Habitats Happen!

Bicentennial Nature Center Network

Lower Elementary Curriculum; 2-3 hour program
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Recommended Grades: Lower Elementary (K-1st); can be adapted to other grade levels

Indiana Standards Covered:

***Kindergarten*:**
Science

- **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.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 they move.
- **K.3.3** - Describe and compare living plants in terms of growth, parts, shape, size, color and texture.

Social Studies

- **K.3.1** - Use words related to location, direction and distance, including here/there, over/under, left/right, above/below, forward/backward and between.
- **K.3.3** - Locate and describe places in the school and community.
- **K.3.5** - Describe and give examples of seasonal weather changes and illustrate how weather affects people and the environment.
- **K.3.7** - Recommend ways that people can improve their environment at home, in school, and in their neighborhood.

***1st Grade*:**
Science

- **1.3.3** Observe and explain that plants and animals have basic needs for growth and survival: plants need to take in water and light, and animals need to take in water and food and have a way to dispose of waste.
- **1.3.4** - Describe how animals' habitats, including plants, meet their needs for food, water, shelter and the environment in which they can live.
- **1.3.5** - Observe and describe ways in which animals and plants depend on one another for survival.
- **1.4.1** - Use all senses as appropriate to sort objects composed of the following materials: naturally occurring, human made or a combination of the two.

Social Studies

- **1.3.1** - Identify the cardinal directions (North, South, East and West) on maps and globes.
- **1.3.4** - Identify and describe physical features and human features of the local community including home, school and neighborhood.
- **1.3.6** - Explain the effect of seasonal change on plants, animals, and people.

Purpose:

To encourage students to differentiate between living and non-living things. To connect living organisms to their basic needs found in their specific habitat. To introduce students to the concept of land conservation using the Children of Indiana Nature Park as a tool.

Overview:

Students will learn about: (1) living and non-living things, (2) basic needs, and (3) habitats.

Note: While this field trip can be done with multiple classrooms, it is most effective with one classroom at a time.

Outcomes:

Students will:

1. Describe the difference between living and non-living things.
2. Give examples of living organisms and non-living objects.
3. State the 5 basic needs of living organisms.
4. Define the word "habitat", and list at least 3 different types of habitats.
5. Use the following terms to describe direction: north, south, east and west.

Vocabulary Words:

- ***Living:*** An organism that uses energy, can reproduce, produces waste, is made up of cells, and interacts with its environment.
- ***Non-living:*** An object that cannot meet all of the requirements for being a living organism, but can meet some.
- ***Basic needs:*** What living organisms need to survive: food, water, shelter, space and air.
- ***Habitat:*** A place where an organism lives, grows and reproduces.
- ***Cardinal directions:*** north, south, east & west.

Materials Needed:

"Needs" Grab Bag:

- Medium bag
- Fake fruit
- Jar of water
- Jar of air
- Small, pretend house
- A laminated paper that says, "SPACE"

Living vs. Non-Living Relay Race:

- One large tote (to hold the living/non-living items)
- 2 medium sized totes (one labeled "LIVING" and one labeled "NON-LIVING")
- Possible items for the large tote include: rocks, pine cones, a jar of water, candle, snake skin, and animal pelts. Make sure to have at least 25 items.
- Large rock (that can be seen by everyone, but is not too heavy!)
- Laminated 11 x 17 of the 5 most common characteristics of a living organism

Lap Sit Alternative:

- Hula-hoop

Habitat Hike:

- 4 laminated 11x17 maps of your nature center with "north", "south", "east", and "west" written on them
- 4 laminated needs cards: water droplet (water), berries (food), fan (air), field (space), and house (shelter)
- Tape
- 2 sets of laminated clues (make them 8.5 x 3.7- 1/3 of a piece of paper)
- Poster putty

The Program

Welcome/Introduction (10 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.**

Normal introduction for your facility (Thank everyone for visiting, welcome them to the facility, introduce leaders, location of restrooms, etc.).

Do you know why you are here today? 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 "Habitats Happen". Once you leave today, you will know why!

Today we are going to discuss a few different topics. One of those includes basic needs. How many of you need something to survive? All of you should have your hands up!

