



The Mini Page

Betty Debnam, Founding Editor and Editor at Large

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Stained Glass

The Color of Light

If you've ever said "Wow!" as light streamed through a stained glass window, you know how magical this art form can be.

Stained glass artists have been creating beautiful windows for many hundreds of years. This week, The Mini Page celebrates the season by learning more about the art you may enjoy as you attend holiday church services.

Early glass

Historians believe ancient Romans learned to make glass and used it to let light into buildings. In fact, colored glass may have been used as early as the fifth century A.D.

The first windows with patterns of glass were set into wooden or plaster frames. But these frames limited the shapes the artist could use.

Later artists began to use a metal called **lead** (led) to hold the glass. It is **malleable** (MAL-ee-uh-bul), or workable into different shapes.



photo © Raimond Spekking/CC-BY-SA3.0

Detail of a stained glass window in the Cologne Cathedral in Germany. This part of the window shows the shepherds and the Magi, or wise men, visiting the baby Jesus. This window was made in the late 1800s.

An ancient art

The earliest examples that scientists have found of glass and lead cut into specific shapes date back 1,200 to 1,400 years.

Since that time, many styles of art have been seen in windows. But the process of creating stained glass has not changed much over the centuries.

Cathedrals

Church authorities began building massive cathedrals with larger window openings. These houses of worship were in areas with more people and were centers for the community. Most were built in the **Gothic** style, which includes soaring pointed arches, towers and highly decorated outside walls.

The Middle Ages

As Christianity spread and became more powerful between the fifth and 15th centuries, stained glass became a popular way to tell stories and honor important figures from the Bible and the church.

During medieval times, books were printed by hand and hard to come by. Most people could not read. Today, early stained glass and other art forms are sometimes called "poor man's Bibles" because they pictured stories for those who couldn't afford books.

Symbols in Glass

For religious leaders, stained glass images were more than just illustrations. They were symbols of faith.

For example, the white light of the sun shining through colored glass was seen as God revealing himself to people. The lead frames in the glass symbolized the prophets of the church.



© Peter Clark | Dreamstime.com



© Andrew Kazmierski | Dreamstime.com

The interior of St. Patrick's Cathedral in New York City features the pointed arches and large stained glass windows typical of Gothic architecture. Building of this church began in 1858 and finished in 1878.

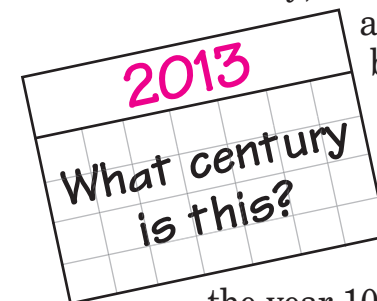
What's in a century?

When we talk about a **century**, we are describing a period of 100 years. But then it gets confusing: Even though we're living in the 2000s, this is the 21st century. Why is that?

100
YEARS!

Our years are counted roughly from the time of Jesus' birth. The years after his birth are designated as **A.D.** (*Anno Domini*, in Latin, which means "In the year of our Lord"), or **C.E.**, meaning Common Era. The years before his birth are referred to as **B.C.** (Before Christ) or **B.C.E.** (Before Common Era).

The first century, or 100 years, after Jesus' birth were the years 1 to 100. The second century began with the year 101 and ended at 200. So the 20th century was the 1900s, and the 21st century is made up of the 2000s.



Ready Resources



The Mini Page provides ideas for websites, books or other resources that will help you learn more about this week's topics.

On the Web:

- pbskids.org/dragonflytv/show/stainedglass.html
- youtube.com/watch?v=wVMmHGJIDIM

At the library:

- "Stained Glass Windows" by Richard Spilsbury
- "The Spirits of Christmas Stained Glass Coloring Book" by Carol Schmidt



TM
Basset Brown
The News
Hound's

Stained Glass TRY 'N' FIND

Words that remind us of stained glass are hidden in the block below. Some words are hidden backward or diagonally, and some letters are used twice. See if you can find: ART, BIBLE, CARTOON, CATHEDRAL, CENTURY, CHEMISTRY, CHRISTIANITY, CLIENT, COLOR, FRAME, GLASS, GOTHIC, LEAD, LIGHT, MALLEABLE, MEDIEVAL, METAL, PATTERN, SHAPE, SOLDER, STAINED, WINDOW.



WHERE HAVE YOU SEEN STAINED GLASS?

