

Starved Rock State Park

3rd-5th Grade Teacher Resource Packet

Time to Plan a Field Trip!



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Thank you for your interest in Starved Rock State Park. The following is a packet of materials intended to assist educators before, during, and after a visit to Starved Rock State Park.

Steps for a Successful Field Trip!

1. Complete an Activity Permit

www.dnr.illinois.gov/parks/interpret/park.starvedrock.html

- *Required from all groups of 20 or more people.*

2. Acquire Proof of Liability Insurance from School/Organization or Complete Release of Liability Form.

www.dnr.illinois.gov/parks/interpret/park.starvedrock.html

- *Required from all groups of 20 or more people.*

3. Complete Program Request Form

www.dnr.illinois.gov/parks/interpret/park.starvedrock.html

- *Only when asking for an interpretive/educational hike from park staff.*

4. Review the IDNR-Starved Rock Webpage

www.dnr.illinois.gov/parks/interpret/park.starvedrock.html

- *View trail suggestions, park history videos, maps, hours, rules and regulations before you head out for your visit.*

5. Prepare for a safe and successful day at the park for all by reminding students and parents to: dress for the weather, wear proper trail footwear, eat a good breakfast, and bring a bottle of water.

6. Review IDNR Kids for Education Webpage and Reserve an IDNR Resource Trunk

www.dnr.illinois.gov/education/atoz.html

- *Review website to view trunk materials and who to contact to reserve a trunk near your location.*

7. Utilize the worksheets and tips included in the following Teacher Resource Packet (pre-visit, visit, or even post visit)!

8. Stop in at the Starved Rock Visitor Center to check out the amazing exhibits and displays about the park or request one of the 15 minute films on the park such as “*In the Shadow of the Rock.*”

Starved Rock State Park

Starved Rock State Park is known for its sandstone canyons and cliffs along the Illinois River in north central Illinois. Thirteen miles of hiking trails take visitors in and out of nine canyons such as Illinois, Ottawa, Kaskaskia, LaSalle, Tonti, Wildcat, French, Aurora, and St. Louis canyons, and seven overlooks like Eagle Cliff, Lovers Leap, Beehive, Sandstone Point, Starved Rock, and Hennepin Canyon overlooks. Visit the IDNR website to download trail maps and individual trail suggestions for your class visit to the park at <https://www.dnr.illinois.gov/park/parks.starvedrock.html>. A common question at the park is “how did the

can-
yons



Starved Rock



Ottawa Canyon



Kaskaskia Canyon



Lovers Leap



Eagle Cliff Overlook



French Canyon



LaSalle Canyon



Tonti Canyon



St. Louis Canyon



Aurora Canyon



Wildcat Canyon



Illinois Canyon

Geology Vocabulary

Bluff-A bluff is a small, rounded cliff that usually overlooks a body of water, or where a body of water once stood.

Canyon-A canyon or gorge is a deep ravine between cliffs often carved from the landscape by water such as a river.

Equator-The Equator is an imaginary circle around Earth. It divides Earth into two equal parts: the Northern Hemisphere and the Southern Hemisphere. It runs east and west halfway between the North and South poles.

Geology-Geology is the study of rocks, and how the earth formed. Scientists who work in geology are called geologists.

Glacier-A glacier is a large area of thick ice that remains frozen from one year to the next. Glaciers also slowly flow over the land. Thousands of years ago, large parts of the world were covered with glaciers. At times glaciers covered about 30 percent of Earth's surface.

River-A river is a large natural stream of water that flows over land.

Sandstone-Sandstone is a sedimentary rock. It is a rock made of compacted sand. Sand is small grains of rocks and minerals (such as quartz and feldspar). These are the most common minerals in the Earth's crust.

Sedimentary-Sedimentary rocks are formed from small pieces of rocks and sand, which are called sediments.

Torrent-A torrent is a large amount of water that is moving very fast. It can be a heavy flow of water with a strong current, such as a rushing stream, a flood, or a heavy rainfall.

Geology Prep and Visit

Pre-Visit

- Discuss the vocabulary list.
- Watch video series:
 - Illinois State Museum
 - <https://www.youtube.com/watch?v=BIKrsksfu70&t=227s>
 - <https://www.youtube.com/watch?v=Xj2GOAjLU6g&list=PL6XF93wsrAWq3HsCY49Eez5kZse0veNUT>
 - <https://sites.google.com/illinoisstatemuseum.org/educatorspage/exploring-geology>
- Have fun with the glacier activity on page 8.

Visit

- Plan a hike into at least one of the eight canyons along the Starved Rock State Park trail system where the geological processes can be seen in the sandstone canyon walls.
 - Closest to the Visitor Center and main parking lot.
 - French Canyon
 - Wildcat Canyon
 - Other parking lots that can accommodate a school bus.
 - St. Louis Canyon
 - Matthiessen Dells area at Matthiessen State Park
- Request the movie "In the Shadow of the Rock" at the Starved Rock Visitor Center.
- Go on a guided hike with one of the park's seasonal naturalists in the fall or full-time Natural Resource

Starved Rock State Park

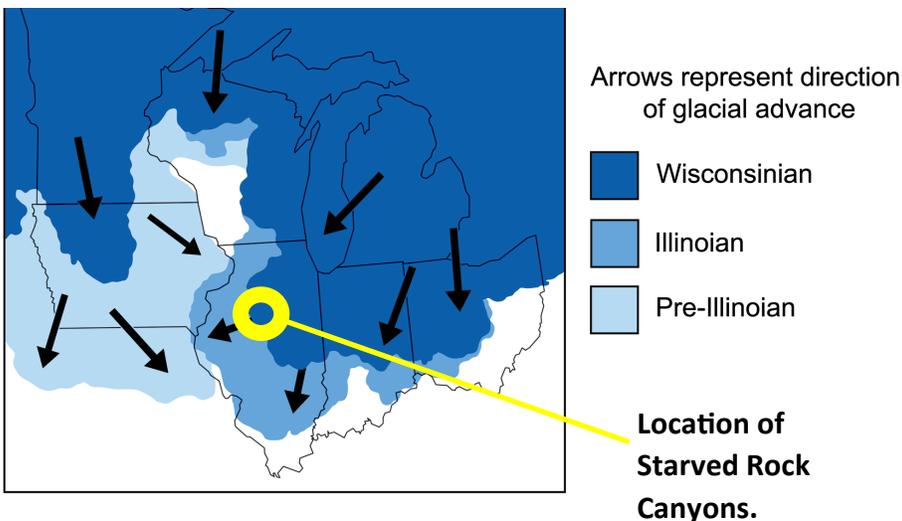
Geology



When you think of sand you think of the beach near a large body of water, right? Starved Rock State Park is quite far from a sandy beach along the ocean or a large lake like Lake Michigan. So where did all of the sand come from and how did it turn into stone? To answer this question scientists called geologists who study the Earth and what it is made of found that Illinois was once located south of the equator and covered in a shallow sea around 460 million years ago.



As rock was broken into tiny bits of rock and minerals through the movement of waves in the sea, sand was deposited on the sea floor and washed upon the shore. Over thousands and millions of years, the sand hardened under pressure from layer after layer and formed sedimentary rock called sandstone.



Fast forward 445 million years to just 16,000 years ago. Illinois is no longer south of the equator, but now located in its present day location and covered in a sheet of ice a mile thick. The rock that once laid over the top of the sandstone was scraped away by previous glaciers and ice ages. Warming temperatures around 10,000 years ago began to melt the glacial ice sheets and floods of water such as the Kankakee Torrent swept through this region. The sandstone was easily carved away by the rushing waters and created the Illinois Valley, present day Illinois River bed, and the sandstone cliffs and canyons that visitors see at the park today.

Starved Rock State Park

Geology Activity

Fill a cup about half full with water. Add blue food coloring until you achieve the shade of blue you want. Mix the food coloring and water with a spoon or by shaking the cup gently without spilling it.

Fill the cup the rest of the way with sand, gravel, or dirt. Mix the contents with a spoon. Place the cup in the freezer overnight; the mixture of water, dye, and dirt will turn into a glacier.

Remove the frozen mixture of sand and water from the freezer. Allowing the cup to sit for a short while will make it easier to extract your glacier from the cup.

Set a baking sheet on the table and spray the surface with cooking spray. Sprinkle 2 cups of flour over the baking sheet, distributing it as evenly as you can manage.

Tip the cup upside down to dislodge the glacier onto one end of the cooking sheet. Push the glacier from one side of the sheet to the other and study the striations and moraines it creates.

https://www.youtube.com/watch?v=FuAx_UBHwjM

Things You'll Need

- Paper or plastic cup
- Blue food coloring
- Water
- Spoon
- Sand, gravel, and dirt
- Freezer
- Baking sheet
- Cooking spray
- 2 cups of flour

There are 3 types of rock that make up our planet. You just learned about sandstone which makes up each of the canyons and bluffs at Starved Rock State Park.

Sedimentary=Sedimentary rock is formed when rocks or even shells from sea creatures are worn away by rain, wind, and time. Those tiny rock particles are then compressed together over time and form sedimentary rocks like sandstone and limestone. Starved Rock State Park 's canyons are made from St. Peter Sandstone which is a sedimentary rock.

Metamorphic= Metamorphic rocks that are formed when other rocks are affected by great temperatures and pressures. Metamorphic rock can be formed from sedimentary or igneous rocks. Marble is a type of metamorphic rock.

