

Explorers Preschool Curriculum

# Let's Explore Trees



Developed by  
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Arkansas State University Childhood Services  
JoAnn Nalley, Director





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## Let's Explore Trees

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If Explorers Preschool Curriculum is new to you, or if you would like to review big ideas about this curriculum, see the **Using Explorers** section at the end of this packet.

An expanded Getting Started guide can also be found under the resources tab at [www.ASUChildhoodServices.org](http://www.ASUChildhoodServices.org)

# Let's Explore Trees

Trees are all around us, so they are a familiar part of our world. Yet, trees come in a staggering array of sizes, with leaves of many shapes and colors. Some trees produce flowers, nuts, pinecones, or fruit, and all trees are home to living creatures. Trees live longer than any other living things on earth. It's not uncommon for preschoolers to explore the same trees their parents climbed and played around as children!

This topic might be a fit for you if

- You have access to several different trees in your outdoor environment and current seasonal changes have heightened children's awareness of trees.
- You've heard children asking questions or wondering aloud about trees and the creatures that live in them. (You may wish to combine the *Trees* topic with *Insects* or *Songbirds and Squirrels*.)
- You've noticed children collecting acorns, pinecones, or colorful leaves to investigate and use in their play.

## Let's Talk About Trees

Use words like these during everyday conversations with children.

acorn  
bark  
blossoms  
branches  
canopy  
deciduous  
evergreen  
forest  
pinecone  
roots  
sapling  
stump  
trunk  
twigs

**Words to describe tree actions and changes:** sprout, grow, bud, sway, clatter, leaf out, shed leaves, fall.

**Names of specific trees:** oak, maple, hickory, hawthorn, sassafras, and so on.



Gather some of these interesting objects to investigate with children. Families can help!

pinecones  
acorns  
sweet gum tree "gumballs"  
locust tree pods  
black walnuts  
maple seeds  
tree branches  
tree and forest field guides

## Preparing to Explore Trees

1. With your teaching team, think about and then discuss these questions.
  - Do any of our children have allergies to tree nuts, pollen, or other tree components that we need to consider when choosing and planning this topic?
  - What experiences have our children had with trees so far? What background knowledge do they most likely have?
  - What resources could be helpful as we explore this topic with children? Are there any special places we might go, or special people who might visit us as we learn about trees?
  - What are some things that children might learn and do as we investigate trees? What new words or concepts could they begin to understand?
2. Let families know that the group is interested in trees. What can they tell you about their family's experiences? Think together about ways to engage families. For example, many families can collect leaves, acorns, and other "tree debris" around trees near their home or in a favorite park. Do any family members or other friends of the classroom work as landscapers, arborists, botanical farmers, or in forestry? These individuals will have specialized knowledge to share.
3. Gather books and materials to add to learning centers and to use during small group experiences. You'll find suggestions on the pages that follow.





## For Teachers: Thinking About Trees

This background information may be helpful as you plan, prepare, and carry out a tree investigation with young children.

### Tree Basics

- All trees are plants, but not all plants are trees. A tree is perennial, meaning it lives for many years. It has a single, woody stem—the trunk. The trunk is covered in bark, which helps protect the tree from insects, extreme temperatures, and weather.
- A tree grows by adding a ring of wood every year. Some kinds of trees grow faster than others. Tree roots grow, too. They stretch out below ground, anchoring the tree and collecting water and nutrients from the soil.
- Branches extend out from the trunk of the tree. Branches bear leaves, which collect the sunlight to transform into energy for the tree. One of the best ways to identify trees is to look at the shape and features of the leaves.
- Deciduous trees in cooler climates shed their leaves in autumn when their growing season has ended. Losing leaves helps the tree conserve energy, and it also helps minimize damage from winter ice and wind. Evergreen trees usually have needles rather than broad leaves and they stay green all year.

### Topical Tie-ins

This tree topic works exceptionally well with several other *Explorers* topics. Depending on children’s interests, you might want to borrow ideas or information from the flowers, insects, or songbirds and squirrels topics.

### Trees Through the Year

Trees invite investigation at any time of year, and your experiences are likely to be shaped by the season.

- We often think of trees in autumn, when leaves change colors and fall to the ground. Autumn is also a time for finding acorns, pinecones, and other tree seed treasures!
- In winter, the bare branches of deciduous trees offer a closer look at tree shape and structure. Sometimes they sparkle with frost. Evergreen trees can be stars of a wintertime investigation, too.
- In spring, new leaves sprout, and beautiful, fragrant blossoms bud and bloom on flowering trees. Springtime trees are a sign that winter has passed.
- Summer trees are full and green and teeming with life. Trees grow taller and broader during the warmest months of the year, and they provide welcome shade from the hot sun.

Consider investigating trees whenever they spark your children’s curiosity. You might even wish to revisit trees throughout the year.

## Learning Center Extensions – Trees

Here are some examples of materials that can be added to learning centers to support children’s exploration of trees during daily free play times.

Not all materials need to be added at the same time. Choose materials based on what you have available and the ages, interests, and abilities of the children. You may also choose to add more or different materials later in your investigation.

For more information on incorporating materials into your classroom, see the *Learning Everywhere* section at the beginning of the Getting Started packet.

### Science Area

- Collections of natural objects such as acorns, sweet gum balls, maple seeds, black walnuts, pinecones, pine boughs, and naturally-shed tree bark
- Tools for investigating nature collections, such as a balance scale, a sorting tray, and a magnifying glass
- Natural leaves that will dry out over time
- Leaves sealed in clear contact paper or [preserved with glycerin](#).
- Tree stump
- Puzzles or sequence cards depicting seasonal changes or the life cycle of trees
- Photos of trees, such as those available online with this curriculum
- Factual books about trees, such as those listed below.

*Fandex Family Field Guide: Trees*  
Steven Aronsen, Workman Publishing, 1998

*DK Eyewitness Tree*  
David Burnie, Dorling Kindersley, 2015

*The Magic and Mystery of Trees*  
Jen Green, DK Children, 2019

### Dramatic Play Area

- Picnic, grilling, or camping props
- Seasonal outdoor clothing such as scarves, mittens, and gloves for late autumn, or sunglasses and hats for summer

## **Block Building Area**

- Tree blocks and/or smooth-sanded tree branch slices
- Silk leaves
- Play silks or other pieces of fabric in seasonal tree colors, such as summer greens or warm autumn colors
- Wood, wool, or plastic animals representing North American wildlife

## **Art Area**

- Easel paints and/or playdough in seasonal colors
- Leaves, pine boughs, and pinecones to make prints with paint, clay, or play dough
- Tissue paper, construction paper, and die-cut paper leaves in seasonal tree colors
- Leaves, twigs, and/or pine needles for collage

## **Fine Motor/Table Toy Area**

- Commercial games and puzzles with trees, such as *The Sneaky, Snacky Squirrel Game*, *Hi-Ho Cherry-O*, and/or woodland wildlife floor puzzle
- Teacher-created leaf matching game
- Sorting set with tongs or tweezers and silk leaves, small pinecones, or other tree-related items
- Graduated collection of twigs or tree branch slices that can be arranged from smallest to largest and used for creative designs

## **Other**

- Commercial or class-created treehouse playset with dollhouse figures
- North American wildlife puppets such as raccoon, opossum, chipmunk, owl, and squirrel
- Tree stump used with sandpaper and/or hammer and nails

## Book Area

Add some of these books and/or your favorite books about trees.

*Because of an Acorn*, Lola M. Schaefer and Adam Schaefer, Chronicle Books, 2016\*

*The Busy Tree*, Jennifer Ward and Lisa Falkenstern, Two Lions Press, 2009

*Full of Fall*, April Pulley Sayre, Beach Lane Books, 2017

*Goodbye Autumn, Hello Winter*, Kenard Pak, Henry Holt and Co., 2017

*Goodbye Summer, Hello Autumn*, Kenard Pak, Scholastic, 2017

*The Hike*, Alison Farrell, Chronicle Books, 2019

*Hungry Bunny*, Claudia Rueda, Chronicle Books, 2018

*Kate, Who Tamed the Wind*, Liz Garton Scanlin and Lee White, Schwartz, 2018\*

*Leif and the Fall*, Allison Sweet Grant, Dial Books, 2020\*

*Little Tree*, Loren Long, Philomel Books, 2015

*A Log's Life*, Wendy Pfeffer and Robin Brickman, Aladdin, 2007

*Tap the Magic Tree*, Christie Matheson, Greenwillow Books, 2013\*

*Miss Maple's Seeds*, Eliza Wheeler, Nancy Paulson Books, 2013\*

*The Things that I Love About Trees*, Chris Butterworth and Charlotte Voake, Candlewick Press, 2018

*The Tree: An Environmental Fable*, Neal Layton, Candlewick, 2017

*A Tree Grows Up*, National Geographic Kids, 2016\*

*A Tree is Nice*, Janice May Udry and Marc Simont, HarperCollins, 1987 (reprint) \*

*Tree: A Peek-Through Picture Book*, Britta Teckentrup, Doubleday Books, 2016

*Who Will Plant a Tree?*, Jerry Pallotta, Sleeping Bear Press, 2010\*

*Woodland Dreams*, Karen Jameson and Marc Boutavant, Chronicle Books, 2020

**\*Recommended read-aloud to share with groups of children.**

### Talking About Books

As you share books with individuals, small groups, or larger groups of children, ask questions like these.

