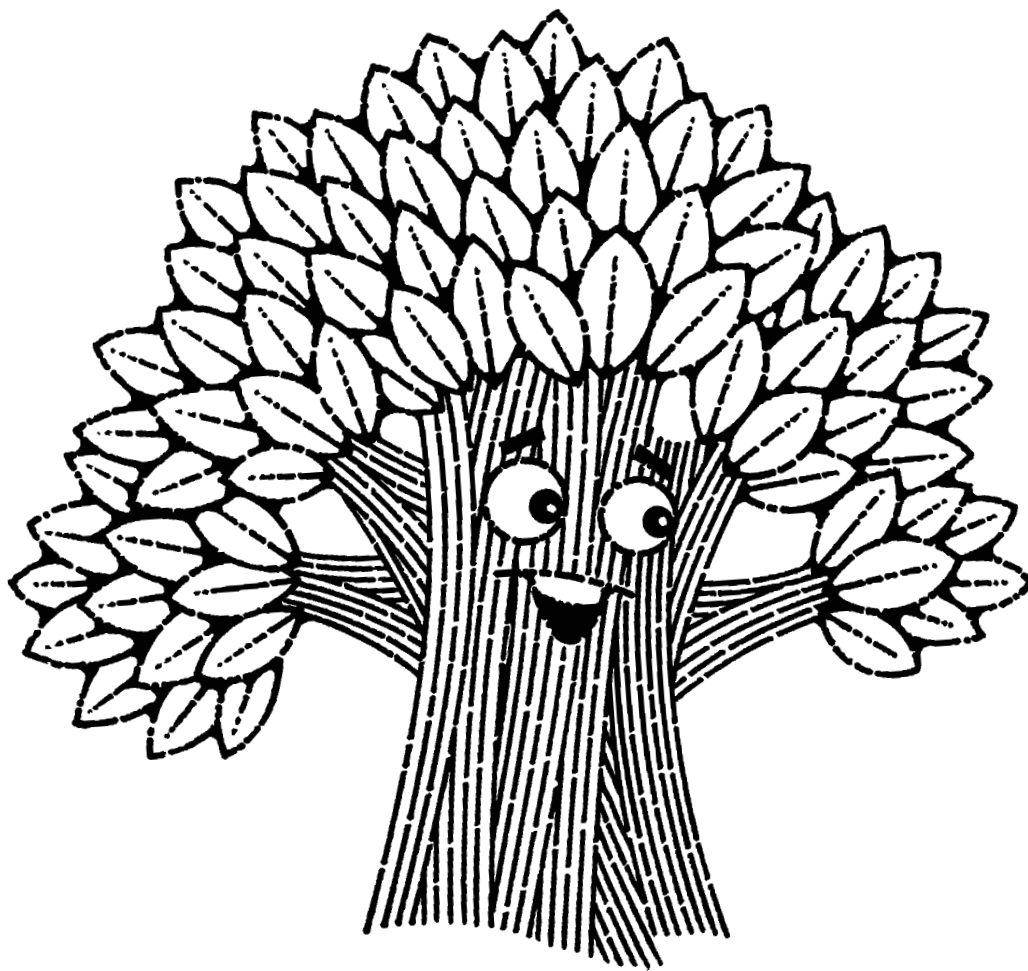


Mini 4-H Trees



Protected under
18 USC 707

Acknowledgements:

We would like to thank the following people for their dedication to positive youth development:

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The Zaner-Bloser font used in this manual was chosen because it most closely resembles children's current writing style

Resources and References:

Mini 4-H Forestry Manual, Madison County, *Mini 4-H Forestry Discovery Manual*, Henry County,
Mini 4-H Forestry Manual, Delaware County

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A debt of gratitude is owed to the following people for their persistence and foresight in compiling the initial project activity manuals:

Leanne Burrow, David Caldwell, Natalie Carroll, John Crites, Jonathan Ferris, Jeanette Findley, Brian Gauck, Dan Kirtley, Anita Krug, Carolyn Miner, RaeAnn O'Neill, Sue Provost, Scott Ripberger, Debra Searcy, and Susan Trutner.

Contact your local Extension office for a list of available project activity manuals.

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Mini 4-H Helper's Page

Welcome to the Mini 4-H Program! Mini 4-H is designed for youth to explore a variety of project activity areas and to interact with caring adults and other children.

Children receive this project activity manual when enrolling in Mini-4-H. This manual, and the manuals on various other topics, will provide fun, age-appropriate learning activities throughout their year(s) in Mini 4-H.

As a Mini 4-H adult helper, your job will be to guide and encourage each child through the activities. A wide range of activities are provided to allow you to choose the ones most appropriate for the children you are working with. It is highly suggested that you do not complete the activities for them. Instead, help them, guide them, work with them, and let them do all that they possibly can. 4-H believes in allowing children to learn by doing. The Mini 4-H project activities are hands on learning opportunities designed to provide a meaningful educational experience for youth.

Additionally, the Mini 4-H program is set up to allow children to display a project activity that is based upon information within this manual. Some children may want to exhibit at the 4-H Fair. The 4-H Fair is an exciting week that allows community youth to showcase their enthusiasm for learning. Children may choose to display a project activity they did by themselves or one they did with a group. Other children may choose to showcase their work in other ways such as displaying it in a special place in their own home.

Mini 4-H is fun! Children will certainly enjoy it. You can have fun too, by guiding and helping as children participate in the program. Encourage and praise the children as they have fun learning and sharing with you. If you have any questions regarding Mini 4-H or other 4-H programs, please feel free to contact your local Extension Office.

Helper's Tips

The Mini 4-H program can be used with individual children, however the benefits are maximized when the project activities are used in a group of 2 or more children. Children working cooperatively in groups develop positive images of themselves and their ideas. Other ways adult helpers can maximize the benefits of Mini 4-H are to:

- **Work on a subject interesting to the child by encouraging children to choose the content area.** Look through this manual and choose the project activities to work on based on the interests and skill levels of the children.
- **Relax and have fun.** Some children will want to finish their activities, however some children may not. There is no need to pressure children of this age to finish an activity because the real learning takes place while participating in the activity and interacting with others. The finished product should not be the main focus. The knowledge children gain while they explore new areas and experiment with new ideas should be the primary goal.
- **Remain flexible and adapt to the changing needs of the children.** Restlessness or boredom may indicate a need to stop the activity and come back to it later.
- **Encourage children to talk and work with each other.** Children learn best when they are encouraged to share their reactions and observations freely. You may want to ask the children about what they did during an activity, what happened, what was the most difficult, what was the easiest, and what they liked the most.

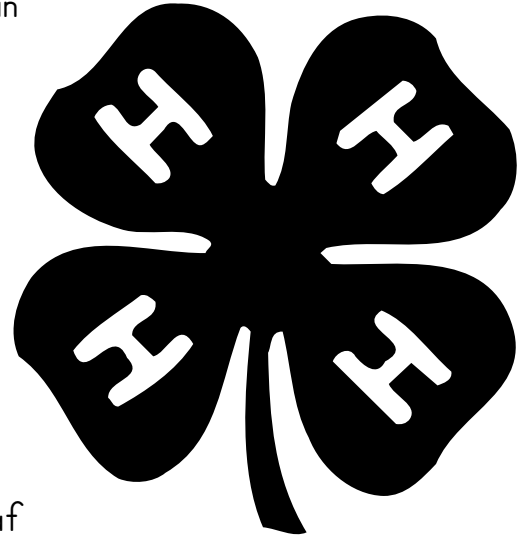
This manual contains activities for children that allow for a wide range of abilities and provide practice for developing a variety of skills. Many of the projects have additional things to do listed after the activity in the **STRETCHERS** section. This section provides ideas to adapt the activity to better match children's individual skill levels and also provides additional skill practice.

Mini 4-Hers Page

Mini 4-Hers have lots of fun! There are many activities for you to explore. You can try new things. You can share them with your friends and family.

Here are some things to know about 4-H.

The 4-H symbol is a four-leaf clover with an "H" in each leaf. Clover is a plant that grows in fields, yards, and along roadsides. Most clovers have three leaves. Sometimes, if you look very carefully, you may get lucky and find a special clover with four leaves. A four-leaf clover is used as the symbol for 4-H to let everyone know 4-H is a special kind of group.



The 4-H colors are green and white. The four-leaf clover is green and the "H" in each leaf is white.

