Meet the World's Tallest Tree: The Coast Redwood

Tall

Many redwood trees are over 360 feet tall. That's taller than a 30-story skyscraper.

Wide

They're nearly 30 feet wide. That's as wide as a volleyball court.

Only Here

These trees only grow in one place in the world—near the coast of northern California and southern Oregon.

High Home

Needles, bark, and leaves from other trees collect on redwood tree branches. After time, they become mats of spongy humus.

These mats are like gardens in the sky. They allow many plants and animals that live on the ground to also live up high in the treetops.

Ancient

They can be more than 2,000 years old.

Needles

The flat needles of a redwood are its leaves.

Bark

The bark protects the tree from fire and insects. In some spots, the bark may be up to one-foot thick.

Thirsty

Each day a large redwood tree moves hundreds of gallons of water from its roots to its crown.

Roots

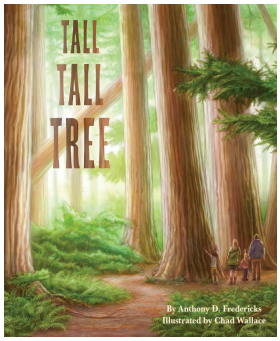
The roots spread out more than 50 feet from the trunk. Redwood trees living in a grove intertwine their roots. This helps them stand strong against powerful winds.

Activity based on the book *Tall Tall Tree* by Anthony Fredericks

Adding Up the Animals

Introduction

In the book *Tall Tall Tree*, children are introduced to ten animals that live in and around a Coast Redwood. Each of the animals is associated with a number, 1 to 10. In this lesson, children use bookmarks to practice adding numbers that equal ten. (grades preK-)



Materials

- The book *Tall Tall Tree*
- Bookmarks, free download www.dawnpub/activities

Procedure

1. Teacher Prep: Print and cut bookmarks to create a set of cards. Depending on the size of your class, you may want to make more than one set.

2. Read aloud *Tall Tall Tree*, counting the number of animals on each page. Then play an adding game using the bookmarks. The object of the game is for students to find cards that equal the number 10.

3. Place the cards face down. Have Student A draw a card and identify the animal and the number. For very young children, you may want to show the corresponding page in the book so that they may actually count the individual animals. Then have Student B draw a card and identify the animal and the number. Write the equation on the board. If the number of babies adds up to 10, begin a new round. For example: If Student A drew "salamanders 3" and Student B drew "bees7," you would write the equation 3 + 7 = 10 on the board. Because the total was "10," begin a new round with two new students.

4. However, if Student B drew "owls 2," the equation is 3 + 2 =5. Since the cards do not add up to 10, the "goats 2" card is placed face down. Choose Student C to draw a card. Different students continue to choose cards until the equation equals 10. VARIATIONS: Young children may not write the equations; they would simply count the animals. Older children may use three or more numbers for an equation adding up to 20.

5. Continue playing new rounds until all students have had a turn.

Standards Alignment

Next Generation Science (DCI K-3)

Life Science
LS1 From Molecules to Organisms: Structures and Processes

Common Core (Math K-2)

Content: K.OA.A.4; 1.OA.D.7; 2.OA.B.2

Guided Reading

Introduction

Tall Tall Tree is an engaging book to read aloud. Use these suggestions to extend the content of the story. As with any lesson plan, please feel free to modify and adapt this design according to the needs of your students and your classroom reading/science program. Also, consider this plan as a blueprint for the design and delivery of your own guided reading lessons with a variety of other tree-related materials.

Materials

- *Tall Tall Tree* - 1 copy
- White board and markers

Procedure

1. Before reading the book to a group of students share the letter (from the Northern Spotted Owl) at the beginning of the book. Afterward, invite students to make some predictions about the story. What do they think they will discover in the story? What kinds of animals might appear? Take a few minutes to discuss and share all predictions.
2. Invite students to participate in a K-W-L activity. Ask students to talk about what they already know about trees. Write this information in the "K" section of a K-W-L chart. Encourage students to categorize the information they have volunteered. Students may wish to create a semantic web of this data. Invite students to make predictions about the types of information the book will contain. Write these predictions on a chalkboard or large sheet of newsprint. Ask students to generate their own questions about the book. These can be discussed and recorded in the "W" – What we want to find out – section of the chart.
3. Read the book out loud to students. Have then guess the word that is missing from the end of the stanza to complete the rhyme—one, two, three, and so on.
4. Record any answers to their questions. Students may wish to do this individually or in pairs.
5. Upon completion of the book, provide students with an opportunity to discuss the information learned and how that data relates to their prior knowledge. Talk about questions posed for which no information was found in the book. Help students discover other sources for satisfying their inquiries.

