

OUR LIFE GIVING TREES

No life could exist on Earth without trees. Trees produce most of the oxygen that humans and wildlife breathe. Trees absorb carbon dioxide from the atmosphere and release oxygen using the process of photosynthesis (see explanation below). Forests act as giant air filters for the entire world. Trees purify the air by absorbing additional pollutants such as sulfur dioxide and nitrogen dioxide. In addition, there would be no rain without trees because trees absorb water from the soil and release it into the air through an evaporative process, providing the moisture for rain to form. Trees also help prevent soil erosion because they break the force of wind and rain on soil. Also, tree roots bind the soil, and their decayed, falling leaves are absorbed by the earth and enrich the soil. Trees conserve rainwater and reduce water runoff and sediment deposit after storms. Additionally, trees provide a supply of lumber, seeds, and fruit. Trees can also act as noise filters. Trees muffle urban clamor almost as well as walls. Trees planted at strategic locations can decrease loud noises from airports and highways.

Here are 15 of the best reasons to plant trees and care for the forest:

1. Trees combat climate change.

Excess carbon dioxide (CO₂), a greenhouse gas, which originates from many sources, is building up in our atmosphere and contributes to climate change. Trees absorb CO₂, removing and storing the carbon while releasing oxygen back into the air.

2. Trees clean the air.

Trees absorb odors and pollutant gases (nitrogen oxides, ammonia, sulfur dioxide and ozone) and filter particles out of the air by trapping them on their leaves and bark.

3. Trees provide oxygen.

In one year an acre of mature trees can provide enough oxygen for 18 people.

4. Trees cool the streets and the city.

Average temperatures in some large cities have risen 6°F in the last 50 years as tree coverage has declined and the number of heat-absorbing roads and buildings has increased.

Trees cool the city by up to 10°F, by shading our homes and streets, breaking up urban “heat islands” and releasing water vapor into the air through their leaves.

5. Trees conserve energy.

Three trees placed strategically around a single-family home can cut summer air conditioning needs by up to 50 percent. By reducing the energy demand for cooling our houses, we reduce carbon dioxide and other pollution emissions from power plants. Trees also act as a wind break in the winter and can actually help to reduce home and business heating bills.

6. Trees save water.

Shade from trees slows water evaporation from thirsty lawns. Most newly planted trees need only fifteen gallons of water a week. As trees transpire, they increase moisture in the atmosphere.

7. Trees help prevent water pollution.

Trees reduce runoff by slowing rainfall thus allowing the water to flow down the trunk and into the earth below the tree. When mulched, trees act like a sponge which filters this water naturally and uses it to recharge groundwater supplies.

8. Trees help prevent soil erosion.

On hillsides or stream slopes, trees slow runoff and hold soil in place.

9. Trees shield humans from ultra-violet rays.

Skin cancer is the most common form of cancer in the United States. Trees reduce UV exposure by about 50 percent, thus providing protection to humans while outside.

10. Trees provide food.

One apple tree can yield up to 15-20 bushels of fruit per year and can be planted on the tiniest urban lot. Aside from fruit for humans, trees provide food for birds and wildlife.

11. Trees create economic opportunities.

Fruit harvested from orchards can be sold, thus providing income. Timber harvest provides wood products for many uses from toothpicks to paper to furniture to building materials for homes.

12. Trees provide a canopy and habitat for wildlife.

Thick canopies, the forest floor, and hollow trees provide excellent homes for birds, bees, raccoons, possums, squirrels, and many other creatures.

13. Trees block things.

Trees can mask concrete walls or parking lots, and unsightly views. They muffle sound from nearby streets and freeways and create an eye-soothing canopy of green. Trees absorb dust, block the wind, and reduce glare.

14. Trees increase property values.

The beauty of a well-planted property and its surrounding street and neighborhood can raise property values by as much as 15 percent.

15. The forest provides recreational opportunities.

Hunting, camping, bird and wildlife watching, hiking, picnicking, and more are all available in the forest.

