



Kentucky's Outdoor Classroom Newsletter

Department of Forestry

September 2001

"To everything, turn, turn, turn....There is a season, turn, turn, turn...."

~the Byrds, 1965

FALL COLORS

Autumn is in the air, promising to paint the hillsides in blazing fall colors in the days ahead. Read on for information, activities, and resources to turn autumn's magical display into a fun and exciting experience for the outdoor classroom!

Why do leaves change color in the fall?

The pigment chlorophyll gives leaves their green color. During photosynthesis, chlorophyll captures energy from sunlight to make food for the tree. But it isn't easy being green....

In the wintertime, there is not enough light, water, or warmth to continue photosynthesis, so trees must conserve their resources by cutting off the transport of water and nutrients to the leaves. Autumn's shortened days and cooler nights trigger this conservation. Chlorophyll breaks down, other leaf pigments that it covered up become visible, and a flare of fall colors is unveiled before our eyes.

Color Chemistry

Yellow or Orange

Chemical/Pigment:
carotenoids

Properties:
help chlorophyll capture energy;
present in leaves year round; only
visible when chlorophyll is gone in the
fall.


Trees Found In:
yellow-poplar, hickory, beech

Red or Purple

Chemical/Pigment:
anthocyanins

Properties:
present in leaves in fall; form from
high sugar concentrations; turn more
red in acid leaf sap, more blue in basic
leaf sap.

Trees Found In:
red maple, sumac, sourwood

Turn, turn, turn....the page! 

AGRICULTURE & NATURAL RESOURCES • FAMILY & CONSUMER SCIENCES
4-H/YOUTH DEVELOPMENT • RURAL & ECONOMIC DEVELOPMENT

Educational programs of the Kentucky Cooperative Extension Service serve all people regardless of race, color, age, sex, religion, disability or national origin.

UNIVERSITY OF KENTUCKY, KENTUCKY STATE UNIVERSITY, U.S. DEPARTMENT OF AGRICULTURE, AND KENTUCKY COUNTIES, COOPERATING.



ACTIVITIES



Autumn in the Air

Leaf colors are brightest when fall has sunny days, cool nights, and dry weather.

Predict the intensity of this year's autumn hues by having students record daily temperature and precipitation. Compare your measurements to your local forecast at <http://www.weather.com>. Then, schedule a hike at a local scenic area or your own schoolyard to see how well you guessed!

To track the color peak in your area, call Kentucky's Color Connection: [1-800-225-8747](tel:1-800-225-8747)

Folklore of Fall

Can the Native American legend of the Great Bear or sleeping plants explain fall colors? Does the hooting of an owl on the east side of a mountain indicate a snowy winter ahead?

Have students research these tales online at http://www.10000inns.com/fall_foliage.htm or in the school library. Then, let them write their own stories about fall color change and signs of winter.



RESOURCES ONLINE

The Chemistry of Autumn Colors

<http://scifun.chem.wisc.edu/chemweek/fallcolr/fallcolr.html>

Get a more detailed, scientific explanation of why and how leaves change color.

Science Made Simple

<http://www.sciencemadesimple.com/leaves.html>

Scroll through easy-to-understand facts and directions for a cool leaf chromatography project!

"What Tree Is It?"

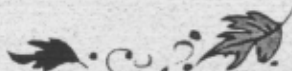
<http://www.oplin.lib.oh.us/products/tree>

Don't have a field guide? Learn to identify trees by their leaves and fruit online through the Ohio Public Library System.

U.S. Forest Service Fall Color Hotline

<http://www.fs.fed.us/news/fall/shtml>

Find fall photos, live web cam sites, state fall color reports, and much more!





NATURE'S RECYCLERS



With leaves falling, here's a good question for your students to ponder:

Who rakes the forest?

No one? Then, why aren't leaves piled sky-high in the woods? The answer:

Decomposers!

Decomposers, such as fungi, insects, worms, and microbes, help break up leaf litter into tiny parts to be recycled back into the soil year after year!

Check out these websites for more info:

Fun Facts About Fungi

<http://www.herb.lsa.umich.edu/kidpage/factindx.htm>

The Yuckiest Site - Worm World

<http://yucky.kids.discovery.com>

PROJECT LEARNING TREE ACTIVITIES

Signs of Fall

(grades K-6, outdoor)

Sunlight and Shades of Green

(grades 2-8, outdoor/indoor)

Name That Tree

(grades 2-8, outdoor/indoor)

Get in Touch with Trees

(grades preK-6, outdoor/indoor)

Nature's Recyclers

(grades 1-6, outdoor/indoor)

The Fallen Log

(grades 4-8, outdoor)



UPCOMING EVENTS



"25 Years - A Legacy of Environmental Learning"

***KAEE ~ Kentucky Association for
Environmental Education
Annual Conference
October 5 - 7, 2001***

Lake Cumberland State Resort Park

For registration and conference information,
go to: <http://www.kaee.org>



MAILING LIST

Know someone who would like to be on the mailing list? Need to make an address correction? Please fill out and return to Laurie Taylor at address below or e-mail your information.

Name: _____

Address: _____

City: _____

State and Zip: _____

E-mail: _____



Contributing Writer:

Jennifer Wurts

Natural Resource Education Intern
University of Kentucky

Co-editors:

Laurie Taylor
Cooperative Extension
University of Kentucky
130 Robinson Rd.
Jackson, KY 41339
606-666-2438 ext. 236
ltaylor@ca.uky.edu

Doug McLaren
Cooperative Extension
University of Kentucky
TPC Bldg.
Lexington, KY 40546
dmclaren@ca.uky.edu