A group motto is a saying that tells people what is important to the group. **The 4-H motto** is "To make the best, better." When something is better than all of the others, it is the best. Think about a time when you did your best. Maybe you threw a ball farther than you have ever thrown it before. Now, think about some ways you could do better. You may be able to throw farther by practicing for a while or by watching someone who can throw farther than you to see how they throw so far. Even if you throw the ball farther than you have ever thrown it before, there are still ways that you can do better the next time. 4-H encourages you to always try to do better, even if you are doing the best you have ever done.

The 4-H Pledge

A pledge is a promise you make to yourself and to the people around you. The 4-H pledge is in bold print below. Under each line of the pledge there are words telling what the pledge means.

I pledge my **Head**  to clearer thinking.

I promise to use my head to make good choices.

my **Heart**  to greater loyalty.

to use my heart to be a good friend.

my **Hands**  to larger service, and

to use my hands to do helpful things for others.

my **Health**  to better living.

to take care of my body and to show others how to live in a healthy way.

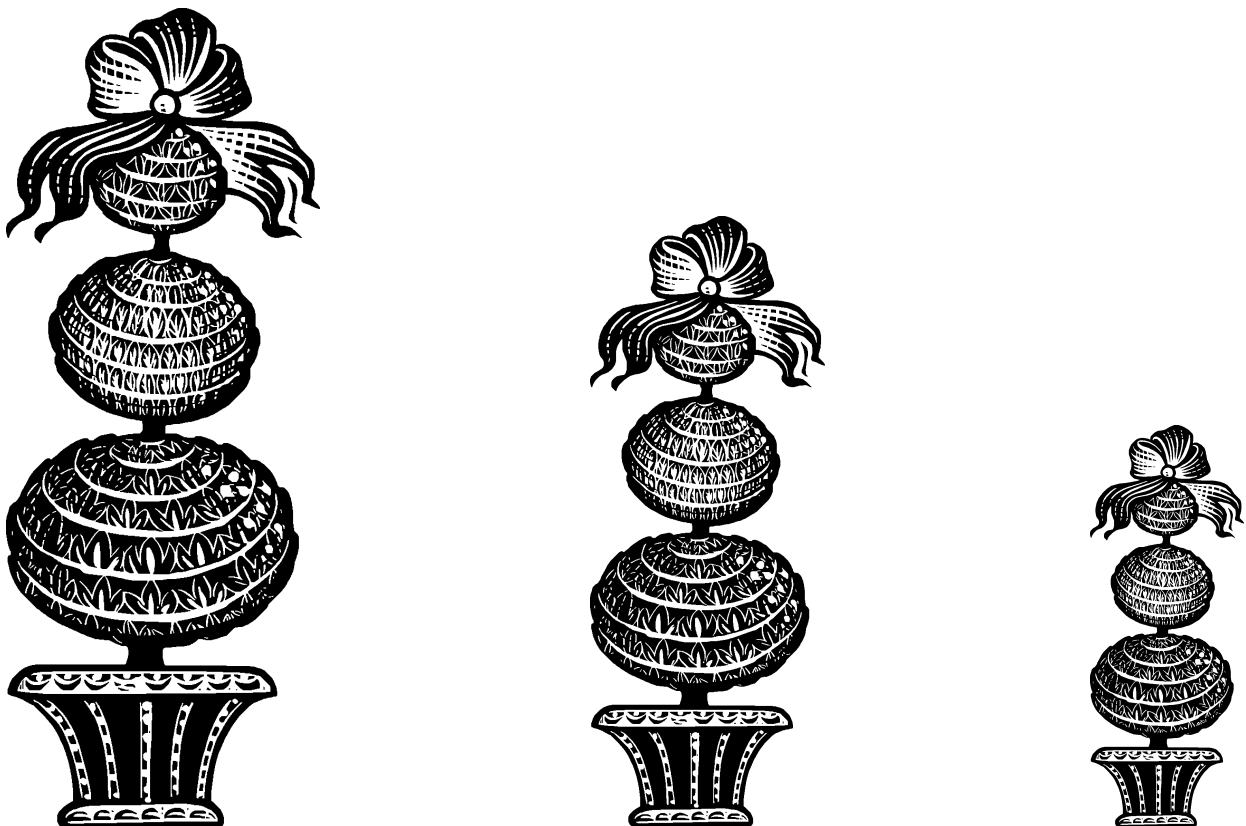
for my club, my community,  my country, and my world.

to help my group, my community, my country, and my world be happy and safe for everyone.

What About Trees?

Can you name the tree a leaf came from just from the shape of the leaf? Do you know how to tell how old a tree is? Have you ever wondered how trees get food and water? If you would like to learn the answers to these questions and many more, Mini 4-H Trees is for you!

Trees come in many shapes and sizes. Some trees are tall, some trees are short, some trees have lots of branches, and some trees have only a few branches. Some trees are shaped like triangles. Other trees have a round or oval shape. Sometimes people change the shape of trees by **pruning** or cutting the tree's branches. Tree branches are pruned to remove dead or deformed branches. People also use pruning to make a tree grow a certain way. The shapes of trees that have been pruned can be very unusual. Pruned trees can be in the shape of a square or many circles like the pictures below. They can even be in the shape of an animal or person. When trees or shrubs are cut into different shapes it is called **topiary**. Have you ever visited trees with unusual shapes? Have you ever seen pictures of trees with unusual shapes? What tree shape did you like the best? Why?



Excerpted from Mini 4-H Trees. Purdue University Cooperative Extension Service.

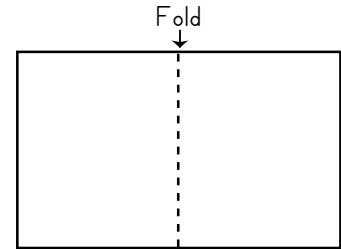
Activity 1 - Make Your Own Forest

Things you need:

- Forest Shapes Activity Page
- large sheet of white paper
- 8 1/2 X 11" sheets of colored paper
- scissors
- glue
- pencil

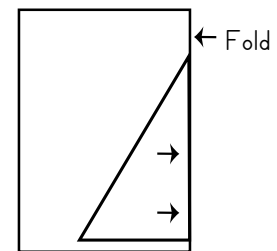
What you do:

1. Cut along the dotted lines on the **Forest Shapes Activity Page**. Set these squares aside while you do the next step.




2. Now, choose a piece of colored paper you would like to use to make one of your trees. Fold the paper in half like a book.

3. Cut along the fold to make 2 pieces of paper and fold each of these pieces in half like a book.



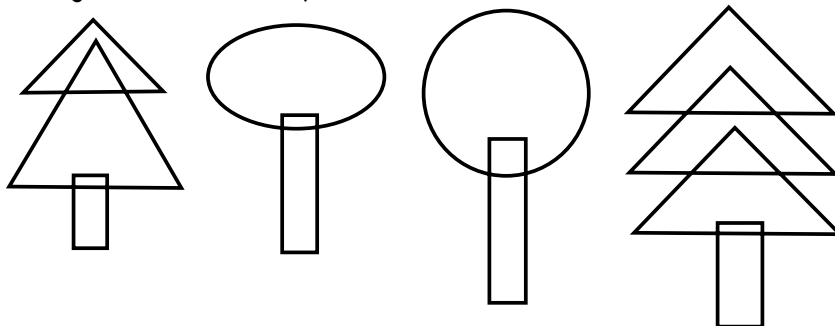
4. Lay one of the squares cut from the **Forest Shapes Activity Page** on top of the folded piece of colored paper. Be sure to lay the shape on the colored paper with the arrows on the shape pointing to the fold in the colored paper like in the picture.

