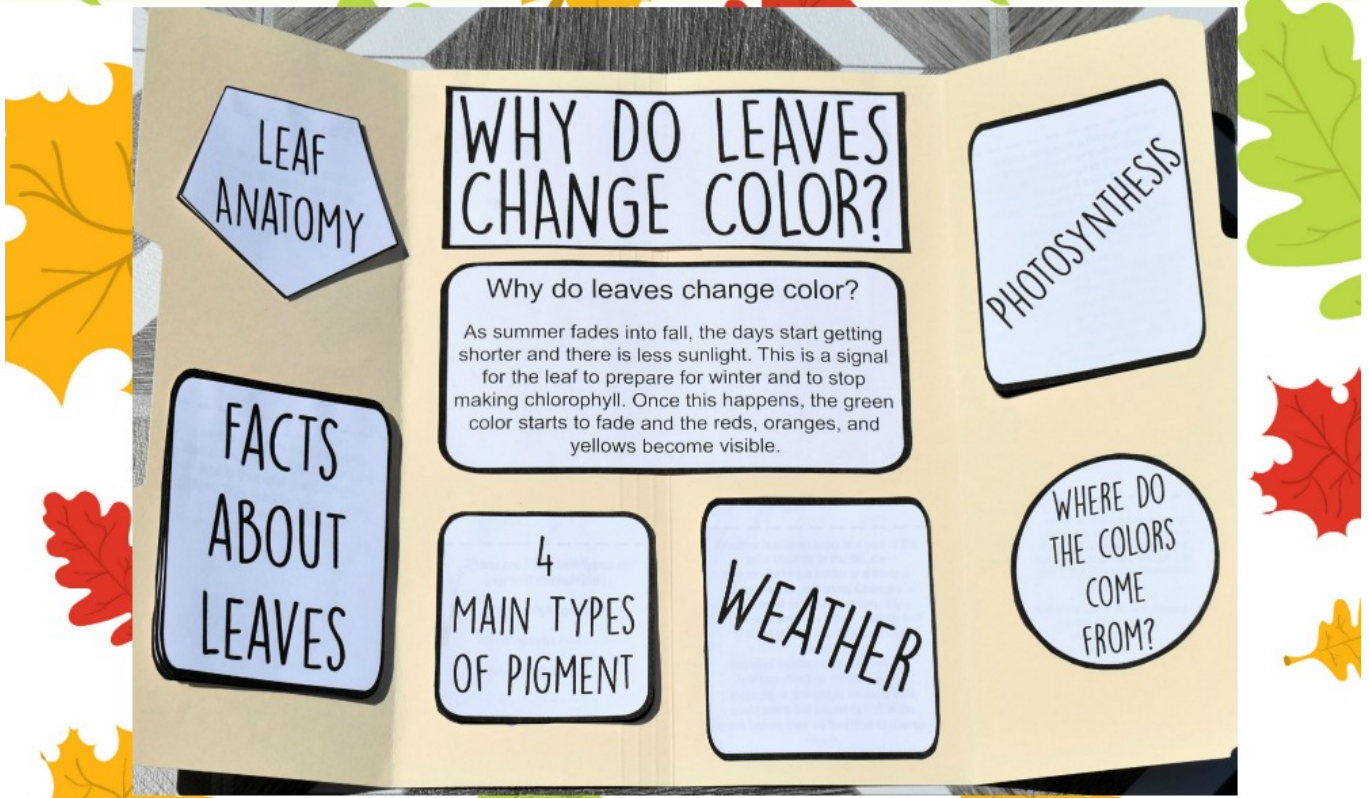


WHY DO LEAVES CHANGE COLOR?

LAPBOOK



WHY DO
LEAVES
CHANGE COLOR?



My
'Why Do Leaves
Change Color?'
Book

By: _____

LEAF
ANATOMY

WHY DO LEAVES CHANGE COLOR?

Why do leaves change color?

As summer fades into fall, the days start getting shorter and there is less sunlight. This is a signal for the leaf to prepare for winter and to stop making chlorophyll. Once this happens, the green color starts to fade and the reds, oranges, and yellows become visible.

FACTS
ABOUT
LEAVES

4
MAIN TYPES
OF PIGMENT

WEATHER

PHOTOSYNTHESIS

WHERE DO
THE COLORS
COME
FROM?

WHY DO LEAVES CHANGE COLOR?

The major tissue systems present are:

1. The epidermis that covers the

Leaves are green in the spring and summer because that's when they are making lots of chlorophyll. Chlorophyll is important because it helps plants make energy from sunlight—a process called photosynthesis.

The summer sunlight triggers the leaves to keep making more chlorophyll. But trees are very sensitive to changes in their environment.

As summer fades into fall, the days start getting shorter and there is less sunlight. This is a signal for the leaf to prepare for winter and to stop making chlorophyll.

Once this happens, the green color starts to fade and the reds, oranges, and yellows become visible.

Why do leaves change color?

As summer fades into fall, the days get shorter and there is less sunlight for the leaf to prepare for making chlorophyll. Once the weather becomes

Leaves come in many shapes and sizes. The biggest undivided leaf is that of a giant edible arum. This lives in marshy parts of the tropical rainforest of Borneo. One of its leaves can be ten feet across.

Many leaves are covered in trichomes (small hairs) which have a wide range of structures and functions.