I have a bag of goodies that I would like to share with you. May I have one volunteer? I would like for you to close your eyes and grab one item out of this bag. Now, please hold up what you chose for everyone to see. What is it? What do you think it represents? (Go through each one like this; choose a different volunteer for each item. Once you get to "space", ask them if we mean outer space!) Space is a place where living organisms are able to live and raise their young.

What are the five items most living things need to survive? FOOD! WATER! SHELTER! SPACE! AIR!

Living vs. Non-living (25 minutes):

We have already learned about the 5 things most living things need. What are they again? FOOD, WATER, SHELTER, SPACE & AIR! Well, let's back track a little and figure out what it means to be a living thing.

Look at this rock. Is it living? Does it eat food? Does it drink water? Can it move (without the help of animals and water)? Those are some questions we need to think about when trying to determine if something is living or not.

The five most common characteristics of a living organism are as follows:

1. *Have the ability to use energy (we get that from food!)*
2. *Have the ability to reproduce (babies and seeds!)*
3. *Have the ability to interact with its environment (respond to and even adapt to)*
4. *Are made of cells*
5. *Have the ability to make a waste product (like scat!)*

Sometimes things were once living. For example, a leaf that you find on the ground was once living. So, we will still consider these things living. However, if you have a piece of clothing that is made from wool or cotton, it would be non-living because it has been changed into something new altogether—even though we used cotton or wool from a living plant/animal.

People will also say that living things move. Plants and mushrooms, for example, do have internal movement (and move in the wind!), but they don't run around or walk around on the land. Lots of non-living things move such as cars, fans, wind turbines, and even the hands on a clock.

****Quick note: even though our fingernails and hair are not alive, they are considered living items because they are attached to a living creature.*

Now that we have the background on living and non-living things, let's learn how to play the game!

How many people have ever been a part of a relay race? Well, that is what we are going to do right now! This relay race is about living and non-living things.

Have two medium-sized totes at the end of the field with one labeled "LIVING" and one labeled "NON-LIVING". Divide students into two equal lines. Have one large tote filled with random items that can be classified as "LIVING" or "NON-LIVING" (avoid adding stuffed animals, as they

can cause confusion in this game). This tote should be between the two lines and lined up evenly with the first person in each line.

First, show students the two totes at the end that are labeled "LIVING" and "NON-LIVING". Explain that the tote between their lines is filled with a lot of different items.

Next, have the teacher or a chaperone stand in front of the large tote. They are there to make sure each person picks up only one item and that the students in front of the line don't go until the person in front of them gets back.

Finally explain to them that the first person in each line is to grab ONE THING from this tote. Then they should run to the "LIVING" and "NON-LIVING" totes to figure out where their item belongs. Once they drop it in, they can run back to the end of their line. Then, the next person can go!

Once everyone has had a chance to go, ask the students to meet you at the two totes. Look through the totes with them to determine if the items made it into the correct tote. If something is in the wrong one, ask the students why it doesn't belong in that tote. You may have time to do this activity more than once. That's fine, too! Talk briefly with the students about what types of living and non-living things they might have on their piece of land in the Children's Park.

Habitat Activity (25 minutes):

Interpreter's note: We recommend Habitat Lap Sit from the Project Wild curriculum, which can be found on pages 34 & 35 of the activity guide. The following is a brief overview of an adapted version of this activity.

Who can tell me the difference between living and non-living things? What are the basic needs of a living thing? Well, those needs create a habitat! Can anyone name some examples of a habitat? (You might need to get their brains started by giving an example: i.e. forest.)

If any of those needs are missing from a habitat, the animals and plants could be affected. Let's play a game to watch how this works!

Have all of the students get in a circle. They should be shoulder-to-shoulder. Next, go around and point to each student to tell them what need they are going to represent (i.e. "food", "water", "shelter", "space" and "air").

Then, ask the students to turn toward their right, at the same time taking one step toward the center of the circle. They should be standing close together—toe to heel. Each student should be looking at the back of the head of the student in front of them.