5. Staple the papers together where you see this 

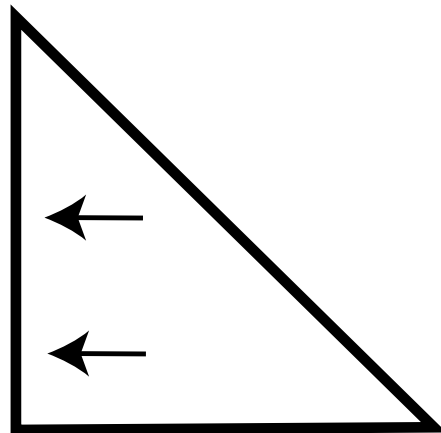
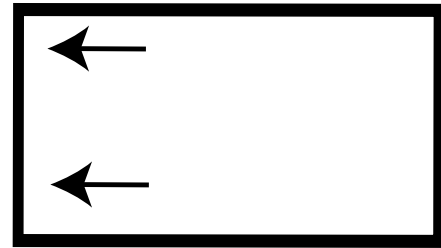
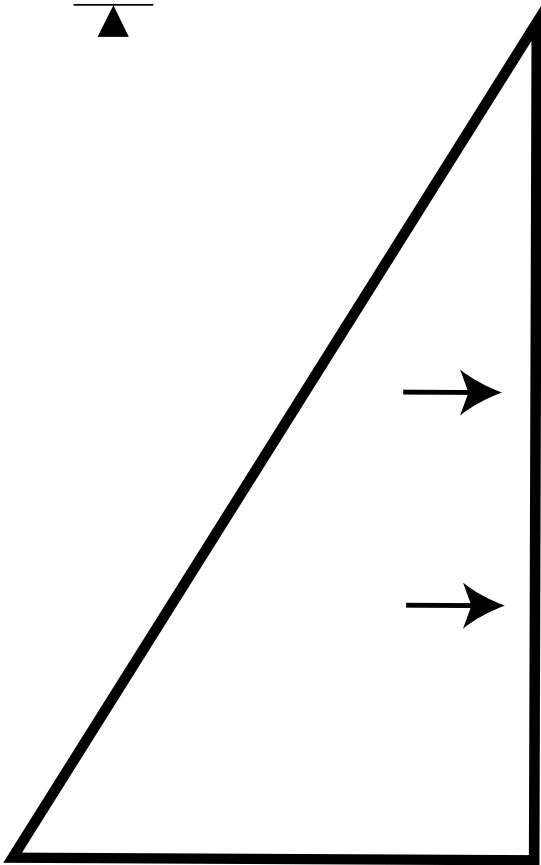
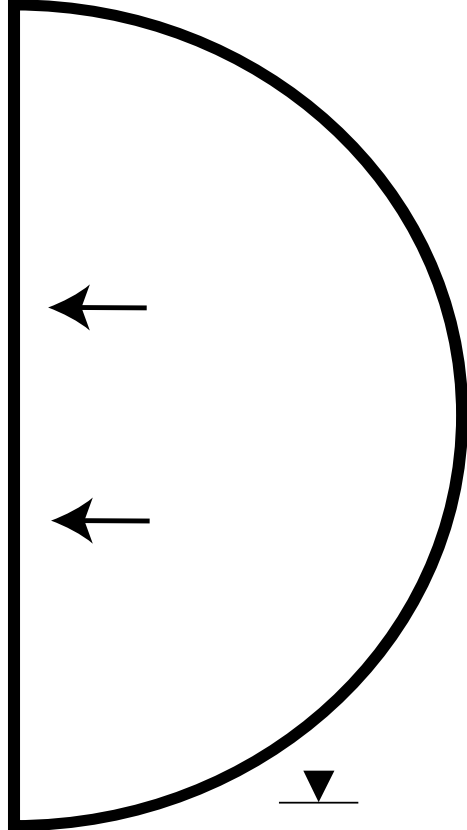
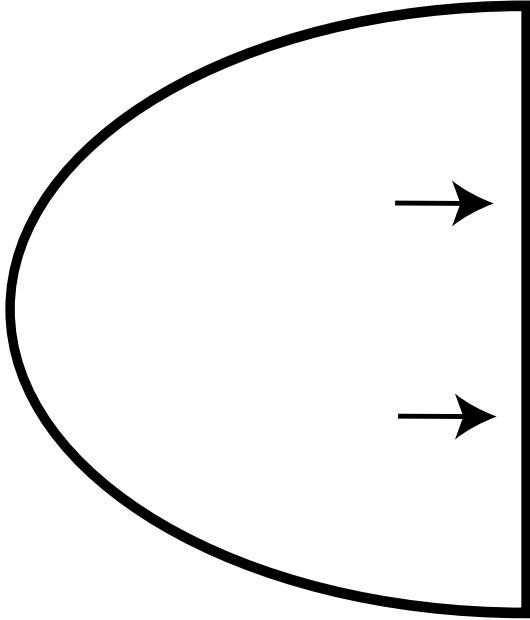
6. Cut out the shape on the solid, black lines. Be careful not to cut on the fold.

7. Open the shape up to show a bigger shape. Repeat with all of the shapes.

8. Glue the colored shapes on a piece of paper to create different kinds of trees in your forest like in the picture below. Now try to make other trees using different shapes and colors.

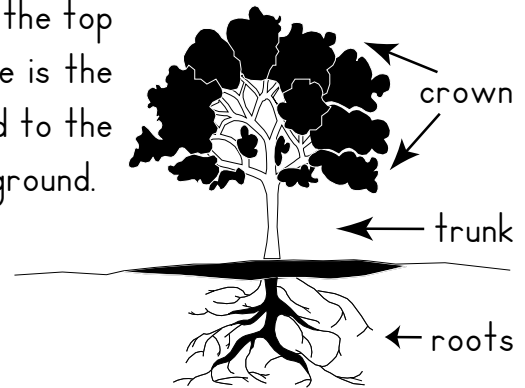


Forest Shapes Activity Page



Activity 2 – Tree Parts


The main parts of a tree are the leaves, branches, trunk, and roots. The leaves are attached to twigs on the branches. The leaves, twigs, and branches together are called the **crown**. The branches are attached to the top of the trunk of the tree. The trunk of the tree is the middle part of the tree. The roots are attached to the bottom of the trunk and are mostly under the ground.



Things you need:

- crayons or markers
- stapler
- scissors

What you do:

1. Color the tree on the **Tree Activity Page**.
2. Cut along the dotted lines on the **Tree Parts Activity Page**.
3. Lay the **Tree Parts Activity Page** on top of the **Tree Activity Page**.
Staple where you see this 
4. Fold back each flap, one at a time, to make a door so you can see the part of the tree the label is naming.

Things to talk about:

Crown, branches, twigs, leaves, trunk, roots, top, bottom, middle, under, over

STRETCHERS

1. Help children compare their own body parts to the parts of a tree. Compare the twigs to fingers and toes, the bark to skin, the branches to their arms and legs, etc.
2. For groups, make a large tree out of paper. Encourage each child to make an apple out of paper. Roll up a small piece of tape on the back of each child's apple. Blindfold each child in turn and have them "pin the apple on the tree."

