TAKE A DEEP BREATH... IN...OUT.

O_2

A large part of that oxygen you just breathed in is made by the leaves found on trees and other green plants. We need and utilize trees all day, every day. Work the crossword puzzle to discover some of the benefits that trees provide.

HEALTHY FORESTS HEALTHY COMMUNITIES

ACROSS

2. Evergreen trees can be used to reduce _____ *speed and thus loss of heat from your home in the winter by as much as 10 to 50 percent.*

3. Trees increase the humidity in the air, help increase ground water recharge, and reduce _____ *erosion.*

5. Trees _____ *and block noise and reduce glare. A well placed tree can reduce noise by as much as 40 percent.*

6. Trees prevent storm water run-off and reduce the amount of water we consume and the need for new water treatment plants and storm water structures. A study in Salt Lake City revealed the tree canopy reduced surface runoff by 11.3 _____ *gallons following a 1 inch rain.*

7. Trees help settle out and trap dust, pollen and _____ *from the air. The dust level in the air can be as much as 75 percent lower on the sheltered side of the tree compared to the windward side.*

8. You can improve the efficiency of your heat pump by _____ *it with a tree.*

DOWN

1. Decaying leaves promote soil _____, *and provide nutrients for tree growth.*

4. Fallen tree leaves can reduce soil temperature and soil _____ *loss.*

9. _____ *trees block sunlight in the summer but allow sunlight to reach and warm your home in the winter.*

WORD BANK

moisture
absorb
shading
soil
wind
smoke
million
deciduous
microorganisms

There are 25 things in this puzzle that we get from trees or parts of trees. See how many you can find and circle.

paper	medicine	deodorant	syrup
wood	paint	cereal	vitamins
shade	gum	books	toys
fruit	detergent	maps	shampoo
nuts	helmets	newspaper	
oxygen	toothbrushes	guitar	
furniture	fabric	crayons	

D	A	V	Z	V	D	T	M	E	J	T	G	R	S	N
L	W	H	D	E	L	E	R	V	N	Z	T	C	E	E
R	E	P	A	P	D	U	O	I	C	M	S	E	H	W
P	N	T	L	I	T	A	A	D	W	U	N	R	S	S
G	I	S	C	I	H	P	H	J	O	G	O	E	U	P
W	O	I	N	O	E	O	O	S	L	R	Y	A	R	A
G	N	R	S	N	I	M	A	T	I	V	A	L	B	P
E	U	D	E	T	E	R	G	E	N	T	R	N	H	E
F	B	S	F	T	E	A	S	K	I	G	C	O	T	R
Z	R	Q	Y	A	D	M	I	Y	U	L	O	B	O	T
S	P	A	M	O	B	V	L	I	R	P	L	N	O	I
B	O	O	K	S	T	R	T	E	M	U	U	W	T	U
O	X	Y	G	E	N	A	I	A	H	T	P	O	U	R
I	K	W	J	N	R	I	H	C	S	T	W	O	Q	F
N	Z	E	A	P	D	S	T	J	M	B	J	D	P	C

Circle the two trees that are exactly alike.

www.fs.fed.us/learn/kids

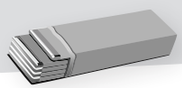
Project Learning Tree®
www.plt.org

National Association of Conservation Districts
National Association of Conservation Districts (NACD)
www.nacdnet.org

Visit: http://www.nacdnet.org/conservation-education-hub/ for the educators guide and additional resources.

Trees + Me = Chewing Gum

Ever wonder why chewing gum is sticky? It contains lignin. Lignin is found in trees, it is the glue that holds cellulose fibers together to form wood.



Trees + Me = A Place to Skateboard

During the papermaking process, wood is turned into pulp with the use of heat and chemicals which dissolve the lignin and free the cellulose fibers contained in the wood. Byproducts of this process are used in asphalt.

LIFE AS I KNOW IT

Our forests are fragile resources that we depend upon every day and they are disappearing faster than we can replace them. Why should you care about forests? Because they make Earth a place where you can live. Trees produce oxygen that we need to breathe. Roots and leaves filter the air and rainwater to help control pollution. According to the US Forest Service, 53% of surface supplied drinking water in the United States comes from forests. Trees provide shade to help regulate the Earth's temperature. Roots hold soil in place and prevent erosion so that your food can be grown. Thousands of plants and animals, including many endangered species, make their homes in forests. When we lose forests, we lose all of these things and more than you ever imagined.

Trees + Me = A Seat in the Restroom

Cellulose fibers harvested from trees are used in the production of toilet seats!

Trees + Me = A Good Manicure

The main ingredient in nail polish is nitrocellulose. It is formed by treating cellulose (wood fiber) with nitric acid. Nitrocellulose is responsible for the hard film that forms as nail polish dries. It is also highly flammable and is used to make rocket fuel!