Igneous=Igneous rock is formed from magma. Magma is (melted) rock. Geologists call them squished rocks. It is formed inside Earth, where the temperatures are very hot. When magma cools down it returns to a solid state and becomes igneous rock. Lava is on the surface, magma is underground. Most of Earth's crust is made up of igneous rock. Examples of this type of rock include granite and basalt.

www.preschoolplayandlearn.com/types-of-rocks-activities

Ecology Vocabulary

Amphibian-Amphibians are cold-blooded vertebrates (vertebrates have backbones) that don't have scales. They live part of their lives in water and part on land.

Bird-Birds are warm-blooded vertebrates (vertebrates have backbones) and are the only animals with feathers. Although all birds have wings, a few species can't fly.

Carnivore-A carnivore is an animal which eats only meat.

Consumer-Every food web includes consumers—animals that get their energy by eating plants or other animals.

Decomposer-Decomposers are organisms that feed on decaying organic matter, such as dead plants and animals, and break it down into simpler substances. This process is crucial for the recycling of nutrients, as decomposers release carbon, nitrogen, and other elements back into the environment.

Ecology-Ecology is the study of the relationships between living things and their surroundings, or environment. Scientists who work in ecology are called ecologists. Ecologists examine how living things depend on one another for survival. They also study how living things use such natural resources as air, soil, and water to stay alive.

Ecosystem-An ecosystem is made up of all of the living and nonliving things in an area. This includes all of the plants, animals, and other living things that make up the communities of life in an area.

Fish-Fish are vertebrates (vertebrates have backbones) that live in water. They breathe using special organs called gills.

Food Chain-The food chain describes who eats whom in the wild. Every living thing—from one-celled algae to giant blue whales (*Balaenoptera musculus*)—needs food to survive.

Food Web-A food web is similar to a food chain but larger, and it is a diagram that combines many food chains into one picture. Food webs show how plants and animals are connected in many ways to help them all survive, unlike food chains that just follow one path.

Forest-A large area filled with many trees is called a forest. Forests grow in almost every part of the world. The only places bare of forests are deserts, some prairies and mountaintops, and the North and South poles.

Habitat-A habitat is the home of an animal or a plant. Almost every place on Earth—from the hottest desert to the coldest ice pack—is a habitat for some kinds of animals and plants. Most habitats include a community of animals and plants along with water, oxygen, soil or sand, and rocks.

Herbivore-Herbivores are animals that only eat plants.

Insect-An insect is a small animal whose body is divided into three parts. Insects also have three pairs of legs and usually one or two pairs of wings. Insects are arthropods. Bees, ants, butterflies, beetles, and flies are kinds of insects.

Insectivore-An insectivore is an animal or insect that eats mostly insects for food.

Mammal-A mammal is an animal that breathes air, has a backbone, and grows hair at some point during its life. In addition, all female mammals have glands that can produce milk.

Nature-The words nature and natural are used for all the things that are normally not made by humans. The word Nature includes many things like weather, organisms, landforms, and celestial bodies. Scientists study the way the parts of nature work.

Nutrients- Nutrients build up, in the environment. Nutrient-rich soil or water contains large amounts of nitrogen, carbon, phosphorus, sulfur, and potassium. These nutrients can come from natural sources, like plant and animal remains. As plants and animals die, they decompose. Decomposition releases nutrients into the environment.

Omnivore-An omnivore is an animal that eats both plants and animals.

Prairie-A prairie is a type of habitat with mostly grasses, but also flowering plants and occasional shrubs or isolated trees.

Predator-A predator is an animal that hunts, catches and eats other animals.

Prey-Prey is the term used for an animal that is eaten by another animal. Predators hunt their prey for food. An example of this is a fox hunting a rabbit.

Producer-A producer is an organism that makes its own food. Most food chains start with a green plant, because plants make their own food by photosynthesis.

Reptile-Reptiles are cold-blooded vertebrates. (Vertebrates have backbones.) They have dry skin covered with scales or bony plates and usually lay soft-shelled eggs.

Scavenger-An animal that feeds on dead animals that it has not killed itself. Turkey vultures are scavengers and feed on dead animals (carrion).

Starved Rock State Park

Ecology Prep and Visit

Pre-Visit

- Discuss the vocabulary list.
- Watch educational videos:
 - Illinois Department of Natural Resources
 - <https://www.youtube.com/watch?v=JW4a7aBeIGQ>
 - <https://www.youtube.com/watch?v=cPsGgSLPBeA>
 - Illinois State Museum
 - <https://www.youtube.com/watch?v=1qXQ0i2B7yU>
 - <https://www.youtube.com/watch?v=78Lfdpj2j-o>
 - https://www.youtube.com/watch?v=-c_SnARAV7M
 - Moo Moo Math and Science-What is a Food Web?
 - <https://www.youtube.com/watch?v=bCQpE8xV9wU>
- Utilize the worksheets listed on pages 12-15.
- Check out the IDNR Educational Trunks from the Starved Rock Visitor Center.
 - Mammals
 - Insects
 - Pollinators
 - Prairie
 - Trees
 - Aquatic

Visit

- Plan a hike to Starved Rock or Matthiessen State Park.
 - The tallgrass prairie can be seen at the Matthiessen Vermillion River Area access off of route 178 or at the south entrance to Starved Rock State Park off of route 71. Parking is available at both locations, but trails are only available at Matthiessen through the prairie but a guided hike with one of the seasonal park naturalists or Natural Resource Coordinator can be arranged to the Starved Rock Nature Preserve prairie or the tallgrass prairie at the south entrance of the park.
 - The oak-hickory forest can be experience along any trail at Starved Rock State Park or Matthiessen State Park. The best trails to experience the forest are the brown bluff trails at Starved Rock State Park.
 - Wetland habitats can be seen at Matthiessen Lake at Matthiessen State Park or the sea wall area from the boat ramp down to Lone Point Shelter at Starved Rock State Park along the Illinois River.
- Other parking lots that can accommodate a school bus.
 - St. Louis Canyon
 - Matthiessen Dells area at Matthiessen State Park
- Request the movie “On the Wings of the Wind” about bald eagles at Starved Rock State Park.
- Go on a guided hike with one of the park’s seasonal naturalists in the fall or full-time Natural Resource Coordinator in the winter and spring.

Starved Rock State Park

Ecology

An ecosystem is made up of all of the living and nonliving things in an area. This includes all of the plants, animals, and other living things that make up the communities of life in an area. An ecosystem also includes nonliving materials—for example, water, rocks, soil, and sand. Starved Rock and Matthiessen State Parks are part of the Grand Prairie Division and the Upper Mississippi River and the Illinois River Bottomlands Division of Illinois.

A habitat is the home of an animal or a plant. Almost every place on Earth—from the hottest desert to the coldest ice pack—is a habitat for some kinds of animals and plants. Most habitats include a community of animals and plants along with water, oxygen, soil or sand, and rocks. Habitats at Starved Rock and Matthiessen State Parks include tallgrass prairie, oak-hickory forest, Illinois River, forest wetlands, and sandstone canyons.

A wide diversity of wildlife call these habitats home. White pelicans migrate through every March and stay through November. They can be seen bobbing along the surface of the Illinois River searching for fish. Another large bird, the wild American turkey can be found roaming the woodlands at both parks in search of nuts and berries as it forages through the leaf litter. Song birds such as tanagers, warblers, cardinals, blue jays, and chickadees can be seen and heard through the spring and summer months.

Bald eagles have been sighted in the park on occasion, particularly during severe winters. The northern eagles' main flyway is the upper Mississippi River; however, in severe winters, when water freezes over, they go in search of open water. The water below the Starved Rock Dam does not freeze because of the constant motion of water that runs through the dam and into turbines which convert the power of the water's movement into energy for the local town of Peru, Illinois. This serves as an excellent fish buffet for the bald eagle.

