An Environmental Teaching Philosophy and Lesson Plan

An Honors Thesis (NREM 497)

by

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# Table of contents

Abstract .................................................................................... 1

Introduction ............................................................................... 2-9
  Where .................................................................................. 2
  What & When .......................................................................... 3
  Why ..................................................................................... 3
  How: the philosophy of teaching ........................................... 5
  Note for Future Users .......................................................... 9
  Hopes for the utilization of this project ................................. 9

Camp Organization ......................................................... 10-48
  Day 1 .................................................................................. 10
  Day 2 .................................................................................. 22
  Day 3 .................................................................................. 30
  Day 4 .................................................................................. 37
  Day 5 .................................................................................. 44

Appendix ................................................................................. 49-58

Works Cited ............................................................................. 59

Bibliography ............................................................................ 60
Abstract

The following project is a teaching philosophy for environmental education and a lesson plan designed for Ritchey Woods, an outdoor education facility and Indiana State Nature Preserve owned by The Children’s Museum of Indianapolis. The lesson plan was for a day camp program titled Nature Nuts that lasted five days each section with a total of seven sections. There were twenty-five campers per section. The lessons were implemented the summer of 1997 and were taught by the author of this project. The project encompasses the research and development of the plans as well as their implementation and evaluation.
Where

Ritchey Woods is a 180-acre property that consists of woodlands, croplands, a meadow, a creek, and wetlands located near 96th Street and Hague Road in Fishers, Indiana. Originally, Dr. James O. Ritchey donated 123 acres to the Nature Conservancy. The property then came under the control of The Children's Museum of Indianapolis in 1982. At one point along the way, the 55-acre forest within the property was designated as an Indiana State Nature Preserve.

There are approximately four miles of trails that run throughout the property offering a view of every habitat located on the site. The trails are usually in good repair and the main trail is used quite heavily. An intern developed a new trail guide and a system to mark particular points of interest along the way to make the main trail a self-guided tour. Hopefully, the museum will invest in this project so that it will be completed in the next year.

Currently, the site is rather primitive. There is a shelter house located on the property that serves as a picnic area, classroom, and starting point for most of the activities offered at Ritchey Woods. The office consists of a trailer that is rented for that purpose and there is a small shed for storage. Finally, there are pit toilets on the site, but they are in such disrepair that port-o-johns are rented during the busiest months.

The facilities may be somewhat lacking, but the site itself is beautiful. It is absolutely amazing to think that this piece of property, with its wonderful diversity of habitats, exists within one of the largest growing communities in the nation. The town of Fishers has offered a great deal in the way of help including; donated time, equipment, and materials to redo the parking lot and the entrance to the property.
Ritchey Woods offers a wonderful teaching environment for children. Outdoor education is and should be a vital part of every child’s education. Ritchey Woods can provide a natural setting and excellent programs to help reach the goals of outdoor and environmental education.

Ritchey Woods offers day camp programs, scout badge workshops, family programs, guided interpretive hikes, preschool programs, birthday parties, a Halloween hike, and school fieldtrips that can be tailored to meet the needs of the group.

**What & When**

The main goal of this project is to design, implement, and evaluate a day camp lesson plan. The day camp is titled Nature Nuts and implementation took place during the summer of 1997. Seven sections of the camp were offered from June 16th through August 4th. The maximum number of children for each camp was 25 and most camps were full. Each camp was five days and met from 10:30 a.m. until 3:30 p.m. The camp was designed for children entering grades 1-3.

I was given the following description that appeared in an advertisement for the day camp and was to design a lesson plan that fit this description:

*Go on an insect safari, stomp through the waters of Cheeney Creek and design your own T-shirt. Enjoy all new activities and experiences when you explore the meadow, forest, wetland, and stream. Find out how to take care of the plants and animals at Ritchey Woods and in your backyard. All this plus a cookout makes this camp a natural.*

**Why**

I accepted an internship for The Children’s Museum of Indianapolis the summer of 1996. I worked at Ritchey Woods with many children, families, and school groups all summer long. As a camp counselor I was responsible for the planning, organizing, and
implementation of three types of camps. I also taught nature and environmental education classes for the general public and visiting schools. In addition to these teaching responsibilities I helped with the maintenance and upkeep of the facility.

I was asked to come back the spring of 1997 as staff and accepted the position. Many of my responsibilities remained the same with some additional requirements. The major addition came in the way of being asked to design the lesson plans for Nature Nuts. The previous year, the lesson plans were constructed and I simply helped out with teaching what I had before me. This year I was solely responsible for the development of the lesson plans and I was to start from scratch any way that I wanted.

I felt that this additional requirement would be an ideal opportunity for my thesis project for my honors thesis and special senior project for my Natural Resources Major.

As a naturalist, I feel that interpreting our environment to others is one of the most important things that I can do. I am an Interpreter of our environment. Anatole France said, “Do not try to satisfy your vanity by teaching a great many things. Awaken people’s curiosity. It is enough to open minds; do not overload them. Put there just a spark. If there is some good inflammable stuff, it will catch fire.”¹ I want to ignite a curiosity within children by exposing them to the natural environment. If a child sees something wonderful out in nature I cannot help but feel that perhaps a fire will start.

The hope is to encourage children’s curiosity and concern about their natural world. Through this encouragement and the experiences and understandings they will
gain about how the natural world functions, they will grow up to be better environmentally conscious citizens.

George B. Hartzog, Jr. former director of the National Park Service perhaps sums up, in part, the purpose of my life:

"To excite curiosity, to open a person's mind—there is a challenge for anyone who seeks to communicate ideas. I know of no one more sensitive to the challenge than the interpreter, for he is a teacher in the purest sense of the word. He works with people who are at leisure, at the special places of beauty and history which have been dedicated and set aside. He seeks to translate, vividly, the language of the earth, and of the earth's inhabitants."3

How: the philosophy of teaching

In order to be a successful teacher and educator, one must do some research in how to be successful or become trained or educated in the ways of teaching. As an interpretive naturalist one "teaches" everyday in a "classroom" without walls. Thus, we are teachers albeit in an informal setting. The classroom of an interpretive naturalist is all of nature.

In preparing for the Nature Nuts lesson plan, I wanted to research and learn about how to be an effective teacher. In exploring various routes and drawing on the philosophies of others, I have invented my own philosophy of teaching. The emphasis here is upon environmental education with a focus on grades 1-3.

The following are some Do's and Don'ts as recommended by Lingelbach in Hands-On-Nature:

Do focus each workshop topic so the information and activities clearly relate to each other, and so the children will understand the focus.
Don't rob the children of their own discoveries by over-teaching and over-directing.

Do include an outdoor field excursion, preferably nearby.

Don't emphasize identification. Answering the "What is it?" questions too soon seems to inhibit rather than enhance curiosity.

Do encourage care for the environment by setting examples such as releasing all creatures and rarely picking plants. \(^5\)

The following is a list of teaching guidelines and helpful hints that I have compiled from my experiences of teaching nature and environmental education. I have also gained this insight from my years as a student in natural resources and from reading the many resources over the years that have led me to this career.

- Never be afraid to say, "I don't know." You must always be honest with children; at times they have an uncanny sense of detecting an untruth. If you do not know the answer to a question, simply say that you don't know. This will gain respect from those you are teaching. In addition, it will give them a better sense of themselves and of you, they will realize that you are more like them than unlike them. Tell the child, "Let's figure it out together." Both of you should come up with some possibilities and perhaps a hypothesis. Then follow this through with a little research, if possible; include the child and do the research together. Otherwise, offer that you will try to find the answer before next time and always follow up on this.

- Children, like adults, learn best through active learning. The goal is to get the children to learn through actively participating in activities.

- Be a role model. As a teacher, you are the leader. Naturally, the children will follow your example. They will model your behavior and your actions. Most of the time it is important to not collect anything. Explain to the children why you are not collecting. If you are in a place where it is okay to collect, you must decide when
collecting is allowed. Help the children to understand why and how you made the decision. For example, the rule of twenty is one that I often use. If you see at least 20 of the exact same item in one area then it is probably okay to take just one. If possible, when collecting live animals and insects, always release them with the children. In Hands-On-Nature, Jenepher Lingelbach states, "Curiosity and caring are contagious.

