





Dear teachers, parents and informal educators

Welcome to the Activity Guide for Ireland.

As filmmakers for the giant screen, we have more than 30 years of experience taking audiences on cinematic learning adventures around the world. In our documentary film *Ireland*, produced for IMAX® and giant screen theaters, we explore the natural wonders and rich, cultural heritage of the island of Ireland.

From such spectacular natural landmarks as the giant Cliffs of Moher, the volcanic Giant's Causeway and the rugged Skellig Islands, to such cultural treasures as Dublin and Belfast, Blarney Castle and the Blarney Stone and the Trinity College Library, home to the world's most famous illuminated manuscript, the Book of Kells, *Ireland* celebrates the vibrant traditions and sacred customs of this ancient land.

With this Activity Guide, learners of all ages can explore Ireland's natural wonders and cultural traditions in more detail with fun and interactive activities. Whether writing and illustrating a poem in the style of the Book of Kells or learning about the importance of the potato to Ireland's history while making a potato battery, this Guide offers a variety of activities that will bring alive the magical place that is Ireland.

We hope you enjoy these activities at home, at school or in youth groups. And have fun learning about the joy and diversity of all that Ireland has to offer.

— The Ireland Filmmaking Team

For more information about *Ireland* and where it is playing, visit www.IrelandMovie.com.

OVERVIEW

This Activity Guide provides activities and challenges to inspire a curiosity into the culture and history of Ireland. It is intended for use by schools, home school groups, informal educators, scout groups, families, and anyone wishing to share a love of Irish culture. To encourage life-long learning, this guide will use the terms "learners" and "learning groups" throughout the activities to encompass the learner in all of us.

ACKNOWLEDGEMENTS

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ACTIVITY 6 19

Ancient Irish Alphabet: Ogham

Irish Emigration

The Book of Kells

ACTIVITY 7





IN THIS ACTIVITY:

In this activity, you'll make an underwater volcano while learning about Ireland's volcanic history and the natural wonder called Giant's Causeway.

INTRODUCTION

The island of Ireland is a place of fascinating geology. It was formed about 420 million years ago when two land masses collided. One part of the land mass helped to create Europe, Africa and Australia as well as Ireland. The other land mass went on to form part of North America and northwest Ireland. That is why there are geologic similarities between the mountains of Appalachia in the eastern United Sates and northwestern Ireland. In 2011 the Irish section of the International Appalachian Trail was established, and it passes an extraordinary geological formation, the Giant's Causeway. A causeway is a raised path or walkway over wet land, like a marsh, or over water.

MATERIALS

- A large clear plastic or glass container that can hold a submerged bottle standing up with at least 5-6 inches of water over the top (this will be the "ocean")
- A bottle or jar with a narrow top (this will be the "volcano")
- String to make a handle to lower the smaller bottle into the large container (see video)
- Cold water for the ocean
- Hot water for the volcano
- Red food coloring
- Scissors to cut the string



The Giant's Causeway formed about 60 million years ago after underwater volcanic activity. It consists of about 40,000 interlocking rock columns. Most of the columns are hexagonal. Some of the stones are 39 feet (12 meters) high, and the cliffs made of the columns are 92 feet (28 meters) thick in places. So extraordinary was this rock formation that a legend arose around how it was built (see sidebar).

The Giant's Causeway was first referenced in print in 1693. While there had been some drawings of the causeway, the 1740 paintings of Dublin artist, Susanna Drury, brought the rock formation to the attention of scientists across Europe when her images were published as engravings. Since travel was difficult in those times and there was no photography yet, artists were often sent to capture the wonders of nature for others to study. Drury spent 3 months in the area making her paintings. It is a French geologist, Nicolas Desmarest, who wrote the caption for one of her images for a book published in 1768, who is credited with suggesting that the Giant's Causeway was the result of volcanic eruptions (even though he had never visited the causeway).

Scientific research has confirmed that volcanic activity resulted in this geologic feature. The basalt columns that make up the causeway are the result of underwater volcanic eruptions, and the specific cooling of the lava resulted in the columnar shape. The details of the cooling mechanisms that resulted in the hexagonal columns are still being studied. Experimental modeling of the mechanisms were undertaken as recently as 2018 (see research paper link on the next page).

The Giant's Causeway is such a spectacular and important geologic location that in 1986 it was declared a World Heritage Site by UNESCO. In 2019 nearly a million people visited the site.



THE LEGEND OF THE IRISH GIANT FINN MCCOOL

The legend of Giant's Causeway tells the story of the Irish giant Finn McCool who built the causeway by throwing rocks into the ocean in order to reach Scotland. He wanted to challenge a giant there who was threatening Ireland. This Scottish giant was named Benandonner. As McCool approached Benandonner he realized that this giant was massive and truly bigger than he was. So he retreated home to his wife. His creative wife came up with a plan to save him from Benandonner who was on his way over the causeway to fight McCool. Mrs. McCool disguised her husband as a baby and invited Benandonner in to wait for the return of her husband. Benandonner became concerned after seeing the large size of the "baby" so he left. On his way home over the causeway he destroyed most of it so that the Irish giant, McCool, could not follow him!



ACTIVITY: MAKE YOUR OWN UNDERWATER VOLCANO

Fill the large container about three quarters full with cold tap water. You'll need enough water to cover the submerged bottle with about 5-6 inches of water, but not so much that the water will overflow. See the video for details. Have an adult use a funnel to nearly fill the bottle with boiling water. Add some red food coloring into the hot water in the bottle, and then lower it gently into the cold-water bath using the string handle.

Watch what happens!

This experiment gives you an idea of an underwater volcano erupting and sending lava up to the surface. It was most likely that underwater volcanic action created the Giant's Causeway.



Watch the video below for more information about doing this activity.

https://www.youtube.com/ watch?v=O2Qq71ohhkM



ADDITIONAL RESOURCES:

Information on the geology of Ireland:

https://www.gsi.ie/en-ie/geoscience-topics/geology/Pages/Geology-of-Ireland.aspx

The legend of the Giant's Causeway:

https://www.thegiantscausewaytour.com/thegiants-causeway-story/

Video stories of the legend of the Giant's Causeway:

Live action narration on location:

https://www.youtube.com/watch?v=id4pmW0-GrI

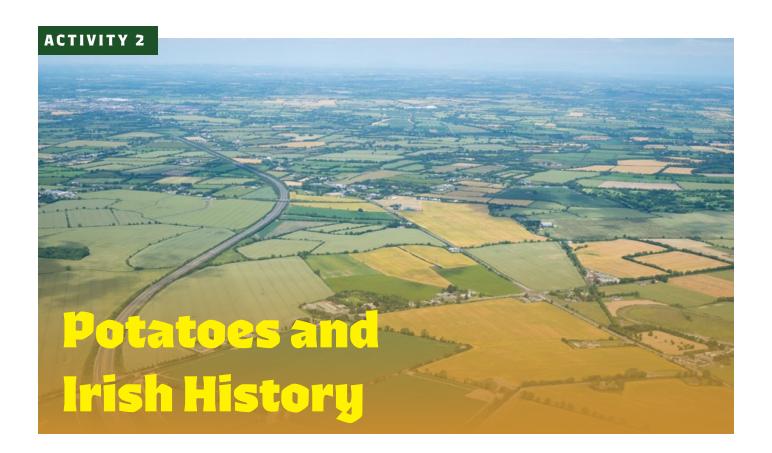
Historical perspectives on the Giant's Causeway: https://giantscausewayofficialguide.com/about/ history-of-the-giants-causeway/

Details of the formation of basalt columns: https://blogs.agu.org/georneys/2012/11/18/ geology-word-of-the-week-c-is-for-columnarjointing/

Current research on specifics of temperatures related to the formation of basalt columns:

https://www.nature.com/articles/s41467-018-03842-4





In this activity, you'll make a battery out of potatoes while learning about the significance of the potato to Irish history.

INTRODUCTION

Rarely has a vegetable been at the heart of a country's history. But the potato is key to the story of Ireland and the diaspora of the Irish to many countries.

Incas, the native people in what is now Peru, grew potatoes around 8,000-5,000 BCE. Spanish explorers returned to Europe with potatoes in 1536. In 1589 Sir Walter Raleigh brought potatoes to Ireland. Potatoes became a very popular crop throughout Europe because they were easier to grow than other crops, they grew in a variety of different soil conditions and were easily stored. Most importantly, because of the nutritional value of potatoes they became a basic food especially for the poor.

MATERIALS

- 3 copper pennies (or copper strips), one per potato
- 3 zinc nails; these are galuanized nails, available at hardware stores (or zinc strips)
- 5 insulated wires, 15-20 cm (6-8 inches) long, with alligator clips at the ends
- 1 low-current, light emitting diode (LED)
 (Hint: search online for a potato battery LED)
- Or, the above materials can be purchased cumulatively in a kit, available online https://amzn.to/3sjeItn

For the poor in Ireland, breakfast, lunch and dinner consisted of potatoes and often nothing else except for some milk and occasionally some butter. While this was not a balanced diet it did provide the calories that people needed to do the agriculture work for their landlords



since most of the poor did not own their own land. They were tenant farmers. They had a small amount of land to grow their own food and sometimes also had a cow. So potatoes were a popular crop—they produced a lot of calories while only taking up a small space.

When a plant disease called "potato blight" attacks the plants, the potatoes are no longer edible. Between 1845 and 1852 large portions of the potato crop in Europe were destroyed by blight. But the impact in Ireland was the most dramatic because potatoes were the main food source for a large number of people. In 1846 and 1847 nearly all of the crop was wiped out. Over a million people in Ireland died of starvation or illness related to malnutrition. And another million people left Ireland looking for a better life in the U.S., Canada and Australia.

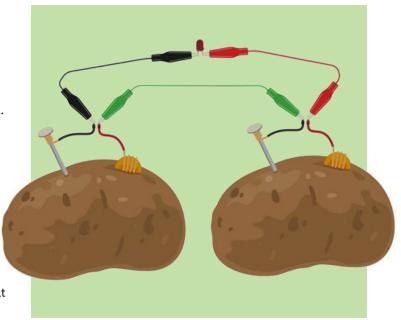
Unfortunately, there was only one kind of potato grown in Ireland and this "Irish lumper" was vulnerable to the disease. At the time it was not understood that growing only one kind of potato or any one crop was not a good practice. It was thought that this blight had come from the United States. But modern day "cold case" research has discovered the genetic details from 1840s potato specimens in museums and traced the origin of the blight in Ireland to Mexico.

