

Mighty Oaks From Little Acorns

Background

Buds are on the trees all winter. When spring comes, tree buds become the leaves on the twigs and branches. Some buds become flowers. Warm sunlight and plenty of water helps the leaves and flowers open.

Flowers make seeds. Seeds drop to the ground. Water can carry the seeds away. Squirrels and other animals may bury the seeds. Wind will blow some seeds, while others will hitch rides by sticking to the fur of animals.

Oak trees are among the most common tree species found throughout the world and are found in nearly every forested region of the US. Twenty-one species have been reported in Oklahoma. The oak can grow well over 100 feet and has stout, wide-spreading limbs. The trunk and branches of the white oak grow much larger than those of the pin oak. The white oak's leaves are rounder and larger than those of the pin oak. Oak trees furnish more timber every year than any other hardwood tree.

All oak trees have acorns. The acorn on the white oak is oblong, and pin oak's acorn is roundish. Each sits in its own cup. The cups have scales.

An acorn can be carried by water or it may be carried away by a squirrel or pack rat and planted someplace where it will grow. A small root grows from the seed down into the soil. Then the stem and leaves grow above the soil. A baby tree is called a "seedling." When the stem gets hard it is called "wood."

Science/Math

1. In the fall, take students outdoors to gather acorns.
 - Read and discuss background.
 - Help students inspect the seeds, and discard any that are obviously damaged, moldy or wormy.
 - To store for later use, place in heavy plastic bags and refrigerate.
 - After a few days of storage, place acorns in a container of water. Discard those that float, and place back in storage.
 - Open bags periodically during storage.
 - About 30 days prior to sowing, place acorns in moist, well-drained sand and keep at a temperature of 32 to 41 degrees.
 - After about 30 days, check acorns to see if germination has begun (seed coat has broken and shoot development is occurring.)
 - If germination has started the acorns should be planted.
 - Help students fill quart milk cartons with the potting medium, and place two or three acorns in each milk carton.

P.A.S.S.

PRE-KINDERGARTEN

Life Science—3.1,2,3

KINDERGARTEN

Science Process—1.1

Life Science—2.1,2

Math Content—2.2

Visual Arts—1.2

GRADE 1

Science Process—1.1

Life Science—2.1

Math Process—1.2; 2.1;
4.4; 5.1

Math Content—4.1; 5.1ab

Reading—1.2

Writing—2.1; 3.5a,6

Oral Language—1.1

Visual Arts—3.2

GRADE 2

Science Process—1.1

Life Science—2.1

Math Process—1.2; 2.1;
4.4; 5.1

Math Content—4.1ab;
5.1a

Reading—5.3a

Writing—2.2; 3.5,6

Oral Language—1.1

Visual Arts—3.2

GRADE 3

Science Process—1.1

Life Science—2.1,2

Math Process—1.2; 2.1;
4.4; 5.1

Math Content—4.1ab;
5.1a

Writing—2.2; 3.5,6

Oral Language—1.1

Visual Arts—3.2

Materials

acorns

quart milk cartons

peat moss-based planting
medium

- Place milk cartons in a sunny, south-facing window.
 - Have students turn the plants daily to keep them from bending toward the light.
 - After a few weeks, have students remove one of the seedlings.
 - One month after germination, have students fertilize their plants with a diluted liquid house plant fertilizer.
 - If the acorns are germinated in December and January, they can grow indoors until March, when they should be moved to a sheltered location outdoors to harden off for about a week.
 - Students will measure seedlings using standard and metric rulers or nonstandard measures. Students will measure the seedlings at the same time of day every day for two weeks.
 - Students will graph their measurements by coloring in the appropriate area on a graph or using strips of colored paper.
 - Send seedlings home with students for planting, or make arrangements to plant some of the seedlings on the school yard.
 - Seedlings may remain in pots for a year but should be set out from spring to fall.
2. Using leaf rubbings from Visual Arts Activity 1 below, students will compare rubbings from different kinds of trees.
 - Have students list properties.
 - Have students group and classify the collected data.
 3. Students use online search engines or library resources to research trees that grow well in Oklahoma.
 - Students will each select two of the trees they have researched and then classify them as “deciduous” or “evergreen.”

Language Arts

1. Hand out Student Worksheet A.
 - Discuss the pictures and what they represent.
 - Students will cut out the pictures and place them in the proper order.
 - Students will write the appropriate numbers in the squares provided.
 - Students will staple the pictures together to make a book.
2. Hand out Worksheets B, C, and D.
 - Read the following dictation sentences. Students will write the sentences under the appropriate pictures on the worksheets.
 1. The acorn is the seed of an oak tree.
 2. A small root grows down into the soil.
 3. A baby tree is called a “seedling.”
 4. A hard stem is called “wood.”
 5. An oak tree can grow 100 feet tall.
 - Students will cut out the pictures and staple them together to make books.
3. Hand out Student Worksheet E.

Students will write a short story about acorns and oaks.

Visual Arts

1. Make bark and leaf rubbings.
 - Have students collect bark and leaves from several different kinds of trees and bring them to class.
 - Pass out white typing paper.
 - Have students place their specimens underneath the paper.
 - Tear the wrappers off some crayons and show students how to rub the crayons over the white paper to pick up the patterns from the bark and leaves.
2. Have students draw four different versions of the same tree, showing how it changes from season to season.