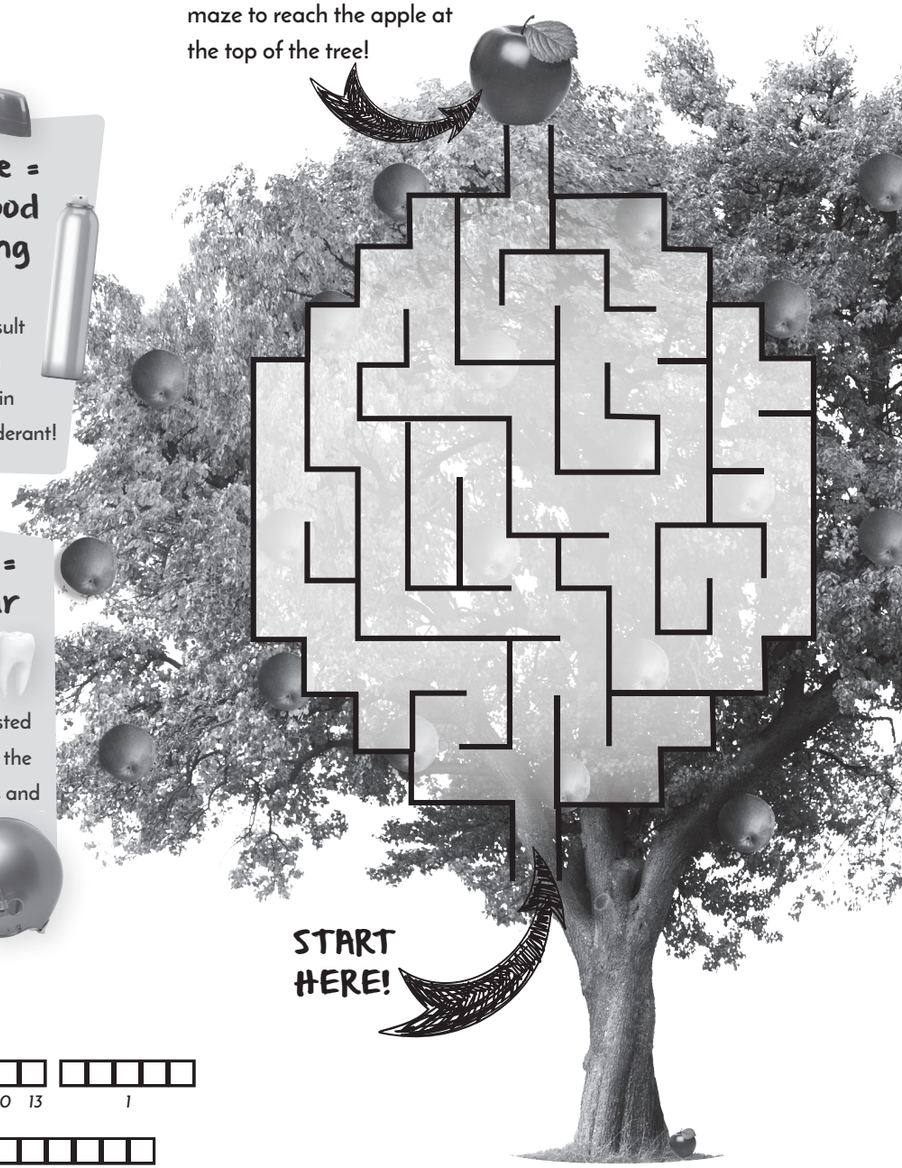
Trees + Me = Looking Good and Smelling Better

Byproducts that result from wood pulping processes are used in hairspray and deodorant!

Trees + Me = Football Gear and Pearly Whites

Cellulose fibers harvested from trees are used in the production of helmets and toothbrushes!

Find the way through the maze to reach the apple at the top of the tree!



"MAY THE FORCE BE WITH YOU"

There may soon be a new way to add some oomph to the force, ramp up the energy and provide some eco friendly power. Scientists at the University of Maryland are working on a battery that:

- *is 1,000 times thinner than a piece of paper,*
- *is environmentally benign,*
- *can be produced at a low cost with common materials,*
- *can last through more than 400 charging cycles.*

These batteries are made using _____ _____ & _____. Solve the puzzle to the right to find out! Unscramble each of the clue words which describe this new battery. Copy the letters in the numbered cells to other cells with the same number.

OWL TOSC WOERP

3							10	13				1		

COE FERLNIDY

2		5			14	8		12	4					

HEINRNT TAHN RAEPP

6				15						11				

RAGLAHCEBREE

							9					7		

1	2	3	4	5	6	7	8	9	10	11	12	4	13	14	15

Answer Key:
Take a Deep Breath...In...Out: Across 2. Wind, 3. Soil, 5. Absorb, 6. Million, 7. Smoke, 8. Shading Down: 1. Microorganisms, 4. Moisture, 9. Deciduous
May the Force be with You:
Wood Fibers and Tin
Circle the Two Trees Alike:
1st and 4th