ACTIVITY: MAKE A BATTERY OUT OF POTATOES

Watch the video below from the Ireland Sustainable Energy Authority to learn how to use potatoes to make a battery.

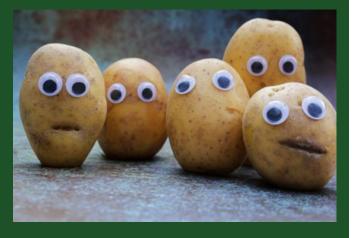


https://www.youtube.com/ watch?v=RMtRc_6FMsw



WHAT IF ALL YOU COULD EAT WERE POTATOES?

Think about it: only potatoes for breakfast, lunch and dinner. No hamburgers, no pizzas, no cookies, candy or cereal—not even potato chips or French fries because you are too poor to have oil. You could have boiled potatoes, baked potatoes or mashed potatoes with some milk and butter—if you had a cow. Potatoes would be your only food every day. And if you went to a friend's home this is all that they would



have too because your friends would also be very poor like you. How would you feel? Angry? Sad? Always a little hungry? This is what life was like for millions of poor Irish people in the 1800s.



BATTERIES POWER MANY OF THE EVERYDAY ITEMS AROUND US THROUGH ELECTROCHEMISTRY

Any battery, including the potato battery, uses stored chemical energy and converts it to electricity. This process is called electrochemistry. Think of trying to power your cell phone or a smoke detector with a potato battery. That would not be practical. With all of the devices that we currently use, from electric cars to cell phones to hearing aids, there are many people working in engineering jobs with battery development and manufacturing. Chemical engineers are hard at work researching new electrochemistry for use in batteries. Some engineers are so specialized in this area of work that they are called "battery engineers." And mechanical engineers might work on the process to efficiently manufacture the batteries. At Apple, for example, they have an entire unit that is called the Battery Engineering Group.

You might not have thought too much about batteries before but hopefully the potato battery has given you a new perspective. It might be fun to do a scavenger hunt to see how many items you encounter in your life in one day that have batteries!

Today there are monuments around the world commemorating the hardships of the Great Famine, including in the U.S., Australia, Canada, England, Scotland and Ireland. American cities with monuments include New York, Boston, Cleveland, Phoenix and more. (See the link below for a complete listing.)



Irish Memorial at Penn's Landing, Philadelphia, Pennsylvania.

ADDITIONAL RESOURCES:

Historical perspective on the origin of the potato blight in Ireland:

https://artsandculture.google.com/exhibit/
potato-blight-makes-history-leibniz-association/
MwJC3u9NvLJzLA?hl=en

Ireland's Great Hunger Museum houses the largest collection of Great Hunger related art: https://www.ighm.org/about.html

Irish Famine Memorials in the US, Canada, Australia & Ireland:

https://irishfaminememorials.com/2014/01/16/olean-ny-2000/

Additional science background on the potato battery: https://stemgeneration.org/potato-power/





In this activity, you'll make Irish Soda Bread, a classic Irish food that became a key staple starting in the 1800s.

INTRODUCTION

Probably the best known traditional Irish dish, second only to corned beef and cabbage, is Irish soda bread. For poor households, the use of baking soda or "bread soda," as it is called in Ireland, allowed for making a bread that was easy and inexpensive. Baking soda was introduced to Ireland in the 1830s. The earliest known published recipe in Ireland for soda bread was in 1836. With the failure of the potato crops in the 1840s this bread became a key food staple.

Soda bread has only four ingredients: flour, salt, baking soda and buttermilk or sour milk. The baking soda and buttermilk were used in place of yeast to make the bread rise. The baking soda reacts with the lactic acid in the buttermilk to release tiny bubbles of carbon dioxide that

MATERIALS

- 4 cups (16 oz) of all-purpose flour*
- 1 teaspoon baking soda
- 1 teaspoon salt
- 14 oz of buttermilk
- 3/4 cup of raisins (if making an American version)

make the bread rise. It is good to remember that in the 1800s the "baking" of the bread was not done in ovens, as we do today, but usually over an open hearth in a covered pan or on a griddle.

The shape of the soda bread varied with location. In the northern areas of Ireland, the dough was formed into a flattened circle and cut into four triangles (called farls) before cooking on a griddle. In the south, the classic shape is a round loaf. And in keeping with the Irish tradition of myths, a proper round loaf of Irish soda



bread has an "X" scored on the top to let the fairies out and to protect the household from evil.

The recipe traveled with the Irish when they emigrated to the United States. In fact, books published in England in 1866 and 1868 noted that the bread was "much eaten in the United States."

ADDITIONAL RESOURCES:

Society for the Preservation of Irish Soda Bread An in-depth look at the history of Irish soda bread http://sodabread.info/history/

ACTIVITY: MAKE IRISH SODA BREAD

Recipe from the Society for the Preservation of Irish Soda Bread

Step 1:

Preheat the oven to 425 degrees F. Lightly grease and flour a 9-inch cake pan.

Step 2:

In a large bowl, combine all the dry ingredients. Add raisins, if using.