- Beginning: This is a factual (true) book about trees. What are some things that you wonder about trees?
- Middle: What do you think will happen next?
- End: What season was it in this story? How could you tell?

Talking together about books is an important part of every preschool day!

## Conversations about Trees

Use prompts like these as you talk with children throughout the day. For more information on incorporating planned conversations into your daily schedule, see the *Learning Every Day* section in the Getting Started packet.

### Tree Conversations

#### Daily - during meals, play times, transitions, or group times

Try asking one or two questions like these when you have opportunities to talk with individuals, small groups, or the larger group of children.

- What are some things that you know about trees?
- Do you think someone planted this tree? (Respond with follow-up questions.)
- Did anything on our lunch plate come from a tree? How do you know?
- What kind of creatures might have a home in this tree?
- How do you think [animal] decides which tree to use for a home?
- When viewing a fallen tree or branch: What do you think happened here?
- What things in our classroom are wood/paper? How do you think they were made?
- I wonder why trees have bark? What do you think?
- How/why do people cut down trees?
- What do you think is inside this pecan shell/redbud pod/apple?
- How is our maple tree like our oak tree? How is it different?

At least once a week, make a chart to write down children's answers to a question. Talk with children one, two, or a few at a time to collect responses. Later, read the chart back to the group. Post it where children and families can view it.

What can you find that is  
made of wood?

Blocks for building - Jervae  
 All the little tables - Donovan  
 The windowsill - Ajay  
 The train tracks and trains - Ben  
 Pencils - Grace  
 Tinker Toy sticks - Sam  
 The shelf where the puzzles are  
 -Ava W.  
 Our cubbies - Sofia  
 The rocking chair - Eli  
 Blocks, but not the brick blocks  
 - Xander  
 The firetruck puzzle - Mason  
 The biggest beads - Ava C.  
 A rolling pin for playdough - Kaylin  
 The play food that isn't plastic  
 - Bella

# Conversations About Trees

## Tree Polls

1-3 times per week – at arrival or group time

Choose a question from the list below or think of one of your own. Make a chart with the question and two possible responses, using picture cues when possible. Invite children to write their names or place name cards to respond.

- Have you ever planted a tree?
- Which tree fruit do you prefer: apples? Or pears?
- Do you like to eat nuts?
- Would you rather explore a forest or a meadow?
- Do you like to gather acorns?
- Would you rather rake leaves into a pile?  
Or jump in a leaf pile?
- Which season is your favorite?

What is your favorite season?	
 <p>spring</p>	 <p>summer</p>
 <p>winter</p>	 <p>fall</p>

## Sharing Experiences So Far

Several times a week - during meals or play times

As you talk with individuals and small groups of children, tell about your own positive experience with trees. You might talk about planting a sapling and helping it grow, going on an apple picking adventure, or taking photographs of a beautiful tree at a park.

Listen as children talk about their experiences, too. Help children make connections between shared experiences. (“It sounds like several of us have trees at home that were damaged by the big storm!”)

## Songs, Rhymes, and Games about Trees

Share playful songs, rhymes, and games during group times or transition times.

### **Acorn, Acorn** – *to the tune of Twinkle, Twinkle Little Star*

Acorn, acorn, small and round  
Time to fall down to the ground.  
Sprout and grow all season long  
Into an oak tree, tall and strong!  
Acorn, acorn, small and round  
Time to fall down to the ground.

### **Autumn Leaves are Falling Down** – *to the tune of Mary Had a Little Lamb*

Dance and twirl like leaves as you sing, ending with everyone lying on the ground:

Autumn leaves are falling down, falling down, falling down,  
Autumn leaves are falling down – down to the ground.  
Red and yellow, orange, brown, orange, brown, orange, brown,  
Red and yellow, orange, brown – down to the ground.

### **Way Up High in the Apple Tree** – *traditional rhyme*

Way up high in the apple tree, (stretch hands up high)  
Two little apples looked at me. (hold up two fingers)  
I shook that tree as hard as I could! (pretend to shake a tree with both hands)  
Down came the apples, (downward motion with hands)  
And Mmmmm – were they good! (rub belly)

*Way Up High in the Apple Tree* also appears in our Farmers' Market resources. Remember: It is valuable to revisit favorite songs and rhymes throughout the year.

### **Tree Visualization**

With a small group of interested children, imagine that you are trees. Spread your legs shoulder-width apart and imagine strong roots growing down into the ground. Make your trunk tall and straight, and stretch your branches toward the sky. Imagine the warm sun shining down as you sway in a gentle breeze.

## Ten Little Leaves

Count on your fingers as you chant or sing:

One little, two little, three little leaves,  
Four little, five little, six little leaves,  
Seven little, eight little, nine little leaves,  
Ten little leaves have sprouted!

To adapt this rhyme for autumn or winter, change the last line to “Ten little leaves have fallen!” In summer, try “Ten little leaves are growing!”

## What the Robin Told - a poem by Margaret Wise Brown

The wind told the grasses,  
And the grasses told the trees.  
The trees told the bushes,  
And the bushes told the bees.  
The bees told the robin,  
And the robin sang out clear:  
Wake up! Wake up!  
Spring is here!

Could you and your children work together to write your own poem about another season?

## I'm a Tree Chant

Look at me -  
Roots, (stomp both feet)  
Trunk, (move hands up, from knees to shoulders)  
Branches, (stretch arms wide)  
Leaves! (wiggle fingers on widespread hands)

Look at me, look at me –  
I'm an oak tree, can't you see?

As you enjoy this movement rhyme, try showing children photos of different trees such as a pine tree, a maple tree, and an elm tree.



## Tree Playlist

Everything That's Made of Wood Once Was a Tree – Cousin Joe  
Spring Has Sprung – Frances England  
The Green Grass Grows All Around – The Kiboomers  
Through the Woods – The Okee Dokee Band  
Under a Shady Tree – The Laurie Berkner Band



## Small Group Learning Experiences – Trees

Share learning experiences like the ones on the following pages with small groups of children each day. Groups should usually consist of three to seven children, rather than the whole group at once. Small group experiences may occur as children choose to join a teacher during free play time, or there might be a special small group time included in the daily schedule.

Use these questions to guide you as you choose daily learning experiences.

- **What is it about trees that these children seem most curious about?**  
Children in the group might be especially interested in comparing the bark and leaves of different kinds of trees. Or, they might seem more curious about how a particular tree changes over time. Let your observations and conversations with children be your guide as you choose experiences that invite children to pursue their interests and seek answers to their questions.
- **What are our learning goals for individual children and the group as a whole?**  
Choose experiences that support specific objectives for learning. Strive to create well-rounded plans that support all domains of development.
- **How can we extend children’s thinking and learning?**  
Choose activities that can be connected to children’s experiences so far. Remember that it is often appropriate to “re-run” planned experiences. Offering an experience two or more times over a few days or weeks invites children to gain expertise and deepen their understanding.



Pair planned learning experiences with ample opportunities for open-ended, free choice exploration indoors and outdoors.

## A Tree for Me

Let's take a closer look at a particular tree. We can visit our tree again and again over time.

### Materials

- Tree picture book (optional)
- Camera (optional)
- Quilt or mats to spread on the ground (optional)
- On later visits, clipboards with paper and pencils and an Investigator's Kit in a backpack with a tape measure, length of yarn, a ruler, flashlights, magnifying glasses, a small notepad, and a pencil

You may wish to begin by reading a short, simple book about trees with a small group of children. *A Tree is Nice* by Janice May Udry and *The Things That I Love About Trees* by Chris Butterworth are both excellent picks. Explain to children that you'll take a walk together to get to know a special tree.

Solicit children's ideas about where to find their tree, or offer at least two different possibilities. ("Would you like to go take a look at the trees beside our playground? Or would you rather look at the trees in the courtyard?") Once you've decided on your route, go together to explore. Children may immediately gravitate to one tree. You may also offer prompts, such as, "Which of these trees are you most interested in?"

