

# Creative Kits ACTIVITIES FOR KIDS

OCTOBER 2020

"INTO THE WOODS"





# Geative Kit: October 2020 Library Newsletter

### What's It All About?

Welcome to your **Creative Kit!** Because the library is not yet open for programs, this kit includes a month's worth of activities for you to complete at home. Inside, you'll find craft projects, science experiments, games and activities, a book list, a reading challenge, and much more.

To make the most of your kit, tune in to videos and virtual programming hosted by the library (a full schedule is included). If you have any questions about your kit, please call the library at 224-7113, or email the Youth Services Librarian at **juliana@bakerfreelib.org.** 

### Theme of the Month

This month's theme is **Into the Woods.** October is one of the best months to spend outside in New Hampshire! The projects in kit will help us to explore and connect with the natural world around us, sending us into the woods to learn:

- What Tree Rings Can Tell Us
- Why Leaves Change Color (and how to predict which color they'll turn)
- How Nature Can Help us Predict the Weather
- How to Make Autumn-Inspired Oobleck ....And much more!

Inside Your Kit

#### **Each Creative Kit Includes:**

- (1) Suggested Calendar
- (1) October Book List
- (1) October Reading Challenge
- (1) October Lego Challenge
- Autumn-Inspired Worksheets & Games
- ART EXPLORATION: Chalk Leaf Prints
- STEM EXPLORATION: Color-Changing Leaf
- **STEM EXPLORATION:** Apple Oobleck
- **ACTIVITY:** Autumn Coloring Contest
- ACTIVITY: Woodland Walk

#### AGE 3-7 KIT ALSO INCLUDES:

- (1) Storytime At Home Resource Sheet
- ART EXPLORATION: Clothespin Painting
- **STEM PROJECT:** Pinecone Weather Station
- **ACTIVITY:** Roll-a-Story

#### AGE 8-12 KIT ALSO INCLUDES:

- ART EXPLORATION: The Woods at Night
- **STEM EXPLORATION:** The Science of
  - Tree Rings (Dendrochronology)
- **ACTIVITY:** Short Story Challenge



Register for programs and future kits at www.bowbakerfreelibrary.org.

## Let's Explore! Additional Information & Resources

### Additional Resources



Visit <u>www.explore.org</u> (or use their free app) to watch a live animal webcam! We recommend the following livestreams this month:

- 1. International Wolf Center in Ely, Minnesota
- 2. Brown Bears at Brooks Falls in Katmai, Alaska
- 3. Turkey Barn in Watkins Glen, New York
- 4. Great Gray Owls in Mission Valley, Montana
- 5. Decorah Eagles in Decorah, Iowa

#### **NATIONAL GEOGRAPHIC KIDS**

A great resource to learn about animals and the natural world. Research your favorite animal species, check out the web series **Amazing Animals**, find facts about U. S. States and Native American tribes, and access a bunch of free games and quizzes! All at <u>kids.nationalgeographic.com</u>.

### **PROJECT NOAH**

Become a Citizen Scientist! Anyone can contribute data, information and photographs to scientific projects. Check out wildlife sightings posted by other users, and contribute to many active projects by observing and recording wildlife wherever you are. <u>www.projectnoah.org</u>



### Curious Questions

### Why do Leaves Change Color?

To understand why leaves change color in the fall, we need to understand why they're green in the first place!

Trees appear green because of a chemical in their leaves called **chlorophyll**. This chemical allows trees to absorb light and heat from the sun, which is essential to their growth. Throughout the spring and summer, trees make lots of chlorophyll to take advantage of the long daylight hours, and warm temperatures, of those seasons.

In the fall, as night becomes longer and temperatures drop, trees stop making chlorophyll. When they do, other pigments (that are always present in the leaves, but hidden by the chlorophyll) are allowed to shine.

Depending upon the tree and the chemicals inside it, green leaves might become red, orange, yellow or even purple. In general, trees that hold more sugar in their leaves turn a vibrant red: maples are an excellent example.

