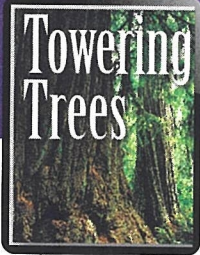
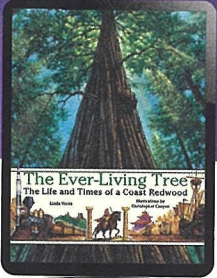


Lesson 23



Q LANGUAGE DETECTIVE

Talk About the Writer's Words

Work with a partner. Choose two Vocabulary words. Use them in the same sentence. Share your sentences with the class.

Vocabulary in Context

1 resources

Trees and forests are among the earth's valuable **resources**, or supplies.



2 dense

Roots grow from a banyan tree's branches like a thick, **dense** forest.



3 evaporate

The broad leaves of some trees let water **evaporate** easily into the air.



4 shallow

Some trees have **shallow** roots. The roots don't go deep into the ground.



- ▶ Study each **Context Card**.
- ▶ Use context clues to determine the meanings of these words.

5 **moisture**

Over half the world's species live in rain forests, helped by the **moisture**, or wetness.



6 **civilized**

Most **civilized**, or advanced, cities set aside places for trees to grow.



7 **continent**

The **continent** of North America has the world's tallest trees, coast redwoods.



8 **opportunities**

A forest offers many **opportunities**, or chances, for a career or volunteer work.



9 **customs**

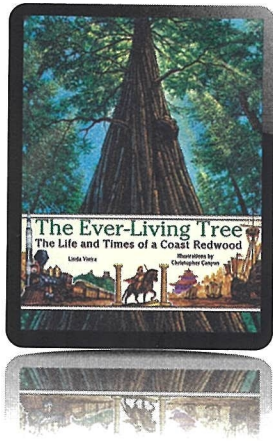
Some human **customs**, such as the practice of clearing trees, are ruining many forests.



10 **independent**

People cannot be **independent** from trees. We need the oxygen trees provide.





Read and Comprehend

✓ TARGET SKILL

Text and Graphic Features As you read “The Ever-Living Tree,” notice the **text and graphic features** in the selection. These features include icons, timelines, maps, diagrams, and italic type. A graphic feature often adds to information in the text. When you come to a text or graphic feature, ask yourself, *How does this help me understand the text? How does it add to my understanding of the topic?* Use a graphic organizer like the one below to list each text and graphic feature and tell what information it gives.

Text or Graphic Feature	Page Number	Information

✓ TARGET STRATEGY

Monitor/Clarify “The Ever-Living Tree” covers a number of centuries and switches between natural and human history. As you read, **monitor** your comprehension of the events and the passage of time in the selection. If you don’t understand something, pause to **clarify**, or clear up, your confusion.

PREVIEW THE TOPIC

Life Cycles

Every living thing has a life cycle. A tree's life cycle starts when a seed sprouts and a seedling, or tiny tree, begins to grow.

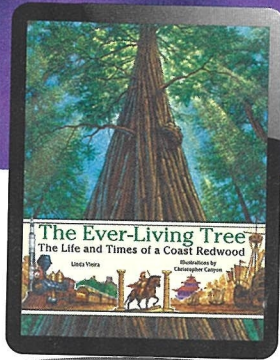
"The Ever-Living Tree" tells the story of a coast redwood's life cycle. Coast redwoods, native to California, are among Earth's oldest and tallest living things. As you read this selection, you'll find out how long a coast redwood can live and what it must survive in order to become a "living giant."



Think Write Pair Share

Think about a time when you grew something. What kind of plant was it? Was it hard to get the plant to grow? What did you have to do? Write a paragraph describing your experience. Then, share your paragraph with a partner.

ANCHOR TEXT



✓ GENRE

Informational text gives facts and examples about a topic. As you read, look for:

- ▶ headings that begin sections of related information
- ▶ graphics to help explain the topic, such as maps, diagrams, charts, or icons
- ▶ text structure—the ways the ideas and information are organized

