

Interpretive Program Outline

1: Name/park:	Chimney Rock State Park	2:Topic:	Trees
10: Program title:(this is last)	The Need for Trees		

3: Theme Statement: (complete sentence to summarize program and why important)

Trees are a renewable resource that are a major part of our ecosystem as well as our everyday lives.

4: Goal(s): (why you are doing the program)

To create an understanding of the tree life cycle and why trees are important.

9: Introduction: (grabs attention, states theme, explains how program is organized)

(Give the teachers a box filled with labeled planting cups. Have the teacher write the name or initials of the students on each cup. Have the teacher hand them out to the children immediately. When the activity is over the children will put their planted tree/cup back into the box and the teacher can sit it to the side and pick it up before they leave. The Ranger should have a bucket of seedlings placed in between each table. The seed box, the spray bottle with water, the soil box, a tree cookie, (optional leaf box), and the goods from the woods box, (optional rotting log) should be laid out on the table in front of each group of children).

Welcome to Chimney Rock State Park. I'm Ranger... and if you look around us you can see that we are surrounded by beautiful trees.

Chimney Rock has great forests made up of over 60 kinds of trees. Many of the trees that form the canopy are over 100 years old. Beneath this canopy, many other kinds of plants and animals live. Each type of tree provides a different use for animals and people.

How did the trees get here? How do they grow? Why do we need them? Today we will figure that out. Look at the items laying on the table in front of you.

5: Body: (your main points or subthemes – 4 or fewer recommended)

Tree Cycle Display

Just like trees, seeds come in different shapes and sizes. Reach into the seed box and everyone take out a seed. (talk about different kinds of seeds as the teacher is handing out the cups). Everyone take a small seed and put it in your cup. So what do seeds need to grow?

Look in your cup what do you see? A seed. What else? Nothing? No, there is sunlight in your cup along with carbon dioxide and oxygen. As you look around you may not really pay attention to it, but it is all around us. Breathe in with your lungs. You are breathing in oxygen. Breathe out into the cup. You are blowing out carbon dioxide. Stretch your hands to the sun, feel the warmth of the sunlight on your skin. Pull that warmth down and put it in the cup. Trees need both to grow. As you look towards the sky you may see something else that can help our trees grow. Clouds!

Moisture from rain is needed to help a seed grow. Pick up the spray bottle. Give 4 squirts into your cup. As you squirt say sun (squirt), air (squirt), water (squirt), grow! (squirt). Nothing is happening? Seeds need something else to grow. They need a place to grow. A place to spread their roots.

Interpretive Program Outline

That place is the land we see all around us. Reach in the soil box and feel the soil (optional soil material may be added, clay, rocks, etc.). The soil is home to all our seeds and plants. The soil contains all the nutrients the seed needs after it starts to grow. What is a nutrient? It is kind of like vitamins. Did you eat your vitamins this morning? Give your seed some vitamins and a place to take root. Put 4 pinches of soil in your cup.

With a place to grow, warmth, and water the seed will start to grow. What do they grow? Roots, branches, and leaves. They grow into seedlings. Everyone pick up your seedlings.

How Trees Grow Display

Look at the roots. Roots will reach into the soil. They gather nutrients and water and send them up to the trunk.

Look at the trunk. The trunk and the branches will emerge from the seed and push through the soil to reach for the sun. The roots send the nutrients and water up through the trunk and branches (by way of the Xylem) into the rest of the tree and into the leaves.

Look at the leaves. Once water and nutrients reach the end of the branches leaves will start to form. These green leaves will continue to help the plant make food and grow through the process of Photosynthesis (water and nutrients are combined with carbon dioxide and sunlight to make a sugary food called glucose). This food will be transported back down from the branches and the trunk back into the roots (by way of the Phloem).

Now let's go ahead and plant these seedlings. Put your seedling into the cup and pack soil around it. (Have the teacher take them up and put them in the box when they have finished).

Now look at the trees beside this shelter. For most tree species, when the seedling has reached 4 feet tall and up to 4 inches in diameter, it becomes a sapling.

Look to the trees behind the shelter and in the surrounding forest. Saplings officially become trees when their trunks are thicker than 4 inches in diameter at chest height.

Take a look at the tree cookie. See the dark and light rings. Each ring represents a season of growth. Spring growth is represented by the light rings and summer growth is represented by the dark rings. If you count the rings (either light or dark, not both) you will know how old this tree is. How old do you think the forest is around us?

Year after year the tree continues to grow leaves and produce seeds. These leaves and seeds fall to the forest floor to start this growing cycle all over again.

Leaves and seed are an important food source for many animals like the black bear, the white tailed deer, the wild turkey, song birds, insects, squirrels and other small mammals.

Not only do trees provide food, but they also provide a home or habitat for much of our wildlife. Many of these animal live in nests or hollowed out portions of these trees. Some burrow in the ground around their roots, while others use them to roost in or as shelter from the weather.

We use trees in a similar manner, but we've expanded on it a little bit. Look at the building above us. It is made of wood. We use it for shelter. Think about your home. It is made of wood. There are more than 5,000 wood and paper products that we use and enjoy every day. Look in the Goods from the Woods box (elaborate on each item).

Most trees will continue to grow until their death. Do you see any dead trees around us (or show optional rotten log). Sometimes, dead trees don't fall to the forest floor immediately. These trees, called snags, play an important role as habitat for animals in the forest. Fallen trees and snags slowly decompose, recycling valuable nutrients back into the soil. This rich soil helps seeds sprout, saplings survive and trees grow.