There are four main types of pigment in each leaf:

- Chlorophyll (greens)
- Xanthophylls (yellows)
- Carotenoids (oranges)
- Anthocyanins (reds)

Weather is also an important part of the color change. In the fall, the temperatures get colder and there is also more rain and snow. Changes in these weather conditions can play a role in how early the leaves change and how long they keep their beautiful colors.

Extreme weather changes can also have an effect on the leaves. For example, a drought or an early frost could make the leaves fall off of the trees before they've had time to change colors.

In the fall, trees put on a pretty impressive fashion show. Leaves that were green all summer long start to turn bright red, orange, and yellow. But where do these colors come from?

It all starts inside the leaf. Leaves have color because of chemicals called pigments.

How to create your lapbook:

Supplies Needed:

- File Folder
- Crayons, Markers
or Colored Pencils

- Glue
- Scissors

Lapbook Cover

To create the cover of the lapbook, color each item on the page. When finished, cut each item out and glue to desired spot on the front of the lapbook.

Center

Print and cut out the "Why do leaves change color?" banner and glue it to the top of the center portion of the lapbook. Then cut out the box beneath it and glue it under the banner.

Flip Flaps

There are 6 flip flaps in this lapbook. Print, cut and glue them together using the area above dotted line as your guide to put the glue. Place them in the desired area in the lapbook.

Back

Print the "What I learned about leaves." page and glue it to the back of the lapbook.



WHY DO
LEAVES
CHANGE COLOR?



My
'Why Do Leaves
Change Color?'
Book
By: _____

WHY DO LEAVES CHANGE COLOR?

Why do leaves change color?

As summer fades into fall, the days start getting shorter and there is less sunlight. This is a signal for the leaf to prepare for winter and to stop making chlorophyll. Once this happens, the green color starts to fade and the reds, oranges, and yellows become visible.

WHERE DO
THE COLORS
COME
FROM?

In the fall, trees put on a pretty impressive fashion show. Leaves that were green all summer long start to turn bright red, orange, and yellow. But where do these colors come from?

It all starts inside the leaf. Leaves have color because of chemicals called pigments.

4
MAIN TYPES
OF PIGMENT

There are four main types of pigment in each leaf:

Chlorophyll (greens)

Xanthophylls (yellows)

Carotenoids (oranges)

Anthocyanins (reds)

PHOTOSYNTHESIS

Leaves are green in the spring and summer because that's when they are making lots of chlorophyll. Chlorophyll is important because it helps plants make energy from sunlight—a process called photosynthesis.

The summer sunlight triggers the leaves to keep making more chlorophyll. But trees are very sensitive to changes in their environment.

As summer fades into fall, the days start getting shorter and there is less sunlight. This is a signal for the leaf to prepare for winter and to stop making chlorophyll.

Once this happens, the green color starts to fade and the reds, oranges, and yellows become visible.

WEATHER

Weather is also an important part of the color change. In the fall, the temperatures get colder and there is also more rain and snow. Changes in these weather conditions can play a role in how early the leaves change and how long they keep their beautiful colors.

Extreme weather changes can also have an effect on the leaves. For example, a drought or an early frost could make the leaves fall off of the trees before they've had time to change colors.

FACTS ABOUT LEAVES

A leaf is an above-ground plant organ. Its main functions are photosynthesis and gas exchange.

A leaf is often flat, so it absorbs the most light, and thin, so that the sunlight can get to the chloroplasts in the cells.

Plants with leaves all year round are evergreens, and those that shed their leaves are deciduous. Deciduous trees and shrubs generally lose their leaves in autumn. Before this happens, the leaves change color. The leaves will grow back in spring.

Leaves come in many shapes and sizes. The biggest undivided leaf is that of a giant edible arum. This lives in marshy parts of the tropical rainforest of Borneo. One of its leaves can be ten feet across.

Many leaves are covered in trichomes (small hairs) which have a wide range of structures and functions.

LEAF ANATOMY

A leaf is a plant organ and is made up of a collection of tissues in a regular organization.

The major tissue systems present are:

1. The epidermis that covers the upper and lower surfaces
2. The mesophyll (also called chlorenchyma) inside the leaf that is rich in chloroplasts
3. The arrangement of veins

WHAT I LEARNED ABOUT LEAVES.



Four horizontal lines for writing, starting from the top right of the leaf illustration.

Twenty horizontal lines for writing, continuing from the bottom of the first section.

LITTLE BINS FOR LITTLE HANDS

Are you ready to . . .

- ✓ Find manageable science, engineering, and art projects that kids love doing and are budget-friendly.
- ✓ Stop entering your email address over and over for each activity.
- ✓ Spend less time prepping with our easy instructions, templates and supply lists.
- ✓ Spend more time engaging with your students, groups or kiddos.



[CLICK HERE TO JOIN](#)



Meet the Little Bins for Little Hands Duo!

Hi! My name is Sarah, and this is my son Liam. He's actually 13 now. We still LOVE playing around with science and STEM at home.

I shared a simple baking soda and vinegar science activity ten years ago with him. Since then, we've been hooked! Together we have enjoyed 100s of science experiments that are low cost, easy to set up, and just plain FUN!

I always aim to provide the BEST science activities and STEM projects that fit your time and budget! We hope you enjoy the materials we have put together for you today!

~Sarah and Liam