### What About Evergreens?

You'll notice that some trees never change color, and hold on to their leaves all winter long. These are called **evergreens**, and include many types of spruce, fir, and pine trees.

Most trees stop making energy from sunlight (a process called **photosynthesis**) during the dark winter months, causing their leaves to change color and fall. Evergreens, though, store nutrients and water throughout the winter, but it means they can only produce short, spiky leaves: that's why they look more like needles!

Want to predict what color a tree will turn? Try the STEM activity in your kit!

# october 2020 SUGGESTED CALENDAR

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
YOUR KIT AT SHOWS A <b>P</b> SPREADS Y THROUGHOUT DESIGNED PROGRAMS H	ANY TIME. TH <b>Roposed Sch</b> OUR KIT'S THE MONTI TO COORDIN	EDULE THAT CONTENTS H, AND IS NATE WITH HE LIBRARY.	1 READING CHALLENGE Stock up on some new books at the library, and check off an item on your monthly reading challenge!	2 COLOR AND COUNT Break out the crayons and complete some of your fall worksheets and coloring pages.	3 WOODLAND WALK Head out into nature today. Write your name using natural items, or find the colors of the rainbow!
5 EXPLORE A LIVESTREAM Watch a live animal camera on explore.org to see forest-dwelling animals up close.	6 COLORING CONTEST Color your picture for the October coloring contest, and bring it by the library to enter!	7 STEM EXPLORATION Why do leaves change color? Try an experiment to predict what color your favorite tree will turn.	8 PICTURE BOOK READ-ALOUD 10:30AM (Virtual)	9 LEAF ART EXPLORATION Create stunning art prints using fallen leaves, black paper, and chalk or pastels.	10 STEM EXPLORATION Create your pinecone weather station (3-7), or learn the science of tree rings (8-12) today!
12 <b>READING</b> CHALLENGE Check off one of the items on your October Reading Challenge.	13 <b>STORY TELLER</b> Tell your story! Try the Roll-a-story activity (3-7), or get spooky with our short story challenge (8-12).	14 CITIZEN SCIENTIST Contribute to a scientific mission on projectnoah.org, by counting or observing animals in your backyard.	15 PICTURE BOOK READ-ALOUD 10:30AM (Virtual)	16 CLOTHESPIN PAINTING Break out the paint to make clothespin painted trees and pumpkins! (3-7).	17 SIGN-UP FOR NOVEMBER'S KIT Don't forget to register for the November kit! Sign-up using our online calendar.
19 BOOK ANEERS BOOK CLUB 4:00PM (Virtual)	20 LEAF LABYRINTH Rake up some of those falling leaves from the yard, and create your own leaf maze!	21 EXPLORE A LIVESTREAM Watch a live animal camera on explore.org to see forest-dwelling animals up close.	22 PICTURE BOOK READ-ALOUD 10:30AM (Virtual)	23 LEGO CHALLENGE Build your own project, inspired by the library's monthly Lego Challenge!	24 APPLE OOBLECK Spend some time in the kitchen today, and make your own autumn-inspired slime called Oobleck.
26 OUTDOOR GAMES Spend some time outside! Try the Pollinator Game and Scavenger Hunt included in your kit.	27 THE WOODS AT NIGHT Daylight Savings Time ends this Sunday! Explore the woods at night with this unique art project. (8-12)	28 BOOK TRACKER Look over all the books you finished this month. Can you complete one more reading challenge today?	29 PICTURE BOOK READ-ALOUD 10:30AM (Virtual)	30 CATCHING UP Are there any projects you haven't finished? Today's the day to tackle them.	31 <b>REFLECTION</b> What topics are you still curious about? Ask a librarian to help you learn more!

