



TREES FOR THE 21ST CENTURY ACTIVITIES AT A GLANCE

Introduction

The *Trees for the 21st Century Guide for Facilitators* is a set of science-based activities for children and youth ages 6-18. The activities are designed to be used by any adult working with children and youth and do not require prior training or knowledge; the package includes all the information required to teach and guide the children. Any materials listed are easy to find and are not cost-prohibitive. The Future of Life, Inc. developed this curriculum in pursuit of our mission to help protect the future on earth for all species by helping children and youth learn about and value the environment.

For All Grade Levels

Mentorship: Our *Trees for the 21st Century* program provides adult leaders with hands-on science-based activities to help young people learn about the importance of trees in the environment, how to plant and take care of trees, and share the information they have learned with others. This initiative aims to expand the world inventory of trees to protect and improve natural resources.

Tree Planting: Participants are introduced to container and bare root trees and the proper way of planting. As the children learn why and how to plant trees, activities reinforce the value and importance of ongoing care and encourage youth stewardship.

Grades K-1

My Own Mini-Forest: What keeps seeds growing and thriving? In this activity, youth will construct their own mini-forest and learn from predictions and observations.

A is for Apple: Participants imagine life over 200 years ago as they learn about the life and accomplishments of Johnny Appleseed, a skilled nurseryman who specialized in growing trees. Children taste a variety of apples and try out a delicious recipe. As they cook, they discuss the contribution of apples to nutrition.

Dancing Trees: Children observe trees and their environment on a nature walk and choose a favorite tree. They are asked to imagine how their favorite tree would move in nature and to make up a dance to express their imagination. This activity educates children about trees and fosters an increased respect and appreciation for all forms of life, especially trees.

Watch Those Beans Sprout: Participants learn the process of seed germination by planting lima beans in a portable see-through world. As the beans grow, children observe using a magnifying glass and can record results by drawing, writing or taking photographs of their plants.

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Grades 2-3

Tree Chain Game: What do water, soil, air, and space have in common? They are the components needed for tree germination. A game is provided for the children where they see the interdependent needs of a tree and the important role that each element plays.

My Terrarium Community: Participants create a miniature natural habitat and observe and examine the elements that seedlings need to survive. Children add soil decomposers and perform experiments.

Pen Pals: Why connect a child in New Hampshire with one in Arizona? This activity gives the opportunity to communicate with a pen pal from a state where the climate and type of trees are significantly different. Children share and compare trees that they admire and learn about trees from other parts of the country.

Wangari Maathai – Tree Planter and Nobel Peace Prize Winner

What do Wangari Maathai and every child have in common? They are both capable of joining others to make a powerful difference through tree planting. Wangari Maathai took action with the women of Africa to plant 30 million trees. Through hearing about Wangari's accomplishments, children gain an appreciation for the power of one person, the power of a group, and the immense "re-gifting" contributions made to the earth.

Four and More: Children become aware that their interactions with the earth matter as they learn and begin to practice the "4 R's of Reconsider, Reuse, Recycle, and Regift. As the students learn that their consumption of the earth's natural resources can be compared to a footprint they leave behind, they make a colorful sneaker planter to symbolize this concept when they teach others what they have learned.

Getting to Know Trees: Children learn the basics about trees including the structures that all trees have in common (roots, trunk, branches, leaves, stems, flowers, fruits), and what job each of these structures performs for trees. On a walk outdoors, participants compare the overall shape of different trees to common shapes that they recognize, and identify items that come from wood. For a lasting reminder, children plant a seed they can watch sprout a stem and roots in coming weeks.

Grades 4-5

From Beast to Beauty: "The difference between a weed and a desirable plant is an opinion." Imagine the satisfaction of removing invasive species from a local park, transforming these unwanted species into aesthetically pleasing and/or practical objects, and clearing a new space for trees to be planted! Through combined efforts, Beast can become Beauty. Children can help to organize and participate in a Beast to Beauty event in their community.

Sensing A Tree: Wearing blindfolds, children feel the textures of leaves, needles, and bark. Many guessing games can be created as they try to discern which tree they are connected

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to through touch. Using a recording device, children learn to listen to the outdoors and observe through sound.