Step 3:

Add the buttermilk to form a sticky dough. Place on a floured surface and lightly knead (too much allows the gas to escape).

Step 4:

Shape into a round flat shape in a round cake pan and cut an "X" in the top of the dough.

Step 5:

Cover the pan with another pan and bake for 30 minutes (this simulates the bastible pot). Remove cover and bake for an additional 15 minutes.

Step 6:

The bottom of the bread will have a hollow sound when tapped so show it is done.

Step 7:

Cover the bread in a tea towel and lightly sprinkle water on the cloth to keep the bread moist.



*Note: for a more authentic loaf use cake or pastry flour.

These are lower protein flours more similar to the flour used in Ireland than all-purpose flour.





In this activity, you'll write an original tale of magic and mystery, drawing inspiration from the imaginary creatures of Irish folklore.

INTRODUCTION

In addition to music and dance, storytelling is one of the traditional arts of Ireland. At fireside gatherings wonderful tales would be told of other worlds—the world of fairies or wee people. Fairies are still a part of the current culture of Ireland. Tales tell of them being descended from angels and demons so there are good fairies and bad ones as well. According to legends fairies live under trees or mounds of soil or fairy forts. Fairy forts are prehistoric stone circles, some as old as 650 BCE. There are thousands of these dotting the countryside, and legends tell of fairies protecting them and punishing anyone who would disrupt them or the vegetation in the immediate area.

MATERIALS

- Paper
- Pens / Pencils

Hawthorn trees are known as fairy trees in Ireland, and it is considered to bring bad luck to chop one down or to even hang objects on it. This respect for the hawthorn continues into modern times. In 1999 the construction of a road from Limerick to Galway was delayed by 10 years due to the fact that it had to be rerouted because a fairy tree was in the way of the original route.

Probably the most famous of the fairy clan is the leprechaun. Small of stature and wearing green and sporting a red beard, they predate humans in Irish legends and worked as shoemakers in the fairy world. Leprechauns loved music and dancing so much that



this is one reason they had to make shoes—they wore them out! Hard-working, their pot of gold was buried at the end of a rainbow. Legends say that leprechauns are tricksters and not to be trusted. They can also be grumpy. And all leprechauns currently are male. Stories evolve over time, and at one time there were female leprechauns, but after the 1800s only males appeared.

As of 2011 leprechauns and their heritage are protected by a European Union directive. They are protected along with plants and animals of the biodiversity-rich "Slibah Foy Loop" in Carlingford, County Louth. Thousands of tourists come to the Emerald Isle every year in hopes of spotting a leprechaun!



Bunworth Banshee, Fairy Legends and Traditions of the South of Ireland, by Thomas Crofton Croker, 1825

ACTIVITY: WRITE YOUR OWN TALE OF MAGIC AND MYSTERY

Why do you think that stories about imaginary creatures like leprechauns, fairies, mermaids and vampires are so popular?

The Irish are known for their creativity in many endeavors but especially in storytelling and the creation of magical worlds with fantastic tales of the realms of fairy queens and kings. Now it is your turn to fire up your creative energies and build your own stories of

SOME SCARIER MEMBERS OF THE FAIRY COMMUNITY INCLUDE:

POOKA: These shape changers were among the most feared creatures of Irish lore. They could take the form of wild dogs or of a human with animal features or a goblin. While feared by many as bringing bad luck, there are also stories of them warning people of accidents.

BANSHEE: Her shrieking warns of an upcoming death, and if you hear her someone you know will soon die. She is known as the "woman of death."

CHANGELING: This fairy would be left in place of a human stolen by other fairies.

MERMAIDS: Irish mermaids are unlike the beautiful ones in other European lore. These mermaids swim in cold water and have pig-like faces and fierce teeth.

DULLAHAN: This fairy is a headless horseman who rode very quickly through the countryside— and if he stopped it signaled that someone in the area was about to die. He is one of the very terrifying fairies.

Irish storytelling extends beyond folklore to literature, plays and poetry. There are many famous Irish writers including Bram Stoker who wrote *Dracula*, C.S. Lewis, the author of *The Chronicles of Narnia*, Oscar Wilde, James Joyce and B.W. Yates. George Bernard Shaw is also the only writer to have won an Oscar and been awarded the Nobel Prize in Literature. See the links at the end of this activity for more information on Irish writers.



special places and new creatures with magical powers. Below are some additional questions to get your thinking ignited. If you choose to write a scary story or one with a lot of magic maybe you'll want to share it with friends while seated around a fire pit, fireplace or campfire.

Ideas to think about as you are planning your story:

- What is this story about?
- Where is this story going to take place? Is there a special place in your yard or neighborhood that could be the setting, or maybe inside your computer or garage?
- Who are the characters? Are they going to be fantastic creatures that you create or are they animals and people with special powers and skills? Or maybe a combination?
- When does your story take place? Is it a holiday story or a vacation story or a regular day? Is the setting at night or the daytime?
- What is the challenge or problem that your characters will face?
- How do they solve the problem or challenge?
- Is there a lesson that you want to teach through your story?
- Who is telling the story? You as a narrator? One of the characters? Or maybe an observer?

When you have thought about some of these questions get started writing! You will return to your writing to revise and to edit. At the start it is important to get down your ideas. Everything does not need to be perfect when you are initially writing down your story.

