Educator Resource Guide

Young children are natural scientists, constantly observing and testing the world around them. Now there is a wonderful place to encourage your students’ exploration and creative play!

The Field Museum
The Field Museum • Crown Family PlayLab Educator Guide

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An Early Childhood Learning Center

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Teacher’s Note at a Glance

The Crown Family PlayLab provides students and their educators, parents and caregivers with fun opportunities to use their natural curiosity and creativity to explore nature and culture. This new permanent 7,500-square-foot space nurtures wonder and learning about the rich world in which we live focusing on people, plants, rocks and fossils, and animals.

Students will:
- Explore up-close,
- Engage in hands-on/minds-on experiences with real specimens and artifacts
- Discover and investigate by asking big questions
- Act as scientists and closely observe the world around them
- Engage in creative expression of their ideas about nature and culture

By highlighting The Field Museum’s unique resources, this new early childhood learning center will offer experiences that are not available elsewhere in the Chicago region and will serve as a gateway to the wonders of the Museum, encouraging both families and students with their educators to grow up at The Field Museum.

Students who visit the Crown Family PlayLab will:
- Increase their enthusiasm to learn and become more aware of nature, cultures and the world’s diversity;
- Engage in conversations with family members and/or classmates about what they did and learned at the Museum;
- Feel empowered to study objects, ask questions, and seek answers, as well as collect data, formulate ideas and state informed opinions;
- Be better equipped to learn from other Museum exhibitions;
- Come to understand that close observation of specimens and artifacts yields increased understanding.

The Crown Family PlayLab includes the following:
- Real objects to engage visitors
- Hands-on, discovery-oriented activities
- Tiered activities to engage different age levels, including adults
- Elements that spur or prompt activity, to encourage non-readers engage in the space
- Elements to assist parents/caregivers in taking an active role and feeling comfortable empowering children within the space
- Content connections to other areas of the Museum
- Opportunities for visitors to express themselves creatively—through play, music and art
- Big questions to focus visitors on natural and cultural diversity
- Opportunities for visitors to make the bridge from their own familiar experience to new ideas and experiences.
- Opportunities for visitors to work/play and learn cooperatively
Crown Family PlayLab Overview

The Crown Family PlayLab offers endless opportunities for young students to express themselves, thrill to their own discoveries, and be a scientist for the day. With activities and challenges that grow along with your student’s interests, the Crown Family PlayLab offers a new adventure every time you visit.

Art Studio
Facilitated art experiences inspired by nature and culture

Related Exhibition Destinations: Africa, Northwest Coast Native Americans, Inside Ancient Egypt, Evolving Planet (Charles Knight Murals), and Shoe Wall

Rhythm Section
Playing musical instruments from around the world, dancing to and listening to rhythms from around the globe.

Related Exhibition Destinations: Africa, and Entrance of Pacific Spirits

Pueblo
Daily life of the Ancestral Pueblo people, gathering, storing, and grinding maize; a prime opportunity for students to make connections to Peoples in the past.

Related Exhibition Destinations: The Ancient Americas, Alsdorf Halls of Maritime Peoples of the Arctic and the Northwest Coast, Pawnee Earth Lodge, North American Indians, and Africa
Crown Family PlayLab Overview
(continued)

Scientist’s Lab
Lab tables with real artifacts and specimens for examination. Features a magnification station, sorting station and peek-a-boo drawers full of touchable artifacts and specimens

Related Exhibition Destinations: McDonald’s Fossil Preparation Laboratory, Regenstein Laboratory, Hall of Jades, Hall of Gems, Earth Sciences, Moving Earth, and Plants of the World

Illinois Woodland
Opportunities for dramatic animal play within a habitat complete with the sounds of the Illinois Woodland. Features nocturnal and diurnal animals found in a northern Illinois forest. Shows the way an Illinois Woodland habitat might have looked 300 years ago.


Dino Field Station
Dig dinosaur bones out of field jackets, set up your own magnetic prehistoric ecosystem. Compare dinosaur trackways, make fossil rubbings, and play with dino nests and eggs.

Related Exhibition Destinations: McDonald’s Prep Lab, SUE, and Evolving Planet

Book Nook
A quiet area to take a break, enjoy a book, or just watch the excitement around you. Filled with age appropriate fiction and non-fiction related to anthropology, botany, geology and zoology.
The Illinois Learning Standards (ILS) define what students in all Illinois public schools should know and be able to accomplish in the seven core areas as a result of their elementary and secondary schooling. The *Crown Family PlayLab* addresses the following goals:

### English Language Arts
- State Goal 1: Reading
- State Goal 2: Literature
- State Goal 3: Writing
- State Goal 4: Listening and Speaking

### Mathematics
- State Goal 6: Number Sense
- State Goal 7: Estimation and Measurement
- State Goal 8: Geometry

### Science
- State Goal 11: Inquiry and Design
- State Goal 12: Concepts and Principals
- State Goal 13: Science, Technology, and Society

### Social Sciences:
- State Goal 16: History
- State Goal 17: Geography
- State Goal 18: Social Systems

### Physical Development & Health
- State Goal 19: Movement Skills
- State Goal 21: Team Building
- State Goal 24: Communications and Decision-making

