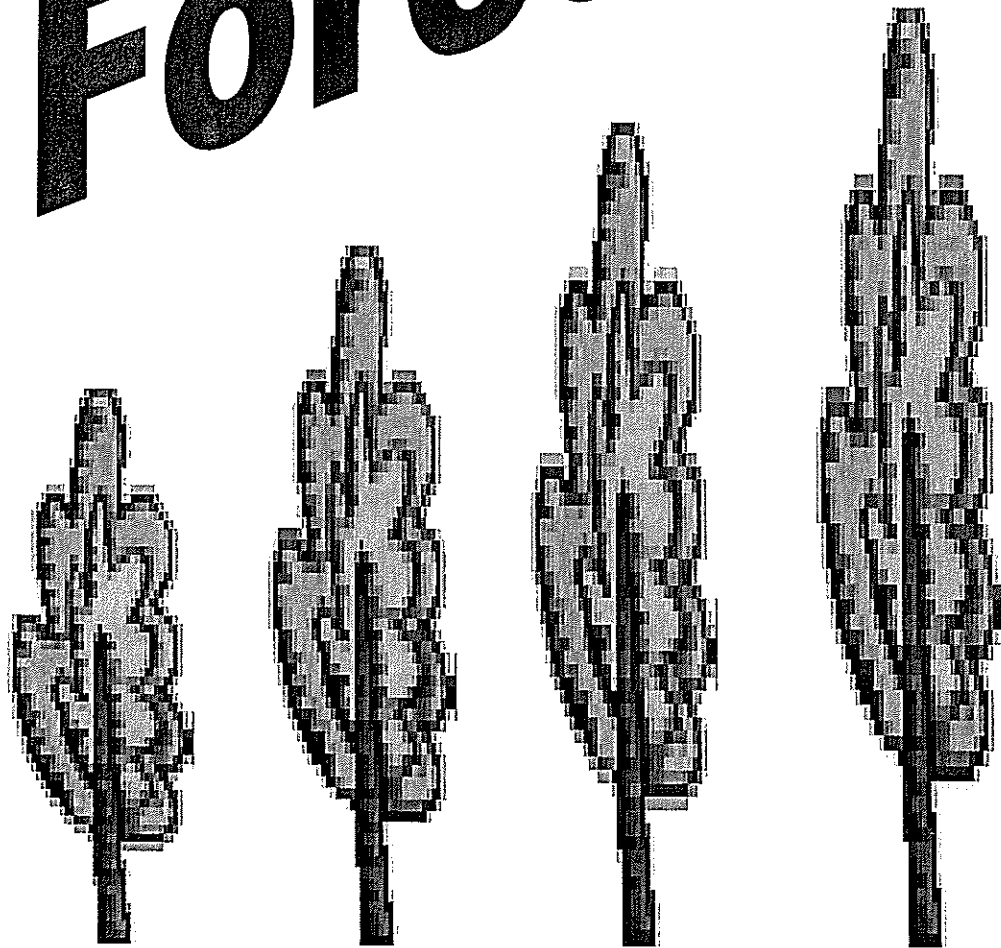
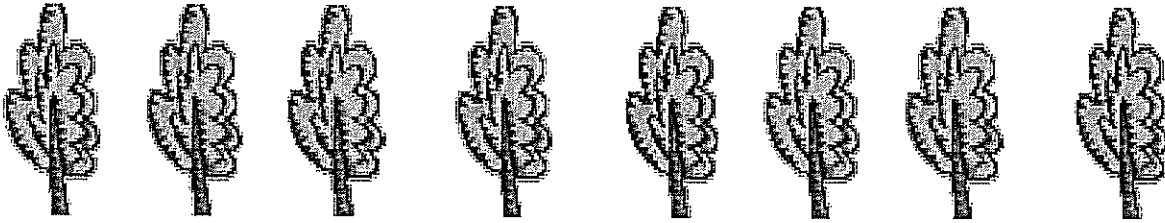


# Mini 4-H Forestry

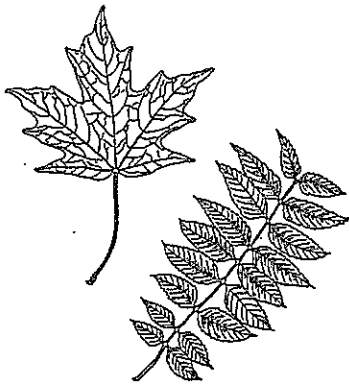


**WELCOME TO THE WORLD OF FORESTRY!** Learning about trees can be lots of FUN....come on, let's get started! You may choose any activity to do in the Mini 4-H Forestry manual. Listed with each activity are Exhibit ideas. For exhibit at the fair, simply complete one of the exhibits. If you do this project more than one year, complete a different exhibit each year.



There are many kinds of trees all around us. Just like people, trees come in all shapes and sizes.

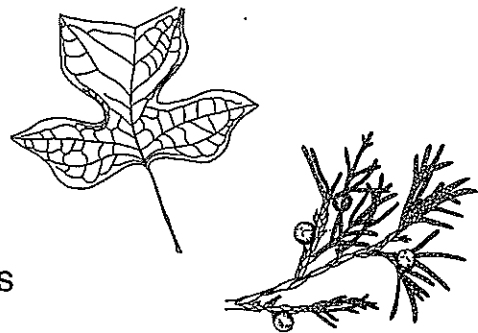
The most common way of identifying a tree (telling what kind of tree it is) is by the shape of its leaf.



#### ACTIVITY 1: LEARNING ABOUT 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.

Just like the trees they grow on, 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.



Look at the trees in your yard. What are the leaves shaped like? Are they large or small? Are they smooth or rough?

## Activity 1- Exhibit: Make Your Own Leaf Book

What you'll need....