# SUGGESTED BOOKS

### AGES 3-7

Hocus Pocus, It's Fall! NATURE: JP O'BRIEN

Apples and Pumpkins NATURE: JP ROCKWELL

Yellow Time NATURE: JP STRINGER

A Fall Ball for All NATURE: JP SWENSON

Red Leaf, Yellow Leaf NATURE: JP EHLERT

The Apple Pie Tree NATURE: JP HALL

North Woods Girl NATURE: JP BISSONETTE

In the Woods NATURE: JP ELLIOTT

The Searcher and Old Tree NATURE: JP MCPHAIL

All Eyes, All Ears NATURE: JP JACKSON

The Great Aaa-Ooo! ANIMALS: JP LAMBERT

Squirrels Leap, Squirrels Sleep ANIMALS: JP SAYRE

Little Owl's Night ANIMALS: JP SRINIVASAN

Looking for a Moose ANIMALS: JP ROOT

Fawn at Woodland Way ANIMALS: JP ZOEHFELD

Fox Explores the Night CONCEPTS: JENKINS

### AGES 8-12

Appleblossom the Possum Holly Goldberg Sloan J SLOAN

The Wind in the Willows Kenneth Grahame J GRAHAME

Where the Woods End Charlotte Salter J SALTER

The Girl Who Speaks Bear Sophie Anderson J ANDERSON

> Wishtree Katherine Applegate J APPLEGATE

A Wolf Called Wander Rosanne Parry J PARRY

The True Blue Scouts of Sugar Man Swamp Kathi Appelt J APPELT

> Seven Wild Sisters Charles De Lint J DE LINT

Nuts to You Lynne Rae Perkins J PERKINS

Winnie the Pooh A. A. Milne J MILNE

Little House in the Big Woods Laura Ingalls Wilder J SERIES: LITTLE HOUSE

> The Owl Diaries Rebecca Elliott J SERIES: OWL DIARIES

### NON-FICTION

The Sequoia Lives On J 585.2 COOKE

> Poetrees J 811 FLORIAN

Birches J 811 FROST

The Tree Lady J 92 SESSIONS

Up in the Leaves: The True Story of the Central Park Treehouses J 92 REDMAN

Bringing Back the Wolves: How a Predator Restored an Ecosystem J 599.77 ISABELLA

10 Reasons to Love a Bear J 599.78 BARR

Winnie: The Story of the Bear Who Inspired Winnie the Pooh J 599.78 WALKER

How Chipmunk Got His Stripes J 398.24 BRUHAC

Owls: Strange and Wonderful J 598.97 PRINGLE

> **The Bat Book** 599.4 MILNER

Nocturne: Creatures of the Night J 591.518 SCOTT

Green Planet: Life In Our Forests J 577.3 BUTTERFIELD

National Parks of the U.S.A. J 363.68 SIBER

Put On Your Owl Eyes: Mapping, Tracking and Journaling J 508 FRANKLIN

# STORYTIME AT HOME

Suggested songs, rhymes and stories to share before bedtime, or anytime you're missing our regular storytimes!

### SONGS & RHYMES

\*Visit "**JBrary**" on YouTube for melodies, sign language and hand movements for all songs!

### Falling Leaves

To the tune of: "Twinkle, Twinkle, Little Star"

Falling, falling falling leaves Mother Nature did you sneeze? (ACHOO!) Red and yellow, orange and brown Big and little ones on the ground Falling, falling, falling leaves Mother Nature did you sneeze? (ACHOO!)

### Autumn Leaves Are Falling Down

To the tune of: "London Bridge Is Falling Down" Autumn leaves are falling down, Falling down, falling down, Autumn leaves are falling down, Red, yellow and brown!

Now it's time to rake them up, Rake them up, rake them up, Now it's time to rake them up, Red, yellow and brown!

Now it's time to jump right in, Jump right in, jump right in, Now it's time to jump right in, Red, yellow and brown!

### Pumpkin, Pumpkin on the Ground

To the tune of: "Twinkle, Twinkle, Little Star" Pumpkin, pumpkin on the ground, How'd you get so big and round? Once you were a seed so small. Now you are a great big ball. Pumpkin, pumpkin on the ground, How'd you get so big and round?