Once children tune in to one particular tree, try investigating it in several ways.

- Feel the bark with your fingertips or cheek. Stretch your arms wide to reach around the tree. Can you reach all the way around? If not, try joining hands together to circle the tree.
- Search the ground around the tree for leaves, seedpods, twigs, and other things that may have fallen from the tree. Do children think these things came from their tree? Why or why not?
- Notice shadows or shade that the tree casts on the ground. Do some shadows move or change? Do some shadows *not* move or change? Why might this be?
- Lie on the ground to look up into the tree's canopy. Relax your bodies as you look up into the branches.
- Close your eyes and listen to the sounds in and around the tree.
- Think together about the tree's life story. Do children think it is a young tree or an old tree? Why? How do children think this tree came to be here? Would children like to name their tree?

As you conclude your visit, take a photo of the children with their tree.

## **A Tree for Me (cont.)**

### **Helpful Hints**

Rather than rushing through all possible interactions with your tree during the first visit, focus on a meaningful, unhurried investigation. You can try new activities each time you visit the tree. Additional possibilities include sketching the tree, making bark rubbings, and taking close-up photos of various parts of the tree. Children will most likely have ideas about investigating, too.

### **Including Every Explorer**

Think of ways to provide close supervision for children with more impulsive behavior. This could be a good opportunity for family volunteers. The activity can be conducted in a fenced area and/or shortened as needed to ensure that every child has a successful experience.

If your group includes children with disabilities, plan ahead to consider ways to investigate their tree. A child with limited vision may be especially interested in exploring bark with their fingers or noticing the difference between sunshine and shade on their face. A child who usually uses a wheelchair may especially enjoy having access to roots or fallen leaves at ground level.

### **More to Do (optional)**

- Invite each small group to think of three things that others should know about their tree. Take the whole class on a walk to visit each small group's tree. Consider making a map together that shows the location of each tree.
- Help each group revisit their tree across weeks, months, or the whole year. Pay special attention to seasonal changes. Take a photo during each visit and combine these with children's sketches for a wall display or book.
- Ask children to think about ways to take care of their tree. They might carry water during dry weather, pick up trash around their tree, or even place flowers and pretty pebbles around their tree's trunk.
- How could children find out more about their tree? Arrange to meet a groundskeeper or other expert at the tree. Or, look for the tree in old photographs.

This experience offers special opportunities to build and strengthen the following areas.

**Cognitive Development – CD 2.1, CD 2.3, CD 2.4**

**Language Development – LD 2.1, LD 3.1**

**Mathematical Thinking – MT 3.1**

**Science and Technology – ST 1.1, ST 3.1, ST 3.3**

**Social Studies – SS 2.1, SS 2.2**

# Tree Droppings

What sort of things fall from trees? Let's go on a gathering walk to find out!

## Materials

- A leaf, a pinecone, and a twig
- Basket or another container for gathering
- Magnifying glasses
- Additional tools such as tweezers, mirror, flashlights, digital microscope (optional)

Begin by showing children the leaf, pinecone, and twig. Explain that you found these items on the ground while you were walking outdoors. Think together about how each one relates to a tree. For example, leaves grow at the ends of branches. Because different kinds of trees have different leaves, you can often identify a tree by the shape of its leaves.

Ask children what else they might find on the ground under trees. Would they like to go on a walk to gather things that have dropped from trees?

Search together on the ground to gather things like leaves, acorns and other nuts, bits of bark, pinecones, and other seed pods. Children may also want to collect pebbles and other small items.

After your walk, spread out and sort your collected items. Examine, handle, and talk about the things you found.

- Did all of these items come from trees? How do children know? If you've found something you're uncertain about, look it up!
- Create piles for leaves, branches/twigs, bark, seeds, and blossom petals. (Some of these items will be more common in spring, others in fall.) Which do you have the most of? The least? Put the items in a line and touch each one as you count.
- Think of other ways to sort your materials. Children might want to arrange twigs by size or sort leaves by color. Use descriptive words as you work.
- Use magnifying glasses to look closely at items. Wonder together about what you notice. You might even find a nut that has been gnawed by a squirrel or a sticky insect egg on the underside of a leaf.
- What are children curious about? What questions do they have? If you found nuts, are children curious about what is inside? What tools could help you open a nut to find out?

## Tree Droppings (cont.)

### Helpful Hints

Before you go and during your walk, remind children that you are only gathering items from the ground. We don't pick leaves, blossoms, and bark off trees because this can be harmful to the trees.

This experience could take place over two different small group times. First, go on a walk to gather items. Place the basket of items in a safe place to investigate during your next small group time.

### Including Every Explorer

Check with families to ensure that none of the children in your group has a tree nut allergy. It's important to ask this question in the family's home language. Because some children have had very little exposure to pecans and walnuts, families may not always be aware of an allergy. Provide close supervision if you gather tree nuts. Signs of an allergic reaction can include runny nose, itching of the eyes or skin, difficulty swallowing, and shortness of breath.

Adjust the complexity of this activity to the age and experience level of children in your group. Some children may wish to spend a long time exploring in complex ways, while others may prefer a short, simple investigation. Use children's questions and cues to help guide this experience and others like it.

### More to Do (optional)

- Use a tree guide to identify some of the leaves and other items that you have found. Older children may be interested in matching leaves and seeds. For example, an oak leaf matches an acorn while a maple leaf matches a maple pod.
- Invite families to gather tree droppings from around their homes to add to your collection.
- Place your collected items on a table for children to investigate on their own. Add sorting trays, magnifiers, and/or a balance scale. It may be helpful to agree together on some ground rules for this area. Is it OK to crumble up leaves, snap twigs, and crack nuts? Or would children prefer to keep the items whole? Thinking about this together is especially important if children seem attached to some of the items.

This experience offers special opportunities to build and strengthen the following areas.

**Language Development – LD 2.1, LD 3.1**

**Mathematical Thinking – MT 1.1, MT 1.2, MT 2.1, MT 3.1**

**Science and Technology – ST 1.1, ST 2.1, ST 3.1, ST 3.2, ST 3.3**

## Investigating Pinecones

Let's find out more about pinecones. Why do some trees have them and what role do they play?

### Materials

- |   |  |
|---|--|
| <input type="checkbox"/> Collection of pinecones of various sizes and types | <input type="checkbox"/> Bowl of water                           |
| <input type="checkbox"/> Magnifying glasses, tweezers                       | <input type="checkbox"/> Unsharpened pencils (optional)          |
| <input type="checkbox"/> White or black paper                               | <input type="checkbox"/> Child-sized gardening gloves (optional) |

Begin by talking with children about what they know about pinecones. Cones come from evergreen trees, and these trees are also known as *conifers*. The cone's purpose is to keep the tree's seeds safe until they are ready to grow. Seeds nestle between the scales of the cone.

Investigate the collection of pinecones together. There are lots of things to notice!

- Children might discover that some cones have sharp barbs on the ends of their scales. Ouch! What purpose might these serve? If your cones are very prickly, children may wish to wear gloves to protect their fingers.
- Pinecones come in many different sizes. Sort your cones by size. Are any of them smaller than your thumb? Are any of them longer than your whole hand?
- Children might notice that some cones have sticky sap. Sap helps carry nutrients through the tree and can even help the tree heal from cracked branches or other damage. How does the sap smell?
- Try shaking a cone over a sheet of light or dark paper. You can also try tapping a cone against an unsharpened pencil. Does anything fall out of the cone? You might find dirt, pollen, small insects, or seeds.
- Children may observe that some pinecones are open, while others are tightly closed. When the seeds inside are fully grown, pinecones spread their scales wide in dry, windy weather. Then, the seeds scatter in the wind. In cold or wet weather, cones close up tight to protect the seeds inside. Often, we notice closed pinecones on the tree and open pinecones on the ground around the tree. That's because cones that drop to the ground have already released their seeds.

Experiment by placing an open cone in a container of water. What happens? Children can repeat this simple experiment over and over.

What have you learned about pinecones? You may want to make a chart with children about their discoveries.

## Investigating Pinecones (cont.)

### Helpful Hints

Families may be willing to collect pinecones to share. In addition to finding pinecones on the ground outdoors, you can find pinecones in the Christmas decoration aisle at craft shops. This can be an excellent way to add tiny or huge cones to your collection!

Many tree investigations take place outdoors. This indoor activity could be a good one to save for a day when the weather limits your group's ability to go out.