Shape Poems: Youth try their hand at poetry as they brainstorm a list of “tree words” and creatively combine their words to create a word-tree. As the children create these poems, they are reinforcing some of the tree concepts. These poems can be shared and presented to others.

Peaceful Trees: Wangari Maathai encountered many conflicts along her tree-planting journey. Students focus on these conflicts described in the story of the “Peaceful Trees” and become aware of how Wangari dealt with these conflicts with non-violence. Children examine how the planting of trees created peace as families had pure water, rich soil, firewood, shade, and other gifts. They also practice how to resolve conflicts peacefully in their own lives.

Multiplier Effect: Creating a Forest: Many hands make light work. When one child asks another to plant a tree and that child asks two others to each plant a tree, you are on your way to a rapidly multiplying community of earth stewards who can “plant it forward” with passion and pleasure as they see the numbers rise and envision the trees planted.

Paper Makers Get Ready!: Step-by-step instructions are provided to recycle paper in this fun and productive activity! The paper that is created may be used to send notes to friends and family members.

Grades 6-8

Stream Detective: Gently down the stream? Not this time. Children observe stream habitat to see how they are used and impacted by humans. They determine whether the stream is polluted and how to impact water quality. Participants are encouraged to share their findings with a local government or community group to experience how their information can be directly useful to others.

Escape to the Riparian Zone: Through the help of guided imagery, children are able to experience a riparian zone. They think about and reflect on the importance of a riparian zone to wildlife and humans.

How Can I Be A Hummingbird? Wangari Maathai relates a story about a hummingbird who is ridiculed by the other animals when she wants to make a difference in the world. This touching story provides an excellent starting point for a discussion of earth stewardship – how this story not only relates to Wangari but to each student. Seemingly small efforts can produce great results. Children discuss what specific earth issues they would like to address.

Not Just Bark Deep: Students learn the difference between invasive and native plants by visiting a local nature area and removing invasive plants. After removing the plants, the students create sculptures with them. This activity also teaches children to identify community needs by researching where in the park the invasive plants need to be removed

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Scavenger Hunt: Ever hear of a sustainable scavenger hunt? If you joined this one, you would observe the process of recognizing and differentiating between non-renewable and renewable products. Are all products equally sustainable? Based on answers from participants, it may change choices you make when buying products.

Tree-mendous Trees: Scientists and mathematicians get ready! This is the time to do up-close calculations and measurements of trees including height, circumference, crown spread, type of tree, location, and maintenance. Lots to observe, figure out, and share with others as the calculations are made.

Grades 9-12

Carbon Footprint – One Step at a Time: Participants measure their personal carbon footprint and as a result, increase awareness and appreciation of quantifying carbon. They gather numbers from household bills, miles driven and flown etc. After studying their findings, they discuss actions to change outcome of calculations.

Trees as Habitats: Young people investigate the interrelatedness between trees and the creatures that inhabit them. They gather evidence about organisms that depend on trees, whether the tree is alive, partially alive, or dead.

My Personal Folktale: Youth familiarize themselves with folktales and myths that involve trees, using an extensive bibliography as their aid. By writing their own personal folktale, youth learn how to relate trees to their world in a creative way.

Designing a Smart House and Yard: Participants learn about ecosystem services by focusing on strategic tree planting to reduce the amount of energy a home needs. This lesson helps youth to become more aware of what the environment can do for us and to apply knowledge of smart building and design.

Tree Diversity – Exploring Field Identification of Woody Plant Leaves: Participants collect leaves from local trees to study and identify, and then they make their own tree leaf field guides. The construction of an original field guide offers the chance for young people to make detailed observations of the characteristics that distinguish different tree species. This activity gets participants to think about how to share information in a user-friendly format.

Tree Fruits and Dispersal Strategies: Many flowering plants and trees have evolved complex ways of distributing fruits and seeds in the environment. Youth study ways that trees disperse their seeds and test and modify methods. By observing what works it helps participants to understand the relationship between plants' reproductive strategies and species' survival.

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