



Transcript for the [Video:](#) ***Investigating...Trees***

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Niloufar Rezai, Director: We came to select trees as a topic of investigation because the center had an interest in nature.

Amy Tyler, Preschool Teacher: We had just finished our nature investigation over the summer, and I think the teachers were really knowledgeable on it, and noticed that the children were so interested in nature.

Amie Theriault, Toddler Teacher: We thought about the things that the children were showing interest in at the time and what would be most familiar for them.

Niloufar Rezai: We had just had a storm, so trees had come down in neighborhoods, and we wondered if they'd ever actually stopped to really notice or look at a tree.

Patty Gardner, Preschool Teacher: I think trees for pre-school age children is a great topic for investigation because it's something that they're familiar with. They have a little bit of knowledge about it, but not enough to make it boring for them.

Amie Theriault: Trees actually turned out to be great for toddlers because there were so many hands on things that we could do. We could just walk outside; it wasn't so abstract.

Getting Started

Amy: What is that big long part in the middle?

Child: The trunk.

Amy: The trunk! So I might draw a big trunk, and then what's going to come on top of my trunk?

Amy Tyler: We started to talk about the different parts of this tree; that's where we started in our classroom. Each group chose a tree that they would kind of investigate and get to know. They had their science journals with them, and we sat outside and examined a tree, we touched the tree, and we sat and sketched them. The next day children had the opportunity to re-sketch it and label all the different parts that they saw. Some children noticed that that the leaves were either green, or this was the time of year where they were changing colors, so children had the opportunity to add color and paint.

Mathematics

Amie Theriault: We kind of started from the ground up, very basic, talking about the parts of the tree and what they were for, and once we got to the leaves we realized all of the math that could be incorporated into that, so we did a lot of comparing sizes, comparing shapes, talking about the colors, sorting.

Amie: What shape is this leaf?

Child: Oval.

Amie: What is it?

Child: Oval.

Amie: An oval. This comes from a goat willow tree.

Amie Theriault: And some of the children were able to identify the shapes. Some of them don't have the language yet—they are not identifying the shapes yet—but they could visually see it and choose the shape and check to see if it matched. When we started looking at different leaves, and talking about how they change color, we thought even the younger children will be able to choose which is their favorite color; they will be able to put it on the graph. So even though they are not exactly getting the concept that: this column, more children might like a red leaf (where the older children would), they were still getting something out of it.

Literacy

Amy: The owl tried to sleep. I'm going to put my piece—where is the owl sleeping? Not on the branches?

Kids: In the middle.

Amy: In the trunk.

Amy Tyler: Literacy was everywhere. There were a lot of interesting stories that the children loved about trees.

Amy: The cuckoo called, "Cuckoo! Cuckoo!" And owl tried to sleep. Where will your cuckoo bird land?

Child: And owl didn't sleep.

Amy Tyler: We had a pen pal. One of our children's fathers was our tree expert, so when we had questions about trees, we wrote him a letter and packed it full of all different questions that we had and sent it home with her, and he wrote back with all the answers to our questions.

Niloufar Rezai: In one of the classrooms, a family member contributed pieces of scrap wood, so the teacher tied it into a book they had read. So the children created their own three dimensional leaf man structures.

Art

Patty Gardner: At one point during the investigation we were talking about deciduous and conifers and we were talking about the different textures that the leaves have. And so we talked about how the pine needles, as long as they're on the tree will stay green. We compared pine boughs to paintbrushes, and so we just thought we'd take some different kinds of things from nature and do some painting with it.

Amie Theriault: We got into habitats a little bit because they are big fans of animals, and we talked about bee hives, and I was able to bring a bee hive into the classroom. We took that idea and we did—it was a three day project—we made paper maché beehives. Even the younger children, if they didn't completely understand exactly what the end product was, it was that process—they were able to tear the newspaper; they were able to help mix the glue; and they were sticking them on.

Science

Niloufar Rezai: So with trees one of the content standards that really fit in nicely was a science standard which addressed the needs of living things.

