

Why Leaves Change Color

by Lydia Lukidis

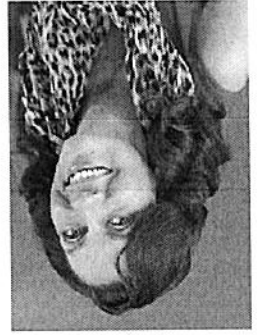


Every fall, you know the drill. The leaves on the trees change color from green to red, orange, and yellow. The trees become explosions of vibrant color. Eventually, the leaves turn brown and fall off the trees. Of course you know the leaves change color before winter. But do you know why?

Let's start with the basics. Trees need to eat and drink, just like us. But they don't eat food like we do. Instead, the leaves on trees use sunlight to produce food. This process is called photosynthesis. That's quite a mouthful to say! Let's take a closer look at how photosynthesis works.

Basically, the tree breathes in carbon dioxide, which is in the air around us. The tree takes in carbon dioxide from pores on its leaves. The tree also absorbs water by its roots. Every time it rains, the tree is happy! The leaves are made up of very small cells, and inside those cells are tiny formations called chloroplasts. Each chloroplast has a green chemical that gives it its color. That green chemical is called chlorophyll. The chlorophyll is very important because it allows the photosynthesis to take place.

When the light from the sun enters the leaf, the chlorophyll absorbs the light energy. Then, oxygen is released from the leaves. That oxygen goes into the air and helps us breathe. Also, the light energy is turned into sugar that the trees use for food. That sugar is called



About the Author

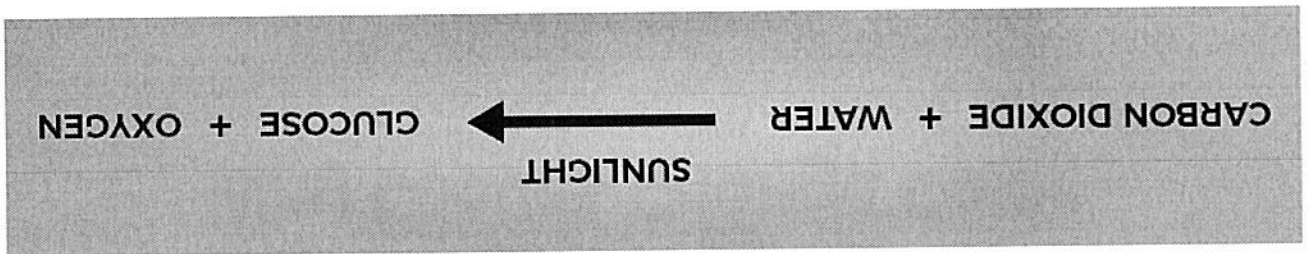
Lydia Lukidis is a published children's author with a multi-disciplinary background that spans the fields of literature, theater, and puppetry. Lydia's picture book, *Gerbs in the House: The Dilly Dally Bedtime Routine*, is now available. Find out if Mocha will ever get his silly son to sleep!

Lukidis, Lydia. *Gerbs in the House: The Dilly Dally Bedtime Routine*. ISBN: 978-0-9917402-7-7

Now let's get back to why leaves change color. During the spring and summer, there's a lot of sunlight. But once fall and winter roll around, it doesn't stay light outside as long. So, the leaves don't get as much sunlight as they used to. The chlorophyll in the leaves starts to decrease. And remember, chlorophyll gives leaves their green color. So if there is less chlorophyll, the leaves lose their green color.

So where do the other colors come from? Even though leaves look solid green, they actually have small amounts of other colors in them too. The chlorophyll is the main color and it's green. There is also "carotenoid," which makes yellow, orange, and brown. And there is "anthocyanin," which makes red and purple. When the green starts to fade, you can start to see the other colors coming out. Once the leaf runs out of food, it turns brown, dies, and eventually falls off.

Every tree is different, so the leaves change color at their own pace. And the colors depend on the temperature, the clouds, and the rain. It is different every fall. But, it is always magical.



glucose. Here's an easy way to remember this:

Name: _____

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1. According to the information in the article, which of the following does a plant require for photosynthesis?

- a. sunlight, oxygen, and water
- b. carbon dioxide, water, and glucose
- c. water, oxygen, and carbon dioxide
- d. carbon dioxide, sunlight, and water

2. Identify two outputs of photosynthesis.
(Hint: One of them benefits humans, and the other is a sugar that plants use for food.)