- In an outdoor setting, it is important to remember that children do act differently. They are usually not as well "controlled", as some teachers may like. They may seem to have more energy than can easily be dealt with during a lecture activity. Take advantage of this energy and turn it into an activity relating to the topic at hand.

- In outdoor settings, which are a more relaxed setting, children often turn a question into a lengthy story. This is normal and sometimes it is hard for you to cut the story short. Simply explain there are time limits and if you are to get to all of the activities, you must move on. At the end of the lesson or during a break, encourage the child to finish the story they were going to tell you earlier.

- Always allow for times of silence when doing outdoor activities. You will find nature will resume its sounds when you give it a little quite time.

- An important attitude that must be taught is that of empathy. Children must learn to put themselves into the situation of another living plant or animal. This will help them to foster a greater respect for nature. Luckily, this is relatively easy to teach children because they have such curious and wonderful imaginations. Reading imaginative books to them, encouraging role-playing games, observing animals and plants in their natural environment, and asking the right questions can encourage
caring. For example, try to relate the child’s home to a natural habitat. “If someone came along and took away your house, where would you live? How would you feel? Think about animals. What if we destroy an entire forest? Where would the animals live? How would the animals feel? Would that make you happy or sad?”

- Ask children a lot of questions. Do not try to give the answers, instead try to get them out of the children.

- Always remember attention spans may vary from group to group. Do not be afraid to adjust your schedule. For most of the actual lesson and lecture periods, I have found that ten to fifteen minutes is an appropriate time length. You will not be able to retain their interest for more than fifteen minutes when the only thing you are doing is giving a lecture. Always ask a lot of questions so it is not entirely a lecture. After giving the lecture, emphasize the main points with activities, role-playing games, crafts, or some other related hands on experience.

- Always reward and encourage the children. Provide positive feedback whenever a child answers a question or offers any insight of his/her own. This will help them to be confident in their answers, thoughts, and feelings. Children that feel as if they are appreciated and respected have respect for both the teacher and nature.

- Try using humor. Children find some of the corniest jokes and insights amusing. They are an easy audience when you are trying to be a comedian. Humor helps to set you and the children at ease. Humor may also provide a more memorable experience. When children are enjoying themselves, you will find they tend to retain more of the information.

- Always be yourself.
Note for Future Users

The lessons provided in the following pages have been field-tested. The following lessons are the final product of a year of preparation, implementation, and evaluation. Evaluation was an ongoing process; the lessons and activities were changed to assure that they met the needs of the camp and of the age group. The activities and lessons were designed specifically for The Children’s Museum of Indianapolis at their Ritchey Woods location.

Hopes for the utilization of this project

It is hoped that this project will be used in the future both at Ritchey Woods and at other locations. By making certain modifications to fit a different location, the following lesson plans could fit a similar program. I hope that anyone wishing to teach a love of nature to children will find this project useful in some way. Perhaps this will be an inspiration to others to create more environmental education programs. There is a great need to teach environmental awareness to children. The children are our future and I hope they will grow up to have an appreciation for and a desire to preserve and protect our natural resources.
Camp Organization

Day 1

Materials

- Nametags
- Markers for nametags
- Sign in/out poster
- Handouts for parents
- Ball (soft and easy to throw for name game)
- Tree poster (explaining and depicting the basic parts of a tree)
- Flour
- Salt
- Water
- Measuring cup
- Mixing bowl
- Plates
- Newsprint
- Charcoal (art type)
- Clear Acrylic Sealer or some other spray to coat and protect crafts
- Crayons
- Apples
- Knife
- Juice
- Cups
- Napkins

The Giving Tree

It is helpful to also bring the following everyday:

- Baby wipes for bigger messes
- Facial tissues
- First aid kit
- Masking tape
- Scissors
- Paper towels
- Permanent markers to write names on crafts
- Several children’s books that are related to nature
  
  (You will find that some children are faster than others at eating lunch and completing crafts, by providing a small library for these children, they can remain occupied while the others are finishing.)

- Paper for personal notes
- Copy of lesson plan
10:30 - 10:40

**Register campers. Pass out nametags. Gather group and walk to campsite.**

As a policy, Ritchey Woods requires that all parents or guardians sign their child in and out every day. We provide a sign in and sign out poster for this purpose. This procedure may take longer the first day of camp in order to make sure that we have an information sheet and medical release form on file for all children. The children are dropped off in the parking lot and it will be necessary to walk the group to the available campsite for the day after they have been signed in.

Nametags are an important piece of equipment for both the teacher and the campers. It will help the children to feel welcome and comfortable if all of the counselors know them by name. When passing out nametags, make sure to call the child by name. This will help you to become familiar with the campers and help to be sure of proper pronunciations.

Meet and greet all of the parents. Introduce yourself to both the parent and the child. Allow this time to answer any concerns that the parents may have. When the parents feel comfortable with the procedures this will be reflected to their children and help the children to feel more comfortable at camp.

Also make sure the parents are aware of the schedule for the week. Perhaps passing out a paper explaining the lessons and activities for each day will help. This will allow for the parents to talk with their children in the evenings about what went on at camp that day. This will also ensure that the children bring the necessary equipment to camp each day.

10:40 - 11:00

**Give overview of camp. Day to day plan so that the campers will know what to expect.**

Introduce yourself and all of the other counselors.

Allow this time period to give a day by day explanation of camp to the children. For example:

"Every day we will take a hike, do at least one craft, and have one or two lessons. We will spend every morning having a short review and practicing our camp song. On the third day of camp, we will go creek stomping. So you need to remember to bring shoes that can get wet and maybe an extra set of clothes, just in case. On the fourth day of camp, we will have our cookout. So you do not need to bring a lunch that day. And on the last day of camp, we will make T-shirts and have an open house for our parents. Remember to wear clothes that it will be okay if you..."
accidentally get any paint on them. And be sure to invite your parents to the open house at 3:00 p.m. that day."

Day one
The two lessons will be:
habitats and communities
trees and plants.

Day two
The two lessons will be:
endangered and extinct
animals and birds

Day three
The two lessons will be:
predator and prey
soil and water

Day four
The two lessons will be:
insects and spiders
fire safety

Day five
The one lesson will be:
carrying capacity

Explain the camp rules. And explain the consequences if the rules are not followed.

There are only two rules:
1) Show RESPECT
2) Have FUN

Go over the meaning of respect, what the campers are to respect and how they will go about respecting those things.

Show respect to:
Counselors
One another
Animals
Plants
Ritchey Woods
Nature

Show respect by:
Walking on trails
Raising your hand if you have a question or want to talk
Keeping hands and feet to yourself
Listen to the counselors and follow their directions
TAKE ONLY MEMORIES
Take care of Ritchey Woods by not picking anything, touching anything or collecting anything from the woods. Ritchey Woods is a State Nature Preserve and everything here is protected.

Consequences of not following the rules:
1st time: verbal warning
2nd time: walk/sit with a counselor
3rd time: time out
4th time: behavior is discussed with parents

Play a name game as an icebreaker.

Take a ball that is soft, yet throws easily, and invite the children to follow you to the tee-pee field. Have everyone, including counselors, sit down in a circle. When playing any game, the counselors should always play too. Explain the rules of the game:
All they have to do is catch the ball and shout their name to everyone. Then, they take the ball and throw it to someone else who will do the same. Continue this until all of the children and counselors have had a chance to say their name. The goal for the children is to try to remember who has had the ball by throwing the ball to someone who has not yet had a chance.

Teach the campers our song:
I’m a little acorn brown lying on the cold, cold ground
People come and step on me that is why I’m cracked you see
I’m a nut, I’m a nut, I’m a nut, I’m a nut, I’m a nut.

Now explain to the campers that we will practice this song every day so that we can sing it to our parents at the open house. Yet explain that the song is missing something and try to encourage the children to answer what is perhaps missing. If no one comes up with the answer, suggest it. It needs a dance routine. Have the children make up a dance that they think will fit the song and practice it a few times. Have the children practice the song and dance every day.

11:00 - 11:20

Lesson 1
Habitats and Communities

Background:
Ask the children if they know what four things are needed in order to make a habitat. What four things do you think that every animal needs? What do we need to survive? After the answers are given, and most
children of this age will come up with the answers with a few hints and a little encouragement, ask if plants need these four things too?

