



THE OLDEST, TALLEST, WIDEST, BIGGEST TREES IN THE WORLD

Tjikko, Methuselah, Hyperion, General Sherman, and Arbol de Tule

view

Image from : <http://acitramonth.com/>



INTRODUCTION

Lesson Objectives:

Discovering facts and telling about them



Trees are not only an important resource; they are also beautiful parts of nature. Today we will look at some of the world's oldest and biggest trees and talk about how they have managed to become that way.

START





WARM - U P

What's the biggest tree you've ever seen? Where was it?

Did you ever climb trees when you were a kid?

How do you feel about trees being cut down?



GETTING STARTED

Imagine that you are sitting in a low branch of a pine tree.
Make a list of all the things you might see, smell, hear, and feel.
(Example: smell – sap, hear – birds, see – pinecones)

The Oldest Tree in the World: Old Tjikko (9,550 Years Old)

The oldest **clonal** tree in the world is believed to be 9,550 years old! It is a Norway Spruce and it was discovered by a professor named Leif Kullman. The tree has been **nicknamed** "*Old Tjikko*" after his dog. There are two reasons why this tree has been able to live for so long: vegetative cloning and layering. Cloning is when the tree trunk dies every few hundred years but the root system continues to live on. **Layering** happens when one of the branches touches the ground and eventually turns into a root.

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Clonal (adjective) Describes something that has the ability to make a copy of itself.

To nickname (verb) To give someone or something a funny name in addition to their real name.

To layer (verb) to arrange things on top of each other.





DISCUSSION

In what way does this tree make a copy of itself?
Why do you think the root system of the tree continues to
live on even if the trunk dies?
What would cause this?

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The Tallest Tree in the World: Hyperion (115.6 meters/379' 4")

The tallest tree in the world is *Hyperion*. It was discovered on August 25, 2006 by **naturalists** Chris Atkins and Michael Taylor. Hyperion is a redwood tree. It was found in a very **remote** region of Redwood National and State Parks in California, USA. Scientists think it is about 700-800 years old. Explorers say that the tree could have been taller than 380', but because of **woodpecker** damage at the very top it is only 379' 4". *Hyperion* is about 74 feet taller than the Statue of Liberty! Although several other trees have been recorded to be taller than this giant, most of them have been cut down.



- Naturalist** (noun) An expert in nature, and wildlife.
Remote (adjective) Far away from the main population.
Woodpecker (noun) A bird that makes holes in trees.



DISCUSSION

How could woodpeckers cause the tree to be shorter?
How could they know what the tree's height would have been
if woodpeckers hadn't damaged it?
How do you think Hyperion got its name?



The Widest Tree Trunk in the World: Arbol del Tule Tree

El Árbol del Tule (Spanish for “The Tree of Tule”) is a cypress tree in the town center of Santa María del Tule in the Mexican state of Oaxaca. The town was actually named after this tree! This tree is believed to have the widest tree trunk in the world, with a **diameter** of 11.62m. At first, people thought that it was several tree trunks right up next to each other. But after careful DNA testing we now know that this was actually just one trunk. The trunk is so wide that you would need thirty people all holding hands to circle around the whole tree.



Diameter (noun) The measure of a straight line passing through a circle.