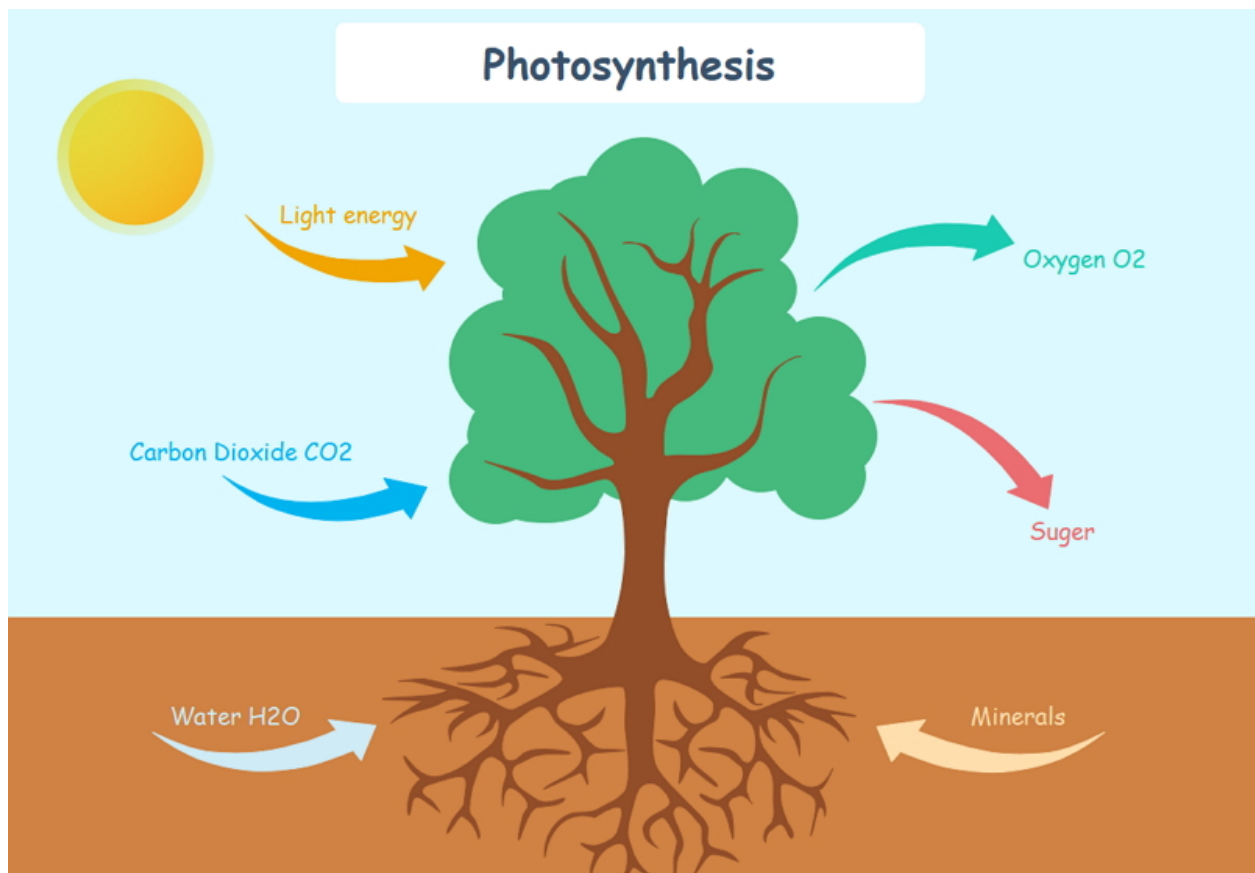


**Forests offer homes and food for wildlife,
recreation, protection of air and water, and many
wood products.**

The Photosynthesis Process

To better understand the photosynthesis process, it is necessary to understand how a tree functions and to learn about a couple of parts of the tree. The xylem is the dead, permanent tissue that carries water and minerals from roots upward to all other parts of the tree. The phloem, on the other hand, is the living, permanent tissue that carries food and other organic nutrients from leaves downward all the way to the roots. Trees, like all green plants produce their own food through photosynthesis. In the photosynthesis process, energy from the sunlight is absorbed by the chlorophyll in the leaves. Chlorophyll is what gives the green color to plants. The leaves absorb carbon dioxide directly from the air. Carbon dioxide is a greenhouse gas and is the chief substance blamed for global warming. The roots of the tree absorb water from the ground and transport it through the xylem to other parts of the tree, including the leaves. The sun's energy absorbed by the chlorophyll causes a chemical reaction to occur between the water and the carbon dioxide. In this reaction, glucose is formed and oxygen is released into the air as a by-product of the reaction. The glucose is used as food for the tree and is carried to other parts of

the tree by the phloem. Both the xylem and phloem act as roadways to transport life sustaining substances up and down the tree.



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