Every animal needs a place in which to live. That place is called a habitat and must contain four essential elements: food, water, shelter and space. These four elements, in the proper arrangement make up an animal’s habitat. Without these four elements, in the proper arrangement, animals could not survive. If you took away one of the elements of habitat a great many plants and animals would suffer.

The emphasis on communities is the fact that a habitat provides a community for many different species of plants and animals. Try to emphasize that all things are connected and dependent upon one another. All animals depend upon plants, sunlight, water, soil, and air. The squirrels at Ritchey Woods depend on the trees for shelter and for food. The trees depend upon the soil for a place to grow and essential nutrients and minerals. The trees also depend on water and air to live and grow because all plants have to drink and breathe just like people do. Another wonderful thing about air is that trees and plants provide oxygen for us to breathe. Plants breathe in carbon dioxide and breathe out oxygen while we breathe in oxygen and breathe out carbon dioxide. The soil depends upon dead trees and other plants turning into new soil. Therefore, the squirrels depend on the plants, sunlight, water, air, and soil (not to mention they often bury their nuts in the soil for winter storage). Have the children come up with examples of how certain animals and plants are connected and depend upon one another.

Encourage the children to give you examples of different types of habitats: Forest, desert, wetland, prairie, rain forest, ocean, lake, stream, pond, spring, tundra, and etc.

11:20 - 11:30

**Bathroom Break**

Teach the campers a game on this first trip to the bathroom:

**Hawk and Mouse**

You can play this game during the walk to and from the bathroom and the parking lot to make the journey a little more exciting. This is also a helpful game to grab their attention when they are getting a little unruly.

The campers pretend like they are mice and the counselors take on the role of a hawk. Hawks like to eat what? Mice right. So whenever a counselor shouts HAWK, what do you think you should do? Sometimes an animal will freeze when it feels threatened. So the campers, who are mice, must freeze and stand perfectly still so that the hawk will have a hard time seeing them.
Many animals rely on motion to see. They do not often see their prey unless it is moving. If any of the mice move, the hawk gets his lunch.

11:30 - 12:00

Habitat Lap Sit

The following activity is from Project Wild. 7

Have the campers number off from one to four and then get into those groups. The "ones" will be food, the "twos" water, the "threes" shelter and the "fours" space. Place the campers into the "proper arrangement" by having them line up in order: one, two, three, four, one, two, etc. (food, water, shelter, space, food, water, etc.) Now have the line form a circle. Have the campers stand facing the center of the circle, shoulder to shoulder.

Have all of the campers turn to their right and take a step toward the center of the circle at the same time. Have each camper place their hands on the shoulders of the camper in front of them. The campers should now sit down slowly as you count to three. On three they should be sitting on the knees of the camper behind them while providing a seat with their knees for the camper in front of them. This is difficult, but with some patience it will work.

Once the campers are sitting, explain to them that they have created a suitable habitat with food, water, shelter, and space in the proper arrangement. Let the campers try it a few times until they get the hang of it. While they are sitting, tell them there has been a drought. Have a couple of volunteers who are water step out of the circle and watch it collapse. This will help to emphasize the importance of the four elements of habitat and the importance of having them in the proper arrangement.

Discuss other factors that might cause an element of habitat to disappear and then come up with how those factors affect the rest of the habitat. Some examples include pollution of water supply or urban sprawl.

Oh Deer

The following activity is from Project Wild. 8

Select five campers to represent the deer. All of the other campers will represent three elements of habitat: food, water, and shelter. We will assume that the playing field is the space element.

All of the deer need the elements of habitat in order to survive. In this game they will have to gather these elements. When a deer is looking for food, it should hold its hands over its stomach. When a deer is looking for water, it should hold its hands over its mouth. When a deer is looking for shelter, it should hold its hands together above its head. A deer can choose to look for any element during the game, but must continue to look...
for only the one element chosen at the beginning of each round. For example, the deer cannot look to see what is available and switch what it is looking for.

The other campers are the elements of habitat. They choose to be food by holding their hands over their stomach, water by holding their hands over their mouth or shelter by holding their hands together above their heads. Each camper gets to choose at the beginning of each round what they want to be, but cannot change their minds until the end of that round.

The game begins by having the deer line up at one end of the playing field with the elements of habitat at the other. The two groups should form two parallel lines. The two groups should have their backs to one another. Ask the campers to make their sign. The deer need to decide what to look for and the elements of habitat must decide which element they want to be.

When the campers are ready, count to three and on three the campers turn to face one another while making their signs. The deer go to collect the element of habitat that matches what they are looking for. They bring that camper with them back to the other side. The elements that are collected by the deer become new deer. When a deer obtains the necessary elements they have a successful year and live to reproduce. Any deer that fails to find the necessary food, water, or shelter dies and becomes a part of the habitat.

If a particular element of habitat is not chosen during the round, they remain a part of the habitat for the next round.

Continue to play several rounds. You will notice the deer population constantly changing. When you have completed the game discuss with the campers what they observed.

12:00 - 12:30

Lunch and Bathroom break

12:30 - 12:50

Lesson 2

Trees and Plants

Background:

Ask the children to tell you several parts of the tree. Then ask what these parts do. Ask the children to come up with answers about what the bark does for a tree. Then ask about the trunk, leaves, and roots. Have them come up with several possibilities and answers before you give any answers. Congratulate all of the children on their great answers and then elaborate on the parts of the tree.
Explain the basic parts of a tree: bark, trunk, leaves, and roots. The bark of a tree is a great deal like the skin on our bodies. Our skin protects the insides of our bodies from germs and bacteria, in the same way the bark protects the tree. The bark is a protective layer. Veins run through all parts of the tree and carry sap that contains essential nutrients to the leaves of the tree where food is made in a process called photosynthesis. Trees and all green plants utilize the sun’s energy to make food in their leaves. The trunk helps to support the tree and give it its shape. Finally, the roots are also very important. The roots gather water, precious minerals, and nutrients from the soil and bring it into the tree where it is needed.

See if the children remember the fact that plants provide us with the oxygen that we need to breathe from the earlier lesson on habitats. Emphasize it again in this lesson.

A poster relating the parts of the tree is very helpful to have.

Talk about plants in general. Have the campers name several plants and trees that they know. Also talk about how plants make new plants. Discuss various seeds and ways that seeds are dispersed. Ask the children about how seeds are dispersed or how they travel from one place to another. See if they can come up with several examples, like: wind, water, animal fur, animal droppings, and etc.

Hike

Take a hike into the forest. Place the emphasis on habitats, communities, plants and trees. Talk about what makes the forest a habitat. Point out several plants and trees. Explain a few points of interest about the plant and then explore it with your senses. Here are a few examples:

wild ginger
Smell the root and talk about its use by the pioneers as a spice.

jewelweed
Talk about the medicinal uses of the plant, that it can help reduce skin irritations and rashes like mosquito bites, perhaps ask a child who may have a bite to tell the rest of the group if it works. Jewelweed is also a touch-me-not, if the seed head is just right it explodes when it is touched.

poison ivy
Make sure that the children learn to identify it, “leaflets three, let them be.”

honey locust
Talk about plants having thorns for protection. The bird, the loggerhead shrike, uses the spikes to store insects to eat later.
vines
Point out the many vines: grapevine, virginia creeper, and poison ivy; explain their many benefits to wildlife especially as a food source. Why do they grow on trees? To get up to the sunlight.

beech tree
It is a home to many animals because of its many holes and hollow characteristics. Its nickname is the “sweetheart tree” because of the smooth bark that people like to carve on. Relate that bark is like our skin, would you want somebody to carve on your arm?

sugar maple
The maple syrup for our pancakes and waffles comes from maple trees and squirrels really enjoy eating the seeds.

tulip tree
It is the state tree of Indiana. It was often used to build dugout canoes and framing for buildings like farmhouses and barns.

1:50 - 2:00

**Bathroom break**

2:00 - 2:30

**Crafts**

There are three different crafts. The best way to accomplish three crafts is to divide the camp into three groups. Have a different counselor help with each craft. So there will be three separate craft stations with a counselor at each station. Have each group do a different craft and when completed have them move to the next counselor to do the next craft.