Tree Parts Activity Page

Fold here

Crown

Fold here

Leaves, Branches
and Twigs

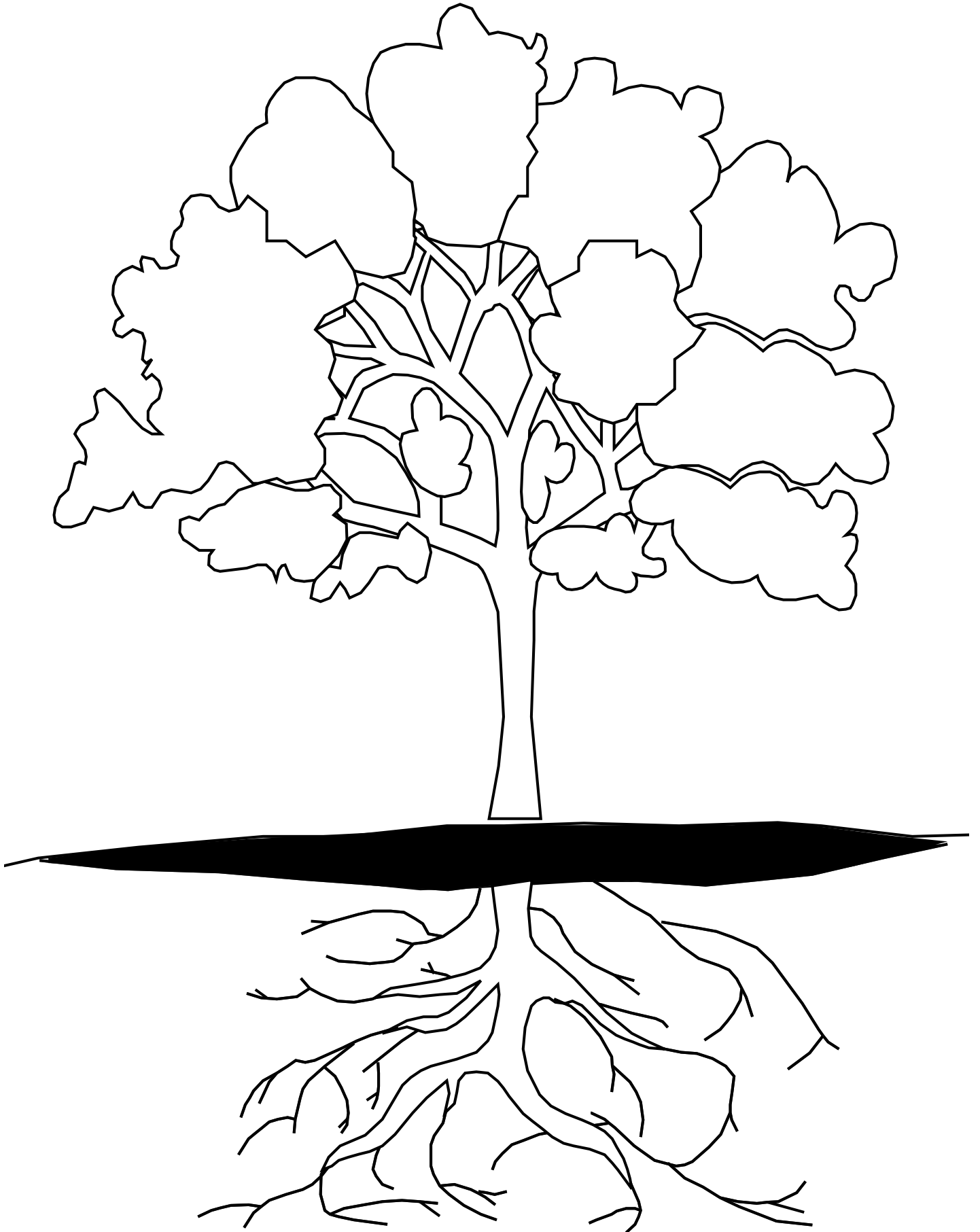
Fold here

Trunk

Fold here

Roots

Tree Activity Page



Activity 3 – A Tree for Each Season

Evergreen trees look the same all year long. Their leaves stay green all year and they do not lose their leaves in the winter like some trees.

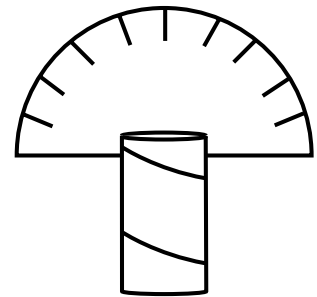
Many trees look different in each season of the year. Trees that change with each season may have light green leaves and sweet smelling flowers on them in the spring. When summer arrives the leaves may turn a darker green and the flowers will disappear. The leaves on the trees turn bright colors in the fall of the year. When winter comes the leaves from the trees fall on the ground.

Things you need:

- 4 empty toilet tissue rolls
- 2 white paper plates
- popped popcorn
- scissors
- colored paper scraps
- yarn
- glue

What you do:

1. Cut each paper plate in half.
2. Cut two 1" slits in the top of each paper tube across from each other so the paper plate half will slide into the slits like in the picture and make a tree. Use one paper plate half for each of the 4 trees.
3. Make 1 tree that looks the way trees look in spring by gluing popcorn onto the paper plate to look like blossoms.
4. Make 1 tree that looks the way trees look in summer by coloring the paper plate the colors leaves are in the summer.
5. Make 1 tree that looks the way trees look in fall by tearing small pieces of colored paper for the leaves and gluing them on the paper plate.
6. Make 1 tree that looks the way trees look in winter by dipping yarn in glue and putting it on one of the paper plates to look like the bare branches of some trees in the winter.
7. Children may want to add roots to each of the trees by gluing yarn to the bottoms of the paper trees.



Activity 4 – Roots

The roots of trees are mostly under the ground. Sometimes you can see tree roots sticking out of the ground around the base of a tree but most of the roots grow far down into the soil. Roots help keep the tree from blowing over when the wind blows by holding onto the soil. Roots help keep the soil from **eroding** by holding onto the soil. Erosion happens when the soil washes away in the rain or when the soil blows away in the wind.

Roots also help the tree grow. The roots bring water and food to the tree from the soil. Food in the soil is called **minerals**. Below is an experiment that may help you understand how roots work.

Things you need:

- 1 celery stalk
- 2 glasses half full of water
- red and blue food coloring

What you do:

1. Cut about 1" off the bottom of the celery stalk.
2. Put red food coloring into one of the glasses and blue food coloring into the other glass.
3. Beginning at the bottom of the celery stalk, cut a 4" slit up the middle.
4. Set the glasses side by side so they are touching each other. Put the celery stalk over the 2 glasses so that one leg of the celery stalk is in one glass and the other leg of the celery stalk is in the other glass. Be sure the legs of the celery stalk are long enough to reach into the water of the glasses.
5. Let celery sit in colored water about 1 hour. What has happened to the celery?

Things to talk about:

Roots, why trees need food and water

Activity 5 – Rough Or Smooth?

The strong, middle part of a tree that holds up all the branches is called the **trunk**. The trunks of trees grow just like you do. Each year you grow taller and get heavier. You don't stop growing until you are an adult. Each year trees grow taller. They also grow bigger around by adding a layer of wood to the outside of their trunks.

Trees are covered with bark. The bark protects the tree from insects, diseases, and injury. Some bark is rough and some bark is smooth. Feel the bark of a tree. Does it feel rough or smooth? Does the bark feel the same in all places on the tree? Feel the twigs and the branches. Does the bark on them feel the same as the bark on the trunk of the tree?

Things you need:

- crayons
- heavy weight white paper

What you do:

1. Choose a tree. Hold the paper against the bark of the tree and rub the side of a crayon over the paper. The rough places that stick out on the bark will show up darker on the paper than the smooth, lower places on the bark. The bark's **pattern** or **texture** will be left on the paper.

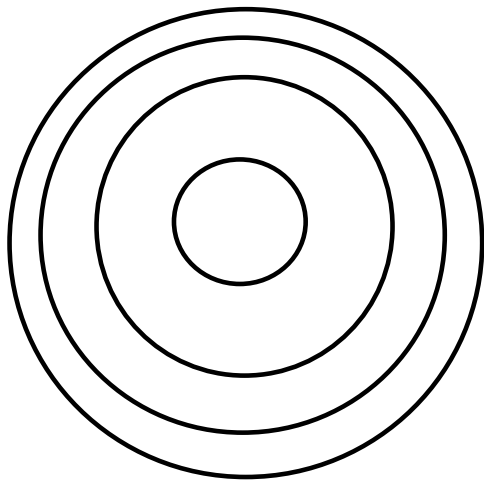
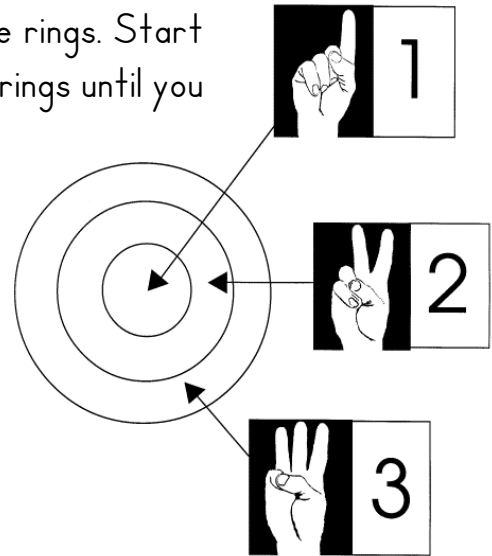
STRETCHERS

1. Encourage children to lay under a tree and look up through the branches. What kinds of things do they notice? Encourage the children to listen carefully. What kinds of sounds do they hear? What kinds of words would they use to describe the sounds they hear? Read a poem in which the author is trying to describe the way a tree looks or sounds.
2. Show children a leaf from a tree. Encourage them to take a walk and try to find the kind of tree it came from.

Activity 6 – How Old Are Trees?

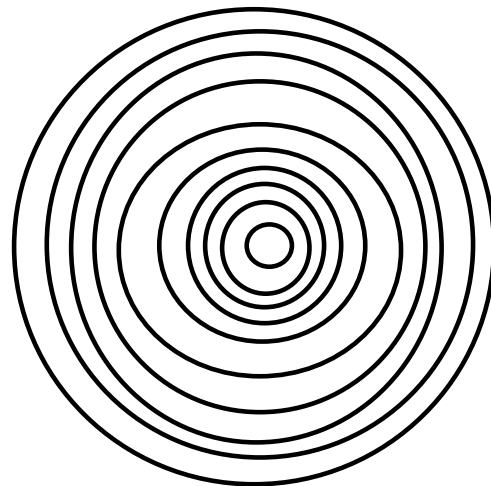
Every year trees add one **ring** or layer of wood to their trunk. You can find out how old a tree is by counting the rings. Start in the middle with the oldest ring and count all the rings until you get to the outside ring. The number of rings you counted is the number of years old a tree is.

