

School & Teacher Services 2008-2009

Take a look!

**Our programs cover
science, health,
social studies,
math and physical
fitness topics**



**Cleveland Museum of
NATURAL HISTORY**

All Museum classes are aligned with the Ohio Academic Content Standards in Science and Social Studies and National Health Education Standards.

General Information

The Cleveland Museum of Natural History: a natural resource for Northeast Ohio educators!

We invite you and your students to explore science, nature and human health close-up and in person.

Reinforce your classroom lessons with a visit to the Museum for instructed programs or a self-guided exploration, or make science literally come alive for students outside Museum walls with a Mentor Marsh Field Trip. If you prefer, the Museum will come to your classroom with a Live Animal Assembly, one of our popular *Science-to-Go!*[™] programs, Health on Wheels or Distance Learning opportunities.

Our programs address appropriate Ohio Academic Content Standards in science and social studies and National Health Education Standards. In addition, the Museum is a member of the Regional Alliance for Informal Science Education (RAISE) and works with SMART, the Northeast Ohio consortium of school districts.

Whether you teach science, health, social studies, math or physical education, we have a program that's right for your classroom!

For more information or to make reservations, call (216) 231-8002.

To the Teacher

- Instruction is tailored to fit your individual class needs. We've listed grade level indicators from Ohio Academic Content Standards and/or National Health Education Standards after each program.
- Programs can be adapted to serve all students, including those who are learning or developmentally challenged. Just let us know your needs when you make your reservations.
- Students are challenged to think as they observe and focus on actual exhibits and specimens.
- School programs are taught by specialists in science and health — paid professionals, not trained volunteers.
- Our science instructors work closely with Museum researchers to be informed about the latest information in each field.
- Teachers guides containing the following are provided for all instructed classes:
 - Program description
 - Objectives
 - State and National Indicators addressed
 - Vocabulary
 - Suggested classroom activities
 - Book and Web site references for both students and teachers
 - List of related loan materials available from the Museum's Science Resource Center
- High-quality educational materials are available for loan through the Science Resource Center (membership required).
- Professional development workshops and more are offered for teachers year-round through the Science Resource Center.



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Special Program

Science Olympiad

Attention Science Olympiad coaches! You and your students can consult with experts in preparation for Science Olympiad events.

Saturday, December 6, 2008
One-hour sessions scheduled from 9 am to 3 pm

Each time slot will include no more than 15 students per topic.

Our science specialists will be on hand to provide basic information and the opportunity to examine common specimens for the following topics: Fossils (B and C Slate) and Skeletal & Circulatory (B and C slate).

Fee: \$4 per student plus \$2 per student/per topic; coaches: \$5.50 per person. Fee includes admission to the Museum and the chance to view appropriate exhibits. Call (216) 231-8002 for registration forms. Register by mail, first come, first served. Registration deadline: November 21, 2008.

Wednesday, December 10, 2008

Special one-hour sessions in the Nathan and Fannye Shafran Planetarium will address the following astronomy topics:

4 pm: Reach for the Stars (B slate)

5 pm: Astronomy (C slate)

Fee: Special rate for planetarium programs only: \$4.75 per student; \$5.50 per adult. Small groups will be combined with other groups. Call (216) 231-8002 for reservations.



Exploring the World of Science

At the Museum

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Preschool Programs

- Visit nature in the galleries
- Touch real specimens in a classroom
- Enjoy age-appropriate activities
- Make and take home a craft
- Maximum 20 students
- Available 10 am or 1 pm, Tuesdays through Thursdays, September through June

Topics:

Meet Our Dinosaurs — A variety of dinosaurs and what they ate

L: 1, 2, 3, 4; **S&T:** 1, 4; **Sci:** 1, 2, 5, 6, 7; **ScWK:** 1, 2

Backyard Birds — The lives of birds

E&S: 3, 7; **L:** 1, 2, 3, 4, 5; **S&T:** 1, 4; **Sci:** 1, 2, 3, 5, 6, 7; **ScWK:** 1, 2

Space Explorations — The wonders of the universe

E&S: 1, 2, 7; **S&T:** 1, 2, 4; **Sci:** 1, 2, 5, 6; **ScWK:** 1

Wild Ohio Animals — Their habits and habitats

E&S: 3, 4, 5, 7; **L:** 1, 2, 3, 4, 5; **Sci:** 1, 2, 5, 6, 7; **ScWK:** 1, 2

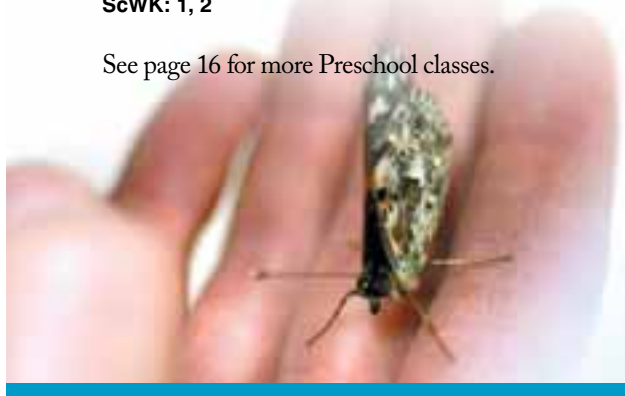
Deep Sea Life — The mysterious life under the sea

E&S: 5; **L:** 1, 2, 3, 4, 5; **S&T:** 1, 4; **Sci:** 1, 2, 5, 6, 7; **ScWK:** 1, 2

Butterflies and Moths (April and May only) — The fascinating life of beautiful insects

E&S: 5, 6, 7; **L:** 1, 2, 3, 4, 5; **S&T:** 1, 4; **Sci:** 1, 2, 3, 5, 6, 7; **ScWK:** 1, 2

See page 16 for more Preschool classes.



Science Standards:

E&S: Earth and Space Sciences;
L: Life Sciences; **Phys:** Physical Sciences;
S&T: Science and Technology;
Sci: Scientific Inquiry;
ScWK: Scientific Ways of Knowing

Social Studies Standards:

Hist: History; **People:** People in Societies;
Geog: Geography; **Sk&M:** Social Studies Skills and Methods

National Health Education Standards: H

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Museum Instructed Programs

Gallery Programs are conducted primarily in the Museum's galleries with demonstration materials, opportunities for critical observation of the real objects and interaction with the Museum instructor.

Hands-on Workshops are conducted primarily in a Museum classroom, with visits to exhibit areas as appropriate. Students will be engaged in observation, manipulation and problem-solving.

Limit 60 students except where noted.

Earth and Space Sciences Academic Content Standards

See also: *Planetarium Programs*

Gallery Program

Rocks and the Making of Soils — for grades 3 & 4 (program length: 90 minutes)

Investigate the properties of rocks, how they are broken down through the actions of plants and weather to form soil, and the properties and characteristics of soils found in different places.

Grade 3: 1, 2, 3, 4, 5, 6

Grade 4: 3, 8, 9; **Phys:** 1, 2

Gallery Program

Earth's Changing Surface — for grades 3-6 (program length: 90 minutes)

Discover the balance produced on the Earth's surface by the slow processes of rock weathering, erosion and deposition and the rapid processes of landslides, volcanic activity and earthquakes.

Grade 3: 3

Grade 4: 3, 8, 9, 10; **Phys:** 1, 2

Gallery Program

Ohio's Geography — for grades 4-7 (program length: 90 minutes)

Discover Ohio's major physical features, mineral and biological resources, and ancient history that shaped what we see today.

Grade 4: 8; **Social Studies: Geog:** 4, 5, 6, 8

Gallery Program

Volcanoes and Earthquakes — for grades 4-7 (program length: 90 minutes; limit: 30 students.)

Trace the activities of volcanoes and earthquakes and their roles in the rock cycle.

Grade 4: 10; **Phys:** 1

Gallery Program

Plate Tectonics: Our Dynamic Planet — for grades 5-9 (program length: 90 minutes; limit: 30 students.)

Explore the internal structure of the Earth, its internal heat budget, and how this relates to the rock cycle and plate motions that create the planet's major geographic features.

Grade 8: 9, 10, 12, 13, 15

Grade 9: 4, 5, 6, 7, 8

Gallery Program*Completely redesigned program!****Rocks and Minerals*** — for grades 3-7

(program length: 90 minutes)

Explore minerals, their identification and usefulness, and the rocks they form. See how rocks are related through the rock cycle.

Grade 3: 1, 2**Grade 6:** 1, 2, 3; **Phys:** 1, 2, 3; **S&T:** 1, 2**Hands-on Workshop*****The World of Rocks*** — for grades 3-6

(program length: 2 hours)

Investigate the formation and characteristics of igneous, metamorphic and sedimentary rocks and identify some common rocks using a key. Discover some common Ohio rocks.

Grade 3: 1, 2, 3; **Sci:** 3, 4, 5, 6**Grade 6:** 1, 2**Hands-on Workshop*****Stars in the Universe*** — for grades 5-9

(program length: 2 hours)

Discover the different types of stars and star clusters and the Sun's position in the Milky Way galaxy. This workshop includes visits to the Ralph Mueller Observatory and Nathan and Fanny Shafran Planetarium.

Grade 5: 4**Grade 8:** 5, 6, 8; **ScWK:** 1**Grade 9:** 1**Life Sciences****Academic Content Standards***See also: Live Animal Programs***Gallery Program*****Who's Home in Ohio Habitats*** — for grades 2 & 3

(program length: 60 minutes)

Explore the great diversity of plant and animal habitats in Ohio and how animals meet their basic needs. Weather permitting, the class will visit outdoor areas to see live plants and animals in representative natural habitats.

Grade 2: 7, 8, 9**Grade 3:** 2, 3, 6**Hands-on Workshop*****Insect Exploration*** — for grades 1-3

(program length: 90 minutes)

Compare human and insect bodies and structures and use models and specimens to investigate life cycles, insect adaptations and more.

Grade 1: 1, 3, 4, 5**Grade 2:** 2, 6, 8; **Sci:** 6, 10**Grade 3:** 1, 2, 3**Gallery Program*****Animals and Their Senses*** — for grades K-2

(program length: 60 minutes)

Explore the five senses and how people and animals use their senses to find food and survive in their world.

Grade K: 5; **Sci:** 4**Grade 1:** 1, 3**Grade 2:** 1, 4, 5, 6**Gallery Program*****The Secret Lives of Dinosaurs*** — for grades K-2

(program length: 60 minutes)

Explore the fascinating world of dinosaurs and discover how this group illustrates a wide variety of body structures that allowed them to fill their basic needs and survive in a world suited to their requirements.

K: 2, 5; **S&T:** 1; **Sci:** 4, 8**Grade 1:** 1, 3, 4; **Social Studies:** **Hist:** 3**Grade 2:** 1, 2, 3, 5, 6**Gallery Program*****Plants and Animals*** — for grades K-2

(program length: 60 minutes)

Compare the basic needs of plants and animals, how organisms find food and survive in different environments.

K: 4, 5, 6; **S&T:** 1; **ScWK:** 3**Grade 1:** 1, 3, 4, 5; **E&S:** 3**Grade 2:** 1, 2, 3, 4, 5, 6, 7**Gallery Program*****Fossils: Clues to the Past*** — for grades 3-5

(program length: 90 minutes)

Determine how organisms of the past resembled living organisms and had similar adaptations that allowed them to survive in similar lifestyles. Explore the fossil evidence that allows us to discover the nature of the environments in times past.

Grade 3: 2, 3, 4, 5**Hands-on Workshop*****The World of Fossils*** — for grades 3-6

(program length: 2 hours)

Explore the many kinds of fossils and how they can be used as clues to past environments.

Grade 3: 2, 3, 4, 5; **Sci:** 5, 6; **ScWK:** 2**Grade 4:** 4; **ScWK:** 1**Grade 5:** 3, 4; **Social Studies:** **Hist:** 1**Gallery Program*****Ecosystems*** — for grades 5-7

(program length: 90 minutes)

Explore a variety of ecosystems to see how organisms survive only in those in which their needs are met. Find out how ecosystems change both physically and biologically, with results to their inhabitants that can be beneficial, neutral or detrimental.

Grade 5: 1, 2, 3, 4, 5, 6; **S&T:** 1, 3**Grade 7:** 3, 4, 5, 6

At the Museum

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Gallery Program

Impact on the Environment — for grades 5-7

(program length: 90 minutes)

Investigate the impact of human activity on environmental change.

Grade 5: 6; **E&S:** 5, 6; **S&T:** 1, 3; **Social Studies: Geog:** 9
Grade 6: 8; **Phys:** 5, 6, 7, 8; **S&T:** 2; **Social Studies: Geog:** 7
Grade 7: 4, 6; **E&S:** 2, 4; **S&T:** 2

Hands-on Workshop

Classification: Empires, Domains and Kingdoms, Oh My!

— for grades 7 & 8

(program length: 2 hours)

How can we organize the diversity of life on Earth? From bacteria to plants and animals, examples will be displayed for perusal, evaluation and discussion. Discover empires, domains, kingdoms and the most important rank, phyla.

Grade 7: 1, 8

Hands-on Workshop

Cell Science — for grades 5-7

(program length: 2 hours)

Using microscopes, microscope slides, models and other resources, students will identify the basic characteristics of plant and animal cells and characterize various tissues. Instruction on the use of microscopes will be included, with no more than three students per microscope.

Grade 6: 1, 2, 3; **Sci:** 2, 3, 4; **ScWK:** 1, 2, 3, 4
Grade 7: 1



Science Standards:

E&S: Earth and Space Sciences;
L: Life Sciences; **Phys:** Physical Sciences;
S&T: Science and Technology;
Sci: Scientific Inquiry;
ScWK: Scientific Ways of Knowing

Social Studies Standards:

Hist: History; **People:** People in Societies;
Geog: Geography; **Sk&M:** Social Studies Skills and Methods

National Health Education Standards: H

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Gallery Program

Prehistoric People — for grades 4-10 (also available via

Distance Learning, see page 12)

(program length: 90 minutes)

Trace the development of modern humans using information from fossil hominids as well as clues from living primates.

Grade 8: 4, 5
Grade 10: 22, 23, 24

Gallery Program

Evolution — for grades 7-11 (also available via Distance

Learning, see page 12)

(program length: 90 minutes)

Investigate the great diversity of vertebrates and how they developed over time.

