



# A Lesson Plan Grade 3-5

But Why is led by you, kids! Kids all over the world send us questions, and we find the answers. We've created these learning units to be used in a classroom setting or at home. Watch the video first and then use this guide to deepen your understanding of what you've learned. Find more episodes at [butwhykids.org](http://butwhykids.org).



## But Why: Adventures! Northeast Nature | SEPTEMBER: LEAVES

### DRIVING QUESTION:

Why do leaves change color in the fall?

### Objectives:

 Students will

- Explore the idea of differences vs. similarities. How are leaves different from tree to tree? How are they similar?
- Understand how actions for a more sustainable future reflect values of care, respect and responsibility.
- See how the strengths and diversity in trees can be connected to people.

### Activities:

1. Fill out KWL in science notebook.
2. Watch the video and have students fill out the questionnaire in their science notebooks.
3. Take students on a nature walk to find fall leaves.
4. Create a color spectrum of leaves.
5. Explore photosynthesis and see how leaves produce oxygen. Work in groups to foster teamwork and communication skills.

### VELS (K-3): SC 2:1, SS 2.1, 3.1 | Learning Targets Grades 3-5

C3	NGSS
D2.Geo.4.3-5	5-LS2-1
D2.Geo.5.3-5	5-LS1-1
D2.Geo.6.3-5	



Learning Target C3 D2.Geo.4-3-5, NGSS 5-LS2-1, 5-LS1-1, & VELV SC 2:1, SS 2.1, 3.1 K-3:



# Watch & Connect

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**WATCH & CONNECT:** Draw or write in the boxes.

**K (Know).** What do you know about leaves?

**W (Want to know).** What do you want to know about leaves?

**L (Learn).** What did you learn about leaves?

**Color wheel of nature.** In the Northeast, fall brings colors from across the spectrum. Use the color wheel and your choice of media (color pencils, crayons) to match colors from your tree community. Can you identify the name of the fallen leaf from each unique tree?

**TIP:** Try overlapping colors to match the hue and shade.





# Watch & Doodle

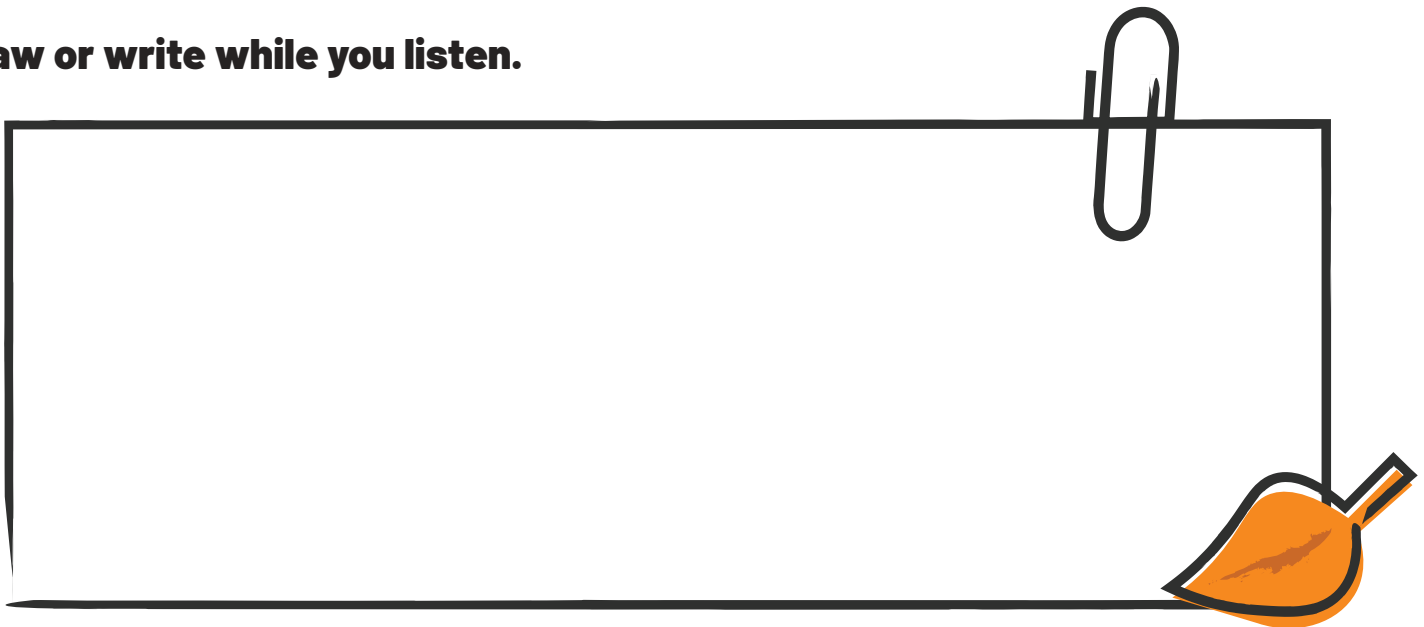
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## But Why: Adventures! Northeast Nature | SEPTEMBER: LEAVES