- \*Leaf Name Activity Page
- \*2 Leaf Book Activity Pages
- \*Scissors
- \*Crayons or Markers
- \*Stapler
- \*Glue

What to do.....

- \*Color all of the leaves on the 2 Leaf Book Activity Pages.  
Lay these pages aside.
- \*If you'd like, color the shapes with the names of leaves on them from the Leaf Activity Page. Cut out these shapes.
- \*Match and Glue each shape where it goes on the Leaf Book Activity Pages.
- \*Cut along the dotted lines of both Leaf Book Activity Pages.
- \*Stack and straighten the pages together and STAPLE together. Be sure to put the page with the title "My Leaf Book by \_\_\_\_\_" on the top.

**SUPER JOB!!! YOU'VE LEARNED THE NAMES OF SOME COMMON LEAVES!!!**



## ACTIVITY 2: TREE PARTS

Just like your body has different parts, so does a tree. It takes all of the parts working together to help you and a tree grow.

Let's compare you to a TREE!

YOU.....	TREES.....
.....have fingers and toes	.....have twigs
.....have arms and legs	.....have a crown. The trees' branches and twigs make up the crown.
.....have a torso	.....have a "trunk". The branches are attached to the trunk.
.....have skin that helps protect you	.....have bark that protects the inside of the tree
.....have feet that help you stay put	.....have roots that grow underground and hold the tree in place.

### Exhibit: Tree Part Poster

#### What You'll Need

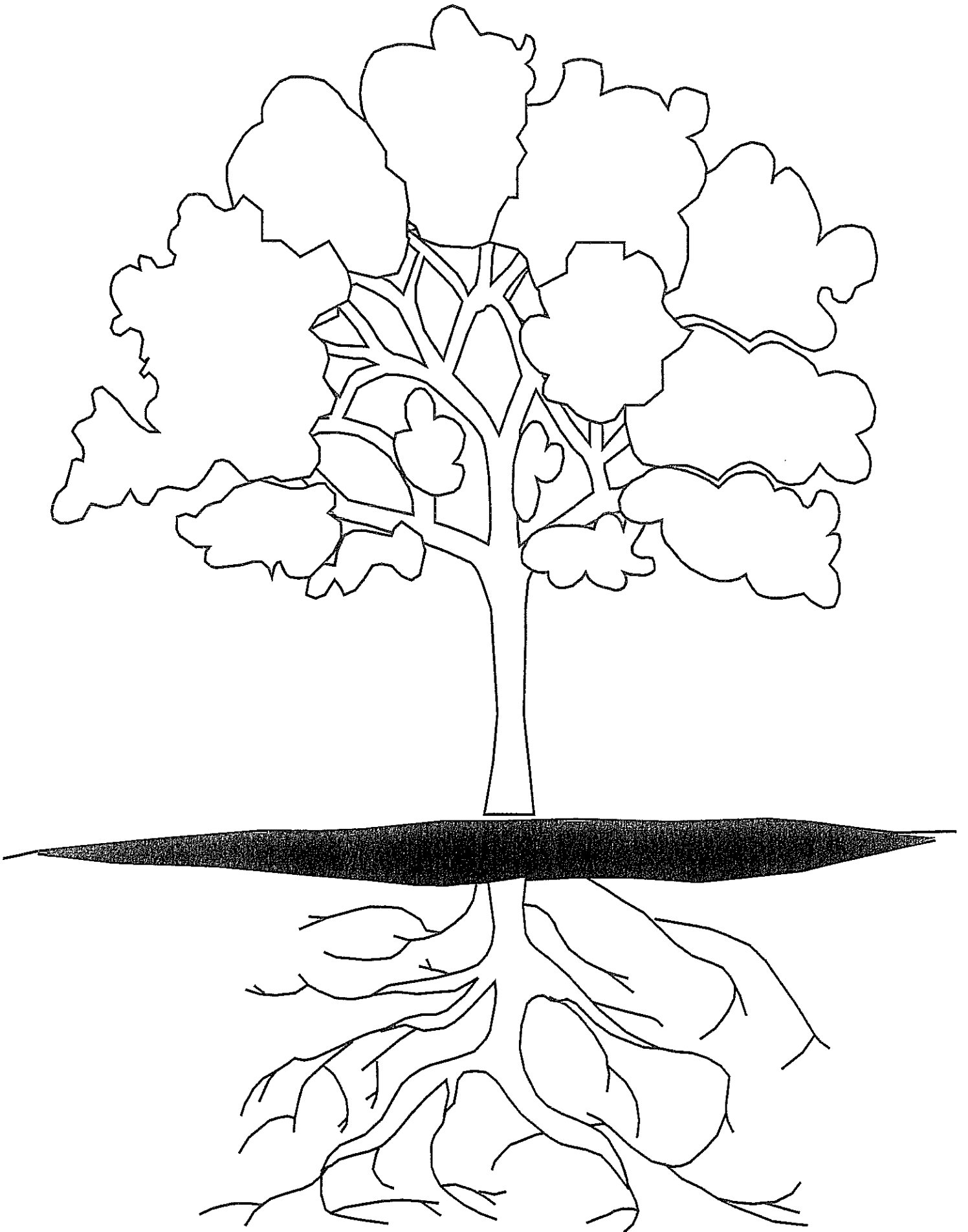
- \*Tree Activity Page
- \*Tree Parts Activity Page
- \*Crayons or Markers
- \*Scissors
- \*14" x 22" posterboard
- \*Glue

#### What To Do:

- \*Put your posterboard horizontal (sideways)
- \*Color your Tree picture
- \*Cut out the cards for labeling the tree parts
- \*Lay your tree picture and the cards on the posterboard.  
Be sure to save room at the top for the title.
- \*Glue your tree picture in place and label correctly its  
Crown, Trunk, and Roots
- \*Title your poster, "Tree Parts"

