

ecoMentors Lesson Plan Template: Helping kids explore the natural world! www.ecomentors.ca

Title: Trees and our Environment

Grade Level(s): 3-4

Time/Date:

School:

Teacher:

Contact Info:

Ontario Curriculum Connection: Life Systems – Growth and Changes in Plants.

Vocabulary: Words & Concepts your class may be learning, look these up yourself too!

Deciduous - Trees that shed leaves

Coniferous - Trees that produce cones

Native - Originally found in an area

Invasive - plants that invade regions

Species - A set of individuals having the same characteristics and given the same common name

Materials and Equipment: List these before and while you plan and revise so you're prepared.

Picture of a tree, with all the tree parts¹.

Pictures of trees and leaves (look these up in magazines, books or the internet)

Leaf Matching Worksheet (printed and cut out in advance; make 4 sets) and optionally also the Leaf Cards

Tree Spy observation sheet

What is your class accomplishing?: Learning & Activity Goals, Objectives

- **Understanding of tree identification throughout Southern Ontario**
- **Understanding the environmental benefits of trees**
- **Learn about the importance of plants not only as sources of food and shelter for people and animals, but as suppliers of the world's oxygen**
- **Describe ways how plants are important to other living things, and effects of humans on plants**

PROCEDURE

The Spark: Introductions, Demonstrations, Show and Tell, Topic Intro (Break the ice!) ~5-10min

*Hi everyone, today we are learning about trees. What is Canada's national tree? **Sugar Maple**. What is our national symbol? Maple leaf represented on the Canadian Flag. Can you introduce yourself and name a tree?*

Brainstorming, Getting ideas, Connecting ideas (assess their knowledge!) ~10-20min

What parts of trees do you know, and what are their functions? Show the class a picture of a tree (and the inside) and explain the terms **heartwood, sapwood, bark, branches, roots, fruits, leaves**. Write these words on the board with a short description of each, and their function, draw a picture if you'd like.

Opening Game:

Divide the class in 3 groups. Each group should act out a tree! Each student acts out a part of the tree with a certain function. The students must work together to form the entire tree! Make it a competition; what group can form the most correct tree in 10 minutes? Give each student a tree-part name, but do not tell them how to form the tree. Per team: 1 student = heartwood, 2 students = sapwood, 3 students = bark. Divide the remaining students to be branches, leaves, roots and fruits. *So now everyone of the team is part of the tree. You have 10 minutes to find the best way to build and act out the tree!* When the trees are built, ask each student: *What part of the tree are you and what is your function?* (The ideal tree would be: the heartwood student stands, surrounded by the 2 sapwood students, who are surrounded by the 3 bark students. The root students hold on to their feet, while lying on the floor. The branch students hold on to the wood and bark students and spread their other arm out, on which the fruit and leave students hold on to.)

*Does anyone know what the word species means? Can someone spell it? What are some tree species that we see in our community? **Oak, Elm, Evergreens,** What do these trees look like? What are some things that all these tree species have in common? **Trunk., make oxygen, roots, ...** What are some things that help us tell them apart from one another? **Some have leaves and some have cones, some have flowers, some bear fruit, some are big, some are small, leaves of all species are different.***

*What is the difference between an oak and an evergreen? Does anyone know what the word deciduous means? And what does coniferous means? Can you name some trees that are deciduous and some that are coniferous? What is the biggest difference between deciduous and coniferous trees? **Deciduous shed their leaves every year, coniferous trees keep their leaves all year.** Show the class pictures of coniferous and deciduous trees.*

Activity, Game, Exercise, Debate, Puzzles, Problem Solving, Role Play ~10-30mins

Matching Game:

Divide the class in 4 groups. Give every group a set of the leaf Matching worksheet cards. Explain to the class that they should match the picture of the leaves with the name of the tree. Make sure you can show the class pictures of the whole tree if they get it right! Check the website <http://www.cfl.scf.rncan.gc.ca/IMFEC-IDEFC/hosttrees/deciduous/index.html> for leaf and tree pictures.

After this exercise you can expand by handing out the leaf cards². Give each student a leaf card. Explain to the class that they should try to find other students with the same leaf card. However, they are not allowed to show their card to anyone or say the name of their tree. Instead, they have to describe the shape of the leaf or describe some characteristics of the tree. When they think they found someone with the same leaf, they should hold hands, but still not show their cards! After everyone has found a group, they should show their cards to each other and see if they indeed found others with the same tree.

Activity, Game, Exercise, Debate, Puzzles, Problem Solving, Role Play(Pt. II or Cont...) ~10-30mins

Importance of Trees: A short game³

Divide the class in half. *Today we will be playing a game to see which team can come up with the most reasons why trees are important for us. I will give each team a point for a reason.* Make two columns on the board and draw a small tree for each reason that the teams give. Teams do not receive a 'tree-point' for repeated answers (ex. Trees are used for furniture, not chairs, tables, beds, desks...).

Possible Answers (you can give hints to the students to get more reasons from them).

1. People use trees for houses, furniture, wood floors, paper, musical instruments, Christmas trees and kitchen utensils. We also use tree sap to make crayons, maple syrup, chewing gum, paint and soap. Tree bark is used to create dyes and medicine and we use the roots and leaves to make oils for medicine and makeup.
2. Trees provide jobs for the many people who make all these materials.
3. Trees also make our air and water clean by breathing in what we breathe out (CO₂) and breathing out what we breathe in (O₂). (Draw a picture if necessary)
4. Trees help to create rain by sucking up the water from the soil and letting it evaporate from the leaves into the air.
5. Tree roots also hold the soil in place so that it does not fall apart, this keeps the waterways cleaner.
6. Trees provide shade for our homes in summer and also block our homes from the cold winter wind.

Activity, Game, Exercise, Debate, Puzzles, Problem Solving, Role Play(Pt. II or Cont...) ~10-30mins

Tree Spy: What do trees do all day? Have the students go out in the same groups. Give each group a tree spy observation sheet. Take the class outside (talk about this with the teacher before giving the lesson!), each group picks a recorder. The group should watch a tree for 2 times 5 minutes. The recorder writes down all the activity that the tree is involved in. (e.g. building or birds building a nest.) Include the type of tree and location. Once back in the classroom, ask students to share their results. *Are there things happening that we can't see?*

Contingency, Plan B, extra game or activity ~5-10mins

Tree Collage: Split up the class into three groups. Students in the first group will draw or collect pictures (if there are magazines available in the classroom) concerning the relationship between trees and animals. The second group will focus on trees and people. The third group will be concerned with trees and the environment. When the pictures have been collected the groups should assemble them into three poster size collages with titles of their own choice.

Presentation of Findings ~5-15mins

Class regroups and each group present the activities of their tree.

Review, Conclusion and steps towards continued action ~5-10mins

What are some of the things that trees provide for us? What do trees do all day? Since trees play such an important to our lives, we have to protect them. How can you protect trees in your neighborhood? What is deciduous? What is Coniferous? How can we encourage/help people to protect and plant trees?

References

1. <http://www.dcnr.state.pa.us/forestry/commontr/treeparts.aspx> or <http://www.afaef.org/html/partsofreetree.html>
 2. http://www.naturedetectives.org.uk/resources/identification/cards_leaves.htm
 3. <http://www.borealforest.org/school/trees.htm>
- <http://www.cfl.scf.rncan.gc.ca/IMFEC-IDEFC/hosttrees/deciduous/index.html>

Great work ecoMentor! After use of Lesson Plan revise, add ideas and repeat!