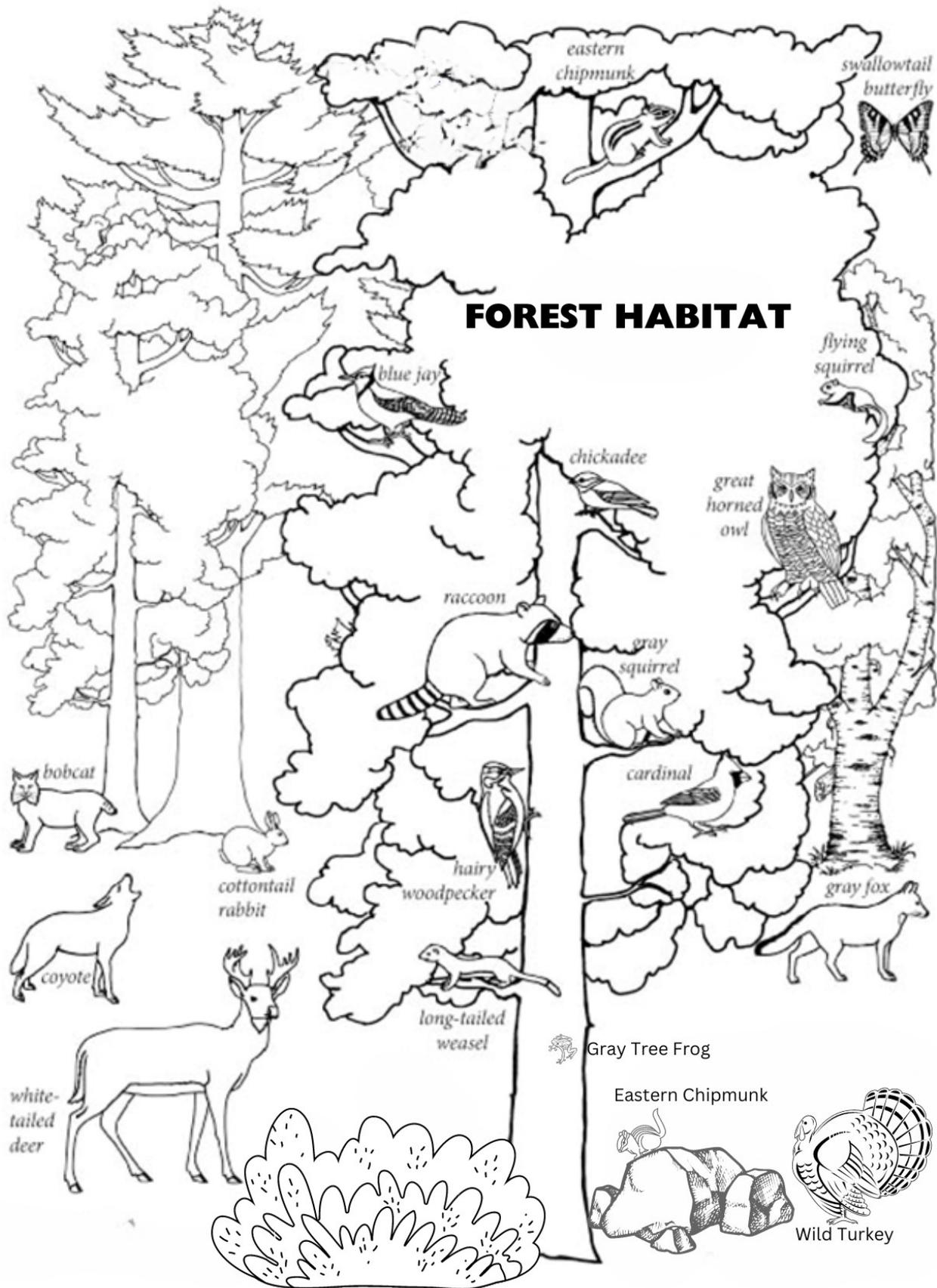
Other animals include mammals like white-tailed deer, gray and red foxes, groundhogs, striped skunks, opossums, chipmunks, ground squirrels, voles, moles, beavers, and even river otters!

Amphibians can be found in the park's wetland areas at the west entrance, canyon creeks, Matthiessen Lake, and along the shallow wide waters of the Illinois and Vermillion Rivers. Amphibians like the tiger salamander, northern leopard frog, cricket frog, chorus frog, green frog, bullfrog, wood frog, grey tree frog, and the American toad can be found in these areas.

Reptiles like the common water snake, garter snake, rat snake, and little brown snake can be found sunning themselves along the rock outcrops or crawling through the leaf debris on the forest floor. Other reptiles like the snapping turtle, painted turtle, and spiny softshell turtles can be seen along the Illinois River.

Fish such as the bullhead catfish, long-nosed gar, short-nosed gar, black spotted crappie, bluegill, sunfish, carp (and Non-native carp like Copi), sauger, muskie, and more swim the waters of the Illinois River at the park.

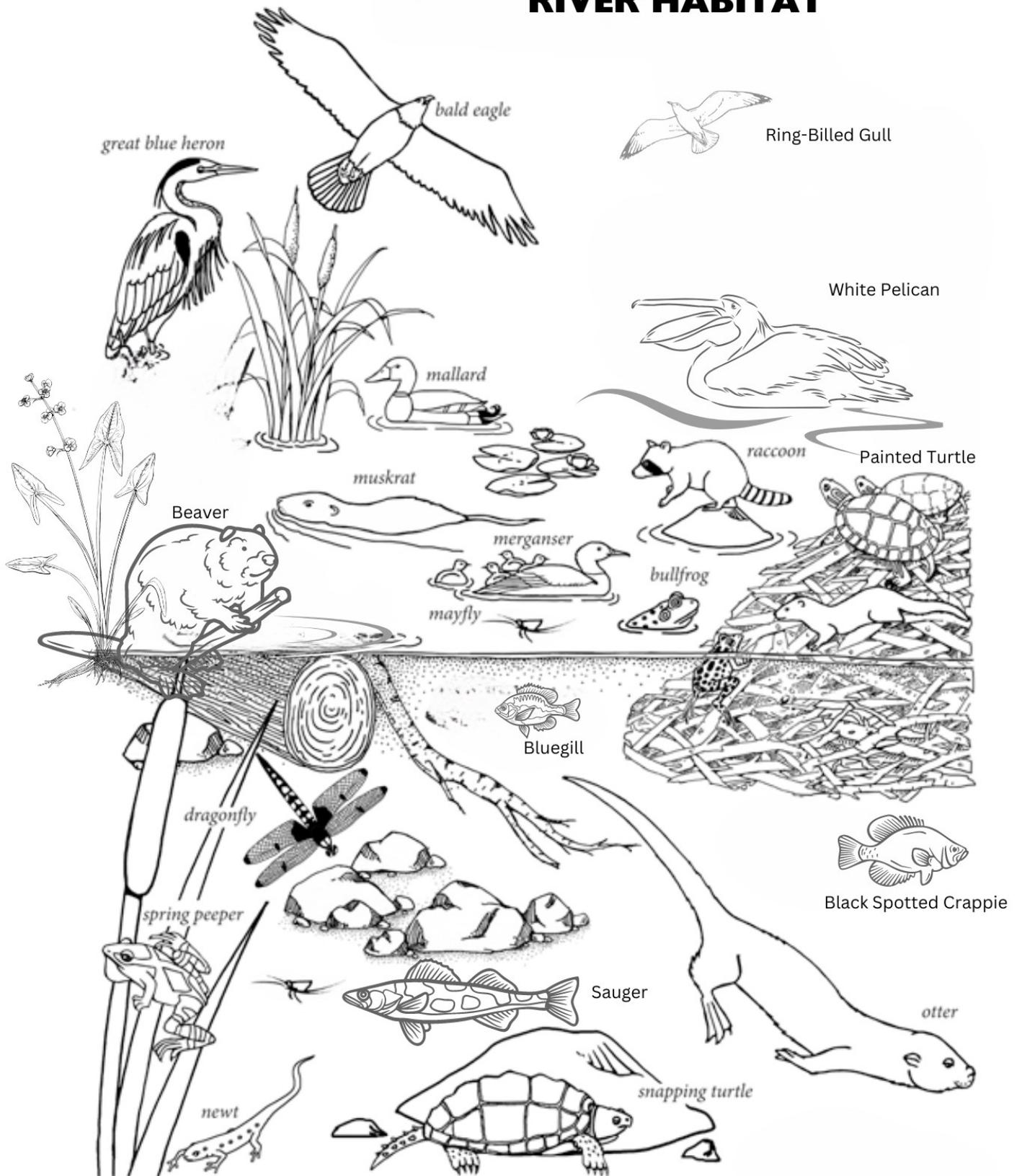
Take a moment to color in the following page of Park habitats before designing your own habitat on page 15.



PRAIRIE HABITAT



RIVER HABITAT



Illustrate/Draw your habitat (plants, animals, sky, and ground.)

What is the name of your habitat?

Name the animals that live in your habitat.....

What is an interesting fact about your habitat?