MEET THE AUTHOR

Linda Vieira



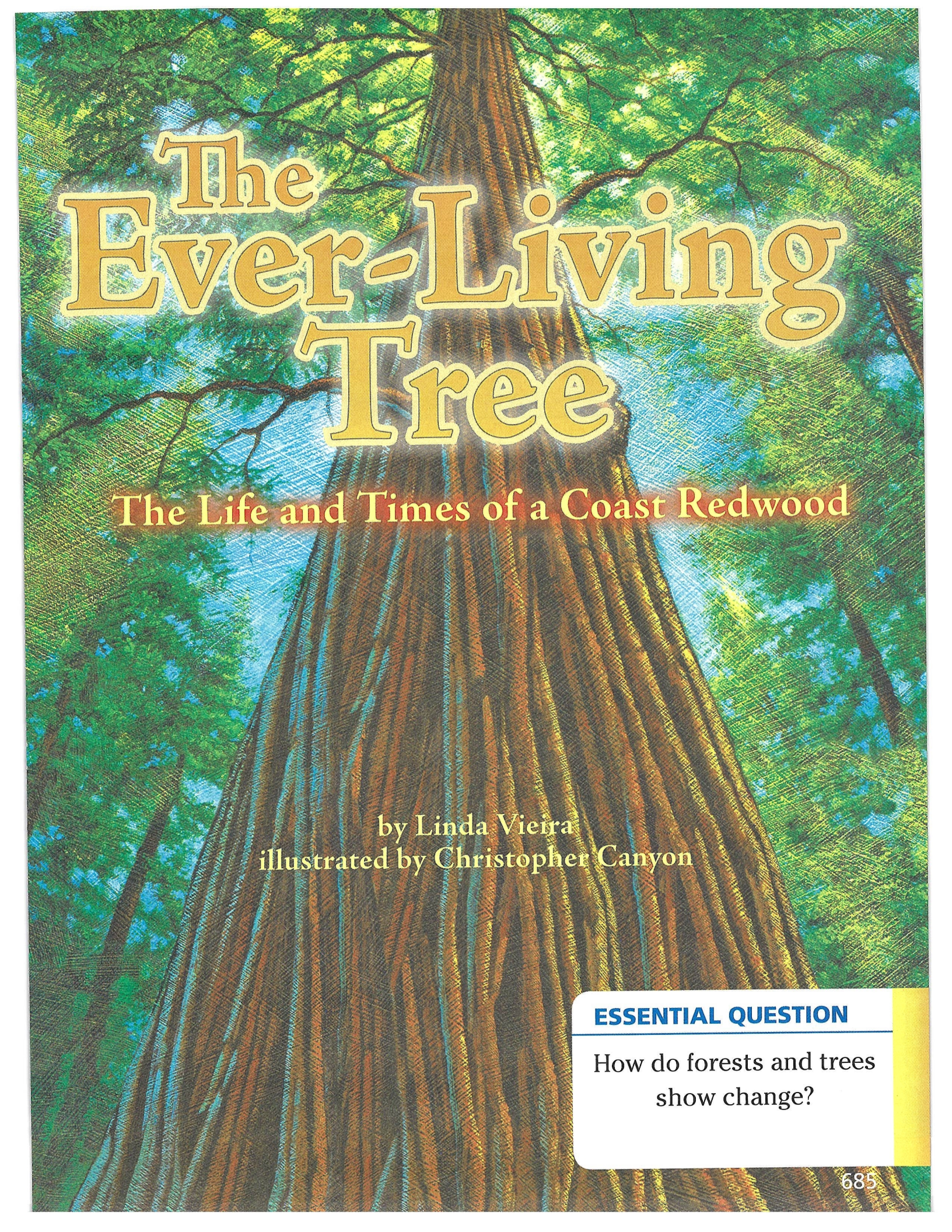
Linda Vieira uses writing as a way to understand something. She “prewrites” in her head at dawn each morning while walking the dog. What if she can’t begin writing immediately? “I trust myself and let the thinking happen for as long as it takes before starting,” says Vieira.

MEET THE ILLUSTRATOR

Christopher Canyon



Can only talented people become artists? This illustrator says no. He believes working hard at your art is much more important. “Some people are naturally talented, but even if you are not, you should *never give up* on the things that you love or the dreams that you have.”



The Ever-Living Tree

The Life and Times of a Coast Redwood

by Linda Vieira
illustrated by Christopher Canyon

ESSENTIAL QUESTION

How do forests and trees
show change?



It was a cool, foggy morning in a forest near the ocean when the little tree first poked itself up out of the ground. There were other trees in the evergreen forest just like it. Some were taller, some fatter, some older.

Eventually scientists would call this tree *Sequoia sempervirens*, an *ever-living sequoia*. It would also be known as a coast redwood.

More than 50 million years before this tree began to grow, different kinds of redwood trees grew all over the world. They lived at the same time as the dinosaurs until the glaciers came. Those slow-moving rivers of ice made many plants and animals extinct.

The long, narrow forest where the little tree grew stretched 600 miles along the western coast of the North American **continent**. It was bordered on the east by a huge mountain range and on the west by the Pacific Ocean.

The movement of cold air from the ocean toward the sheltering mountains saved the forest from the glaciers. The cold, heavy air created low-hanging fog, very important to the little redwood tree's survival.