### More to Do (optional)

- Create a pine cone weather station. Hang some pinecones from the branches of a tree on the playground or the awning outside your window. Notice how the cones open when the weather is sunny and dry, but close when it is rainy or humid. A closed pine cone can even predict that wet weather is on the way!
- If you find seeds in your cones, try planting them in a container of soil. Add water when the soil feels dry to the touch and watch for signs of growth.
- Pine seeds are also known as pine nuts. You can purchase pine nuts at the supermarket or from an online retailer. Toast and taste the nuts. Some children may be familiar with pine nuts from family-favorite Italian or Middle Eastern recipes. Check to see if a family member might be interested in preparing pesto or panellets with children.
- If your group can take field trips, consider a trip to a local Christmas tree farm. Because farmers care for growing trees throughout the year, this visit could be engaging in any season. What questions do children have about tree farming?

### Did You Know?

All conifer trees produce cones, including spruces, firs, pines, and cedars. Although we commonly refer to all tree cones as pine cones, only pine trees have pine cones. It is more accurate to refer to a collection of cones as conifer cones.

This experience offers special opportunities to build and strengthen the following areas.

**Cognitive Development – CD 1.1, CD 2.1, CD 2.4**

**Physical Development – PH 2.1, PH 2.2**

**Emergent Literacy – EL 1.1, EL 3.2**

**Mathematical Thinking – MT 1.1, MT 2.1, MT 3.1**

**Science and Technology – ST 1.1, ST 2.1, ST 3.1**

## Leaf Sorting

Let's take a closer look at leaves. What do we notice about shapes and colors? To prepare for this activity, print or copy the **leaf photo cards**.

### Materials

- Leaf cards from this curriculum
- Bags or baskets for collecting leaves
- Fandex *Leaves* guide and/or other field guides
- Tools such as a magnifying glass, tweezers, a mirror, flashlights, a digital microscope (optional)

Before children join you, spread the leaf cards face down on your table or rug. What do children think might be pictured on the cards? Work together to turn the cards over. Explain that the words on the cards tell what kind of leaves these are. Would children like for you to read these words aloud? It may be fun to try out new terms like *sycamore* and *juniper*.

Some of the cards are summer photographs, while others show autumn leaves. How can children tell which ones are which? Try sorting the cards into two piles by season. Two of the cards may be impossible to tell. Why might that be?

Think together about different ways to sort the leaf cards. What other ways of sorting would children like to try? Compare quantities of cards in each category.

During your next small group time, go outdoors to collect leaves. Try to find several different kinds. Did you find any that match the photos on the cards? If leaves are the same shape but not the same color, why might this be? This is a perfect time to model and try out words like *lobe* and *vein*, notice simple and compound leaves, and compare leaves that are round/pointed or smooth/textured.

If you find leaves that don't match any of the cards, older preschoolers may want to use a field guide to look them up. Or, try the LeafSnap app developed by Columbia University and the Smithsonian Institute.

### Helpful Hints

Laminate the cards or cover them with clear contact paper to make them more durable. You can add them to your science center for children's free-choice use.



## Leaf Sorting (cont.)

### Including Every Explorer

This activity will probably take place across two or more small group times. With younger children, especially, it is ideal to ensure that group times are brief.

If your group includes younger children or children with impulsive behaviors, you may want to collect leaves on your playground or in another fenced area. This allows children to spread out to search for leaves freely without worrying about traffic or other hazards. Older, more experienced children will enjoy collecting leaves on a walk through the woods or around the neighborhood.

### More to Do (optional)

- Invite children to try taking close-up photos of leaves. Use a lamp for lighting as you place leaves on a white piece of paper to photograph. You can create a display of children's leaf photos or create a class book. Older children may even want to make leaf cards to add to your collection.
- Try placing some freshly collected leaves on a sunny windowsill. Check on them the next day, after several days, and again after a week or two. How do they change? What insight does this provide about leaves that children find on the ground?
- Choose two or three of the leaf cards that represent the most common trees in your area. Copy the cards for children and invite families to go on a tree-spotting walk in their neighborhood or at their favorite park. They can count how many of each tree they can find.
- Make a second set of leaf cards. Combine the sets for child-initiated matching games.
- If you share the Leaf Sorting activity with children in the summertime or early autumn, revisit it later in fall as leaves change colors.

This experience offers special opportunities to build and strengthen the following areas.

**Emergent Literacy – EL 1.1, EL 3.1, EL 3.2**

**Mathematical Thinking – MT 1.1, MT 1.2, MT 2.1, MT 3.1, MT 4.1**

**Science and Technology –ST 2.1, ST 3.1**

**Social Studies – ST 2.2**



**oak**



**maple**



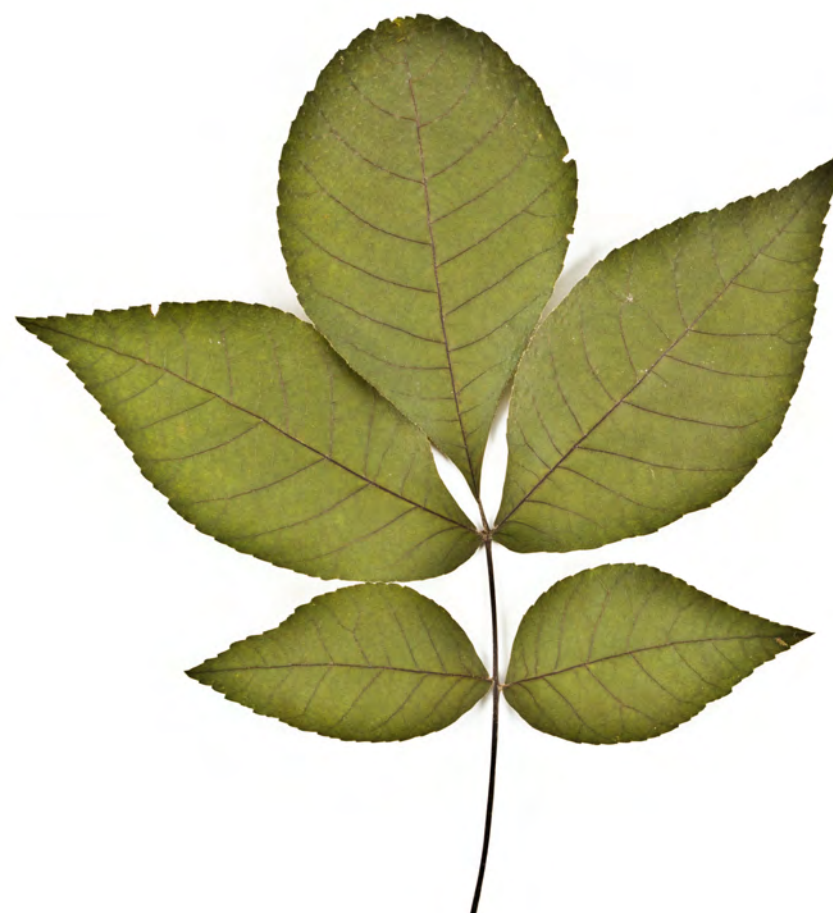
**chestnut**



**sweet gum**



**ash**



**hickory**





elm



juniper



pine



sycamore



dogwood



alder



## Leaf Character Collages

Let's use a classic picture book for inspiration as we create characters from leaves and other tree pieces.

### Materials

- Baskets or trays of leaves
- Other things from trees such as acorn caps, twigs, bits of bark, and seed pods
- Book: *Leaf Man* by Lois Ehlert
- Large sheets of white or dark-colored paper, one per child
- Glue or a camera

Begin by reading the book. Look closely at the illustrations. How do children think that they were made? Explain that these illustrations are photographs of collages made with natural materials. A collage is a piece of artwork that combines different materials. Artists often glue collage materials on paper. Have children ever made collages with the materials in your art center? You might spot examples in your classroom display.

In *Leaf Man*, the collages represent people, animals, and things. Look again at some of your favorite pages of the book. Would children like to try using natural materials to create collage characters?

Decide ahead of time and explain to children how you will save their work. You might opt to glue materials to paper. Or, if materials need to be shared by more than one group, you might opt to take a photograph of each child's work instead. Either way, encourage children to move materials around to explore different possibilities before they glue or photograph their finished design. Children could make a person, an animal, a scene, or anything else they would like.

Ask children, "Is there anything that you would like to say about your collage? May I write it down?" Write each child's words on the paper or on a blank address label sticker to add to the glued collage or printed photograph.

### Helpful Hints

Repurpose items you collected during other small group experiences such as Tree Droppings or Leaf Sorting. You could also go for a walk to collect more materials or invite families to share.

