

Roots to Fruit Apple Lesson



Grade Level: Adaptable for 2-5
Total Lesson Time: 45 minutes

Lesson Overview

Students are introduced to the connection between healthy soil and healthy foods through discussion, song, and role-play. Students also participate in an apple tasting that promotes development of descriptive vocabulary and includes a math connection that teaches data analysis and probability.

Objectives

Students will:

1. Identify sources of healthy food (WI.N.A; Social Studies D.4.3)
2. Know the nutritional quality of fresh fruits and vegetables (WI.N.B; Healthy Behaviors B.4.1, B.4.4)
3. Understand how nutrients flow from soil, to plants, to people (Science F.4.4)
4. Participate effectively in discussion (Language Arts C.4.3)
5. Develop descriptive vocabulary (Language Arts D.4.1, D.4.2)
6. Collect and analyze data (Math E.4.1, E.4.3)

Preparation

1. Wash apples
2. Students should wash or sanitize hands before tasting

Materials

Food (per class of 20):

4 each of 4 to 5 different varieties of apples to be sliced for tasting

Suggested local varieties: Ida Red, Russet, Black Twig, Snow, Cornish Gilliflower, Spitzenberg, King David, Spartan, Stayman Winesap

Growers know their apples best. Ask them to recommend apples that vary widely in flavor and appearance.

Supplies:

Knives
Cutting boards
Plates and napkins

Suggested Books

[Apples & The Seasons of Arnold's Apple Tree](#) by Gail Gibbons

[Pick Me an Apple! From Seed to Tree](#) by Shelly Rotner

[Apple Picking Time](#) by Michele Benoit Slawson

[How Do Apples Grow?](#) by Betsy Maestro

Wisconsin Homegrown Lunch is a joint project of:



REAP Food Group:
www.reapfoodgroup.org

UW-Madison Center for Integrated
Agricultural Systems: www.cias.wisc.edu



Procedure

Introduction

Gather students in a discussion circle. Ask students to share what they know about gardening and healthy food choices. As a warm-up, participants can play a name game in which everyone says their name and one healthy food that starts with the same letter as their first name. Next, open up for a brief discussion with guiding questions such as: What makes food healthy? Where do nutrients come from? Why do people need nutrients?

Build-a-Tree Activity (see below for adaptation suggestions)

**This activity is from Joseph Cornell, Sharing the Joy of Nature, (Nevada City: Dawn Publications), 1989.*

This role-play activity is designed to help students understand both the anatomy of trees and soil's role in providing us nutrients. Tell students that there are many parts to a tree and they will work together to learn about some of those parts. This activity requires some close physical contact, so students should be allowed to opt-out if they aren't comfortable with their role.

HEARTWOOD: Ask a few students to stand in the middle with their backs to each other. They represent the heartwood that is the core of the tree. They support the trunk and the branches. These students chant, "I am the heartwood."

ROOTS: Ask several students to sit or crouch down around the base of the heartwood facing out. You may have some students play the **TAPROOT**, which reaches deep into the ground for water and keeps the tree from blowing over. Others may play the **LATERAL ROOTS** by lying on their backs with their feet near the trunk. There are hundreds of lateral roots that extend out from the tree to collect water and nutrients. Students make a sucking noise as if they are pulling water up from the ground.

XYLEM (pronounced 'zy-lem'): Have about four students stand around the trunk without stepping on the roots. They represent the xylem, which pumps water from the roots all the way to the highest branches. Students chant "Xylem up!"

PHLOEM (pronounced 'flem'): Have more students stand around the trunk to represent the phloem, which distribute food made in the leaves to the rest of the tree. Students chant "Phloem down!"

BARK: Remaining students should stand around the tree with their arms out. They are the bark, which protects the tree from insects, weather, and other threats. Students chant, "Bark, Bark, Bark!"

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Name of Apple Varieties:				
Looks Like:				
Feels Like:				
Smells Like:				
Tastes Like:				
Sounds Like:				