Child: There are mushrooms on the tree.

Amy: Oh, just like we talked about. You think those are mushrooms on the tree?

Amy Tyler: We spent a lot of time examining the bark and finding these little things.

Amy: I wonder what that is and why they're on the bark of the tree.

Amy Tyler: So we did some research and figured out that it was lichen. And then we started to find lichen everywhere.

Patty Gardner: One of the things that we talked about in our tree investigation is creatures that live in trees. My co-teacher thought it would be a great idea to get a bird feeder and offer them some food. The children sit over in their chairs, and they have their markers—tally marks—to count the birds that are there, and they have binoculars, and it really fosters a real connection with nature.

Amy Tyler: We did some bark rubbings, and again, they had a purpose behind it. We chose two different trees, and then we sat and we looked at our product that we had and talked about the differences.

Amy: This was the first tree. How are these—are these the same or different?

Children: Different.

Amy: Why are they different?

Child: Cuz they have, like, thin. And this one has, like, bumpy.

Amy: This one was bumpy? And this one was thin? I noticed that these lines are a lot skinnier than these lines.

Niloufar Rezai: Another science um content standard that we decided to focus on was the life cycle of a tree.

Amie Theriault: The fall is a great time to do this because obviously the toddlers will notice that the colors of the leaves are changing and they're falling, but we started thinking they're so young they may not even remember the previous fall. So we selected a tree on the playground and we would go out and feel the tree and look at the tree and talk about it. And we take pictures, and they could write down their observations, and then the next time we went out as a group they could come in and visually see the difference between the two time periods. And we could talk about what had changed over the course of the month.

Making Trees

Patty: Zephram, tell me about the pipe cleaner you're putting inside your tube.

Child: It's protecting it so the tree doesn't fall down.

Patty: It's protecting it so the tree doesn't fall down. Wow.

Child: So it can fall down on this, and these pipe cleaners will help it stay.

Patty Gardner: We decided as our key experience for our investigation is to make a tree. We decided to break the children up into cooperative groups, and each group would take one part of the tree and construct it. We generated a list of materials of what we were going to use to make these parts.

Patrice: If you notice, this tree has a lot of roots. See all the roots this tree has?

Girl: That's why I need a lot of them.

Patrice: That would be why you would need a lot of straws to make all those roots.

Patty Gardner: We got together as a whole group and put all the parts where they need to be—remembering that the roots need to be on the bottom, and then the trunk and the branches come on the top, and then the leaves are on top of the branches. Then we had to figure out how, as a group, how we were going to get the tree out of our classroom to put on display.

Patty: Ok here we go, we're putting our roots in the ground of our tall, tall tree.

Patty Gardner: And then we came up with a name, and they called it the Big Black Trunk Tree.

Amy Tyler: Towards the end of our investigation after the children had all the knowledge they needed, we had three different groups who each sketched their own tree, again, including the realistic parts.

Amy: So I noticed that we have a trunk, with some branches coming out, and I see roots. But we're missing something up here.

Children: A crown.

Amy: The crown. So what do you think we should do?

Amy Tyler: We figured out how we can make our sketch larger, and we added paper and we had all of our sketches done. Then the next day, the children worked for a long time to create these trees. And they're all so different, but they all include those three main parts we repeatedly talked about. So that was a great experience.

What We Learned

Amie Theriault: I just think that it was a great investigation because they're so familiar with trees. I mean trees are all around them, but I guess when you take a step back they really probably didn't know that much about them.

Amy Tyler: I think I learned from this investigation that even though trees seems like a simple topic, that you could go in-depth and you could use science and math in different ways to really give children that content knowledge, and get to know it and in a more scientific way.

Niloufar Rezai: What I liked best about this investigation was that it raised children's awareness or things that they would take for granted. You walk by a tree everyday; do you ever stop and look at it?

Patty Gardner: I thought I knew a lot about trees just because I spent a lot of time in the woods as a child exploring things. It turns out I didn't know as much as I thought I did. You know—you're a teacher; you never stop learning.