

Leaf Slide Show

Have the students collect a leaf that they find interesting and then observe it, noticing all the interesting things about it. Colors, veins, shapes, textures, smells. There are magnifying lenses available.

Then sitting in a circle have them pass the leaves in one direction. They will then have the opportunity to observe their fellow students leaves. Keep passing them until they have their own leaf back.

For older grades you may challenge them to decide why the leaves are as they observe. What is their purpose on a plant and why they have fallen?

What is a leaf?

A leaf is a flat, thin plant organ that uses the sun to make its own food. In general leaves are green and use the chemical called **chlorophyll** to trap energy from the sun. This process is known as **Photosynthesis**. The energy is used to combine water from the soil and carbon dioxide gas from the air to make sugar. Oxygen is released during this process a process called *Respiration*. The leaf acts almost like a solar panel for attracting energy from the sun. Leaves are prominent in the human diet as leaf vegetables like lettuce. You may not realize it but we eat some form of leaf almost every day

Veins – The blackish lines in the leaf blade are called veins. The largest black line is the leaf's single "midvein," the smaller blackish lines branching off the midvein are "secondary veins". Veins lend support to the leaf tissue, helping it keep its shape, just like the ribs in an umbrella. Veins also move substances within the leaf, rather like the veins in our own bodies move blood.

Why does a leaf turn brown and fall off?

Chlorophyll is the chemical in leaves that make them green in color. In spring and summer, when there is lots of sunlight, this chemical absorbs energy from the sun and turns it into carbon dioxide and water into sugar and starch.

However, during the fall and winter when there isn't much sunlight the leaves stop making food and the chlorophyll breaks down making the green color disappear. The other color of the leaves begin to show such as red, orange, yellow and gold. As the leaf is changing colors, the stem is also changing.

Where it is attached at the tree (leaf axil) the cells supporting the leaf are cut. When the wind blows or if the stem is dry, the leaf falls to the ground. That's why the trees become bare in autumn! Trees that lose their leaves after changing color are called deciduous trees for example oak, maple, birch and elm.