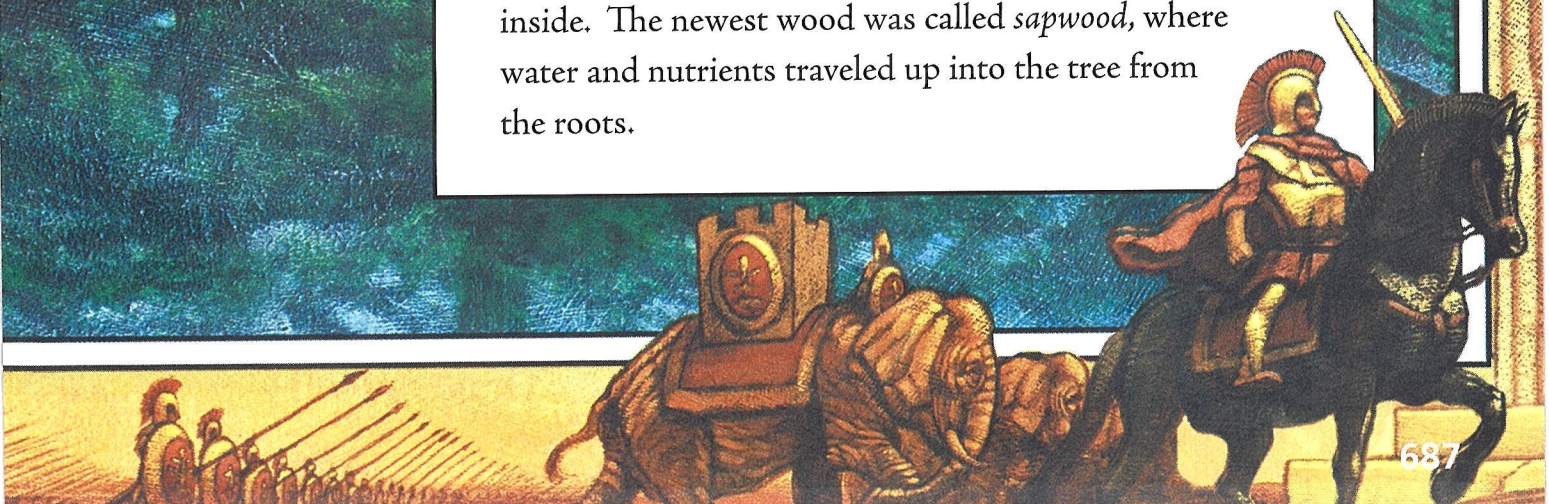
Halfway around the world Alexander the Great of Macedonia perfected the use of catapults in battle and became one of history's greatest generals. Using elephants as beasts of burden, he led his conquering army through Greece to India, and over much of the **civilized** world. Inspired by his teacher, Aristotle, he spread the ideals of Greek civilization throughout Europe and Asia.

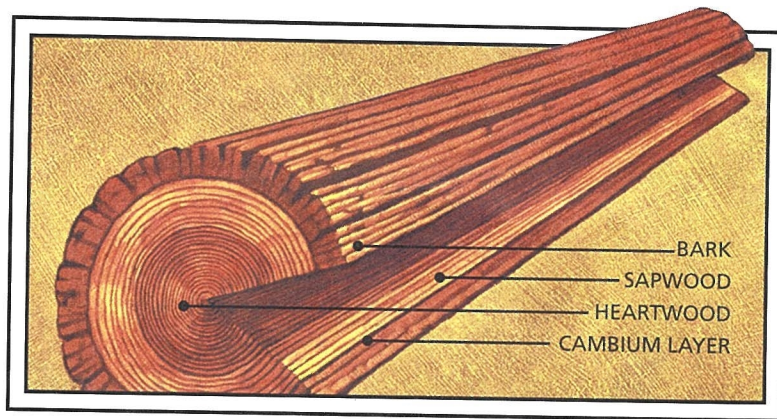



On the other side of the world, the little tree kept growing bigger.

Time passed and the new tree grew quickly. It spread its **shallow** roots far out under the floor of the forest. Its bark grew thicker. Like an outer skin, it protected the living part of the tree, a thin circle of cells under the bark called the *cambium*.


Every year the cambium added a layer of bark toward the outside of the tree and a layer of new wood to the inside. The newest wood was called *sapwood*, where water and nutrients traveled up into the tree from the roots.

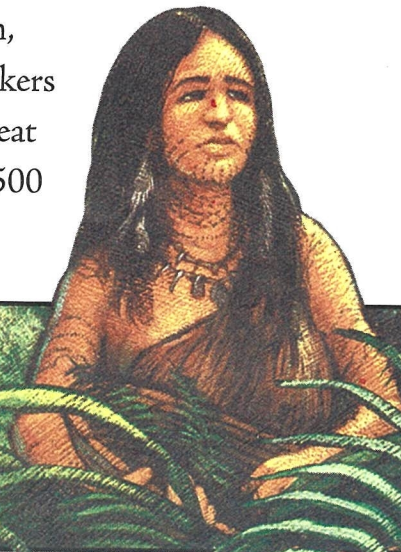




 The cambium added more and more rings of sapwood to the inside of the tree closest to its bark. The older sapwood became the heartwood of the tree. Its fibrous chambers, clogged with wastes, were no longer used to carry food and water, but the tree still needed the heartwood to help it stand straight and tall.