### Fine Art
- State Goal 25: Language of the Arts
- State Goal 26: Creating & Performing
- State Goal 27: Arts & Civilization

### Social/Emotional Learning (SEL)
- SEL Goal 2: Use social-awareness and interpersonal skills to establish and maintain positive relationships.
- SEL Goal 3: Demonstrate decision-making skills and responsible behaviors in personal, school, and community contexts.
Part II: Student Classes

At the Crown Family PlayLab, your students can dress up as local animals and star in their own nature play, or explore a Puebloan home and see how families lived in different times and places. They can examine insects and colorful woven pouches, play an African drum or dance to a Latin beat. They can open drawers and discover hidden objects, play in a dinosaur nest, or uncover a dinosaur fossil.

**Crown Family PlayLab Learning Objectives:**

- Provide children, chaperones, and educators an opportunity to explore the world’s natural and cultural diversity through hands-on engagement in a stimulating and non-threatening environment.
- Expose young students, chaperones, and educators to real artifacts and specimens from the Museum’s core disciplines: anthropology (people), botany (plants), geology (rocks and fossils), and zoology (animals).
- Provide the young student with the tools and resources for safe, open-ended, creative exploration using multiple intelligences while having fun.
- Provide object-based learning experiences that strengthen science, language and literacy skills by prompting stimulating questions and observations, yielding a broader understanding of the world—from the familiar Illinois landscape to the farthest reaches of the globe.
Part II: Student Classes
(continued)

Tips for Fostering Early Childhood Science Education:
- Explore and observe your surroundings with your students in and out of the classroom
- Extend students’ thinking by asking them open-ended questions and giving them verbal prompts
- Allow ample time for open-ended exploration and problem solving
- Provide hands-on activities based on student’s interests and ideas
- Encourage children to develop ways to answer their own questions
- Guide children to ask questions in collaborative conversations
- Label students’ explorations and discoveries as scientific

Steps to experiencing The Crown Family Play Lab with your students:

Before bringing your class, we highly recommend visiting our website at www.fieldmuseum.org/playlab and planning a time to visit the space on your own to become familiar with all the Crown Family PlayLab has to offer.

You must pre-register for all Crown Family Playlab Group Experiences.

Student classes, lead by Crown Family PlayLab educators are available Tuesdays and Thursdays, 10am-4pm, with last admission at 3pm. Each class runs 50 minutes in length. Maximum of 30 students allowed per class.

Self-guided class exploration of the Crown Family PlayLab is available at 11:45am and is available for 50 minutes in length. Maximum of 30 students allowed.
Tuning into Storytelling

Help us weave stories by clapping, humming and playing musical instruments. Storytelling will never be the same!

Class Locations: Southwestern Pueblo Plaza and the Rhythm Section

Objectives:

- Students will develop an appreciation of cultural and generational differences and similarities by viewing and interacting with a variety of instruments that are used to tell stories.
- Students and adults will actively work together to find rhythms, patterns, and overall themes in the featured story, You and Me Together: Moms, Dads and Kids Around the World, by Barbara Kerley, by using prediction, call and response, and observation skills.
- Students will develop self-awareness, self-appreciation, and understanding of top-to-bottom and left-to-right progression by reading and singing patterns and symbols in the Your Face song.
- Students will become familiar with instruments from around the world in the Rhythm Section.

Pre-Visit Activities:

- Display picture books with musical instruments, different cultures and folktales for children to explore.
- Use found objects from your kitchen to make impromptu instruments, such as pans, spoons, and plastic cups to create your very own kitchen band.
- Use objects from outside such as rocks, sticks, and pinecones to make instruments from nature.
- Check out boxes from the Harris Educational Loan Center, such as the World Percussion Instrument Experience Box to play along to different styles of music or just have a jam session.
- Check out two or three of the recommended books listed at the end of this section for your students.
Post-Visit Activities:

- Ask students to pick one of their favorite stories and perform it as an opera. Have students create costumes, sets, and instruments to bring the opera to life.
- Students can take turns tapping out rhythmic patterns either individually or as a group copying what they hear—this is called Echo Clapping or Call and Response. This can be done by clapping their hands, snapping their fingers, or using rhythm sticks.
- Teachers can check out audio materials from the Harris Educational Loan Center or local libraries of different types of music and set up listening centers. Children can compare the similarities and differences and begin to identify instruments, rhythms, and cultures.
- Ask students to interview a relative; either a parent, sibling, or elder, to learn more about their family history. Students can use a tape recorder, video recorder, or create a list of questions to ask family members to gain a better understanding of their own family history. Ask students to bring in artifacts, photographs, etc. to share their family’s story.

Words to Know:

- Heritage – A community’s creative output that is handed down from generation to generation, includes traditions, language, and material culture from architecture to toys.
- Opera – A theatrical performance that is set to music.
- Pattern – A repeated decoration, design or sound created either visually or audibly.
- Rhythm – Measured, patterned beat or music as a song or dance.
- Tradition – Viewpoints, beliefs, and practices handed down from generation to generation through human interaction.

