

Just Leaf It

Subject: Natural Sciences- Plants, Art, and Math

Grade Level: 3rd-5th Grade

Objectives:

Students will be able to...

- 1) Compare and contrast leaves by color, shape, texture, and size
- 2) Compare and contrast leaf margins, bases, and tips
- 3) Measure length and width of leaves in inches
- 4) Identify what goes into and what comes out of the process of photosynthesis
- 5) Create a leaf rubbing artwork

Materials:

- Different leaves from around your neighborhood, yard, a park, or from planters in your house
- Bag
- Crayons with the paper wrapper peeled off
- Paper
- Ruler
- Leaf Identification Guide below

Vocabulary:

Leaf Margins- the edges of a leaf

Leaf Bases- the bottom of a leaf, where it meets the stem

Leaf Tips- the part of the leaf that comes to a point

Leaf Veins- the lines on the underside of a leaf that carry food and water

Photosynthesis- the process plants and algae use to make food using sunlight

Leaf Length- from the base to the tip

Leaf Width- the longest part across the leaf

Activity

Directions:

1. Go for a walk around your yard, neighborhood, park, or home, collecting leaves in a bag. Gather one leaf from each plant that you see.
2. At home, lay your leaves out on a table and compare and contrast them by texture, shape, color, and size. Make observations about the leaves, such as...
 - a. This leaf is smooth
 - b. This leaf looks heart-shaped
 - c. This leaf is a darker green than that leaf
 - d. This leaf is smaller than that leaf



3. Compare and contrast **leaf margins, bases, and tips**, using the leaf identification guide from the North Carolina Forestry Association below.
4. Turn the leaves over and look at the lines on them. These are the **leaf veins** that carry water and nutrients/food. The veins help with **photosynthesis**, the process of making food using sunlight. Discuss photosynthesis.

Photosynthesis = Carbon Dioxide & Water -----> Sugars/Food & Oxygen
Sun's energy

5. Place a leaf in front of you with the veins facing up.
6. Place a piece of paper over the leaf.
7. Hold your paper down over the leaf, and using a crayon on its side, rub over the leaf.
8. Repeat steps 5-7 with other leaves to create a leaf art piece.
9. Measure the length and width of the leaves on your paper and write down/label the measurements on your paper. Compare and contrast the leaves using length and width.

TREE IDENTIFICATION: *Leaves*

SHAPES						
	<i>Acicular</i>	<i>Orbicular</i>	<i>Reniform</i>	<i>Linear</i>	<i>Lanceolate</i>	<i>Elliptical</i>
						
	<i>Spatulate</i>	<i>Ovate</i>	<i>Oblong</i>	<i>Scalelike</i>	<i>Cordate</i>	
TIPS						
	<i>Acuminate</i>	<i>Acute</i>	<i>Obtuse</i>	<i>Rounded</i>	<i>Truncate</i>	<i>Emarginate</i>
BASES						
	<i>Cuneate</i>	<i>Acute</i>	<i>Obtuse</i>	<i>Rounded</i>	<i>Truncate</i>	<i>Auriculate</i>
MARGINS						
	<i>Entire</i>	<i>Sinuate</i>	<i>Serrate</i>	<i>Dentate</i>	<i>Lobed</i>	<i>Doubly Serrate</i>
VENATION						
	<i>Parallel</i>	<i>Palmate</i>	<i>Pinnate</i>			

Although leaves of different tree species have the same basic parts — blade, veins, tip, base, petiole, stipule, margin — the appearance of these parts varies among species. Because these variations are easy to distinguish, examination of the leaves is the most common way to identify trees. First look at the overall shape of the leaves. Then look at the characteristics of the individual parts. What does the leaf's edge, or margin, look like? How are the leaf's veins arranged? What is the shape of the leaf's base and tip? By considering each of these characteristics, you can usually determine the tree's identity.

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