Time went on. Dozens of trapping spiders looked for spaces up and down the thick, uneven bark of the tree. They stretched their webs wherever they could. The outside of the tree looked like an apartment house for spiders. The webs didn't hurt the tree at all. It just kept growing.

 Across the ocean in China, men began building a great stone wall along their borders for protection against their enemies. Built entirely by hand of earth, brick, and stone, it took millions of workers hundreds of years to complete. The Great Wall eventually stretched more than 1,500 miles across mountains and valleys.





Thousands of miles to the east, the little redwood tree grew and grew.

The cold morning air was heavy with **moisture**, but soon the sun found its way through the thick trees to the forest floor. The air became warmer and the moisture began to **evaporate**. The warmed air rose as it lost moisture and became lighter. The air currents gently pushed insects higher and higher. Some were trapped by the waiting webs along the bark.



A small group of native women came into the forest to collect acorns, pine nuts, ferns, and other plants beneath the tree. They belonged to a peaceful Native American tribe called *Ohlone* (oh LOH nee).

Although they gathered what they needed from the redwood forest, the natives did not live there. They considered the forest a sacred place, with its giant trees and ferocious grizzly bears. They did their gathering quickly and left, thanking the Great Spirit for such a bounty.

ANALYZE THE TEXT

Text and Graphic Features What does the diagram at the top of page 688 show you? How does this contribute to your understanding of the text?

A woodpecker landed on the tree, pecking a small hole into the thick bark. It ate the tiny insects living there.

A gray squirrel ran up the tree and hid an acorn in the hole left by the woodpecker. The squirrel hid lots of acorns that year. Later it forgot all about the one hidden in the woodpecker hole.

Years went by, and the cambium of the tree grew new bark over the hole. The little acorn was completely closed up inside the bark, and the tree kept on growing.



Time went on. Augustus Caesar became the first emperor of Rome, marking the start of the powerful Roman Empire. The Roman Empire ruled many lands until the late fifth century.





The tree was over 300 years old by then, still young for an ever-living sequoia. It stood almost 200 feet tall and measured about 20 feet around its base.

One day there was a big fire in the forest and many trees burned. Flames ate into the redwood tree near the ground. Fire-resistant elements in the heartwood finally stopped the fire, leaving a low, hollowed-out cave inside.

The cambium of the tree was not hurt badly by the fire. It continued to grow new bark around the opening of the cave. Over many years, the new bark almost closed up the opening, while the inside stayed hollow. The tree grew on and on.



Almost nine thousand miles southeast of the forest lay the continent of Africa. In a grassy savanna at the edge of the vast Sahara desert, the kingdom of Kanem flourished as a major commercial center. Caravans brought metalware, horses, and salt from North Africa and Europe to trade there for ivory and kola nuts from the south.





In the peaceful forest far away to the west, the redwood tree stood tall and strong.

Tiny striped chipmunks ran up and down the tree. They nestled on a branch that grew in a strange and different way. The branch had become a burl. Its wood was curled into a lump cozy enough for a chipmunk to rest upon. The burl didn't stop the tree from growing higher and wider. By now it was over 250 feet tall. It was more than 50 feet around the bottom. It grew and grew and grew.





A trader named Marco Polo traveled with his father and uncle from Europe to China. They were the first outsiders ever to be welcomed in China. They found gold, jewels, silks, and spices never before seen by Europeans.

When they returned home, Marco Polo described the advanced **customs** they had found in China—a postal system, paper money, and the use of coal as fuel.



The redwood tree grew taller and thicker. Its new rings of wood grew closer together like pages of a book. Its bark was almost a foot thick. Its twisted roots sent root crown sprouts up through the ground, encircling the tree in a fairy circle.

Another, smaller fire swept through the forest, clearing away loose brush from around the tree. **Dense** fibers in the tree snuffed out the flames again before there was any damage.

Redwood cones fell from the tree's high branches. Many burst open when they landed, and some of their tiny seeds sprouted into new trees.

ANALYZE THE TEXT

Similes Authors use similes to compare two unlike things using *like* or *as*. What does the simile *as smooth as glass* mean? Find an example of simile on this page. What effect does the use of this simile have on the reader?



An Italian explorer named Christopher Columbus wanted to find a new route to China. Inspired by the explorations of Marco Polo, he persuaded the queen of Spain to finance his voyage through uncharted seas to the west. Although Columbus did not reach China, he landed at the southeastern part of North America and called it the New World.



The redwood tree was almost 3,000 miles away from where Columbus landed, still growing in its sheltered forest far to the west.

Deer walked the trails of the forest and found hidden areas to protect them from their enemies while they grazed on the lush vegetation.

Gray foxes lived in the forest, too. Some of their babies were born inside the tree's sheltered cave.

