

# August Science Happenings

## The Secret Life of Trees

All trees begin as seeds. A seed sprouts when a small root begins to grow. As it absorbs water and minerals, a tiny stem with just two small leaves begins to grow above the soil. Seedlings grow tall and spread wide. As the stem becomes hard enough it is called wood. Small branches begin to appear as buds that turn into tiny leaves. The hard, woody stem is now called a tree trunk. After three years, the seedling becomes a sapling.

Roots are what grow underground and help hold the trunk in the ground. Roots also keep the tree from falling when the wind blows. They grow like branches under the ground. They take water from the ground and carry it into the trunk of the tree. Tiny root hairs at the tip of the roots take in water and minerals from the soil to help the tree grow.

A tree trunk has a solid core of strong wood. It is called heartwood. Around the heartwood is a layer of sapwood which carries the water and nutrients from the roots up to the leaves. Each year, a new layer of wood grows below the bark. The layer makes a ring around the whole tree. Each ring has two colors. The light part is called early wood which grows in the spring. The dark part is called late wood and grows in the summer. Each ring of a tree represents one year in its life and is formed in the sapwood layer. The inner



bark carries food from the leaves down to the roots. This also forms new growth for the trunk of a tree each year. Around the inner bark or cambium layer is the phloem layer. This carries the food made by the leaves to the branches, trunk, and roots of the tree. The outside layer is called the bark. It helps protect from weather, insects and animals. It also keeps water inside the tree.

Leaves of a tree make food for it to grow. The leaves pull up water from the roots and breathe in gas from the air called carbon dioxide. Chlorophyll in the leaves gathers energy from the sun. It mixes with water and carbon dioxide to create food for the tree called sugar. When leaves make their own food they also make a gas called oxygen. The leaves release this into the air. Most of the oxygen in the air comes from trees.

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### The Who, What, and Why of Trees

- August 8<sup>th</sup>-Me? A tree? And edible trees
- August 12<sup>th</sup>- Stems, Trunks and Celery stalks
- August 20<sup>th</sup>-Growing roots and Life Cycle of trees
- August 30<sup>th</sup>- Why do trees have leaves?