Interpretive Program Outline

6: Conclusion: (reinforce the theme and encourage future participation)

So look at the great forest that surround us. It is over 100 years old and there are more over 60 kinds of trees in it. Beneath these trees, many kinds of plants and animals live. This creates an important richly biodiverse area. Each type of tree provides a different use for animals and for people. What makes trees special is that they are a renewal resource. Unlike fossil fuels, metals, and plastics, wood can be harvested, used, regrown and harvested again and again in a never ending cycle. The forest service manages trees for people to use.

Our mission in North Carolina State Parks is to protect the states natural diversity through conservation and planned stewardship through education and recreation. Today over 6,000 acres of forests in Chimney Rock State Park have been protected as intact, naturally evolving ecosystems. Our educational programs as well as our recreational resources like our trails and facilities assist in our effort to promote protected stewardship of the land we love.

By being in the land we become a part of it and we are able to appreciate all that it does for us.

7: Audiovisuals: (make sure everyone can see and experience the props)

- Kids in Parks, Track Trail-The Need for Trees Handout
- Tree Cycle Display
- The Need to Know How Trees Grow Display
- Cardboard box about the size of a file box
- Planting cups with labels that tell kids how to plant seedlings
- Marker for teacher to write kids names or initials on the cups
- Seedlings with 5 gallon bucket to put them in (#/bucket?)
- 4 picnic tables-6 to 10 children per table
- 4 Totes of seeds-all kinds including bird seed
- 4 spray bottles with water in them
- 4 Totes with potting soil in them (optional clumps of clay and rock)
- 8 Tree cookies at least 2 per table
- 4 Totes of different kinds of leaves (optional)
- 4 Totes of the Goods from the Woods including laminated handout
- 4 Rotting logs (optional)

8: Audience Participation: (think of ways to include audience)

- Planting a tree to take home
- Tree factory
- Tree cookies
- Leaf rubbings
- Tree ID hike

Interpretive Program Outline

Promotional Description

Chimney Rock Management

We all know trees are important, but do we totally understand the roles they play in everyday life? Let our Park Specialist lead your class through an introduction to the life cycle of a tree, basic tree ID and impressive facts about our forest friends. At the end of the program, each student will have the opportunity to get their hands dirty and plant a small tree to take home.

Kids and kids-at-heart love the Great Woodland Adventure, where woodland creatures take the spotlight at 12 Discovery Stations along this rolling .6-mile winding trail. Grady the Groundhog, the Park's Animal Educator, illustrates how his forest friends live, including chipmunks, frogs, owls and butterflies. Try to jump as far as a spider, spot the salamanders or get in the shell of a turtle! Larger-than-life wood and metal sculptures by local crafters and artists bring the trail to life. Grady's Animal Discovery Den, home to live critters, is located next to the trailhead.

State Park Information

Natural Community Types

Natural communities are characterized by vegetation composition and appearance, assemblages of animals or other organisms, topography, substrate, hydrology, soil characteristics, or other non-living factors. Natural community types typically occupy subtly different environments that are the result of slight variations in substrate, topography, elevation, aspect, and moisture. The boundaries between community types are rarely distinct, and there is much heterogeneity along elevation and moisture gradients. The result is a constantly evolving vegetation mosaic across the landscape, and in order to efficiently articulate these boundaries, it is common for ecologists to classify community types based on the dominant canopy species. These ecological units are important because they house examples of unique species compositions and often rare species, they retain many important natural characteristics and ecosystem functions, and they are valuable indicators of a given area's biodiversity.

Chimney Rock Natural Area

Chimney Rock attraction and is one of the most scenic and ecologically significant sites in the park

This is an "A" ranked site and is considered to contain examples of natural communities, rare plant or animal populations, or other significant ecological features that are among the highest quality or best (top five or six) examples of their kind in the nation.

The northeast-facing domes support many rare species, and this site has 17 plant species and seven animal species that are state or federally listed. Notable species include the Peregrine falcon, green salamander, rock gnome lichen, and Biltmore sedge

It includes eight natural community types, including the very rare Montane Red Cedar-Hardwood Woodland. The park's namesake peak dominates this rugged site, and most of the steep, northeast and southeast-facing slopes contain good examples of Low Elevation Granitic Dome, mature Rich Cove Forest, and Acidic Cove Forest.

The Great Woodland Adventure Trail

Cove Forests (Rich and Acidic):

This community type contains extreme diversity, which is rare nation-wide, but common in the mountains of NC. They both are found on steep, sheltered slopes, often north-facing. Rich forests have a dense herb layer, while acidic forests have a rich shrub layer. Rich tends to be dominated by sweet birch, basswood, and cucumber tree, while acidic tends to be dominated by tulip poplars, red maples, and Canada hemlock.

Rich Cove Forest

Rich Cove Forest community types are widespread and abundant in the Southern Appalachians, and they typically occur in protected coves and slopes on low to moderate elevation sites, frequently with a north-facing aspect. The soils are generally rich, moisture is high, and biological diversity is correspondingly high. These forests are characterized by

Interpretive Program Outline

a diverse and lush herb layer and a closed canopy dominated by a diverse mixture of species, including sweet birch (*Betula lenta*), basswood (*Tilia americana*), and cucumber tree (*Magnolia fraseri*), among others. Rich Coves are one of the most species-diverse community types in eastern North America, especially for the number of tree and herb species that can occur in them.

Acidic Cove Forest

This community type is common in the mountainous regions of North Carolina and in sheltered sites at low to moderate elevations outside of the mountains. It often occurs in narrow rocky gorges, steep ravines, and sheltered valleys and slopes where it is generally moist and humid. These communities occur over more nutrient-poor soils than Rich Cove Forests, primarily due to the presence of relatively acidic soils.

List of Trees on the Trail and around the Meadows

Name:

Leaves/Needles

Seeds:

Bark:

Description:

Wildlife Use:

Human Use: