# Arbor Day - Photosynthesis Science!

Arbor Day is a holiday celebrated in the spring, that encourages and inspires people to plant trees in their communities and learn the importance of trees on Earth. Even though we can not gather with others, check out some ways in which you can still participate in this "tree"rific holiday!

Trees provide many services to the environment and to humans. They help save energy for our homes and businesses by providing shade, and contribute to human mental health. They are homes for animals, and many produce fruit to eat. Most importantly, trees help keep our air and water clean, and reduce the effects of climate change by producing oxygen ($O_2$) for humans and animals to breath!

For trees to produce oxygen, they need sunlight, carbon dioxide ($CO_2$), and water ($H_2O$) to complete the process of photosynthesis, when tree leaves use the suns energy to synthesize or alter $CO_2$ and $H_2O$ into sugar (glucose) and $O_2$. Trees "breath" out the oxygen from their leaves. A mature leafy tree produces as much oxygen in a season as 10 people inhale in a year, about 260 pounds of oxygen! In this experiment, observe different trees and leaves to see photosynthesis in action! Since deciduous trees have yet to produce their new leaves this year, you can do the same experiment using evergreen tree needles.

## "Tree"via: You wood not believe these facts!

1. How many species of tree are recognized in the world?
2. True or False: There is tree still living on earth that was alive when Woolly Mammoths were alive?
3. On average how many trees are planted each year in the U.S.?
4. Trees and other plants use what natural process to convert sunlight into sugars?

**"Tree"via Answers:** 1. 60,000 + species, identify trees in your backyard using this tree identifier. 2. True, check out this website to learn more. 3. Six million trees. 4. Photosynthesis.

# DISCOVERY AT HOME

FORT COLLINS MUSEUM OF DISCOVERY

## Supplies:

- Two jars or clear containers
- Water
- Area with lots of sunlight
- Dark room with no sunlight
- Leaves (conifer needle sprigs, indoor house plant leaves)

## Instructions:

1. Fill containers full with water.
2. Place one leaf into each container.
3. Place one container in a sunny area so that your leaves are fully exposed to the sunlight.
4. Place the other container into a dark room or is covered with an object so that it does not receive any sunlight.
5. Check back over the course of the day and notice any air bubbles forming on your leaves.