Grade 8: 3, 4, 5
Grade 10: 20, 21, 22, 23, 24, 25; **ScWK:** 3

NEW! Gallery Program

Humans: A Field Guide — for grades 6-8 and 9-12

(program length: 90 minutes)

Explore some of the adaptations that make us different from other primates and the health effects that plague us. We will discuss bipedalism, food-sharing, language, “race” and the role of genes in our differences and shared inheritance.

Grade 6: L: 7; **Sci:** 3; **Hist:** 3; **People:** 1
Grade 7: L: 8
Grade 8: L: 2, 3, 4; **ScWK:** 2
Grade 6-8: H: 1.8.4, 1.8.5, 1.8.8, 1.8.9
Grade 10: L: 5, 6, 7, 8, 13, 14, 21, 24; **ScWK:** 2, 3, 5, 6
Grade 11: L: 10; **S&T:** 4
Grade 12: L: 5, 6, 7; **S&T:** 3, 4
Grade 9-12: H: 1.12.4, 1.12.5, 1.12.8, 1.12.9, 4.12.1, 7.12.1

Social Studies

Academic Content Standards

See also: *Planetarium Programs*

Gallery Program

American Indians — for grades K-2

(program length: 60 minutes)

Explore various North American Indian groups by looking at their lifestyles, customs and artistic traditions, comparing how they filled their basic needs in a wide variety of environments.

K: **People:** 2
Grade 1: **People:** 1, 2; **Hist:** 5; **Geog:** 7; **Science:** L: 1, 2, 5
Grade 2: **People:** 1, 2, 3; **Science:** L: 1, 2

Gallery Program

American Indians — for grades 3-5

(program length: 90 minutes)

Compare cultural practices and lifestyles of a variety of Native American groups, including food, clothing, shelter and artistic expression.

Grade 5: **People:** 1; **Hist:** 2; **Geog:** 3, 4, 5

NEW! Distance Learning Program*Available beginning January 2009***North America's Early People** — for grades 3-5

(program length: 45 minutes)

Explore the artifacts and lifestyles of the first explorers of North America during the Paleo-Indian and Archaic periods.

Grade 4: Hist: 2, People 1a, Geog: 8**Gallery Program****Ohio's Geography** — for grades 4-7

(program length: 90 minutes)

Discover Ohio's major physical features, mineral and biological resources, and the state's ancient history that shaped what we see today.

Grade 4: Geog: 4, 5, 6, 8; Science: E&S: 8**Gallery Program****Exploring the World's Cultures** — for grades 3-7

(program length: 90 minutes)

Compare a variety of world cultures with an emphasis on traditional lifestyles, the natural environment and cultural products.

Grade 3: People: 2**Grade 6: People: 1; Geog: 5, 7****Gallery Program****Ohio Indians** — for grades 3-5

(program length: 90 minutes)

Discover the 12,000-year history of Indians in Ohio, from the Paleo-Indians to historic tribes, including the various Moundbuilders of the Woodland tradition.

Grade 4: People: 1a & b, 2; Hist: 2; Geog: 8**Hands-on Workshop****Indians of Ohio** — for grades 4 & 5

(program length: 2 hours)

Analyze groups of artifacts to identify and describe the various lifestyles of prehistoric cultures in Ohio. Program will cover the earliest Paleo-Indian groups through the Moundbuilders to the time of European contact.

Grade 4: People: 1a & b, 2; Hist: 2; Geog: 8**Hands-on Workshop****Archaeology: Dig It!** — for grades 3-6

(program length: 2 hours)

- Limit 20 students
- Mid-September through mid-November and April through May

Excavate a simulated archaeology site on Museum grounds after a classroom orientation on proper archaeological methods. Students will learn how to interpret a site based on the artifacts they uncover. Suitable outdoor clothing is essential. Teachers and accompanying adults must assist at the site. Instructions will be mailed with confirmation.

Grade 4: People: 1a; Hist: 2; Sk&M: 4, 6, 8, 10b; Science: Sci: 1; ScWK: 1, 2, 3, 4**Math, Natural Science Focus Academic Content Standards****Hands-on Workshop****Measuring Our World** — for grades 3 & 4

(program length: 2 hours)

Go over the learning outcomes for fourth-grade math proficiency. Natural history artifacts will be used to review the skills of solving problems, analyzing data from tables, charts or graphs, applying measurement and using fractions and decimals in the same way it is done by various natural history scientists.

Grade 3: Number: 3, 8a, 12; Patterns: 7; Measurement: 1a, 5;**Data Analysis and Probability: 1, 3, 4, 5, 6****Grade 4: Number: 3, 8; Data Analysis and Probability: 1, 2, 5****National Health Education Standards**

We offer a variety of programs that address National Health Education Standards. Please see the Health Education section starting on page 15 for details.

Live Animal Programs

- Programs are available Monday through Friday starting at 10 am.
- In addition to these programs, live animals including deer, bobcats, a turkey and river otter may be viewed in the Museum's Ralph Perkins II Wildlife Center & Woods Garden. Open most days, subject to weather and safety considerations.

NOTE: Museum may combine small groups to facilitate scheduling and enable classes to avoid minimum class fees. Groups that have been combined with others and arrive late will be admitted to the remainder of the program already in progress.**Ohio's Neighborhood Wildlife** — for grades K-2

(program length: 60 minutes)

Discover the native animals of Northeast Ohio and what they need in order to survive.

K: L: 5, 6**Grade 1: L: 1, 3, 4, 5****Grade 2: L: 1, 2, 3, 5, 6, 7, 8****Ohio's Native Wildlife** — for grades 3-6

(program length: 90 minutes)

Explore the variety of native animals of Northeast Ohio and their roles in different ecosystems.

Grade 3: L: 2, 3**Grade 5: L: 3, 4, 5**

At the Museum

8

NEW! Distance Learning

Ohio's Native Wildlife — for grades 2-6

(program length: 45 minutes)

Explore a variety of animals and their role in the eastern North American forest ecosystem. Live animals will be used along with video of some of the larger animals in our Perkins Wildlife Center.

Grade 3: L: 2, 3

Grade 5: L: 3, 4, 5

Animal Classification — for grades 3-8

(program length: 90 minutes)

Discover the characteristics of vertebrate animals and how they are classified.

Grade 3: L: 2, 3

Grade 7: L: 1, 8

Ohio Birds of Prey — for grades 4-8

(program length: 90 minutes)

We'll consider the predatory birds of Ohio and their important positions in the food chain and in different ecosystems.

Grade 5: L: 3, 4, 5

Grade 7: L: 1, 2, 8

Planetarium Programs

- Programs are available Monday through Friday starting at 10 am.
- Total planetarium capacity is 87 people, including students, teachers and chaperones.
- All topics include views of the current night sky.
- If time permits, groups of 60 or fewer may also visit the 10½-inch refractor telescope in the wheelchair-accessible Ralph Mueller Observatory.

NOTE: The Museum may combine small groups to reach planetarium capacity and enable classes to avoid minimum class-size fees. Groups that have been combined with others and arrive late will be admitted to the remainder of the program already in progress.

Social Studies

Academic Content Standards

Once Upon a Sky — for grades K-1

Discover stories and folktales from many cultures and how prominent star patterns are viewed.

K: People: 2; Hist: 5; Science: E&S: 1

Grade 1: People: 2

Indian Star Stories — for grades 3-5

Hear sky stories told by various peoples of North America and other continents and learn how they are cultural expressions.

Grade 3: People: 1

Grade 5: People: 1; Science: E&S: 4

Sky Legends of the Ancient World — for grade 7

Travel into the deep past using the time machine of the planetarium. The ancient cultures of India, China, Egypt, Greece, Rome and other countries across the globe told bold legends through the stars.

Grade 7: People: 4

Science Academic Content Standards

Starry, Starry Night — for grades K-2

Trace the paths of the Sun, Moon and stars and see how they move through the sky.

K: E&S: 1

Grade 2: E&S: 1, 2, 3

The Solar System — for grades 3-8

Discover the amazing facts about all of the planets and other exciting objects in our solar system.

Grade 5: E&S: 1, 2, 3, 4

Grade 8: E&S: 1, 2, 3, 4, 8

Reason for the Seasons — for grades 5-8

Trace the seasonal cycle of change as it occurs in Ohio with additional views of the sky from the poles and the equator.

Grade 5: E&S: 1, 2, 3

Grade 8: E&S: 1, 2

Target: Moon — for grades 5-12

Focus on the Moon: its origin, ancient battered surface, tidal effects on Earth and why its shape in the sky appears to change.

Grade 5: E&S: 2

Grade 8: E&S: 1, 2, 3, 4

Grade 9: E&S: 3

Grade 11: E&S: 1, 2

Science Standards:

E&S: Earth and Space Sciences;

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ScWK: Scientific Ways of Knowing

Social Studies Standards:

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Geog: Geography; **Sk&M:** Social Studies Skills and Methods

National Health Education Standards: H

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Stars: *From Beginning to End* — for grades 5-12

Trace the cycle of a star's life from beginning to end and discover red giants, white dwarfs and black holes.

Grade 5: E&S: 1

Grade 8: E&S: 5, 6, 7, 8

Grade 9: E&S: 1

Earth Formation and Structure — for grades 8-12

Follow the formation of our planet from a vast dust cloud, view the early Earth and see how its development resulted in the active planet that exists today.

Grade 8: E&S: 1, 2, 3, 9, 10

Grade 9: E&S: 3, 5

Grade 11: E&S: 1, 2

The Universe — for grades 8-12

Take a time journey from the Big Bang and view the formation of galaxies, stars and planets in great variety.

Grade 8: E&S: 5, 6, 8

Grade 9: E&S: 1, 2

Grade 12: E&S: 1, 2, 3, 4; Phys: 8

NEW! Looking Beyond — for grades 7-12

Since the invention of the telescope in 1609, astronomers have expanded our vision of the universe by building bigger telescopes and observing in a wider range of wavelengths of light. As part of the International Year of Astronomy in 2009 and the telescope's 400th anniversary, we'll highlight these scientific instruments, the discoveries they've made possible, and the incredible telescopes being planned for the future.

Grade 7: Phys: 3

Grade 8: E&S: 8; S&T: 1, 2

Grade 9: E&S: 1, 2; Phys: 14, 17, 18, 19; S&T: 3; ScWK: 1

Grade 12: E&S: 1, 2, 3, 4; Phys: 3, 8; S&T: 1, 2, 3;

ScWK: 1, 3, 5, 8, 10

Astronomy vs. Astrology — for grades 7-12

Look closely at the pseudoscience of astrology and discover why it just doesn't work.

Grade 7: Sci: 3, 5, 6; ScWK: 1, 2, 3

Grade 8: E&S: 1; ScWK: 1, 2

Grade 9: E&S: 3; Sci: 1, 6; ScWK: 4, 5, 6

Grade 10: Sci: 4; ScWK: 3

Grade 11: Sci: 1, 2; ScWK: 2, 3, 5, 7

Grade 12: Sci: 1; ScWK: 2

Is Anybody Out There? — for grades 7-12

We'll consider UFOs, the conditions necessary for life to exist, and the search for extraterrestrial intelligence.

Grade 7: L: 8; Sci: 3, 5, 6; ScWK: 1, 3

Grade 8: E&S: 6; ScWK: 1, 2

Grade 9: Sci: 1, 6; ScWK: 2, 4

Grade 10: L: 1, 2, 6; Sci: 4; ScWK: 2

Grade 11: Sci: 1, 2; ScWK: 2, 3, 4, 5, 7

Grade 12: E&S: 3; Sci: 1; ScWK: 2

More Reasons to Visit

Self-Guided Visits

Self-guided times:

- Mondays, 9 am to 5 pm
- Tuesdays through Thursdays, 11:30 am to 1 pm only
- Fridays, 11:30 am to 5 pm

Please adhere to stated self-guided hours. Classes arriving before 11:30 am Tuesday through Friday or staying past 1 pm Tuesday through Thursday will not be permitted in galleries where instructed classes are in progress.

- Please bring one adult for every 10 students.

Museum Treasure Hunt

FREE with your program or self-guided visit!**Grades 3 to 5, 6 to 8 and 9 to 12**

- Please request worksheet masters when you make your reservation.

A general tour of the galleries will turn up hundreds of fascinating objects. But which are the truly unique treasures of the Museum? To make your self-guided visit (or the self-guided time after your instructed visit) an even more effective learning time, request a copy of our Museum Treasure Hunt. Our general worksheets guide your active students in a search to explore, analyze and investigate the Museum's outstanding treasures.

Smead Discovery Center

FREE with your program or self-guided visit!

Hours: Monday, Tuesday, Thursday through Saturday, 10 am to 4:30 pm; Wednesday, 10 am to 8 pm; Sunday, 1 to 4:30 pm. No reservations required. Free with Museum admission.

Bring your students and a sense of wonder and explore our hands-on learning center on the Museum's lower level. We have concrete activities for tots and "brain buster" puzzles for older students who need a challenge. Staff is always on hand to answer your questions and enhance your experience, but you can explore at your own pace. Our activities complement the Museum's traveling and permanent exhibits and are suitable for all ages. Please supervise students at all times.

- Touch more than 60 hands-on fossils, minerals, rocks, shells, animal skins and cultural items.
- Observe live animals, such as amphibians, insects and arachnids.
- View blood cells, insect wings and more through user-friendly microscopes.
- Play a Bird Song Piano.
- Explore day, night and the seasons with our rotating Blue Planet Globe.

At the Museum



Readers Theater: Balto, The Hero Dog

Friday, March 6, 2009, 10:30 am

In Murch Auditorium

- Integrated learning: drama, national and local history, science, health
- 45-minute program
- Fee: \$4.75 per student

Your students will love this live theater presentation of the story of the heroic 1925 effort to save Nome, Alaska, from a deadly diphtheria epidemic. Balto was the lead dog of the final team that delivered life-saving serum to the city on February 2, 1925. Banner headlines in newspapers around the world followed the desperate race across the wilderness, and Balto became the hero of the hour. Today, the Iditarod Sled Dog Race is run, in part, to commemorate this courageous act. (The 37th-annual Iditarod starts March 7.)