**GREAT JOB! You've learned the basic parts of a tree!!!**

Tree Activity Page



Crown

Leaves, Branches  
and Twigs



Trunk

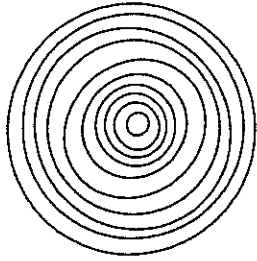


Roots

### Activity 3: HOW OLD ARE TREES?

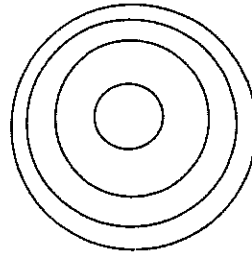
Every year trees add one ring or layer of wood to their trunk. You can find out how old a tree is by counting the rings. Start in the middle with the oldest ring and count all the rings until you get to the outside ring. The number of rings you counted is the number of years old a tree is.

This tree is 3 years old.



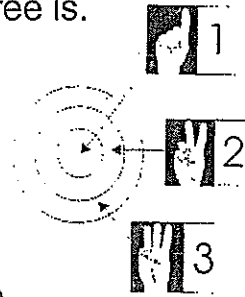
How old is this tree?

\_\_\_\_\_ years old.



How old is this tree?

\_\_\_\_\_ years old.



### Estimating the age of live trees: There are 2 easy ways!

1. By measuring the girth (around the trunk) of a tree (about 5 feet from the ground), you can guess the age of a living tree. Most trees will measure about one inch for every year of growth.

2. How old is that pine tree?

To determine the age of a live pine tree, count the number of rows of branches radiating from the central trunk. Each row represents one year's growth. If your family has a live Christmas tree, see how old your next tree is by either counting the rings on the trunk (before it's up and decorated!) or counting the rows of branches.

The first method works only for mature trees and there are some notable exceptions. Most poplars grow too fast, and some (such as the Scotch pine and horse chestnut) grow too slowly to make this method reliable all the time. A tree growing by itself might conform to this rule, too. However, a tree the same size growing deep in the woods might be twice as old. Having competed for moisture and sunlight its whole life, its growth will have been stunted.

## EXHIBIT IDEAS: Activity 3

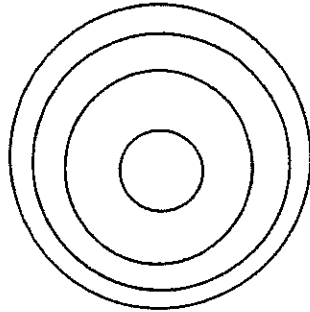
You may choose to exhibit one of the following:

### 1. TREE COOKIE\*\* Needs adult assistance!

A. Have Mom, Dad, Grandma or Grandpa help you cut a 2"-3" piece off of the trunk of a tree that has fallen or already been cut down. You now have a "tree cookie"!

B. Use a permanent marker to count and mark the rings on the tree cookie.

Example:



C. Bring your tree cookie to the fair for exhibit.

### 2. POSTER: HOW OLD IS THAT TREE?

A. Gather supplies: 14" x 22" piece of posterboard

The next two pages

Markers or crayons

Scissors

Glue or rubber cement

Construction paper (optional)

B. Make sure your posterboard is horizontal (sideways). Title your poster: How Old is That Tree?

C. Cut out the diagrams on the next two pages.

D. Determine the age of the trees using the "ring counting" method.

E. Mark the rings by counting and marking the rings on the diagram. (see above example). Set aside.

F. Using the diagram of the pine tree, determine the age of the tree by writing a "1" by the bottom row and continue counting and marking the rows up the tree. Set aside

G. Optional: Cut out examples and glue examples on a piece of construction paper and trim to make a border around your examples.