This tree is 3 years old. →



How old is this tree?

_____ years old.



How old is this tree?

_____ years old.

How old are you? On a piece of paper draw a tree with the same number of rings in it as your age. (Hint: It is easiest to start with the center ring and add rings around it.)

Activity 7 – Branches

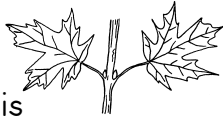
Branches grow from the trunks of trees. Most branches have twigs, leaves, buds, or flowers growing from them.

Leaves grow on different trees in different ways. Some trees have leaves that grow straight across the twig from other leaves.

This is called

Opposite

and looks like this



Some trees have leaves that grow so they are not straight across the twig from other leaves.

This is called

Alternate

and looks like this



Things you need:

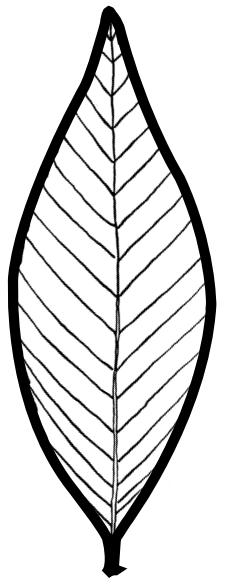
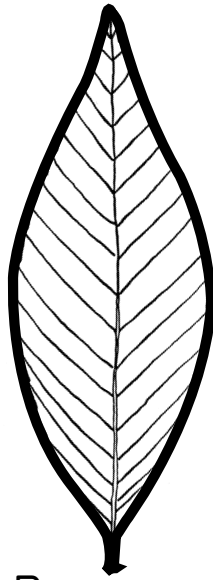
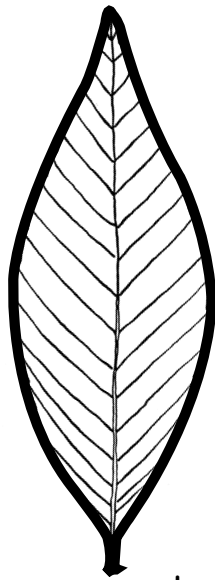
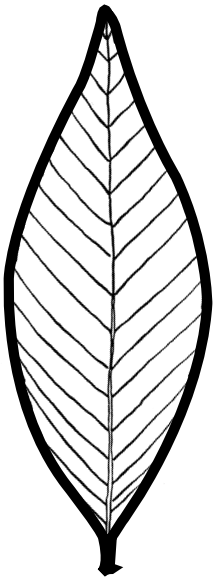
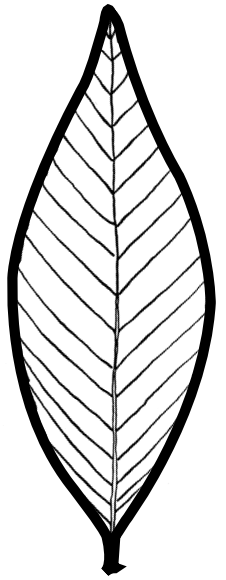
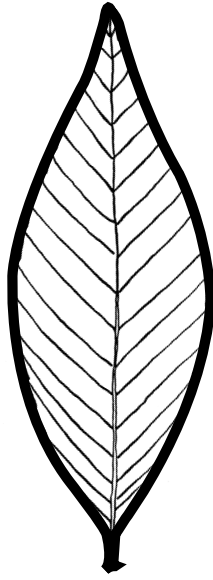
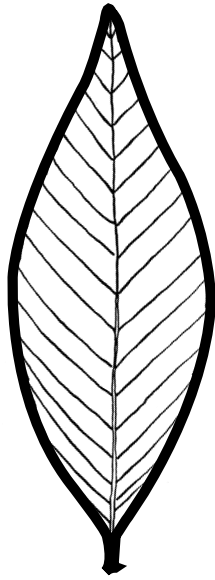
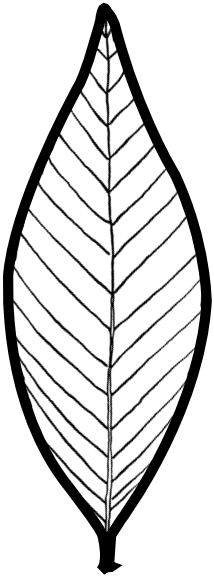
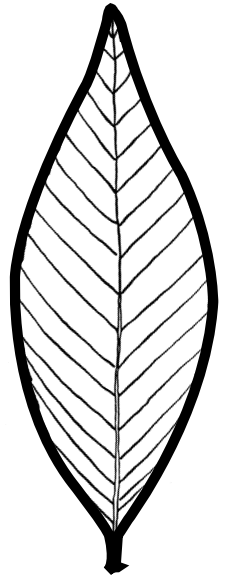
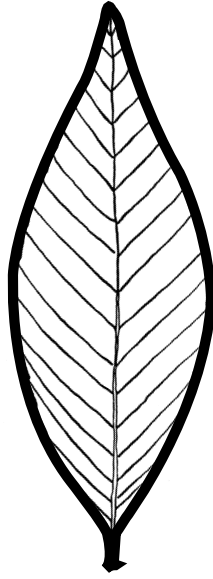
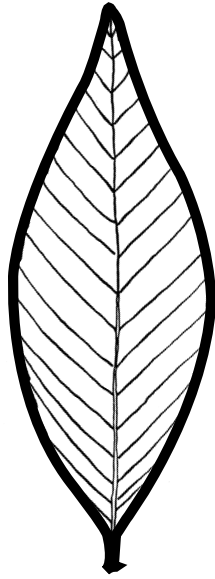
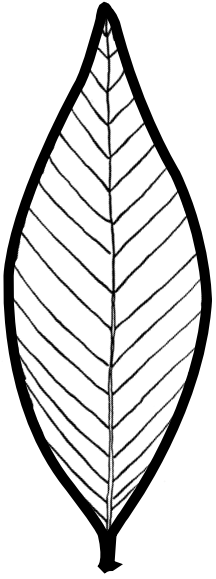
- Leaf Activity Page
 - Opposite Matching Page
 - Alternate Matching Page
- scissors
 - glue
 - crayons

What you do:

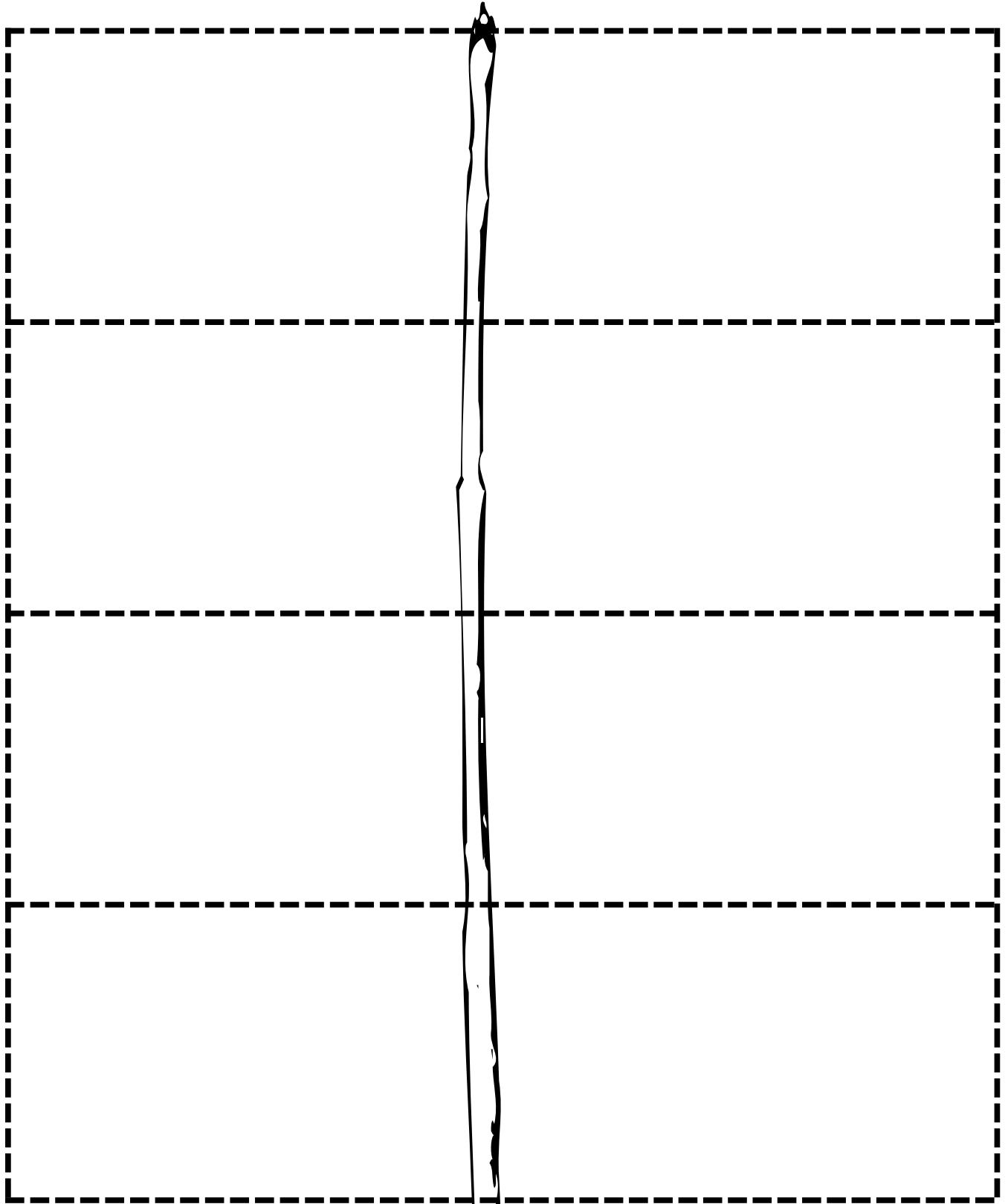
1. Color all the leaves on the **Leaf Activity Page**.
2. Cut along the dotted lines on the **Leaf Activity Page**. Children more experienced with scissors may choose to cut out the leaves using the solid black lines.
3. Glue leaves in the boxes on the **Opposite Matching Page** and the **Alternate Matching Page** to match the patterns on each page.