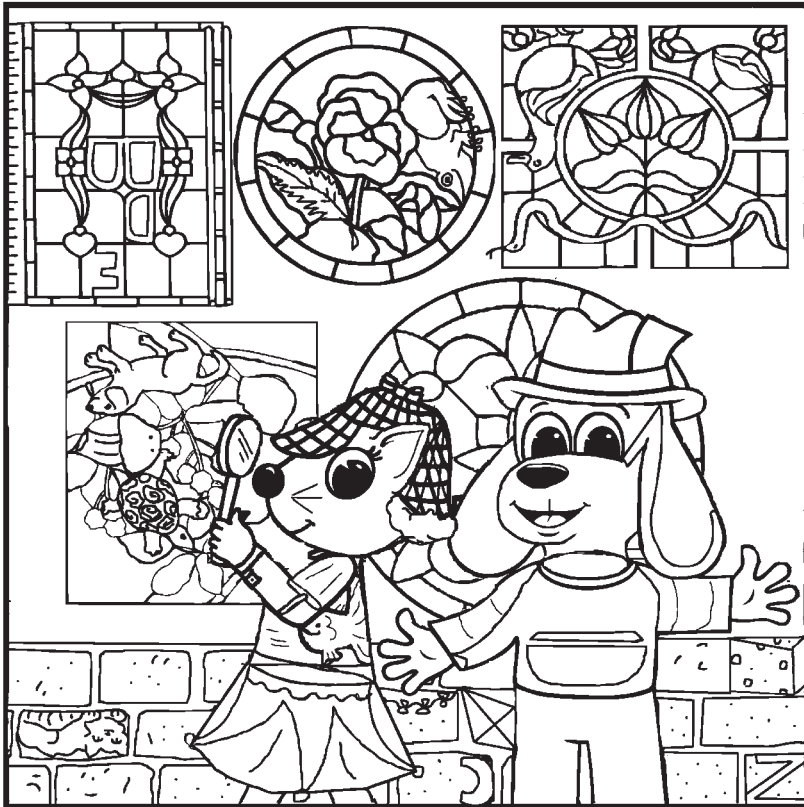
J S C A V L M C O L O R G M D
B M H W R G A A T N G D L E A
Y E E A I T O R L H M E A D E
R C M T P N S T D L G N S I L
U L I A A E D O H E E I S E B
T I S U R L U O L I H A L V I
N E T F X F P N W D C T B A B
E N R E T T A P B Z E S A L L
C T Y T I N A I T S I R H C E

Mini Spy . . .



Mini Spy and Basset Brown are admiring some stained glass art. See if you can find:

- ice cream cone
- cheese wedge
- letter Z
- turtle
- kite
- letter E
- teapot
- snake
- letter C
- feather
- cat
- dog
- number 2
- mushroom
- fish
- letter B
- jester hat
- ruler
- letter D
- ladder
- bird
- ice pop
- frog
- lips



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Rookie Cookie's Recipe Chocolate Chip Walnut Bars

You'll need:

- 2 cups all-purpose flour
- 1/2 teaspoon baking soda
- 1/8 teaspoon salt
- 6 tablespoons coconut oil
- 1/3 cup white sugar
- 3/4 cup dark brown sugar
- 2 egg whites
- 2 teaspoons vanilla extract
- 1/2 cup semisweet chocolate chips
- 1/3 cup chopped walnuts

What to do:

1. Combine flour, baking soda and salt in a medium bowl.
2. Use an electric mixer to blend coconut oil with the white and brown sugars.
3. Add egg whites, one at a time, beating mixture well after each addition.
4. Add vanilla and mix well.
5. Gradually add flour mixture to wet mixture; stir by hand to combine.
6. Stir in chocolate chips, then walnuts.
7. Coat a 9-by-13-inch dish with cooking spray. Press dough into dish.
8. Bake in a 375-degree oven for 15 minutes. Allow to cool; cut into bars. Makes 48 small bars.

You will need an adult's help with this recipe.

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Meet Hugh Bonneville



Hugh Bonneville as Mr. Stink, with Pudsey, his dog, and Nell Tiger Free as Chloe.

Hugh Bonneville stars as Mr. Stink in the PBS family special "Mr. Stink," which first airs in America on Dec. 22.

Hugh Richard Bonneville Williams, 50, was born in London, England. He was a member of the National Youth Theatre in England. He later studied acting at a dramatic arts college in London.

He has appeared in several British TV shows, including "Doctor Who" and "Downton Abbey." He has also acted in many movies and plays.

He supports the international medical charity Merlin and several groups for young people in theater.

His co-star in "Mr. Stink," Nell Tiger Free, 13, has been in one movie.

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Goldie Goodsport's Report Supersport: Chelsea Gray



Height: 5-11 Birthdate: 10-8-92 Hometown: Manteca, Calif.

About the only thing that can stop Duke All-American Chelsea Gray on a basketball court is an injury.

That's what did it last year when she suffered a dislocated kneecap in the 25th game of the season. By then, Gray already had accomplished enough to earn All-America honors for the second straight season.

Now the versatile senior guard is healthy again and one reason that Duke's women ranked No. 2 in the preseason poll. Gray's a sharpshooter, a precision passer and a gummy defender who takes charges — and also takes charge on the floor.

