

# IN AWE OF AUTUMN

## Dear Educator,

Right now many parts of the country are ablaze with the changes of the season. Leaves are bursting with new colors and trees are bearing fruits and nuts. All this excitement makes autumn a great time to "fall" into learning!

TIME For Kids has teamed up with the Teaching Kids to CARE team at Doubletree Hotels and the environmental experts at the Arbor Day Foundation to create this educational and entertaining "In Awe of Autumn" program.

Here are the classroom tools you'll find in this week's packet.

• **Take a "Fall for Fun!":** This fun student *TFK Extra!* is the perfect guide to help promote reading, science and understanding of autumn's changes.

• **A teacher curriculum guide:** The guide in your hands is jam-packed with in-class activities, background info, discussion starters and engaging reproducibles.

• **"What a Color-Fall Country!" poster:** A wonderful way to bring the colors of fall—and the different fruits and nuts harvested in autumn—into the classroom.

• **Special Websites:** You'll find bonus activities, experiments and downloadable PDFs of all program materials at [timeforkids.com/fallfun](http://timeforkids.com/fallfun) and [doubletree.com/thinktrees](http://doubletree.com/thinktrees).

• And, of course, there is the excitement of Doubletree Hotels' Show Your Colors Sweepstakes. One student will win a family trip to Orlando, Florida. More info is online at [timeforkids.com/fallfun](http://timeforkids.com/fallfun) and on the back of the student guide.

We hope you take advantage of these tools to translate the beauty of fall into colorful classroom learning—and fun!

Sincerely,

The Editors of TIME For Kids

## Web Links

### "In Awe of Autumn" Program:

**Teacher Site:** Bonus tools, including extra activity ideas and an interactive fall map. [timeforkids.com/fallfun](http://timeforkids.com/fallfun)

**Student Site:** Quizzes, career info, games, and more. [timeforkids.com/fallfun](http://timeforkids.com/fallfun)

**Doubletree Hotels' Think Trees Site:** A great place for kids to get involved in helping the trees in their communities. [doubletree.com/thinktrees](http://doubletree.com/thinktrees)

**Arbor Day Foundation:** In-depth info on celebrating, planting and caring for trees. [arborday.org](http://arborday.org)



## TURN YOUR HOME INTO A TREE HOUSE

### Dear Parent or Guardian,

This week your child is celebrating the science and fun of fall with a program called "In Awe of Autumn." This in-school curriculum was developed by Doubletree Hotels, the Arbor Day Foundation, and TIME For Kids as a way to harness the excitement of autumn.

Your child is learning why leaves change color in the fall, how parts of our country experience fall in different ways, and about the fruits and nuts trees in autumn can offer.

We didn't want to "leaf" you out! We invite you to join the fun with the autumn activities and projects below. We encourage you to give them a try with the whole family.

Happy fall!  
Sincerely,

The Editors of TIME For Kids

P.S.: Don't forget to enter the Doubletree Hotels' "Show Your Colors" Sweepstakes with your child. The **Grand Prize** is a family trip for four to Orlando, Florida, to visit the traveling *Exploring Trees Inside and Out* exhibition this December. For more information, see the back of your child's *TFK Extra!* or visit [timeforkids.com/fallfun](http://timeforkids.com/fallfun).



## Fall Family Fun Ideas

### Go Bananas!

For this experiment you'll need two green bananas and a paper bag.

- Put one green banana in the paper bag and keep the other uncovered.
- Every day for the next four days check on the two bananas and ask your child to write down what he or she observes.
- Why did the banana in the bag ripen faster? The ripening process was quicker thanks to a gas called ethylene produced by the fruit. The covered bag trapped this gas closer to the fruit and caused it to ripen faster.
- What does this have to do with fall? Leaves change colors in the fall because they lose their chlorophyll, the green pigment that helps trees to make food. Bananas change colors as they ripen for similar reasons.