Things to talk about:

Opposite, alternate, patterns, matching, same, different

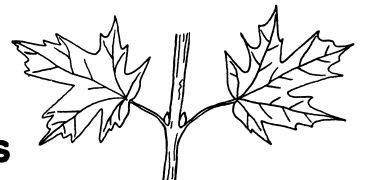


Opposite Matching Page



Opposite

Match This



Alternate Matching Page

Alternate

Match This



Activity 8 – Leaves

Leaves are helpful to trees. They use sunshine to make food for the tree to help it grow. Feel the leaves. Are they smooth or fuzzy? Do they feel more rough on one side than the other? All leaves do the same job even if they don't all look the same. The bottom side of leaves have veins or ridges on them. The veins help the leaves to get water so they can grow.

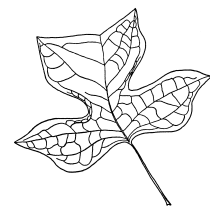
Tree leaves come in many different sizes and shapes. Leaves can be bigger than your hand or smaller than your smallest finger. Many leaves have shapes that look like other things. A leaf can look like a fan, a star, a mitten, or a needle. Other leaves have shapes all their own.

Leaves can be many different colors. In the summer most leaves are green but some can be yellow, purple, or other colors. Many leaves change color in the fall. Some colors you might see are red, gold, yellow, orange, and brown.

Trees called evergreens have leaves that stay green all year. Some evergreen leaves are shaped like needles and some have scales on them. Most trees lose all their leaves in the fall of the year but evergreen trees keep their leaves even in the winter .

Things you need:

- **Leaf Name Activity Page**
- **2 Leaf Book Activity Pages**
- stapler
- scissors
- crayons or markers
- glue

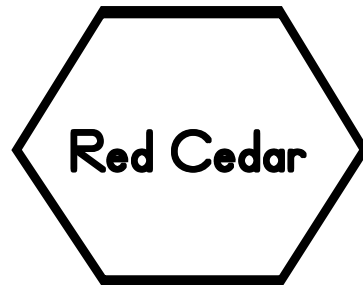
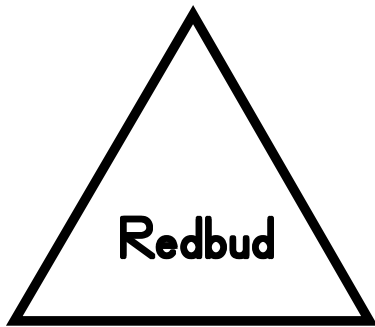
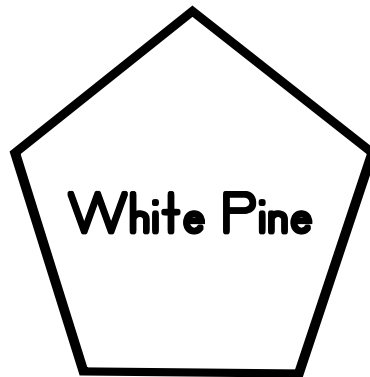
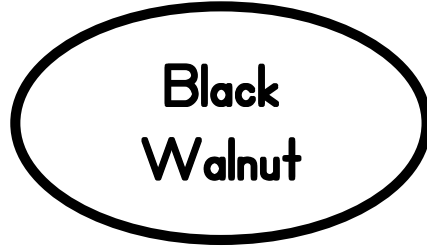
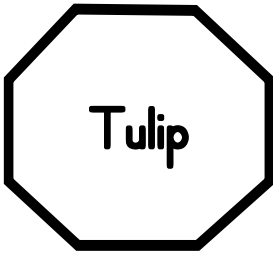


What you do:

1. Color all leaves on the **2 Leaf Book Activity Pages**. Lay these pages aside.
2. Cut the shapes with names of leaves on them from the **Leaf Name Activity Page**.
3. Glue each shape where it goes on the **Leaf Book Activity Pages**.
4. Cut along dotted lines of both **Leaf Book Activity Pages**.
5. Staple pages together to make a book. Be sure to put the page with the title on it on the top.