Fun Fact:

- Chinese porcelain pots and dishes were often decorated with scenes from stories, this art form was most popular in seventeenth century China.

Book List:


Web Sites:

- Find original Your Face song, written by Bob McGrath and other interactive sing-alongs www.bobmcgrath.com
Great source for music and stories from around the world: www.mamalisa.com

Great source for multi-cultural, global community, and early literacy books: www.bookvine.com

Great source for folklore, classics, family books, and resource books including storytelling for teachers & parents: www.turnthepage.com

Related Harris Educational Loan Center Resources:
- British Airways: Sing-Along
- Listen to the Sounds of Africa
- Maori Games and Music: That We May Sing
- World Percussion Instruments
- British Airways: Languages of the World
- Egyptian Hieroglyphs

Find even more Experience Boxes at www.fieldmuseum.org/harrisloan

**Seeing Spots, Pre-K**

Learn about animal camouflage and spot animals hiding in their habitats! Also, take an up-close look at all of the patterns found in nature—from stripes to spots to numbers!

**Class Locations:** Illinois Woodland diorama and the Scientist’s Lab

**Class objectives:**
- Students will hone the scientific skills by observing, comparing, predicting, describing, and recording findings in the Scientist’s Lab.
- Students will sort, group, measure, and magnify real specimens in the Scientist’s Lab.
- Students and chaperones will learn that journaling is the recording of information not only in written word, but also through drawings, rubbings, and specimen collecting.
Pre-Visit Activities:
- Have students create animal vests out of large paper bags and create a dramatic play. Play themes may include predator and prey or natural habitats.
- Ask students to sort, group, measure, and magnify small motor manipulative—such as toy animals, insects, birds, large wooden beads, and colored blocks. Ask each student to share his or her findings.
- Camouflage Bingo! Ask two students to act as “caller” and hold up cards with a picture of an animal in its natural camouflage habitat. Students wait until their animal is called on their card. The first student with all of the animal camouflage identified, wins! You can also cut out and laminate animal images from magazines such as National Geographic to make camouflage Bingo cards.

Post Visit Activities
- Go on a nature expedition! Encourage students to look for animals, tracks or plants. Work with students to sketch and draw their observations in a journal. Back in the classroom, have students share their findings and do further research.
- Read Animals, Animals, Animals by Eric Carle and create an Eric Carle-inspired animal collage using scrap paper.
- Ask students to look closely at the clothes they are wearing. Have students sort themselves by spots, stripes, fabric, images and/or letters on clothes, short or long sleeve, etc.

Words to Know:
- Camouflage—colors, patterns, or markings on an animal that help it blend into its surroundings
- Habitat—an animal’s home
- Predator—an animal that hunts and eats other animals
- Prey—an animal that is hunted and eaten by other animals

Fun Facts:
- Each zebra has its own unique pattern of stripes.
- Not all ladybugs have spots.
- Some animals have spots that mimic eyes in order to confuse predators.
- Some animals that are poisonous use bright colors as warning colors.
Classes for Preschool
(continued)

Book List:


Web Sites:

• Designed to provide students with the most accurate and current resources available on the Internet: www.facthound.com

• Information about what is going on at the Lincoln Park Zoo: www.lpzoo.com

• Information about what is happening at the Brookfield Zoo: www.brookfieldzoo.com

• Solve jigsaw puzzles and crossword puzzles, take a virtual world tour, send an e-card, learn about animals and their names—there’s plenty to do on the National Zoo’s website: www.nationalzoo.si.edu/audiences/kids

Related Harris Educational Loan Center Resources:

• A Good Egg
• Animal Habitats: Pond
• Animal Homes
• Animal Tracks
• Animals of Africa Video
• Patterns in Nature
Journaling through Nature

See and feel nature in our lab! Patterns and textures are used by scientists to identify objects, animals, and plants. Come and create a journal of nature rubbings with us to take home.

Class Locations: Scientist’s Lab and Art Studio

Objectives:
• Students will hone scientific methods by observing, comparing, predicting, describing, and recording findings in the Scientist’s Lab
• Students will sort, group, measure, and magnify real specimens in the Scientist’s Lab.
• Students and chaperones will learn that journaling is the recording of information not only in written form, but also in drawing, rubbings, and collecting specimens.

Pre-Activities:
• Visit your local library and check out a variety of poetry books about nature to read with your students.
• Check out a mammal or plant exhibit cases from The Harris Educational Loan Center and ask students to draw what they observe. Help students label the different parts of the specimen they draw.
• Go on a nature walk and create a nature bracelet. Have each student wear a 2” tape bracelet (sticky side out) picking up leaves, bark, grass, flower petals, or anything else they find interesting and can stick to their tape.
• Create Curiosity Cases! Provide each student a small box with one end open. Ask students to start a collection of specimens from nature. Show two or three examples so students have a good idea of what a collection is, such as a box of leaves, rocks and/or fossils, flowers, etc. Once the box is full, have students bring their collections to class to magnify, weigh, measure and compare.
• Make cardboard tube binoculars and/or telescopes and go on a nature walk, bring a field guide to help identify birds, animal tracks, rocks, plants, and flowers.
• Ask students to collect leaves or flowers to press between wax paper and display.