### In Touch with Fall

You'll need a blindfold, a few trees and two family members for this activity.

- Blindfold a family member and carefully lead her to a tree. Ask her to touch the bark, smell it—and even hug it to figure out how wide it is.
- Lead her away and spin her around three times before removing the blindfold. Ask her which tree she was just touching.
- By feeling and smelling the trees, can she figure out which tree is the correct one?



## IN-CLASS ACTIVITIES

To help educators, the Arbor Day Foundation ([arborday.org](http://arborday.org)) has provided the following information.

### BACKGROUND

#### Why Do Leaves Change Color?

Scientists don't fully understand all of the complicated actions and interactions that produce the spectacular displays of autumn leaf colors that are a highlight of the fall months. Organic pigments in the leaf cells, sunlight intensity, moisture, temperature, length of day, tree genetic traits, site characteristics, latitude, altitude—all these and other factors affect when and how leaves change colors, and the hues they produce.

#### What Produces the Change?

Actually, leaves don't really change colors—they reveal their true colors. During the summer, a green pigment called chlorophyll masks the natural pigments. When chlorophyll production ceases in the fall, the green disappears and previously hidden yellows, oranges or browns are revealed.

### DISCUSSION & RESEARCH STARTERS

Use these questions to lead classroom discussions and research projects about autumn and the importance of trees in our daily lives.

#### ASK

- What are some of the things we can see in nature that tell us it's fall?
- What makes leaves seem to change color in autumn?
- What happens to leaves that fall from trees?
- Why don't evergreens change color?
- Are brightly colored leaves the only things that appear on trees in the fall?
- Can you name a few of the fruits and nuts that end up in our kitchens and lunch boxes?
- Why do these fruits ripen now instead of during the summer when most fruits and vegetables can be found?

### MATH

#### Table for Tree?

These stats about the fruits and nuts of fall are great ingredients for cooking up engaging word problems.

- Tell students it can take the energy provided by 50 leaves to produce one apple. **Ask:** How many leaves would you need to make three apples? Five? Ten?
- Explain that in the United States each person, on average, consumes nearly 300 pounds of tree nuts and fruits in a year. **Ask:** On average, how many pounds would four people consume? Six? Nine?
- It takes about 36 apples to create one gallon of apple cider. **Ask:** How many apples would you need to make  $\frac{1}{2}$  gallon? A  $\frac{1}{4}$  gallon? Five gallons?

Ask students to make up their own word problems using the stats above, from other materials in the "In Awe of Autumn" program or from Doubletree Hotels' site at [doubletree.com/thinktrees](http://doubletree.com/thinktrees). Have students challenge the class with their problems.



## IN-CLASS ACTIVITIES

### LANGUAGE ARTS

#### Trees & Thank You

What would happen if a tree suddenly had the ability to speak and move? Ask this question to your students and let their imaginations run wild. Have them write short stories about a day they might spend with the tree. What would the tree say and how would the kids thank it for all that trees give us?

### SCIENCE

#### Equinox Rocks!

The shorter days and cooler temperatures of fall play a part in the changing leaves on trees. But that leads to the question: Why are the days getting shorter and the temperatures getting cooler? It all has to do with the angle at which the sun's rays hit the earth's surface.

#### BACKGROUND

Have students think of the earth as a spinning top that tilts back and forth as it orbits the sun. The Northern Hemisphere is tilted away from the sun in the winter—and, therefore, the sun is not very high in the sky. In the summer the earth is tilted toward the sun, and the sun is higher in the sky. In this case, more of the sun's direct rays hit places on Earth, causing those areas to heat up.

Twice a year when the sun crosses the equator, each of these events is called an equinox. At those times, day and night are about the same length. The vernal equinox marks the beginning of spring in the Northern Hemisphere and occurs in March. The autumnal equinox falls on September 22, and marks the beginning of fall in the Northern Hemisphere.