_____ and _____

3. What is chlorophyll?

4. Why does the amount of chlorophyll in leaves begin to decrease in the fall?

5. Where do the red, orange, yellow, brown, and purple colors come from when the leaves begin to change in the fall?

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The following terms are vocabulary words from the article. Match the vocabulary word with its correct definition by writing the corresponding letter on the line.

- | | |
|-------------------------|--|
| 1. _____ vibrant | a. lessen in amount or intensity |
| 2. _____ photosynthesis | b. small openings in a surface |
| 3. _____ chloroplast | c. a natural gas in the air that plants use for photosynthesis |
| 4. _____ decrease | d. vivid, bright |
| 5. _____ chlorophyll | e. the smallest basic units of living organisms |
| 6. _____ carbon dioxide | f. takes in or soaks up energy, liquid, or another substance |
| 7. _____ pores | g. gradually; not happening right away |
| 8. _____ absorbs | h. a process by which green plants use sunlight to obtain food from carbon dioxide and water |
| 9. _____ cells | i. a green pigment inside plants that helps them absorb sunlight for photosynthesis |
| 10. _____ eventually | j. a formation inside a cell that contains chlorophyll; where photosynthesis takes place |

Homophones



Name: _____

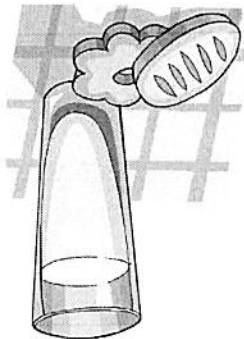
Homophones are words that sound the same. They have different spellings and different meanings.

Directions: Choose and write the correct homophone for each sentence.

1. Out in the forest, the _____ (bare, bear) ate some berries.
2. Mom lit the candle and the _____ (scent, cent) filled the room.
3. I watched the beautiful _____ (dear, deer) eating in the meadow.
4. My library book is _____ (due, dew) in two days.
5. The _____ (night, knight) jumped up on his horse and rode away.
6. Tim's pants were big so he wore a belt around his _____ (waist, waste).
7. Could you please pass a _____ (piece, peace) of the cake?
8. The new king will _____ (rain, reign) for 50 years.
9. Harry's sister was sick so he _____ (made, maid) her a card.
10. My dad's favorite dinner is _____ (stake, steak) and potato.

Homophones

Choose the correct word to complete the sentence.
Write the word on the line.



1. I would like _____ (to, two) have some cookies with milk.

2. The wind _____ (blue, blew) the newspaper right out of my hands.

3. _____ (You're, Your) sister will meet you at the bus stop after school.

4. Maggie will _____ (write, right) a story in her notebook.

5. Can you help me find _____ (their, they're) shoes?

6. There is a _____ (hole, whole) in my right sock.

7. I won the game _____ (by, buy) three points.

8. Barbara bought new _____ (close, clothes) to wear on the first day of school.

9. Please make sure to _____ (wear, where) a jacket outside.

10. Have you heard the fable about the tortoise and the _____ (hair, hare)?

Name: _____

Make That Money

Children should be paid for the chores that they do around the house. These kids work hard and should be rewarded for completing the housework. Getting paid for chores teaches kids the importance of working hard and gives them a chance to learn about money.

First, completing chores is hard work. Kids who are paid for their chores learn that hard work deserves a reward. If the kids are not paid to complete chores, like cleaning their room, there is no reason for them to actually do the work. However, when they are offered a reward, some money, for completing their chores, they are more likely to do the work.

Kids who are paid for their chores also have the chance to earn, save, and spend their own money. Learning how to be responsible with money is an important skill that needs to be practiced. Kids who earn money for chores can get plenty of practice. They can learn how much money their work is worth, how much money they need to have to buy a certain toy, and how to save that money. Learning how to earn, save, and spend money responsibly can benefit them when they are adults.

Kids work hard around the house. They shouldn't be expected to work hard without any type of reward. Making money from doing chores is the best way for them to learn about hard work and responsibility.

Household Chores

Kids should not be paid for their chores. Everyone in the family home needs

to work together to keep the house clean. No one should be paid for it. Paying kids for completing chores teaches them that they should only do something helpful if

they are going to be paid for it. Kids who don't get paid for chores learn the value of teamwork and responsibility. They also learn skills that they will use as an adult.

First, everyone in the home should work together to keep a house clean and safe. Mom and Dad do not get paid for making their bed or washing the dishes.

Why should kids? Children should learn that sometimes you need to do certain

things without getting a money reward. Instead, completing your chores means you get to live in a clean and safe house. That should be reward enough!