### WATCH & DOODLE:

Draw or write while you listen.



#### Materials:

- Clear cups
- Green leaves (if the leaves outside are not green, you can use fresh spinach leaves from the grocery store)
- Water
- Pebble per leaf

#### Directions:

1. Place a leaf at the bottom of each cup.
2. Place a pebble on top of each leaf (to keep it from floating).
3. Fill each cup with enough water to cover the leaf completely.
4. Place one cup in the sun and one somewhere dark.
5. After 1-2 hours, look at both cups. What do you notice?

#### What is happening?

The green leaf is full of chlorophyll, the chemical that trees use to turn energy from the sun into food. When trees use chlorophyll, they release oxygen into the air. If the leaf is under water, the oxygen appears as little bubbles on the leaf and the sides of the cup. There should be more bubbles in the cup that was in the sun.



# Classrooms: Connections

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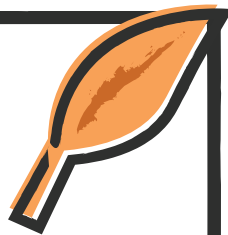
## But Why: Adventures! Northeast Nature | SEPTEMBER: LEAVES

**SOCIAL EMOTIONAL CONNECTIONS:** We are all connected.

Pigmentation in skin color compared to leaf pigmentation.

Leaves, even on the same tree, can be really different. What are some ways that you are like people in this classroom, school or community?

**All about you (leaf)**



**How are you connected to your classroom? (tree)**





# Community: Connections

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## But Why: Adventures! Northeast Nature | SEPTEMBER: LEAVES

**BIG IDEA:** Now that you have thought about differences, let's focus on similarities by making leaf rubs.

### Materials:

- Paper
- Crayons
- Leaf

### Directions:

1. Put a piece of paper on top of your leaf. If your crayon has a paper wrapper, make sure to take it off before you start rubbing.
2. Lightly rub the side of your crayon against the paper.
3. Watch the leaf's texture come through as you rub.

**Make a leaf rub.**

**Name of tree:**

**Make a leaf rub.**

**Name of tree:**

**What is in common?**



# View Finder

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**MAKE LEAF ART:** Leaves come in all different colors, sizes and shapes. Find a selection of leaves and work with a small team to organize your drawings (rubs) of leaves. What is beautiful and interesting about each natural design? The class will take a gallery walk to observe, comment and discuss.

**Cut and paste your favorite doodles, drawings or rubs into the frame below.**





# Leaf

[ leef ] • *noun*

A flat green growth from the stem of a plant. Leaves are the primary location of photosynthesis.



# Chlorophyll

[ KLOR-oh-fil ] • *noun*

A pigment that gives plants their green color. Chlorophyll absorbs light and helps plants convert it into energy.



# Foliage

[ FOAL-ee-idge ] • *noun*

The leaves of a plant or tree, or many trees



# Photosynthesis

[ foh-toh-SIN-thuh-siss ] • *noun*

The process that green plants use to turn water, sunlight and carbon dioxide into sugar (their food) and oxygen.

••• **What new words did you learn?** Make your own vocabulary cards. •••••