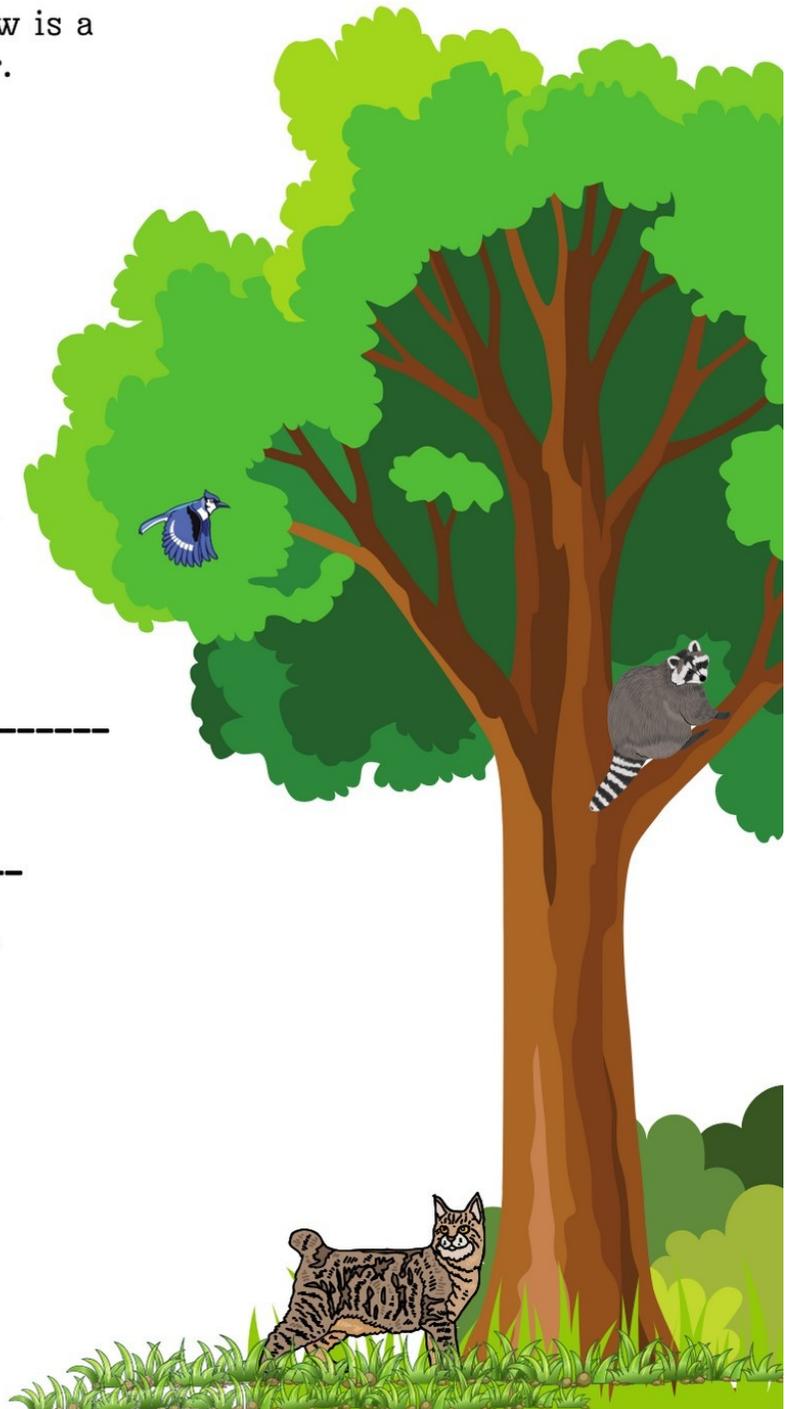
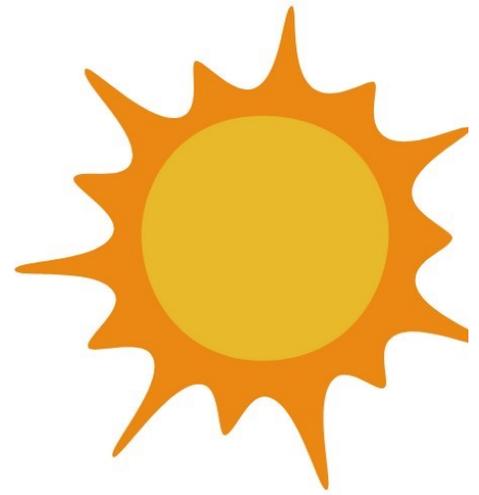
A **producer** is a living thing that makes its own food from sunlight, air, and soil. Green plants are producers who make food in their leaves.

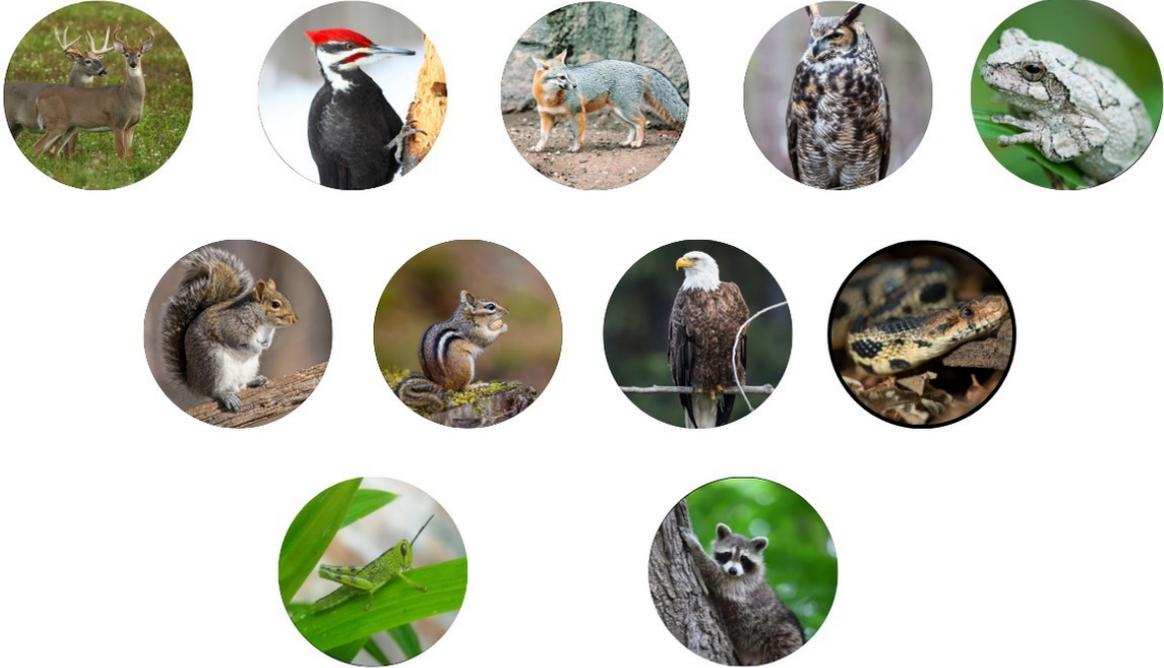
A **consumer** is a living thing that cannot make its own food. Consumers get their energy by eating food. All animals are consumers.

A **decomposer** is a living thing that gets energy by breaking down dead plants and animals. Fungi and bacteria are the most common decomposers.

Tell whether each living thing below is a producer, consumer, or decomposer.

- a. oak tree _____
- b. mushroom _____
- c. dragonfly _____
- d. bobcat _____
- e. fern _____
- f. water snake _____
- g. owl _____
- h. acorn _____
- i. wild raspberries _____
- j. bacteria _____
- k. blue jay _____
- l. catfish _____





Cut out the animal pictures above and glue them to the circle located in the layer of the forest where they live on the next page.

There are several layers of the forest where wildlife lives, eat and raise their young.

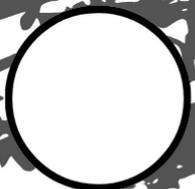
Canopy: The canopy is the top layer of the forest filled with branches, leaves, and twigs. This area receives light and warmth from the sun and is filled with diverse life such as birds and insects.

Understory: Young trees, short trees, shrubs, and vines make up the forest's understory. Those plants and animals in this forest layer do not need as much sunlight as those in the canopy. Animals like squirrels, raccoons, opossums, chipmunks, birds, insects, amphibians like tree frogs, and more live in this layer.

Forest Floor: The forest floor is the lowest layer of the forest. It is covered in dead leaves, twigs, fallen trees, animal scat, moss, mushrooms, grasses, flowers, and more. Decomposers like fungi, insects, bacteria, and earthworms live here and their job is to reuse and recycle dead plants, dead animals, animal scat, into soil so the forest can keep growing and producing new plants and trees. Animals like deer, foxes, snakes, and turkey look for food and shelter in this layer of the forest.

Layers of Life in the Forest

There are 4,832,549 acres of forested land in the state of Illinois!



Bald Eagle.

I live along rivers and eat fish. I build large nests in tall trees like the white pine.

CANOPY

Great Horned Owl.

I am a large nocturnal bird that nests in trees.

Pileated Woodpecker

I eat insect larvae that live in the bark of trees.

Raccoon

I am a mammal that lives in tree cavities. I hunt at night and eat both plants and animals making me an omnivore.

Gray Squirrel

I am an excellent climber. I will hop from tree to tree and along the forest floor in search of seeds, nuts, insects, and even bird eggs to eat.

Gray Tree Frog

I am an amphibian. I live in trees and shrubs and feast on insects.

UNDERSTORY

Grasshopper

I have 6 legs which makes me an insect. I am an herbivore which means I eat plants.