And what does this have to do with Cleveland? After a triumphant tour of North America, Balto and his team were eventually forgotten and sold to a vaudeville show owner in California, who mistreated them. They were discovered by a Clevelander who rallied the city to come to their aid and rescue them. Balto and the team lived out the rest of their lives well cared for and much loved here in Cleveland.

Time will be allotted at the end of the program for questions from the audience.

Featured Exhibition



Are We So Different?

In Kahn Hall:

September 27, 2008, through January 4, 2009

It's a simple truth — people are different. Throughout history, those differences have been sources of community strength and personal identity. They have also been the basis for discrimination and oppression. And while those differences are socially and culturally real, contemporary science tells a different story. Developed by the American Anthropological Association in collaboration with the Science Museum of Minnesota, *RACE: Are We So Different?* brings together the everyday experience of living with race, its history as an idea, the role of science in that history, and new scientific findings that are challenging its foundations. Visitors of all ages and backgrounds will be inspired to discover, discuss and reflect on these topics.

National Presenting Sponsor: Best Buy Children's Foundation; Local Presenting Sponsor: Dominion Foundation; Local Supporting Sponsor: Forest City Enterprises Charitable Foundation, Inc; Local Participating Sponsors: American Greetings Corporation, Eaton Foundation, The Nord Family Foundation, Nordson Corporation Foundation, Saint Luke's Foundation of Cleveland, Ohio; Local Fellow Sponsor: Ford Motor Company; Local Contributing Sponsor: United Black Fund of Greater Cleveland, Inc.; Promotional Sponsors: Cleveland Magazine, Call& Post, Cool Cleveland, ideastream WCPN/WVIZ, Northern Ohio Live, The Wave WNWV.

Special school program

RACE: Are We So Different? — for grades 6-8 and 9-12 (program length: 90 minutes)

Our school program for this important exhibition will involve your students in an exploration of their own ideas and those of others. Viewing a short video clip of an unfamiliar culture may shake their notions of how to interpret what they see and thought they knew. Teams of students will also explore the three major themes in the exhibition: the history of the concept of race, the objective scientific analysis of human variation, and the effects of the concept on real people. Students will then have a chance to share their findings and engage each other in real dialog under the guidance of a facilitator.

Benchmarks:

Grade 6-8: Science: L-B; Sci-B, ScWK-B

Social Studies: Hist-D; People-B, C; Geog-D

Grade 9-10: Science: Life-C, E, H, J; ScWK-A, B, C

Social Studies: Hist-F; People-A, B

Grade 11-12: Science: L-C, D, E; S&T-A; ScWK-B, C

Social Studies: People-A, B, C; Citz-A

Funds for *RACE*-related school programming are available from the Saint Luke's Foundation of Cleveland, Ohio and the Nordson Corporation Foundation. Call for details.

Science Standards:

E&S: Earth and Space Sciences;
L: Life Sciences; **Phys:** Physical Sciences;
S&T: Science and Technology;
Sci: Scientific Inquiry;
ScWK: Scientific Ways of Knowing

Social Studies Standards:

Hist: History; **People:** People in Societies;
Geog: Geography; **Sk&M:** Social Studies Skills and Methods

National Health Education Standards: H

For reservations, call

(216) 231-8002

At Local Natural Areas

Mentor Marsh Field Trip

- Mentor Marsh is the largest coastal wetland in Northeast Ohio. Part of it is a designated state nature preserve co-owned by the Museum.
- Classes meet at The Carol H. Sweet Nature Center, located at 5185 Corduroy Road in Mentor.
- Half-day group activities include a slide program and guided nature walk on one of the trails.
- For kindergarteners through grade 12
- Available April through October
- Programs can be tailored to meet the needs of your group (e.g., Scout merit badges)
- Limit 30 students per class
- One adult chaperone is requested for every 10 students.

Topics

Introduction to Mentor Marsh — for grades 2-5

For school groups. Focus depends on grade level.

Grades 2-3: Focus is on Native Ohio plants and animals and adaptations

Grades 4-5: Focus is on food chains and food webs

Data Collection — for grades K-12

These classes focus on collecting field data. After a short introduction, the classes divide into groups and, using data sheets and field equipment, collect scientific data in the nature preserve.

Choose from the following:

Invertebrates and Amphibians: Early spring surveys of the aquatic invertebrates in the ponds, and possibly looking at salamander egg masses, estimating the number in each mass and looking at egg viability

Deer and Wildflowers: Spring surveys using quadrats to look at the wildflowers present inside and outside deer enclosure fences to document the effect of deer browsing on wildflower populations

K: E&S: 2; L: 5, 6; Scl: 4, 7; ScWK: 3

Grade 1: E&S: 3; L: 1, 3, 4; Scl: 6

Grade 2: L: 1, 2, 3, 5, 6, 7, 8, 9; Scl: 5, 7, 8, 9

Grade 3: E&S: 5; L: 1, 2, 3, 6; Scl: 2, 5

Grade 4: L: 1, 2, 5; ScWK: 2, 4

Grade 5: L: 1, 2, 3, 4, 6; ScWK: 5

Grade 6: L: 8; ScWK: 2

Grade 7: L: 2

Grade 9: Phys: 10

Grade 11: E&S: 12; L: 6, 9

Reservations and Fees

To schedule a program, contact the Carol H. Sweet Mentor Marsh Nature Center: (440) 257-0777.

- Fee for first class is \$90; schedule two or more classes and each additional class is \$75



At Your School

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Distance Learning

Connect your students to Museum programs without leaving your school through Distance Learning. Our live, interactive videoconferencing programs are available on-demand to fit your schedule and curriculum needs.

Videoconferencing equipment is required for Distance Learning programs. We can connect directly via IP; ISDN and ATM require a bridge. For details, visit www.cmnh.org/site/DL.aspx or contact us at cmnhDL@cmnh.org.

Museum programs available via Distance Learning:

- Most health topics (see pages 15 through 19 for details)
- More natural history topics (see pages 4 through 8 for details)

Science-to-Go!™

- One-hour hands-on science lessons
- Museum right in your classroom
- Based on PreK-8 Ohio Academic Content Standards
- Actual Museum specimens, real instruments, models and simulations
- K-8 students use and keep data-recording booklet.
- Preschool students receive a take-home paper.

Topics

Wildlife in the City — for Preschool

Get wild with local wildlife using dioramas, interactive games and songs.

E&S: 3; L: 3, 5; Phys: 3; ScI: 1, 2, 5, 6, 7; ScWK: 1, 2

Digging for Dinos — for Preschool

Pretend to be paleontologists and dig up casts of dinosaur fossils, match skeletons with models, compare different types of dinosaur teeth and touch a real dinosaur fossil.

L: 2, 5; Phys: 3; S&T 1, 3, 4; ScI: 1, 2, 5, 6, 7; ScWK: 1, 2

Is It Alive? — for Preschool-grade 1

Investigate the differences between living and nonliving things by exploring the characteristics of living organisms, their basic needs and adaptations.

L: 1, 2, 3, 5; Phys: 2, 3; ScI: 1, 2, 5, 6, 7; ScWK: 1, 2

Grade K: L: 1, 2, 4, 5; Phys: 2; ScI: 4, 5, 6, 9

Grade 1: E&S 1; L: 1; ScI: 4, 8

States of Matter — for grades K-3

(also available via Distance Learning in 2009)

Students will explore the physical states of matter, solid, liquid and gas, and gain a better understanding of the properties of each state through hands-on activities and demonstrations.

Grade K: ScI: 1, 3, 4, 5, 7; ScWK: 1

Grade 1: Phys: 2, 3; ScI: 1, 3, 4, 5, 6, 8

Grade 2: ScI: 2, 4, 5, 6, 7, 9, 10; ScWK: 4

Grade 3: ScI: 4, 5, 6; ScWK: 2

Adaptations of Ohio Animals — for grades K-3

Explore how Ohio's animals are adapted to living in their habitats using real animal skulls and skins.

Grade K: L: 5, 6; ScI: 4; ScWK: 1, 3

Grade 1: E&S: 3; L: 1, 3, 4, 5; ScI: 8

Grade 2: L: 1, 2, 3, 5, 6, 7, 8; ScI: 2, 10; ScWK: 4

Grade 3: L: 2, 3, 6; ScI: 5, 6; ScWK: 2

Science Standards:

E&S: Earth and Space Sciences;
L: Life Sciences; **Phys:** Physical Sciences;
S&T: Science and Technology;
ScI: Scientific Inquiry;
ScWK: Scientific Ways of Knowing

Social Studies Standards:

Hist: History; **People:** People in Societies;
Geog: Geography; **Sk&M:** Social Studies Skills and Methods

National Health Education Standards: H

For reservations, call

(216) 231-8002

Water — for grades K-6

Students will get their hands wet as they learn about the water cycle, states of matter, and properties of water: magnification, refraction, reflection, cohesion, density and buoyancy.

Grade K: Scl: 1, 3, 4, 5, 7; ScWK: 1

Grade 1: Phys: 2, 3; Scl: 1, 3, 4, 5, 6, 8

Grade 2: Scl: 2, 4, 5, 6, 7, 9, 10; ScWK: 4

Grade 3: Scl: 4, 5, 6; ScWK: 2

Grade 4: E&S: 2, 3; Scl: 4; ScWK: 2

Grade 5: Phys: 5; Scl: 1, 3

Grade 6: Phys: 4; Scl: 3

Can't Stop Classifying — for grades 3-6

Students will sharpen their skills by sorting, grouping and classifying objects. Students will analyze important shared and unique characteristics of objects.

Grade 3: L: 3; Scl: 4, 5, 6; ScWK: 2

Grade 4: L: 3

Grade 6: E&S: 2, 3; Scl: 3

Forces & Motion — for grades 3-5 (also available via Distance Learning in 2009)

Explore Newton's laws of motion and investigate the meaning of velocity, friction, inertia, gravity and much more.

Grade 3: Phys: 3, 4; Scl: 1, 2, 4, 5, 6; ScWK: 2

Grade 4: Scl: 1, 3, 4; ScWK: 2, 3, 4

Grade 5: Scl: 1, 2, 3, 4, 6

Simple Machines — for grades 3-6

Students will experiment with simple machines, investigate how they work and explore how they help us accomplish simple and complex tasks.

Grade 3: S&T: 1, 4; Scl: 1, 4, 5, 6; ScWK: 2

Grade 4: Scl: 1, 4; ScWK: 2

Grade 5: Scl: 1, 3

Grade 6: Scl: 2, 3

Food Chains, Habitats and Us — for grades 4-6 (also available via Distance Learning in 2009)

Explore how energy travels through the food chain and how human activity, such as pesticide use, can impact habitats. Students make land-use decisions for a fictional community surrounding Mentor Marsh.

Grade 4: L: 5

Grade 5: L: 1, 2, 3, 4, 5, 6; S&T: 1

Grade 6: L: 8

Archaeology: Dig into the Past — for grades 4-6

Analyze real and replica artifacts found at a mock archaeological site and learn about prehistoric Ohio people. Use modern archaeological techniques to collect and analyze data from this site.

Grade 4: Hist: 2; People: 1; Sk&M: 4, 5, 6, 10; Scl: 1;

ScWK: 1, 2, 3, 4

Grade 5: Hist: 2; Sk&M: 6, 9; Scl: 1, 3; ScWK: 1, 5

Grade 6: Hist: 3; Geog: 5; Sk&M: 6, 7; Scl: 1, 2, 3; ScWK: 2

Weather — for grades 4-7

Your classroom will be a flurry of activity while students study the reasons for seasons, read and interpret weather maps, and investigate simple weather instruments.

Grade 4: E&S: 1, 2, 3, 4, 5, 6; Phys: 4; Scl: 1, 2, 4; ScWK: 2

Grade 7: E&S: 3, 4, 5, 8; Scl: 4, 5, 7

Measuring Animal Adaptations — for grades 7-8

In this introduction to biometrics, students use calipers and create charts to compare and contrast the morphology of the skulls, teeth, feet and fur of four different animal species. From this data, they will deduce important lifestyle information about these animals.

Grade 7: L: 1, 8; Scl: 5, 6

Grade 8: L: 3, 4, 5; Scl: 3; ScWK: 1, 2

NEW! Big Science Assembly — for grades 4-6

Get your students excited about science inquiry and the scientific method by manipulating the properties of air. Big demonstrations, from hot air balloons to Bernoulli's toilet paper effect, will keep your kids engaged.

Grade 4: E&S: 1; Phys: 1, 4, 5; Scl: 2, 3; ScWK: 2, 3, 4, 5

Grade 5: Phys: 1; Scl: 1, 2, 3; ScWK: 2, 3, 4, 5, 6

Grade 6: Phys: 3, 4; ScWK: 1, 2, 4

Health on Wheels

Health on Wheels is the Museum's outreach program dedicated to health education. Please see the Health Education section (starting on page 15) for details on program topics and reservations.

At Your School

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Live Animal Assembly

- Dynamic, informative and entertaining programs featuring live native Ohio animals from the Museum's Wildlife Resource Center
- One-hour programs are available Thursday mornings, September through April.
- For grades K and up; designed to dovetail with school curricular needs
- Programs can be tailored to emphasize animal senses, classification, camouflage, communication, habitat or the food chain.
- Opportunities are offered for questions and interaction with the presenter.

Choose from:

Neighborhood Wildlife/Native Wildlife

Native Ohio wild animals

K: L: 5, 6.

Grade 1: L: 1, 3, 4, 5

Grade 2: L: 1, 2, 3, 5, 6, 7, 8

Grade 3: L: 2, 3

Grade 5: L: 3, 4, 5

Ohio Birds of Prey

Adaptations and kinds of predatory birds

K: L: 5

Grade 1: L: 3, 4

Grade 2: L: 5, 6

Grade 3: L: 2, 3

Grade 5: L: 3, 4, 5

Grade 7: L: 1, 2, 8

The Falcons and the Tower

(For grades 3 and up only)

Combines slides and live animals to highlight Cleveland's downtown falcons

Grade 3: L: 2, 3

Grade 5: L: 3, 4, 5

Grade 7: L: 1, 2, 8

Reservations and Fees

**To schedule a live-animal assembly:
Call (216) 231-8002.**

- \$350 for schools within 30 miles of the Museum
- \$400 for schools within 31 to 60 miles of the Museum

Attention! Cleveland Metropolitan School District Teachers and Administrators

Wild About the City is a program that brings the Museum's Live Animal Assembly programs to your school at no charge, courtesy of the Kenneth Scott Charitable Trust, a KeyBank Trust. Contact Harvey Webster for details or to arrange a program: (216) 231-4600, ext. 3290, or hwebster@cmnh.org.

