



Habitat Sweet Habitat Outreach

Bicentennial Nature Center Network

Lower Elementary Curriculum; 45 min-1 hour program

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Recommended Grades: Lower Elementary (K-1st); can be adapted to other grade levels

Indiana Standards Covered:

Kindergarten:

- **K.1.1:** Use all senses as appropriate to observe, sort and describe objects according to their composition and physical properties, such as size, color and shape. Explain these choices to others and generate questions about the objects.
- **K.1.2:** Identify and explain possible uses for an object based on its properties, and compare these uses with other students' ideas.
- **K.3.1:** Observe and draw physical features of common plants and animals.
- **K.3.2:** Describe and compare living animals in terms of shape, texture of body covering, size, weight, color and the way that they move.

1st Grade:

- **1.1.1:** Use all senses as appropriate to identify the component parts of objects and the materials from which they are made.
- **1.1.2:** Characterize materials as solid or liquid, investigate their properties, record observations and explain the choices to others based on evidence (i.e., physical properties).
- **1.4.1:** Use all senses as appropriate to sort objects as being composed of materials that are naturally occurring, human-made or a combination of the two.

Purpose:

For students to understand habitats, learn the difference between living and non-living things, and recognize the importance of protecting Indiana's habitats using the Children of Indiana Nature Park as a tool.

Overview:

Students will come away from the program with a firm understanding of living vs/ non-living, and they will be able to talk about the composition of a healthy habitat. Students will also learn about the Children of Indiana Nature Park and make connections about ways to protect habitats in Indiana.

Outcomes:

Students will:

1. Discuss observations with others.
2. Recognize that animals (including humans) and plants are living things that grow, reproduce, and that need food, air, space, and water.
3. Differentiate between living and non-living things.
4. Group both living and non-living things according to the characteristics that they share.
5. Identify the ways in which an organism's habitat provides for its basic needs (plants require air, water, nutrients, and light, while animals require food, water, air, and shelter).
6. Explain a habitat.

Materials Needed:

Habitat Charades:

- Small pillow case (this will hold the 5 items/pictures students will be acting out)
- Small plastic bee
- Small stuffed animal (native to your area- i.e. squirrel)
- A fake native plant
- A rock (found on your property)
- Picture of either rain, sun, cloud or wind
- A large poster with the following written on it:
 1. Do you need air?
 2. Do you grow?
 3. Do you eat?
 4. Do you need water?
 5. Do you need a place to live?
 6. Do you have babies?

Indiana's Happenin' Habitats

- Lidded container (clear, plastic shoe box works great) filled with sand
- Lidded container filled with water
- Lidded container filled with forest soil
- Lidded container filled with wetland soil
- Cut-out or picture of cattail with red-winged black bird sitting on it
- Small toy house
- Coffee filter
- Sponge
- Paperclips
- Small fishing pole with magnet attached to end of line
- Thermometer
- Picture of rain or snow
- Leaves of a maple, beech, oak, hickory and/or cottonwood
- Pelts and/or skulls of a few of the following species: fox, deer, raccoons, squirrels or skunks

The Program

Introduction (5 minutes):

*****Interpretation Note: Many parts of this document are written as speech and will appear in a grey box. Please feel free to adapt and change as necessary. It may be helpful to write out exactly what you want to say (at least in the introduction), but this document is really an outline, not a script.**

Introduce yourself, your organization, and the topic of the day: habitats!

(The following wording is the SAME wording as featured in the field trip program. PLEASE ADAPT THIS BASED ON THEIR KNOWLEDGE OF THE CHILDREN'S PARK PROJECT. This should be used the FIRST TIME the children are introduced to the project. If this outreach is performed AFTER the field trip, simply remind the students of the gift and ask if they have their deeds! You might even "autograph" the deeds for them as an important person in their environmental education journey!)