Make sure to tell the students that they really need to listen for this activity to work! Have the students put their hands on the shoulders of the person in front of them. Then, tell them that after you count to three, you want them to sit down on the knees of the person behind them, keeping their own knees together to support the person in front of them. This may take a few tries! Once they get it, ask them to stand back up and explain that they are going to try it again.

Go to one of the students representing water. Explain to the group that sometimes a place goes a VERY LONG time without water. We call this time a drought. Now ask those students, who represent water, to step out of the circle on the count of three.

Once they step out, the students should all fall!

What happened? When one little part of a habitat is taken away or changed, it can affect the entire habitat. Do you think your Children's Park land has ever experienced a drought? How do you think it affected the critters and plants trying to survive there? What else could happen that would change the habitat? (Fire, development, disease, over population, etc.). Being a habitat is like a puzzle. If all of the needs are there, then everything fits together and is connected…living things can survive!

Alternative: If you have not been trained by Project Wild, this activity can work as an alternate for the lap sit activity. Additionally, if your group doesn't seem like they can handle the lap sit activity or if there are too few, you can try it another way.

Once again, have the students stand in a circle. Go around and give each student a need (as explained above). Next, tell them that they are now to hold hands. They are now a complete habitat!

Now, while the students are holding hands in the circle, grab a hula-hoop and ask two people to drop their hands. Then, have them place their hands through the hula-hoop and grab hands again. This hula-hoop represents a living organism living in a habitat.

Finally, the fun starts! Have the students move the hula-hoop around the circle one time around without letting go of their hands. (The best way to do this is to have the students walk through the hula-hoop in one direction). Make sure that the entire class makes it through the hula-hoop. This represents an animal surviving for one year.

Once the entire class goes through the hula-hoop, ask them if it was easy (at least once they got the hang of it!). The hula-hoop, which we can pretend is coyote, was able to go around her habitat to find all of her needs.

Let's now try it again. However, this time, two people will let go of each other's hands. For example, maybe a water and a habitat person let go of hands to represent a drought or forest

fire. (Have students try walking through the hula-hoop again.) What happened? The hula-hoop fell and hit the ground! Plus, we weren't all able to go through!

If you take away one of those connections/needs, it can disrupt the flow of the habitat causing animals or plants in that specific habitat to struggle to survive.

Habitat Hike (50 minutes): You will need to adapt this to your own property.

It's time to go hiking! Before we go, who can tell me some differences between living and non-living things (use energy, respond to their environment, have cells, reproduce, and make waste)? What do all living things need (food, water, shelter, space and air)? What is an area called that provides all of the basic needs (a habitat)?

On our hike today, we are going to go in search of different types of habitats by following some rhymes!

NOTE: This depends on your nature center. You may need to write a few different rhymes to match your habitats. We are trying to stick to the basics!

We have a map that we are going to be using today. (Please enlarge your map to 11 X 17, label north, south, east and west, place an "X" where you start, and laminate. You will also need to print out the "need" labels and laminate them, too.) Let's look at the map and the "needs" cards. We are looking for food, water, shelter, space and air. (Hold up the corresponding cards as you list the habitat needs.) The clues will lead us to one of the needs in each habitat!

This large "X" is where we are right now. Have you ever heard of the cardinal directions? What are they? NORTH, SOUTH, EAST AND WEST! Let's try and use those directional words in order to figure out where to go! Let's read the first clue (Note: You will need to use the clues in order of how they appear on your property/trail, so this may not actually be your first clue!)

Go to the place that is not all dry,
Where the fish and frogs both swim by.

*By looking at the map, where do you think we need to go? Somewhere that has **WATER**! (If you have more than one water feature, chose which one for the group.) Which direction do we need to go to get there? (Have them look at the map again to decide.)*

Once you arrive at the pond/wetland/stream, do/ask the following:

Why is this place considered a habitat? Does it provide food? Water? Shelter? Air? Space? (Don't forget that plants get their water through the soil and their roots, and animals can also obtain water through things that they eat. Sometimes there aren't bodies of water nearby!)