Optional: Invite students to select one or more of the following:

- Invite students to imagine that they are in an ancient forest. What types of organisms (plants and animals) might they see? Invite students to assemble a "forest book" that could be distributed to other classes in the school.
- Invite small groups of students to each assemble an almanac of tree species—particularly old trees—found in the United States. Students may wish to assemble descriptions of the ten tallest trees in the U.S., or they may wish to develop a booklet of forested areas within the country or their own state. Make these available for sharing in the school library.

- Invite students to post an oversized map of the United States on one wall of the classroom. Ask them to research major tree species (redwoods, sequoias, aspens) throughout the country. Ask students to write a brief description of each tree species on an index card and then post each card around the perimeter of the map. Push a pin in the location(s) of the tree and string a length of yarn from the tree location to its appropriate index card. What do students notice about the locations of certain species? What kinds of trees predominate?

Standards Alignment

Next Generation Science Standards (DCI: K-2)

Life Science

- LS1.A - Structure and Function
- LS1.C - Organization for Matter and Energy Flow in Organisms
- LS2.A - Interdependent Relationships in Ecosystems
- LS4.D - Biodiversity and Humans

Common Core, ELA (K-2)

Reading: Informational Text

- *Craft and Structure*: K.5, 1.5, 2.5
- *Integration of Knowledge and Ideas*: K.7, 1.7, 2.7

Higher and Higher

Introduction

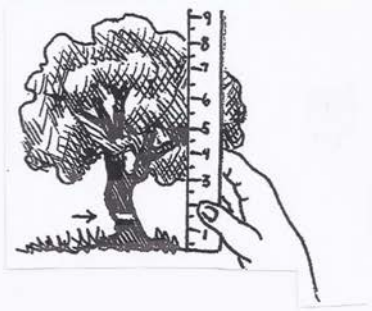
Here's a fascinating activity that allows you and children to measure the height of a tree without having to climb to the top of that tree. You can demonstrate the entire activity by yourself or invite several children to work with you.

Materials

- *Tall Tall Tree* - 1 copy
- Yardstick
- Strip of white paper (1" x 4")
- Paper and pencil (for calculations)

Procedure

1. Locate a tall tree.
2. Have someone measure your height (with a yardstick).
3. Take a strip of white paper (about 1" x 4") and pin it to the tree at your height.
4. Walk backwards - away from the tree, holding the yardstick at arm's length, until the strip is level with the 1" mark on the yardstick.
5. Note where the treetop reaches on the inch scale on the yardstick.
6. Multiply that height by your height and you'll have the approximate height of the tree.
   NOTE: This activity works equally well for both tall people as well as short people.



EXAMPLE: Your height is 64 inches. Distance sighted on the yardstick from base of tree to top is 9 inches.

64 times 9 = 576 inches
(or 48 feet)
The tree is 48 feet high.

7. Repeat the activity several times with different trees and different human subjects.

Next Generation Science Standards (DCI; K-2)

Life Science

- LS1.A - Structure and Function
- LS2.A - Interdependent Relationships in Ecosystems
- LS4.d - Biodiversity and Humans

Common Core, ELA (K-2)

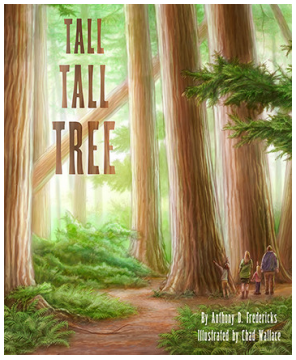
Measurement and Data

- *Measure lengths indirectly and by iterating length units*: K.MDA.1, K.MDA.2, 1.MDA.1, 1.MDA.2, 2MDA.1, 2MDA.2
- *Represent and Interpret Data*: K.MD.C.4, 1.MD.C.4, 2.MD.C.4

Leaf It to Me

Introduction

This lesson may be used over a two-day period as an introduction to an entire unit about trees. The lesson begins by connecting children to nature with an outdoor experience, followed by several activities in the classroom that give children practice in identifying the similarities and differences in leaves from two types of trees—coniferous and broadleaf.