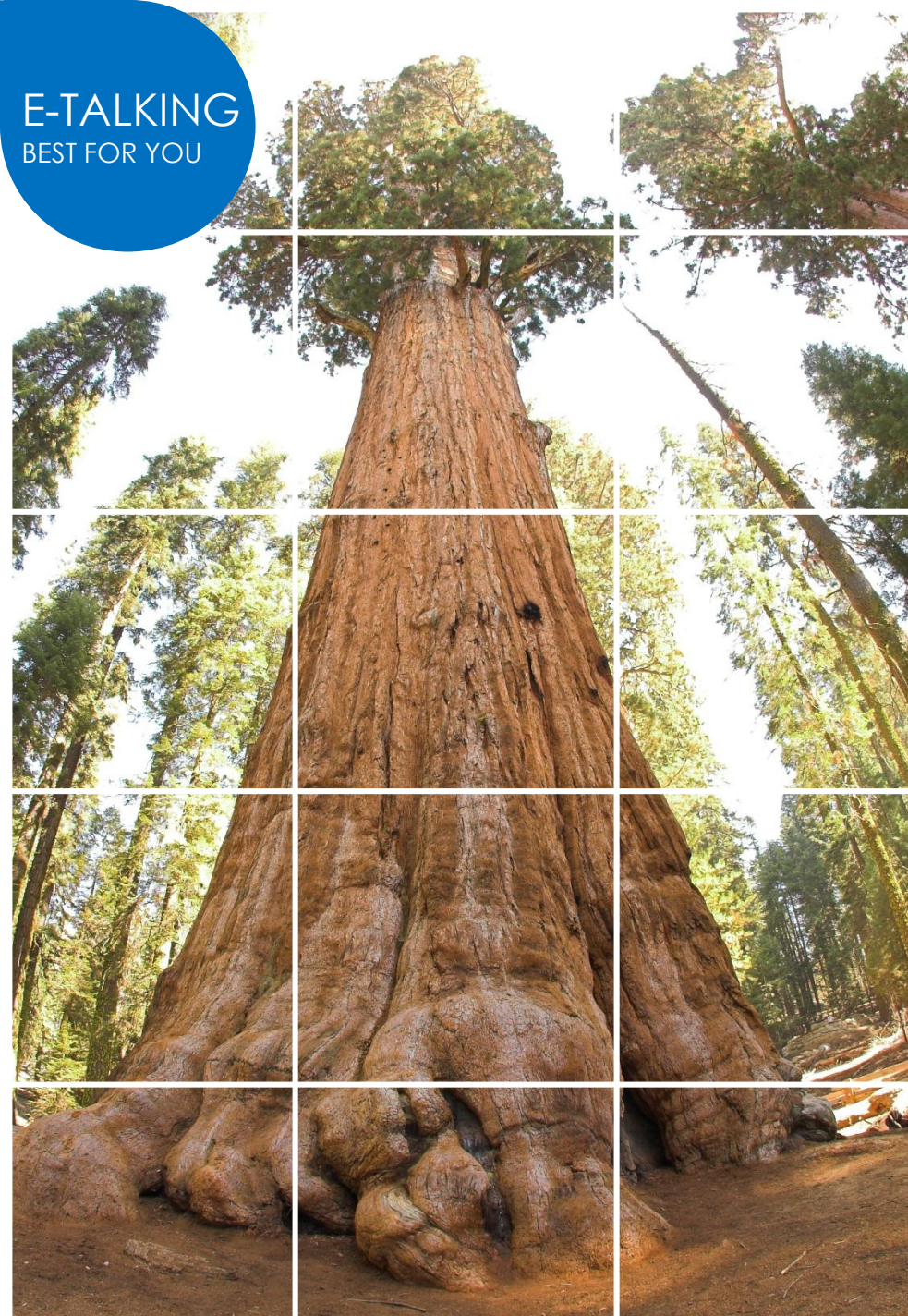


DISCUSSION

What are some other things that might be that wide?

Brainstorm some ideas with a partner so that you can picture this tree more easily.

Why would people think that maybe the trunk was several trees?



The Biggest Tree in the World in Terms of Volume: *General Sherman*

General Sherman is the largest living organism in the world. Even though there are many other trees that are taller and wider, they are no match to the General Sherman tree. This tree beats them all by its **sheer** volume. It has survived multiple fires and climate change. It weighs about 1,385 tons and is 83.8 meters tall and 11.1 meters in diameter. General Sherman is the fastest growing living thing on this planet!



Sheer (adjective) Describes how great, important, or powerful something is.

Organism (noun) A living thing.