Science Standards:

E&S: Earth and Space Sciences;
L: Life Sciences; **Phys:** Physical Sciences;
S&T: Science and Technology;
Sci: Scientific Inquiry;
ScWK: Scientific Ways of Knowing

Social Studies Standards:

Hist: History; **People:** People in Societies;
Geog: Geography; **Sk&M:** Social Studies Skills and Methods

National Health Education Standards: H

**For reservations, call
(216) 231-8002**

Health Education

Health Education at The Cleveland Museum of Natural History provides fun, inquiry-based learning programs on health and life science topics. All programs match national and state educational standards. Programs are available for groups of various sizes and are held at the Museum or at your school through Health on Wheels or via Distance Learning.

Assembly Programs

- Available at the Museum or via Health on Wheels
- Up to 300 students; 40 minutes long
- At the Museum: \$4.75 per student
- Health on Wheels: \$200 per program

The Human Show — for grades 4-8

Aliens have abducted the audience in order to learn more about the human species, and the findings they share are pretty disgusting. They reveal amazing and often gross facts about human anatomy and the billions of microorganisms that call the human body home. Don't worry, all audience members are eventually returned to their home planet, safe and sound... mostly.

Grade 4: L: 5; Scl: 6

Grade 5: L: 4

Grade 6: L: 1, 2, 8

Grade 7: L: 2

Grades 3-5: H: 1.5.1, 1.5.3

Grades 6-8: H: 1.8.1, 1.8.3

What's NOT in a Cigarette? — for grades 4-12

Cigarette companies have published the list of potential ingredients in cigarettes, but what does it mean? With your program host, get the truth about what's inside tobacco products as we deconstruct the list using large props and special smoke effects. Find out what really goes into cigarettes and why these products are the most addictive drugs available. Take a look at tobacco ads and find out the missing truth. You'll discover that when you buy a pack of butts, you get a lot more than you bargained for.

Grades 3-5: H: 1.5.1, 2.5.3, 2.5.5, 7.5.2, 8.5.1

Grades 6-8: H: 1.8.1, 1.8.7, 2.8.2, 2.8.5, 2.8.10, 5.8.5, 5.8.7, 8.8.4

Grades 9-12: H: 1.12.5, 1.12.7, 2.12.5, 2.12.10, 5.12.5

Thinking Before Drinking — for grades 7-9

This interactive game show gets your students into the action as it illustrates how alcohol and other drugs affect the body. With fast-paced "Lightning Rounds" and physical (messy!) "Catch-Up Challenges," students discover immediate and long-term consequences of alcohol use. Who knew that drug awareness education could be so fun? Note: For Health on Wheels, this program requires your school to provide two 6-foot tables.

Grades 6-8: H: 1.8.1, 1.8.7, 1.8.8, 1.8.9, 2.8.7, 5.8.7

Grades 9-12: H: 1.12.5, 1.12.8, 1.12.9, 2.12.7, 5.12.7

Large Group Programs

- Available at the Museum or as Health on Wheels
- For 50 to 100 students; two hours long
- At the Museum: \$4.75 per student
- Health on Wheels: \$400 per program

You Are Special — for grades 1-3

Using fun demonstrations and mechanical metaphors, we will learn how the parts of your body have special jobs to do. Activate your body's sensors at hands-on stations focused on each of your five senses. Learn "What To Do?" when faced with bullies or others who may hurt you, and remember the rules for keeping your body safe.

Note: This program requires five adult volunteers from your school to help run activities. For Health on Wheels, please provide a TV/VCR and a large open space with ground floor or elevator access.

Grade 1: L: 1, 3; Scl: 1, 2, 4

Grade 2: L: 1

Grades PreK-2: H: 1.2.1, 1.2.3, 4.2.3, 4.2.4, 7.2.1

Grades 3-5: H: 1.5.1, 4.5.2, 4.5.3, 4.5.4, 7.5.2

Growing Up and Liking It (with Q&A) — for grades 4-6

This two-part lesson helps you understand the changes that occur in the body during adolescence. First, engage in an interactive presentation with a male and female health educator on chemical and physical changes that occur in the human body during puberty. With the aid of fun demonstrations, large-format images, models and specimens, you will discuss human reproductive anatomy, menstruation, nocturnal emissions and other issues. In Part 2, boys and girls will separate for 30- to 40-minute sessions to get answers to specific questions related to puberty and human reproduction.

Note: For Health on Wheels, this program requires a large room for Part 1, then two rooms for Q&A sessions. Also available as a one-hour classroom program without separate Q&A sessions.

Grade 6: L: 4, 5, 6, 7; Scl: 3, 4

Grades 3-5: H: 2.5.2, 4.5.4

Grades 6-8: H: 2.8.2, 2.8.7, 4.8.4



Health Education

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Parent Program for “Growing Up and Liking It”

Inform your students’ parents of the content and format of “Growing Up and Liking It” by inviting one of our health educators to speak with them.

- Length: 1 hour
- Price: \$75

Fitness Fun — for grades K-5

Kick off your school wellness policy with a day of fun and healthy activities. The assembly “Food Pyramid Frenzy” starts things off with an educational, entertaining quiz show on the food pyramid. Then, each classroom of students rotates through 10 hands-on stations that emphasize healthy behaviors. Students can practice washing hands, assemble food pyramids, run through an obstacle course, put together a human body model, select healthy food based on sugar and fat content, test their heart and lung function, measure their body’s water content, and more. **Note:** Available as Health on Wheels only. This program requires 10 adult assistants from your school to help run activities, a large open space with ground floor or elevator access, and eight tables with chairs for stations.

- Cost: \$825 per day
- Up to 300 students per day

K: Sci: 1, 2, 4

Grade 1: L: 1, 2; Sci: 1, 2, 4

Grade 2: L: 1

Grade 3: Sci: 1, 2, 3

Grade 4: Sci: 1

Grade 5: L: 2; Sci: 1, 2

Grades PreK-2: H: 1.2.1, 7.2.1

Grades 3-5: H: 1.5.1, 5.5.5, 5.5.6, 7.5.2



Science Standards:

E&S: Earth and Space Sciences;
L: Life Sciences; **Phys:** Physical Sciences;
S&T: Science and Technology;
Sci: Scientific Inquiry;
ScWK: Scientific Ways of Knowing

Social Studies Standards:

Hist: History; **People:** People in Societies;
Geog: Geography; **Sk&M:** Social Studies Skills and Methods

National Health Education Standards: H

For reservations, call

(216) 231-8002

Preschool Programs

- Available at the Museum or via Health on Wheels
- Make-and-take craft
- One-hour program
- Up to 20 students per class

All About a Healthy Me!

Learn the importance of nutrition, hygiene and exercise.

Grades PreK-2: H: 1.2.1, 1.2.3, 4.2.2, 7.2.1, 7.2.2

Your Five Senses

Discover the five senses and how they keep you safe.

Grades PreK-2: H: 1.2.1, 4.2.2

Those Nasty Germs

Investigate germs and learn good hand-washing techniques.

Grades PreK-2: H: 1.2.1, 1.2.3, 4.2.2, 7.2.1, 7.2.2

Go Picnic!

Discover how to prepare a picnic with healthy foods.

Grades PreK-2: H: 1.2.1, 2.2.1, 4.2.1, 7.2.1

See page 4 for more Preschool classes.

Classroom Programs

- Available at the Museum or via Health on Wheels or Distance Learning (for details on our Distance Learning policies and procedures and tips for making your Distance Learning experience a success, please visit www.cmnh.org/site/DL.aspx)
- Up to 30 students; 40 to 50 minutes long

Just Senseless — for grades K-2

Let’s find out what the five senses do by imagining life without them. Using hands-on props and demonstrations, we explore how life would be different if one or more of our senses were disabled. We also discuss how senses help to keep our bodies safe. **Note:** For Distance Learning classes, a props kit will be sent to your school two weeks before the scheduled program with a prepaid UPS return label.

K: Sci: 1, 2, 4

Grade 1: L: 1, 3; Sci: 9

Grade 2: L: 1; Sci: 2, 3

Grades PreK-2: H: 1.2.1, 4.2.2

Keep on Smiling — for grades K-2

Learn the basics of dental health by reviewing the structure, function and proper care of your teeth. Discuss what a cavity is and what causes tooth decay. Learn how to prevent dental diseases through proper flossing, brushing and visits to the dentist.

Grade 1: L: 3

Grade 2: Sci: 1

Grades PreK-2: H: 1.2.1, 1.2.5, 3.2.1, 6.2.1, 7.2.1

What's Inside Stuffee? — for grades K-2

In this larger-than-life anatomical experience, we turn our big-hearted friend Stuffee inside-out to look at his chest and abdominal organs. Learn about the cardiovascular, respiratory and digestive systems. Put him back together to see how his systems are connected, and find out what you can do to keep your own organs in top shape! **Note:** For Health On Wheels, this program requires room with a ground level entrance and/or elevator access. This program is not currently available through Distance Learning.

K: L: 1, 2; Scl: 1, 2, 4, 10

Grade 1: L: 1, 3; Scl: 1, 2, 9

Grade 2: L: 1, 5; Scl: 2, 3

Grades PreK-2: H: 1.2.1, 2.2.1, 7.2.1

Getting Along — for grades 1-3

It's time to cooperate. Explore how sharing and teamwork are keys to resolving conflict through activities, such as role-play and the kindness banner, that demonstrate the importance of cooperation and thinking before you act. **Note:** This program is not currently available through Distance Learning.

Grade 1: L: 1; Scl: 1, 2, 4

Grade 2: L: 4; Scl: 1, 2, 3

Grades PreK-2: H: 2.2.2, 2.2.3, 4.2.1, 4.2.2, 4.2.3, 4.2.4

Grades 3-5: H: 2.5.5, 4.5.1, 4.5.2, 4.5.3, 4.5.4

Hidden Kingdoms — for grades 1-3

Get an up-close look at bacteria and viruses and learn how the human body protects itself from these tiny invaders. Peer through scopes to view microscopic images of germs and record observations. Set up an experiment using UV lights and Glo-Germ powder to test different hand-washing techniques. **Note:** This program is not currently available through Distance Learning.

Grade 1: L: 1; Scl: 6, 8, 9

Grade 2: L: 2; Scl: 1, 5, 6, 7

Grades PreK-2: H: 1.2.1, 1.2.3

Grades 3-5: H: 1.5.3

I Don't Do Drugs — for grades 1-6

Expand your knowledge of the physical, mental and emotional effects of chemical substances on your body. Learn how your heart and lungs work and how to keep them healthy by avoiding smoking, alcohol and drugs. Discuss the skills that help you decide not to use drugs. Work together with your classmates to write a story that reflects your attitudes toward drugs and share it at the end of the program.

Grade 6: Scl: 1, 3, 4

Grades PreK-2: H: 1.2.1, 2.2.3, 5.2.1

Grades 3-5: H: 1.5.1, 2.5.3, 2.5.5, 4.5.2, 5.5.1, 7.5.1

Grades 6-8: H: 1.8.7, 2.8.5, 2.8.3, 4.8.2, 5.8.2

You Are What You Eat — for grades 1-3 and 4-6

Compare the original Food Guide Pyramid and the new MyPyramid version of this personal nutrition tool. Learn about food groups and identify the nutrients each provides. Create healthy meals based on the MyPyramid colors and find out how much food you need to fuel your body. Grades 4-6 program includes how to identify and interpret information on nutrition labels.

Grade 1: L: 1, 2; Scl: 1, 2

Grade 2: L: 1, 5; Scl: 1, 5, 6, 7

Grade 5: L: 2

Grade 6: Scl: 1, 3, 6

Grades PreK-2: H: 7.2.1

Grades 3-5: H: 3.5.1, 5.5.3, 5.5.5, 7.5.2

Grades 6-8: H: 2.8.10, 3.8.1, 5.8.4, 5.8.6, 7.8.2

Bodyworks — for grades 4-6

Explore concepts in human structure and function, from cells to organs to organ systems. Uncover the basic levels of organization and the locations, structures and functions of major organ systems. View actual human specimens and anatomical models to learn how organ systems work together to support human life and how your behavior influences your body's health.

Grade 6: L: 1, 2

Grades 3-5: H: 1.5.1

Grades 6-8: H: 1.8.1

Bug Off Bugs! — for grades 3-6

Ticks and mosquitoes and fleas — oh my! Explore the intricate relationships among microbes, insects, animals, humans and their habitats. Learn about life cycles of insects and how bugs contribute to the spread of diseases, such as Lyme disease and West Nile virus. Discover ways to protect yourself outdoors from the tiny creatures that consider you lunch!

Grade 3: L: 1, 2, 6

Grade 6: L: 8; Scl: 1, 3, 4

Grades 3-5: H: 1.5.3, 1.5.4, 2.5.4, 7.5.1

Grades 6-8: H: 1.8.3, 1.8.6, 1.8.8, 2.8.4, 2.8.10

Inner Factory — for grades 4-6

All living things are made of cells. In this program, compare different kinds of cells, such as eukaryotes vs. prokaryotes and plant vs. animal cells. Use a factory analogy to discover structures and functions of cell parts while creating your own cell model. **Note:** Distance learning program requires either a paper plate or a piece of construction paper for each student to use as a "cell membrane."

Grade 6: L: 1, 2, 3

Health Education

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Body Blueprints — for grades 5-8

Investigate the basics of DNA and discover how the genes you inherited from your parents determine much of who you are. Look at a model of a double-helix to see how genetic information is organized. Experiment with some of your body's own inherited traits and find out which students in the classroom have dominant or recessive traits.

Grade 6: L: 4, 5, 6, 7

Grade 8: L: 1, 2

Grades 6-8: H: 1.8.4

Growing Up and Liking It — for grades 4-6

Learn why bodies change and what to expect on the road to young adulthood through this presentation. Engage in an interactive discussion with a health educator on the chemical and physical changes that occur in the human body during puberty. With the aid of fun demonstrations, large-format images, models and specimens, you will discuss human reproductive anatomy, menstruation, nocturnal emissions and other issues.