To make these equinox facts clearer to students and help them visualize why we have seasons, give this quick experiment a try.

What You Need

- Globe of the earth
- Flashlight

#### WHAT YOU DO

- Ask a student to hold the flashlight and another to hold the globe about four or five feet apart, depending on the strength of the light.
- Point the light at the globe and tilt the globe so that the North Pole is angled away from the flashlight.
- Ask the student to keep the globe tilted and to spin it. Observe how the light moves over the globe.
- Have the student with the flashlight stay in the same spot. The student holding the globe should "orbit" the flashlight by going around it in a circle, spinning the globe as he or she moves while keeping it tilted.
- Ask the student holding the globe to tilt the North Pole toward the light source and repeat steps three and four.

#### WHAT IT MEANS

When the Northern Hemisphere is tilted toward the light, the light hits the surface more directly. This is our summer. When the Northern Hemisphere is tilted away from the sun, the light hits the surface less directly. This is our winter. And, of course, the transition from summer to winter is fall.



NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

## "SEED" WHAT YOU CAN FIND

What will you discover at [timeforkids.com/fallfun](http://timeforkids.com/fallfun)? We've gathered a bushel of questions and games to help you find out. Head to the site to fill in the blanks below.

### WHAT A SITE! SEARCH

To solve this puzzle, you'll need to find the word list. Go to [timeforkids.com/fallfun](http://timeforkids.com/fallfun). See the menu on the left with all the different things to do on the site? Write down the **FIRST** word of each of those things in the blanks below. (We've put in the first and last words for you.) Now circle those words in the puzzle.



### WORD LIST

- HOME
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- SHOW



You'll need to go to [timeforkids.com/fallfun](http://timeforkids.com/fallfun) to finish the activities on this page.

### SITE SCRAMBLE

Unscramble the mixed-up letters so the sentences below makes sense. When you're done, take the first letter of each new word you've formed and unscramble them for the answer to the riddle.

- Robert Smith works at the Arbor Day Foundation in **S K A N E R B A**.
- On the home page at [timeforkids.com/fallfun](http://timeforkids.com/fallfun), Answer Spot is listed **R E U D N** Leaf Links.
- Pick of the Crop is a game about the fruits and nuts you can find on **S E T R E**.
- A boy named Eric visited *Exploring Trees Inside and Out* in **A T L T E E S**, Washington.

**RIDDLE:** How did the kid know the squirrel really likes autumn?

**ANSWER:** The kid heard the squirrel say, "I'm \_\_\_\_\_ about fall!"

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

## TRIP & FALL

Want to see how autumn can inspire your imagination? Without showing this page to a friend, ask him or her to give you the type of word described in each blank. Fill in all of the empty blanks. Now read the story!

WHAT'S WHAT	
<b>NOUN:</b>	A word that names a person, a place or a thing
<b>VERB:</b>	A word that shows action
<b>PAST-TENSE VERB:</b>	A verb that shows action that has already happened
<b>ADJECTIVE:</b>	A word that describes a noun
<b>PLURAL:</b>	More than one
<b>INTERJECTION:</b>	A word added to a sentence to convey emotion

I wanted to see all the fun things of autumn. So I packed up my \_\_\_\_\_ **NOUN** and my \_\_\_\_\_ **NOUN** in my \_\_\_\_\_ **TYPE OF TRANSPORTATION** and left Fall Town. I \_\_\_\_\_ **PAST-TENSE VERB** for \_\_\_\_\_ **NUMBER** days until I reached my first stop. It was \_\_\_\_\_ **YOUR NAME** City. The \_\_\_\_\_ **ADJECTIVE** trees there were filled with \_\_\_\_\_ **PLURAL NOUN** that had turned bright \_\_\_\_\_ **COLOR** in the fall weather. I climbed a tree until I was \_\_\_\_\_ **NUMBER** feet off the ground. " \_\_\_\_\_ **INTERJECTION**!" I shouted, filled with \_\_\_\_\_ **EMOTION** feelings. From up here all the people looked like \_\_\_\_\_ **PLURAL NOUN**. My next stop was \_\_\_\_\_ **NAME OF FRIEND** Valley. This \_\_\_\_\_ **ADJECTIVE** place was famous for \_\_\_\_\_ **PAST-TENSE VERB** \_\_\_\_\_ **TYPE OF FOOD**. But I was really hungry for \_\_\_\_\_ **KIND OF NUT** so I asked the local \_\_\_\_\_ **TYPE OF JOB** where I could find one. She gave me a \_\_\_\_\_ **ADJECTIVE** look and said, "You can find that in nearly any fall town!"