Make sure the name of the camper gets onto all his/her crafts.

1. **Leaf or plant imprints in play dough**

   **Mix:**
   - 6 cups flour
   - 4 cups salt
   - 2 to 3 cups of water

   Combine flour and salt. Add water until it is a nice play dough consistency. Best when used shortly after mixing.

   Have campers gather a leaf or some type of plant material to use as a stamp to make impressions in their play dough. Give each camper a ball of dough about the size of a walnut. Allow and encourage them to make anything that they want. Try to avoid giving them ideas because they often find your idea to be the one they should do. The point is for them to be creative. Tell them they could make something for their room, their
house, or as a gift for someone. They could make it so that it could hold something and be useful that way or simply an art piece for decoration.

A helpful hint for the play dough is to have each camper place the finished product on a small paper plate with a little bit of flour to prevent it from sticking.

Place all of the finished pieces out of the way to dry. Keep all of the crafts and allow campers to take them home the last day of camp.

2. Bark rubbings

Give each child a piece of newsprint and a piece of charcoal and allow them to choose a tree and make a bark rubbing. They do this by holding the paper on the bark and rubbing the charcoal on its side until the imprint of the bark appears on the paper. Have a counselor spray each finished bark rubbing with a clear acrylic spray to create a protective coating. This will help to keep the messy charcoal from smearing.

3. Leaf Rubbings

Give each camper a piece of newsprint and a couple of crayons. The crayons need to have their paper removed. Have them gather only one leaf for the rubbing. They can then switch with one another for a different leaf.

Place the leaf down on the table and place a piece of newsprint on top of the leaf. Then use the crayon on its side to rub across the leaf. The veins and outline of the leaf will appear on the paper.

2:30 - 2:45

Snack

Serve apple slices and juice for the snack. Talk to the campers about the plants and parts of plants that we eat. The fruit of a plant like the apple is the place where seeds develop. Have campers name several other plants that they eat while you are preparing the snack.

Story

During snack time, read a story to the campers. A good one that may be appropriate for the day’s topic is The Giving Tree by Shel Silverstein.
2:45 - 3:00

Games

Mother Earth, May I?

Taken from the book Earth Child by Kathryn Sheehan.

This game is played like the traditional "Mother, May I?" you may remember from your childhood. But in this version there is a new twist - the players think of ways to make Mother Earth happy.

1. Choose one child to be Mother Earth and ask him or her to stand on one side of the playing area. Ask the other players to stand in a line opposite Mother Earth on the other side.

2. Starting at one end, Mother Earth calls out the names of the children one by one. When a child's name is called, he must tell Mother Earth what he will do to make her happy, such as plant a tree, ride his bicycle or walk somewhere, pick up litter in his neighborhood, turn off the faucet while brushing his teeth, take a shower instead of a bath, etc.

3. After hearing his plan, Mother Earth rewards him with steps to take towards her. For example: "You may take two giant steps." The child then must be polite and ask, "Mother Earth, May I?" And he or she responds, "yes, you may." After that, the child takes the allotted steps.

4. Continue playing in this manner until one child has reached Mother Earth. That child then becomes Mother Earth for the next game.10

3:00 - 3:15

Review the activities and lessons for the day

Take a few minutes to ask the campers what we talked about today. Let them tell you.

Prepare for open house

Practice the song and dance one last time today. Tell the campers that for the open house you would like for one of the campers to volunteer to tell all of the parents about what we did today. Have that volunteer tell you what they might say for practice.
3:15 - 3:30

**Clean up**

Have campers get their backpacks, water bottles, and lunch boxes together.

**Collect nametags**

**Gather campers and walk to parking lot**
Day 2

Materials

Nametags
Sign in/out poster
Ball (soft and easy to throw for name game)
Masking tape
Poker chips
Posters
  Showing native birds
  Showing native animals
  Showing animal tracks
25 Binoculars
25 Baby food jars (with hole punched in lid)
  Hammer
  Nail
Wire
Needle nose pliers
Red enamel paint
Paint brushes
Recipe for hummingbird nectar (25 copies)
Animal crackers
Juice
Cups
Napkins
The Lorax
25 Brown lunch bags
Felt pre cut into:
  25 Gray or brown pieces in the shape of a raccoon face
  25 Black pieces in the shape of the mask
  25 Black pieces in the shape of a nose
  50 Gray or brown pieces in the shape of eyes
  25 Gray or brown pieces in the shape of ears
  25 Gray or brown pieces in the shape of tail
Black permanent markers
Craft glue
10:30 - 10:40

Register campers. Pass out nametags. Gather group and walk to campsite.

10:40 - 11:00

Review the rules
Review previous lessons
Practice song and dance

Play the name game

Take a ball that is soft, yet throws easily, and invite the children to follow you to the tee-pee field. Have everyone, including counselors, sit down in a circle. Explain the rules of the game:

Play the same game as day one except have the children say their name and then name of a plant or tree that’s name begins with the same letter as the campers name. Then, they take the ball and throw it to someone else who will do the same. Continue this until all of the children and counselors have had a chance to say their name and the name of a plant or tree. The goal for the children is to try to remember who has had the ball by throwing the ball to someone who has not yet had a chance.

Encourage the other campers to help come up with the name of a plant or tree if a child is having trouble coming up with one on their own. Then ask that child if that plant or tree is all right with them.

11:00 - 11:20

Lesson 1

Endangered/Extinct

Background:

Ask the children to define extinction and endangered. See if they know some examples of animals that are extinct or endangered. Define extinction, endangered, and extirpated.

An extinct animal is one, which no longer exists anywhere on earth.

An endangered animal is one, which is threatened with extinction or is in immediate danger of becoming extinct.

An extirpated animal is one, which is extinct from a place where it used to live. For example, the black bear is extirpated from Indiana. It used to live here, but no longer does.
Extinction is forever, but there is such a thing as natural extinction. Natural extinction takes a long time, but human caused extinction takes place rather quickly. The rate of extinction has been greatly accelerated by humans. The dinosaurs became extinct and this was a natural process. Man was not around and did not affect the extinction of dinosaurs. Today there are some animals that are being affected by natural extinction, but many animals are being affected by human-caused extinction. Humans have destroyed a great deal of habitats and the loss of habitats is the main reason that many animals become extinct or endangered.

11:20 - 11:30

Bathroom Break

11:30 - 12:00

The Endangered Hoppit

The following activity is from Science is.

Mark off a small area with masking tape to create a "home" area. Place the poker chips all around the playing field outside of the home. All of the campers are hoppits. A hoppit is an imaginary creature that must hop to get around. Each hoppit must gather food (poker chips) in order to survive. The hoppits must hop at all times except when resting in the home area. If a hoppit stops hopping outside of the home area, they will die.

The hoppits must hop and gather one food chip at a time, hopping back to the home area in between each chip gathered. Allow the campers to continue like this for awhile. Then explain that life is getting harder and they must now hop on one leg while gathering chips. See how many hoppits can survive this way.

Next say that humans have built a shopping mall on their home and remove the masking tape. See how long it takes for the hoppits to die when there is no place to rest.

You can play the game as long as the campers are interested. Another variation is to introduce competitors. Replace the home area, but have all of the counselors become woozits. Woozits can walk normally and eat the same food as the hoppits. Let the campers see how difficult it is to survive when another animal is competing with them in a small space.

12:00 - 12:30

Lunch and Bathroom break
Lesson 2

Animals/Birds

Background:

Ask the children to name as many birds and animals that live at Ritchey Woods as they can. Talk about where in Ritchey Woods we might find these animals.

A poster offering pictures of the native birds in Indiana or North America would be nice to have during this lesson. Another poster depicting animals native to North America is also helpful. Finally, a poster showing the different tracks left behind by animals would help to emphasize the lesson. Show the posters and point out the animals, birds, or tracks we might find in Ritchey Woods.