Grade 6: L: 4, 5, 6, 7; Scl: 3, 4

Grades 3-5: H: 2.5.2, 4.5.4

Grades 6-8: H: 2.8.2, 2.8.7, 4.8.4

Wonder of New Life — for grades 4-8

Journey inside the uterus and see how pregnancy begins, then follow the development of the embryo through the fetal stage. Discuss physical changes in the mother's body as she goes through her pregnancy and how the processes of sexual reproduction, menstruation and breastfeeding are natural, healthy aspects of human life. Learn about the process of labor and delivery and view a video of an actual birth.

Grade 6: L: 4, 6, 7

Grade 8: L: 2

Grades 3-5: H: 1.5.4

Grades 6-8: H: 1.8.6, 1.8.8

Girls 2 Women — for grades 6-9

Girls only please! Discuss issues of women's health with a female health educator. Topics include human reproductive anatomy, PMS, menstruation, pad and tampon use, breast self-exam, personal hygiene, toxic shock syndrome and other female health issues.

Grade 6: L: 6, 7; Scl: 3, 4

Grade 7: Scl: 6

Grades 6-8: H: 1.8.1, 1.8.5, 1.8.7, 1.8.8, 3.8.1, 7.8.2

Grades 9-12: H: 1.12.1, 1.12.7, 1.12.8, 3.12.1

Locker Room — for grades 6-9

Get straight talk on men's health for boys led by a male health educator. Topics include male reproductive anatomy, testicular self-exam, prostate health, personal hygiene, stress and anger management, and other male health issues.

Grade 6: L: 6, 7; Scl: 3, 4

Grade 7: Scl: 6

Grades 6-8: H: 1.8.1, 1.8.5, 1.8.7, 1.8.8, 3.8.1, 4.8.3, 7.8.2

Grades 9-12: H: 1.12.1, 1.12.7, 1.12.8, 3.12.1, 4.12.3

Baby, Let Me Tell You About That Baby — for grades 7-12

Get the real story as we discuss the lifelong financial, physical, emotional and psychological outcomes of teen pregnancy for both young men and women. Learn about the increased health risks to teen mothers and their children and possible complications of pregnancy.

Grade 7: L: 4

Grade 11: L: 3, 4

Grades 6-8: H: 1.8.1, 1.8.5, 1.8.7, 2.8.3, 2.8.7, 2.8.9, 3.8.4, 3.8.5

Grades 9-12: H: 1.12.1, 1.12.7, 2.12.7, 2.12.9, 3.12.4, 3.12.5

Steady Storms — for grades 7-12

Discuss aspects of healthy and unhealthy relationships. Recognize the warning signs of potentially volatile situations and the different types of abusive behaviors. Learn to make positive choices about dating and friendships. Increase your awareness and decrease your tolerance of relationship violence and abuse.

Grades 6-8: H: 1.8.1, 1.8.7, 2.8.2, 2.8.3, 2.8.7, 3.8.2, 4.8.2, 5.8.6

Grades 9-12: H: 1.12.2, 1.12.7, 2.12.2, 2.12.3, 2.12.7, 3.12.2, 4.12.2, 5.12.6

Caught in the Web — for grades 7-12

View clinical images of common sexually transmitted diseases and discuss their symptoms and methods of transmission. Explore how the web of person-to-person contacts can quickly spread an infectious disease within a community and put all sexually active people at risk. Learn the common treatments for these diseases and methods used to lower the risk of becoming infected.

Grade 7: L: 2

Grade 10: L: 1

Grade 11: L: 1, 3

Grade 12: L: 1

Grades 6-8: H: 1.8.1, 1.8.7, 1.8.9, 3.8.2, 3.8.4, 4.8.2, 4.8.4, 5.8.2, 5.8.6, 7.8.1

Grades 9-12: H: 1.12.5, 1.12.7, 3.12.2, 4.12.1, 4.12.2, 5.12.2, 5.12.6

Science Standards:

E&S: Earth and Space Sciences;

L: Life Sciences; **Phys:** Physical Sciences;

S&T: Science and Technology;

Scl: Scientific Inquiry;

ScWK: Scientific Ways of Knowing

Social Studies Standards:

Hist: History; **People:** People in Societies;

Geog: Geography; **Sk&M:** Social Studies Skills and Methods

National Health Education Standards: H

For reservations, call

(216) 231-8002



HIV/AIDS — for grades 7-12

Get informed about HIV and how it ravages the immune system and causes AIDS. Learn about behaviors that put a person at risk for HIV infection and modes of transmission. Discuss ways you can protect yourself from this global epidemic.

Grade 7: L: 2

Grade 8: L: 3

Grade 10: L: 7, 21, 23, 24, 26, 27, 28

Grade 11: L: 1, 3, 9

Grades 6-8: H: 1.8.1, 1.8.7, 1.8.9, 2.8.8, 3.8.2, 3.8.4, 4.8.2, 4.8.4, 5.8.2, 5.8.6, 7.8.1

Grades 9-12: H: 1.12.5, 1.12.7, 2.12.8, 3.12.2, 4.12.1, 4.12.2, 5.12.2, 5.12.6, 7.12.1

Drugs 301 — for grades 7-10

Rise to the challenge and discover the real cost of substance use and abuse to the health of your body and society. Critique glamorous advertisements for tobacco and alcohol and see how the media influences our attitudes about drug use. Learn to make healthy personal choices for a drug-free lifestyle.

Grades 6-8: H: 1.8.1, 1.8.7, 1.8.8, 1.8.9, 2.8.3, 2.8.8, 3.8.2, 4.8.1, 4.8.2, 5.8.2, 5.8.6, 7.8.1

Grades 9-12: H: 1.12.1, 1.12.5, 1.12.9, 2.12.3, 2.12.8, 3.12.2, 4.12.1, 4.12.2, 5.12.2, 5.12.6, 7.12.1

Genetic Revolution — for grades 7-12

Genetic engineering? DNA testing? GMO? Stem cells?

Review current applications of DNA research and find out how biotechnology may affect your life. Team up to analyze DNA evidence from a crime scene. Discuss case studies involving genetic information and how this knowledge influences ethical decisions.

Grade 7: L: 8

Grade 8: L: 2, 3

Grade 10: L: 1, 5, 6, 7, 27, 28

Grade 12: L: 1, 5, 6

Grades 6-8: H: 1.8.4, 2.8.6

Grades 9-12: H: 1.12.4, 2.12.6

Disease Detectives — for grades 7-12

This just in: Nearly half of the students at East Colville High School are sick with similar symptoms. As part of the health department epidemiology team, you will work together to eliminate false leads and piece together clues to determine the cause of this outbreak. It is up to your team to interpret data, identify the pathogen, locate its source and stop its spread before this illness claims more victims.

Grade 7: Scl: 1, 3, 5, 7

Grade 8: Scl: 2, 3, 4

Grade 9: Scl: 1, 4, 6

Grade 10: L: 27, 28; Scl: 4

Grade 11: Scl: 2, 3, 4, 5

Grade 12: L: 12; Scl: 1, 2, 5

Grades 6-8: H: 1.8.3, 2.8.6, 2.8.10

Grades 9-12: H: 1.12.3, 2.12.6, 2.12.10

Macronutrients, Fad Diets and Energy Drinks — for grades 7-12

Learn the basics of proper fueling and hydration for a healthy daily routine. Find out about carbohydrates, proteins and fats as you calculate your macronutrient needs. Use this information to be an informed consumer and work your way through the marketing hype to uncover the facts about fad diets, supplements, energy drinks and fitness regimes.

Grade 7: Scl: 1

Grade 8: ScWK: 2

Grade 10: L: 11

Grade 11: L: 2; ScWK: 5

Grade 12: L: 4, 9; ScWK: 2

Grades 6-8: H: 1.8.1, 1.8.8, 2.8.2, 2.8.5, 2.8.7, 2.8.8, 2.8.10, 3.8.1, 6.8.1

Grades 9-12: H: 1.12.1, 1.12.8, 2.12.5, 2.12.7, 2.12.8, 2.12.10, 3.12.1, 6.12.1

NEW! Stress Down — for grades 7-12

Know why your body reacts to stressful situations and learn techniques to manage your stress response. Distinguish between what you can and cannot control and use that information to lower the stress level in your life.

Grade 8: L: 3

Grade 11: L: 1

Grades 6-8: H: 1.8.1, 1.8.2, 1.8.3, 2.8.7, 2.8.8, 2.8.9, 5.8.4, 5.8.6, 6.8.1, 6.8.3, 7.8.2

Grades 9-12: H: 1.12.1, 1.12.2, 2.12.2, 2.12.7, 2.12.8, 2.12.9, 3.12.1, 6.12.1, 7.12.3

Hands-on Workshops

- Add a 40-minute life-science laboratory lesson to your program and extend your students' learning.
- \$5.50 per student at the Museum, add \$100 for Health on Wheels, not available for Distance Learning

Hidden Kingdoms + Big Germ Hunt

Students will scour the premises for bacteria and grow their findings on prepared culture plates.

Bodyworks + Heart Dissection

Perform a thorough, guided dissection of preserved sheep hearts.

Disease Detectives + Gram Stain

Analyze bacteria specimens using the Gram stain procedure and view results through a microscope.

Body Blueprints + DNA Extraction

Extract DNA from the cells of various organisms, such as bananas or human cheek cells.

Inner Factory + Microscope Lab

View various types of cells through a microscope using prepared slides.

About Your Visit

- Limited lunchroom space is available in which students may eat their brown-bag lunches.
- Vending machines are available for drinks and snacks.
- A picnic area is available outside on Wade Oval for use in good weather.
- The Museum Store stocks natural history-related toys, games, books and other gifts (NOTE: number of students in the store at one time may be regulated).
- We recommend you bring one adult for every 10 students to assure adequate supervision.
- We require a minimum of two adults per class for all Live Animal and Hands-On Workshops. Teachers must remain in the classroom while the program is presented.

Bus Parking

Bus drivers will be directed to nearby parking.

Scheduling and Reservations

- All groups must make advance reservations.
- Make reservations as far in advance as possible to ensure your first choice of topics and dates.

To schedule a Natural History or Health Education program at the Museum or via Distance Learning: Call (216) 231-8002.

Please have the following information ready:

- Current school year calendar
- Contact Information
 - Teacher's name
 - School name & address
 - Phone and FAX numbers
 - E-mail address
- Student Information
 - Grade level(s)
 - Number of students
 - If a field trip, number of adult chaperones (one adult per 10 children minimum required)
- Payment method (purchase order, Visa/MC, counted cash)

Note:

- Teachers and chaperones are admitted without charge, up to one adult for every five students (teachers are included in the adult number). Additional adults will be charged admission.
- Museum memberships and other discounts are not valid for instructed or self-guided visits.

To schedule a Science-to-Go!™ or Health on Wheels Program at your school: Call (216) 231-8002.

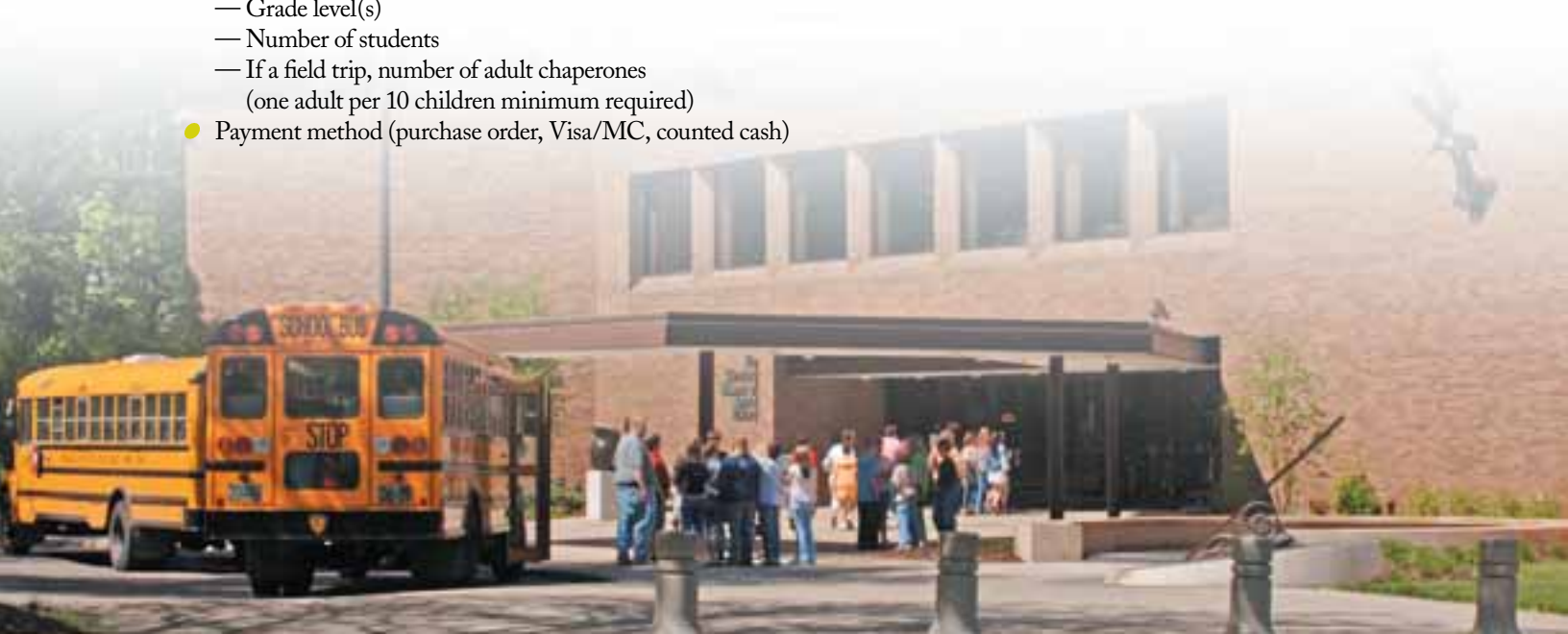
- Maximum of 30 students (K-8) or 20 students (Preschool) per presentation
- Classroom teacher must remain in the room during the presentation.
- Teachers receive a teachers guide and confirmation about two weeks prior to visit.
- Presented in Cuyahoga, Geauga, Lake, Lorain, Medina, Portage and Summit counties.
- Schools outside Cuyahoga County must schedule a minimum of two presentations per day.