Post-Activities:
• Go on a Follow Your NOSE Hike! Use your keen sense of smell to guide your nature hike. Follow the smells of trees and flowers, identify 2-3, sketch and draw your specimen and write it in journal describing each smell.
• Outside, stop and listen for different types of birdcalls. If available, put some birdseed in a feeder and sit quietly listening to the beautiful sounds the birds make. If possible, audio
tape their songs or check out Birds Sounds from The Harris Educational Loan Center.

• Make Pinecone Birdfeeders using shortening spread it onto a pinecone and roll in birdseed. Tie the pinecone with either yarn or string and hang outside to observe the different species of birds it attracts. What other animals might your bird feeders attract?

Words to Know:
• Classify—sorting and grouping
• Compare—to see what is the same and different about things
• Experiment—repeating an activity to gain and confirm new knowledge
• Hypothesis—a proposed explanation based upon previous knowledge
• Nature—the physical environment of the outdoors
• Observe—looking closely at things
• Pattern—Something that is repeated naturally in the environment
• Plant—A living thing that uses sunlight to make its own food
• Predict—guessing what is going to happen
• Record—to make a copy of something to remember by using words and/or images
• Specimen—A sample that shows what the whole thing or group is like
• Texture—The structure, appearance or feel of something, smooth, rough, bumpy, etc.

Fun Facts:
• A tree can live longer than all other living things. It can live for hundreds, even thousands of years. The oldest tree known is a bristlecone pine in the White Mountains of California. It is over 4,700 years old.
• Yellow and blue flowers attract bees. Red and orange flowers attract birds and butterflies. Beetles and moths are attracted to white flowers that are strongly scented.
• Earthworms come out of the ground when it rains, so they are able to breathe. There is not enough oxygen in the rainwater for earthworms to breathe, as it filters through the ground. Even though they have no eyes, their body is very sensitive to sunlight.
• There are more than 5,000 different kinds of ladybugs. Some are red with black spots, black with red spots, yellow with black spots, and some are red with yellow and black spots. They also come with different amounts of spots ranging from 2 to 22.
• Beehives are air-conditioned. In hot weather, bees place drops of water or diluted honey around the hive and fan their wings, keeping the hive cool.
Book List:

Web Sites:
• Educational site with activities, stories and games: www.kids.nationalgeographic.com
• National Wildlife Federation, Teacher and Parent site: www.nwf.org
• Forest Preserve District of Cook County, includes environmental education for teachers, students and events for families: www.fpdcc.com
• Great source for multi-cultural, global community, and early literacy books: www.bookvine.com

Related Harris Educational Loan Center Resources
• Animal Homes
• Animal Tracks
• Birds: Built for Flight
• Patterns in Nature
• Insects
• Rocks and Minerals

Find more resources visit www.fieldmuseum.org/harrisloan
Classes for Preschool
(continued)

I Spy a Dinosaur!

From the *stegosaurus* to the mighty *T. rex*, all dinosaurs have special features. Through dramatic play and the Dino/Dino Not game, students will learn how to spot a dinosaur.

**Location of Class:** Dino Field Station and Rhythm Section

**Objectives:**
- Students will learn to distinguish the major physical characteristics of dinosaurs from other animals (both prehistoric and present day) by playing Dino/Dino Not game.
- Students will learn differences between carnivores and herbivores.
- Students and chaperones will create a dramatic reading of DINOSAUR ROAR!, by Paul & Henrietta Stickland. Using rhyme, prediction, movement, voice, and musical instruments, students and chaperones will compare dinosaur characteristics, such as large and small, fast and slow, carnivore and herbivore.

**Pre-Activities:**
- Using a variety of cleaned and dried bones, such as those from a chicken, turkey, pig, or cow, ask students to weigh, measure, sketch, and observe through a magnifying glass; have them share their findings with the class.
- Ask students to draw a dinosaur skeleton on a paper plate, cut into several pieces, bury the pieces in a sensory table or box filled with rice, excavate with small brushes and craft sticks, once all the pieces have been found, have students recreate their dinosaur skeleton by taping it back together.

**Post-Activities:**
- Have students create a dinosaur skeleton using dried noodles and glue. Provide each student with different kinds of noodles to represent the various bone types. For example, macaroni makes great vertebrae; fettuccine works for limbs and spaghetti can be ribs.
- Have students draw the skeleton of their favorite dinosaur and label its parts. Students should identify of their dinosaur and share why this is their favorite.
• Have students make a large dinosaur out of boxes or cardboard. Encourage the class to work as a team to build, paint and decorate the dinosaur. Once the dinosaur is complete, invite other classes into see the large-scale dinosaur and have the students share information about the dinosaur and how they created it.

• Create an opportunity for students to sort and classify. Using a small dinosaur manipulative. Provide a variety of toy dinosaurs and introduce the various criteria such as dinosaurs having spikes or bumps, dinosaurs walking on 2 or 4 feet, meat eaters (carnivores) or plant eaters (herbivores). Have them select one to share aloud to the class.

