

**ACTIVITY DESCRIPTION:**

At this activity, students will be brought face to face with life in the forest. The students will learn about the ecosystem that lives at the base of the tree in a forest.

**MATERIALS**

2 large glasses or pails  
Parts of a tree poster  
Plastic bags for leaves (for needle trees and broadleaved trees)  
Deer antler  
Fox Fur  
Coyote Fur  
Grouse

**Make sure you have all items before the students arrive!**

**BEGIN THE ACTIVITY**

Leaves come in all different shapes and sizes. Some leaves are long and skinny like a pine needle, while other leaves are flat and wide like a maple leaf. Leaves are very important to trees and plants as they act as the surface where carbon dioxide and oxygen are exchanged.

In a human's body what organ has the same function as a leaf? **Wait for Answers**

Good, in humans our lungs act as the surface for the exchange of carbon dioxide and water.

Not only do leaves exchange gases with the atmosphere, but they also are the food factories for trees. Using sunlight as their energy source leaves use carbon dioxide from the air and water from their roots to produce a sugar that they can then use as food.

Does anyone know what this process is called? It starts with a p? **Wait for answers**

Good, this process is called Photosynthesis.

Leaves and our lungs exchange carbon dioxide and oxygen in the opposite direction. We breathe in oxygen and breathe out carbon dioxide. Leaves do the exact opposite; they breathe in carbon dioxide and break out oxygen.

What would happen if there were no trees or plants on earth? **Wait for answers**

Oxygen is released from tiny pores in the leaf called stomata. Water can also escape through these pores in a process called transpiration. This process is very similar to what happens when we get hot and begin to sweat. In one day, a large tree will release enough water vapour to produce 1300 Litres of water. This is enough water to provide one person 4 days worth of water. In a way, trees act like giant air conditioners. When it is hot out, the water vapour is released which cools the air and releases oxygen allowing us to breathe. Discuss how soil develops in a forest. – Trees, branches and leaves that have fallen are decomposed by fungi and animals into soil. That's why when you are taking a walk through the forest you need to make sure you don't take anything. Everything in the forest has a role; the dead stick on the ground may seem like a lot of fun however it is very important as it will provide nutrients and soil to the baby trees.

Discuss different types of soil. Organic soils come from fallen leaves and branches.

Inorganic soil comes from the breakdown of bedrock, sand and clay i.e. glacial deposits.



## Activity One

**Volunteers** - talk to waiting audience about what they like best about trees

## Activity Two

**Forestry Staff talk about the following:**

Tree Poster and the Tree

Using the Parts of a Tree poster, the maple sap line, and the tree talk about the following:

*Trees - Nature's Moisturizers*

One large tree can lift up to 100 gallons of water out of the ground and release it into the air in one day.

*Trees - Nature's Sponge*

Talk about and show students how soil and tree roots act as nature's sponge.

*Trees - CO<sub>2</sub> Reducers*

Trees can help reduce the greenhouse effect in two ways:

1. Trees directly absorb CO<sub>2</sub>- the primary greenhouse gas- from the atmosphere during photosynthesis.
2. Shade from trees can reduce air conditioning and energy use, which reduces the amount of CO<sub>2</sub> emitted by power generators
3. Each healthy tree can reduce air borne dust particles by as much as 7,000 particles per litre of air, thus a healthy tree is a free standing air conditioner and purifier.
4. You need about 500 full-sized trees to absorb the carbon dioxide produced by a typical car driven 20,000 km/year.

*Soil*

1. How soil is created in a Forest.

## Activity Three

Value of Forests - Wildlife and Human Health

Deer Game if time permits.



#### Activity Four

Self - directed nature forest walk

The group exits along the forest path to enjoy a peaceful walk through the Forest to other Water Festival activities

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#### WHAT HAVE WE LEARNED?

*The forest has an ecosystem and we shouldn't destroy it!*

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