To schedule a Live Animal Assembly at your school: Call (216) 231-8002.

To schedule a program at Mentor Marsh: Contact the Carol H. Sweet Mentor Marsh Nature Center: Call (440) 257-0777 or email bkooser@cmnh.org.

Cancellation Policy

Cancellation must be made at least one full calendar week before the scheduled appointment. Failure to cancel in advance will result in a fee. There is no charge if your program is canceled due to bad weather.



Program Fees

Self-Guided Visits

\$4 per student, ages 5 and up

Preschool Programs

\$4 per student (minimum 10 students or \$40)

Gallery Programs/Health Classroom Programs

\$4.75 per student (minimum 20 students or \$95)

Hands-On Workshops

\$5.50 per student (minimum 20 students or \$110)

Planetarium Programs

\$4.75 per student (minimum 20 students or \$95)

Live Animal Programs

\$4.75 per student (minimum 20 students or \$95)

Note: Programs scheduled for 12:30 pm or later receive discount of \$.50 per student (discount does not apply to self-guided visits or preschool programs).

Live Animal Assembly Programs

- \$350 for schools within 30 miles of the Museum
- \$400 for schools within 31 to 60 miles of the Museum

Health on Wheels or Distance Learning Program

- \$120 per K-8 presentation
- \$110 per Preschool presentation
- \$25 travel fee for programs outside Cuyahoga County
- \$10 off each presentation if five or more programs scheduled

Science-to-Go!™

- \$120 per K-8 presentation
- \$110 per Preschool presentation
- \$25 travel fee for presentations outside Cuyahoga County
- \$10 off each presentation if five or more presentations are scheduled.

Attention Teachers!

Grant funds are available from the Alcoa Foundation for the Cleveland Metropolitan School District to cover Museum fees for instructed programs or self-conducted visits during the 2008-2009 school year. Funds are also available for health education outreach for Lorain County schools through the Community Foundation of Lorain County, Akron Public Schools through the Akron Community Foundation, and Greater Parma area through Parma Hospital Health Care Foundation.

Classes will be scheduled for visits on a first-come, first-served basis until the limits of the funds are reached.

Teachers must make their own transportation arrangements. Call (216) 231-8002 for scheduling information.

The Blue Planet Café

The Blue Planet is the Museum's café, operated by A Taste of Excellence Catering. All lunches are \$3.50 per student and include vegetable sticks with ranch dip, cookie or snack, and milk or fruit drink. Plus, up to six teachers eat free from the full lunch menu. For more details or to place an order, call (216) 231-4600, ext. 3372, or e-mail blueplanetcafe@taste-food.com.

Hot Buffet Options

- Penne pasta with marinara
- Macaroni and cheese
- Salisbury steak with mashed potatoes
- Chicken tenders with ranch dressing

Boxed Lunch Options

- PB&J
- Ham and Swiss cheese sandwich
- Bologna and American cheese sandwich



Help us celebrate our grand reopening!

The Science Resource Center is dedicated to providing educators of Northeast Ohio with the skills, materials and information to present science lessons in an interdisciplinary manner that is accurate, effective and engaging. The center houses more than 4,000 educational items available for loan (membership required). We also present a wide variety of professional development opportunities, many of which offer the benefit of graduate-level credit through local colleges and universities (for an additional fee).

Open hours

School year: Monday through Friday: 3 to 5 pm;

Saturday: 9 am to 1 pm; Sunday and holidays: closed

Memorial Day through Labor Day: open by appointment only

Contact Information

Phone: (216) 231-2075

Fax: (216) 231-9960

E-mail: SRC@cmnh.org

Web site: www.cmnh.org

Teacher Services from the Science Resource Center

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Materials for Loan

- **Dioramas:** Bring a piece of the Museum into your classroom. Our dioramas have been repaired over the summer and are ready for your use! The Science Resource Center has more than 70 unique dioramas on topics including amphibians, reptiles, birds, fish, insects, mammals and Native Americans. Many come with a hands-on teaching kit.
- **Videotapes and DVDs:** We have more than 120 titles in stock.
- **Thematic teaching kits:** We've refreshed many of our teaching kits over the summer with new hands-on materials and updated teaching guides! See the list of available kits on the next page.

- **Portable Planetarium:** Bring the night sky to your students! We have two portable planetariums available for loan to educators. Our portable planetarium is a cross-curricular teaching tool for astronomy, earth science and more that can be brought right into the classroom. It includes everything needed to present interactive, exciting lessons: an inflatable dome, projector, fan and accessories. Inside the dome, a projector displays a variety of images on a 180 degree-by-360-degree hemisphere. *Starfield With Milky Way, Biological Cell* (mitosis and meiosis), *Constellations, African Mythology, Native American Mythology, Greek Mythology* and *World Geography*. The dome can fit 25 to 35 people. It is accessible to those in wheelchairs and anyone not comfortable crawling through the entry tunnel. **Training is required.** Please see the listing of Science Resource Center workshops for training session dates and times offered. **Fee:** SRC member: \$40 per day; nonmember: \$50 per day
- **Other materials:** Microscopes, activity guides, big books, puppets, reference books and children's books

Borrowing Policies and Procedures

Membership to the Science Resource Center is required to borrow any items we loan. You must be an educator to borrow materials (classroom teacher, certified home-school parent or educator in an informal setting such as a nature center). See page 31 for membership options. Our satellite location at the Carol H. Sweet Nature Center at Mentor Marsh will house and loan a few specialized kits and other materials. Call for more details.

- Standard loan period is two weeks.
- Loan requests can be made by phone, e-mail or in person during open hours.
- The educator, or a designated representative, must pick up and return all materials.
- August 4, 2008, is the first day to reserve materials for the 2008-2009 school year.
- Reserved items will not be held beyond the initial reservation date without notification.
- Items may be renewed over the phone for one additional loan period, provided the item is available.
- No individual or school member may have an item more than a total of four weeks during any one school year.
- Borrower assumes all responsibility for lost or damaged items and will be assessed an actual replacement cost for item.
- Borrowing privileges will be revoked for failure to pay fine(s) in full or to return borrowed items.
- Overdue fees: \$10 per day for kits and dioramas; 50 cents per day for other items

Dioramas

Amphibians and Reptiles

Box and Painted Turtles
Frog Life Cycle
Timber Rattlesnake

Birds

American Crow
American Coot
American Goldfinches
American Kestrel
American Robin
American Woodcock
Barn Owl
Barred Owl
Blue Jay
Bonaparte's Gull and Little Tern
Brown Creeper and
White-breasted Nuthatch
Chimney Swifts
Cooper's Hawk and Blue Jay
Downy and Hairy Woodpeckers
European Starling
Great Horned Owl and Woodcock
Great Horned Owl and Squirrel
Golden Crowned Kinglets
Great Blue Heron
House Finch and Northern Junco
House and Song Sparrows w/
Black-capped Chickadee
Hummingbirds
Little Tern and Sandpiper
Loon
Mallard Duck
Northern Cardinal (male)
Northern Cardinal
(male and female)
Northern Flicker and
Yellow-bellied Sapsucker
Pigeon
Red-tailed Hawk
Ruby- and Golden-crowned
Kinglets
Screech and Northern
Saw-whet Owls
Sharp-shinned Hawk and
Song Sparrow
Sharp-shinned Hawk and Warbler
Wren and Ovenbird

Fish

Coral Reef Scene
(accompanies thematic kit)
Sunfish and Kingfisher
Lake Erie Bottom Scene

Insects

Bumblebee Nest
Silk Moth Life Cycle

Mammals

Baby Bunnies
Beaver
Cottontail Rabbit
Eastern Chipmunk
Flying Squirrel
Fox Squirrel
Fox Squirrel and Gray Squirrel
(black phase)
Gray Squirrel (black phase)
House and Field Mouse
Little Brown Bat
Meadow Voles
Mink
Moles
Muskrat
Opossum
Raccoon
Red Squirrel and Turtle
Short-tailed Shrews
Striped Skunk
White-tail Deer Fawn

Native American

Longhouse
(accompanies thematic kit)
Native American Dwellings
Wigwam (accompanies
thematic kit)

Skeletons

Bird Beaks
Fish
Frog
Opossum
Pigeon
Snake

Other

Bean Life Cycle
Camouflage
Endangered Species Items
(accompanies thematic kit)
Rain Forest Scene
(accompanies thematic kit)
Volcano
Backyard Habitat
Life Cycles

Thematic Teaching Kits

You'll be amazed! Our kits have been moved to new homes and replenished with new materials, including artifacts, books and equipment. Many of the guides for teachers have been re-edited and enhanced with new lessons, articles and activity plans. Each thematic teaching kit includes a guide for teachers, children's books and a variety of specimens, models, reference materials, games, videos and more. Each kit meets a variety of Ohio Academic Content Standards. The abbreviation indicates the organizers addressed in the lessons of each kit.

Earth and Space Sciences Academic Content Standards

Organizers addressed:

UNIV = The Universe

ES = Earth Systems

PSE = Processes that Shape the Earth

The Active Earth: ES (grades K-9) Take off on the Magic School Bus (video) and explore the active earth through earthquakes, volcanoes and plate tectonics. Kit includes activity guides, books and teachers guide (please specify elementary or secondary kit).

Cleveland Rock Column: ES (grades 5-12) Stratigraphic column from Cleveland shows local shales, sandstones and fossils.

Earth-Sun-Moon: UNIV (grades 4-8) Start a revolution for students with hands-on activities including globes, models of Moon phases, and eclipse models combined with books, videos, activities and a teachers guide.

Galaxies & Stars: UNIV (grades 4-8) Go beyond the solar system and study the universe. Includes celestial sphere model, star charts, books, videos, slides and more.

The Moon: UNIV (grades 4-8) Sculpt the lunar surface using clay, photos, maps and posters.

Ohio Geology: ES (grades 5-9) Explore Ohio's fascinating geologic history with rock, mineral and fossil samples from Ohio, a video and many activities.

Plate Tectonic Earth Globe: ES (grades 5-12) Movable crust plates on this globe demonstrate plate tectonics.

Portable Planetarium: UNIV (grades K-12) Up to 30 students at a time will be transported to the stars using this planetarium. *Constellations* (Greek, Native American and African), *Globe*, *Biological Cell*, *Deep Space Objects* and *Starfield* (with Moon phases and planets) available. Rental fee applies. Training required.

Rock & Mineral Identification: ES (grades 3-9) Student kits with rock and mineral samples, streak plates, hardness testers and identification charts.

Soil Studies: ES (grades 5-9) Dig deeper into the subject of soil with this kit which includes microscopes, soil samples, test tubes and more. Books and teachers guides are also included.

Solar System: UNIV (grades 4-8) Integrate math with science and blast into outer space! Kit includes a model of the solar system, lithograms for student use, books and a variety of teachers guides.

Stories in Stone: ES (grades 3-9) Everyone has a story! Learn more about the story of gems, minerals and rocks with student specimen kits and magnifying lenses, as well as activities and videos.

The Real Reasons for Seasons: ES (grades 6-8) This great guide from GEMS (Great Explorations in Math and Science) helps students understand what causes our planet's seasons. The Sun-Earth connection, latitude and longitude, hemispheres, and tilt of the Earth are just a few of the concepts covered in this kit.

Water: PSE (grades 3-5) So much of the Earth is covered by water, so why not learn more about it? This kit includes a model of the water cycle, thermometers, measuring spoons, graduated cylinders and more. Kit also includes a video about the water cycle and a variety of *National Geographic* magazines on the subject.

Weather: PSE (grades 3-7) This kit forecasts a successful lesson about weather. Hands-on instruments include an anemometer, barometer, hygrometer and thermometers. Kit includes a variety of activities and teachers guides.

Life Sciences Academic Content Standards

Organizers addressed:

CSL = Characteristics and Structure of Life

HER = Heredity

DIL = Diversity and Interdependence of Life

ET = Evolutionary Theory

Adaptation: Study of Sea and Shore Birds: CSL (grades 3-7)

Explore adaptations of sea and shore birds. Investigate bird migration routes, the impact of society on these birds and endangered species.

All About Trees: CSL (grades 3-7) Tree identification activities, leaf collection, tree facts, tree ring activities, field guides and much more to investigate Ohio forests.

Animal Adventures: CSL (grades PreK-2) Explore food webs, body coverings, communication, movement and habitats with this primary kit. Integrates science, math and reading.

Animal and Plant Adaptations: CSL (grades K-4) Explore unique adaptations of animals and plants from various biomes of the world.

Animal Tracks: CSL DIL (grades K-12) Molded rubber tracks of animals from Ohio and North America. Great for teachers coaching Science Olympiad teams.

Animal Teeth and Bird Beaks: CSL DIL (grade K-4) Explore how animals seek and eat food using teeth and beaks, games, books and other specimens. (Bird beaks diorama is suggested.)

Ant Homes Under the Ground: CSL (grades Pre-K-1) In this guide from GEMS (Great Explorations in Math and Science), PEACHES (Primary Explorations for Children and Educators in Science) students will explore the world of ants, learning through literature connections, creative play and cooperative activities. Ant body structure, life cycle, community jobs, number sense and pattern recognition are just a few of the concepts covered in this unit.

Bird Skins: CSL DIL (grades K-12) Thirty taxidermied Ohio birds in clear plastic tubes for study. Great for Science Olympiad teams.

Bird Nest and Egg Collection: CSL DIL (grades K-12) Eggs and nests from 12 Ohio birds. Great for Science Olympiad teams.

Cleveland Before Cleaveland: DIL ET (grades 4-8) Study Cleveland's 550 million-year history with fossils, maps, books and activities.

Coral Reef: DIL (grades PreK-2) Shell samples, sea turtle shell, puppets, books, activities and diorama of a coral reef scene.

Creepy Crawly Creatures: CSL DIL (grades PreK-2) Insect kit with rubber bugs, teachers guides, puppets, big books and *See How They Grow* video.

Desert Kit: DIL (grades 3-5) Kit contains activity guides, set of reading books, video, desert survival game and box of finger puppets and animal replicas.

Dinosaurs: DIL ET (grades PreK-3) Replica *T. rex* tooth, egg, footprint and claw. Excellent activity guides, books, video.