**Words to Know:**

• Body Fossil—A fossil that is an actual part of an organism, such as a bone, tooth, or leaf.
• Fossil—The remains or traces of things that were once alive.
• Trace Fossil—Marks of traces left behind by something that once lived. Dinosaur tracks and fossilized dung are types of trace fossils.

**Fun Facts:**

• Dinosaur trackways (foot prints) can tell scientists how dinosaurs walked, ran or crawled, as well as how long their stride was and how big they were.
• Trackways can also explain how dinosaurs behaved by telling them if they lived in groups, hunted in groups or how fast they moved.
• Dinosaur legs go straight down from their hips. This trait allowed them to support their huge bodies. Think about how pillars hold up buildings!
• Meat eating dinosaurs walked on two legs. Some plant-eating dinosaurs walked on four legs, some walked on two, and others could walk on two of four legs.
• The footprints of dinosaurs like *T. rex* have three toes, just like footprints of most birds. Why is that? Birds are dinosaurs!

**Book List:**

Web Sites:

• Dinosaurs of all shapes and sizes can be found at The Dinopedia:
  http://kids.yahoo.com/dinosaurs

• Take a trip through time with The Field Museum
  www.fieldmuseum.org/evolvingplanet/POST/EP_V8content.html

• Enter Evolving Planet and explore dinosaurs and other Mesozoic beasts:
  www.fieldmuseum.org/evolvingplanet/mesozoic.asp

• Join Field Museum scientist Peter Makovicky as he and his team digs up dinosaur fossils:
  www.fieldmuseum.org/expeditions/pete_expedition/petehome.html

Related Harris Educational Loan Center Resources

• Dinosaur Eggs
• Dinosaurs and Other Mesozoic Creatures
• Dinosaurs and Their Times: Cretaceous
• Dinosaurs and Their Times: Jurassic
• Great Horned Dinosaur, Triceratops

Find more resources at www.fieldmuseum.org/harrisloan, K-2nd grade
A Southwest Harvest, K–2nd

Discover what life was like in a southwestern Pueblo by harvesting and grinding corn. Make a coil pot for your corn.

Class Locations: Pueblo and Art Studio

Objectives:

- Students will become familiar with Ancestral Puebloan culture.
- Students will develop an understanding of traditional Pueblo methods used for growing, harvesting and preparing corn.
- Students will explore the Ancestral Puebloan peoples, perform the tasks involved in corn production.

Pre-Activities:

- Display and read authentic Pueblo literature.
- Have students work with clay before their trip, so they can be familiar with the difference between dough & clay.
- Show the students different types of corn: corn on the cob, Indian corn, can of corn, corn meal, dried corn on the cob (available at pet stores) and discuss the similarities and differences.

Post-Activities:

- Grind corn with a mano & metate, available through Harris Educational Loan Center.
- Plant corn seeds. Place a damp paper towel into a plastic cup and put the kernels in so they are visible from the outside of the cup. Observe the corn seed over the next few weeks to record what happens.
- Make adobe bricks out of clay, straw, sand.. Let dry and stack.
- To create a ‘shoe box’ Ancestral Puebloan dwelling, each student will bring in a shoebox from home. The Harris Educational Loan Home Sweet Home and Image boxes will be transformed into their dwelling; all the shoeboxes will be stacked to create a Pueblo community.

Educators are encouraged to talk about the importance of each individual coming together to create a community.
Words to know:

- Adobe—A brick made of clay and straw
- Ancestors—People who came before
- Manta—Traditional dress that covers one shoulder
- Metate—(muh-TAH-tay) Grindstone to grind the corn to make cornmeal
- Piki—Traditional paper-thin bread
- Pueblo—Village in Spanish. Pueblo also refers to the type of homes these people built – pueblos and the people who built them - Pueblos. There are nineteen Pueblo groups.

Fun Facts:

- Archaeology excavations uncover the remains of everyday life from the past that have become buried over time. Information about the past ranges from pottery to the remains of meals eaten thousands of years ago.
- In Ancestral Puebloan cultures, men often did the hunting and weaving of blankets and clothing and women made pottery and wove mats and baskets. Everyone worked in the fields and children helped out everywhere!
- Pottery was very important to Ancestral Puebloan cultures because it allowed them to store their food in case of bad weather or poor harvests.

Book List:

Web Sites:

- Ancient Cultures of the Southwest, Logan Museum, Beloit College. Overview of Southwestern US people and ceramics, with timeline, photographs:  
  www.beloit.edu/~museum/logan/southwest/index.htm

- Children’s Museum of Indianapolis, Native Americans and the Natural World lesson plans:  
  www.childrensmuseum.org/teachers/unitsofstudy_nativeamericans.htm

- The Mitchell Museum of the American Indian Plains, Woodlands, Southwest, Northwest Coast, and Arctic lifeways:  
  www.mitchellmuseum.org/about.htm

- Southwest Museum of the American Indian, the western United States and Mesoamerica:  
  www.autrynationalcenter.org/southwest/

Related Harris Educational Loan Center

- Living Together: Shelter
- Southwest Archaeology
- Metate
- Corn (exhibit case)

Animal Adaptations

Uncover a few animals’ secrets to surviving by learning how they are adapted to their environment. And learn how you can tell what different animals eat by the shape of their teeth!