Discuss with the children some hints about looking for and viewing wild animals:

- Move slowly and quietly to avoid frightening the animals.
- Looking for animals early in the morning and late in the evening is the best time. The animals are usually more active during these parts of the day. In the heat of the summer months, these times of days are cooler and more comfortable.
- We might not see as many animals on our hike because we are such a large group and we can't help but make some noise. Another reason we might not see a lot of animals is because several are nocturnal. Ask if anyone knows what it means to be nocturnal. Animals that are nocturnal are active at night. They sleep during the day and get up at night to hunt and play. See if the children can name any animals that are nocturnal; some examples include coyotes, raccoons, foxes, bats, owls, and opossums.
- Use binoculars in order to get a better look.
- Never try to touch a wild animal. Any wild animal may bite or attack if they feel threatened. Simply watch and enjoy from a distance. We have binoculars to get a close look. We do not want to upset or scare any of the animals.

Ask the children about where they think the best place is to look for animal tracks. The best place to look would probably be near a water source. There the land will be wet and would provide a great soft place to leave tracks. Plus all animals have to drink water so we know that many animals might have come to the water source to get a drink.

Discuss that Ritchey Woods provides many habitats for birds and animals. Ask the children where a good place would be to go bird watching. How about a place where we can find a lot of berries and seeds? Birds love to eat berries and seeds don't they? What about a meadow? Let's go bird watching.
12:50 - 1:40

**Hike**

Take a hike to the meadow. Pass out binoculars to all of the campers or have them form partners if there are not enough binoculars to go around. Take a few minutes to explain how to use them. Also make sure to point out that they should not walk with the binoculars up to their eyes. They will not be able to see where they are going.

On the hike, watch for birds, animals, and signs of animals like tracks, deer lays, or deer trails. Point these out to the children. Emphasize the necessity to be good listeners and be quite when looking for animals and birds. Encourage periods of quite watching and listening. The campers will find that they will hear many of the birds long before they ever see one. It is important to use all of your senses not just your sight.

Talk about what makes this habitat a meadow. Meadows are characterized by having many grasses and low plants. You will not find many trees if any in a meadow. Point out the many berries that are in the meadow like raspberries, mulberries, and strawberries. Take the time to point out several grasses and show the children some of the many seeds that grow on these grasses.

Another excellent point about our meadow is the fact that the forest surrounds it. The trees in the forest might provide an excellent perch for an owl to sit upon at night and look out across the meadow for a mouse. Mice would love to live in the meadow because they too like seeds. And during the day a bird like a hawk could fly over this meadow to look for mice.

Include a few rounds of the game hawk and mouse during the hike.

The meadow trail loops through the wetland. Take a moment to sit on the boardwalk in the wetland and tell them they are sitting in a wetland. Have them observe the area and tell them that you will discuss wetlands tomorrow. Have them notice how clear the water is. Ask them if they think a lot of animals live here. Do you think a lot of animals from the forest come here to find food and get a drink?

1:40 - 1:50

**Bathroom break**

1:50 - 2:15

**Craft**

Talk with the campers for a moment before starting the craft. Ask if any of them know what the smallest bird that lives at Ritchey Woods is. A Hummingbird. Hummingbirds can fly up, down, backward, forward, sideways, and upside down. Hummingbirds like to suck the nectar out of flowers. Do you
know what their favorite color is? They like red flowers best. Would you like to make a hummingbird feeder?

Hummingbird Feeders

This craft has been adapted from a book called Bird Wise. Have the campers paint a flower on the lid of a baby food jar using red enamel paint. Before giving the lid to the camper, punch a hole in the center of the lid with a hammer and nail and place the campers name on the underside of the lid with a piece of masking tape and a permanent marker.

Have the counselors help each camper wrap a piece of thin bendable wire around the neck of the baby food jar to create a hook for the feeder.

When the jar is finished and the lid is dry have the camper fold a piece of paper that has the following recipe for hummingbird nectar on it and place it inside the jar.

Hummingbird Nectar

2 ½ cups of boiling water
½ cup white sugar

Stir the sugar into the water and allow the mixture to cool.

There is no need to add red food coloring because the ingredients in food coloring may harm the hummingbirds. You can place any extra nectar in the refrigerator for later. Your feeder needs to be washed out every week with a little vinegar and a scrub brush. Rinse with water and refill with nectar. If a lot of insects feed on the nectar, rub a little vegetable oil around the opening of the feeder. It will help keep the insects, but not the hummingbirds, away.

2:15 - 2:30

Snack

Animal Crackers

Story

During snack time, read a story to the campers. A good one that may be appropriate for the day’s topic is The Lorax by Dr. Seuss.
2:30 - 3:00

Craft

Raccoon Puppets

Give each camper a brown paper lunch bag and the following pieces of felt:

- Gray or brown in the shape of a raccoon face
- Black in the shape of the mask
- Black in the shape of a nose
- Gray or brown in the shape of eyes
- Gray or brown in the shape of ears
- Gray or brown in the shape of tail

There are patterns for this craft in the appendix. It is easier to pre-cut the felt for children of this age group. Felt is a difficult material to cut and requires fairly sharp fabric scissors. Try cutting the various pieces of felt in slightly different shapes in order to make each raccoon unique. Perhaps using different colors or adding jagged edges to the felt will help make each piece unique. Then allow each camper to pick out the shapes and colors that he/she would like.

Using craft or tacky glue, help the campers glue the pieces of felt together to create their raccoon puppet. Place the face of the raccoon on the bottom fold of the bag so that when the camper puts his hand inside the bag he/she can make the puppet move its mouth. Allow each child an opportunity to add stripes to the tail or any other marks they wish with a black permanent marker.

3:00 - 3:15

Review the activities and lessons for the day

Take a few minutes to ask the campers what we talked about today. Let them tell you.

Prepare for open house

Practice the song and dance one last time today. Tell the campers that for the open house you would like for one of the campers to volunteer to tell all of the parents about what we did today. Have that volunteer tell you what they might say for practice. Also have the volunteer from day one practice again.
3:15 - 3:30

Clean up

Have campers get their backpacks, water bottles, and lunch boxes together.

Collect nametags

Gather campers and walk to parking lot

Sign campers out
Day 3

Materials

- Nametags
- Sign in/out poster
- Ball (soft and easy to throw for name game)
- Poker chips
  - 25 blue
  - 25 white
  - 25 red
- 4 hula hoops
- 5 Bandanas
- Sponge
- Bar of soap
- Coffee filters
- Food container (an empty cereal box works well)
- Nest
- Pillow case
- Dip nets
- Magnifying lenses
- Dip trays
- Pond ID books
- 25 Clay pots
- Paint (red, yellow, and blue acrylic craft paint)
- Paint brushes
- Containers for paint
- Potting soil
- Native wildflower seeds
- Sunflower seeds
- Juice
- Cups
- Napkins

Box Turtle at Long Pond
10:30 - 10:40

Register campers. Pass out nametags. Gather group and walk to campsite.

10:40 - 11:00

Review the rules.

Review previous lessons

Practice song and dance

Play the name game

Take a ball that is soft, yet throws easily, and invite the children to follow you to the tee-pee field. Have everyone, including counselors, sit down in a circle. Explain the rules of the game:

Play the same game as day two except have the children say their name and then name either a bird or animal that's name begins with the same letter as the campers name. Then, they take the ball and throw it to someone else who will do the same. Continue this until all of the children and counselors have had a chance to say their name and the name of an animal. The goal for the children is to try to remember who has had the ball by throwing the ball to someone who has not yet had a chance.

Encourage the other campers to help come up with the name of a bird or animal if a child is having trouble coming up with one on their own. Then ask that child if that bird or animal is all right with them.

11:00 - 11:20

Lesson 1

Predator/Prey

Background:

Ask any of the campers if they know what a predator is. Perhaps they can give a few examples. Then ask if they know what a prey is and give a few examples.

Give definitions for predator and prey. A predator is an animal that hunts, kills, and eats other animals for food. A prey is an animal that is hunted, killed, and eaten by other animals for food. A predator kills and eats prey.

Talk about some behaviors that a prey might do to avoid being eaten. Remind the campers of our game Hawk and Mouse and play a few rounds. Some animals freeze to avoid being seen. Other animals may
make loud sounds to warn other animals. Some animals might try to fight or run away to hide.

Ask the campers to give some examples of predators and prey that live in Ritchey Woods. Some examples include coyote and rabbit, hawks and mice, and foxes and quail.