*What would you say is easiest need to find in this habitat? **WATER**! (Place the water droplet on the map where you are standing.) Are the other needs also here? (Discuss changes that may happen during each season. Depending on the body of water, it may dry up, plants die off, critters start to hibernate, etc.)*

Allow students to go off trail or around the body of water (as long as there are no dangers!). Have students search for 5 examples of living organisms (this can be a sign that an animal was there like scat or footprints!) and 2 examples of something that is non-living (sun, air, water, rocks, etc.). Once everyone has had a chance to explore, bring them back together and have a few students tell the group what they found.

We already discussed what changes may happen to each habitat through the different seasons. Now ask students how the different organisms that they found deal with our seasonal changes (hibernate, migrate, store food, etc.). Also, ask students to compare some of the critters/plants in each habitat. Discuss color, size, shape, and other distinguishing features. Finally, ask the students if it is important for us, as humans, to try and protect all of the different habitats. Why is it important (protect the food chain, oxygen, beauty, home, etc.)? How can humans help this habitat (leave it alone, remove invasives, keep chemicals away)? Are we, as humans, doing anything that can hurt this habitat? Does walking through it and around it hurt it? Would it hurt the habitat to pour my leftover juice box in the water? Discuss.

Time for the 2nd clue:

There aren't many trees in this beautiful place,
but there are many plants and insects that take up a lot of space.

*By looking at the map, where do you think we need to go? Somewhere that has lots of **SPACE**! Point to the grassland on the map. Which direction do we need to go to get there? (Have them look at the map again to decide.)*

Once you arrive at the grassland/prairie, do/ask the following:

*Ask the students why is this place considered a habitat? Does it provide food? Water? Shelter? Air? Space? What would you say is the easiest need to find in this habitat? **SPACE!** (Place the picture of a wide open grassland on the map where you are now located.) Are other needs also present? Discuss changes that may happen during each season. Plants die off until next year, plants produce seeds, insects laying eggs/egg sacks, etc.*

Allow students to go off trail (as long as there are no dangers!). Have students search for 5 examples of living organisms (this can be a sign that an animal was there like scat or footprints!)

and 2 examples of something that is non-living (sun, air, water, rocks, etc.). Once everyone has had a chance to explore, bring them back together and have a few students tell the group what they found.

We already discussed what changes may happen to each habitat through the different seasons, now ask students how the different organisms that they found deal with our seasonal changes (hibernate, migrate, store food, etc.). Ask students to compare some of the critters/plants in each habitat. Discuss color, size, shape, and other distinguishing features. Finally, ask the students if it is important for us, as humans, to try and protect all of the different habitats. Why is it important (protect food chain/food, oxygen, beauty, home, etc.)? How can humans help this habitat (leave it alone or plant natives)? Are we, as humans, doing anything that can hurt this habitat? Does walking on it hurt this habitat? Would weed killer hurt it? Discuss.

Time for the 3rd clue:

A place that is home to creatures high and low,
With trees as shelters, where squirrels and birds may go.

*By looking at the map, where do you think we need to go? Maybe somewhere that has lots of trees? Plants and trees produce **AIR** (point to the place on the map where you need to go)! Which direction do we need to go to get there (Have them look at the map again to decide.)?*

Once you arrive at the forest, do/ask the following:

*Ask the students why is this place considered a habitat? Does it provide food? Water? Shelter? Air? Space? What would you say is the easiest need to find in this habitat? **AIR**! (*Place the fan on the map where you are now located.*) Trees and plants produce oxygen for us and other living things! They also take in the carbon dioxide that we breathe out! Are there other needs also here? Discuss changes that may happen during each season. Plants die off until next year, plants produce seeds, animals hibernating or storing food, etc.*

Allow students to go off trail (as long as there are no dangers!). Have students search for 5 examples of living organisms (this can be a sign that an animal was there like scat or footprints!) and 2 examples of something that is non-living (sun, air, water, rocks, etc.). Once everyone has had a chance to explore, bring them back together and have a few students tell the group what they found.