Class Locations: Illinois Woodland, Scientist’s Lab and Dino Field Station

Objectives:

- Students will distinguish the difference between sharp and flat-toothed animals (including dinosaurs).
- Students will identify characteristics of different animals and how those features help the animal.

Pre-Activities:

- Display and read books about animal characteristics.
- When are two legs better than four? Experiment with having children crawl on all fours noting how many things they can see from this level. Now stand and walk in the same area. What can you see now? Compare the two lists.
- Chart or graph the many different ways humans communicate without words. As a classroom develop your own ways of communication (without words).
Post-Activities:

- Create a Wildlife Investigation Scene! Outside, rope off an area and look for footprints, torn grass scattered, various signs of general activity and see if you can identify the animal that was here (i.e. squirrel, rabbit, raccoon, or a bird).
- Show a variety of images of animals and have children sort them into groups by their characteristics. This also could be made into a memory game.
- Have students make wax impressions of their teeth and label which teeth are used for biting, tearing and chewing. Be sure to check out the Harris Educational Loan experience box, Bite, Tear and Chew to reinforce concepts.
- Animal mystery stories can be created with large pieces of butcher paper. The Animal Tracks experience box from the Harris Educational Loan Center is a great way to explore the differences between animals.

Words to Know:

- Mammals – Humans, dogs, dolphins, elephants, rats, cats, and other animals that are warm blooded and produce milk to feed their young.
- Reptiles – Lizards, snakes, crocodiles, and turtles. Almost all lay eggs, are cold blooded, and mostly have scaly skin.
- Hibernation – How some animals survive the winter. They become inactive and slow down body functions (such as breathing) for days or even weeks.
- Incubation – Keeping eggs warm so a baby can grow inside.
- Warm blooded – Animals that generate their own heat, such as birds and mammals.
- Cold-blooded – Animals that absorb heat from their environment, such as lizards and crocodiles.
- Carnivores – Organisms that eat meat.
- Prey – Animals that are hunted by other animals for food.
- Predator – An animal that eats other animals.
- Herbivore – A plant eating animal with flat and bumpy teeth.

Fun Facts:

- An elephant’s trunk is really a very long nose with soft grippers on the end. There aren’t any bones inside it, but there are about 100,000 muscles.
- Rhinos can’t see well, so they attack anything that looks like a threat – often charging straight into trees and rocks.
- Giant pandas are the only bears that don’t eat meat. They eat bamboo, a tough kind of grass.
- People tend to think that camels store water in their humps, but in fact they store food. A camel’s hump is made of extra fat, which is slowly used up if the camel doesn’t get enough to eat. As the fat is used up, the hump gets smaller.
- Hummingbird’s eggs are often as tiny as your fingertip (3/8 inch). The largest egg is the ostrich egg (7 inches long and can weight up to 31/4 lbs.).
Kindergarten – 2nd Grade Classes
(continued)

Book List:

Web Sites:
• Interactive website for kids and teachers. Great adaptation game for younger kids:
  http://www.ecokids.ca/pub/index.cfm
• Lesson plans and resources for science teachers. Has specific adaptation lesson plan:
  http://www.scientcenetlinks.com/lessons.cfm

Related Harris Educational Loan Center Resources
• Cats
• Bite, Tear and Chew
• Animal Tracks

Fossil Dig! K–2nd
Come join us on a paleontologist dig! Discover different fossil types and help dig out a fossil cast from a field jacket.

Class Locations: Scientist’s Lab and Dino Field Station

Objectives:
• Students will distinguish the difference between body and trace fossils.
• Students will prepare a fossil from a field jacket by identifying, measuring and drawing it.
• Students will predict the most likely sequence of events from dinosaur trackway.
Pre-Activities:
- Display and read books about fossils and dinosaurs.
- Ask students to pretend they are paleontologists. What do they do? What are they looking for?
- In a box of sand and hide toy dinosaurs, real rocks or fossils that students can dig out and discover. Have students measure and make notes of their findings.
- Visit The Field Museums’ Evolving Planet Web site and view the short video on fossilization, and other destinations prior to visiting the Museum. www.fieldmuseum.org/evolvingplanet

Post-Activities:
- Make a trace fossil cast by asking students to make handprints in wet sand and pour plaster into the prints. Allow the plaster to dry and break away the sand to reveal a cast of the students’ hands.
- Ask students to pick a dinosaur of their choice to look up on the internet and gather basic facts, such as size, shapes, diet, habitat. Ask students to draw or sketch their dinosaur to share with the class.
- Check out one of the Harris Educational Loan Center boxes listed below to continue your study of dinosaurs and fossils.

Words to Know:
- Fossil—preserved remains or evidence of any creature or plant that once lived on the Earth
- Body Fossil—preserved remains of body parts such as bones, claws, teeth, etc.
- True Form Fossil—preserved remains of the actual creature, plant or part of the creature or plant
- Ornithopods—A type of plant-eating dinosaur that sometimes walks on four legs and sometimes on just the backs of two legs. The “duck-billed” dinosaurs are types of ornithopods.
- Paleontologist—A scientist that studies extinct organisms and the history of life on Earth.
- Sauropods—Plant-eating dinosaurs that had long necks, such as Apatosaurus and Brachiosaurus.
- Stride—The distance between the same footprint (left-to-right or right-to-right)
- Trace Fossil—Marks or traces left behind by something that once lived. Dinosaur tracks and fossilized dung are types of trace fossils.
- Theory—An idea or an explanation based on clues.
- Theropods—The meat-eating dinosaurs, such as T. rex and Velociraptor; all walked on their two back legs.