Birds nested in the topmost branches of the tallest, oldest trees. Mammals, birds, insects, and reptiles lived together, replenishing their species every year according to a natural balance.



ANALYZE THE TEXT

Text Structure How are the ideas in the text structured? How does the timeline along the top of the page support this structure?



On the northeastern coast of North America, a small ship called the *Mayflower* brought a group of pilgrims to the New World. Many of them had been oppressed, and dreamed of a land where freedom of religion would prevail. The pilgrims struggled to live through their first terrible winter in the New World.



On the opposite coast, the tree provided a home for a mother raccoon and her babies. The cave kept them warm and dry, safe from the grizzly bears and mountain lions.

Time went on and on. The ever-living redwood tree kept growing bigger and bigger. It stood tall and silent in the middle of its fairy circle of younger trees.



The United States of America declared itself an **independent** nation in the New World with thirteen colonies along the eastern coast of North America. General George Washington led the colonists through the bitter Revolutionary War with Great Britain to establish that independence. After the war, General Washington became the first president of the United States.





The giant redwood tree was now more than 300 feet tall—one of the tallest living things on the face of the earth.

One day there was a terrible storm in the forest. Wind and rain lashed at the trees. Claps of thunder made the animals run and hide. A flashing bolt of lightning struck the base of the tree at its weakest part, near the cave. The tree fell over on its side with a tremendous crash. Its huge trunk broke into pieces when it hit the ground.



Gold was discovered in the western territories of North America. Thousands of people crossed the continent in horse-drawn wagons, dreaming of riches and new **opportunities**.

Boom towns and cities grew quickly. Hunters, loggers, tanners, and miners exploited the **resources** of the land. Soon a railroad reached across the continent from coast to coast. Trains carried settlers to places near the redwood forest, where the vigorous roots of the fallen tree kept growing.



1620



1776



1869



1969




Time went on. The life force of the ever-living sequoia would not die. Its roots gave life and strength to the smaller trees around it. Soon a new tree began to grow up from the broken trunk.

Millions of insects used the bark of the old tree for food. Over many years the wood began to change into a fine dust. Banana slugs changed the dust into organic elements, which went back into the soil as nutrients.



In outer space, a man walked on the moon for the first time. People watched him on television screens all over the world. Astronauts and cosmonauts from different countries traveled into space. Scientists planned to build a space station hundreds of miles from Earth.



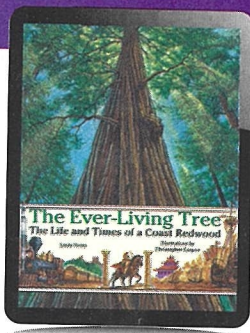


Today people camp in the shelter of the tree, and children play games on its decomposing log. They are amazed at its length—longer than a football field.

In the narrow, ancient forest, the ever-living sequoias keep growing. They stand like giant statues as millions of visitors from all over the world come to marvel at their incredible height.

Tiny new trees poke themselves up out of the ground. Life in a coast redwood forest goes on and on.





Dig Deeper

Use Clues to Analyze the Text

Use these pages to learn about Text and Graphic Features, Text Structure, and Similes. Then read “The Ever-Living Tree” again to apply what you learned.

Text and Graphic Features

“The Ever-Living Tree” is an informational text about the growth of a coast redwood. The selection includes **text and graphic features** that give information that adds to the text. These features include italic type, timelines, maps, diagrams, and icons. Icons are small pictures that represent ideas.

In this selection, the map of Alexander’s empire and the diagram of the layers of a redwood tree help explain ideas in the text. The icons at the beginning of each section are clues to what the author is describing there. The repeating redwood cone icon is a signal that tells you, “Now the author will discuss the redwood tree again.”

Look back at page 687 in “The Ever-Living Tree.” What graphic features are on that page? What do they tell you?

Text or Graphic Feature	Page Number	Information
•	•	•
•	•	•
•	•	•

Text Structure

The way authors organize their facts in informational texts is called **text structure**. In “The Ever-Living Tree,” the author presents two sets of events. One set of events describes the life of a tree. The other tells about human events that happened during the tree’s lifetime. The redwood cone icon signals facts about the redwoods. Other icons signal human events. As you reread, look for clues to how the text is structured.



Similes

Authors use **similes** to compare two unlike things using *like* or *as*. Similes help readers get a clear picture in their minds of what an author is describing. In the sentence “The surface of the lake was as reflective as a mirror,” *as reflective as a mirror* is a simile. The comparison shows that the water is still, smooth, and reflects images like a mirror.

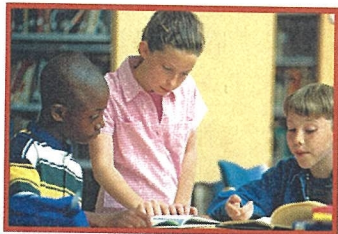


Your Turn

RETURN TO THE ESSENTIAL QUESTION



Review the selection, including the graphic features, with a partner to prepare to discuss this question: *How do forests and trees show change?* Use text evidence and the graphic features to support your answers. Take turns reviewing and explaining the key ideas. Ask and answer questions to clarify ideas.