Did you know that YOU have been chosen to receive a special gift? Let me ask you something. What do you think of when you hear the word "park"? Slides? Swings? Playgrounds? Well, we have a NEW way to think about a park. When you hear that word, we want you to think of trees, birds, insects, and presents. Wait, presents?! Yes, presents. The State of Indiana has decided to give you a gift, but it's not one that you unwrap, it's one that you protect, just like a special birthday gift. Indiana created The Children of Indiana Nature Park in Centerville, Indiana in honor of you. It doesn't have swings or slides; instead, it has trees, trails, tracks, and turtles. Indiana thinks you are so important, that each one of you can claim a "deed" for a piece of this land. What's a deed? It means that you are in charge of protecting something special. Your teacher is going to help you claim your deed, and you can learn about your piece of land and all of the ways it is growing and changing by visiting a special website listed on your deed. But how can we protect this land or the land that we live on without learning why it is important? Well, we are going to start today! Today's program is called "Habitat Sweet Habitat!". Once I leave today, you will know why!

Ask students if they have ever heard of the word “habitat”. What is a habitat? Can anyone think of some different types of habitats? (Forest, wetland, pond, etc.) Are there living or non-living things in habitats? BOTH! What does a habitat provide for living things? (Food, water, shelter, space and air.) What do we call those things? NEEDS! The children should be able to see that they, too, are part of the living world.

Habitat Charades¹ (15 minutes): *This activity can be done outside in the school yard.*

Collect pictures of objects or actual objects from our environment for five of the children to “act out”. Have 3 samples of living things (i.e. tree, animal, a child, insect) and 2 samples of non-living things (i.e. water, rock, sun, wind, cloud).

A child picks an object and acts it out. The other children then ask the following questions that are written on a board or represented by images:

- Do you need air?
- Do you grow?
- Do you eat?
- Do you need water?
- Do you need a place to live?
- Do you have babies?

Once all of the questions are asked, have them try and guess what the student is acting out. Then ask them what type of habitat the different things come from (woods, wetlands, tree, etc.).

Now that we know what the students were trying to act out, ask students to determine if it is living or non-living. Is it alive or has it ever been alive? If yes, then it is living. If no, then it is non-living. Let’s now sort players into living and non-living groups.

We now know what the students were trying to act out and whether they are living or non-living. Let’s think about a few more things!

** What does the living group have in common? Non-living?*

¹ Adapted from: <http://learning-in-action.williams.edu/files/UNIT-2-Habitats-and-the-Tree.pdf>

* What do the living things need to grow? (Air, water, food, a place to live, and space to move around.)

* What is a place that provides all these things? A habitat!

* What is your habitat called (Many different answers could be right! For example, a home/house, community, neighborhood, city, state, farm, etc.)?

* Do you need air, water, food, space, and shelter? Where do you get your needs?

* Does any know what habitats are found at The Children of Indiana Nature Park? (Grassland, pine forest, hardwood forest, and a creek!)

Indiana's Happenin' Habitats (30 minutes): This activity can be done outside in the school yard.

So, we have talked about living and non-living things, what living things need to survive, and the place where living things find their needs. What is that place called again? A HABITAT! Let's now focus on a few different habitats found in Indiana!

The Dunes²:

(Hold up a clear container of sand) What is this stuff? SAND! (Walk around and allow students to feel this type of soil.) Can anyone tell me which habitat this is from? (Hopefully someone will say "desert"!) Now remember, it is an Indiana habitat! Way up north in Indiana, there is a really cool habitat called the Indiana Dunes. These dunes are located on the southern tip of Lake Michigan. Can anyone guess what type of soil they have there? (Point to the sand.) Sandy soil! Your special piece of land (The Children of Indiana Nature Park) is located in central Indiana near Ohio. Do you think it is part of the Dunes? NO! We won't find much sand there!

The Dunes are home to many special types of plants and animals...let's go over a few of those awesome species!