Puddles of glue can cause collage materials to slide out of place, and soggy pages take a very long time to dry. If your group is gluing materials, consider providing small dishes of glue with paintbrushes. Children can paint a thin layer of glue on their papers or the materials.

## Leaf Character Collages (cont.)

### Including Every Explorer

For children with limited use of hands, try taping clear contact paper sticky-side-up on the table. Children can add materials by pressing them to the sticky paper. Add a sheet of construction paper last, then turn the design over and trim the edges.

### More to Do (optional)

- Where do children think that Leaf Man will land? Tell and/or write your own stories about Leaf Man or stories inspired by children’s collage characters.
- Share this short [video](#) of an interview with author Lois Ehlert. In it, she talks about growing up in a creative family. What are some ways that children’s family members are creative? This video might also inspire a classroom “saving spot” where children can leave work that they would like to return to later.
- Make a book or a wall display of children’s collages or photos of their collages. You might also create a slideshow of collages to share with families.
- With older children, read the author’s note inside the back cover of *Leaf Man*. There, Ehlert explains that she used color photos of leaves so that the bright colors would not fade. Visit your program’s office to find out more about how copying machines work and how people usually use them. Be sure to bring along a leaf to copy! You might also set up a small color copier on a low classroom table to invite individual children to take a turn to arrange and copy a leaf design to keep.
- Take stock of the natural loose parts accessible to children. Where can these materials be found in the space you share? Try adding twigs alongside playdough in an art area or a basket of tree branch slices in a block-building area. How about a tin of [acorn cap jewels](#) in a dramatic play area?

This experience offers special opportunities to build and strengthen the following areas.

**Physical Development and Health – PH 2.1, PH 2.2**

**Language Development – LD 2.1, LD 3.1**

**Emergent Literacy –EL 1.1, EL 1.2, EL 3.1**

**Creativity and Aesthetics – CA 2.1**

## Slow Cooker Applesauce

Let's try a recipe. How will apples change as they cook? Be sure to wash your hands and clean and sanitize your tabletop before this food experience.

### Materials

- |  |  |
|--|--|
| <input type="checkbox"/> Basket of washed apples – 1 apple per child | <input type="checkbox"/> Water   |
| <input type="checkbox"/> Vegetable peelers                           | <input type="checkbox"/> Paring knife for adult  |
| <input type="checkbox"/> Slow cooker                                 | <input type="checkbox"/> Potato masher   |
| <input type="checkbox"/> Liquid and dry measuring cups               | <input type="checkbox"/> Timer   |
| <input type="checkbox"/> Measuring spoons                            | <input type="checkbox"/> Bowls and spoons for serving and eating                       |
| <input type="checkbox"/> Sugar                                       | <input type="checkbox"/> Photo of an apple tree or a book about apple trees (optional) |
| <input type="checkbox"/> Cinnamon                                    |  |

Examine the apples together. Children may know that apples come from the supermarket, but where do they come from before that?

Apples can be eaten raw or baked, and they are also an ingredient in other foods like apple pie. Can children think of any other foods made with apples? Children will probably think of applesauce. Would they like to help turn apples into applesauce?

Show children how to use vegetable peelers. Vegetable peelers have a sharp blade and are only safe for children to use alongside an attentive adult. Explain that children should hold the peeler in the hand that they usually use to hold a crayon when drawing. The other hand can help hold the apple against the tabletop but should be kept away from the peeler. Show children how to slowly slide the peeler along the apple from left to right to remove the peel. Set down the peeler and reposition the apple as needed until it is fully peeled. Children should not carry peelers away from the supervised work table.

Peeling apples is slow and messy work, but children often focus intently on it. Using real tools feels powerful! It is OK if some small bits of peel remain at the end. Children can hand their peeled apples over to an adult to cut into smaller pieces. Set the core aside and place the apple pieces in the slow cooker. An adult can put peelers out of reach once children finish with them.

Once the apples are peeled and cut, place them in a slow cooker with 1 cup water,  $\frac{1}{2}$  cup sugar, and 1 teaspoon of cinnamon. Cover and cook on high for 3 hours - or on low for 6 hours - until soft. Cool, mash with a potato masher or large spoon, and serve.



## Slow Cooker Applesauce (cont.)

### Helpful Hints

This recipe is scaled for approximately 18 apples. If your group is smaller or larger, use about  $\frac{1}{2}$  cup water, up to  $\frac{1}{4}$  cup sugar, and up to  $\frac{1}{2}$  teaspoon cinnamon for every six apples.

Small, t-shaped peelers with chunky handles are often most comfortable for young children to manage. You can also use a rotary apple peeler/corer/slicer tool, such as the one pictured at the right.



It may work best to have each small group peel apples and place them in the slow cooker before adding the final ingredients as part of a brief whole group gathering. The first peeled apples will turn brown, but this will not affect their flavor.

### Including Every Explorer

Unless your group has experience with peelers, plan to work with very small groups of children at a time. This allows for individualized supervision and support. For very young children and children with limited use of hands, peel and core apples ahead of time and bake at 350 degrees for about 30 minutes. Cool and store in the refrigerator until ready to use. These soft, pre-cooked apples are easy for children to cut into pieces with a butter knife. Follow the rest of the recipe as printed, but reduce cooking time by half.

### More to Do (optional)

- Search for seeds in the apple cores. Children can eat apple peels. Or, spread cores and peels on the ground in a natural area where insects, squirrels, opossums, and other creatures can eat them. Classroom pets might like an apple peel treat, too!
- Share a 6-apple applesauce recipe with families. (See note above.)
- Keep an eye out for apples and other tree-related foods at breakfast and lunchtime. Your group may also want to make different tree-related foods such as pancakes with maple syrup or cherry smoothies.
- Plan a visit to an apple orchard or supermarket. Children may be excited to notice the many different varieties of apples! If you can't take a field trip, encourage families to investigate apples on their next trip to the store.

This experience offers special opportunities to build and strengthen the following areas.

**Cognitive Development – CD 1.1, CD 1.2, CD 2.1, CD 2.3**

**Physical Health and Development – PH 2.1, PH 2.2, PH 3.1, PH 3.2**

**Emergent Literacy –EL 1.1, EL 3.1, EL 3.2**

**Mathematical Thinking – MT 1.1, MT 1.2, MT 3.1**

## Observational Drawing: Tree Branch

Let's look closely at a real tree branch. We'll notice interesting details to add to our drawings.

### Materials

- A real branch that has fallen or carefully trimmed from a tree
- Blank paper
- Drawing tools, such as pencils or markers

Create a comfortable, attractive drawing space where your small group of children can easily view the tree branch. Begin by looking together, describing the lines and shapes that you see. Try leaning in close or looking from a higher or lower perspective.

Invite children to draw what they see. An observational drawing is a way to tell about what they notice. Explain that they can look back and forth from the branch to their paper as they work. They can show things that feel important to them.

Each child should be allowed to work at their own pace, ending when they feel finished. You might suggest, "Let's look at the branch one more time. Is there anything else you would like to add to your drawing?" Refrain from making specific suggestions.

After children have finished drawing, invite them to tell you about their work. Ask if there are any words that they would like for you to write on their paper or if they would like to write words of their own.

### Helpful Hints

A large branch that you can arrange before children arrive will be especially effective. Ask yourself, "What makes this branch interesting?" Are there lichen patterns to notice or buds at the tips of the branches? Does the branch have a pleasing shape?

Many teachers find that it works best to introduce children to observational drawing using black markers or regular pencils. Children focus first on replicating the lines and shapes that interest them. Older, more experienced preschoolers can draw with fine-line permanent markers first before adding color with watercolor paints during a second session.

Avoid the temptation to show children how to draw. Drawing is far more meaningful for children when their role involves thinking, interpreting, and deciding rather than merely copying.

## Observational Drawing: Tree Branch (cont.)

### Including Every Explorer

Some children’s drawings may not be identifiable to adults yet, but every line on the page has meaning to the child. Praise effort and invite all children to talk about their work. Avoid judging or comparing one child’s drawing to another’s. If you have a child with limited use of hands, offer adaptive tools that are easier to hold and handle.

Some children may become frustrated if their drawing doesn’t look “right.” It may be helpful to reassure them that drawings don’t have to be perfect to be important. Think together about other skills that get easier the more you practice.

### More to Do (optional)

- Use thick, creamy acrylic paints to paint a large, bare tree branch. Be sure to wear smocks and use a drop cloth on the carpet; acrylic paints can stain fabric.
- Use fishing line to hang a tree branch from your ceiling to create a mobile. Children can cut out and decorate paper designs or string beads on pipe cleaners or craft wire to hang from the branches.
- If your group has had a “no sticks” rule for outdoor play, consider a class meeting to decide whether it might be time for an update. Can children help think of a list of safe ways to interact with sticks? Shared decision-making is especially valuable for older preschoolers and kindergarteners.