Cool under pressure, Gray is at her best during crunch time. She's also an honor roll student majoring in sociology and minoring in theater studies. But now her stage is the basketball court.



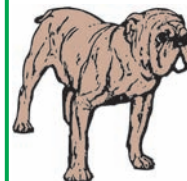
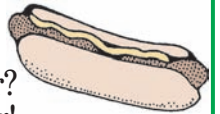
MIGHTY FUNNY'S

Mini Jokes

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All the following jokes have something in common. Can you guess the common theme or category?

- Derek:** What should you give a dog with a fever?
- Dylan:** Mustard. It's the best thing for a hot dog!



Darla: What did the dog say when its tail was cut in half?

Dennis: "It won't be long now!"



Dawn: What did the dog say when he sat on the sandpaper?

Demi: "Rough, rough!"

Coloring Glass

The process of creating stained glass has not changed very much since medieval times. Would you like to try it?

- First, an artist draws a small sketch of the window design.

- After the design is approved by the **client**, or person who is ordering the window, the artist draws a full-scale design. This is called a



photos courtesy The Stained Glass Museum

cartoon. (Full-scale means the same size as the finished window will be.)

Today, cartoons are produced on paper. In medieval times, artists made the cartoons on parchment or directly on a whitewashed table.

The artist indicates on the cartoon where the lead lines will be and the shape and color of the individual panes of glass to be used.

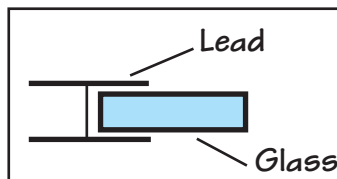
- Colored glass is selected and cut to size. In earlier times, different people did the different jobs: cutting the glass, painting the glass and placing the lead. But today, most stained glass artists do all these jobs.

- The artist paints details on the glass with brown or black paint. Thicker paint will make more solid lines; thinner paint can be brushed after drying to give a shading effect.



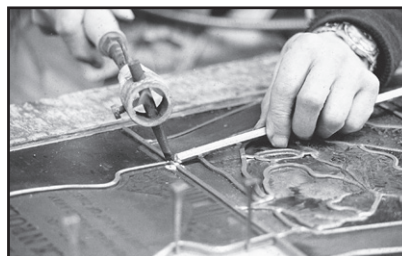
Next, the painted glass is fired in a kiln, a super-hot oven that fuses the paint to the glass. Then it's allowed to cool slowly.

- The strips of lead, called **comes**, are in sort of an H or I shape; the glass fits into the openings between the top and bottom.

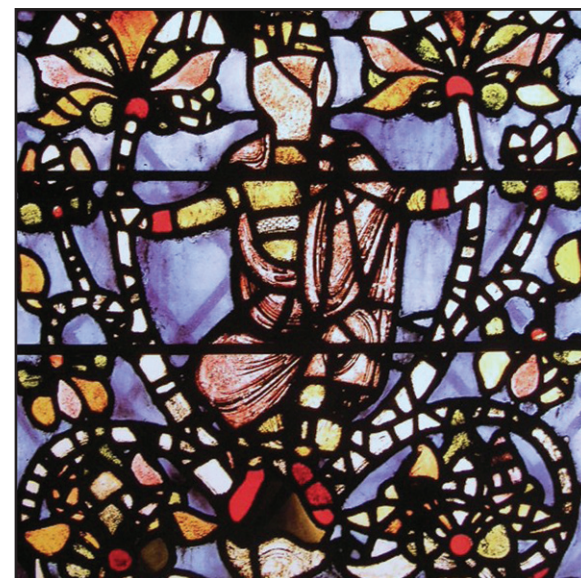


- The glass pieces are laid out on a table according to the pattern. The comes are bent around each piece. Nails are driven into the table to hold the lead in place as each section is completed. When a panel is done, the lead is

soldered (SAW-duhrd), or melted, so that the sections join together. Then the window joints are sealed with a sticky substance called **mastic**.



The Mini Page thanks Dr. Jasmine Allen, curator of The Stained Glass Museum, Ely Cathedral, Cambridgeshire, U.K., for help with this issue.



A small panel of stained glass from York Minster in England is believed to date back to about 1150. It is one of the oldest surviving pieces of stained glass in England.

It's all about chemistry

Glass is made when sand, soda and lime are heated to very high temperatures. The mixture becomes a liquid, and as it cools, it becomes more and more stiff. Finally, it becomes a transparent solid: glass.

Colored glass is usually made by adding powdered metals to the glass while it is still liquid. Different metals result in different colors:



Yellow = Cadmium Sulfide
 Red = Gold chloride
 Blue = Cobalt oxide
 Purple = Manganese dioxide
 Green = Chromic oxide

Look through your newspaper for other beautiful artwork that celebrates the season.

Next week, The Mini Page suggests some great books to read over the holidays.

The Mini Page Staff

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