

Totally Trees

Grades: Early Childhood (Pre-K-K)

Key Words and Definitions

AUTUMN	The season during which leaves change color and fall to the ground to prepare for trees' winter hibernation
LEAF CHANGE	Trees' leaves change color in fall because the trees intake the chlorophyll from the leaves, an important nutrient, so they can store that energy up for the long winter
PINECONE	The seed dispersal method for pine trees (other conifers may use cones for seed dispersal, though only cones from pine trees are called pinecones)

Pre-Field Trip Activity: Colorful Leaf Prints

One 20-minute session; pre-visit

Learning Objective

Students will experiment with color and natural materials in a tactile way in order to discover textures found in nature and to make observations about the way leaves change color in the fall, as well as the variety in shape of leaves depending on tree species.

Materials

- Natural materials like leaves, grass or flowers
- Water soluble paints
- Leaf cutouts
- Large piece of paper
- Smocks recommended

Procedure

1. Print and cut out the leaf outlines linked under resources. Use thicker paper if available, making at least one leaf per student. You can also use plain pieces of paper instead.
2. Distribute water soluble paints on shallow trays to small groups of students, 2 colors per table, along with natural materials like leaves and anything with an interesting shape or texture.
3. Ask the class to experiment with dipping the natural materials into the paint and pressing them onto their paper leaf. What shapes and textures do they see on their leaves? What happens when the colors of paint mix?
4. Say that the class may be using paint to change the colors of their leaves, but the leaves that change color on trees don't add color, they lose the green color of their leaves in order to reveal their hidden autumnal hues! During our field trip at Wave Hill, we'll be looking at lots of different leaves and noticing the different shapes and colors found on trees.
5. If time and space allow, lay a large piece of paper on the floor or tape it to the board. Ask the class to use their leaves, or to use natural leaves that were collected, as a printmaking tool, pressing them onto the paper to create a giant class leaf pile!
6. Note: use various shades of green if doing this activity in the spring or summer time, and discuss the variety of different shaped leaves trees produce rather than the way leaves change color in fall.

Resources

- [Printable leaf cutouts](#)
- [Another printable leaf option](#)
- [Examples of painted leaf prints](#)
- [Another example of painted leaf prints](#)

Post-Field Trip Activity: Pinecone Weather Station

One 20-minute session; post-visit

Learning Objective

Students will learn to make observations about the way tree seeds, specifically pinecones, react to changes in the weather by using pinecones as a kind of “weather station”. These observations will help the class draw conclusions to understand the way conifer seeds are transported.

Materials

- Pinecones

Procedure

1. Plan to collect some pinecones from Wave Hill during your visit. Collect enough for each student to examine, and a few extra for the experiment. Try to gather closed pinecones.
2. Allow students to examine the pinecones. Ask if they remember what we learned during the field trip about where pinecones come from—what kind of tree are they from? What are they for? What is inside of a pinecone (seeds)?
3. Each student can then dissect a pinecone using their hands or a pair of plastic tweezers if available. Inside each of the pinecone’s scales is a small, aerodynamic seed. Warning: Taking the pinecone apart may make hands a little sticky! Be sure to wash hands afterwards or wear gloves during the activity.
4. If you’d like to shorten this activity or simplify it, you can show the class the video in the resources section and skip the hands-on dissection.
5. Share that the tree’s lightweight seeds are designed to travel on the wind so that new trees can start to grow as far away from the first tree as possible. We can use this special power of the pinecone as a tool to tell us about the weather!
6. Set some pinecones by the window. Take a picture of how they look at first and continue to watch and take pictures over the next few days or weeks. The pinecone will open when the weather is dry, as dry conditions are perfect for seeds wanting to travel through the air. Pinecones close when they are wet to avoid dampening their seeds, which would make them too heavy to fly long distances.

Sources

- [Pinecone weather station experiment source: Homemade Weather Station - Pine Cone Weather Station](#)

Resources

- [Angiosperms Vs Gymnosperms - Forestryedia](#)
- [Pinecone science video: What’s Inside a Pinecone? | Winter is Alive! | SciShow Kids - YouTube](#)



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