We already discussed what changes may happen to each habitat through the different seasons, now ask students how the different organisms that they found deal with our seasonal changes (i.e. hibernate, migrate, store food, etc.). Also, ask students to compare some of the critters/plants at each the habitat. Discuss color, size, shape, and other distinguishing features. Finally, ask the students why is it important to protect this type of habitat (Protect the food chain/food, oxygen, beauty, home, etc.)? How can humans help this habitat (i.e. leave it alone, plant new trees, etc.)? Are we, as humans, doing anything that can hurt this habitat? Does walking in the habitat or tearing down trees to build houses hurt it? How about forest fires? Discuss.

Time for your 4th and final clue:

I used to be living and grew big and tall,
Now I rest on the ground, a home to creatures oh so small.

By looking at the map, where do you think we need to go? Somewhere that has trees, but some of those trees may be down! (Point to the location on the map that you would like for them to go, and have the students tell you which way to go using the directional terms.)

Once you arrive at the rotting log, do/ask the following:

*Ask the students why is this place considered a habitat? Does it provide food? Water? Shelter? Air? Space? What would you say is the easiest need to find in this habitat? **SHELTER**! (Place the house on the map where you are now located.) Are there other needs also here? What types of critters and plants use this rotting log as its shelter (i.e. insects, spiders, pillbugs, fungus, salamanders, etc.)? Why do we keep rotting logs in the forest (shelter, decompose back into soil, etc.)?*

Allow students to go off trail (as long as there are no dangers!). Have students search for 5 examples of living organisms (this can be a sign that an animal was there…like scat or footprints!) and 2 examples of something that is non-living (sun, air, water, rocks, etc.). Once everyone has had a chance to explore, bring them back together and have a few students tell the group what they found.

We already discussed what changes may happen to each habitat through the different seasons, now ask students how the different organisms that they found deal with our seasonal changes (i.e. hibernate, migrate, store food, etc.). Ask students to compare some of the critters/plants at each the habitat. Discuss color, size, shape, and other distinguishing features. Finally, ask the students why is it important to protect this type of habitat (protect the food chain/food, oxygen,

beauty, home, etc.)? How can humans help this habitat (i.e. leave it alone, plant new trees nearby, etc.)? Are we, as humans, doing anything that can hurt this habitat? Does removing the downed trees hurt the forest? Does it hurt the habitat to roll over logs? Discuss.

What need have we NOT focused on during this hike? (Go over quickly where you have been and what needs you discussed.) ***FOOD****! Where can we find food? It is EVERYWHERE! There is even food in the water! Look for examples of food on your hike back to the center. Discuss ways humans impact food availability.*

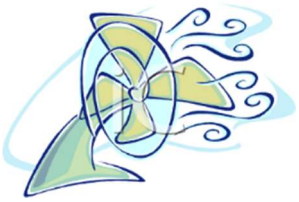
Closing:

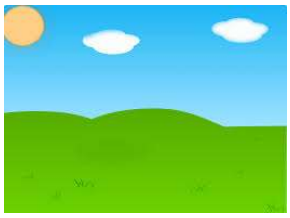
Before you leave, let's review. What are the 5 basic needs? What is the difference between living and non-living? What makes a habitat? Why should we protect the different habitats?

Remember the special piece of land we talked about earlier? The one that has been gifted to YOU? Now you know A LOT about what types of things might be found on this piece of land. You ALSO know how important it is to protect that piece of land. Start by protecting your own back yard! When you go home tonight, look for different habitats near your home. Maybe there's a tree in your front yard or near the sidewalk by your home. Perhaps you have a pond close by. Think about things you can do to protect those habitats! Be a conservation hero!

Thank you for visiting!

PRINT OUTS:





Alternate Activities/Time Fillers:

Wildlife Treasure Hunt; Project Wild; p. 22-24 *(This activity would need to be adapted for kids this young.)*

Habitracks; Project Wild; p. 36-37

Oh Deer!; Project Wild; p. 146-149

Tracking game: Print out tracks of at least 10 different animals. There should be at least 10 papers of each print per animal. Glue the tracks on construction paper (different color for each different animal). Finally, print out a paper with a picture of the animal with some basic information listed and paste it on the color construction paper matching the tracks. Place in a folder. To set up, have all of the tracks start in the same area, and then snake them around so that the students have to follow them. At the end of each track, place the folder so that the students can guess what critter they have been following. Open the folder to see if they are correct.