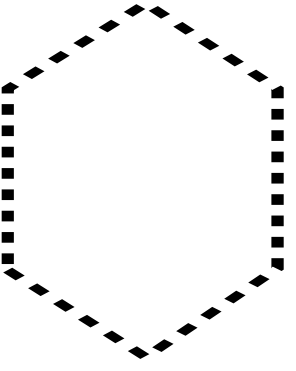
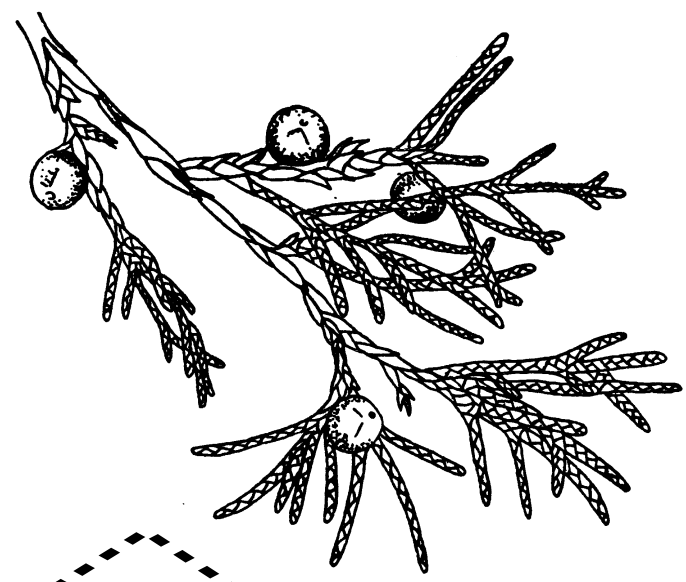
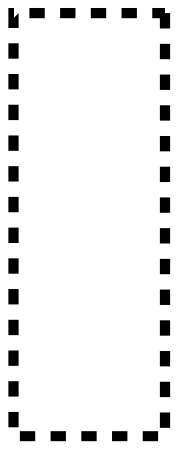
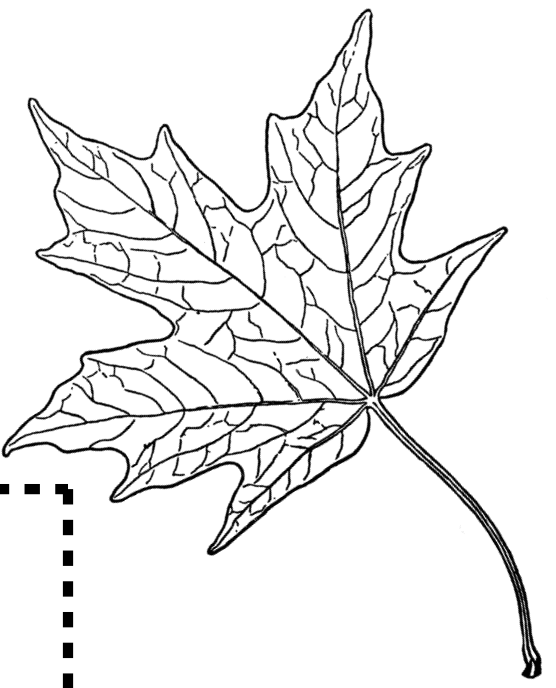
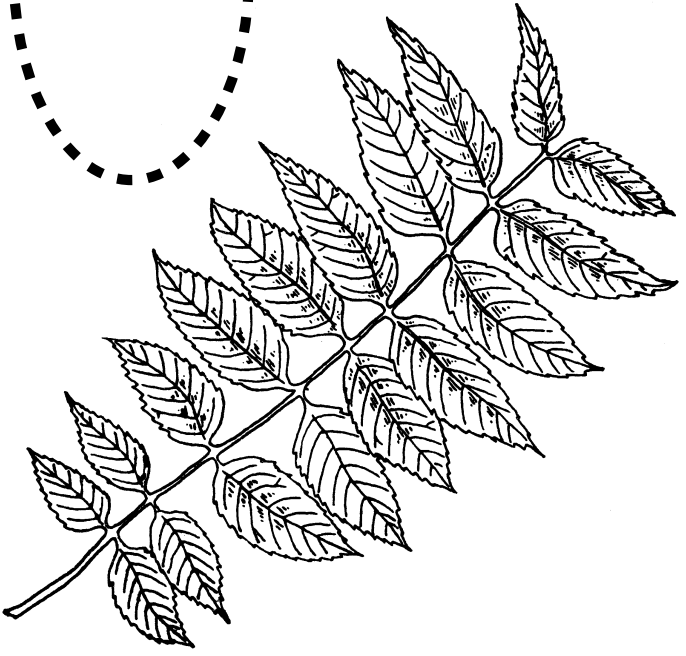
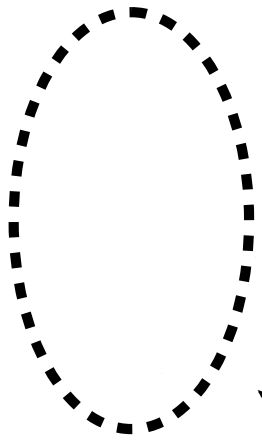
Excerpted from Mini 4-H Trees, Purdue University Cooperative Extension Service.

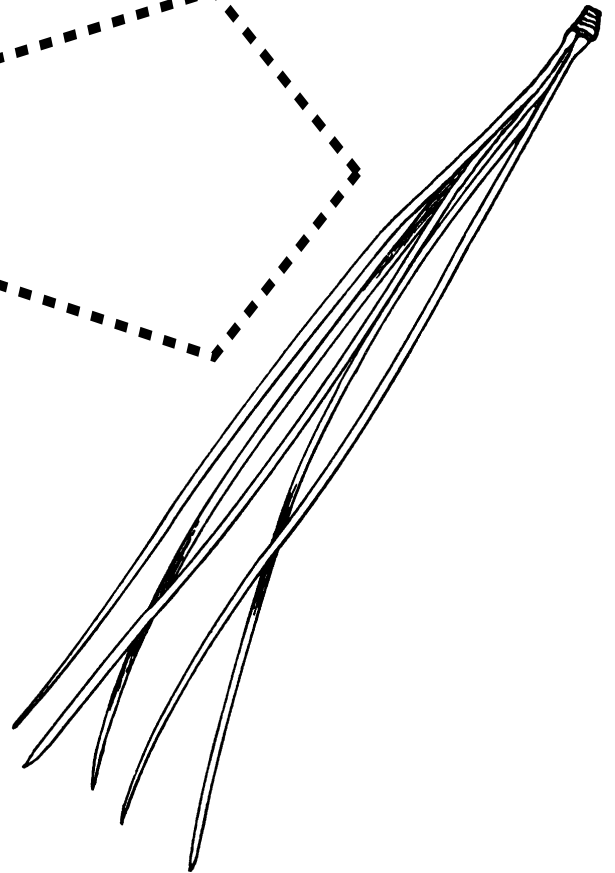
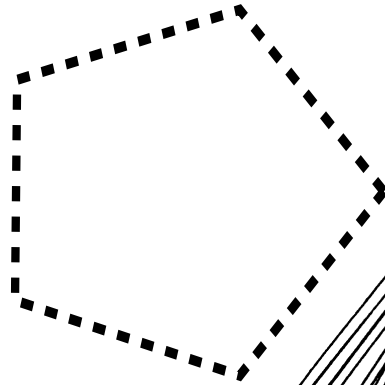
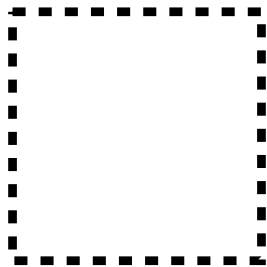
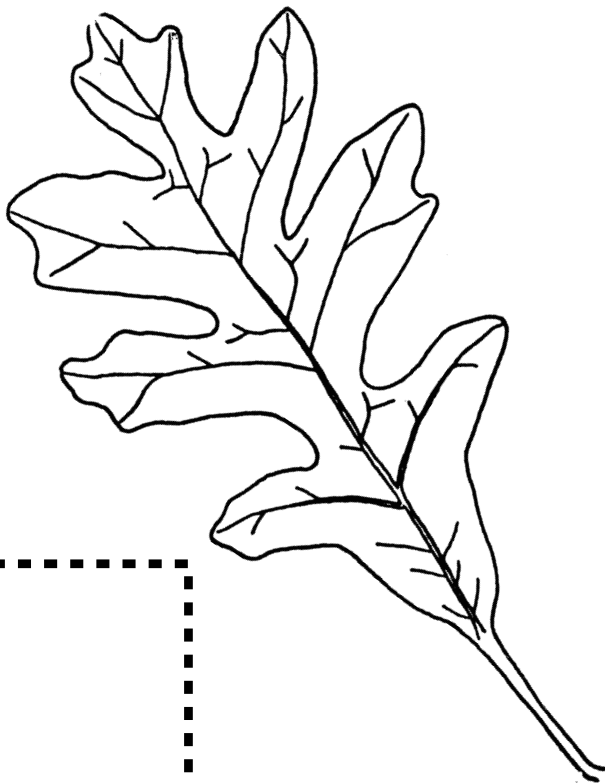
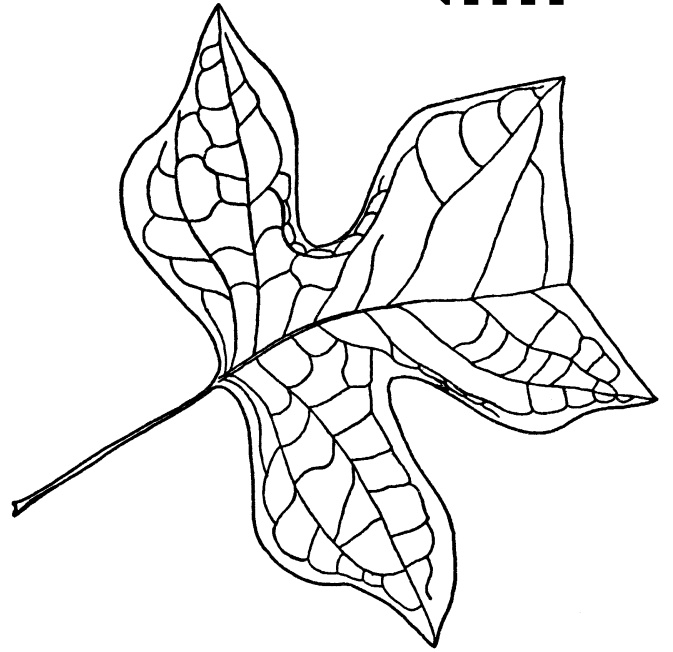
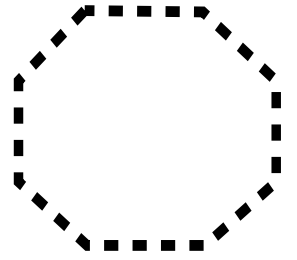
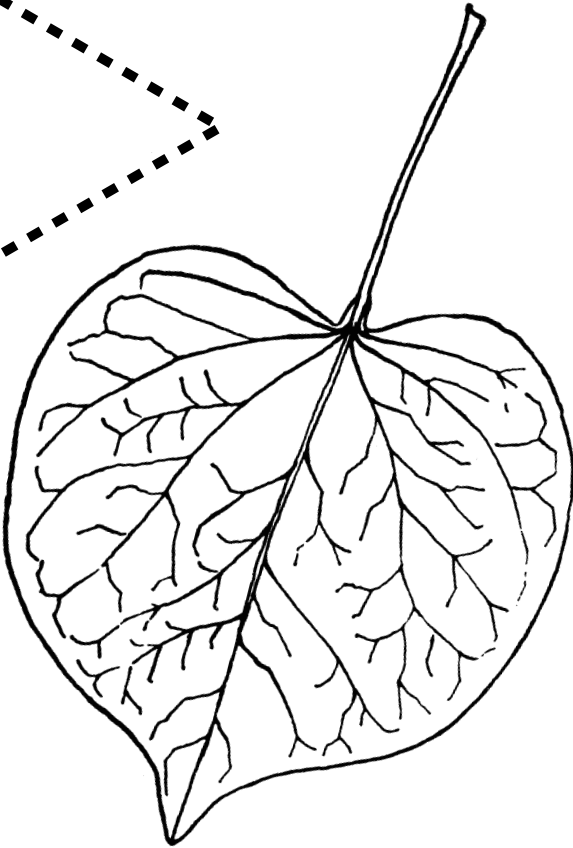
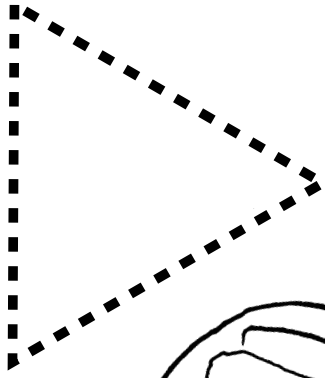
Leaf Name Activity Page