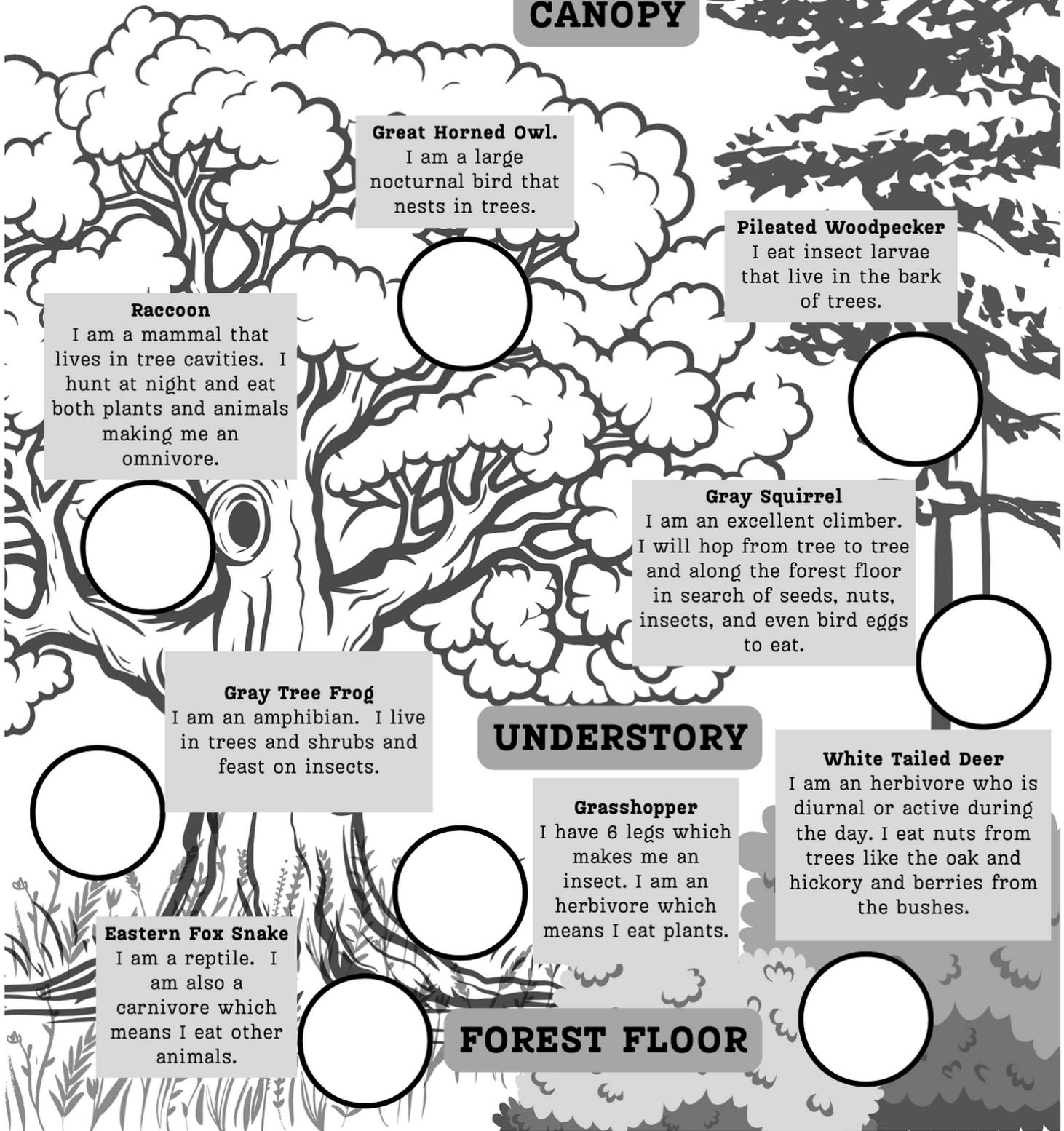
White Tailed Deer

I am an herbivore who is diurnal or active during the day. I eat nuts from trees like the oak and hickory and berries from the bushes.

Eastern Fox Snake

I am a reptile. I am also a carnivore which means I eat other animals.

FOREST FLOOR



Plant Vocabulary

Coniferous-Conifers are a group of trees and shrubs that produce cones. The cones carry their seeds. Most conifers are evergreens, or trees that keep their leaves year-round. Their thin leaves are usually called needles.

Deciduous-Deciduous trees have leaves that drop off each year. Oaks and maples are deciduous trees, but pines keep their needles.

Forest-A large area filled with many trees is called a forest. Forests grow in almost every part of the world.

Fungi-A fungus is a simple organism, or living thing, that is neither a plant nor an animal. When there is more than one fungus they are called fungi. Some familiar fungi are mushrooms, molds, mildews, truffles, and yeasts.

Photosynthesis-Photosynthesis is the process in which green plants use sunlight to make their own food. Photosynthesis is necessary for life on Earth. Without it there would be no green plants, and without green plants there would be no animals.

Plant-One of a large group of living things that make their own food. Many use sunlight to make their own food. Most plants have leaves, stems, roots and either flowers or cones. Plants use a green pigment called chlorophyll to absorb energy from sunlight.

Plant Prep and Visit

Pre-Visit

- Practice vocabulary
- Watch educational videos:
 - Monster Math-What are Plants?
 - <https://youtu.be/BwYjVLMucX0>
 - Peekaboo Kidz-Parts of a Plant
 - <https://youtu.be/p3St51F4kE8>
 - Happy Learning-Photosynthesis
 - <https://youtu.be/UPBMG5EYydo>
 - Learn Bright-Trees for Kids
 - https://youtu.be/uipjCTg_PqQ
- Utilize the worksheets listed from page 21-23
- Check out the IDNR Educational Trunks from the Starved Rock Visitor Center.
 - Prairie
 - Trees

Visit

- Plan a hike to Starved Rock or Matthiessen State Park.
 - Try your hand at tree identification along the trails. Fall is one of the best times to visit the park and witness the foliage changing colors ! Print off the worksheet on page 23 and group students into pairs to see how many trees they can identify.
- Go on a guided hike with one of the park's seasonal naturalists in the fall or full-time Natural Resource Coordinator in the winter and spring.

Starved Rock State Park

Plants

Like animals, plants are a living group of organisms found on our planet. Most plants have leaves, stems, roots and either flowers or cones. Plants use a green pigment called chlorophyll to absorb energy from sunlight and change it to food to help the plant grow through a process called photosynthesis. Grasses, trees, vines, vegetables, cactuses, ferns and mosses are plants.

Non-flowering plants like ferns do not produce a flower but have spores that scatter in the air or ground and will produce new ferns. Flowering plants are the most visible to visitors along the trails such as trees like the Northern Catalpa and wildflowers like the Virginia bluebell that cover the floor of Illinois Canyon. Flowering plants are pollinated by insects or even the wind and once pollinated will produce a seed that will grow into a new plant. Some plants produce cones like the northern white pine trees that cling to the sandstone canyon walls. Seeds grow inside of the cones and once the cones dry, open, or fall to the ground will produce a new tree.

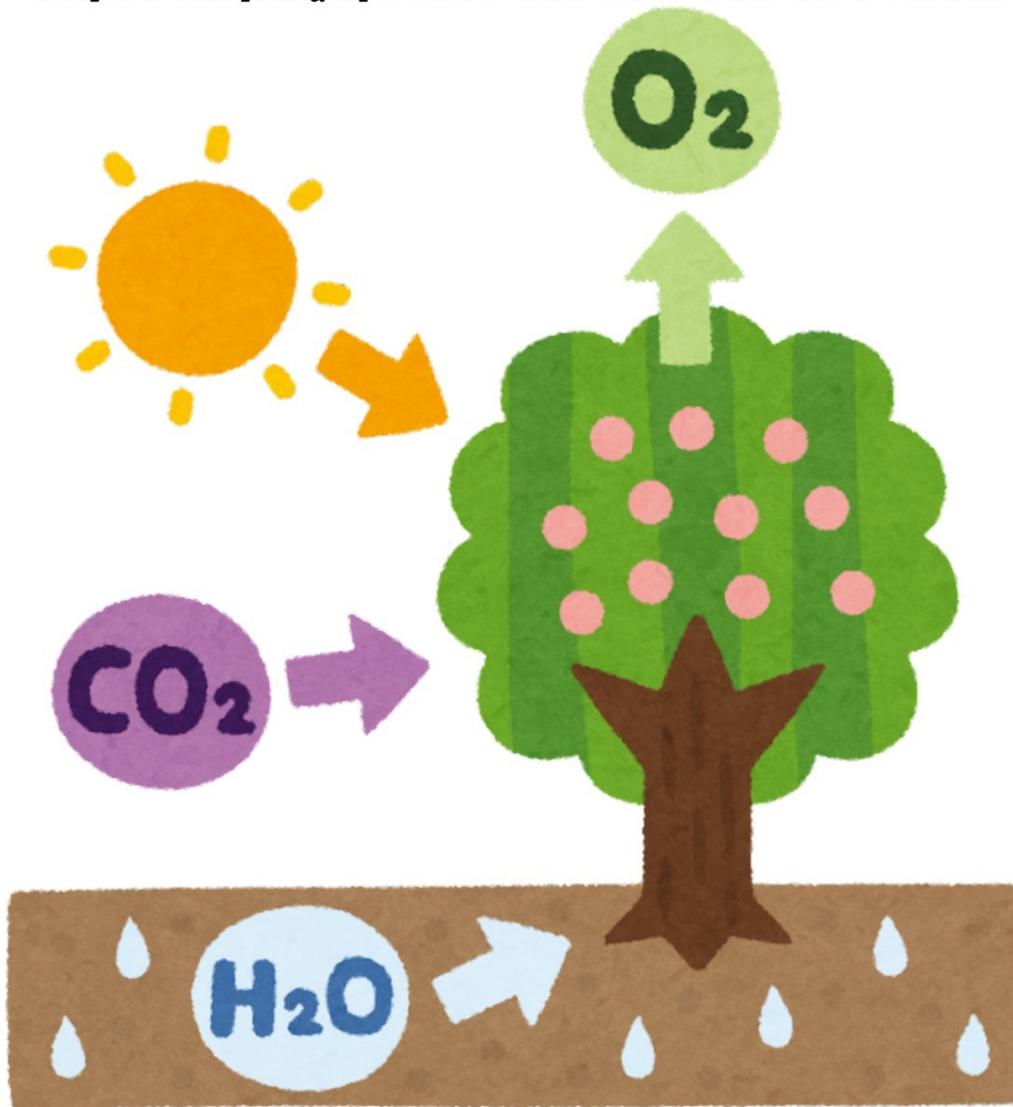
Some plants like trees change their leaf color in fall when they approach the end of their growing season. The green of the leaves created by chlorophyll fades away when the chlorophyll shuts down as the sun moves further away as we approach winter. Colors such as gold, yellow, orange, red, and even purple emerge on fall leaves from other pigments in the plant that were hidden by the powerful green chlorophyll during the summer months.

