Depths of Time*. Discover the strange creatures that called Michigan home.

SKULLS

Learn about predators and prey and study animals' teeth and diet by looking at 15 different skulls. Most of the skulls are of Michigan animals.

ROCKS AND MINERALS

How are rocks and minerals connected? Students will compare and contrast rock and mineral samples with several guides to assist in identification and explanation.



GREAT LAKES FISH

Discover the fish that can be found in the Great Lakes surrounding Michigan, as well as inland waters, through hands-on specimens. Items like mounted fish, a fish skeleton, models, and posters will help make this topic come alive for your students.

HOW YOUR BODY WORKS

Explore the amazing human body by using models and posters of various systems and even use a stethoscope to hear your own heartbeat.

DINOSAURS

Students will utilize assorted dinosaur fossils such as tracks, teeth, and skulls to learn about their variation in size, diet, and adaptations.

ENERGY AND ELECTRICITY

Learn different ways energy and electricity can be made and used in everyday life. Perform experiments and build circuits and devices using a littleBits™ student set.

MAGNET MAGIC

Learn about magnetic fields, poles, and everyday uses for magnets. Students will be amazed at the fun they will have experimenting with magnets.

FURS

What does mammal hair feel like? How do animals use camouflage to hide? Touchable furs help students learn about animal coverings.



MICHIGAN ANIMALS

Students will learn about local animal adaptations by examining various animal pelts, replica scat, a beaver-chewed log, skulls, and assorted animal specimens.

INSECTS AND SPIDERS

See the variation in local insects and spiders through a close-up view of actual specimens while using detailed visual guides to assist.

BIRDS

What makes birds unique? Students will compare and contrast a variety of bird talons, eggs, wings, feet, skulls, nests, bird calls, and actual bird specimens from different species.

AMPHIBIANS AND REPTILES

Learn the difference between species by examining turtles, frogs, snakes, and salamanders. Study skin, skulls, life cycles, and visual guides.

LIFE CYCLES

Students will learn about the stages of life that all plants and animals go through and see real examples of the life cycles of dragonflies, pine trees, and corn. They will also learn how plants spread using different types of seeds and play several fun life cycle games.

PLANTS

Students will examine leaves, seeds, and plant samples to learn about the structure, development, adaptation, uses and importance of flowers, trees, and other plants.

IT'S ALL UP TO YOU

Teach your students about nutrition, exercise and physical protection, as well as the consequences of not leading a healthy lifestyle using hands-on items such as: replica food, a children's workout video, and a student blood pressure kit.

MASTER SIMPLE MACHINE STATION

This kit allows you to create and use each of the four simple machines (pulleys, levers, wheels, and inclined planes) to teach about forces and motion, scientific inquiry, critical thinking, and using tools to measure, plot, and interpret data.

THE SOLAR SYSTEM

Use this kit to help demonstrate and explain how the planets move around the universe and how the moon orbits around the earth. Learn about far away galaxies and stars and the history of humans' exploration of space.

VICTORIAN LIFE

Explore turn-of-the-century Michigan through a stereoscope, classroom reader and a chamber pot. Students will explore the changing lifestyle by viewing photographs and books from and about this period.

MICHIGAN INDIANS

What was Indian life in Michigan like hundreds of years ago? Students will learn about Michigan Indian culture by touching stone tools and crafts. Study animal pelts and metal items to understand the cultural impact of the fur trade.

MICHIGAN IN THE CIVIL WAR

Students will have the opportunity to try on a Civil War uniform, go through a haversack and a housewife, learn about slavery and the Underground Railroad, and meet Michigan Civil War soldiers with this hands-on loan kit.

LUMBERING

Discover the importance of the lumbering era in the development of Muskegon County by utilizing lumbering tools, viewing pictures from the lumbering era, and touching a 100-year-old log end.

MICHIGAN SETTLERS

Find out what life was like for the brave people who settled Michigan. Examine wool cards, a quilt square, candle molds, and play pioneer games. Students can use artifacts, videos, posters, and music to experience life as Michigan settlers.



THE DEPRESSION ERA

This kit explores the Great Depression and how it affected not only the people of Michigan, but people throughout the United States. Browse through the *Current School Topics* weekly publications for the 1930-31 school year, play typical 1930s games, or read a story of hard times.

Other available Loan Kits:

JEWISH HERITAGE

SEASHELLS

THE 1960S IN MICHIGAN

HERSTORY

1920S, 30S, & 50S NEWSPAPERS

PROGRAMS

SPECIAL
PROGRAMS

OUTREACH

THE BIG
LESSON

MICHIGAN'S
HERITAGE
PARK

HISTORIC
SITES

LOAN KITS

- 1 Lakeshore Museum Center**
430 W. Clay Ave., Downtown Muskegon
231.722.0278 – **Open Year Round**
- 2 Fire Barn Museum**
510 W. Clay Ave., Downtown Muskegon
Open May to October
- 3 Hackley & Hume Historic Site**
484 W. Webster Ave., Downtown Muskegon
Open May to October
- 5 Scolnik House of the Depression Era** 504
W. Clay Ave., Downtown Muskegon **Open**
May to October