Next, children who are not paid for their chores learn about responsibility.

They learn that certain tasks need to be completed, and that if those tasks are not completed, there will be a consequence. When children are adults, they will need to

do things like vacuum out their car or cook dinner without being paid. Instead, it is

a responsibility. Not paying kids for chores gives them practice with responsibility

and consequences.

Paying kids for chores can go downhill fast. Kids can refuse to complete tasks

unless they are paid. Kids can start demanding more money for tasks as well. Using

money as a reason to do household chores can turn into an argument or unhappy

home.

Make That Money

1. Why does the author believe children should be paid for chores?

2. What does the author believe might happen if kids are not paid to complete chores?

3. How can being paid for chores teach responsibility?

4. What does the author believe is the best way for children to learn about hard work and responsibility?

Household Chores

1. How could paying kids for chores go downhill fast?

2. Why does the author believe paying kids for chores is not a good idea?

3. Why does the author believe everyone in the home should work together to keep a house clean and safe?

4. What do kids who don't get paid for chores learn?

Reading At Home...

Can Make A HUGE Difference!

Make Reading A part of Your Family Time!

Family time is so important... Why not make reading part of this valuable time with your kids? Here are some tips for integrating reading into our daily family activities:

- Read bedtime stories
- Play a board game
- Visit your local library
- Read a recipe and cook something yummy together!
- Create a comfy reading space in your home.
- Put your child in charge of reading the grocery list at the store.



Choose Books That Are At An Appropriate Reading Level For Your Child

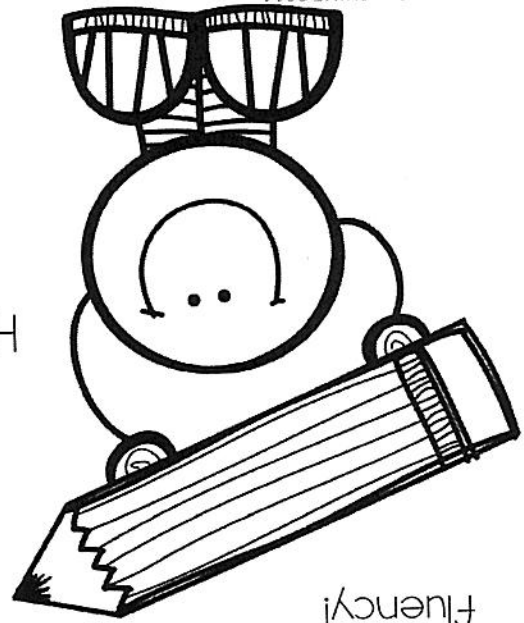
Use the five finger rule.

Open the book to any page and ask your child to read. Put up a finger every time your child does not know a word. If you have put up more than five fingers before the end of the page, this book is too hard for your child.

Choose books that match your child's likes and interests.



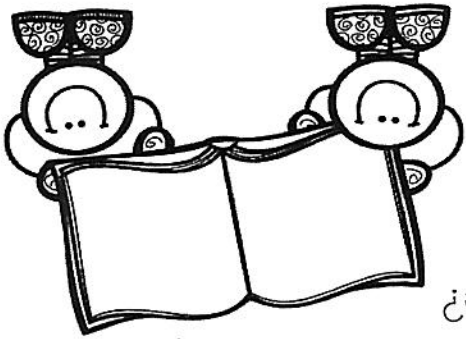
Keep plenty of reading materials in your home: books, magazines, newspapers, and comic books. Children enjoy having a variety of reading materials!



http://interactivestories.weebly.com
www.wegivebooks.org
www.spellingcity.com
www.speckaboos.com
www.starfall.com

Here are a few FREE online resources:
websites for literacy.

There are many fun and interactive
Read Books Online!



- Check For Understanding**
- ✓ Start the book by making predictions. What do you think will happen in this story?
 - ✓ Ask questions and make comments during the reading process.
 - ✓ After reading a book, have your child tell you the events from the story in the correct order.
 - ✓ What was the problem in this story?
 - ✓ How did the character feel when...?
 - ✓ Encourage your child to make connections. Does this story remind you of another book you read, an event in your life, a movie?



- How To Read With A Beginning Reader:**
- Encourage your child to use his/her finger to point to each word.
 - Read a sentence and have your child repeat it.
 - Take turns reading a sentence each or a page each.
 - Talk about the story as you read it. What do you think will happen next? What does this story remind you of? How do you think this character feels? Don't be afraid to read the same book again! Repeated reading helps build reading fluency!