Plants are an important source of food and shelter for many species of wildlife at Starved Rock and Matthiessen State Parks. Hickory, walnut, and oak trees provide nuts and acorns for squirrels, wood ducks, deer, turkey, and chipmunks while wildflowers that bloom in the woodlands and prairies provide nectar and pollen for birds like the ruby-throated hummingbird and butterflies like the Illinois state insect the Monarch butterfly. Many bird species such as the black-capped chickadee line their nests with moss while the Eastern Bluebird picks grasses like the big bluestem from the prairie to line its nest in our nesting boxes located in the prairie at our south entrance into Starved Rock State Park.

Spring, summer, fall, or winter students will find plants of all shapes and sizes to admire, appreciate, and identify! Please remember that all plants and wildlife are protected at the state park and should never be disturbed (going off trail), picked, or dug up. Try taking students on a fun "I Spy" or "Color" hike at the park to find what is blooming in the spring or changing in the fall.

What is Photosynthesis?

Complete the paragraph below with words from the word box.



_____ is the process by which plants produce their own food in the presence of _____, _____ and _____. Plants contain a green pigment named _____ that absorbs sunlight. Energy from the sun, carbon dioxide from the atmosphere and water absorbed by the roots react to produce _____ that plants need to survive. _____ us released into the environment for animals and humans to breathe.

oxygen

sunlight

glucose

water

photosynthesis

chlorophyll

carbon dioxide

Starved Rock State Park

Plants Activity

1. Write the correct word underneath the picture. Use the words to help you.

cone

spore

seeds

moss

fern











2. Draw a line and match the word to the correct definition

WORD

Flowering Plant

Non-Flowering Plant

Cone

Seed

Spore

DEFINITION

plants that grow without flowers.

they grow seeds inside them.

are small cells that grow into a new plant.

flowering plants use these to make another plant grow.

plants that grow flowers and seeds.

What Kind of Tree is It?

This is a dichotomy key which helps people decide what kind of tree they are looking at by identifying the leaf. Follow the key below to find out what kind of tree the leaf belongs to. Can you find examples of these leaves on trees in your backyard, school yard, or local park?

1. a. Needle like leaves. Go to #2.
b. Non-needle like leaves. Go to # 3.
2. a. Needles are clustered in groups of 5. **White Pine**
b. Needles are wrapped in clusters. **Eastern Red Cedar**
3. a. Simple leaf (single leaf). Go to #4.
b. Compound leaf (more than one to a stem). Go to #7.
4. a. Leaf has a smooth edge. Go to #5.
b. Leaf has a jagged edge like a saw blade. Go to #6.
5. a. Leaf edge is smooth. **Gray Dogwood**
b. Leaf edge is lobed. **White Oak**
6. a. Leaf edge is small and tooth-like. **America Elm**
b. Leaf edge is large and tooth-like **Cottonwood**
7. a. Leaflets attached at one single point. **Horse Chestnut**
b. Leaflets each attached along the stem at different points. **Black Walnut**



5a



7a



6a



6b



2a



5b



7b



2b

Starved Rock State Park

History Vocabulary

Explorer-An explorer travels to places where their people have not been before or places that are unknown to them.

Fur-Fur is the soft thick hair that covers the bodies of certain animals such as the mink, cat, or fox.

Illinois- A confederation or group of small American Indian tribes, the Illinois originally lived in what are now northern Illinois, southern Wisconsin, and parts of Missouri and Iowa. The best known of the Illinois tribes were the Cahokia, Kaskaskia, Michigamea, Peoria, and Tamaroa.

Indigenous- Indigenous People are the first people who lived in a place, before other people came and settled there. They are also known as First Peoples, First Nations, Aboriginal Peoples or Native Peoples. Indigenous People have their own cultures, languages, and traditions that are different from those who came later. They are part of the history and diversity of the world.

Inoca-The Inoca (Illinois) Confederacy traditionally includes these five principal nations: Cahokia Nation, Kaskaskia Nation, Michigamea Nation, Peoria Nation, and Tamaroa Nation.

Kaskaskia-The Kaskaskia were one of the Native American tribes of the Northeastern Woodlands. They were one of about a dozen tribes that made up the Illinois Confederation. They mostly lived in the Great Lakes region. The descendants of the Kaskaskia, along with the Wea and Piankeshaw, are in the Peoria Tribe of Indians of Oklahoma. That means they are a federally recognized Tribe in Oklahoma.

Legend- A legend is a story or group of stories that have been handed down from a time long ago and that many people in a society know but cannot prove to be true or untrue.

Pontiac-Pontiac was a Native American chief of the Ottawa people. He is best known for leading a war to stop the British from taking control of the Great Lakes area.

Voyageur-A person hired by fur companies to transport goods and supplies between trading posts in North America during the 1600-1800s.

Wigwam-A hut or tent with a domed or conical roof made by fastening bark, hides, or reed mats over a framework of poles.

Starved Rock State Park

History Prep and Visit

Pre-Visit

- Discuss the vocabulary on page 24.
- Watch educational videos:
 - Illinois Department of Natural Resources
 - <https://www.youtube.com/watch?v=FyFqU6dftSs>
 - <https://www.youtube.com/watch?v=2SkG-0MVRDc>
 - <https://www.youtube.com/watch?v=iwqF-JQbZPM>
 - Illinois State Museum
 - <https://sites.google.com/illinoisstatemuseum.org/educatorspage/indigenous-people>
- Utilize the activities and worksheets listed on pages 28-35.

Visit

- Plan a hike to Starved Rock, the highest point of the park and the location of Fort St. Louis with views of the Illinois River and the site where the Grand Village of the Kaskaskia was once located. Interpretive panels on top of the rock are a great resource to visit with students.
- Request the movie “In the Shadow of the Rock” at the Starved Rock Visitor Center.
- View the various displays and exhibits on the Park’s history at the Starved Rock Visitor Center.
- Go on a guided hike with one of the park’s seasonal naturalists in the fall or full-time Natural Resource Coordinator in the winter and spring.

Starved Rock State Park

History

Humans have occupied the area of Starved Rock for over 10,000 years!

10,000 to 20,000 years ago — Paleo-Indians migrate to Illinois. They gather wild plants and hunt animals, including the giant bison, woolly mammoth and mastodon. During this time the area of Starved Rock and Matthiessen are covered in an ice sheet a mile thick as part of a large glacier during the last ice age.

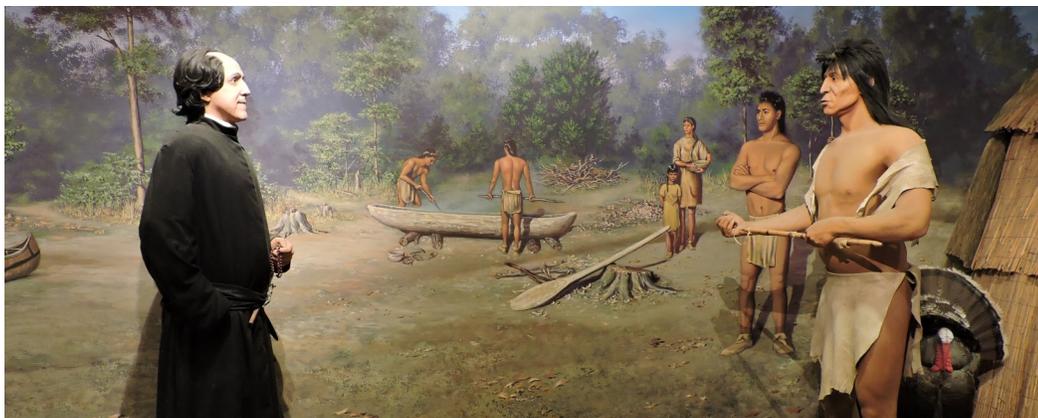
2,000 to 10,000 years ago — During the Archaic Period, Illinois inhabitants cultivated plants and created specialized tools for hunting and fishing. The region underwent a climate change and the temperature warmed creating grasslands, rivers, creeks, and vast forests. Plants and animals also changed providing a diversity of different types of wildlife such as bison, deer, elk, wolf, bear, cougar, and more.

1100 to 2,000 years ago —The Woodland culture developed maize agriculture, built villages and burial mounds, developed the bow and arrow for hunting, and made pottery. The constant development and cultural advancements increased sophistication for the Woodland peoples, and provided the opportunity to develop permanent settlements.

500 to 1100 years ago — The Mississippian culture improved agricultural methods, built temple mounds and large fortified villages. Their works include Cahokia Mounds located just east of St. Louis along the Mississippi River. At the time, it was the largest North American city outside of Mexico. Most of the Mississippian settlements were abandoned prior to the arrival of European explorers.

1673 — Frenchmen Jacques (Pere/Father)

Marquette a Jesuit priest and explorer Louis Jolliet traveled down the Mississippi River to Arkansas and returned to Lake Michigan by way of the Illinois River. They stopped at the Grand Village of the Kaskaskia across from Starved Rock. The Kaskaskia tribe were part of the Inoca, a Native American confederation consisting of Cahokia, Kaskaskia, Michigamie, Peoria and Tamaroa, who the French referred to as the "Illinois."



