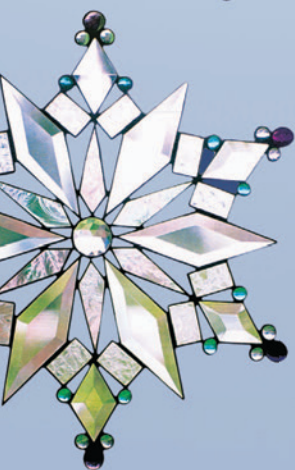


# GLASS PATTERNS<sup>®</sup>

Q U A R T E R L Y

Winter 2020

Volume 36 • No. 4



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On the Cover: Glistening Tranquility by Alysia Phiel

Photo by Jane McClarren

and Snowflakes by Deverie Wood.

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*Above: Detail of Nautilus  
by Aanraku Glass Studios*



### Upcoming Submission Deadlines

<b>Summer 2021</b>	<b>Garden, Beach, and Nostalgia</b>
Editorial	February 20, 2021
Ad Closing	April 20, 2021
Ad Materials	April 30, 2021

<b>Fall 2021</b>	<b>Autumn, Halloween, Christmas, and Holiday Ornaments</b>
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# Vintage Inspired Gold Filigree Ornament

## An Introduction to Stained Glass

*Design, Fabrication, and Text by Lidia K. Anderson*



### Glass

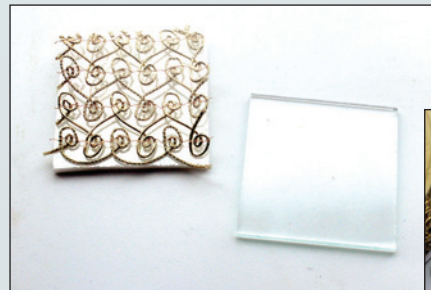
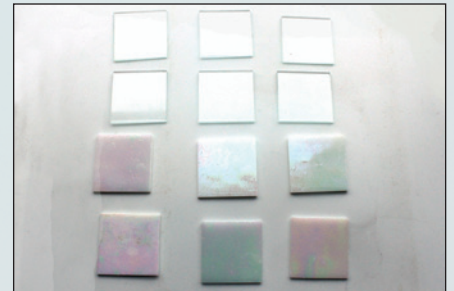
1/16"-Thick Micro Thin Clear Glass  
Stained Glass in Desired Color and Type for Base

### Tools and Materials

Gold Filigree Ribbon or Lace  
Flux 5/8"- or 1/2"-Wide Copper Foil  
60/40 Solder or Lead-Free Solder  
Wax Finishing Compound  
Flux Remover or Rubbing Alcohol  
Temperature Controlled Soldering Iron  
Safety Equipment Gloves Eye Protection  
Wire Loop or Ring and Ribbon for Hanging

*Cut 12 squares of glass measuring 1-1/4", 6 from the clear glass and 6 from the base color glass.*

1



2



*Select and prepare your filigree or lace to add to the glass squares.*

Christmas is a time for traditions. Here is a glorious 3-1/2" diameter vintage inspired Christmas ornament to get your holiday celebrations off to a good start. Get some of Grandma's old lace or some gold filigree, then just string some ribbon and lights—great additions to show off these beautiful Christmas tree ornaments.

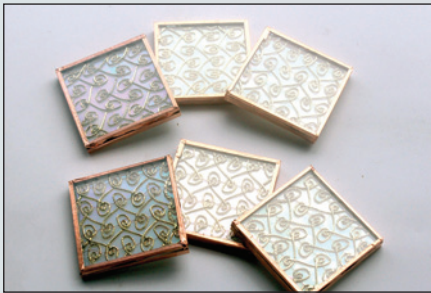
Cut the gold filigree ribbon or lace slightly smaller than the square glass and lay it on top of the base color. Clean the clear glass thoroughly, then overlay the clear glass on top of the filigree. Press firmly to hold the pieces in place, then foil and burnish.

Shown here are the filigree ribbon I used and the 3 different colored background glass. I used an iridescent white glass for this project.