### Did You Know?

Often, children engage in *imaginative drawing*. They use art materials to create characters or tell a story. This important type of drawing promotes creativity and self-expression. It may also lead to open-ended scientific exploration as children mix and manipulate art materials.

*Observational drawing* encourages children to draw what they actually see. It promotes communication, logical reasoning, and mathematical thinking as children observe and replicate shapes, sizes, textures, and lines. Both imaginative drawing and observational drawing offer big benefits for learners!

This experience offers special opportunities to build and strengthen the following areas.

**Cognitive Development –CD 1.2, CD 2.1, CD 3.2**

**Emergent Literacy – EL 3.1, EL 3.2, EL 3.3**

**Mathematical Thinking - MT 1.1, MT 3.1, MT 4.1**

**Science and Technology – ST 1.1, ST 2.1, ST 3.1**

## Investigating Fallen Leaves

The forest floor may look still and quiet, but it is teeming with tiny creatures! Let's take a closer look with an outdoor investigation.

### Materials

- |   |   |
|---|---|
| <input type="checkbox"/> Flat, light-colored sheet                          | <input type="checkbox"/> Garden gloves for children and adults (optional)   |
| <input type="checkbox"/> Magnifying glasses                                 | <input type="checkbox"/> Camera (optional)  |
| <input type="checkbox"/> Paintbrushes or unsharpened pencils                | <input type="checkbox"/> Investigator's Kit – a backpack with a tape measure, a ruler, flashlights, magnifying glasses, a small notepad, and a pencil |
| <input type="checkbox"/> Shovel (optional)                                  |   |
| <input type="checkbox"/> Clipboards with paper and drawing tools (optional) |   |

Before you begin, talk with children about what they know about leaves. Children may recall that many trees have leaves that change colors before falling to the ground in autumn. But what happens to leaves after they fall? If leaves stayed full-sized forever, they would pile up, getting deeper and deeper every autumn! Do children have any ideas about where leaves go?

Children may hypothesize that the wind blows leaves away or that people rake them up. These are both true, but something else also happens. Do they have any other ideas? Once leaves fall to the ground, the tree doesn't need them anymore, but tiny living creatures do!

"Leaf litter" provides food and shelter for insects, earthworms, salamanders, snails, and more. It also creates fertile ground for fungi. Over time, all of this activity—along with periods of rain, ice/snow, and sunshine—helps leaves break down into smaller and smaller pieces until they become part of the soil. This whole process helps add nutrients to the earth so that new plants can grow. It's a cycle!

To investigate leaf litter, spread a sheet on the ground near a wooded area where humans have not removed the leaves. Scoop some leaf matter onto the sheet, digging down deep enough to get some of the oldest leaves from ground level. Before inviting children to explore, spread the leaf litter out and check for anything that might harm children. It is unlikely that you've scooped up a wasp, spider, or tiny snake – but it's always safest to check!

Invite children to come in for a closer look. Remind them not to pick up unfamiliar insects. Paintbrushes or pencils can gently move leaves and other debris and help steer crawling insects. (No poking, please!) Talk about what you notice about the leaf litter. Can children find partially decayed leaves? How do the old leaves feel and smell? When you feel finished, gently slide the leaf litter off of your sheet, returning leaves and creatures to the place where you found them.

Wash hands well with soap and warm water when you're all done.

## Investigating Fallen Leaves (cont.)

### Helpful Hints

Children may wish to photograph or sketch what they find.

Sometimes, children have scientific ideas that an adult knows are incorrect. For example, a child might suggest that the leaves turn into mud when it rains. Rather than telling a child that they are wrong, try saying, “That’s an interesting thought. I wonder how we could test it out?” This can lead to some fascinating, inquiry-guided experiments!

This activity also appears as an optional extension suggestion in the *Let’s Explore Insects* packet. Many groups find that an investigation of trees goes hand-in-hand with noticing the insects, birds, and other creatures that live in them.

### Including Every Explorer

Consider planning this activity inside a fenced area if your group includes younger, less experienced children or children with impulsive behaviors. If you don’t have a suitable tree or bush in a fenced area, scoop up some leaf litter in a sealable bag. Bring the bag into the fenced play area and open it onto the waiting sheet.

This activity is not suitable for a child who cannot resist putting things in their mouth. If it isn’t a fit for your group, consider the supervised sensory experience of using hands to crumble up freshly fallen leaves. Oak and maple leaves should not be eaten but are not toxic in small quantities.

### More to Do (optional)

- Find out more about a creature that you found in the soil. This could be a great time to research slugs, beetles, or toads!
- Older children may be interested in thinking about, talking about, and investigating food chains. What do tiny forest creatures eat? And – what might try to eat them?
- Invite children to talk, draw, and write about this experience. Do they feel like it would be a good idea for humans to rake up all of the leaves in natural spaces? Why or why not?

This experience offers special opportunities to build and strengthen the following areas.

**Physical Development and Health – PH 3.2**

**Science and Technology – ST 1.2, ST 3.1, ST 3.3**

**Social Studies – SS 2.2**

## Leaf Prints

Let's use art materials to explore the shape and texture of leaves. If you aren't able to use clay, try one of the other suggestions on the back of this page.

### Materials

- Air-drying clay
- Rolling pin
- Clay boards or wax paper
- Collection of soft, fresh leaves
- Sharpened pencil and yarn if you want to hang your prints
- Art smocks for children

Begin by looking closely at the leaves together, noticing the stem and tiny veins that run through them. When you close your eyes, can you feel the texture of the leaf with your fingertips? Does the back of the leaf feel the same as the front of the leaf? Explain that, today, you'll try making imprints with the leaves.

Show children how to pinch off a handful of clay and roll it into a ball with their hands. Next, they can flatten it onto the clay boards or a piece of wax paper with their hands or a rolling pin. Don't spread it too thin or it will be fragile. Flattening to about 1/3 of an inch (about the thickness of a pancake) works well.

Children can experiment with arranging leaves on the clay. Gently roll over them with a rolling pin and then carefully peel them off again. You can also try a different technique: placing a leaf on the clay board before pressing clay on top of it.

Can children see imprints in the clay? Children can reroll their clay and repeat this process several times until they have the impression they would like to keep. If they want to make an ornament, they can use a pencil to make a hole through the clay near the top.

Set the imprints in a safe place to dry. It may take a day or two for clay to dry completely.

### Helpful Hints

Traditional potter's clay can be used for this activity, or you can use a clay product designed for children, such as Crayola Air-Dry Clay or Model Magic. You'll find all kinds of clay at hobby and craft stores.

If you use clay boards, a spatula may help transfer the clay discs to a wax paper-lined cookie sheet. Use a permanent marker to write children's names or initials on the paper next to their work.

## Leaf Prints (cont.)

### Including Every Explorer

If your group includes very young children or children with limited use of hands, you may want to share this activity with one child at a time. Children and an adult can work together to complete the task.

Some children don't like to touch moist materials like clay. That's OK. They might prefer to use a rolling pin with help from an adult or friend to remove their pressed leaf. Or, they might like to watch or do something else entirely.

### More to Do (optional)

- Try making imprints with other tree-related items, such as maple seeds or twigs. What else would children like to try?
- Try making leaf prints by pressing leaves onto large, washable stamp pads. Remove carefully and place ink-side-down on paper. Roll over the leaves with a rolling pin or press with your palms to make prints on white paper. You can try painting on the leaves and making prints, too.
- Leaf imprints may remind children of fossils. Would they be interested in finding out more about how fossils form?

This experience offers special opportunities to build and strengthen in the following areas.

**Cognitive Development – CD 1.1, CD 2.1**

**Physical Health and Development – PH 2.1, PH 2.2**

**Science and Technology – ST 1.1, ST 3.1**

**Creativity and Aesthetics – CA 2.1**

## Tree Mural

Let's work together to create a mural that shows what we know about trees.

### Materials

- Blank wall space
- Books and photos about trees and of children's tree investigation
- Variety of art materials, especially paper, drawing tools, scissors, and tape

Show children the blank wall space and explain that they can help you design and create a large tree mural. You'll probably want to begin by creating a trunk and branches that are as close to full-sized as you can manage. You might do this by cutting and/or twisting brown kraft paper or painting on a large piece of paper hung on the wall.