Starved Rock State Park

History

1682— French explorer Robert Rene Sieur de La Salle commanded Henry Tonti and 24 Frenchmen to build Fort St. Louis on top of the large sandstone butte known as “Le Rocher” by the French now called Starved Rock today. Fort St. Louis served as the center for trade along the Illinois River for 8 years. It brought tribes of Indigenous People in from all over the Midwest to trade animal furs called pelts for metal items such as axes, knives, guns, tools, and textiles for clothing such as cotton and wool.



1691— Fort St. Louis closes due to a lack of resources such as timber for firewood and wildlife for food. The Tribes that had congregated in the area as well as the French who occupied the fort move further south to Fort Crevecoeur near present-day Peoria.

1700- The town of Kaskaskia near the Kaskaskia River is founded by the French.

1718- New Orleans is founded. The Illinois country which was once governed by Canada is now governed by New Orleans and the French Company of the Indies.

1719- Fort de Chartres is built and becomes the center of French colonial government in Illinois.

1730- French and Indian allies attack the Fox Indians who had threatened the French settlements in central Illinois.

Starved Rock State Park

History

1731- Illinois becomes a royal province, governed directly by the French crown.

1754- Marks the beginning of the French and Indian War between various Tribes, the French, and the British.

1763- Jesuits in Illinois were expelled from the region after the French crown disbanded their religious order.

1763- The French and Indian War comes to an end. The Illinois country is now under the rule of Great Britain.

1769- Chief Pontiac of the Odawa Tribe is murdered by an Illinois Indian at a trading post near Cahokia, Illinois. The legend of Starved Rock states that the Odawa People and their allies the Potawatomi attacked an Illinois village next to present day Starved Rock in retaliation for the murder of their chief.

The Starved Rock Legend

The name Starved Rock comes from a legendary incident that was said to have occurred in the year 1769. According to the legend, the Illinois Indian tribe was trapped on the summit of Starved Rock, surrounded by their enemies the Odawa (Ottawa) and Potawatomi tribes, and in some accounts the Kickapoo and Miami Indians. Unable to obtain food or water, the Illinois were said to have died on the summit of Starved Rock, while other accounts say that they were killed below the Rock while trying to escape their enemies.

Although, the legend of Starved Rock is well-known, there is no evidence that the Illinois Indians were killed at Starved Rock after the death of Pontiac. What is known is that the Illinois continued to live in southern Illinois until 1832 when they sold their remaining land to the United States government and moved to Kansas.



Photo of Starved Rock by G. Hupp

Starved Rock State Park

History

1775- Paul Revere warns colonists about a British attack. The "shot heard round the world" occurred on April 19, 1775, which marked the official beginning of the Revolution with an American victory.

1776- Thomas Jefferson's draft of the Declaration of Independence was adopted on July 4th, declaring a separation of America from Britain.

1778- George Rogers Clark and his American troops arrived to claim the Illinois country, which became a county of Virginia.

1783- The Treaty of Paris is signed on September 3, 1783 officially ending the Revolutionary war and British rule over America.

1785- Now part of the Northwest territory, Illinois is divided into townships, with land set aside for public schools. Slavery is abolished by law, but still persists in the region.

1800- Congress creates the Indiana Territory which includes Illinois.

1803--The Kaskaskia ceded their remaining lands and territory but for 1600 acres to the United States.

1803- Congress organizes the Illinois territory, with Kaskaskia as the capital.

1818--Treaty of Edwardsville forces all Peoria from their lands in Illinois to Missouri. Illinois becomes the 21st state in the United States.

1819- The Kickapoo Tribe moves west of the Mississippi River, relinquishing most claims to central Illinois.

1820- Vandalia becomes the state capitol of Illinois.

1832-- The Kaskaskia united with the Peoria and exchanged their remaining lands for a reservation in Kansas.



Painting of a Kaskaskia Chief.

Starved Rock State Park

History

1835– Daniel Hitt is one of the first private land owners of Starved Rock. The U.S. government gave him the land as pay for his time with the army.

1839- The Cherokee Indians pass through southern Illinois on the “Trail of Tears” to Oklahoma. Springfield becomes the new capital of Illinois.

1848- The Illinois and Michigan Canal is completed connecting the Chicago River with the Illinois River.

1854-The Kaskaskia and Peoria joined with the Wea and Piankashaw in forming the Confederated Peoria tribe, which was assigned a new home in northeast Indian Territory (present Ottawa County, Oklahoma) in 1867.

1890– Daniel Hitt sells Starved Rock and most of the surrounding land including some of the canyons to Ferdinand Walther of Chicago. Mr. Walther built the first Starved Rock Hotel at the base of Starved Rock and operated a restaurant, dance hall, swimming pool, and ferry boat transport at the park.



1911- The State of Illinois purchases the Starved Rock area from Ferdinand Walther and it becomes the 2nd state park in Illinois known as Starved Rock State Park. The purchase helped save the natural features such as the canyons and overlooks from being sold to mining companies who would have turned the area into a quarry to mine the sandstone.

1931-1941– President Franklin Roosevelt created the Civilian Conservation Corps also known as the CCC to help give men jobs. There were 3 companies stationed at Starved Rock State Park who helped build trails, bridges, cabins, and more.

1938– The Starved Rock Lock and Dam and the Starved Rock Lodge were completed. The Starved Rock Lock and Dam made it possible for further transportation of goods along the Illinois River by deepening the shallow river waters. The Lock and Dam is a hydroelectric plant that generates power through the movement of water for the nearby city of Peru, Illinois.

1943– Frederick Matthiessen’s family gives Deer Park to the state of Illinois and it becomes Matthiessen State Park.

The Illinois Alliance, also known as Inoca, was a group of 12–14 Native American subtribes. One of these subtribes were the Kaskaskia who lived near the Illinois River across and upstream from today's Starved Rock State Park. At the time of European contact in the 17th century, the Illinois numbered about 10,000 people. They occupied a territory that spread from modern-day Iowa to near the shores of Lake Michigan, and north into today's Wisconsin.

Much of what we know today about the Illinois comes from reports written by Jesuit missionaries from France who sometimes traveled with French Explorers during the 1600's and 1700's. One place named for one of the Illinois subtribe, the Peoria, was used as the name for a French settlement, now the City of Peoria, Illinois. By the mid to late 1700's the Illinois' numbers had dwindled to only four subtribes. Gradually, the Illinois migrated from their villages in the Illinois Valley and settled at sites near the Mississippi in southern Illinois. In 1832 the Illinois relinquished their Illinois and Missouri lands to the US government and settled along the Osage River in today's Kansas. In 1854, two Miami subtribes merged with the remaining Illinois and became the Consolidated Peoria Tribe. Then in 1868, the Peoria group moved to today's Miami, Oklahoma, in the northeast part of the state where they became the Peoria Indian Tribe of Oklahoma.

The Illinois moved from summer villages to winter hunting camps following the seasons. Their wigwams or summer "cabins," as the French called them, were constructed of reed mats that could be packed up and carried to new village sites. They planted maize (corn), beans, and squash, known as the "Three Sisters". They prepared dishes such as sagamite, a combination of vegetables that was oftentimes mixed with animal fat or meat. They also gathered wild foods such as nuts, fruit, roots, and tubers. During the summer, the Illinois participated in the summer bison hunt, which lasted between three to five weeks. Illinois men also hunted deer, elk, and bear. Illinois women used every part of the animals they hunted including jerky from the meat, animal skins or pelts for weapons, clothes, blankets, and tools.



Starved Rock State Park

History Activity

Wigwam Construction: STEAM

The Kaskaskia People lived in villages of small round houses called wigwams.

What you need:

6 for each student or pair of (buddy up)

Square pieces of cardboard box for each student/pair

Circle to trace/tree bark sheets

Instructions:

Have students trace the circle template onto their square piece of cardboard. The sample pictured uses only 6 pipe cleaners and is simplified for younger learners. Punch 2 pipe cleaners in at 12 o'clock (about 1 inch apart). Next punch the other end of the pipe cleaners at 6 o'clock on your traced circle. Do the same at 3 and 9 o'clock. Then create 2 hoops around the wigwam, leaving an opening for a door (see image). Once the base is constructed, have students glue on brown pieces of construction paper and tree bark.

Optional Extension Activity:

Ask your class to research what would have been used to cover the outside of the wigwam, and why do they think they would have used that material and what other materials might have worked?



THE FUR TRADE GAME



The fur trade was a booming business in North America from the 1500s through the 1800s. When Europeans first settled in North America, they traded with the Indigenous People who were already there. The Indigenous People often gave the settlers animal furs in exchange for metal tools, weapons, cotton clothing, blankets, and other supplies. The settlers then sold many of the furs in Europe. There, wealthy people had a high demand for furs. They used beaver, fox, mink, and other types of fur for hats and clothing.

The Native groups such as the Illinois (Peoria, Kaskaskia, Cahokia, Tamaroa) that traded with the French in the Starved Rock region gained access to goods from Europe, but the fur trade made them dependent on Europeans for some things and changed their way of life forever.

At the beginning of the fur trade, the Indigenous Peoples such as the Illinois' worked with the French at Fort St. Louis located on top of Starved Rock from 1683-1691. Fort St. Louis was the center of trade and cultural relations between the French and Indigenous Tribes of the Midwest region during this time.