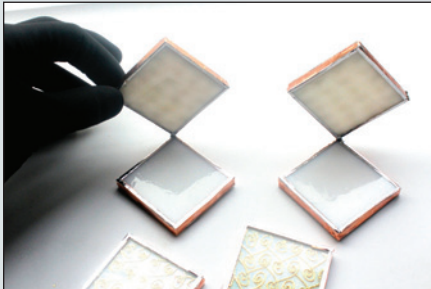
3

*Sandwich and foil all 6 sets of glass pieces and burnish.*



4

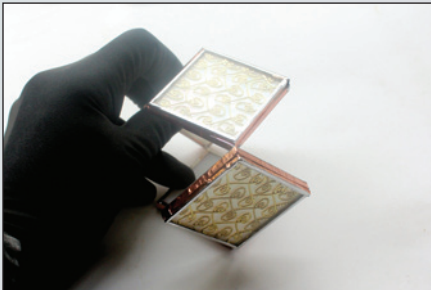
*Create two 2-piece sets from the squares.*



Flux and tin all of the undersides of the pieces, then tack-solder them, with the lace side down, at the inside points of 2 squares as shown. Repeat with 1 more set. You now have 2 single pieces left.

5

*Solder the joint points of the two sets of 2 squares together to form the shapes as shown.*



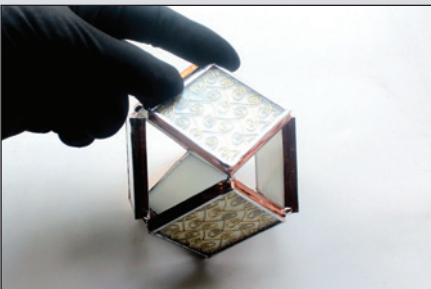
6

*Stand up the joined pieces on the points.*



7

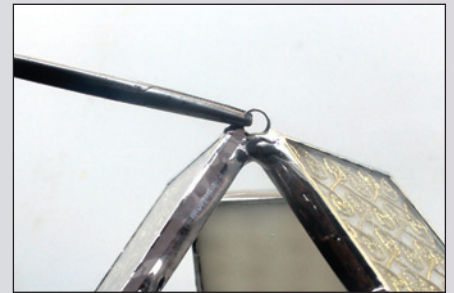
*Place one of the 2 remaining sandwiched squares over the top.*



You can tape the square in place if that makes it easier to handle. You need to make sure that all of the points on the top align correctly with the base. It will be somewhat flexible and can move slightly to be sure it is correct. This part is extremely important so that the flip side will align correctly. Tack-solder in place at the joints, then turn the piece over and repeat the process with the last square.

8

*Add a wire ring for hanging, then clean the ornament.*



Solder a wire ring to one of the joints to serve as a hanger. Turn the temperature down slightly on the soldering iron, then flux and bead-solder all of the exposed copper foil to be smooth and shiny.

The cleaning process is done completely with a rag dampened with flux remover or rubbing alcohol. Do not wash the piece in running water. Dry off the ornament and apply your favorite wax finishing compound.

9

*String a ribbon through the loop to finish.*



Now you're ready to hang it on your Christmas tree and enjoy your beautiful holiday creation.

**GPQ**

*Lidia K. Anderson of L.A. Glass is a native of Sydney, Australia, and it was there that she began her formal education in art. In her second year of college, she moved to the United States and received her BFA from Bowling Green State University in Ohio.*



*Lidia spent the next ten years as art director in the field of television. Recognizing the stresses of the advertising world, she took the opportunity to find other forms of artistic expression. Her love of glass was born, and she allowed this creative energy to guide her. What evolved were works of art that integrated into a more common understanding of functional living.*

*The larger body of Lidia's work is represented by some of the finest art galleries in the nation. She has had the privilege of exhibiting with the world-renowned artist, Dale Chihuly, and has also completed a restoration of eighteen stained glass windows at a chapel in Ohio. To view more of her work, visit [www.etsy.com/shop/LAGlass](http://www.etsy.com/shop/LAGlass).*



# Painted Pachyderm

## The Jaipur Elephant

*Design, Fabrication, and Text by Leslie Gibbs*

Photography by Jon Gibbs



Elephants are held in high esteem and have always played a prominent part in East Indian culture. They are considered to be very sacred and are symbols of good luck and prosperity. In the past, Maharajas and kings would ride upon elaborately adorned elephants during festivals and processions. Elephants were also a must at royal weddings in olden times, and even today couples include them, not only as part of the wedding procession, but in other areas as well such as decor and favors.

There are elephant festivals, such as the well-known one in Jaipur, India, where the majestic creatures are dressed in rich fabrics. They are also adorned with ornaments, such as anklets and necklaces, and their hides are painted in brilliant colors with intricate

designs. Today the elephant is still regarded as a symbol of mental strength, power, and prosperity. Elephant sculptures and artwork feature this splendid animal with its trunk facing upward to bring good luck to decorate homes and offices worldwide.