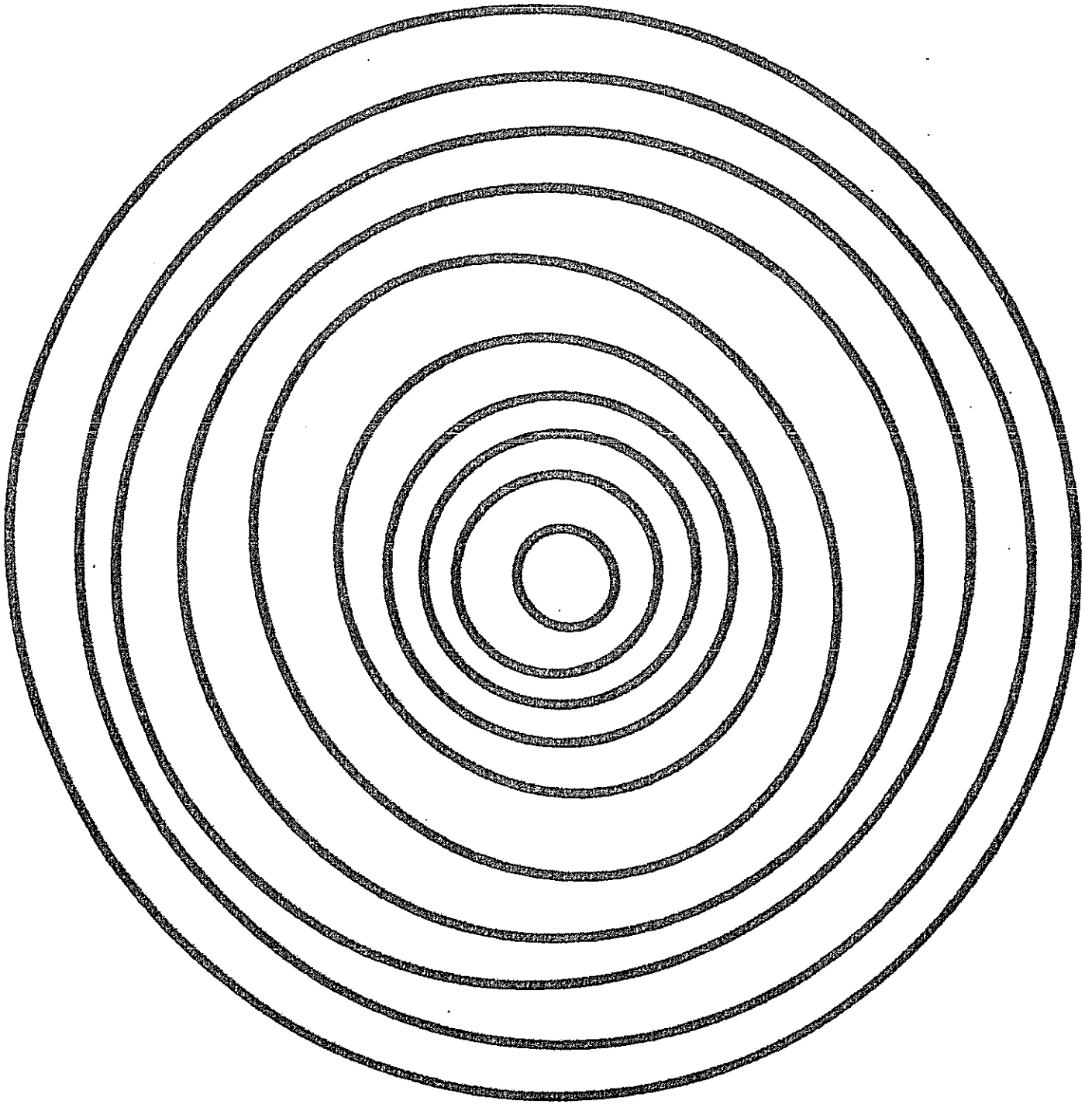
H. Glue your examples underneath the title of your poster.