ADDITIONAL RESOURCES:

Five Irish folktales:

https://www.irelandbeforeyoudie.com/top-5irish-fairy-tales-and-folktales-to-feed-yourimagination/

List of mythical Irish creatures:

https://www.irelandbeforeyoudie.com/an-a-z-guide-to-irish-mythological-creatures/

Travel to magical places in Ireland:

https://www.irelandbeforeyoudie.com/5-placesin-ireland-thatll-make-you-believe-in-fairies/

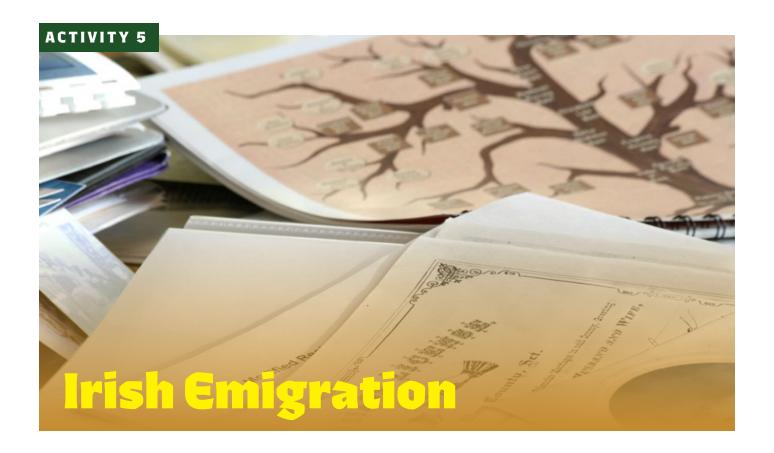
Irish Writers:

https://www.readpoetry.com/irish-poets/ https://www.nosweatshakespeare.com/ literature/best-irish-authors/



Dullahan, the headless horseman. From Thomas Crofton Croker, Fairy Legends and Traditions of the South of Ireland (3rd ed., 1834)





In this activity, you'll make a family tree and interview family members to trace your ancestry.

INTRODUCTION

Potatoes were the main source of nutrition for much of the poor Irish population in the early 1800s. Today we think of potatoes as a side dish, for example, fries with a burger or mashed potatoes with turkey or a baked potato with a steak. For the Irish, it was the main course—for breakfast, lunch and dinner. In 1844 a plant disease caused by a mold that killed potato plants emerged in North America and it made its way to Europe. In Ireland, there was only one kind of potato grown, and this disease or blight attacked it.

Between 1846 and 1851 about 1 million people died in Ireland from starvation and related diseases caused by

MATERIALS

Paper

Pens / Pencils

malnutrition due to the failure of the potato crops. And nearly 2 million people left Ireland to seek a better life elsewhere. Many went to nearby England but many others traveled around the world, with major destinations being the United States, Australia and Canada. These were young countries with a lot of land and the need for workers.

It was a hard and dangerous journey on sailing ships. If the winds were favorable it could take about 6 weeks to make the transatlantic crossing. However, it could take up to 14 weeks in poor weather. The food and water supply was poor and not plentiful, and the ships were



often over-crowded. So many people died on these boats that they were nicknamed "coffin ships."

Over 500,000 made the trip to the U.S. during the Great Famine. This resulted in a strong Irish heritage in the U.S. The 2021 census states that 1 in 10 Americans report Irish ancestry—that is more than 31.5 million residents. This is second only to Germany, with 43 million residents of Irish ancestry.

Irish immigrants made many contributions to the countries that they settled in. In the U.S. they and their descendants contributed in the areas of the arts, business and politics. For example, William R. Grace became New York City's first Irish American mayor in 1880. And 50% of U.S. presidents, including President Joe Biden, trace some of their roots to Ireland. From St. Patrick's Day celebrations to Irish dance, music and soda bread, the cultural impact of the Irish immigrants continues today.

ACTIVITY: MAKE A FAMILY TREE

With one in 10 Americans reporting Irish ancestry, you most likely know of someone with Irish roots—maybe even you!

Start with making a family tree. Make your own or use the sample provided (see page 17).

Interview each of your family members to learn about their history and what they know about your family roots. If you have a family member who doesn't "look Irish" that doesn't mean they don't have Irish ancestors.

While you may not get to know a lot about your family's early roots, it is a good place to start, and you'll learn a lot about your family history. All history is made up of people's individual histories! Folliwing are some basic questions.

First of all, let your family members know in advance that you are interested in their history and in your family's past and that you would like to interview them. If there is a family gathering this might be a good time to talk to people that you might not see that often. The interviews can also be done by phone or Zoom.

- What is your legal first and last name? (If you are going to research any documents, nicknames will be a challenge.)
- When were you born?
- Where were you born?
- Do you know anything about your family surname (last name)?
- Do you remember any stories about your family history and how your family came to the place where you were born?
- Do you have any family scrapbooks, bibles or other documents that might be helpful as I search for family roots?