Once you have a trunk and branches in place, what else do children feel your tree needs? Follow their lead to plan, create, and add leaves. They may also want to add birds and other creatures to their tree. These can be cut from paper or made from other art materials and hung from the tree, or children may wish to draw directly on the tree. Explain that children can draw or add pieces anywhere on the tree, in any blank spot. They should try not to draw on top of one another's work.

Children can continue to work on their tree for several days, and maybe even longer if it continues to hold their attention.

### Helpful Hints

This is a "use what you have" kind of project! One group might use a stack of old paper grocery sacks to make branches, while another paints an old sheet or painter's drop cloth. Yet another group might stack cardboard boxes to make a 3-D trunk. There are many ways to create a tree.

Avoid the temptation to fill your tree with look-alike crafts. While these may be cute, they don't invite children to create in their own unique way.

During each session, invite—but never force—children to join in. Your mural is a collaboration among interested artists.



## Tree Mural (cont.)

### Including Every Explorer

Ensure that every child can participate. For example, a child with a physical disability might use a bolster or wedge to work at floor level to create pieces to add to the tree. Offer adaptive drawing and painting tools as needed.

A child with sensory sensitivities may not care for wet, messy materials like paint and glue. They may also feel anxious about being bumped or crowded. Make a special effort to include this child as part of a smaller group with familiar, preferred materials.

Even though children will be encouraged to work in blank spaces, there will be some “oopses,” such as drips and stray marks. Have regular-sized, blank paper available for children who prefer to create in their own space. If desired, they can cut their drawings out to add to the mural later.

### More to Do (optional)

- Take a group portrait of children with their tree.
- Invite children to reflect discoveries related to real trees on their mural. They might want to add a bird nest, a line of tiny ants on the trunk, or a spider web.
- Leave the tree mural up throughout the year. As seasons change, ask children how they would like to update their tree. They might opt to add icicles in winter, blossoms in the springtime, and so on.

This experience offers special opportunities to build and strengthen in the following areas.

**Social and Emotional Development – SE 1.2, SE 2.1, SE 2.2, SE 3.2**

**Physical Development and Health – PH 2.1, PH 2.2**

**Language Development – LD 1.1, LD 2.1**

**Creativity and Aesthetics – CA 2.1**

## Active, Physical Play – Trees

Invite children to join in activities such as these during outdoor playtimes. Some children will want to come and play, while others will prefer to continue their free choice activities. Some activities in this section may also be appropriate for indoor gross motor play or active group gatherings.

### Gathering Leaves

Use child-sized rakes to create piles of leaves. Jump and play in the leaves, and then rake them back into piles again. Children may also enjoy transporting leaves in buckets, wagons, and/or child-sized wheelbarrows.

### Maple Helicopters

Conjoined maple seeds, such as those pictured at right, are often known as whirligigs or helicopter seeds. Show children how to drop or toss them and watch them twirl down to the ground.



### Leaf Shake

Place silk leaves or freshly-fallen leaves on a parachute or flat bed sheet. Shake vigorously until all of the leaves launch off of the parachute, then gather them up to begin again!

### Wind and Trees

Invite children who wish to play to line up along a fence or wall. An adult stands across an open playing area from the children. When the adult turns his/her back to the children, children are “wind,” racing toward the adult. The adult calls out “TREES!” and quickly turns around to face the children. Children freeze and stand very still with their arms spread like branches. As soon as the adult calls “WIND” and turns away, the children run again. Any children caught running when they are supposed to be trees are playfully sent back to the starting line to try again.

## Growing Every Day

### Supporting Social and Emotional Development

*Ms. Bailey leads her small group of three-year-olds to the weeping willow tree outside their building. The graceful willow is one of her favorite trees, and she smiles as she thinks about how special it will be for children to explore it with their senses.*

*As the group nears the tree, Kenzie and Jon run ahead to pull roughly on the willow's branches. They shriek and laugh as they rip off handfuls of leaves and try to swing from low-hanging branches.*

Ms. Bailey feels a flash of anger as she sees the children treating the tree so roughly. Then she realizes: the children are just playful. They probably don't know that their behavior is destructive. Getting angry at them is not the answer.

She goes to the children and calmly but firmly stops them from tearing leaves from the tree. "Whoa. Stop. That hurts our tree!" She shows them how to handle the branches gently and then smiles and nods as they show her how they can touch the tree with gentle hands. The children become engrossed with gathering yellow fallen leaves. During their visit, they enjoy lying together under the willow tree, listening to the breeze as it rustles the branches.

Later, Ms. Bailey talks about the incident with her director. She's glad that she maintained composure in the moment and realizes now that the children didn't mean any harm. The tree visit was a learning experience for everyone. She also recalls that the children seemed giddy and excited to be outdoors. She wonders if it would have helped take a longer walk or do something to set a calmer tone before approaching the tree. Or perhaps the tree visit might have worked best after playtime on the playground? Ms. Bailey has some new ideas to try before their next outing.

#### **On this day, Ms. Bailey supported social-emotional development when she**

- Observed children, suspended judgment, and recognized age-typical behaviors.
- Acknowledged the importance of her own behavior and chose to respond calmly.
- Modeled and taught Jon and Kenzie a more appropriate way to interact with the tree.
- Reflected with a mentor about strategies to help children be even more successful next time.



## Even More Experiences with Trees

- Plan a visit to a greenhouse, landscaping shop, or botanical garden. What questions do children have for someone who grows, plants, and cares for trees?
- Visit a park or nature center with signs that identify different species of trees. Pause to read about each tree with children, looking closely at the shape of the leaves and the bark's texture. If you can't take field trips, share information about the tree trail with families.
- Investigate tree stumps and/or fallen logs.
- “Yarn bombing” is the practice of wrapping trees and other objects with colorful, knit or crocheted yarn patterns. If a family member or friend of the classroom enjoys yarn art, invite them to work with children to design a yarn wrap for a favorite tree. Yarn should be removed after several months so that it doesn't constrict tree growth.
- Pay close attention to changes in trees during the upcoming change of season. Trees may be a topic that children want to revisit several times this year.

## Notes:

## Concluding Your Tree Exploration

1. With your teaching team, think about, and discuss the following questions.
  - What new experiences have our children had during this exploration? What new knowledge and skills have developed?
  - Do the children seem ready to conclude this exploration? Have their questions been answered? Is their interest waning? If children are still excited about trees, think about ways to continue and extend the investigation.
  - How can we document children's learning and help children share what they have learned with others?

Your tree exploration might end with one of these activities.

- Creating a book of photos of activities and/or children's drawings about trees. This book can be added to the classroom library and/or copies can be made for each family.
- Hosting a family engagement event. For example, children might take their families on a tour to show them their special trees before serving homemade applesauce.
- Involving children in choosing and [planting a sapling tree](#). Children can research their tree's needs and help care for it throughout the year.

2. Encourage children to share their favorite memories about investigating trees. Model gratitude by creating thank you cards or letters to the families, school members, and community members who supported your exploration.
3. Where will you go next? Use your observations and conversations with children to help you plan your next exploration!

## Using Explorers Preschool Curriculum

*Explorers Preschool Curriculum (EPC)* is designed for early childhood educators and preschool-aged children. It can be used in any setting, including private preschool programs, public school programs, and family child care homes.

### EPC Guiding Principles

**1. Children are naturally curious and eager to understand their world.**

The *Explorers* curriculum promotes authentic, enjoyable, first-hand experiences in a vibrant and encouraging environment.

**2. Domains of child development are interrelated and are all important.**

Physical, cognitive, communicative, social, and emotional development are all vital for success in school and life. *Explorers* supports the *Arkansas Child Development and Early Learning Standards (CDELS)* with engaging experiences that promote learning across all domains.

**3. Children are trustworthy partners in learning.**

*Explorers* is inquiry-driven, guided by children's interests, questions, and ideas. Children take on meaningful decision-making roles and responsibilities as a part of each investigation. The child's right to play is protected and supported as fundamental component of every day.

**4. Each child, and each group of children, are unique.**

*Explorers* offers choices and flexibility for children and adults. Individualization to include children with developmental differences and special needs is integral to the curriculum.

**5. Learning happens best within the context of family, community, and the natural world.**

*Explorers* strives to promote positive connection between preschool-aged children and their school, community, and environment. Diverse and meaningful opportunities for family engagement are given special importance.

For professional development support with Explorers Preschool Curriculum, please contact Marcy White, [MWhite@AState.edu](mailto:MWhite@AState.edu)

## Big Ideas from EPC

*Explorers* may be different from other curricula you've used in several ways. Understanding these differences will help you use the curriculum successfully.