I. You're all finished! SUPER!!!

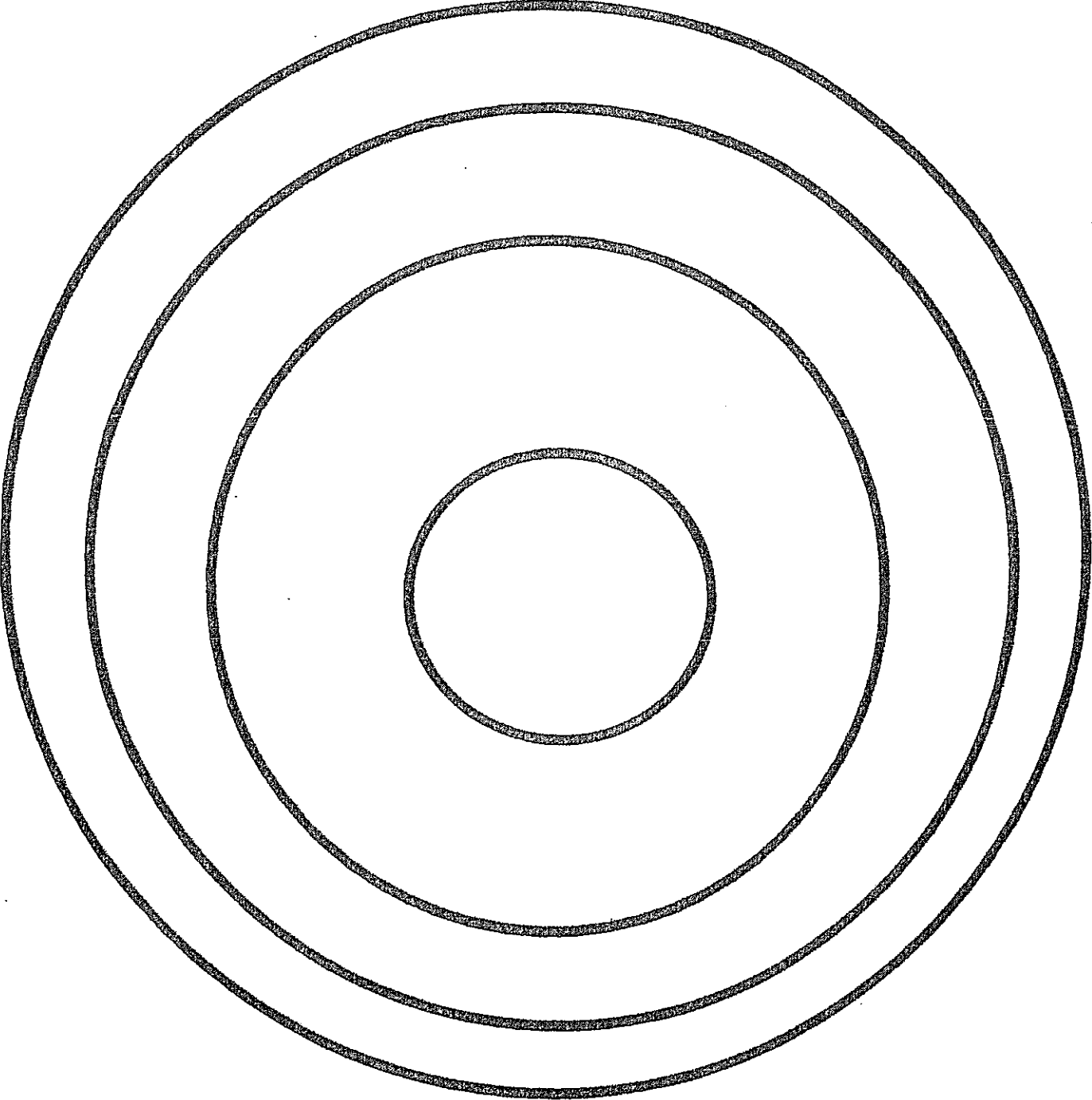
**LOOK TO THE NEXT PAGE FOR ANOTHER EXHIBIT IDEA FOR ACTIVITY 3!**



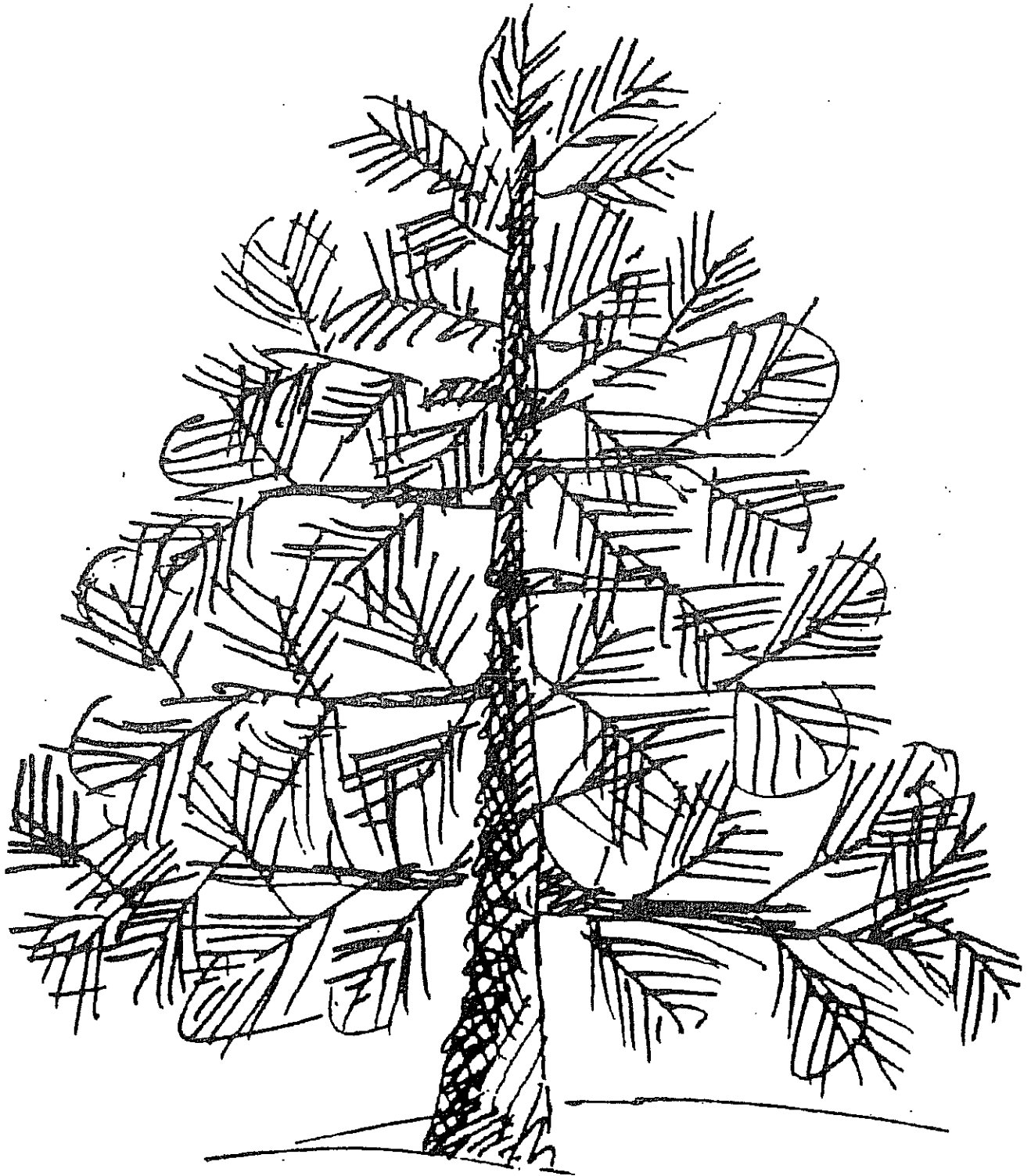
TREE RINGS FOR.....HOW OLD IS THAT TREE?



TREE RINGS FOR.....HOW OLD IS THAT TREE?



PINE TREE FOR.....HOW OLD IS THAT TREE?



### **3. MAKING A TREE JOURNAL: HOW OLD IS THAT TREE?**

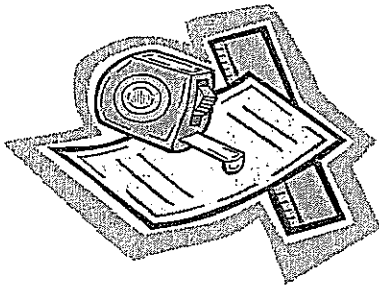
- A. Gather supplies: 2 pieces of construction paper
  - Stapler
  - Crayons or markers
  - Chalk
  - The 5 pages titled: MEASURING TO DETERMINE THE AGE OF A TREE
  - Tape measure
- B. Have an older helper help you measure around a mature tree. To find the right place to measure, measure up from the ground 5 feet. Make a chalk mark at 5'.
- C. Measure around the tree at this spot where you made the chalk mark.
- D. As you measure the five trees you've selected, complete the 5 pages titled: MEASURING TO DETERMINE THE AGE OF A TREE
- E. Use the crayons or markers to make a front cover from one of the pieces of construction paper for your tree journal.
- F. It's time to put your journal together! First, place the blank piece of construction paper on the table. Next, stack your 5 pages that you completed on top, face up. Finally, put your newly decorated front cover on top so that the decorated side is face up. Straighten the pages and staple on the left hand side like a book.