² <http://www.indianadunes.com/assets/indiana-dunes-education-guide.pdf>

1. Lupine

(If you are able to have a potted example of lupine, please use it for this program. Otherwise, just print a picture of it out to hold up.) Hold up the plant or picture of lupine. What would you call this? A plant! It is actually called lupine. What colors does this plant have on it? Do you see any shapes? What does this plant need to survive?

Background information on lupine: This important plant has dense purple floral spikes. The foliage resembles palm leaves, with seven to ten leaflet segments each. This species is essential to the life cycle of the Karner Blue butterfly, whose larvae feeds on the plant.

2. Karner blue butterfly

Hold up a picture of a Karner blue butterfly. What would you call this? A butterfly! What is a butterfly? An insect! What colors do you see on this butterfly? What are some of the body parts of this butterfly? (Head, thorax, abdomen, wings, antennae, 6 legs, compound eyes, etc.) This is actually called a Karner Blue Butterfly.

Background information on the Karner blue butterfly: It is on the federal endangered species list and makes its home in the dunes. The butterfly's larvae feeds on lupine, a species found in an open oak savanna. When there is fire suppression, the savannas become forests, choke out the lupine and, in turn, prevent the butterflies from feeding. Their current population is one percent of their historic abundance 100 years ago. Prescribed burning conducted by park resource management keeps these savannas open.

3. White-tailed deer

(If you have a deer hide and/or antlers, show them to the class and let them feel them. Otherwise, show a picture.) What is this? A deer! Actually, it's a white-tailed deer! Is it an insect like the Karner Blue Butterfly? No! What is it? A mammal! How does this animal move? It runs really fast! What colors are on a white-tailed deer?

Background information on the white-tailed deer: This is the largest mammal in the area and can be seen regularly in and around Indiana Dunes State Park and the Indiana Dunes National Lakeshore. It keeps a reddish-brown coat in the summer, a grey coat in the winter, and can always be recognized by its distinctive white tail which rises to attention when the deer is alarmed. They are herbivores and like to eat fresh leaves, grasses and sweet, young sprouts.

3. Massasauga rattlesnake

(Show a picture of a massasauga rattlesnake!) What is this? A snake! What is a snake? Is it an insect? A mammal? NO! It is a reptile. How does this awesome snake protect itself?

Background information on the massasauga rattlesnake³: The massasauga is a small endangered pit viper found only in northern Indiana in marshy, swampy areas and bogs. It may be found in woodlands and old fields on occasion. It is spotted with dark black or brown blotches on the back and 3 rows of small, dark spots on either side. This “swamp rattler,” which eats mice and other snakes, is generally mild-mannered and rarely strikes unless stepped on.

Aren't the Dunes amazing? Let's think about another Indiana habitat.

Wetlands:

Next, hold up the container of wetland soil. Walk around and allow students to feel AND smell this soil. Who can tell me what type of habitat this soil came from? Was it dry or wet? (It should be moist.) What did it smell like? Explain that it was from a wetland. Did you know that there are three wetlands right next door to your Children's Park land?

Background information on wetlands⁴: Indiana was covered with over 5.6 million acres of wetlands in the 1700's. It now only has about 813,000 acres.

What is a wetland? Well, let's figure that out by playing a “fishing” game!

Have your wetland bucket filled with the following different items:

- small plastic container of water (with lid)
- cut-out or picture of cattail with red-winged black bird sitting on it
- small lidded container filled with wetland soil
- small toy house
- coffee filter
- sponge

³ <http://www.in.gov/dnr/files/snakes.pdf>

⁴ <http://www.in.gov/idem/wetlands/2336.htm>

Each of those items should have something metal stuck to them (i.e. paperclip) so that the mini-fishing pole with the magnet at the end of the fishing line can “grab” the item.