### <u>l'm A Little Pumpkin</u>

To the tune of: "I'm A Little Teapot" I'm a little pumpkin, short and round. Here is my stem and there is the ground. When I get all cut up, don't you shout! Just open me up, and scoop me out.

### <u>The Leaves on the Trees</u>

To the tune of: "The Wheels on the Bus" The leaves on the trees turn orange and red, Orange and red, orange and red, The leaves on the trees turn orange and red, All through the town.

The leaves on the trees come twirling down, Twirling down, twirling down, The leaves on trees come twirling down, All through the town.

The leaves on the ground go swish, swish, swish, Swish, swish, swish. Swish, swish, swish! 'The leaves on the ground go swish, swish, swish, All through the town.

### <u>l'm A Nut</u>

l'm a little acorn round, Lying on the cold, cold ground. Everybody steps on me, That is why l'm cracked, you see!

l'm a nut (tap knuckles on head) l'm a nut (tap knuckles on head) l'm a nut, l'm a nut, l'm a nut (tap knuckles on head)

#### ALTERNATIVE VERSION:

Five little acorns in a tree Swaying in the cold, cold breeze When the when blows through the town, One little acorn tumbles down. (Repeat until no acorns are left).

### Way Up High in the Apple Tree

Way up high in the apple tree, Two little apples smiled at me! I shook that tree as hard as I could... Down came the apples, Mmm, they were good!

# STORYTIME AT HOME

Suggested songs, rhymes and stories to share before bedtime, or anytime you're missing our regular storytimes!

### STORIES TO SHARE

Books about trees and leaves, autumn, and all kinds of woodland creatures! Ask a librarian to more.

### **ANIMALS:**

The Great Aaa-Ooo! (JP LAMBERT)

Little Owl's Night (JP SRINIVASAN)

Where Do Bears Sleep? (JP HAZEN)

> Bear and Wolf (JP SALMIERI)

Wolves (JP GRAVETT)

The Happy Hedgehog (JP PFISTER)

The Golden Acorn (JP HUDSON)

> In the Woods (JP ELLIOTT)

NATURE: Wonderfall (JP HALL)

I Know It's Autumn (JP SPINELLI)

Hocus Pocus, It's Fall! (JP O'BRIEN)

Mouse's First Fall (JP THOMPSON)

When A Tree Grows (JP MEALEY)

> Little Tree (JP LONG)

There Was a Tree (JP ISADORA)

Tree: Peek-Through Picture Book (JP TECKENTRUP)

**NON-FICTION:** 

**Drawn From Nature** 508.2 AHPORNSIRI

J 585.2 COOKE

Poetrees J 811 FLORIAN

The Bat Book **599.4 MILNER** 

**Burrowing Owls** J 598.9 MARSTON

Why Do Wolves Howl? J 599.74 RESNICK

Secret Life of the Red Fox J 599.775 PRINGLE

> How Chipmunk Got His Stripes J 398.24 BRUHAC

### FFATURED READ-ALOUDS

Tune in every Thursday to hear a virtual read-aloud with Miss Juliana!



The Sequoia Lives On

### Fall for a Good Book An October Reading Challenge for Kids

- Celebrate the arrival of fall by reading a book with a red, orange, or yellow cover.
- Read a book in the dark or under the covers, using only a flashlight to see.
- □ Read a book that features a fox, a bear, or a wolf as a character.
- Pick a book you've read and loved, and make a bookmark inspired by it.
- Read out loud to a pet or stuffed animal.
- Read a spooky story, or one that features traditionally spooky creatures like goblins, monsters, ghosts or witches.
- Read a book that takes place in the woods.
- Read beneath the shade of your favorite tree.
- October 12 is
  Indigenous People
  Day. Read a story
  about or inspired by
  Native American
  culture.



# Fall For a Good Book September Reading Log

X	<u>A</u>				
Books Finished	Challenge Completed				
Rent					
Challenge inspired by <b>readbrightly.com</b> .					