**GREAT JOB!!!**

# *MEASURING TO DETERMINE THE AGE OF A TREE*

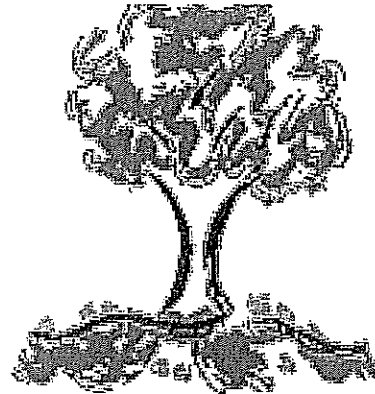
Where is the tree located? \_\_\_\_\_  
(Park, yard, grandma's, etc.)

What kind of tree is it? \_\_\_\_\_  
(Tulip, Maple, Oak, etc.)



How many inches is it around the  
tree? \_\_\_\_\_

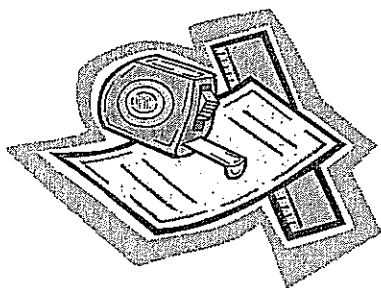
Approximately how old is the  
tree? \_\_\_\_\_



# *MEASURING TO DETERMINE THE AGE OF A TREE*

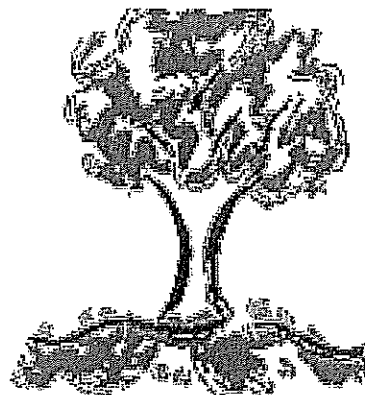
Where is the tree located? \_\_\_\_\_  
(Park, yard, grandma's, etc.)

What kind of tree is it? \_\_\_\_\_  
(Tulip, Maple, Oak, etc.)



How many inches is it around the  
tree? \_\_\_\_\_

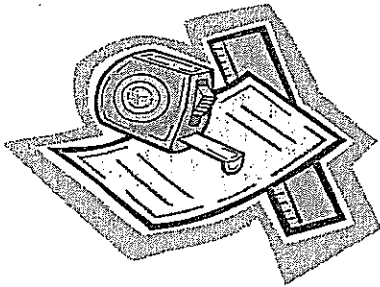
Approximately how old is the  
tree? \_\_\_\_\_



# *MEASURING TO DETERMINE THE AGE OF A TREE*

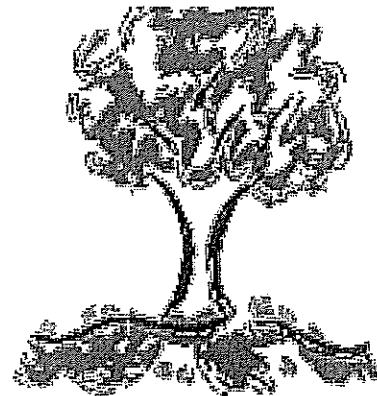
Where is the tree located? \_\_\_\_\_  
(Park, yard, grandma's, etc.)

What kind of tree is it? \_\_\_\_\_  
(Tulip, Maple, Oak, etc.)



How many inches is it around the  
tree? \_\_\_\_\_

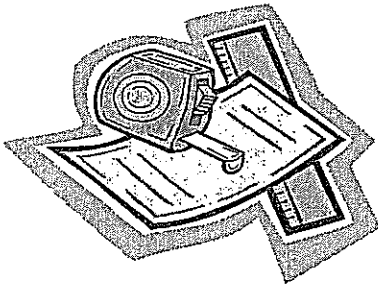
Approximately how old is the  
tree? \_\_\_\_\_



# *MEASURING TO DETERMINE THE AGE OF A TREE*

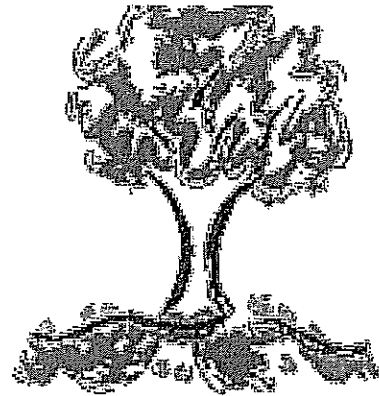
Where is the tree located? \_\_\_\_\_  
(Park, yard, grandma's, etc.)

What kind of tree is it? \_\_\_\_\_  
(Tulip, Maple, Oak, etc.)



How many inches is it around the  
tree? \_\_\_\_\_

Approximately how old is the  
tree? \_\_\_\_\_

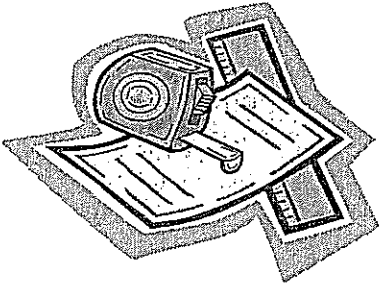




# *MEASURING TO DETERMINE THE AGE OF A TREE*

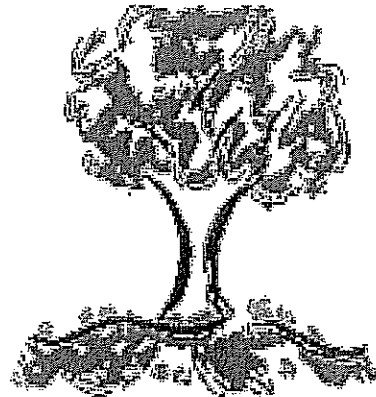
Where is the tree located? \_\_\_\_\_  
(Park, yard, grandma's, etc.)