Materials

- *Tall Tall Tree* book—1 copy
- Variety of leaves—either collected by teacher before the lesson, or collected by students during the lesson. Additional photos of more leaves, including needles and leaves from a broadleaf tree.
- Handout: "Meet the World's Tallest Tree" (free download: dawnpub.com/activity/tall-tall-tree-activities/)—1 per student
- Plain white paper, crayons, pencils—several per student

Procedure

1. Read *Tall Tall Tree*. Pass out the handout of "Meet the World's Tallest Tree" from the Explore More for Kids section of the book.
2. Discuss the parts of the redwood, pointing out the parts that are common to all trees: roots, trunk, branches, and leaves. Discuss how each of these parts helps a tree grow and survive.
3. Have students notice the branches and needles of the redwood by looking closely at the book's front cover, #2, and #10. Each illustration offers an increasingly closer view of the redwood's needles. Ask them how needles are different from other leaves they've seen. Explain that It may not seem like it, but needles are leaves. They do the same job that broad leaves do—capture sunlight, "inhale" carbon dioxide, and "exhale" oxygen—providing the tree with food and air for us to breath.
4. Have students work in pairs to 5-6 leaves from trees in the school yard. Before going outside establish proper outdoor etiquette and how to sensitively collect leaves from a tree.
5. Once back in the classroom, ask students to sort their leaves into two categories—needle and broadleaf. Discuss the similarities and differences as a class and have students create a Venn diagram. Provide additional information for each type of trees, including explanations about coniferous producing cones and broadleaf trees being deciduous.
6. Use a tree identification guide to identify the name of each tree that the leaves belong to. Discuss why these trees grow in your area. Are there any redwoods. Discuss why or why not.
7. Conclude the lesson by making leaf rubbings on the white paper, having students notice the variety of the vein networks that different leaves have.

Standards Alignment

Next Generation Science Standards (DCI: K-2)

Life Science

- LS1.A—Structure and Function
- LS1.C—Organization for Matter and Energy Flow in Organisms
- LS2.A—Interdependent Relationships in Ecosystems
- LS4.D—Biodiversity and Humans

Common Core, ELA (K-2)

Reading: Informational Text

- *Craft and Structure:* K.5, 1.5, 2.5
- *Integration of Knowledge and Ideas:* K.7, 1.7, 2.7

Picture This

Introduction

Enhancing students' listening abilities can be accomplished through the use of mental imagery activities. Mental imagery is the creation of pictures in the listener's mind before, during, or immediately after the sharing of a book or story. There is convincing data supporting the notion that when children are provided with systematic mental imaging sessions their reading and listening comprehension levels flourish and their personal involvement in the dynamics of all the language arts increases dramatically.

Materials

- *Tall Tall Tree* book - 1 copy
- Sample mental imagery script (see below)
- Plain white paper, crayons, pencils - several per student

Procedure

1. Show the cover of *Tall Tall Tree* to students. Talk about the illustration. What do they see in the picture? Invite them to think about the animals that aren't in the picture, but may live up in the tree.
2. Inform students that you will be asking them to close their eyes and to create pictures in their own minds. Inform them that there is no such thing as a right or wrong image. Let them know that each person's image will be different and unique. No two people will create the same image.
3. Invite students to close their eyes. Lead them through the sample mental imagery activity as outlined on the attachment.
4. Afterwards, provide students with adequate time to discuss their images in whole class, small group, or one-on-one situations. The object is not to have everyone arrive at a "correct" image, but rather to encourage sharing of ideas and perceptions in a supportive environment.
5. You can stimulate image creation through a series of open-ended statements or questions. Queries, such as the following, can assist children in the development and elaboration of their mental images:
   - "Tell me more about your image."
   - "Please describe your mind picture in more detail."
   - "What other items do you see in your mind?"
   - "Tell us more. What does it look like?"
   - "Are there other details which could be part of your 'picture'?"
6. Invite children to create a pictorial representation of their individual images using the crayons or colored pencils. Provide an opportunity for children to share their pictures with each other.
7. Read the book to children. Afterwards invite children to discuss any similarities between their images and the illustrations in the book. Please note that the object is not to have children "match" those illustrations, but rather to think about what could be in a book before actually reading that book.

Mental Imagery Script

Following is an example of a mental imagery activity which can be used with primary age students. Note that the intent is to provide children with an authentic opportunity to listen, formulate mental images, and use those images as a prelude to a read-aloud of the book *Tall Tall Tree*. Read each of the statements slowly to students. Take time to pause between each of the statements (5-7 seconds) to allow children sufficient opportunity to create their own personal image(s).

You will also note the opportunities here for students to extend this listening sequence into a host of other language arts activities such as journal writing, story creation, storytelling, related children's literature, and oral presentations.