Classroom Conversation

Continue your discussion of “The Ever-Living Tree” by explaining your answers to these questions:

- 1 What does the author want you to know about redwood trees?
- 2 What have you learned about the history of the world from the events the author describes?
- 3 If a redwood could talk, what might it tell about the things it has seen since it sprouted?

TIME MARCHES ON

Recall Historical Events With a partner, think of two recent historical events to add to the timeline in “The Ever-Living Tree.” Write a short description of each event you have chosen, and create a picture, or icon, to go with each event. Then compare your events with the events another pair of students chose for the timeline.

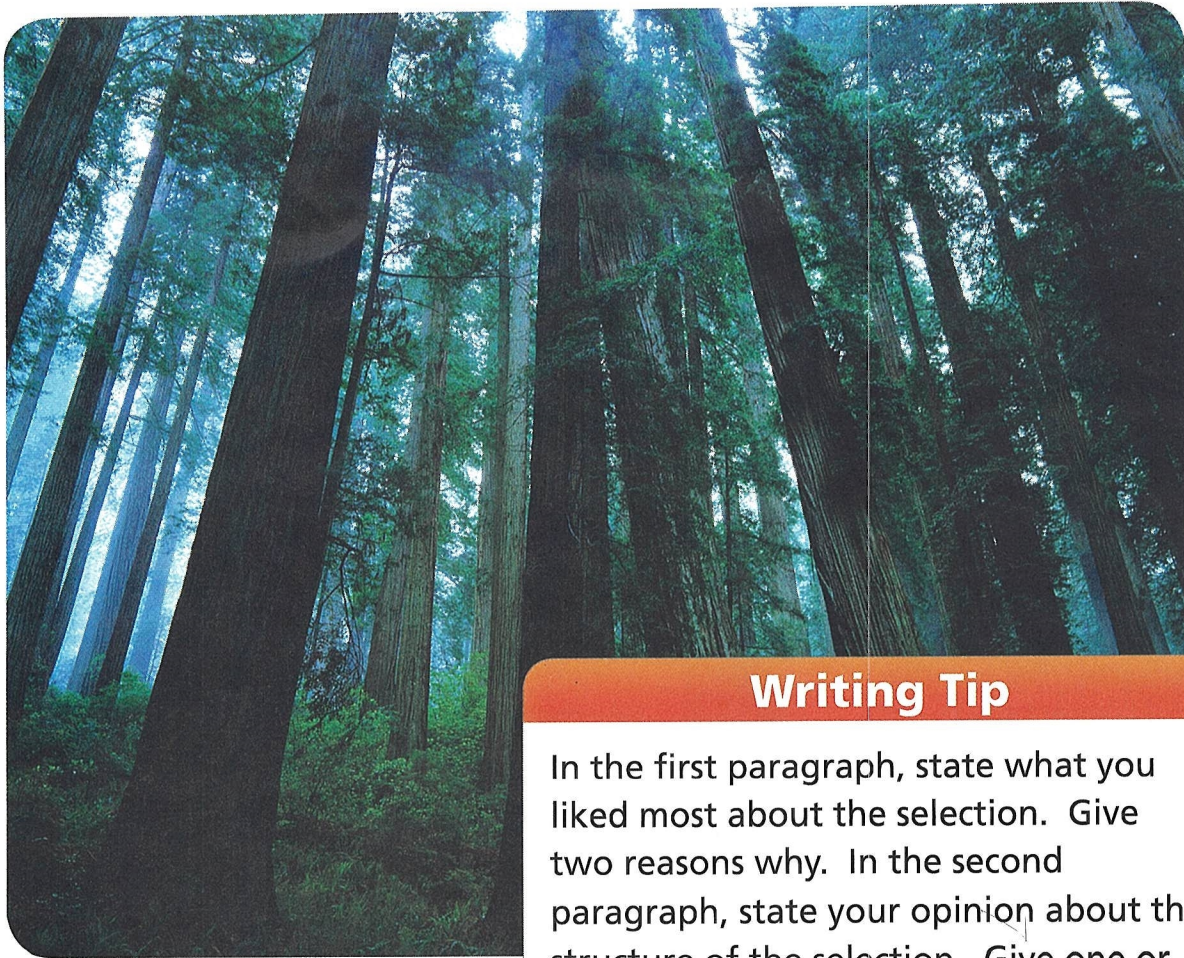


Performance Task

WRITE ABOUT READING



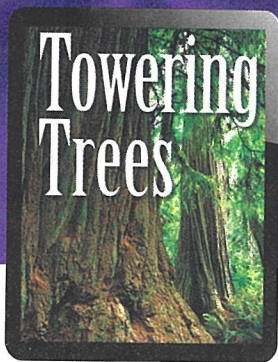
Response What did you enjoy most about the selection? Was the author's choice to tell the story of humans along with the story of the redwood a good one? Write two paragraphs that explain your opinions about the text. Include reasons for your opinions and details that support your reasons.