How to Play the “Fur Trade Game”

Try playing the following “Fur Trade” game with your students. Divide your class into Indigenous hunters looking for beaver pelts to use for trade (3/4 of the class) and the remaining students will play French voyageurs at Fort Saint Louis who will trade European manufactured goods for the beaver pelts (1/4 of the class).

Cut out each of the beaver cards and scatter/hide them around the classroom or outside. Print off one of the trade cards (how many beaver pelts for various items) for each student or a couple as a reference to place at the makeshift French fort you have designated nearby.

Students will go on a hunting trip to see how many beavers (cards) they can catch to trade for needed goods from the French such as blankets, metal items, and more. The student with the most beaver pelts will be able to trade for the most goods.





BEAVER



BEAVER



BEAVER



BEAVER



BEAVER



BEAVER



BEAVER

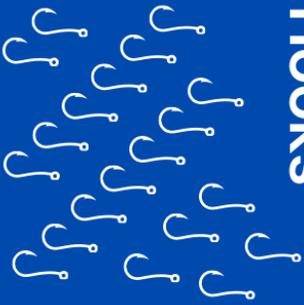


BEAVER



20 Fish

Hooks



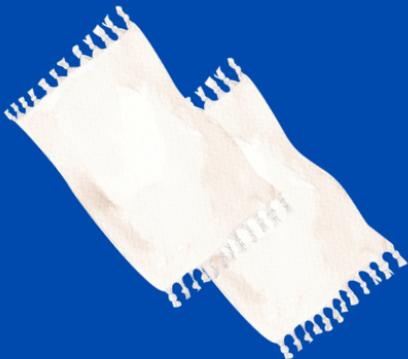
1 pair of pants



10 Buttons



2 Blankets



Set of Metal Utensils: spoon and bowl.



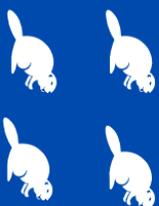
2 Combs



1 Mirror



3 Metal Knives



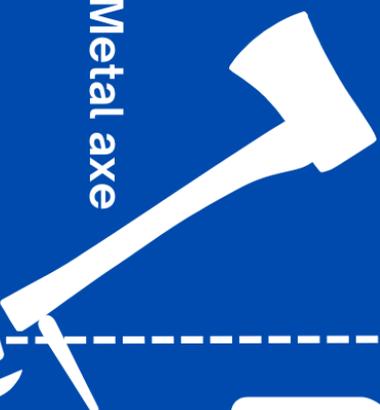
6 Thimbles



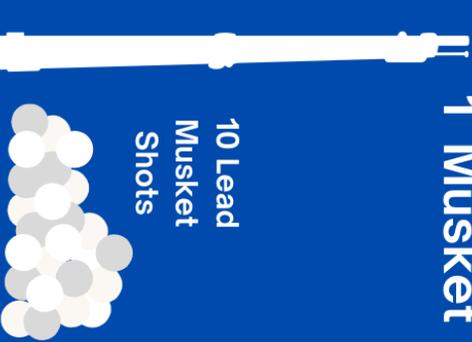
2 Cast Iron Pots



1 Metal axe



1 Musket



10 Lead Musket Shots



1 Canvas Tent



Starved Rock State Park Area Activities

Things to Do:

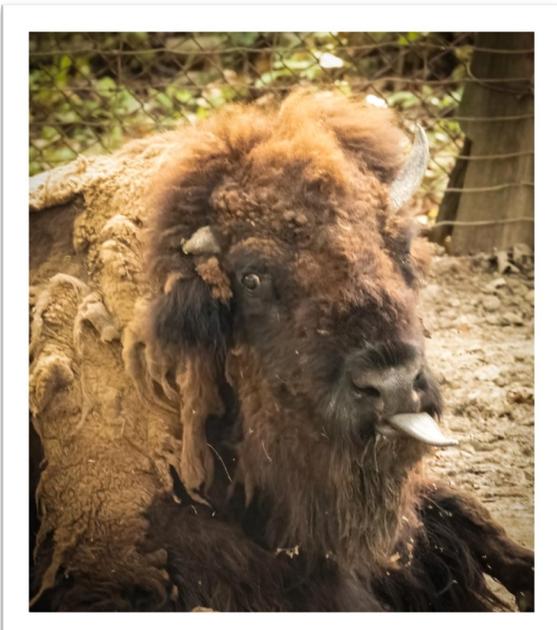
- Visit the Visitor Center and watch a short film.
 - 15 min. -In the Shadow of the Rock**
(history, geology, and ecology of the park)
 - 15 min-On the Wings of the Wind**
(bald eagles)
 - 9 min-Smokey the Bear and Friends**
(cartoon for kids)
 - 15 min-Civilian Conservation Corps**
(1930s history at the park)



- View the exhibits in the Visitor Center that detail the park's history, geology, and ecology.
- Reserve an IDNR Resource Trunk ahead of time with the Natural Resource Coordinator (lisa.sons@illinois.gov) and use the trunk materials in class before the visit or reserve the Eagle's Roost Cabin located behind the Visitor Center for a classroom on-site and location for lunch.
- Ask for a Junior Ranger booklet at the front desk of the Visitor Center. Complete at least 5 out of the 9 activities by viewing the Visitor Center exhibits, maps, and hiking a trail and earn a Junior Ranger badge and prize. Schedule booklets ahead of time if you have a large group by contacting Lisa Sons at lisa.sons@illinois.gov

Things to See and Places to Visit:

- Visit the bison at Buffalo Rock State Park located North of Starved Rock across the Illinois River on Dee Bennett Rd. Hike the prairie and woodland trails along the bluffs of the river.



- Schedule a visit to the Illinois Waterway Visitor Center operated by the U.S. Army Corps of Engineers. View exhibits or engage in a Ranger-led program about the Illinois Waterway, Illinois River, and the Starved Rock Lock and Dam.
- Schedule a visit with the LaSalle Historical Society and Museum in downtown Utica.
- View the historical Starved Rock Lodge on the bluff behind the Visitor Center. Hike the sidewalk around the Lodge to view the wood carvings and sculptures.

Visit www.dnr.illinois.gov to view state parks by region under the Parks and Recreation tab. Read over the trail maps, trail suggestions, rules and regulations (stay on marked trails), and head out with your group to explore and learn in nature! Here are some recommended trails for youth at Starved Rock State Park. Please ensure you have at least 1 adult for every 5-8 children (ages up through high school). Happy Hikers=Happy Trails!

Starved Rock — River View and Historical Point

Walking Distance **ROUND TRIP** — 0.6 miles
 Walking Time — 30 minutes
 Difficulty — **EASY** with 2 staircases
 Paved trail

Follow the **brown directional signs** posted along the sidewalk that runs from the parking lot past the Visitor Center and out to each location listed on the map. **Maps, signs, and trail markers are posted at every trail intersection and parking lot at the park.**

1. Starved Rock
2. Visitor Center

French Canyon — Waterfall

Walking Distance **ROUND TRIP** — 0.8 miles
 Walking Time — 45 minutes
 Difficulty — **EASY TO MODERATE** with 1 stone staircase
 1/4 paved, 3/4 sandstone, dirt, or sand mixture

Follow the **brown directional signs** posted along the sidewalk that runs from the parking lot past the Visitor Center and out to each location listed on the map. **Maps, signs, and trail markers are posted at every trail intersection and parking lot at the park.**

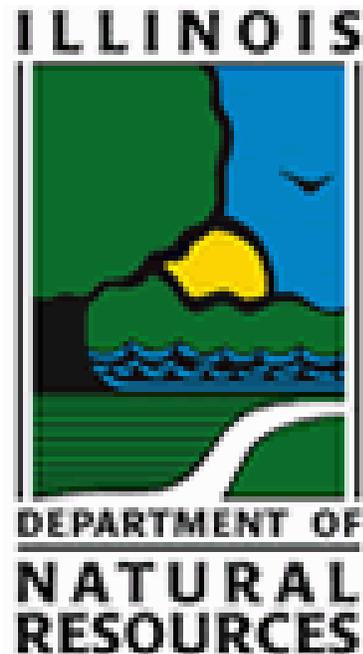
1. Starved Rock
2. French Canyon
3. Visitor Center

Wildcat Canyon — Waterfalls at French and Wildcat Canyon

Walking Distance **ROUND TRIP** — 2 miles
 Walking Time — 1.5 hours
 Difficulty — **MODERATE** with 9 staircases
 1/4 paved, 3/4 sandstone, dirt, or sand mixture

Follow the **brown directional signs** posted along the sidewalk that runs from the parking lot past the Visitor Center and out to each location listed on the map. **Maps, signs, and trail markers are posted at every trail intersection and parking lot at the park.**

1. French Canyon
2. Wildcat Canyon
3. Wildcat (green trail)
4. Beehive Overlook
5. Eagle Cliff
6. Lover's Leap
7. Visitor Center



Starved Rock State Park

Educational Resources

www.dnr.illinois.gov

<https://inhs.illinois.edu/>

<https://earthathome.org/hoew/mw/glaciers/>

<https://exploringnature.org>

<https://peoriatribe.com/history/>

www.preschoolplayandlearn.com/types-of-rocks-activities

<https://littlebinsforlittlehands.com/starburst-rock-cycle/>

https://www.youtube.com/watch?v=FuAx_UBHwjM

www.justonly.com/physic/ps111/pdfs/geohistory_illinois.pdf

Storymaps.arcgis.com/stories/eb4b95585edd4136a4ed6f7d868d431d