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ILLUSTRATOR:**

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This colorful book shows the growth of a maple tree from a winged seed to a small sapling. It encourages thought about growth and change over time and seasons.

Ages: 18 months to 7 years

ATOS Reading Level: 2.6

Lexile: AD530L

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Red Leaf, Yellow Leaf

How does a tree change throughout the years?

Topics: comparisons, time, classification, sequence, Science, Technology, Engineering, Art, and Math (STEAM)

Activities To Do Together:

Use the book *Red Leaf, Yellow Leaf* to explore the idea of growth and change over time.

Before you read the book with your child:

- Ask your child to tell you how they have changed as they have gotten older. Ask your child to tell you how they think a tree changes as it gets older.

While reading the book with your child:

- Notice how the tree looks in spring, summer, winter, and fall. Encourage your child to tell you about the changes they notice.

When you have finished reading the story, try the following with your child:

- Make leaf rubbings by placing different types of leaves under a piece of paper and rubbing them with the side of a crayon. Compare the leaf rubbings. What do the leaves have in common? What differences do you notice?
- Collect samaras (the winged seeds of maple trees) or other tree seeds. Plant them, keep them moist and warm. Notice what happens.
- Observe different types of trees at a local park. Compare their heights, colors, and leaves. Look for signs of insects and animals that live in the trees.
- Encourage your child to retell *Red Leaf, Yellow Leaf* in their own words.
- Take a walk together. Talk about the trees you see around you. Notice their sizes and compare them. "That tree is short. This tree is much taller." Touch leaves together. Talk about their textures and colors.
- Plant a tree or seed. Find out together how to do this and encourage your child to describe the steps explaining what to do first, second, next, and last. Encourage your child to care for the tree or seed, so it grows and thrives.

Conversations During Daily Routines with Infants and Toddlers:

1. Tummy time - Explore safe red and yellow objects with your baby. Say, "See the red toy. It's next to your hand. It feels soft and furry. I put the yellow toy in front of you. It feels smooth." Talk about what happens when you touch the objects. Talk about the shape, color, and size of the objects. Count them, too. "One red toy and one yellow toy. There are two toys."
2. Play time - Play with a group of stacking cups or containers. Encourage your baby to stack the containers to see how they fit together and explore what will fit inside. Talk about their explorations. "There is a toy under the container. The cup fits inside of the other cup. You made a stack of two containers, one on the bottom and one on the top." Emphasize where the objects are in relationship to each other while talking about them. Talk about the attributes of the containers. Point out their sizes, shapes, and colors.
3. Snack time - Prepare a red and yellow snack of bananas and strawberries or other red and yellow foods. Count bites. Describe and compare how the foods taste. "Bananas are sweet. Strawberries are tart."

Questions for Mathematical Thinking:

1. How old do you think the maple sapling was when it was planted by the family? Why do you think so?
2. What happened between the time that the wind blew seeds to the ground and the family purchased the maple sapling?
3. How is the maple tree similar to the trees you've seen? How is it different?
4. What signs would you look for to see if a tree was growing?
5. Why do you think fall is many people's favorite time of year? Do you have a favorite time of year? Why?

Early Math Project Resources:

Visit [Red Leaf Yellow Leaf Activities](http://www.earlymathca.org/red-leaf-yellow-leaf) (www.earlymathca.org/red-leaf-yellow-leaf)

Follow this [link](#) or visit earlymathca.org/external-resources for additional online resources.

Vocabulary

Math words found in the story: among, before, big, diameter, in, into, little, measured, onto, tiny, up

Related math words: height, size

Words to build reading comprehension:

collect, crown, dormant, favorite, lowered, marked, nursery, pigment, roots, samaras, sap, signs, soil, sprouted, sprouts, stems, tended, transplanted, twine, twirled, unfolded, uprooted, whirled, winged woods, wrapped

Available in: Korean, Japanese

Related Books: *A House for Hermit Crab* by Eric Carle

Click this link to the [World Catalog](#) or enter bit.ly/3BQMTKt to find *Red Leaf, Yellow Leaf* in the public library.



Math Connections:

The book *Red Leaf, Yellow Leaf* describes the growth and journey of a maple sapling. Use the book to explore how living things change over time and react to the seasons.

As you read the book with your child, take time to talk about the changes that take place in the story. Talk about what happened first, second, next, and last. How did the tree begin? How often was the tree moved? How did the tree change with the seasons?

You may want to try some of these STEAM-inspired ideas:

- Make a collage showing how trees change throughout the year. Create spring, summer, fall, and winter trees. Talk about how you might be able to correctly predict the time of year by looking at the trees around you.
- Go on a leaf hunt. Look for and collect different types, shapes, and colors of leaves. Sort your collection of leaves in different ways. For example, small leaves, narrow leaves, wide leaves, or red leaves.
- Create leaf patterns from your collection of leaves. Consider how the leaf's size, color, and shape can be used to make patterns. Start a pattern and ask somebody to continue it.
- Learn about different types of tree seeds. Talk about where you can find them. What types of tree seeds could you find at the park, in a kitchen, at the grocery store? Find out what tree types produce edible seeds.
- Collect and grow seeds. Compare how they are the same and different. What differences do you notice in their size and shape? Grow different types of seeds and find out if there are differences in the time it takes them to sprout and their growth rate after sprouting.
- Visit a local nursery. Find out what types of trees grow well in the area where you live. Find out how the cost of a tree differs by variety and size.
- Explore leaf pigments through a leaf chromatography activity. Directions for leaf chromatography can be found online. Search for them together.
- Find out why leaves change color in the fall. Find out why leaves are often green for long periods of the year.
- Find out whether all trees change color and lose their leaves in the fall.



DISCOVERING THE MATH: BOOK GUIDE

Age Level	Related Preschool Foundations and CA State Standards
Infant/ Toddler	<p>Cause and Effect The developing understanding that one event brings about another</p> <p>Spatial Relationships The developing understanding of how things move and fit in space</p> <p>Classification The developing ability to group, sort, categorize, connect, and have expectations of objects and people according to their attributes</p>
Preschool/ TK	<p>Algebra and Functions 1.0 Children begin to sort and classify objects in their everyday environment</p>
Kindergarten	<p>Measurement and Data K.MD.1. Describe and compare measurable attributes</p>
First Grade	<p>Geometry 1.G.1. Distinguish between defining attributes versus non-defining attributes.</p>