Dinosaurs: DIL ET (grades 8-12) Replica *T. rex* and other dinosaur skulls, footprint activities, lessons about evolution and extinction.

Dive Into the Gene Pool: HER DIL ET (grades 5-9) Explore DNA, sexual and asexual reproduction and more with experiments, books, videos and online resources.

Dunkleosteus: DIL ET (grades 3-12) Replica jaws of Cleveland's "sea monster," measurement, time line and art activities.

Ecosystems: DIL (grades 4-8) Lessons on predators/prey, food chains and webs, adaptations, succession, populations, factors for habitat and biomes. Includes games, books, biome specimen sets and more.

Endangered Species: DIL (grades K-12) Activity guides, slide set, video and teachers guide to study endangered species. Includes a diorama with products made from endangered species.

Exploring Wetlands: DIL (grades 3-7) Investigate wetland habitats with activity guides, reading books, animal tracks/molds, video and simple collecting equipment.

5 Kingdoms: DIL (grades 3-7) Books, videos, sorting rings, Venn diagrams, plastic bugs, activity cards and more to investigate all five kingdoms.

Grasslands Kit: DIL (grades 3-5) Explore grassland biomes with activity guides, a big book, set of reading books, video and more.

Hominid Skull Collection: DIL ET (grades K-12) Five skull casts, including *A. boisei*, *H. habilis* and *H. erectus*.

How a Forest Grows: DIL (grades 3-8) Literature-based kit about forest development. Includes class set of books (*How the Forest Grew* by W. Jaspersohn), slide set and curriculum to investigate time lines and sequences of events.

Human Skeleton Box: CSL (grades K-12) Plastic, disarticulated human skeleton.

Insects, Insects, Insects!: CSL DIL (grades 4-12) Books, activity guides, game, real bugs in plastic cases, field guides, pinning boards and insect collection nets.

Life Cycles of Animals: HER (grades PreK-2) Investigate animal life cycles. Includes Velcro chart, puzzles, games, books, videos and activity guides.

Life Cycles of Plants: HER (grades PreK-2) Explore life cycles of plants with sets of reading books, puzzles, sequence cards, video and a life cycle hook-and-loop chart.

Lucy-Human-Chimp: DIL ET (grades K-12) Pelvis, femur, skull and mandible from Lucy, chimpanzee, modern human.

Mitosis and Meiosis: HER (grades 7-12) Cell model, chromosome simulators, lessons and activities.

No Bones About It: CSL (grades K-6) An excellent exploration into skeletons, with bones for comparisons (includes X-ray films).

Native Ohio Plants: CSL DIL (grades 2-8) Explore Ohio's native plants with samples, guides, videos, interactive teachers activity guide and more.

Oceans: DIL (grades 3-6) Investigate living things in oceans, as well as the properties of water, with activities, videos, preserved specimens, resource books. Also contains rubber fish, starfish and manta ray for art activities.

Ohio Animals: DIL (grades PreK-2) Books, interactive games, plushie and more to explore Ohio's animals.

Owl Kit: DIL (grades 3-12) Everything you'll need to investigate owls and owl pellets (pellets not included). Poster, overheads, dissecting tools, puppet, books, student reference sheets and video.

On Silent Wings: The World of Butterflies and Moths: CSL (grades PreK-2) Explores butterflies and moths using science, math, reading, music and art. Includes puppets, life cycle chart, puzzles, videos, models and sets of books.

Ponds: DIL (grades 3-5) Specimens, games, books and more to explore the ponds in your backyard. Set up learning stations in math, science, language arts and art.

Primate Skull Collection: DIL ET (grades K-12) Male and female gorilla, orangutan and baboon skulls and lower jaws.

Rain Forest Introduction: DIL (grades 3-5) General introduction to rain forest habitats and animals with activities, videos and diorama of a Green Parrot.

Rain Forest Products: DIL (grades 3-5) Tropical products, recipes, photos, activity guide and scents activity

Rain Forest Focus: DIL (grades 3-5) Compares rain forest and temperate forest through structure, plants, animals, indigenous peoples and more. Video, posters, teachers guide and artifacts.

Trilobites — Ohio's State Fossil: DIL (grades K-12) Rubber molds to make plaster casts, fossils, activities.

Tundra Kit: DIL (grades 3-5) Kit contains a set of reading books, caribou footprint molds, Snowy Owl and polar bear puppets, several activity guides and books.

What's It Like to be a Bird?: CSL DIL (grades 3-12) Activities to learn what birds do. Includes 30 student binoculars, posters, field guides, feathers and more.

Physical Sciences Academic Content Standards

Organizers addressed:

NoM = Nature of Matter

F&M = Forces and Motion

NoE = Nature of Energy

Friction and Motion: F&M (grades 3-8) Hands-on materials to investigate friction and the laws of motion. Six complete sets of all experiments.

Light, Color and Optics: NoE (grades 3-8) For elementary classes. Lenses, mirrors, prisms and more. Everything your students need to explore the properties of light and color.

Magnets: NoM (grades PreK-4) Introductory kit containing class set of ring magnets, two cow magnets and teachers guide.

Simple Machines: F&M (grades 3-8) Hands-on materials to investigate pulleys, wheel and axle, and levers. Includes teachers guide and video.

Science of Sound: NoE (grades 2-5) Tuning forks, books, rattles and more to discover sound.

States of Matter: NoE (grades K-8) Use this kit to explore the chemical and physical changes of matter.

Social Studies Academic Content Standards

Standards addressed:

PEOPLE = People in Societies

GEO = Geography

African Cultures: PEOPLE (grades 3-6) Includes many artifacts, textiles, carvings, games, activity guides and more to study the diversity and richness of African cultures.

Discovering Ohio: GEO (grades 3-6) Investigate Ohio geography, map skills, time lines and Ohio history. Includes class set of atlases and reading books, videos and molds to make Ohio plaster casts.

Exploring the Great Lakes: GEO (grades 3-6) Kit for grades 5-12 includes atlases, games and many activities to explore the geography, natural history, ecological principles and environmental issues of the Great Lakes.

Teacher Services from the

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Iditarod/Alaska Curriculum Kit: PEOPLE (grades 3-6)

Curriculum guide, storybooks and video (now includes dog harness and booties, more videos and recent race information).

Globetrotting: PEOPLE (grades 3-6) Study Egyptian, Aboriginal Australian, Native Alaskan and Chinese cultures through books, videos, maps and pictures. Create your own culture activities.

A Look at Lake Erie: GEO (grades 3-6) An elementary-level kit to familiarize students with Lake Erie and the geography of the Great Lakes region. Includes a set of reading books, geography activities, *Paddle-to-the-Sea* materials, video and many activity guides.

Mayans: PEOPLE (grades 3-6) Explore the Mayan culture with real artifacts, math, calendar and clothing activities, posters, books.

Navigating Our World: GEO (grades K-8) Study map-making. Includes maps, topographic models, guides for students and teachers, video and more.

Woodland Indians: PEOPLE (grades 3-6) Study the culture, language, myths, clothing and artifacts of these people. Includes a diorama of a wigwam or longhouse.

Woodland Indians Art: PEOPLE (grades 3-6) Posters, books and slides explore the art of the Woodland Indians.

Math Academic Content Standards

Standards addressed:

MEAS = Measurement

PF&A = Patterns, Functions and Algebra

Frog Math: Predict, Ponder, Play: (grades K-3) In this fun and engaging guide from GEMS, students will join Arnold Lobel's Frog and Toad while reading *The Lost Button*. Through cooperative and free exploration, creativity and noncompetitive games, learners will develop logical thinking skills and be introduced to probability and statistics. Classification, place value and estimation are just a few of the concepts covered in this kit.

Measurement: MEAS (grade K-5) Everything you need to make scientific and mathematical measurements: balances, meter sticks, graduated cylinders and more. Also provides books to make literacy connections and a teachers guide to make science connections.

Sort It!: PF&A (grades PreK-2) Kit includes everything you'll need to get your students sorting, counting and classifying objects.

Miscellaneous

Crime Scene Investigations: (grade 4-12) Explore forensics using bones, insect identification cards, trace evidence slides and more. Includes evidence markers, crime-scene tape, videos and teachers guide.

Leonardo da Vinci: (grades 4-8) Science and art activities to explore inventions, inventors, simple machines and the Renaissance Period.

Microscopes: (grades 4-8) Compound microscopes for up to eight students.

Science Fair: (grades K-12) How to conduct a science fair at your school. Includes videos, sample boards, abstracts and project suggestions.

Thematic Kits for Homeschoolers

Elementary Lab Equipment: (grades K-6) Test tubes, Petri dishes, graduated cylinders and many other basic lab tools.

Exploring the Great Lakes: (grades 3-6) Atlas, games and other activities that explore the geography, natural history and ecological principles of the Great Lakes

Look at Lake Erie: (grades 3-6) Books, geography activities and more to explore Lake Erie. Includes *Paddle-to-the-Sea* book and activities.

Measuring Up: (grades 1-6) Learn how to measure our world with rulers, balances, spring scales and more. Includes activity guides.

Ohio Wildlife: (grades K-6) Books, interactive games, plushie and more to explore Ohio animals.

Rock & Mineral Identification: (grades 3-6) Rock and mineral samples, streak plates, hardness testers, identification charts and books.

Tundra: (grades 3-5) Books, caribou footprint molds, puppets and teachers activity to explore the tundra.

Note: All other SRC kits are also available for homeschoolers



Visit our Web site

www.cmnh.org

Science Resource Center

Workshops

Preregistration, including payment, is required for all workshops. Call (216) 231-2075 or visit www.cmnh.org for further details. Fees can only be refunded with a seven-day notice of cancellation. Light refreshments, certificate of completion and parking in Museum lot are included in the fee.

Special Workshop

Society of Vertebrate Paleontology Educators Workshop **Evolution: Investigating the Evidence**

Saturday, October 18, 2008, 8:30 am to 4 pm

The Society of Vertebrate Paleontology and the Museum invite you and your colleagues to join an energetic team of paleontologists and science educators in a full-day, hands-on workshop. Learn about and discuss some of the best, most engaging scientific evidence of evolution, including fossils. We will concentrate on the process of science — how we know what we know — and the importance of evolution in understanding the history of life. This workshop will combine informative sessions, hands-on activities for multiple grade levels, and the opportunity to learn more about evolution and paleontology resources at the Museum.

- Not eligible for graduate credit.
- Space permitting, on-site registration will be available.

Limit: 40

Fee: \$30 (includes morning refreshments, light lunch and a copy of the book *Dinosaurs: The Science Behind the Stories*)

Registration: Online at <http://vertpaleo.org/meetings/index.cfm>

Registration deadline: Thursday, September 25, 2008

For more information: Contact Robin Whatley, SVP Education and Outreach Committee, co-chair, Columbia College Chicago, Chicago, IL, at rwhatley@colum.edu.

2008-2009 School Year Workshops

The Natural History of Standards: Turning the Curriculum Inside, Out!

This school year, educators can use this program to design their own approach to earning graduate credit. By combining sessions from two separate workshop series, “Four Walls, Forget It!” and “Continents to Climate, Rocks to Rain,” educators can obtain up to 45 contact hours, enough to earn up to three graduate credit hours. Please see below for further details about each of the two series. *Educators not seeking graduate credit may attend any number and combination of workshop sessions.*

How it works:

- Decide how many credit hours you want to earn (from one to three) through our participating universities, Kent State and John Carroll. **A university fee is charged per credit hour in addition to the workshop fee.**
- Review the sessions within the two series and select those that fit your needs. However, **be sure to schedule the Saturday, November 1, 2008, session.** This is mandatory for educators designing their own credit and counts toward the requirements for the number of graduate credit hours they intend to earn.
- Register for the sessions you’d like by calling the Science Resource Center at (216) 231-2075, or visiting www.cmnh.org.
- You may take any of the sessions as noncredit. You do not need to attend all sessions within a series.
- You may also select a series to attend in its entirety. Earn one nondegree graduate credit hour for attending all five sessions of *Continents to Climate, Rocks to Rain: Earth and Space Sciences Series*. Or earn one credit hour for attending any combination of 15 of the 27 hours of *Four Walls, Forget It! Using the Schoolyard Habitat as a Learning Environment Series*.



Educators pursuing graduate credit must pay a university fee in addition to the workshop fee.

Not seeking graduate credit? You may attend any number and combination of workshop sessions.

Visit www.cmnh.org or call (216) 231-2075 for more workshop information.

Guidelines for graduate credit set by the Ohio Board of Regents:

- 1 graduate credit hour = 15 contact hours and 22.5 outside-of-class hours
- 2 graduate credit hours = 30 contact hours and 45 outside-of-class hours
- 3 graduate credit hours = 45 contact hours and 67.5 outside-of-class hours

Continents to Climate, Rocks to Rain: Earth and Space Sciences Series

Wondering About Weather? (grades pre-K-5)
Saturday, October 4, 2008, 9 am to noon

The Natural History of Standards (grades pre-K-12)
Saturday, November 1, 2008, 9:30 am to 12:30 pm
NOTE: Mandatory for educators designing their own credit

Processes That Shape Earth: Taking it Slow... (grades pre-K-5)
Thursday, February 12, 2009, 5 to 8 pm

Earth Systems: Plate Tectonics (grades 6-10)
Wednesday, March 11, 2009, 5 to 8 pm

Climatic Connections (grades 6-12)
Saturday, March 21, 2009, 9 am to noon

Soil (grades 3-5)
Wednesday, April 22, 2009, 5 to 8 pm

The five sessions of the *Earth and Space Sciences Series* cover earth and space sciences standards, including topics such as earth-shaping processes and earth systems, for grades pre-K-12. Participants will receive a collection of lesson plans and activities that are aligned with OACS and based on a constructivist approach and interdisciplinary model. There will be time to collaborate with other educators to share ideas and create new lessons based on the expert content presented.

Each session offers a complete package of content and teaching resources; you do not have to attend all five sessions.

To earn graduate credit: Earn one nondegree graduate credit hour by attending all five sessions OR by combining any of this series' sessions with any of the *Four Walls, Forget It!* series' sessions.