Sit on the floor and relax

Close your eyes and imagine yourself in a forest.
Imagine yourself in a forest with lots of tall trees all around.
Focus on one of the trees
Look at its bark
Imagine yourself touching the bark
What does the bark feel like?
Look up into the branches of the tree.
What do you see?
What animals might be up in the branches of the tree?
How many are there?
What are they doing in in the branches?
Listen to a bird up in the branches
What does the bird look like?
What is the bird doing up in the branches?
Look for another animal up in the branches?
What kind of animal is it?
What does it look like?
What is it doing?
Now, see yourself returning to the classroom
When I count to five slowly open your eyes
Take a few minutes to share your mind picture with a classmate

Standards Alignment

Common Core, ELA (K-2)

Reading Informational Text

- *Craft and Structure:* K.6, 1.6, 2.6
- *Integration of Knowledge and Ideas:* K.7, 1.7, 2.7

Tall Tall Tree

By Anthony D. Fredericks

Illustrated by Chad Wallace

www.dawnpub.com

1

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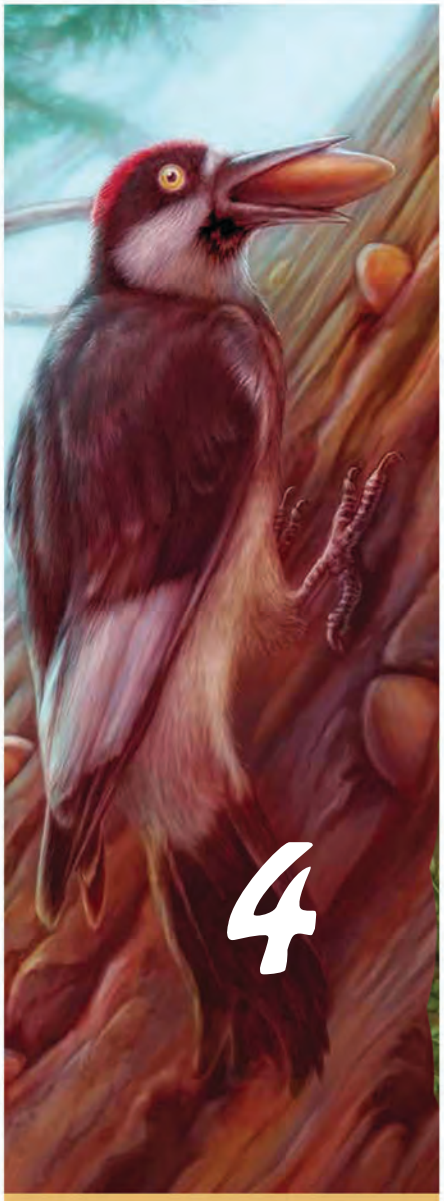

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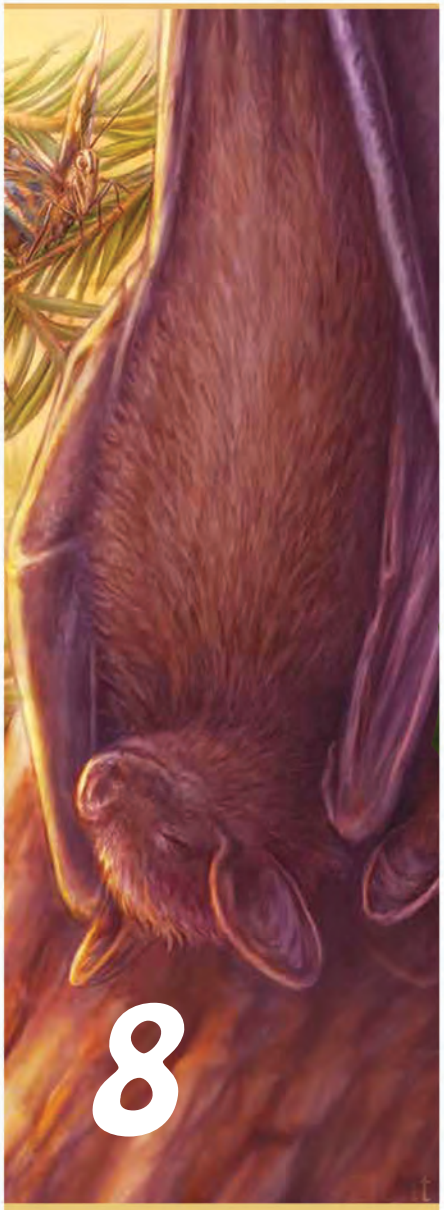

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