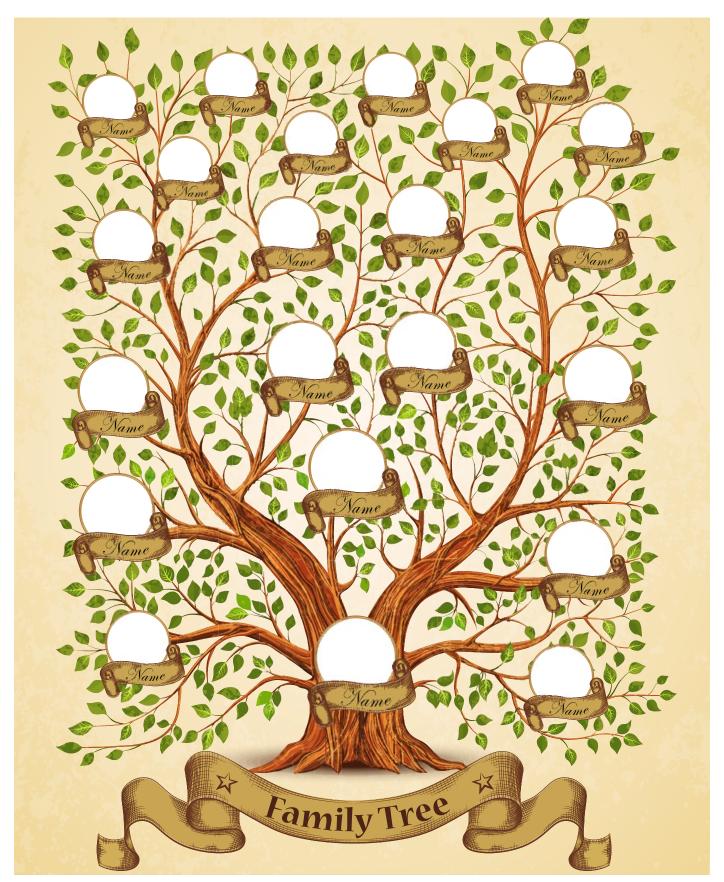
Add some questions that you are interested in and that would get your relatives, especially older ones, to talk more with you:

- When you were growing up, what was your favorite toy?
- Did you have any pets? If so, what were they?
- Do you have a memorable story about when you got in trouble growing up?

You can also show them the family tree that you have already filled out and ask them how they can add to it.

After you get some basic information on the different parts of the world where your family members came from, you can use online resources to get more information.







And if you discover that you have some Irish roots, below are some resources to continue tracing your family ancestry. If your Irish roots are deep, consider suggesting a family vacation to Ireland.

There are online companies that, through DNA analysis (for a fee), can help you learn details of the ethnic and geographic ancestry of your family that may trace further back in history and with more detail than you can do independently. Be sure to research the firms so that you select one that is focused on ancestry.

Survey Friends and Neighbors:

Remember that 1 in 10 Americans claim Irish ancestry. Ask friends and neighbors to see if any of them have Irish ancestry. Get a large map or an online world map and "pin" where friends' and neighbors' families are from. This is a great way to learn about how the U.S. has grown through emigration around the world.

ADDITIONAL RESOURCES:

Library of Congress teacher resource on Irish immigration to the U.S.:

https://www.loc.gov/classroom-materials/immigration/irish/

Interactive map showing where Irish and other immigrants lived in the U.S. over time:

https://www.pewresearch.org/

hispanic/2015/09/28/from-ireland-to-germany-to-italy-to-mexico-how-americas-source-of-immigrants-has-changed-in-the-states-1850-to-2013/#total

Map showing where Irish Canadians live: https://www.zolo.ca/blog/where-do-irish-canadians-live

Interactive U.S. Census Map with Irish ancestry population by county:

https://www.census.gov/library/stories/2021/03/happy-saint-patricks-day-to-one-of-ten-americans-who-claim-irish-ancestry.html

Irish Genealogy Resources:

An online research portal run by the Irish government's Department of Arts, Heritage and the Gaeltacht: https://www.irishgenealogy.ie/en/

Irish National Archives:

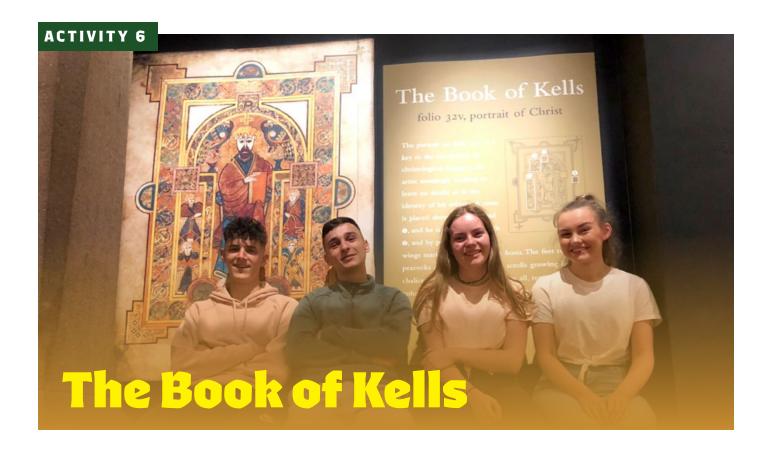
https://genealogy.nationalarchives.ie/

researching-irish-ancestors-1422085

Irish National Library: http://www.nli.ie/

Additional sites for researching Irish ancestors: https://www.thoughtco.com/best-websites-for-





In this activity, you'll write an acrostic poem and illustrate it in the style of the Book of Kells. You'll also make your own ink!