Extra Reading

Berger, Carin, *The Little Yellow Leaf*, Greenwillow, 2008.
Leavell, Chuck, and Nicholas Cravotta, *The Tree Farmer*, VSP, 2005.
Marshall, Pam, *From Tree to Paper*, Lerner, 2002.
Muldrow, Diane, and Bob Staake, *We Planted a Tree*, Golden, 2010.
Purmell, Ann, *Christmas Tree Farm*, Holiday House, 2006.

Just for Fun: Broccoli Trees

(per five students)

- 1/4 cup light sour cream
 - 1/3 cup mayonnaise
 - 1/2 teaspoon sugar
 - 1 tablespoon lemon juice
 - 1 tablespoon finely chopped fresh spinach, basil or other fresh or dried herb
 - 4 carrots
 - 3 cups broccoli florets
 - paper plates
1. Prepare a dip by combining the sour cream, mayo, lemon juice and spinach or herb in a medium size mixing bowl.
 2. To make the trees, cut each carrot in half widthwise and then lengthwise into four pieces.
 3. Assemble the trees on the plates by laying three carrot pieces side by side for a trunk and placing the broccoli florets to look like leaves. Spread dip under the trunks to serve as the forest floor.

Vocabulary

acorn—the roundish one-seeded thin-shelled nut of an oak tree usually having a woody cap

branch—a natural division of a plant stem (as a bough growing from a trunk or twig from a bough)

bud—a small growth at the tip or on the side of a plant stem that later develops into a flower, leaf, or new shoot

flower—a shoot of a higher plant that is specialized for reproduction and bears modified leaves (as petals)

leaves—one of the green usually flat parts that grow from a stem or twig of a plant and that function mainly in making food by photosynthesis

oak—any of various trees or shrubs closely related to the beeches and chestnuts and producing acorns

seed—a fertilized ripened ovule of a flowering plant that contains an embryo and is capable of producing a new plant; also : a plant structure (as a spore or small dry fruit) capable of producing a new plant

seedling—a tree before it becomes a sapling

timber—growing trees or their wood

tree—a woody plant that lives for years and has a usually single tall main stem with few or no branches on its lower part


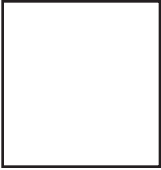
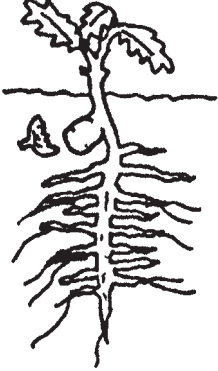

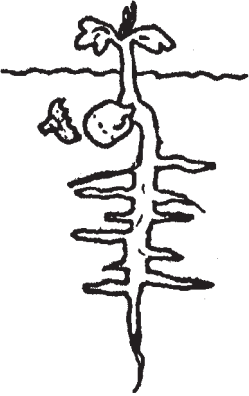
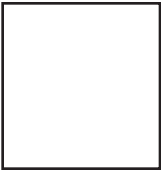
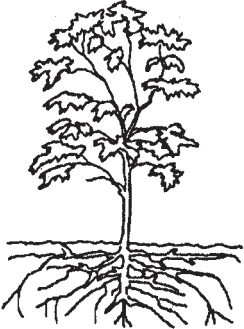

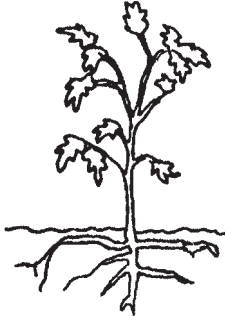
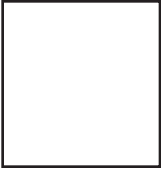
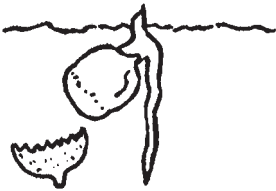

trunk—the main stem of a tree apart from branches or roots

twig—a small shoot or branch usually without its leaves

wood—a hard fibrous substance that is basically xylem and makes up the greater part of the stems, branches, and roots of trees or shrubs beneath the bark

Name _____

Mighty Oaks From Little Acorns A

Cut out these pictures and put them in the correct order. Number them from one to six.

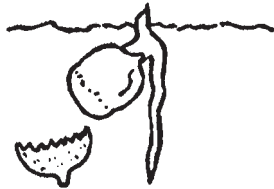
Name _____

Mighty Oaks From Little Acorns B

Write the sentences under the pictures as your teacher reads them to you.



1.



2.

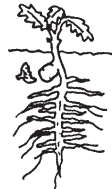
Name _____

Mighty Oaks From Little Acorns C

Write the sentences under the pictures as your teacher reads them to you.



3.

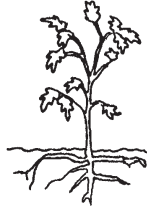


4.

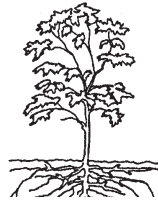
Name _____

Mighty Oaks From Little Acorns D

Write the sentences under the pictures as your teacher reads them to you.



5.

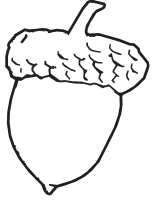


6.

Name _____

Mighty Oaks From Little Acorns E

Write a story telling how the acorn became a tree.



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