That made me realize I didn't need to travel far to see the fun and beauty of fall. It was already all around me!



Here's what you'll find at the teacher site at [timeforkids.com/fallfun](http://timeforkids.com/fallfun) where they'll discover...

- FREE FOR FALL:** Art project ideas like "Autumn Critters" and "Get Twiggy With It".
- WHEN TREES SLEEP:** An experiment that will show students why leaves change colors in the fall.
- BONUS ACTIVITIES:** Two extra autumn activities provided by the Arbor Day Foundation.
- PLUS... HELPFUL LINKS, PRINTABLE PDFS OF ALL PROGRAM MATERIALS, AND MORE!**

Encourage your students to visit [timeforkids.com/fallfun](http://timeforkids.com/fallfun) where they'll discover...

- QUIZZES • FALL-FOCUSED GAMES • FAMILY PROJECTS • AND A WHOLE BUSHEL OF OTHER AUTUMN-BASED ACTIVITIES AND FUN!**

### MORE WAYS TO USE THE "WHAT A COLOR-FALL COUNTRY!" CLASSROOM POSTER

Here are several more ideas to integrate the classroom poster into your lesson plans.

- State Tree Search:** Assign different regions of the poster to different groups of students. Ask them to research, identify and describe the state trees of each state in their region. Students record their findings in booklets and present them to the class.
- "Show Your Colors" Sweepstakes Tracker:** Keep track of your classroom's progress in entering the sweepstakes. Each time a student completes an entry form with a parent, add him or her to the "thermometer" on the poster. One hundred percent classroom participation should be the goal.

### THE REPRODUCIBLES

Entertaining and educational activity pages, the take-home reproducibles, "Turn Your Home into a Treehouse" are a terrific way to let parents know about what students are learning in the "In Awe of Autumn" program. Encourage your students to take these reproducibles home and share the fun of fall!

### ANSWER SPOT

Answers to print quizzes and puzzles.

- Take a "Fall for Fun!"**
  - Country Quest answer: "Please leaf me alone!"
  - Apples of Your Eyes answer: fifty
- "Seed" What You Can Find! Reproducible**
  - What a Site! Search words missing from word list: PICK, STATE, DOCTOR, EXPLORE, FAMILY, LEAF, ANSWER
  - Site Scramble answers: NEBRASKA, UNDER, TREES, SEATTLE, and "I'm nuts about fall!"



## AWESOME AUTUMN ART GALLERY

**Put a heavy book on top.**

**Repeat steps in next of about 10 minutes and keep the book on top until the leaves are flat.**

**Place a leaf on the newspaper, and then cover it with another sheet of newspaper for a few weeks.**

**Give a credit of the leaves in this form. You can decorate the page with markers or glitter. (Use the leaves from step 1.)**

**Put a heavy book on top.**

**Repeat steps in next of about 10 minutes and keep the book on top until the leaves are flat.**

**Place a leaf on the newspaper, and then cover it with another sheet of newspaper for a few weeks.**

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**Give a credit of the leaves in this form. You can decorate the page with markers or glitter. (Use the leaves from step 1.)**

- Freshly picked leaves
- Heavy books
- Newspaper