INTRODUCTION

The Book of Kells is Ireland's most culturally important treasure. Written in the 8th century CE it consists primarily of the gospels by the four apostles in the Bible. Aside from its religious heritage, it is important as an historical work at the pinnacle of Medieval Art in Ireland. It is rich in detailed illustrations with some of the art taking up an entire page. The art of the Book of Kells is called "insular." This term refers to the style of art that developed in Britain and Ireland that is different from that in the rest of Europe. "Insula" is the Latin word for "island" and reflects the fact that Britain and Ireland were islands. Separated from Europe they developed a unique artistic style during the 5th to 8th centuries CE. During this time Europe was in the Dark Ages.

MATERIALS (Acrostic Poem)

Paper

Pens / Pencils

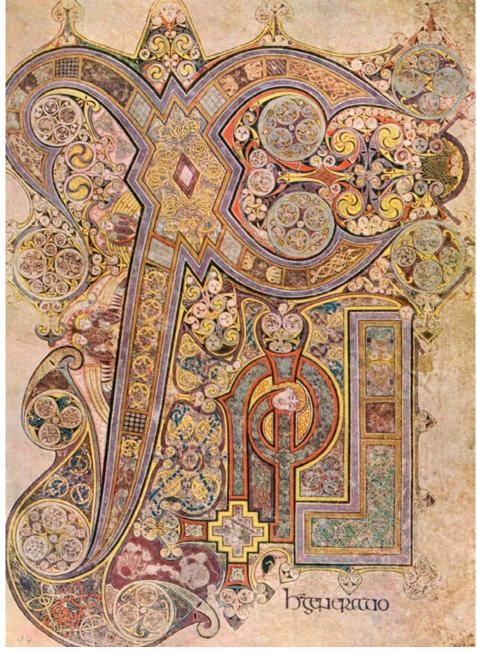
The work of the Book of Kells was done by Christian monks working in monasteries. All of the currently existing 680 pages were hand written. The printing press would not be invented for another 600 years. Researchers have determined that at least seven different artists worked on the book. Three of these artists worked on the intricate art that decorated the pages and four others, who were most likely less skilled, worked on the writing of the actual words. The artists at the time were very skilled and they focused on the intricate details of the designs and not as much on the art of the human figures. Some of the details are so fine that you need a magnifier to see them. The designs of interlacing and overlapping patterns also included stylized images of animals and



angels. The illustrations were very colorful with yellow, purple, lilac, red, green and pink being used most often. While this is book is an "illuminated" book it does not have any gold or silver as do the illuminated books in other parts of Europe.

When the Book of Kells was written there was no paper in use in Europe like the paper we have today. Paper was invented by the Chinese in the first century but the "secret" of making paper did not arrive in Europe until hundreds of years after the Book of Kells was produced. At the time of the Book of Kells animal skins were used to produce parchment which was used like paper. The book was written on vellum which is the highest quality of parchment. It is made from the skins of lambs or young calves. Inks were made from natural materials including iron, tree bark, nuts and other plants. Bread was used as an eraser! The words would be written first leaving space for the designs that would be added afterward. There would be a full-page illustration at the beginning of a major section and at the end of each gospel. The Book of Kells is 13×10 inches (33×25 cm).

It was stolen from the monastery in 1007. The thieves took the cover which had gold and jewels, and it has never been found. In the 17th century the book was



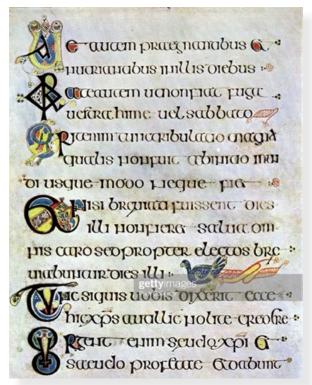
This is probably the most famous page in the Book of Kells. The Chi Rho page is often called the finest example of a manuscript illumination of the Middle Ages. Chi Rho are the first two letters in Ancient Greek for "Christ."

moved from Kells to Dublin for safekeeping. In 1661 it was donated to the library at Trinity College in Dublin. Select pages are on view at the library, and over 500,000 visitors come to see this extraordinary treasure every year.



ACTIVITY: ILLUSTRATE A POEM OR STORY IN THE STYLE OF THE BOOK OF KELLS

Below is an example of an acrostic poem with the initial letter in each line decorated with an elaborate design. In the Book of Kells the artists also used an elaborate design for each letter at the beginning of a phrase. Write your own acrostic poem and decorate it. Use glitter or highlighter pens to "illuminate" it—that is, to make it very bright. Some ideas for designs: if you poem is about a dog perhaps use paw prints to form the letters or if your poem is about nature you could use leaves, flowers and butterflies to form the letters. Another idea is to draw a border around your poem. You can draw your own designs or look online for free "clip art" if you want to make your poem look similar to the art in the Book of Kells. Search for "Book of Kells" or "Irish designs."