My Leaf Book

by _____





Activity 9 – Leaf Memory Game

Things you need:

- Leaf Memory Activity Page
- 1 piece of colored construction paper
- scissors
- glue

What you do:

1. Glue **Leaf Memory Activity Page** to the piece of colored construction paper.
2. Next, cut along the dotted lines on the **Leaf Memory Activity Page**. You should end up with 12 cards.

To play the game:

1. Mix up all the cards and lay them face down in rows.
2. Turn over any 2 cards. If the shape of the leaf and the shape of the leaf shadow match, you keep them and you take another turn. If they don't match, turn both cards back over so the next person can take a turn.

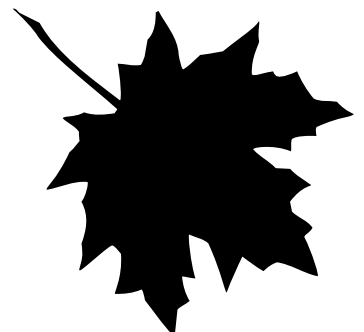
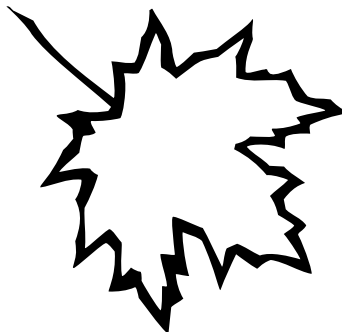
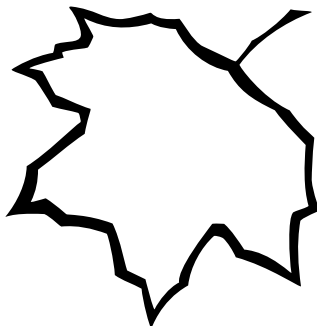
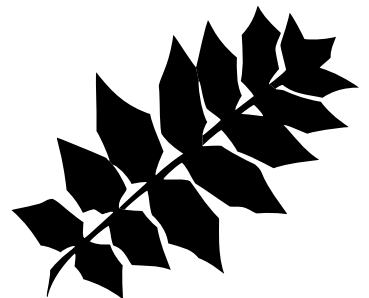
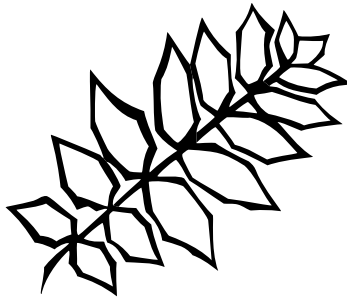
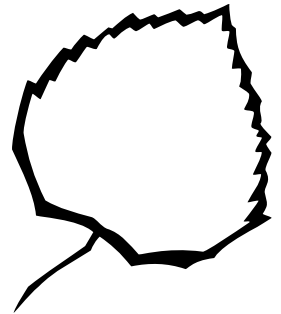
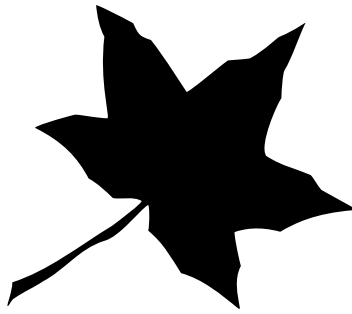
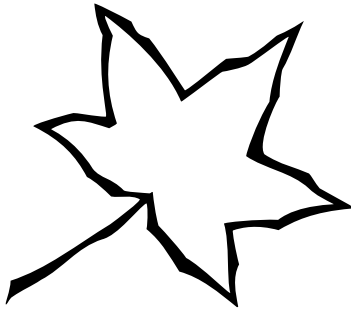
STRETCHERS

1. Gather several different shaped leaves. Lay the leaves out on top of a piece of colored construction paper. Leave the papers in the bright sunshine for several hours. When the leaves are removed the "sun print" of each leaf will remain. Make a leaf book from the sun prints you made.



Excerpted from Mini 4-H Trees. Purdue University Cooperative Extension Service.

Leaf Memory Activity Page



What to Exhibit

This is a list of project activities that can be shown at the 4-H fair or other places. Pick a project activity you would like to try. You do not have to make them in any order. If you have any questions, please call the Extension Office. There are people there who can help you.

- Make a project activity as a group and take it to the fair to show the kinds of things your group has been doing.
- Make a scrapbook of pictures showing your group having fun while making the project activities in this manual.
- Draw a picture of the ways your favorite tree looks in each of the four seasons.
- Make a collage of pictures cut from magazines. Show as many different kinds of trees as you can find. See if you can find at least one picture of a tree with an unusual shape.
- Take a walk in a local park. Collect things that have fallen from trees onto the ground. Make a tree shaped poster and glue all the things you found onto the poster. Be sure to match the items with the part of the tree where they are found.
- Make a leaf rubbings book using 5 leaves you find that you think are interesting. To make the leaf rubbings, place each leaf on a flat surface with the vein side up. Next, place a piece of paper over the leaf and use the side of a crayon to rub color over it. Label each page with the leaf name.

For information on when to take your project to the Fair and where it needs to go, please contact your Extension Office.

More Places to Look

Autumn Leaves (Scholastic, 1998) by Ken Robbins is a leaf identification book with bright, artistic photographs written for children.

Cherry Tree (Boyd's Mills, 1996) by Ruskin Bond and Allan Eitzen is a story about a young girl watching a tree grow.

Counting on the Woods (DK Ink, 1998) by George Ella Lyon is a counting book that uses a walk in the woods as the setting.

Fall Is Not Easy (Zino Pr Children's Books, 1998) by Marty Kelley is a funny story about a tree's struggles to change its colors for fall.

Prairie Willow (Stoddart Kids, 1998) by Maxine Trottier, Laura Fernandez, and Rick Jacobson is a story about a prairie family planting and watching a willow tree grow.

The Seasons of Arnold's Apple Tree (Harcourt Brace, Reprint edition, 1988) by Gail Gibbons is a story about the seasons of an apple tree.

The Way of the Willow Branch (Gulliver Books, 1996) is about a branch that falls from a tree and the many places it goes.

Woods (One Small Square) (McGraw-Hill, 1997) by Donald M. Silver helps children answer many questions they may have through simple experiments and activities.

Have Fun!