



# kids INK

The Newspapers In Education (NIE) Program strives to promote literacy and responsible citizenship in children and young adults through the inclusion of newspapers with regular classroom curricula.

**Dayton Daily News**  
nie.DaytonDailyNews.com  
937-225-7364

**SPRINGFIELD NEWS-SUN**  
nie.SpringfieldNewsSun.com  
937-225-7364

**MIDDLETOWN JOURNAL**  
nie.MiddletownJournal.com  
513-705-2570

**JournalNews**  
nie.Journal-News.com  
513-820-2136

email: nie@coxohio.com

## DID YOU KNOW?

If you covered a small section of a leaf before it changes color, the part of the leaf without sunlight will turn yellow while the exposed part will turn red!

## FUN FACT:

What do autumn leaves and ripening bananas have in common? The green color in unripe bananas comes from chlorophyll, the same pigment that gives green leaves their color. As bananas ripen, the chlorophyll breaks down and disappears, revealing the yellow color, which has been there all along. The yellows and oranges of autumn leaves are also revealed as their chlorophyll breaks down. Of course, other changes also occur as bananas ripen: the starches change to sugar and the flesh softens as pectin (a carbohydrate) breaks down.

## ACTIVITIES

### WORD SCRAMBLE

How many of these words can you unscramble?

- trawe \_\_\_\_\_
- afe \_\_\_\_\_
- rnege \_\_\_\_\_
- ernago \_\_\_\_\_
- mutanu \_\_\_\_\_
- odof \_\_\_\_\_
- gnlituhs \_\_\_\_\_
- holoprycllh \_\_\_\_\_

### CREATE A LEAF JOURNAL

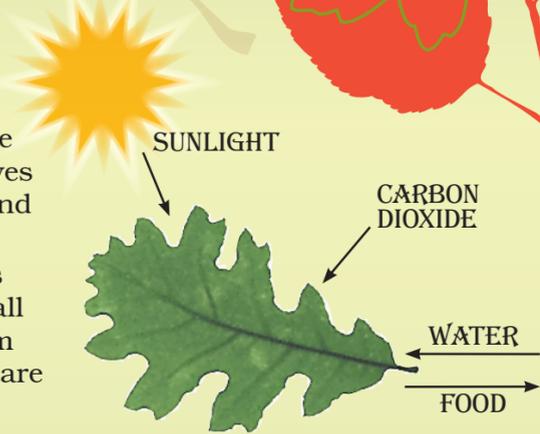
Find a tree around your school or neighborhood to journal changes in the leaves on a weekly basis. Teachers, have your students write about the changes, then draw and color pictures of the leaves.



# COLORS OF FALL

While you were playing in the hot sun during summer vacation, the trees in your neighborhood, in the parks and in the forests were working hard to keep you cool. To feed these green leaves that make shade, trees use sunlight to convert water and carbon dioxide into food. This is called photosynthesis.

Now, when you are back in school working hard, it is time for those hardworking trees to take a break from all that photosynthesizing. When leaves change color, from green to yellow, bright orange or red, you'll know trees are beginning their long winter's rest.



## WHERE DO LEAF COLORS COME FROM?



Jackson Lake State Park

Leaf color comes from pigments. Pigments are natural substances produced by leaf cells. The three pigments that color leaves are:

- 1) Chlorophyll (green) is the most important of the three. Without the chlorophyll in leaves, trees wouldn't be able to use sunlight to produce food.
- 2) Carotenoid (yellow, orange, and brown) creates bright yellows and oranges in familiar fruits and vegetables. Corn, carrots, and bananas are just a few of the many plants colored by carotenoid.

3) Anthocyanin (red) adds the color red to plants, including cranberries, red apples, cherries, strawberries and others.

Plants make their own food. They take water from the ground through their roots. They take a gas called carbon dioxide from the air. They turn water and carbon dioxide into food using sunlight and something called chlorophyll. Chlorophyll is green. It gives leaves their green color.

Some leaves turn red or purple. This color is made in the fall, from food trapped in the leaves. Brown colors are also made in the fall. They come from wastes left in the leaves.



Fowler Woods State Nature Preserve

## WHY DO LEAVES CHANGE COLOR IN THE FALL?



Brandywine Falls

Many plants stop making food in the fall. The chlorophyll goes away. Then we can see orange and yellow colors. These colors were in the leaves all summer, but the green covered them up.

The amount of rain in a year also affects autumn leaf color. A severe drought can delay the arrival of fall colors by a few weeks. A warm, wet period during fall will lower the intensity, or brightness of autumn colors. A severe frost will kill the leaves, turning them brown and causing them to drop early. The best autumn colors come when there's been:

- A warm, wet spring
- A summer that's not too hot or dry
- A fall with plenty of warm sunny days and cool nights

## OHIO'S TREES AND FORESTS

The key to Ohio's vibrant autumn color season is a combination of long, cool nights and short, sunny days in mid- to late September.

With more than 100 species of trees in the state, it's no wonder Ohio's fall color season is so spectacular.



Hach-Otis State Nature Preserve

## COMMON OHIO TREES AND COLORS OF THEIR FALL LEAVES

 <p><b>REDS</b> Red oak White oak Pin oak Shingle oak Black cherry Dogwood Sumac</p>	 <p><b>YELLOWS</b> Ash Beech Birch Hickory Black locust Tulip poplar Black walnut Cottonwood Sycamore Basswood</p>	 <p><b>MIXED COLORS</b> Buckeye Red maple Sweetgum Sassafras Sugar maple</p>
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WORD SCRAMBLE ANSWERS: WATER, LEAF, GREEN, ORANGE, AUTUMN, FOOD, SUNLIGHT, CHLOROPHYLL

## LivingGreen

Want fun tips, news and games about living green to share with your students? Go to your newspaper Web site and click on "Living."

## COMING ATTRACTIONS

**kidsINK** | Oct. 13, 40 Assets (sponsored by the Greater Dayton Conference on Youth)

READING SERIES  
*WHISTLES THROUGH THE ROCKS*

September 30 | Chapter 2, Railroad Pioneers

## STANDARDS SPOTLIGHT

**LIFE SCIENCES** | Differentiate between the life cycles of different plants and animals.

**LANGUAGE ARTS** | Use grammatical structures to effectively communicate ideas in writing.