Fun Facts:
- The Illinois State fossil is the Tully Monster. A soft-bodied sea animal that lived around 300 million years ago. It was discovered by Francis Tully in 1958.
- Mary Anning (1799-1847) was an early British fossil hunter who began finding and selling fossils as a child. The tongue twister “She sells seashells down by the seashore” may have been named after her.
- The fan shaped leaves of the ginkgo tree look just like those of the fossil gingkoes that lived 160 million years ago.
- T. rex SUE is named after Sue Hendrickson, a self-taught fossil hunter the discovered SUE’s skeleton in 1990.
Kindergarten – 2nd Grade Classes

(continued)

Book List:

Web Sites:

- Dinosaurs of all shapes and sizes can be found at The Dinopedia:
  [http://kids.yahoo.com/dinosaurs](http://kids.yahoo.com/dinosaurs)

- Take a trip through time with The Field Museum:

- Enter *Evolving Planet* and explore dinosaurs and other Mesozoic beasts:
  [www.fieldmuseum.org/evolvingplanet/mesozoic.asp](http://www.fieldmuseum.org/evolvingplanet/mesozoic.asp)

- Join Field Museum scientist Peter Makovicky as he and his team digs up dinosaur fossils:
  [www.fieldmuseum.org/expeditions/pete_expedition/petehome.html](http://www.fieldmuseum.org/expeditions/pete_expedition/petehome.html)

- Lesson plans for teachers, activities for children, and great links about fossils:

Related Harris Educational Loan Center Resources

- Dinosaurs and Other Mesozoic Creatures
- Dinosaurs and Their Times: Jurassic
- Dinosaurs and Their Times: Cretaceous
- Fossils
- 300 Million Years Ago in Illinois
- Fossils from Rocks Near Chicago
- Animal Tracks
Become a scientist and ID objects in our lab! With magnifying glasses, you will look closely at different animals and objects to discover the wonders of magnification!

**Location of Class:** Scientist’s Lab

**Objectives:**
- Students will match an enlarged section of an object with a picture of the full sized object.
- Students will look closely at objects/specimens.
- Students will document what they see.

**Pre-Activities:**
- Display and show books about magnification, and I Spy books to increase students’ observation skills.
- Collect different kinds of magnifying glasses with varying levels of magnification and have the students compare & contrast, what is similar and what is different?
- Have students bring in a variety of objects from home and nature and observe with the different magnifying glasses. Encourage students to describe what they see.

**Post-Activities:**
- Ask students to look up geographical locations on [www.GoogleEarth.com](http://www.GoogleEarth.com) and make observations from a specific location.
- Ask students to collect dirt and soil from a variety of locations—a forest preserve, the beach, a garden that has just been tilled, etc. Have the students observe their samples and record their findings.
- Ask students to put their fingerprints on a window or a glass. Use a magnifying glass to look at the similarities and differences of their fingerprints with another classmate.
Words to Know:

- Magnification – Process of making something larger
- Specimen – Sample of something like a plant or animal that is used for examination and analysis
- Characteristic – A distinguishing feature or quality
- Observation – Something that is learned by seeing or experiencing things
- Contrast – Finding opposites things that are different between two or more objects
- Compare – Finding things that are similar or the same between two or more objects

Fun Facts:

- Magnification allows scientists and doctors to observe things so close up that they are able to see how things are made and how they work.
- The World’s most powerful microscope is called an Atomic Force Microscope, which can see things as small as a single strand of DNA or an individual atom.
- The way our eyes are able to see is by light reflecting off of objects, magnifying glasses increase this function to make things bigger.

Book List:


Web Sites:

- All about the things too small to see: www.nanooze.org
- Hands on science ideas for home or school: http://www.hometrainingtools.com
- Sciences projects for kids on the web: http://www.hhmi.org/coolscience

Related Harris Educational Loan Center Resources

- Patterns in Nature
- Africa the Land
- Southwest Archeology
- Wild in Chicago: Urban Wildlife and Ecology
- Wild in Chicago: Vacant Lot
Part III

Resources for Educators, Parents/Caregivers and Students

Before you visit The Field Museum...
Begin planning your visit at http://www.fieldmuseum.org/plan_visit/default.html here you can find out daily admission, parking tips, floor maps, and know where to find snacks! The Museum can be a fun place to visit if you plan ahead! Don’t forget that The Field Museum is one of the largest natural history museums in the world, learn about the history of the Museum at http://www.fieldmuseum.org/museum_info/default.html and begin exploring the world and its people!

Just for kids!

