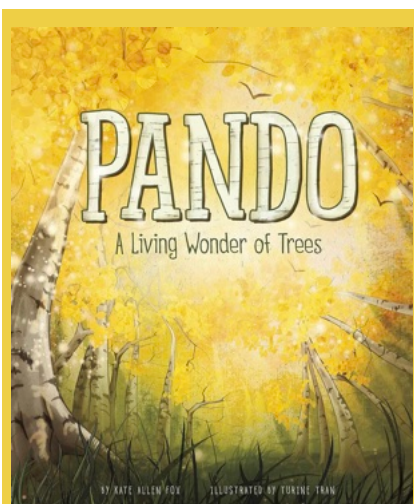


**AUTHOR:**

Kate Allen Fox

ILLUSTRATOR:

Turine Tran

Pando, one of our world's largest and oldest living things, is a mighty Aspen grove in Utah's Fishlake National Forest. Pando needs us to protect the land, care for the soil, and keep the water clean.

Ages: 5 to 8 years

ATOS Reading Level:
4.6

Lexile: 900L

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Pando:

A Living Wonder of Trees

How many trees are in Pando's grove?

What is STEAM? Learning through Science, Technology, Engineering, the Arts, and Mathematics. Through STEAM, children problem solve, innovate, create, and collaborate.

STEAM Topics in This Book: plant growth, botany, clones, conservation, life science, forest management, life cycles

Activities To Do Together:

Use *Pando: A Living Wonder of Trees* to help children explore the relationship between different plants and animals, including humans, and their environment (the place they live). Living things often share an environment, which means they might have to share limited resources to survive. They may also need to use their environment in different ways to survive. Children can consider solutions to complicated problems when they observe and analyze the needs of living things.

Before reading the book:

- Go outside together and observe trees.
 - Are there things that all trees have in common?
 - What differences can be observed between two different types of trees?
 - Encourage children to compare their heights, widths, leaves, bark, or branches.

While reading the book:

- Notice that Pando is one living thing made of many individual trees and how Pando is connected to everything in his environment.
- Identify examples of interactions in the book that may help Pando and that may harm Pando.

When you have finished reading the book:

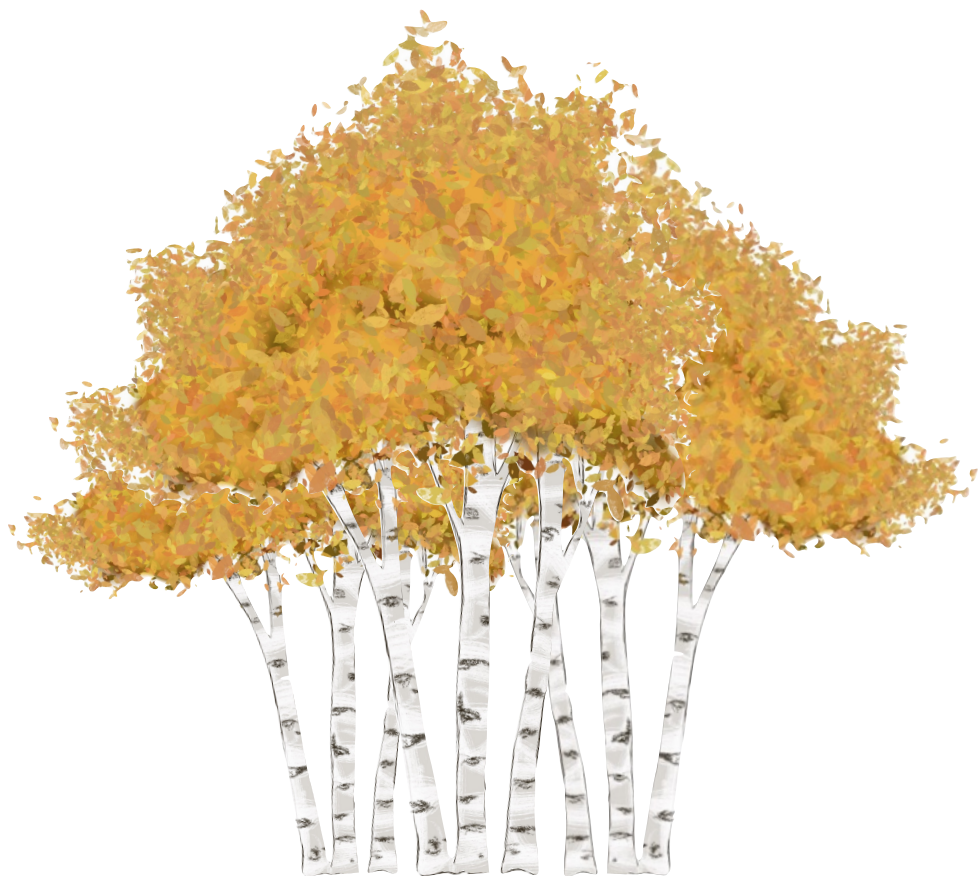
- In the book, we learn that Pando includes more individual trees than stars that can be seen on a clear night (about 2,000 stars), species of fish in the sea (about 32,000), and miles around the world (about 24,901 miles around the equator). What can you compare yourself to? Use characteristics or numbers of objects around you (for example: taller in inches than the number of pine cones under a tree), or research some natural quantities like those from the book.

Questions for STEAM Thinking:

1. Why do you think this grove of trees was given the name Pando, which means "I spread"? What does it tell us about Pando and how he grows?
2. What are some of the things that Pando needs to survive? Do you and Pando have any similar needs?
3. What are some examples of things causing Pando to shrink and no longer spread?
4. When outside, what can you do to help protect the trees and nature around you?

Early Math Project Resources:

Visit [Pando: A Living Wonder of Trees](http://countplayexplore.org/book/pando-a-living-wonder-of-trees) (countplayexplore.org/book/pando-a-living-wonder-of-trees) to find activities and related California Learning Foundations, Mathematics Standards provided by the California Department of Education, and/or Next Generation Science Standards for this book.

**Vocabulary****STEAM words found in the story:**

acres, aspen, clones, cloning, deciduous, diseases, earth, ecosystem, environment, equator, forest, grove, Ice Age, livestock, living, miles, nonliving, Pando, roots, scientists, seed, similar, soil, species, sprouts, survive

Related STEAM

Words: botany, conservation, evergreen, forest management, seedling

Words to build reading

comprehension: affect, connected, disappear, enriching, firm, gentle, humming, inky, Latin, linked, mighty, protect, quake, roar, scarce, shimmer, shrinking, speck, spread, symphony, threats, tremble, vanish

Related Books: *Chloe's Community Garden* by Valerie Bolling; *Talking to Worms* by Sara Levine

Click this link to the [World Catalog](http://bit.ly/4yYCPuA) or enter to bit.ly/4yYCPuA to find *Pando A Living Wonder of Trees* in the public library.