11:20 - 11:30

**Bathroom Break**

11:30 - 12:00

**Quick Frozen Critters**

The following activity is from *Project Wild.*

Allow the campers to choose what predator and prey animals they wish to play. The entire group should be the same; for example, all of the predators could be coyotes while all of the prey could be rabbits. Choose four or five of the twenty-five campers to be predators this round. A bandana tied to the campers who are the predators will let the other campers who are prey know who they need to avoid.

Poker chips work well as food tokens. Place these food tokens at one end of the tee-pee field. This will be the food source. Have the other end of the field as the shelter area where the prey are safe from the predators. Place the four hula hoops in between the food source and the shelter; these will represent cover areas where the prey will also be safe from the predator.

The object for the prey is to get from the shelter area to the food source and collect one token on each trip. They must begin the round within the shelter area. They must make three trips collecting one of each color (red, blue, white) of the food tokens. They must make this trip without being "killed" by a predator.

The prey have one other option to avoid being "killed" and that is to freeze. They can now either stay in the shelter, hide in one of the cover areas (hula hoops), or freeze. Freezing means that the only movement allowed is breathing or blinking. But they must still collect their food tokens in order to survive.

The object of the game for the predators is to capture prey. The predators can begin the round anywhere within the playing field. In order for the predators to survive, they must capture two prey. An easy way to avoid complications is to have the predator tag and walk their prey to a designated place where they will sit out the rest of this round.

Continue playing until everyone has had a chance to be a predator. A really fun option that the campers really enjoy is to have one round where all of the predators are the counselors.
Lunch and Bathroom break

Lesson 2
Soil & Water
Wetlands

Background:

Wetlands were once considered wastelands, they could not be farmed and they were a place where mosquitoes flourished. In order to rid themselves of these nuisances associated with wetlands farmers drained them, plowed them, and attempted to control them.

But we were wrong, we are beginning to realize that wetlands are important to us and hopefully we have come to realize this before it is too late. It is very essential that we protect wetlands and let no more be destroyed. Wetlands are valuable resources. They sustain more life than almost any other habitat. The productivity of wetlands, their cleansing ability, and their water storage capacity make them a resource to be highly cherished.

- Wetlands retain and release water slowly, which minimizes flood damage.
- Dense vegetation traps sediment and consumes pollutants, which increases the water quality.
- Plant life takes in CO₂ and releases great quantities of O₂ in much the same way that rain forests do.
- Their ample food supplies encourage and sustain a multitude of species contributing to the planet’s biodiversity.
- Wetlands replenish the ground water supply.

There are many forms of wetlands that exist in many locations. However, all wetlands are places where the ground is wet or covered by shallow water, but they do not always have to be wet. Plants that can live in wet or flooded conditions also dominate them. Wetlands have unique soils that allow them to remain wetlands. Wetlands are wet essentially because they consist of low ground or depressions in the ground that retain water. These are usually places where the water table is at or above the land’s surface.

Some of the above background material is a little much for children of this age, but it can be presented in a way that they can understand. An easy way to present some of the information is with a few visuals. Gather together the following items:
Sponge
Bar of soap
Coffee filters
Food container (an empty cereal box works well)
Nest
Pillow case

Now pull one of the items out of the pillowcase at a time and ask the campers what they think these items have to do with a wetland. Ask them what these items do for us.

Sponge = water retention, minimizes flood damage
Bar of soap = cleansing ability of wetlands
Coffee filters = dense vegetation traps sediment
Food = ample food supply of wetlands encourages and sustains many species
Nest = animals' homes
Pillow case = shelter, contributing to the key factor that the wetlands are a type of habitat

We have two wetlands on the property. One is a swamp and the other is a marsh that was reclaimed the spring of 1997. You can see the marsh as you pull into the parking lot. The swamp we saw yesterday when we walked through the meadow. A swamp is a wetland that contains trees and shrubs that love the water and can survive in wet conditions. A marsh is a wetland with large numbers of soft stemmed plants like grasses. Most of these plants are emergents. An emergent is a plant that grows with its stems partly in and partly out of the water.

Now discuss what plants need to grow. Ask the campers if they know. They need a habitat just like animals do. But the essential things they need are soil, water, sunlight and air.

12:50 - 2:00

Hike

Have the campers put their creek stomping shoes on. Gather up the supplies needed for the creek stomp: dip nets, magnifying lenses, dip trays, and pond ID books

The campers had a chance to walk through the wetlands yesterday. Refresh them about what they saw there.

Begin the hike to the creek. Along the way, point out the many fallen logs in Ritchey Woods. Ask them if they know why we leave them lying around. One reason is because this is a nature preserve and we have to, but the other reason is
because all of these dead trees will turn into soil. Dead plants and trees decay and decompose and turn into new soil. That soil will be rich in vitamins and minerals because during the plant’s life it took up vitamins and minerals from the soil.

Point out the many mushrooms you find on the fallen logs. Tell them that certain things help a tree to decay. One is a mushroom. Another name for mushrooms is decomposers. They help to turn dead plants into soil. Certain insects also help to break the tree down, like ants and termites.

Once you reach the creek be sure to set up specific boundary lines that they are not to cross. They can take their nets and try to catch crayfish, fish, water striders, tadpoles, and etc. Explain to them to be very gentle because we do not want to hurt these animals. They can place anything they catch into the trays that will be filled with water. Use the pond ID books to identify the things that you do not know. Many of the smaller animals swimming in the water are just as interesting as the larger animals. Have them explore and play, but warn them not to splash one another. Make sure to point out the many animal tracks. See if they can identify any of them or find more on their own.

Have fun stomping in the waters of Cheeney Creek.

When it is time to go have the campers help you release everything that you found.

2:00 – 2:20

Bathroom break

Clean up from Creek Stomping

Some of the campers will be really messy. Allow plenty of time for cleaning up.

2:20 – 2:45

Craft

Give each camper a clay pot. A good size is one that is about two and a half inches tall. Write the name of the camper on the bottom of the pot with a permanent marker. Place red, yellow and blue acrylic craft paint on each table with several paintbrushes for each color. Allow the camper to paint the pot however he/she wishes. The pots will dry quickly, when they are dry, help each camper put potting soil into their pot. Then let the camper place a few native wildflower seeds into the pot. Place a little more soil into the pot to cover the seeds. Sit the pots out of the way until the last day of camp. Be sure to water them until you return them to the camper.

Reemphasize that plants need water and sunlight to grow. Tell the campers that they will need to place their pot in a sunny place and water it about twice a week. Let them know that their parents will help, but that it is their responsibility.
Explain to the campers that you are using native wildflowers. Native wildflowers are flowers that grow in the wild here at Ritchey Woods.

2:45 - 3:00

**Snack**

Sunflower seeds

Seeds should be an appropriate snack that relates to soil and water. Discuss for a few moments other seeds that we eat.

**Story**

During snack time, read a story to the campers. A good one that may be appropriate for the day’s topic is *Turtle at Long Pond* by William T. George.¹⁵

3:00 - 3:15

**Review the activities and lessons for the day**

Take a few minutes to ask the campers what we talked about today. Let them tell you.

**Prepare for open house**

Practice the song and dance one last time today. Tell the campers that for the open house you would like for one of the campers to volunteer to tell all of the parents about what we did today. Have that volunteer tell you what they might say for practice. Also have the volunteers from day one and two practice again.

3:15 - 3:30

**Clean up**

Have campers get their backpacks, water bottles, and lunch boxes together.

**Collect nametags**

**Gather campers and walk to parking lot**

**Sign campers out**
Day 4

Materials

Nametags
Sign in/out poster
Ball (soft and easy to throw for name game)

Campfire supplies

Newspapers
Lighter fluid
Matches
Hot dog roasting sticks
Marshmallow roasting sticks

Hotdogs
Buns
Catsup
Mustard
Plates
Chips
Carrots
Marshmallows
Juice
Cups
Napkins
25 Magnifying lenses
13 Pieces of string about 30 inches long
75 Craft sticks (pre glue into 25 six pointed stars, three craft sticks per star)
Yarn (various colors)
40 Black and 40 yellow pipe cleaners
Freddie the Fly
Honey
Crackers
10:30 - 10:40

Register campers. Pass out nametags. Gather group and walk to campsite.

10:40 - 11:00

Review the rules.

Review previous lessons

Practice song and dance

Play the name game

Take a ball that is soft, yet throws easily, and invite the children to follow you to the tee-pee field. Have everyone, including counselors, sit down in a circle. Explain the rules of the game:

Play the same game as day three except have the children say their name and then name either an insect or spider that’s name begins with the same letter as the campers name. Then, they take the ball and throw it to someone else who will do the same. Continue this until all of the children and counselors have had a chance to say their name and the name of an insect or spider. The goal for the children is to try to remember who has had the ball by throwing the ball to someone who has not yet had a chance.

Encourage the other campers to help come up with the name of an insect or spider if a child is having trouble coming up with one on their own. Then ask that child if that insect or spider is all right with them.

11:00 - 11:20

Free time

Games of their choice

Animal charades is a new game to introduce or let them play any of the games they have learned this week.

Today will be a busy day due to the campfire so a little free time is warranted. Another good reason for free time in the morning is to help reduce any restlessness today. The last thing you want is to have 25 campers antsy around a campfire.

11:20 - 11:30

Bathroom Break
Lesson 1

At this time have one of the counselors start the campfire and cook the hotdogs, have another counselor put carrots, potato chips, and buns on the plates and make juice.

Fire Safety

Background:

Set down some ground rules for the fire. Make sure that the campers know that they are not to be near the fire without a counselor. Ask them to tell you what the rules should be. Talk about the fact that you should never play with fire or matches and that you should never start a fire. That is a job for an adult. Let the campers come up with all of the safety rules for you. Here are some examples:

- Don't run near a fire
- Don't play around a fire
- Don't play with fire
- Always make sure the fire is out properly when you are finished

Ask the campers if all fires are bad. Some are not. We use fire to cook our hotdogs, roast our marshmallows, and heat our homes. Talk about the importance of fire to some habitats like jackpine stands and prairie habitats. In these areas there is a natural cycle that includes wildfires. Some of the plants that live in these areas rely on fire to keep them healthy. Some seeds like pinecones only open up to disperse their seeds if there is a great amount of heat. Discuss the fact that at times there are prescribed burns for these habitats.

Discuss that there used to be many prairies in Indiana, but several have been destroyed by human development of these areas. Relate this discussion back to extirpated animals. The buffalo used to live in Indiana, but no longer does because of loss of habitat. This is why we protect the few prairies that we have left; we do not want to lose any more. One way we protect these areas is to have prescribed burns. A prescribed burn is one that is started naturally or by humans, but is allowed to burn safely so that it does not destroy other land or peoples homes. The burning of a prairie allows trees that are not a part of a natural prairie to be eliminated. It also allows many seeds that have been stored in the seed bank to sprout.

Many forest fires are devastating. Discuss with the campers the importance of putting out your campfire and not throwing matches or lit cigarettes onto the ground. Fire can destroy the homes of both people and animals.
11:45 - 12:30

Lunch and Bathroom break
Cook marshmallows

Allow each camper to cook his own marshmallows. Always have one or two counselors at the campfire.

12:30 - 12:50

Lesson 2
Insects & Spiders

Background:

How many body parts do insects have? Three, they are the head, thorax, and abdomen. How many legs do insects have? All insects have six jointed legs and they are attached to the thorax. Wings are also attached to the thorax if the insect has wings. There are over one million different species of insects. An insect is an animal with an external skeleton or an exoskeleton. How many body parts does a spider have? Two, they are the cephalothorax and the abdomen. How many legs does a spider have? They have eight.

Ask the campers to name as many insects and spiders as they can. Ask if anyone knows the scientific name for the class that spiders belong to. They are in the class Arachnids. Insects and spiders belong to a phylum called Arthropods. All arthropods have an exoskeleton, segmented body, and jointed appendages. Arachnids, millipedes, centipedes, crustaceans, and insects all belong to the Phylum Arthropoda.

12:50 - 1:50

Hike

Insect Safari

Have the campers form partners and give each pair a string that is about thirty inches long. Give each camper a magnifying glass. Now tell them we are going on our hike, but today we are going on a micro hike. Ask if any of them know what the word micro means. It means really small. So here is what you are going to do. Take your string and just toss it into the air and wherever it falls is where your trail is. Follow the string like it is a trail, but follow it with your magnifying glass. Have all of the
campers practice using their magnifying glass and help those that have any trouble.

Take them into the teepee field and give them boundaries and tell them to explore the area using their string and magnifying glass. They could even try putting their string on a tree. Have them look for insects and other arthropods. Tell them to share with others what they find.

After they are finished take them into the forest and look for more arthropods. Try turning over logs to see what you find.

1:50 - 2:00

Bathroom break

2:00 - 2:30

Crafts

1. Spider Web

Take three craft sticks and hot glue them together prior to the craft. Glue them so they form a six-pointed star. Pass out one to each camper along with a four-foot piece of yarn. Have several color choices for them to choose from. Tell them that we are going to make spider webs. Have the camper tie the string to one of the points and then show them how to start weaving. The weave is just like a God's eye, but we are using three craft sticks instead of two. They will need a little help to get started, but they will catch on.

2. Bees

Give each camper one yellow pipe cleaner and one half of another. Also give them one black pipe cleaner and one half of another. Ask them what insect they know that is yellow and black and makes something sweet for you and I to eat? A bee. Tell them that they are to create a bee out of these pipe cleaners. They are going to have to be creative and use their imaginations. The only other help they will get is a counselor to cut their pipe cleaner if they want smaller pieces.

Encourage those that are unwilling or claim to have no ideas. Let them know that you have faith in them and you know that they can make a bee out of these pipe cleaners.
2:30 - 2:45

**Snack**

Honey and Crackers

Talk for a few moments about how bees make honey. Then allow each camper an opportunity to put honey on his/her crackers if desired. Saltine crackers seem to be a good choice for this snack.

**Story**

During snack time, read a story to the campers. A good one that may be appropriate for the day’s topic is *Freddie the Fly* by Charles Grodin.16

2:45 - 3:00

**Games and free time**

Play a game of Mother earth may I?

3:00 - 3:15

**Review the activities and lessons for the day**

Take a few minutes to ask the campers what we talked about today. Let them tell you.

**Prepare for open house**

Practice the song and dance one last time today. Tell the campers that for the open house you would like for one of the campers to volunteer to tell all of the parents about what we did today. Have that volunteer tell you what they might say for practice. Also have the volunteers from day one, two, and three practice again.

3:15 - 3:30

**Clean up**

Have campers get their backpacks and water bottles.

**Collect nametags**

**Gather campers and walk to parking lot**
Sign campers out
Day 5

Materials

Nametags
Sign in/out poster
T-shirts
Stencils
Paint (Permanent paint for fabric)
Containers for paint
Newspaper
Pieces of cardboard that fit into the T-shirts
Sponges
Stencils
Celery
Peanut butter
Knife or spoon for peanut butter
Raisins
Juice
Cups
Napkins
Stellaluna
Crafts to hand back
10:30 - 10:40

Register campers. Pass out nametags. Gather group and walk to campsite.

10:40 - 10:50

Review the rules.

Review previous lessons

Practice Song and dance

10:50 - 11:00

Classroom carrying capacity

The following activity is from Project Wild.17

Ask all of the campers to sit on the floor of the shelter. Keep asking them to get closer together. Continue to ask them to sit even closer. They should be very tightly packed. Now ask them to pay close attention while you give today’s lesson.

Now begin the lesson for the day. Perhaps start out talking about the plan for today. First, we will make T-shirts and then we will prepare for the open house. We will have to write a story together that we can read to our parents.

All the while, have the counselors keep trying to get the campers to sit closer. Tell them they are taking up too much room; there is a space in front of you. Simply continue to discuss the agenda for the day and perhaps start in on the Carrying Capacity lesson. Continue until you see that the campers are rather uncomfortable and restless.

Now ask them how they feel. Do you feel crowded? Are you uncomfortable? That is because you have exceeded the carrying capacity for this area.

If you were an animal, could you live like this? Would there be enough room for you to find enough food, water, shelter, and space?

Lesson 1

Carrying capacity

Background:

An animal population can become so high that the habitat can no longer support the population. In this situation it is said that the number of animals has exceeded its carrying capacity. The carrying capacity is the number of animals of a given type a certain area can support. It is natural for an animal population to fluctuate, but human intervention has affected the carrying capacity.
of some species. For instance, Brown County State Park has a deer population that has exceeded the carrying capacity. This is mainly due to the hunting restrictions of state parks. The overpopulation of deer has caused suffering in many areas of the park. Many deer are starving because there is not enough food to go around. There has also been a lot of damage to the flora because the deer are eating too many plants. Some of these plants may even become endangered due to this problem.

11:00 - 12:00

**T-shirts**

Place a plain white T-shirt onto a piece of cardboard. This will prevent the paint form soaking through to the other side. Let the campers paint the shirt any way that they wish. Provide several stencils of animals, insects, and plants for the campers to use. Place the paint into suitable containers and use sponges to apply the paint.

Set a limit on the number of stencils that can be used, this will help keep the time spent painting under control. After the camper is finished painting, remove the shirt from the cardboard and lay it out of the way to dry. Make sure that the camper's name is on the tag of the shirt.

12:00 - 12:30

**Lunch and Bathroom break**

12:30 - 1:00

**Discuss what they learned this week**

Review the major topics of each day. Let the campers tell you what they learned about. Ask a lot of questions and let them give you the answers.

**Go over open house, practice**

Practice the song and dance. Tell the campers that for the open house you would like for one of the campers to volunteer to tell all of the parents about what we did today. Have that volunteer tell you what they might say for practice. Also have the volunteers from day one, two, three, and four practice again.

**Write a story together**

You begin the story with "This week I was a Nature Nut here at Ritchey Woods and I found out that I am nuts about......" and let each camper contribute his/her own line. What would you say you are now nuts about? Write down the camper's name and their line. We will read this at the open house.
1:00 - 1:50

Hike

Let this be a very general hike. You may take this opportunity to point out things along the trail that you might not have had a chance to discuss. Place an emphasis on habitats and how everything is connected. Also take some time to let the campers tell stories of their own on this hike. They might have a memory about a hike they took somewhere else or perhaps they can make up a short story.

1:50 - 2:00

Bathroom break

2:00 - 2:30

Games

Play a game of Mother earth may I?

2:30 - 2:45

Snack

Ants on a log

Place peanut butter on a stick of celery. This will provide the log. Then use raisins to represent the ants. This snack is the final snack at camp and represents a habitat, which has been a major theme all week.

Story

During snack time, read a story to the campers. A good book that helps to relate a story about both friendship and nature is Stellaluna by Janell Cannon. This story is a nice one for the last day of camp.

2:45 - 3:00

Prepare for open house

Tell the campers the agenda for the open house and ask the volunteers to practice. Then have all of the campers practice the song and dance one last time.
3:00 - 3:30

Open house

The open house provides an opportunity for the parents to see what their child has been involved in over the past week. It also gives the campers an opportunity to show off a little for their parents.

- Have each camper wear his/her T-shirt; it should be dry.
- Have the campers sing the camp song and perform the dance routine.
- Read the story that we wrote together to the parents. Repeat each line and name the camper who wrote it.
- Have the campers that volunteered talk about each day
- Show an example of each craft and describe it to the parents
- Play a game of Mother Earth May I? Ask the parents to join in the game with us.
- Thank the parents and invite them to explore Ritchey Woods with their camper.

Sign campers out
Appendix

Contents:

- Information packet sent to parents prior to camp containing release form
- Handout given to parents on the first day of camp
- Campfire information sheet
- Sample patterns for raccoon puppets
Dear Parent,

Thank you for choosing Ritchey Woods for your child's summer camp!

To make your camper's experience more enjoyable, please have the following with him/her on each day of camp:

* lunch - Cold storage is not available, please plan accordingly. Lunch is provided for the Bushwhackers camp and on the last day of each of the other camps.
* canteen or plastic bottle of water
* insect repellent
* extra shoes appropriate for wading and hiking (no sandals)
* a hat and/or sunscreen

Please arrive 10 minutes prior to camp starting time to avoid schedule delays. Parents are welcome, but not required, to spend the day at the woods. Please join us for the last half hour on the final day of camp for an open house featuring all the fun we had at camp.

Please dress appropriately for the weather. In the event of heavy rainstorms or lightning, we will take cover in our shelter house. If at anytime you wish to pick-up your child due to inclement weather, you may do so.

Please complete and mail the attached forms in the envelop provided. You must provide these release forms, completed by a parent or guardian on or before the first day of your child's camp.

Once again, thank you for choosing Ritchey Woods as your summer camp. If you have any questions, please feel free to call us at 845-5153, ext. 3826.

See you soon!

Sincerely,

Robin

Robin Spearin
Environmental Education Specialist

Nurtured and protected by The Children's Museum, P.O. Box 3000, Indianapolis, IN 46206 317/924-5431
Dear Parents:

We have prepared this handout to share some of the plans for your child’s day camp. We hope this information will help you reinforce and continue your child’s learning experience at home. Please remember that your children are at different stages in their development and are individuals with different interests. For these reasons, they may not have participated in every activity or discussion. That’s OK!

Nature Nuts

Major Topics of This Camp:
Day one: habitats and communities; trees and plants
Day two: endangered and extinct; animals and birds
Day three: predator and prey; soil and water
Day four: insects and spiders; fire safety
Day five: carrying capacity

Activities:
Each day we will play a variety of games, sing our camp song, take a hike, and make one or two crafts related to the day’s topic. On day three we will go creek stomping so it will be necessary for your child to bring a pair of shoes that can get wet to go creek stomping in. On day four we will have a cookout so there is no need for your child to bring a lunch. Finally, on day five we will be painting T-shirts so it might be a good idea for your child to wear old clothes that day. Also on day five, please join us at 3:00 p.m. for our open house.

Games we play:
Hawk and Mouse
Oh Deer
Mother Earth, May I?
The Endangered Hoppit
Quick Frozen Critters
Animal Charades

Books we read:
The Giving Tree by Shel Silverstein
The Lorax by Dr. Seuss
Box Turtle at Long Pond by William T. George
Freddie the Fly by Charles Grodin
Stellaluna by Janell Cannon

Note: Ritchey Woods is continually striving to provide quality environmental education programs for your child. We welcome comments on present programming or suggestions for future programming. Please call, write or fax Robin Spearin - 924-5431 ext. 3826; Fax – 921-4019; P.O. Box 3000, Indianapolis, IN 46206.

Thanks for choosing Ritchey Woods for your child’s summer camp experience,

Robin
Cookout Materials

1. a 2 hour campfire takes about 20 pieces of split wood
2. dry grasses or weeds or paper to start fire
3. matches, lighter fluid
4. cooler of water, nearby to put out fire
5. plastic cover to keep wood dry, till fire is started
6. roasting sticks/hotdog roaster
7. pocket knife to sharpen sticks
8. marshmallows

Building the campfire

1. Place the paper in the center of the firebowl area, cover paper with small twigs, add a few pieces of kindling, then light the fire.
2. Once the material has all caught fire, start adding more kindling and fuel wood.
3. After this all done, the fire should be easily maintained by adding an occasional piece of fuel wood.
4. At the end of the campfire, pour water all over and around the area to make sure it is out. Stir it up with a stick, and add more water.
5. Once this is done, the fire might have a little steam rising from it, but it should be out. If not repeat step 4.

Safety

1. Make sure you always have an at least half full water cooler near the fire.
2. Always talk to the kids about fire safety:
   a. always walk, never run near a fire
   b. proper places to build fires, ie. firepit with rocks around it
   c. never add anything to the fire unless an adult tells you to
   d. if your clothes catch on fire, stop, drop and roll
   e. fire is not a toy, don't play with it and never start one unless an adult is present
3. Never leave the fire unattended, if you have two fires in one day and wish to keep it going in between, someone has to be nearby at all times.
Feel free to reduce or enlarge any pattern for the raccoon puppets. You can use these shapes or any that you wish; these are just a few suggestions to get you started.

**TAILS**

**MASK**
Feel free to reduce or enlarge any pattern for the raccoon puppets. You can use these shapes or any that you wish; these are just a few suggestions to get you started.
Feel free to reduce or enlarge any pattern for the raccoon puppets. You can use these shapes or any that you wish; these are just a few suggestions to get you started.
Works Cited


Bibliography

Bosak, Susan V. Science is... Ontario: Scholastic Canada LTD, 1991.