Encourage your child’s explorations and creative play: the Crown Family PlayLab at The Field Museum. Visit us online at www.fieldmuseum.org/playlab

Take your children on an adventure through some of the Museum’s most exciting treasures. Then find out about special activities taking place on the day of your visit! Visit us online at www.fieldmuseum.org/plan_visit/pv_kids.htm
< The Ancient Americas

Main Level

The Ancient Americas takes you on a journey through 13,000 years of human ingenuity and achievement in the western hemisphere, where hundreds of diverse societies thrived long before the arrival of Europeans. To learn more, visit us online at http://www.fieldmuseum.org/ancientamericas/

< Africa

Main Level

Gain insight into the cultures and environments of the vast African continent.

< Bird Habitats

Main Level

A birdwatcher’s paradise of peacocks, penguins, quetzals, weavers . . .
You can study them to your heart’s content.

< Bushman

Ground Level

Meet the piercing gaze of one of the most popular primates ever, a lowland gorilla who once lived at Lincoln Park Zoo.

Cats and Dogs

Main Level

Find out who is related to who in this comparison exhibition between felines and canines!

< Earth Sciences

Upper Level

Uncover the basics about rocks, minerals, and other earthly structures—even one that dropped from outer space!
Related Exhibitions
(continued)

< Alsdorf Halls of Maritime Peoples of the Arctic and Northwest Coasts
Main Level
Compare life in the Arctic with that along a temperate coast, and see how these environments led to two unique cultures.

< Evolving Planet
Take an awe-inspiring journey through 4 billion years of life.
Visit Evolving Planet on-line at http://www.fieldmuseum.org/evolvingplanet/

< Mammals of Africa
Main Level
Stroll among Africa’s mammals, with everything from aardvarks to zebras.

< Maori Meeting House
Upper Level
Visit this exquisitely carved structure said to embody the beloved ancestor whose name it bears.

< North American Birds
Main Level
Step inside our 3-D field guide to learn more about your favorite birds, and discover a whole flock of new ones.

Pawnee Earth Lodge (must register on Field Trip registration form)
Main Level
Explore this full-scale reconstruction of a traditional Pawnee lodge, a fully furnished Native American dwelling that brings to life the traditional ways of this Great Plains tribe.

< Nature Walk
Main Level
Follow a nature trail through prairies, wetlands, woodlands, and ocean shores to discover the wonders of the wild.
Sue
The world’s largest, most complete, best preserved and most famous Tyrannosaurus Rex. Since Sue was unveiled on May 17, 2000, about 2 million people have visited the Museum to see the dinosaur and the exhibition has become one of the most popular tourist destinations in Chicago’s history. Check out Sue’s web site at www.fieldmuseum.org/su

< What Is an Animal?
Ground Level
Explore what makes an animal an animal. See what animals look like, where they live, how they survive and more.

Conservation Education
Environmental Conservation Programs (ECP)
Using research and experience on how people learn and infusing content from the Museum’s collections and research, ECP develops educational resources focused on stimulating awareness, developing skills to make informed decisions, and promoting action for sustained conservation behavior. Visit us online at http://www.fieldmuseum.org/research_collections/ecp/cons_edu.htm#mighty_acorns

Cultural Connections
Explore the world in Chicago! Twenty-three cultural centers and ethnic museums have joined The Field Museum to bring you Cultural Connections—an exciting series of programs that showcase insider views of ethnic and cultural Chicago. To learn more about Chicago’s communities, visit us online at http://www.fieldmuseum.org/research_collections/ccuc/ccuc_sites/culturalconnections/
Books for Teachers

Geology, Archeology & Paleontology


Native American/Cultural Resources


Books for Teachers

(continued)

**Arts & Crafts**

Ritter, Darlene, *Multicultural Activities; From the Cultures of Africa, Asia and North America, Huntington Beach*. Creative Teaching Press, 1993


**Nature Activities**

Day, Marlena, *Trails, Tails & Tidepools in Pails; Over 100 nature activities for Families with Babies and Young Children*. Children’s Nature Institute, 1999 ISBN:0-9632753-0-5


**Musical Instruments**


Books for Teachers
(continued)


Designing Children’s Environments


Children’s Gardens


Welcome to the Harris Educational Loan Program!
Whether you are a long-time borrower of Harris materials or just now are becoming aware of the program, you will find the Harris Loan Program to be a valuable educational resource for your classroom or your home. The Harris Loan Program has been serving Chicago-area educators and families for over 85 years. Originally funded through an endowment from Norman Wait Harris in 1911, the Harris Educational Loan Program links The Field Museum with Chicago-area schools. Thousands of loans are made to classroom educators, informal educators and parents each year. Tens of thousands of children benefit from the program. We offer four types of educational media from which to choose.

Exhibit Cases: We have nearly 900 Exhibit Case dioramas (24” high, 22” wide, and 7” deep) that show plants and animals in natural settings. A pullout label on the side of each case includes basic information.

Experience Boxes: We cover more than 70 different topics with these portable collections of artifacts, replicas, specimens, and many other resources to provide a broad variety of learning experiences. There are three content categories: culture, biology, and earth sciences.

Audiovisual Materials: Audiovisual materials include slide sets with printed scripts, videotapes, and filmstrips with audiocassette tapes.

Children’s Books: More than 100 titles are available.