What kind of tree is it? \_\_\_\_\_  
(Tulip, Maple, Oak, etc.)



How many inches is it around the  
tree? \_\_\_\_\_

Approximately how old is the  
tree? \_\_\_\_\_



## ACTIVITY 4: HOW TALL IS THAT TREE?

You will need a helper to do this activity.

On a sunny day, it is easy to figure out how tall a tree is! With a little help from an older helper (to help w/the math and measuring), you can do it, too!

First, measure how tall you are.

Your height \_\_\_\_\_

Next, standing in the sun, measure your shadow.

Your shadow's length \_\_\_\_\_

Now, measure the tree's shadow.

Tree's shadow \_\_\_\_\_

Your height x Tree's shadow

\_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

Divide answer above by your shadow length.

This will give you the height of the tree!

How tall was the tree? \_\_\_\_\_

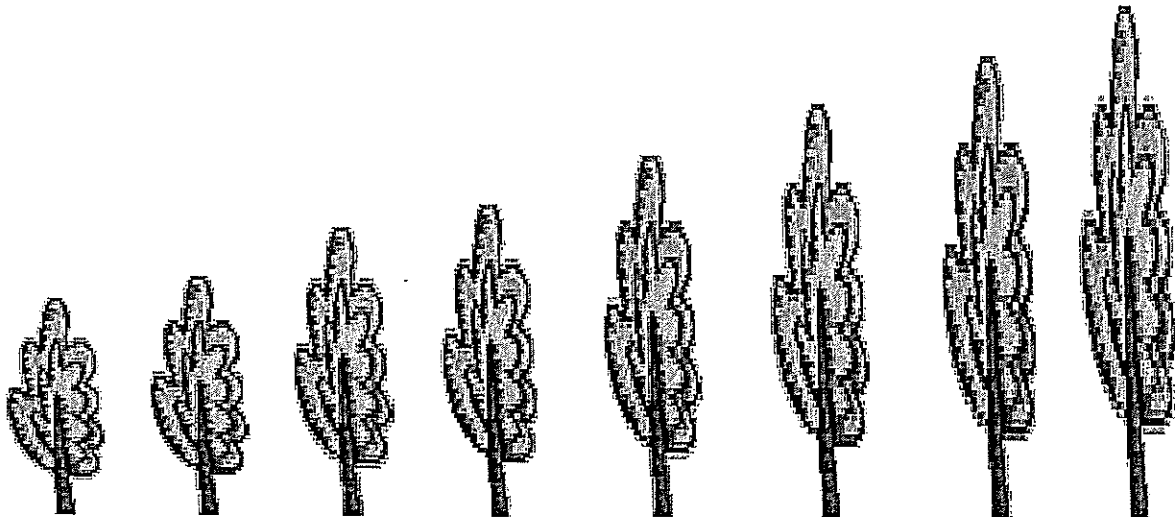


Exhibit Idea:

Make a Notebook

Supplies: Construction paper, 2 pieces  
Pages "How Tall Is That Tree?"  
Measuring Tape  
Pencil  
Calculator (optional)  
Stapler

- A. Using the directions in "How Tall Is That Tree?" , determine the height of at least five different trees.  
Extra pages have been provided.
- B. Remember that your shadow length and the tree's shadow length will be different at different times of the day.
- C. Put your pages together and set aside
- D. Use one piece of construction paper to make a front cover for your notebook. Put it on top of your work pages.
- E. Use the other piece of construction paper for the back cover. Put it on the bottom.
- F. Staple on the left hand side to make a book.

# HOW TALL IS THAT TREE?

On a sunny day, it is easy to figure out how tall a tree is!

First, measure how tall you are.

Your height \_\_\_\_\_

Next, standing in the sun, measure your shadow.

Your shadow's length \_\_\_\_\_

Now, measure the tree's shadow.

Tree's shadow \_\_\_\_\_

$$\begin{array}{r} \text{Your height} \quad \times \quad \text{Tree's shadow} \\ \text{_____} \quad \times \quad \text{_____} \quad = \quad \text{_____} \end{array}$$

Divide answer above by your shadow length.

This will give you the height of the tree!

How tall was the tree? \_\_\_\_\_

What kind of tree is it? \_\_\_\_\_

Where is it located? \_\_\_\_\_

Date measured: \_\_\_\_\_

# HOW TALL IS THAT TREE?

On a sunny day, it is easy to figure out how tall a tree is!

First, measure how tall you are.

Your height \_\_\_\_\_

Next, standing in the sun, measure your shadow.

Your shadow's length \_\_\_\_\_

Now, measure the tree's shadow.

Tree's shadow \_\_\_\_\_

$$\begin{array}{r} \text{Your height} \quad \times \quad \text{Tree's shadow} \\ \text{_____} \quad \times \quad \text{_____} = \text{_____} \end{array}$$

Divide answer above by your shadow length.

This will give you the height of the tree!

How tall was the tree? \_\_\_\_\_

What kind of tree is it? \_\_\_\_\_

Where is it located? \_\_\_\_\_

Date measured: \_\_\_\_\_

# HOW TALL IS THAT TREE?

On a sunny day, it is easy to figure out how tall a tree is!

First, measure how tall you are.

Your height \_\_\_\_\_

Next, standing in the sun, measure your shadow.

Your shadow's length \_\_\_\_\_

Now, measure the tree's shadow.

Tree's shadow \_\_\_\_\_

$$\begin{array}{r} \text{Your height} \quad \times \quad \text{Tree's shadow} \\ \hline \quad \quad \quad \times \quad \quad \quad = \quad \quad \quad \hline \end{array}$$

Divide answer above by your shadow length.