Writing Tip

In the first paragraph, state what you liked most about the selection. Give two reasons why. In the second paragraph, state your opinion about the structure of the selection. Give one or two reasons for your opinion.

POETRY



Towering Trees

The poems you will read next are about people and trees. "Ancestors of Tomorrow" compares children to growing trees, while "First Recorded 6,000-Year-Old Tree in America" and "Giant Sequoias" describe the majesty of towering trees.

✓ GENRE

Poetry uses the sound and rhythm of words to suggest images and express feelings.

✓ TEXT FOCUS

Narrative poetry focuses on telling a story, often about a particular event. Narrative poetry is broken into lines, and a section of lines is called a **stanza** or **verse**. The way the verses and lines are structured is called the **meter**. As you read each poem, note how each stanza ties into the meaning of the entire poem.

Ancestors of Tomorrow

children are
the blooming
branches of trees

one day their seeds
will become
the roots

of other trees
bearing their own
blooming branches

by Francisco X. Alarcón

Humboldt Redwoods State Park

First Recorded 6,000-Year-Old Tree in America

The "Eon Tree"

- A coast redwood
- Humboldt County, California
- 250 feet tall
- About 6,200 years old

When Mother Nature held her ground,
When almost no one was around,
A redwood bud began to grow
And watch the seasons come and go.

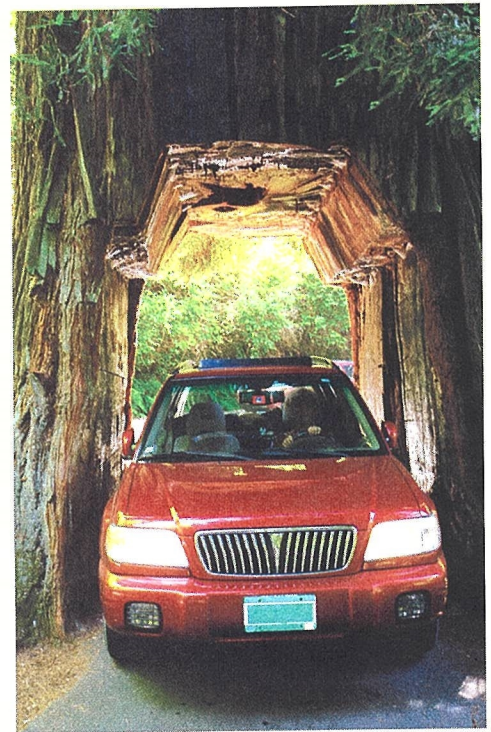
For sixty centuries or more,
It stood upon the forest floor
And waved its arms about the sky
And sang a woodland lullaby.

December 1977;
The Eon Tree, so tall to heaven,
Bowed gracefully and bid farewell
To all its fellow trees,

and fell.

by J. Patrick Lewis

Visitors to Humboldt Redwoods State Park in California have numerous opportunities to see redwoods. Redwoods are important natural resources on the continent of North America. Plentiful rain and dense fog provide redwoods with moisture to grow. The trees' shallow roots take in water from the soil.



Cars can drive through some redwoods near the state park.

Giant Sequoias

these are the great-great-
great-great grandparents
of the Sierra Nevada

their many scars tell
of the storms and fires
they have survived

every year without fail
their huge trunks
add another ring

thick in a wet year
with plentiful rains—
thin in a dry one

it takes my whole
family holding hands
for us to give a hug

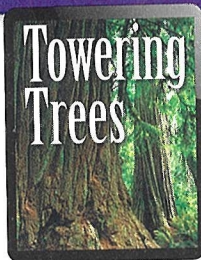
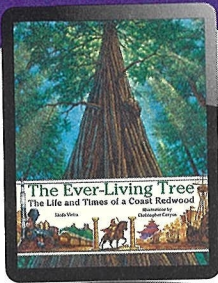
to the tallest
and oldest tree
in this grove

by Francisco X. Alarcón

Write a Tree Poem

Think of a tree you have
seen in your corner of the
civilized world. Write a poem
about it. You might describe
how it grows and changes
throughout the year or how
it makes you feel. Try to
use the following words in
your poem: *customs*,
evaporate, and
independent.





Compare Texts

TEXT TO TEXT

Compare Text and Poetry Compare the poems in “Towering Trees” with “The Ever-Living Tree.” Discuss these questions with a partner: *What does each poem describe? What information in the poems is also found in the selection? Why?* Work with your partner to write answers to the questions. Include text evidence to support your ideas.