A page in the Book of Kells.

lneland

- sle of green, rocks and sea
- Rainbows, leprechauns and pots of gold
- nchanted deep forests of the wee people
- and where legends and myths abound
- lways music, always dancing
- ature's magic place complete with puffin summer homes
- Reaming of Ineland



ACTIVITY: MAKE YOUR OWN INK

Where did the artists of the Book of Kells get their inks?

There were no art supply stores in 800 CE so artists or their assistants made their own inks. They were made of plants and minerals and soot. One of the colors, a very bright yellow, came from a mineral that is an arsenic sulfide, orpiment. It was so bright that it was used as a substitute for gold! In fact, the name "orpiment" means gold pigment. But artists needed to be very careful because it was poisonous. This same mineral was used for poisoned arrows!

You can make your own inks at home. See the instructions on the next page to make berry ink. And next time you see the green "juice" from spinach or kale or grass stains, think about artists making green ink from plants. Researchers at Trinity College in Dublin have

MATERIALS (Make Ink)

- 1 cup ripe berries (such as raspberries, strawberries, blackberries)
- 1 teaspoon vinegar
- 1 teaspoon salt
- Red or blue food coloring (optional)
- Strainer
- Small bowl
- Small jar with lid
- Spoon

used lasers and x-rays to learn more about the inks that were used in the Book of Kells. See the link on the next page for more information.





Step 1 - Strain the berries

- Place a few berries into a strainer.
- Hold the strainer over the mouth of a small bowl.
- Use the back of the spoon to crush the berries so that the juice drips into the jar.

Step 2 - Extract the juice

 Empty the strainer and continue crushing the berries a few at a time until they have all been squeezed into juice.

Step 3 - Add vinegar

- Add the vinegar and salt to the berry juice and stir until it dissolves.
- Transfer the mixture to a small jar.

Step 4 - Add coloring (optional)

 If the ink is too pale, add a drop of red or blue food coloring.

Step 5 - Use the ink

 Enjoy! Try writing your name by dipping a toothpick into the ink.

Recipe from https://www.mountvernon.org/education/ online-activities-for-kids-2/how-to-make-berry-ink/



ADDITIONAL RESOURCES:

More recipes for homemade inks: https://www.nps.gov/articles/ink-activity.htm

https://www.nationalarchives.gov.uk/education/families/celebrating-british-science-week/how-to-make-berry-ink/blueberry-ink-recipe/

More information on the Book of Kells:

https://www.tcd.ie/library/research-collections/book-of-kells.php

https://www.worldhistory.org/Book_of_Kells/

Information about inks in the Book of Kells: https://www.tcd.ie/library/exhibitions/ preservation-conservation/whatcolouristhat.php





In this activity, you'll write your name using the ancient Irish alphabet Ogham while learning about the origins of Ireland's first communication system.

INTRODUCTION

Ogham is the first known Irish alphabet dating to around the 4th century CE. It is radically different from the letters used in Latin. The Roman Empire ruled the area of southern Britain which posed a threat to the Irish. Some scholars suggest that the Ogham alphabet was created to have a means of secret communication that the Romans would not understand. Today, there are stone pillars that survive with Ogham inscriptions. These are primarily monument stones that are property or grave markers from the 5th and 6th centuries CE. When carved on

MATERIALS

Paper

Pens / Pencils

stone monuments, messages were generally written vertically with the first letter at the bottom and read from the bottom up. The Ogham symbols also referred to trees so the alphabet is sometimes referred to as the "Celtic Tree Alphabet." Currently, the Ogham alphabet is used in designing everything from jewelry to wall hangings to tattoos in Ireland. People get their names or favorite sayings engraved in Ogham, and visits to the ancient stones are a popular tourist activity.

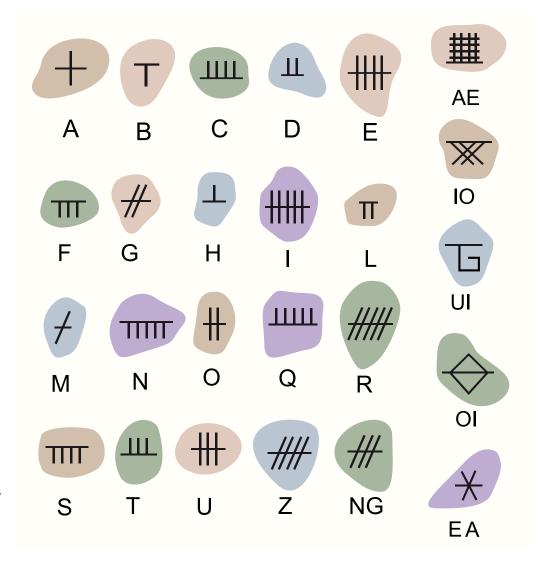


ACTIVITY: WRITE YOUR NAME OR ANOTHER WORD IN OGHAM

Have you ever thought about alphabets as a kind of code?

Using the Ogham chart try writing your name or another word in Ogham. Remember that you start at the bottom with the first character and then work your way up. Note: There are only 20 letters in Ogham. Excluded letters are: J,K,V,W,X & Y. The link below provides suggestions for substitutions for these letters. If you have time, you could also make up your own alphabet to use as a code with your friends.

Transcribe words into Ogham:



ADDITIONAL RESOURCES:

Photos of Ogham monument stones in Ireland:

http://www.megalithicireland.com/Ogham%20Stones%20Page%201.htm