This will give you the height of the tree!

How tall was the tree? \_\_\_\_\_

What kind of tree is it? \_\_\_\_\_

Where is it located? \_\_\_\_\_

Date measured: \_\_\_\_\_

# HOW TALL IS THAT TREE?

On a sunny day, it is easy to figure out how tall a tree is!

First, measure how tall you are.

Your height \_\_\_\_\_

Next, standing in the sun, measure your shadow.

Your shadow's length \_\_\_\_\_

Now, measure the tree's shadow.

Tree's shadow \_\_\_\_\_

$$\begin{array}{r} \text{Your height} \quad \times \quad \text{Tree's shadow} \\ \text{_____} \quad \times \quad \text{_____} = \text{_____} \end{array}$$

Divide answer above by your shadow length.

This will give you the height of the tree!

How tall was the tree? \_\_\_\_\_

What kind of tree is it? \_\_\_\_\_

Where is it located? \_\_\_\_\_

Date measured: \_\_\_\_\_

# HOW TALL IS THAT TREE?

On a sunny day, it is easy to figure out how tall a tree is!

First, measure how tall you are.

Your height \_\_\_\_\_

Next, standing in the sun, measure your shadow.

Your shadow's length \_\_\_\_\_

Now, measure the tree's shadow.

Tree's shadow \_\_\_\_\_

$$\begin{array}{r} \text{Your height} \quad \times \quad \text{Tree's shadow} \\ \hline \quad \quad \quad \times \quad \quad \quad = \quad \quad \quad \hline \end{array}$$

Divide answer above by your shadow length.

This will give you the height of the tree!

How tall was the tree? \_\_\_\_\_

What kind of tree is it? \_\_\_\_\_

Where is it located? \_\_\_\_\_

Date measured: \_\_\_\_\_



## ACTIVITY 5:

# WOULD YOU BELIEVE IT COMES FROM TREES?

### CELLULOSE

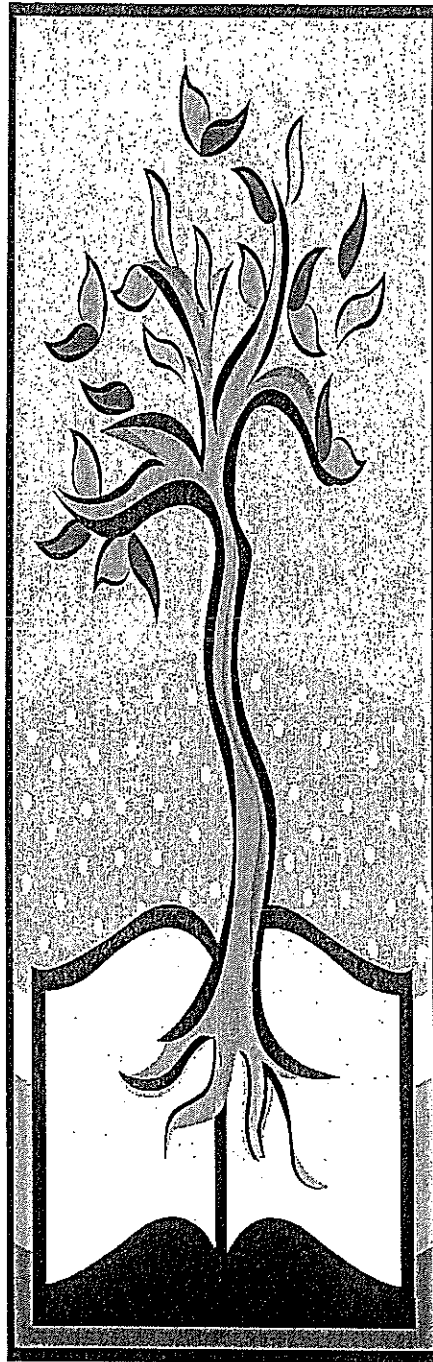
#### SAP

#### PRODUCTS:

- \*Carpeting
- \*Cellophane
- \*Rayon & other fabrics
- \*Thickening agent in shampoo
- \*Suntan Lotion
- \*Shatterproof Glass
- \*Cosmetics
- \*Paper products such as writing paper, books, magazines, toilet paper, newspaper, wrapping paper, building paper, industrial paper, wallpaper
- \*Fiber Board
- \*Imitation Leather
- \*Furniture

#### BARK PRODUCTS:

- \*Cork
- \*Tannin (used for curing leather)
- \*Dye
- \*Drugs & Oils



#### PRODUCTS:

- \*Cosmetics
- \*Paint Thinner
- \*Perfumes
- \*Soap
- \*Rubber products
- \*Sugar and Syrup
- \*Varnishes
- \*Waxes
- \*Chewing Gum
- \*Flavoring
- \*Printing Ink
- \*Shoe Polish
- \*Crayons
- \*Cleaning Fluids
- \*Electrical Insulation
- \*Adhesives
- \*Medicines

Many of the products listed aren't always or exclusively made from trees. However, they wouldn't be possible without trees!

EXHIBIT IDEA:

MAKE A COLLAGE

Supplies: Magazines (be sure to ask Mom/Dad if it's alright to cut pictures out of the magazines you've found)

Scissors

Rubber cement, glue, glue stick

14" x 22" posterboard

Markers

Directions:

- A. Be sure the posterboard is horizontal (sideways)
- B. Title your poster, Wood Products or maybe It Comes From a Tree!
- C. Find pictures in magazines of things that are made from a tree. If you need ideas, look at the list under activity 5. Cut out the pictures.
- D. Arrange your pictures on your posterboard. When you have your pictures arranged just like you want them, glue them down.

**GREAT JOB!!!**