# Into the Woods Short Story Challenge

The Challenge: Write a short story that includes the phrase "<u>It came from the woods.</u>" The phrase can occur anywhere in the story. Be creative, and feel free to add pictures! If you'd like to be featured on the library's website, submit the completed story to juliana@bakerfreelib.org, or bring it to the library on your next visit!

Space is provided below, but you can write or type your story anywhere you choose.



# Look to the Sky... Roll a Story Activity

All you need for this activity is a single die and some imagination! Create a story that weaves together the character, place and problem you receive by randomly rolling the dice. Your story can be long or short, and take as many twists and turns as you choose.

lf You Roll A	First Roll: Place	Second Roll: Character	Third Roll: Problem
•	In a haunted house	A curious owl	Runs out of Halloween candy
	In the deep, dark woods	A hairy troll	ls lost!
•••	In a pumpkin patch	A wobbly moose	Can only spin around in circles
	Inside of a cave	A very stinky skunk	Drinks a witch's brew
	At a pond	A black cat	Chased by wolves
	Under a bridge	A group of children trick or treating	Stuck in a Zoom meeting

If you'd like to be featured on the library's website, submit the completed story to juliana@bakerfreelib.org, or bring it to the library on your next visit!

## Science Exploration How To Make Apple Oobleck

### **THE SCIENCE OF SLIME**

Slime is a unique mixture of ingredients that creates something strange: a substance that acts like both a **solid** and a **liquid** at the same time. It will hold its shape when pressed or molded, but oozes like water when allowed to flow. These mixtures defy the usual laws of science, and so they are called **Non-Newtonian Fluids. Oobleck** is one example, and includes any slime mixture made with corn flour.

Try the recipe below to make your own fall-inspired **Apple Oobleck.** Under what conditions does your Oobleck act like a solid (can you hold it, or shape it inside a mold or container?) When does it act more like a liquid?



### **MATERIALS NEEDED:**

1+ cups applesauce 2+ cups of cornstarch Bowl and spoon for mixing **Optional:** 

A cookie tray or pie plate for experimenting

**Cinnamon spice** 



**STEP 1:** Start by adding cornstarch to the bowl. It is recommended that you have cornstarch on hand, in case you need to adjust the ratio of cornstarch and liquid.

**STEP 2:** Next, add the applesauce and get ready to mix. This can be a messy process, and may be easier than a spoon. Start with 1 cup of applesauce and then add more as needed.

**STEP 3:** (Optional) Add a sprinkle of cinnamon to spice up your Oobleck!

**STEP 4:** Stir or mix your mixture. If the consistency doesn't feel right, add a little bit of cornstarch or applesauce as needed, in small increments. Adding cornstarch will firm it up; applesauce will make it more runny.

### How do I know when it's right?

Your Oobleck should be solid enough that you can pick up a clump in your hands, but runny enough that the clump then oozes back into the bowl. Once it feels right, experiment by squishing, squeezing, and using cookie cutters or containers to make fun shapes!

NOTE: This mixture is non-toxic and safe to taste, but it won't taste very good.

## Science Exploration The Science of Tree Rings

### WHAT IS DENDROCHONOLOGY?

**Dendrochronology (DEN-DOH-KRUH-NAW-LA-GEE)** is the science of dating events and environmental changes by using the annual growth rings found in timber and tree trunks. Those rings can tell us so much: not just the age of a tree, but how it grew, what kinds of weather and climate changes it endured, and more. With this project, you're going to be become a nature detective -- and all you need is a tree stump!

### AGE

The easiest thing to do, once you've found a good tree trunk, is to count the tree's rings to determine its age.

- A tree adds new layers of wood each spring and summer
  - Wood added in the spring grows faster and appears lighter
  - Wood added in the summer grows slower, and looks darker
- In order to date a tree, you should count the dark rings on a tree's stump once it's been cut down.

