

Leaf Anatomy Prints

In this fun fall activity, you can use various finishes of paper and coloring mediums to explore the anatomy of a leaf.

Fun Facts/Information:

- Leaves look green because they are filled with a substance called chlorophyll.
- Chlorophyll is vital for photosynthesis, which allows plants to absorb energy from light.
- Before the leaves change color and fall, trees absorb the nutrients from the chlorophyll in the leaves and store it in their branches and trunks for the winter.
- With shorter days (less sunlight), the leaves can't make as much food and the chlorophyll begins to disappear.
- Chlorophyll breaks down into smaller molecules, and other pigments like carotenoids (the yellow, orange, brown in bananas, corn, carrots), and anthocyanins (the red in cherries) start to show their colors.



Materials:

The recommended coloring medium for each type of paper is listed below, but you can experiment with different combinations to create textures or layers.

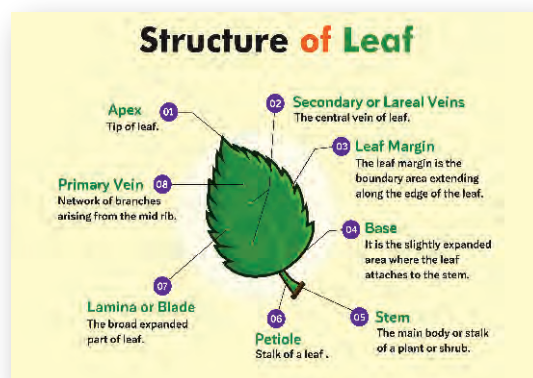
- Assorted fall leaves from different trees
- Clipboard
- Tracing paper (colored pencils)
- Parchment paper (crayons)
- Wax paper (oil pastels)
- Aluminum foil* (pencil or craft stick) - Use to make a "leaf relief," an embossed (raised) leaf print

Procedure:

1. Begin by taking a nature walk and observing the leaves changing color in the Fall. Collect leaves from various types of trees (maple, oak, sycamore, birch, dogwood, elm).
Notice that some trees may not change colors (pine, hemlock). These are known as coniferous trees because they have cones (like pine cones) and needle-like leaves which stay green year round. Trees with leaves that do change color and fall are known as deciduous.

(cont'd)

- Once you have an assortment of leaves, you can clip them onto a clipboard so that it stays in place with paper on top for tracing & coloring.
- Experiment with various types of paper finishes, from matte to glossy. Try different coloring mediums, such as colored pencils, crayons, and oil pastels. (The oil pastels are moist and smear easily.)
- While rubbing the leaf prints, you may review the parts of a leaf (petiole, midrib, veins, venules, blade, margin, base, tip) and what gives them their green color in Spring and Summer (chlorophyll). The stalk of the leaf is called a petiole. Veins carry food and water to the tree.
Note that the reason leaves change color in the Fall is because there is less sunlight available for the chlorophyll to make food and nutrients for the tree (photosynthesis). The trees absorb the chlorophyll into their branches and trunks to store through Winter causing the other pigments in the leaf (carotenoids, anthocyanins) to show. We call this stage of life in trees dormant, where they will survive without food or water until Spring.
- (Optional) You may choose to create a diagram of the anatomy of a leaf onto your leaf print (see example right).
- If/when you use aluminum foil the color will not show and is not necessary. Instead, use the side of a pencil or craft stick to show the texture. The goal for this method is to raise the print into a “corrugation”.



Follow-Up/Extension:

- You can create a collage by tracing various leaves in various colors, mediums, and layers onto a single sheet of paper.
- Use [chromatography paper](#) to see what color the leaf will be when chlorophyll is no longer made.
- Turn leaf prints into art by painting one side of the leaf in bright colors and “stamping” it down onto paper (bottom left).
- Create “pressed leaf art” by flattening and drying out the leaves then displaying them in a picture frame (bottom right).