Now have the students go fish! Make sure to go over the meaning to each object that they catch. See information below⁵:

- Water: Areas where water covers the soil or is present either at or near the surface of the soil for part or all of the year, including the growing season for plants.
- Cattail with red-winged blackbird: Wetlands support an array of plants and animals which have adapted to life in saturated or flooded conditions.
- Soil: Wetlands have hydric soils. What is hydric soil?
 1. Consists predominantly of decomposed plant material (peats or mucks).
 2. Has a thick layer of decomposing plant material on the surface.
 3. Has a bluish-gray or gray color below the surface, or the major color of the soil at this depth is dark (brownish black or black) and dull.
 4. Has the odor of rotten eggs.
 5. Is sandy and has a layer of decomposing plant material at the soil surface.
 6. Is sandy and has dark stains or dark streaks of organic material in the upper layer below the soil surface.
- Toy house: wetlands provide homes to many different animals, birds, plants and insects.
- Coffee filter: Wetland plants and soil clean and filter water.
- Sponge: Wetlands absorb flood water and then slowly release the water which protects us from flooding waters!

We are now experts on wetlands. Can anyone name some living things that live in and around wetlands? (Cattails, frogs, turtles, dragonflies, birds, snakes, raccoons, etc.) How can we help protect wetlands? Should we pour our leftover drinks into the water? Would that hurt the plants and critters there? Remember, there is a wetland near our special piece of land. Whatever we do to the wetland can affect our habitats in the Children’s

⁵ <http://www.ucmp.berkeley.edu/exhibits/biomes/forests.php>

Park. It's important to think about all of the life around us, not just the ones we love!

Ok, now let's explore one more Indiana habitat.

Forests:

Finally, hold up the container of forest soil. Have students feel/smell this soil.

Where did this soil come from? A forest! What are some things that live in forests? What are some insects? Mammals? Birds? Amphibians? Reptiles? Did you know that there is a forest on your Children's Park land! Can anyone tell me what makes a forest a forest?

(Below are some characteristics. Make them easy for kids to understand!)

- Temperature between -25 F and 85 F (Have a thermometer to hold up and point to temperatures).
- Precipitation throughout the year (Hold up a picture of rain/snow).
- Soil is fertile and enriched with leaf litter (Hold soil up again).
- Moderately dense canopy.
- About 3-4 tree species per square kilometer; usually beech, maple, oak, cottonwood, hickory and spring flowering plants (Hold up leaves of a few of these trees.).
- Lastly, animals including: foxes, deer, raccoons, squirrels, and skunks (Hold up 2 or 3 of these pelts/skulls and go over cool characteristics of them).
Explain how these animals are able to survive in this habitat.

Honing in on Habitats (8 minutes): *This activity can be done outside.*

Let's review everything we have talked about today! What is a habitat? What do habitats provide? What is the different between living and non-living things? Do habitats have both living and non-living things? What habitats are on the Children's Park land?

Let's review the 3 Indiana habitats we talked about today by playing a matching game! (Hang up a laminated poster-sized paper with the three different sections to represent the habitats listed above. Make sure to have some tape to tape up the laminated cards that students will be placing on the poster.)

You are all going to receive a card with a picture of something on it. There will also be tape

on the back of your card. I am going to choose students (either one at a time, by desk rows or desk groups) to come up to the front to place their card in the right habitat. (This should be done quickly! At the end, go over where the students placed their cards to see if they were right, and if not, where they actually should have placed their card.)

This can also be made into a relay race. The point of this game is to have fun and reinforce the concept of habitats that are common in Indiana!

Closing (2 minutes):

We had so much fun learning about habitats today! Remember that piece of land we talked about? The one that is dedicated in honor of YOU? You are already helping to protect this land by learning about it! Today, you learned that there is a forest on your land, and that wetlands are close by! Are there dunes on your land? NO! Are there LOTS of living and non-living things on your land? YES! Can you help me name some living things that might be there? (Trees, deer, mice, etc.) How about some non-living things? (Rocks, water, air, etc.) I'm glad you are learning so much about your land! The more you know about Indiana's important land, the easier it is for you to help protect it. Thanks for being a conservation hero!

Thank you so much for having me/us come to your classroom!