### WEATHER AND CLIMATE

Tree rings can also tell you about the weather conditions a tree has lived through. Use the guides included in your kit to help you!

- Wider tree rings indicate years with more rainfall and lots of new growth.
- Narrow tree rings, especially ones that go on for a few years or more, could mean that the tree has lived through a **drought**, or a period of unusually low rainfall.
- Narrow tree rings could also indicate that a tree was infested by insects, resulting in lower growth.
- Scars or markings could mean that a tree was damaged in a forest fire.
- Rings that are stacked up or close together in one part of the trunk might indicate that something was leaning against the tree or shading it, resulting in uneven growth.



#### LIGHT AND DARK

See how the middle of this tree trunk is darker than the outside? That dark area is called the **heartwood**. It is actually made up of dead layers of the tree that serve as a pillar for the outer layers, which are called **sapwood** and represent newer growth.



## Get Outside On A... Woodland Walk

### **GET OUTSIDE**

October is a beautiful month to spend outside in New Hampshire. Grab a friend and some grown-ups, and head out on a **Woodland Walk** to see what the wild woods have to offer. We've included some activities to try while you're out and about!

#### **NATURE WRITING**

Can you write your name, or the name of someone you love, using only objects found in nature? Go on a unique scavenger hunt to find materials, then see what you can do!



#### **ALPHABET WALK**

As you're walking, can you find or name something that begins with each letter of the alphabet? Challenge a friend to play with you, and keep switching letters until you're stumped! We'll get you started: **A** is for acorn!

### **COLOR SCAVENGER HUNT**

Go on a color scavenger hunt! Try to colleting something in nature from each color of the rainbow. At home, arrange them into a beautiful collage or make a rainbow mobile by hanging your items from yarn or string.

### LEAF LABYRINTH

A labyrinth is a kind of maze: can you make your own using leaves? Rake and arrange the falling leaves in your backyard to create a pathway or maze, then see if you can make your way out!



#### LEAF ART

Can you create a picture from the leaves you find? Your imagination is the limit! Collect leave in different shapes, colors and sizes, and then challenge yourself to make pictures from them. Can you make animals like owls, wolves or deer? What about a leaf person?



## Science Exploration Color-Changing Leaf Lab

### WHY DO LEAVES CHANGE COLOR?

As you saw in our newsletter, the lower temperatures and vanishing daylight hours of fall and winter cause a chemical reaction in leaves: they stop making **chlorophyll**, which makes leaves appear green. When they do, other pigments (that are always present in the leaves, but hidden by the chlorophyll) are allowed to shine.

Depending upon the tree and the chemicals inside it, green leaves might become red, orange, yellow or even purple. Did you know that, with a simple experiment, you can see all the pigments a leaf carries inside it? Keep reading to learn all about **Chromatography**, a technique that allows us to see all the colors hidden inside a leaf!

### **MATERIALS NEEDED:**

White coffee filters (PROVIDED IN KIT)

Glasses or jars (1 for each type of leaf) Mortar and pestle, or spoon

Isopropyl (rubbing) alcohol

Leaves

**STEP 1:** Begin by collecting leaves. You can choose leaves that are still green, as well as any that have already turned color. Get a variety! Sort your gathered leaves by color, and choose one of each color to test.

**STEP 2:** Once you've chosen a leaf to test, tear it into pieces and crush the pieces using a mortar and pestle, or by pressing the pieces against a glass or jar with the back of your spoon. Repeat this process with all of the leaves you're testing, using a different jar for each one.

**\*SUGGESTION:** Pick two of each leaf, so that you can crush and test one, and keep the other to mark the jar and remember what is inside it!

**STEP 3: With a grown-up's help**, you're going to pour a few tablespoons of rubbing alcohol into each jar, enough to cover the crushed bits of leaf. The rubbing alcohol will separate the pigments inside the leaf, but it takes some time. You can cover the glasses or jars with plastic wrap to speed things up.