*Explorers* includes a collection of topics for investigation. These topics include, but are not limited to:

- Bubbles
- Day and Night
- Farmers' Market
- Insects
- Making Music
- Ramps and Tunnels
- Songbirds and Squirrels
- Trees

Each topic supports children's real-life, firsthand experiences.

**Topics of learning – known as investigations – do not have to occur in a predetermined order.** Instead, educators are urged to observe, talk with, and think about children in their group. Which of the topics would be most interesting and engaging to this group of children? Decisions may also be guided by the resources that are accessible to the program. Programs may choose to participate in any of the investigations, in any order.

**Within broad topics, individual groups are urged to “zoom in” and focus most intently on areas of special interest.** For example, one group taking part in a *day and night* investigation might be most interested in city lights that shine though the dark. A second group might be more interested in nighttime creatures like crickets and moths. Although both groups have the same, broad focus, conversations and planned activities in the two rooms may differ greatly. Some activities in the topic packet may be skipped, and different high-value activities may be offered to support children's interests.

**Educators are expected to “re-run” books and activities that especially interest children.** That means that the same activity will be shared again over the course of several days or weeks. Through repeated opportunities to explore, children gain expertise, test new ideas, and work in increasingly complex ways. Repetition helps children build confidence and construct knowledge.

**Investigations are not limited to one week.** In fact, groups may focus on the same topic for two, three, or four weeks – or more! It is believed that deep, comprehensive investigation of any interesting topic is more beneficial to young thinkers and learners than a “sprinkling” of many different topics. Thus, children and adults are invited to continue their investigation as long as it sustains children's interest. An investigation concludes when educators observe that children's questions have been answered. Children seem satisfied and ready to move on to other topics of interest.

## EPC Daily Practices

A resource packet is available to support each investigation topic. These packets support learning throughout the day in these eight ways:

### 1. Learning Center Extensions

Free play is a crucial part of every day! Learning Center Extensions are play objects and other materials that support the topic. These can be added to the indoor play areas that children use every day. The items in this section are examples. Educators may implement their own ideas, as well.

### 2. Books for Sharing with Groups

Suggestions for books are listed in each packet. It is not expected that programs will purchase the entire book list. Rather, the list may provide guidance and inspiration as educators select books from their storage area and/or their local children's library.

These may be added to classroom book areas and can be shared informally with one or a few children at a time during play times. Some of the books on the list are also designated as **\* recommended read-alouds** for sharing with larger groups of children.

### 3. Topical Conversations

Conversations can occur within the context of play or daily routines. Especially with older preschoolers, some conversations may also occur during whole group meeting times. In addition to informal conversations throughout the day, *Explorers* encourages educators to routinely use two additional strategies each week:

#### Response Charts

The educator talks individually with each child and writes down exactly what they say. This interview process takes place during play time or other informal times. Once all of the children have had a chance to respond, the chart is posted where everyone can easily see it. The educator reads all of the responses aloud during a group meeting. Written response charts are recommended at least once a week.

#### Polls

Children and adults respond to a question by writing their name under one of two choices on a chart. Younger or less experienced groups may opt to place name cards on the chart instead. The polling process takes place with one, or a few, children at a time – perhaps as part of the morning arrival routine or as children finish breakfast.

During a group meeting, children and adults look together at the chart. It is recommended that children are invited to complete polls 1-3 times per week.



#### **4. Playful Songs, Rhymes, and Games**

These simple activities may be incorporated into group gathering times or used as transition activities. Many are “piggyback songs” – meaning that they offer new words to tunes that children may already know.

#### **5. Active, Physical Play**

Most of these activities are intended for the outdoor play area. Some are also suited for indoor gross motor spaces – such as gyms – or active group gatherings.

Educators are encouraged to invite children to join in activities such as these daily. Many children will want to participate, while others would rather continue with their own, free choice gross motor play. When two or more adults are present, one can lead the activity while others supervise children elsewhere in the play area.

#### **6. Growing Every Day**

These vignettes highlight strong, positive guidance practices. Educators are reminded that the most valuable learning occurs when adults model, coach, guide, and encourage children in the context of everyday interactions.

#### **7. Small Group Learning Experiences**

Ideas for small group learning experiences make up the bulk of each resource packet. These learning experiences are intended to be carried out with groups of 3 – 5 children at a time.

This means that educators will complete each activity with several small groups. For some activities, some children may participate in the morning and some may participate in the afternoon. A few activities may even take place over the course of several days. Using lists or sign-up sheets can reassure children that everyone will have a turn.

**You'll find a key to small group learning experiences on the following page.**

#### **8. Concluding Your Exploration**

This final section of each resource packet invites educators to reflect about whether children are ready to wrap up and move on to another topic of investigation. It includes ideas for culminating events and documentation.

## Key to Small Group Learning Experiences

Each double-sided small group learning experiences idea sheet has specific components to assist you with planning and facilitation:

<p><b>Exploring with Flashlights</b> Let's investigate flashlights and go on a low light adventure!</p> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Basket of assorted flashlights (at least one or two more flashlights than children in the small group)</li> </ul> <p>Talk with children about what they know about flashlights. Flashlights are lights that we can carry in our hand. They are usually powered by batteries, and they are tools that let us see in dark places. What experiences have children had with flashlights? They might talk about using flashlights when camping or when the lights go out during a thunderstorm.</p> <p>Invite children to investigate the flashlights in the basket. Notice together.</p> <ul style="list-style-type: none"> <li>• How flashlights switch on and off.</li> <li>• Which ones are brightest, and which are dim.</li> <li>• Which ones have a narrow beam, and which ones have a wide beam.</li> <li>• Other differences and similarities related to size, shape, color, and function.</li> </ul> <p>This may be a good time to support children as they learn to ask for turns and trade materials – “May I use the tiny flashlight next?”, and, “I’ll trade you the blue flashlight for the green one.”</p> <p>After a period of open-ended exploration, invite each child to choose a flashlight to take on a walk. You’ll go together to another area where the lights are dim, but not totally dark. This could be another room, a hallway, a gymnasium, or any other child-safe space where you can turn out the lights. Invite children to investigate by walking around and shining their lights on things that interest them.</p> <p>When you return to the classroom, talk with children about what they noticed while exploring with flashlights.</p> <p><b>Helpful Hints</b> Ask colleagues for help building a collection of flashlights. Families may be happy to help, too.</p>	<p><b>Title</b></p> <hr/> <p><b>Materials: Things to gather and prepare</b></p> <hr/> <p><b>Procedure: How to facilitate the activity with children</b></p> <hr/> <p><b>Helpful Hints: Tips for a smooth, successful experience.</b></p>
<p><b>front of page</b></p>	<p><b>back of page</b></p>
<p><b>Including Every Explorer: Ways to individualize and adapt for children with special needs.</b></p>	<p><b>Exploring with Flashlights, cont.</b></p> <p><b>Including Every Explorer</b> Some children are frightened by dark places. If a child seems worried, invite them to hold your hand or walk next to you.</p> <p>Some children may require one-on-one support to have a safe, satisfying experience outside their familiar classroom. If this is not possible, find a way to explore inside the classroom.</p> <p><b>More to Do (optional)</b></p> <ul style="list-style-type: none"> <li>• Hang pictures of nighttime (nocturnal) creatures in the place where children will explore. Have fun spotting owls, bats, opossums, and more!</li> <li>• Create a flashlight exploration space in your classroom with the basket of flashlights and a large, open appliance box that children can crawl inside.</li> <li>• To challenge older or more experienced preschoolers, place one flashlight without batteries in the basket with the working flashlights. When children discover the non-working light, encourage them to investigate. Offer two different sizes of batteries when they realize that batteries are needed. They’ll figure out which size is correct and install them in the flashlight. “I fixed it!”</li> </ul> <p><b>Did You Know?</b> This exploration may seem simple to adults, but we have far more experience with flashlights and dim places than children do! Children may investigate many different things, such as:</p> <ul style="list-style-type: none"> <li>• How a flashlight beam moves when they move their arm.</li> <li>• What happens when light shines on a window or mirror.</li> <li>• How a beam of light changes as it moves closer to a surface that it is shining on.</li> </ul>
<p><b>More to Do: Suggestions for extending learning, creating displays, and engaging families.</b></p>	<p>This experience offers special opportunities to build and strengthen:  <b>Social and Emotional Development – SE 1.2, SE 2.1, SE 2.2</b>  <b>Cognitive Development – CD 1.1, CD 2.1</b>  <b>Science and Technology – ST 1.1, ST 3.2</b></p>
<p><b>Did You Know?: Fun facts and/or background information for teachers.</b></p>	
<p><b>Build and Strengthen: Connection to AR Early Learning Standards (CDELS)</b></p>	