

Tree Fun & Functions Activity

Directions:

Below are tables that provide information about the functions and uses of trees.

The items listed in the table provide visual aids and connections to help students understand the importance of trees in their daily lives. Make transition statements as you go from one function to another!

Function	Fun Item	Background Information
CLIMB, TREE HOUSES AND SWINGS (SENSE OF ADVENTURE)	Picture of tree house, swing and climber!	<i>Ask students if they ever play in trees! Discuss the fun that trees can provide, and then explain that trees do all kinds of other functions that are vital to our existence that they may not know!</i>
BEAUTY	Leaves showing fall color (real or artificial)	<i>Ask students when trees turn color and have them name the colors! Explain that these colors are actually in the leaves through the spring and summer, and that those pigments just get covered up when the tree leaves make their own food (photosynthesis).</i>
PROVIDE OXYGEN	Hospital O ₂ Mask	<i>Explain that trees produce oxygen as a byproduct of photosynthesis. They take in water and CO₂ and make their own food. Explain that this process required sunlight, so leaves are like solar panels. One adult tree to provide enough O₂ in a year for a family of 4.</i>
CARBON SINK	Plastic sink tub (like used when camping)	<i>Trees take in CO₂, a greenhouse gas which is changing our climate (increasing average global temperatures thus causing more floods, storms, droughts, and sea level rise).</i>

<p>NATURES AIR CONDITIONER</p>	<p>Hand Fan</p>	<p><i>Trees take in CO₂ which is a greenhouse gas that warms our atmosphere (see above). An average tree takes in 26 lbs of CO₂ in a year.</i></p>
<p>SHADE (ANOTHER WAY TREES KEEP US STAY COOL)</p>	<p>Umbrella (green if possible) 2 Thermometers (one in sunlight & 1 in shade)</p>	<p><i>Trees are important sources of shade for people and animals including fish. Shade can make stream water temperatures about 10°F less. This allows O₂ to stay dissolved in the water which helps the fish breathe.</i></p>
<p>CLEAN THE AIR</p>	<p>Face Mask</p>	<p><i>Trees help filter the air from dust and other pollutants.</i></p>
<p>HELP PREVENT SOIL EROSION AND RECHARGE GROUNDWATER</p>	<p>Meter stick or rope 10 meters long Small tree branch with leaves (real or artificial) Spray water bottle Sponge with clean container of water small tree with root wad with soil attached (be sure to replant the tree)</p>	<p><i>Trees slow down the impact of fast traveling rain drops (10m per second). Soil particles on exposed surfaces may splash as high as 1 meter. Show meter measurement model. Take tree branch with leaves & spray with water bottle and then watch raindrops “drip” slowly off the leaves. Explain how the water is then able to soak into the ground like a sponge (show sponge soaking up water). Explain tree roots help hold soil down so it does not wash away (show root clumping soil).</i></p>
<p>WINDBREAKS (HELP WITH EROSION / HEATING & COOLING BUILDINGS)</p>	<p>Have students line up to make straight line to be a wind break model. Have them rise up their arms like branches. If possible, blow a fan on one side of the student trees making a windbreak! If outside and the wind is blowing, have their backs face the wind.</p>	<p><i>Trees help break the wind and keep houses warmer in during chilly winter winds. Rows of trees along crops help decrease erosion by slowing down the wind.</i></p>

<p>MUFFLE NOISE (WINDBREAKS – DO MORE THAN JUST SLOW DOWN THE WIND)</p>	<p>Ear plugs or ear muffs (protection)</p>	<p><i>A corridor of trees reduces noise pollution by as much as 50%. This is especially important in urban areas where there is a lot of traffic noise!</i></p>
<p>WILDLIFE HABITAT ALIVE AND DEAD!</p>	<p>Bird Nest / Bird Whistle Assorted plastic animals or stuffed animals (bird, squirrel, possum, raccoon, frogs, snakes, assorted insects, spiders, lizards and a fish)</p>	<p><i>Ask students to name animals that live in or visit trees. Most students will list vertebrates. Using the animal toys, explain that trees provide food and shelter to many animals large and small (both vertebrates and invertebrates)! Explain that all the animals have important links in food chains and even after a tree dies it continues to provide food and shelter. Decomposing trees are a food buffet and apartment buildings for wildlife. Pull out a “fish” toy as well and then ask students to figure out how trees provide habitat for fish. Trees provide root wads for fish and the shade of trees can decrease water temperatures allowing water to keep more oxygen dissolved in the water.</i></p>
<p>DEAD LEAVES ON OR UNDER TREE PROVIDE HABITAT, WARMTH, FOOD, AND MULCH!</p>	<p>Dead leaves in a box or a tiny baby blanket</p>	<p><i>Leaves that have fallen are an important source of food energy for decomposers. The leaves also provide insulation for forest floor critters, and they make great mulch for lawns.</i></p>
<p>FOOD FOR HUMANS TOO!</p>	<p>Assorted fruit and nuts from trees and can of mushrooms! Note: Be sure students know what type of fruit may be grown in their climate region or imported from another (i.e. Banana from the tropics)</p>	<p><i>Humans enjoy an assortment of fruits and nuts from trees both locally and from places far away. They provide us great taste, flavors and important nutrients and vitamins! Tree logs are also used to grow mushrooms! Note: Not all mushrooms are edible.</i></p>

<p>WOOD PRODUCTS WOOD ENERGY & JOBS</p>	<p>Several products made from wood. Refined Paper Products (Bag, TP, paper books) Charcoal Aspirin (sealed unopened bottle) [Various trees provide an assortment of cough syrups, laxatives, pain relievers, and tranquilizers!]</p>	<p><i>Trees provide renewable wood for a large assortment of products: homes, tools, toys and energy (wood stoves, fireplaces, charcoal) and medications. Aspirin comes from the bark of willow trees as well as many other chemicals used in medicines. Since trees provide products they help keep people employed as well. Stress the importance of recycling paper! Recycling helps protect trees, conserve water and saves energy.</i></p>
<p>INCREASED VALUE OF HOME</p>	<p>Some play cash!</p>	<p><i>Connect how money is generated from all the wood harvesting and products noted above. Yard trees may increase the value of homes by as much as 15%.</i></p>
<p>CALENDAR OF PAST EVENTS</p>	<p>Tree Cookie (slice of log so tree rings can be seen)</p>	<p><i>Tree rings tell a lot more than just the age of the tree; they provide information about the past climates (temperatures, rainfall) and biological conditions (insect and fire scars as well as tree crowding conditions).</i></p>
<p>PEACE OF MIND</p>	<p>Have students visualize a lush green landscape while enjoying a picnic under a tree!</p>	<p><i>Trees and other nature areas give people a sense of relaxation, peace, tranquility. Patients at hospitals recover faster if they can see trees!</i></p>

Advice from a Tree:
Stand tall and proud
Sink your roots into the Earth
Be content with your natural beauty
Go out on a limb
Drink plenty of water
Remember your roots
Enjoy the view