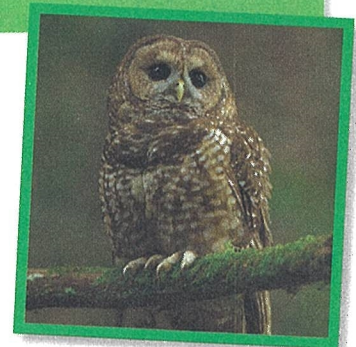
TEXT TO SELF

Write a Response Many animals depend on trees for survival and often stay with the same tree for many years. Do you have a favorite tree that you like to sit under or climb? Write a paragraph about how trees have had an impact on your life.



TEXT TO WORLD

Construct a Timeline Research the dates of the historical events mentioned in “The Ever-Living Tree.” Then use those dates to construct a timeline of events that occurred throughout the redwood tree’s life. Summarize the events in the selection to include on your timeline.



Grammar

How Can Punctuation Affect Readers? Each type of punctuation in your writing has a different effect on your readers. An **exclamation point** shows excitement. An **ellipsis** creates tension and an ominous effect in a sentence. A **dash** can be used for emphasis. A **colon** introduces new but related information in a sentence. **Quotation marks** should be used to record a speaker's exact words. Put a **comma** before the quotation marks to introduce the quotation.

exclamation point	This coast redwood is over 100 years old!
ellipsis	Pedro was unsure what he would find in the shed as the door creaked open. . .
dash	Tanya knew one thing—she would save the forest.
colon	Chin reviewed everything he needed: a flashlight, a map, and a backpack.
comma, quotation marks	Marie asked Jeremy, "What time are we leaving?"

Try This!

Write each of these sentences on a sheet of paper, using the correct punctuation.

- 1 Finally Joe and Laura were on summer vacation _____
- 2 Joe wanted to accomplish two things _____ visit a redwood forest and swim in the ocean.
- 3 Joe knew he was forgetting something _____
- 4 _____ This tree is sixty feet around _____ _____ Laura announced.
- 5 One thing was certain _____ that was a very, very tall tree.

Related sentences can often be combined using certain types of punctuation, such as an ellipsis or a colon. Combining sentences can make your sentences more fluid and have a greater impact on readers.

Separate



Jack said, “Shh. Don't scare the woodpecker in that redwood tree.”

Combined



Jack said, “Shh ... don't scare the woodpecker in that redwood tree.”

Separate: We have what we need. We have binoculars, a bird identification book, and a notebook.

Combined: We have what we need: binoculars, a bird identification book, and a notebook.

Connect Grammar to Writing

As you revise your procedural composition, look for places you can use different types of punctuation to have a greater effect on the reader.

- ▶ Writing Informative Texts: Organize Your Information
- ▶ Writing as a Process: Revise and Edit



Informative Writing

✓ **Organization** In “The Ever-Living Tree,” the author describes the events in the life of a redwood tree. In a **procedural composition**, you explain a process, or a series of events. Begin by introducing the topic, and then explain each step of the process in order. Use linking words such as *first* and *because* to make the process clearer. Group ideas together in a way that makes sense, and define domain-specific terms.

Erin wrote a draft of a procedural composition explaining how a redwood grows from a cone to a tree. Later, she reordered events and added transitions, or linking words, to clarify her ideas. She also added precise language.

Writing Checklist

✓ Organization

Did I group together related ideas into paragraphs?

✓ Purpose

Did I express my ideas clearly?

✓ Elaboration

Did I use linking words to make the order of events clear?

✓ Evidence

Did I define domain-specific vocabulary?

✓ Conventions

Did I vary the length of my sentences?

Did I punctuate my sentences correctly?

Revised Draft

The magnificent coast redwoods are ^{conifers} fast-growing ~~trees~~. Conifers are plants that bear seeds in a cone—and that’s how some redwoods get their start. ^{First,} Cones on a redwood tree begin to open up. Next, the ^{dry} cones dry out. Then they shed their seeds. ^{However,} Not many of the seeds sprout. ^{When they} do, these tiny redwoods are called seedlings.

Final Copy

How a Young Redwood Grows

by Erin Casey

The magnificent coast redwoods are fast-growing conifers. Conifers are plants that bear seeds in a cone—and that's how some redwoods get their start. First, the cones on a redwood tree begin to dry out. Next, the dry cones open up. Then they shed their seeds. Not many of the seeds sprout. However, when they do, these tiny redwoods are called seedlings.

As a seedling grows taller, its roots spread outward. The roots get nutrients, or food, from the soil, and the seedling grows. Seedlings can grow more than a foot a year. The young, strong trees are called saplings. Eventually those saplings become mighty redwoods.

Reading as a Writer

As you write your procedural composition, make sure that you group related ideas into paragraphs so that your ideas are well organized and easy to follow.

In my final paper, I reordered some steps in the process and used linking words. I made sure I punctuated sentences correctly.