Fee: SRC member: \$25 per session; nonmember: \$35 per session

Four Walls, Forget It! Using the Schoolyard Habitat as a Learning Environment Series

Fresh Air Fundamentals (grades pre-K-12)
Saturday, September 27, 2008, 10 am to 4 pm

Colorful Curriculum (grades pre-K-12)
Wednesday, October 8, 2008, 5 to 7:30 pm

The Natural History of Standards (grades pre-K-12)
Saturday, November 1, 2008, 9:30 am to 12:30 pm
NOTE: Mandatory for educators designing their own credit

Furry Fireside Tales (grades pre-K-2)
Wednesday, December 17, 2008, 5 to 7:30 pm

Math in a Mitten (grades pre-K-8)
Wednesday, January 14, 2009, 5 to 7:30 pm

Looking Ahead... (grades pre-K-12)
Wednesday, February 25, 2009, 5 to 7:30 pm

Spring It On! (grades pre-K-12)
Wednesday, March 25, 2009, 5 to 7:30 pm

Tools of the Trade (grades pre-K-12)
Saturday, April 25, 2009, 10 am to 4 pm

Setting the Stage (grades pre-K-12)
Wednesday, May 13, 2009, 5 to 7:30 pm

The eight sessions of the *Four Walls, Forget It!* series cover life sciences standards in an interdisciplinary way. Language arts activities often introduce concepts, and math-based activities are woven throughout to illustrate and model life sciences concepts.

The goal of this series is to model the ways in which teachers can use the schoolyard habitat as an exciting extension of the classroom. This series helps participants develop ways to expose children to direct, purposeful experiences in diverse natural settings.

Participants will receive a collection of lesson plans and activities that are aligned with OACS and based on a constructivist approach and interdisciplinary model. There will be time to collaborate with other educators to share ideas and create new lessons based on the expert content presented.

Each session will present a complete package of content and teaching resources; you do not have to attend all eight sessions.
To earn graduate credit: Any combination of 15 contact hours is eligible for one nondegree graduate credit hour OR combine any of this series' sessions with any of the *Continents to Climate, Rocks to Rain: Earth and Space Sciences Series*' sessions.

Fee: Saturday sessions: SRC member: \$50 per session; nonmember: \$70 per session
Wednesday sessions: SRC member: \$20 per session; nonmember: \$30 per session

Project ASTRO National Certification Series

Free Informational Session:

Introduction to Project ASTRO

Wednesday, September 10, 2008, 5 to 7 pm

(not required for certification)

Project ASTRO Sessions

Wednesday, October 29, 2008, 5:30 to 8:30 pm

Wednesday, November 19, 2008, 5:30 to 8:30 pm

Wednesday, January 7, 2009, 5:30 to 8:30 pm

Wednesday, February 11, 2009, 5:30 to 8:30 pm

Wednesday, April 1, 2009, 5:30 to 8:30 pm

NOTE: Also offered as a two-day certification program in summer 2009 (see next column on this page).

- Appropriate for teachers of grades pre-K-12
- You must attend all five sessions for certification whether or not you are working towards one graduate credit.

Project ASTRO™ is a national program created by the Astronomical Society of the Pacific that links professional and amateur astronomers with local educators to improve how astronomy and physical science are taught. The Museum is an ASTRO National Network Site. Attend all five sessions to earn Project ASTRO national certification.

Project ASTRO educator-astronomer partnerships combine the expertise of the classroom teacher with that of a scientist. These partnerships focus primarily on hands-on, inquiry-based activities that let students act like scientists as they come to understand more about the universe (and science in general). The relationship is a collaborative one, and children are the ultimate beneficiaries.

As part of Project ASTRO, the society created two valuable resource guides for educators and astronomers called *The Universe at Your Fingertips* and *More Universe At Your Fingertips*. Both will be used throughout the workshop series.

To earn graduate credit: Attend all five sessions to earn one nondegree graduate credit hour (optional). All participants receive certification whether or not they opt for graduate credit.

Fee: SRC member: \$175; nonmember: \$225

Portable Planetarium: Using StarLab & CosmOdyssey

Wednesday, September 24, 2008, 5:30 to 8:30 pm

Wednesday, January 28, 2009, 4:30 to 7:30 pm

Wednesday, July 22, 2009, 9 am to noon

- Appropriate for teachers of grades pre-K-12
- Select one session only

Bring the night sky to your students! The Science Resource Center has two portable planetariums available for loan. Don't miss out on this awesome resource sure to wow your students and enhance your earth and space sciences instruction! To borrow a portable planetarium, you must attend a training

workshop at the Museum. The workshop is three hours in length and will be facilitated by one of our astronomers. After being instructed on how to properly set up the planetarium, you will spend the majority of the time inside it, learning how to use it effectively with your students. See a variety of cylinders in use and learn essential vocabulary as you tour the night sky. Curriculum materials and a visit to the Museum's Shafran Planetarium are included in the workshop cost.

The portable planetarium is a cross-curricular teaching tool for astronomy, earth science and more that you can bring right into your classroom. It includes everything you need to present interactive, exciting lessons: an inflatable dome, projector, fan and accessories. Inside the dome, a projector displays a variety of images on a 180 degree-by-360 degree hemisphere. The SRC offers the following projection cylinders: *Starfield With Milky Way*, *Biological Cell* (mitosis and meiosis), *Constellations*, *African Mythology*, *Native American Mythology*, *Greek Mythology* and *World Geography*. The dome can fit 25 to 35 people. It is accessible to those in wheelchairs and anyone not comfortable crawling through the entry tunnel.

No option for graduate credit

Fee: Includes manual: SRC member: \$35; nonmember: \$45

Summer 2009 Workshops

Each session will include information about the Museum and how its resources can help teachers address the OACS they are responsible for teaching. Find out about relevant field trips, outreach programs, resources from the Science Resource Center and professional development courses.

Project ASTRO National Certification

Wednesday, June 24, 2009, 1 to 9 pm

Thursday, June 25, 2009, 9 am to 4 pm

- At the Museum and Squire Valleevue Farm
- Appropriate for teachers of grades pre-K-12

Project ASTRO™ is a national program created by the Astronomical Society of the Pacific. It links professional and amateur astronomers with local educators to improve how astronomy and physical science are taught. The Museum is an ASTRO National Network Site.

The main focus of Project ASTRO educator-astronomer partnerships is hands-on, inquiry-based activities that let students act like scientists as they come to understand more about the universe (and science in general). Project ASTRO partnerships combine the expertise of the classroom teacher with that of a scientist. The relationship is a collaborative one, and children are the ultimate beneficiaries.

As part of Project ASTRO, the Astronomical Society of the Pacific created two valuable resource guides for educators and astronomers called *The Universe at Your Fingertips* and *More Universe At Your Fingertips*. Both will be used throughout the

workshop series.

Limit: 20 participants — register early!

To earn graduate credit: Attend both sessions and earn one nondegree graduate credit hour.

Fee: SRC member: \$150; nonmember: \$180

Geology Rocks!

Friday, June 26, 2009, 9 am to 4:30 pm

Saturday, June 27, 2009, 9 am to 4:30 pm

- At the Museum and various off-site locations

- Appropriate for teachers of grades 3-10

Geology Rocks! covers earth and space sciences standards pertaining to rocks, minerals, erosion (weathering, transport and deposition) and soils. Participants will receive a collection of lesson plans and activities that are aligned with OACS and based on a constructivist approach and interdisciplinary model. They will also receive a classroom collection of rocks and minerals. There will be time to collaborate with other educators to share ideas and create new lessons based on the content presented. You will leave with plenty of classroom resources!

To earn graduate credit: Attend both sessions and earn one nondegree graduate credit hour.

Fee: SRC member: \$150; nonmember: \$180

The Cleveland Museum of Natural History for Educators

Session dates and times TBA: four days, 9 am to 4:30 pm

- Appropriate for teachers of grades pre-K-12

The Museum has so much to offer educators! Come spend four days with our education staff, getting to know the ins and outs of our programs. You'll explore options for Museum field trips, outreach programs in your classroom, visits to natural areas, health education opportunities, distance learning and more. We will go behind the scenes at the Museum and travel to various off-site locations. Throughout the four days, mini workshops will help you gain content knowledge and work collaboratively to create interdisciplinary lessons. You'll also visit the Shafran Planetarium and Mueller Observatory and the Museum's natural areas, take a guided walk through the Ralph Perkins II Wildlife Center & Woods Garden, see a live animal program, have an instructed visit to the Smead Discovery Center and more. Rounding out the experience will be an exciting Museum scavenger hunt!

Limit: 14 participants — register early!

To earn graduate credit: Earn two nondegree graduate credit hours.

Fee: SRC member: \$300; nonmember: \$330

Portable Planetarium: Using StarLab & CosmOdyssey

Wednesday, July 22, 2009, 9 am to noon

- Appropriate for teachers of grades pre-K-12

Bring the night sky to your students! The Science Resource Center has two portable planetariums available for loan. Don't miss out on this awesome resource sure to wow your students and enhance your earth and space sciences instruction!

To borrow a portable planetarium, you must attend a training workshop at the Museum. The workshop is three hours in length and will be facilitated by one of our astronomers. After being instructed on how to properly set up the planetarium, you will spend the majority of the time inside it, learning how to use it effectively with your students. See a variety of cylinders in use and learn essential vocabulary as you tour the night sky. Quality curriculum materials and a visit to the Museum's Shafran Planetarium are included in the workshop cost.

The portable planetarium is a cross-curricular teaching tool for astronomy, earth science and more that you can bring right into your classroom. It includes everything you need to present interactive, exciting lessons: an inflatable dome, projector, fan and accessories. Inside the dome, a projector displays a variety of images on a 180 degree-by-360 degree hemisphere. The SRC offers the following projection cylinders: *Starfield With Milky Way*, *Biological Cell* (mitosis and meiosis), *Constellations*, *African Mythology*, *Native American Mythology*, *Greek Mythology* and *World Geography*. The dome can fit 25 to 35 people. It is accessible to those in wheelchairs and anyone not comfortable crawling through the entry tunnel.

No option for graduate credit

Fee: Includes manual: SRC member: \$35; nonmember: \$45

A Schoolyard Habitat for All Seasons

Session dates and times TBA: four days, 9 am to 4:30 pm

- At the Museum and various off-site locations

- Appropriate for teachers of grades pre-K-12

All the tools for teaching science are right outside your classroom window! We'll explore options for delivering interdisciplinary lessons in the great outdoors. Urban or suburban, opportunities abound!

During these four days, we'll visit local schoolyards to develop and practice lessons and activities. We will also look at ways of bringing the schoolyard into the classroom for days when the weather is less than cooperative. The Science Resource Center and Museum in general have many resources to offer when it comes to getting students outdoors and engaged in hands-on, authentic learning. You don't need a bus, just your feet, to get to the best outdoor learning venue in town!

To earn graduate credit: Earn two nondegree graduate credit hours.

Fee: SRC member: \$150; nonmember: \$180

Science Resource Center

Membership to the Science Resource Center

Benefits of Individual Science Resource Center Membership (\$30)

- One-year membership to the SRC
- Borrow teaching materials
- One FREE (\$25 level) SRC-sponsored workshop with new membership
- Discounted rates on SRC workshops
- Free parking in the Museum lot when you visit the SRC when it is open to teachers
- 10 percent discount on classroom purchases at the Museum Store

Benefits of School Science Resource Center Membership (\$150)

- One-year membership to the SRC
- All teachers at the school borrow teaching materials.
- One FREE 90-minute introductory workshop at the Museum with new membership
- Discounted rates on SRC workshops
- 10 percent discount on classroom purchases at the Museum Store
- Discounted rates on Science-to-Go!™ programs — \$10 off per class scheduled

Museum membership bonus offer

Would you like to join the Museum *and* the Science Resource Center? Just add \$25 to any Museum membership level to become a member of both — a savings of \$5 off the regular price! If you're already a Museum member, consider renewing your membership now and adding a Science Resource Center membership at this special rate.

As a Museum member, you'll receive the following basic benefits:

- Free Museum admission
 - Free Shafran Planetarium admission to public shows
 - A 10 percent discount on purchases in the Museum Store
 - Special members-only exhibition previews and behind-the-scenes tours
 - Advance notice of classes, programs and lectures and discounts on fees
 - Opportunities to travel and volunteer
 - Complimentary subscriptions to Museum publications
- Some membership levels have additional benefits. Please visit www.cmnh.org or call (216) 231-4600, ext. 3309, for more information.

NOTE: Museum memberships may not be used for instructed or self-guided school visits.

Application Form

Science Resource Center Membership only

- Individual – \$30 School – \$150

Museum Membership only

- Senior – \$40 Friend – \$150
 Individual – \$45 Associate – \$250
 Senior Couple – \$55 Mentor – \$500
 Family/Couple – \$65 Nature League – \$85
 Participating – \$85
 Add Individual Science Resource Center Membership for \$25

This is a New Membership Renewal

Name (contact person for school membership)

School

School District

Home Address

City

State

ZIP

School Address

City

State

ZIP

Home Phone

/ School Phone

E-mail Address

- I have enclosed a check made payable to The Cleveland Museum of Natural History.
 I have enclosed a school district purchase order.
 Please charge my: MasterCard Visa

Account #

Expiration Date

Signature

Questions? Call the Science Resource Center, (216) 231-2075.



Museum Open House for Teachers

Science Spectacular

Thursday, October 2, 2008, 3 to 7 pm

Attention teachers: Discover all that we have to offer you!

- Find out more about how our programs can help you teach science, health, social studies, math and physical fitness topics.
- Attend the Science Resource Center's grand reopening!
- Discover new field trip options
- Investigate outreach classes for your students
- Meet our live Ohio animals
- Shop the Museum Store
(15 percent discounts for SRC members this night only)
- Explore educational resources for loan
- Be fascinated by our exhibits
- Renew your membership to the Science Resource Center
- Explore the stars and beyond in the Nathan and Fannye Shafran Planetarium
- Experience Distance Learning

FREE door prizes

FREE food stations throughout the Museum

FREE behind-the-scenes tours for SRC school members (preregistration required, limited availability)

Attention current SRC Members!

Refer a new member to the SRC and receive a free \$25 level educator workshop registration.

Please call (216) 231-2075 to register for this **FREE**, educators-only evening!

Science Spectacular is a part of the University Circle Inc. Circle-wide Teacher Open House



**Cleveland Museum of
NATURAL HISTORY**

1 Wade Oval Drive, University Circle
Cleveland, OH 44106-1767

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