**STEP 4:** Once you see that the leaves have changed the color of your rubbing alcohol (can take anywhere from 30 minutes to a few hours, depending upon heat conditions), you're ready to test your leaves. You'll need special paper for this part -- use the coffee filter strips provided for you. TURN TO KEEP READING.





# Science Exploration Color-Changing Leaf Lab

**STEP 5:** Using your **chromatography** paper, you'll need one test strip for each jar. Place one end of the paper in your **solvent**, the rubbing alcohol. Drape the other end over the edge of your glass or jar. Leave your strips soaking for at least 1-2 hours, or overnight if you'd like.

**STEP 6:** Pull your strips out! By now, the alcohol has carried the pigments from the leaves up the paper, and separated them into bands.

- Which leaves made the most dramatic markings?
- Are you surprised to find different color bands in the leaves you picked?

### What Happened?

During most of the growing season, leaves contain more of a chemical called **chlorophyll** than any other pigment, making them appear green.

In the fall, chlorophyll begins to break down, and the other pigments, which have been there all along, are finally revealed. Yellow leaves have pigments called **xanthophyll**, orange leaves have pigments called **carotenoids**. **Anthocyanins** give leaves red and purple pigments.





**Chromatography** is a technique that separates a dissolved mixture, by passing a through filter paper through it. The pigments move along the paper at different speeds, making bands as they move. The pigments that were more soluble in the solvent (alcohol) moved further up the paper than the less soluble pigments. Learn more by visiting <u>www.playdoughtoplato.com/leaf-chromatography</u>!

**MAKE A PREDICTION:** Did you test any green leaves, and notice other bands of color on the strip? Most likely, the second band of color represents what color that leaf will turn in the fall! Write down your ideas and see what happens as the weather cools.

### Science Exploration Pinecone Weather Station

If you're yard is anything like mine, I bet you have a lot of pinecones lying around. This simple experiment will show you how to forecast (predict) the weather, using nothing but pinecones and your observation skills.

**STEP 1:** Gather pinecones in different shapes and sizes. You'll only need about 3-5 for this project.

**STEP 2:** Find a spot to keep your pinecones outside, where you can see them from inside the house. A window sill that is open to the air works best. You can use a bit of painter's tape or modeling clay to stick your pinecones to the sill, so they don't move or blow away.

**STEP 3:** Watch what happens! You'll notice that the pinecones open and close together. Over time, you'll see a pattern: the pinecones open when the weather is sunny and dry, and close when it's about to rain.

#### What's Happening?

Pinecones open and close depending on how humid it is, to help spread seeds. Inside the pinecone there are lots of light seeds. When the weather is dry the pinecone opens up, and any wind will catch the seeds and allow them to be dispersed in the air.

When the humidity rises and rain is likely, the pinecone closes up to prevent the seeds escaping from escaping, as they will become water logged in the rain. This means they would travel only a short distance from the original tree, which would be shaded and have to fight the "parent" tree for resources.



### **DAILY OBSERVATION CHART**

DATE	PINECONES	WEATHER
DAY 1	OPEN/CLOSED	
DAY 2	OPEN/CLOSED	
DAY 3	OPEN/CLOSED	
DAY 4	OPEN/CLOSED	
DAY 5	OPEN/CLOSED	
DAY 6	OPEN/CLOSED	
DAY 7	OPEN/CLOSED	
DAY 8	OPEN/CLOSED	
DAY 9	OPEN/CLOSED	
DAY 10	OPEN/CLOSED	
DAY 11	OPEN/CLOSED	
DAY 12	OPEN/CLOSED	
DAY 13	OPEN/CLOSED	
DAY 14	OPEN/CLOSED	

# Autumn Coloring Contest!



To enter our coloring contest, color the included picture and bring it to the library with your name and age on written on the back. You can also scan and email your completed entry to juliana@bakefreelib.org.

Prizes will be awarded to the best entries! Please send in your completed picture by **October 17, 2020.** 