Image from <https://en.wikipedia.org>

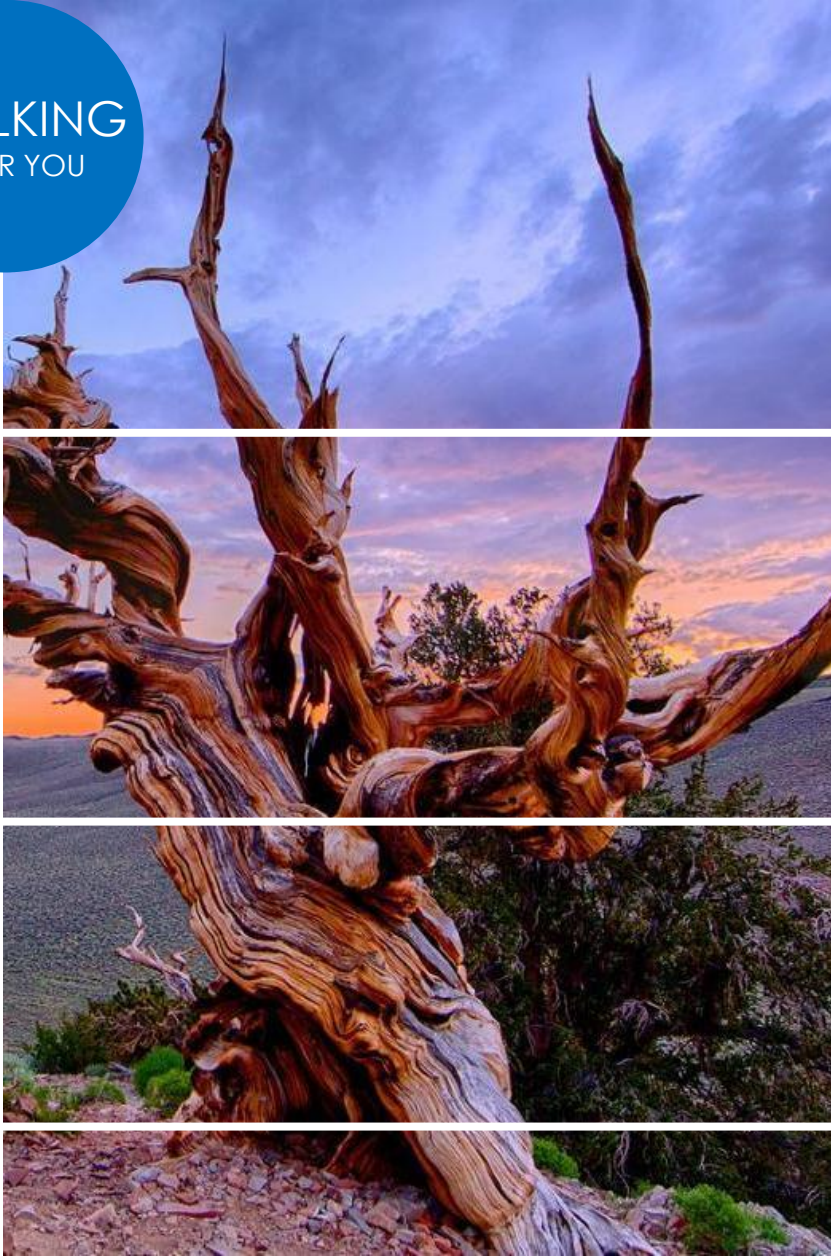


DISCUSSION

Why would climate change be something the tree needed to survive?

How would climate change hurt a tree?

General Sherman is in California. What kind of climate change could there be in California that would hurt the tree?



The Oldest Non-Clonal Tree in the World: Methuselah (4,847 Years Old)

Methuselah is a type of pine tree growing in the White Mountains of Inyo County, in eastern California. It was named after one of the longest-living characters in the **Bible**, who was believed to be almost 1,000 years old. Methuselah does not use cloning and layering to stay alive like Tjikko does. This makes it a non-clonal tree. It has been tested to find out its age and as of 2014 the tree is 4,847 years old! Its exact location is a secret, though. Only some people know exactly where to find it.



Bible (noun) The Christian holy book.



DISCUSSION

How would a scientist go about counting the rings of a tree without cutting it down? Brainstorm some ways. Why would its exact location be kept secret? Why are most of these trees in the U.S.A? Do you really think all of the world's most incredible trees are in the U.S.A?

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REVIEW DISCUSSION

Discuss deforestation (when trees are cut down, either to be used for lumber or to make room for buildings). Choose a side (for deforestation or against) and talk about these questions:

What are the benefits or deforestation for society?

What are the problems?

How does cutting down trees hurt the environment and animals around them?

What are the benefits of having old, tall, big trees around, like the ones we have learned about today?





SPEAKING TASK

Look at and think about the different countries these big trees were all found in.
How do you think the location might have something to do with these gigantic trees?
Talk to a partner about how the location and climate around a tree might affect it.



ASSESSMENT

Complete the sentences using the vocabulary words
from this lesson:



Answer the following questions based on today's lesson.

1. What is the oldest clonal tree in the world named after?
2. What is layering and how has Old Tjikko used it to survive for so long?
3. Where is the tallest tree in the world found?
4. Experts say *Hyperion*, the tallest tree in the world, could have been even taller. Why is it shorter than it should be? In what country is the largest tree trunk in the world found?
5. What is the name of the biggest tree in terms of volume?
6. What has this tree survived through?
7. How did the Methuselah tree get its name?
8. How old is the Methuselah? How did scientists measure its age?



ASSESSMENT