Currently, not many of us have a spare elephant to embellish, but with this 9-1/4" x 11-1/4" design we can create our own celebrated and decorated elephant that hopefully will bring us prosperity and good luck. **Note:** Please read all the instructions before beginning, since there are options regarding glass and paint choices to consider. One such option is to fabricate the elephant without the border. Just have fun selecting whatever ornaments and designs that appeal to you!



### Glass

Clear/Turquoise Blue/White for  
Upper Right and Left Corners, 3" x 6"

Deep Royal Blue Iridescent  
for Inner and Lower Border, 6" x 12"

Turquoise Blue Iridescent  
for Left and Right Outside Border, 2" x 10"  
Garnet Red for Circle Around Elephant, 5" x 14"

Elephant Gray for Elephant Body, 5" x 10"

Warm White for Tusks, Scrap

Light Purple Transparent  
for Border Below Elephant, 2" x 6"

Iridescent Gray for Under Trunk and Over Ear, 3" x 3"

### Additional Glass

Fusing Compatible Dichroic Glass  
for Headpiece and Saddle, Scrap

Fusing Compatible Clear Glass  
for Headpiece and Saddle (optional)

4 Round Faceted Turquoise Gems, 19/32"

2 Oval Faceted Cobalt Blue Gems, 1-5/8"

### Tools and Materials

5/32" and 3/16" Silver-Backed Copper Foil

Regular and Small Craft Scissors

X-Acto® Knife Black Patina

Flux Flux remover Soft Cloths

Cotton Swabs Old Toothbrush

Kem-O-Pro Polishing Wax

Morton Layout Block System

Horseshoe Nails Toothpicks

3/8" Zinc Framing Hanging Hooks

21-Gauge Gold Jewelry Wrapping Wire

4 mm Fancy Beads Wire Cutters

Fine-Tipped Artist Brush Tweezers

Hobby Enamel Paint and Thinner or Fusible Paint

Fine Steel Wool Blu Tack Mounting Putty

Needle Nose Pliers Light Box (optional)

Make two  
copies of the  
pattern, one for  
layout and one  
to cut.

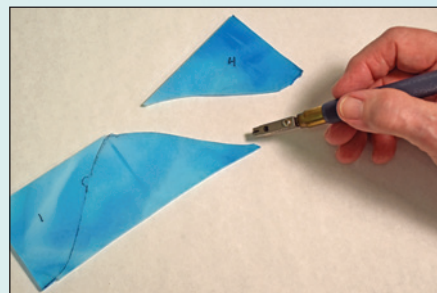
1



Number each section of both patterns.

2

Make your  
glass selections  
and cut out all of  
the sections.



If you decide to use dichroic on the saddle and headpiece, remember to cut the glass on the back side. Since dichroic glass can be difficult and expensive to obtain, I used what I had in the studio. Since this is your elephant to adorn, you can select whatever colors, textures, or patterns of dichroic that you like. Choose to layer it, clear seal it, or just let it sparkle . . . whatever appeals to you. An alternative to dichroic is to use jewel colored iridescent glass or even mirrored glass.

3

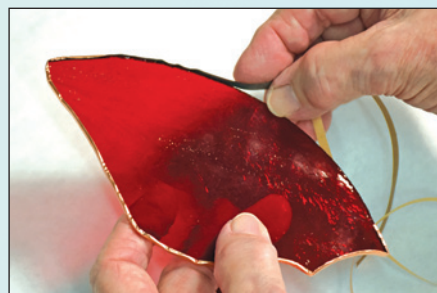
Grind each  
section of the  
cut glass.



Clean each section and set aside to dry.

4

Wrap each  
glass section in  
copper foil.



When foiling the gems, you may have to trim the foil. I use tiny craft scissors for that.

5

Use dichroic  
glass for the  
headpiece and  
saddle, with clear  
capped sections  
of each.



Use your own judgement whether or not to cap the dichroic. If you do, be sure the clear glass is slightly larger than the dichroic to be capped. All kiln temperatures vary a bit, so I approached a full fuse, kept an eye on the glass, and turned the kiln off when the clear had slumped over the dichroic section.

Let the kiln cool to room temperature, then remove the glass and foil the fused sections. If you are using a fusible glass paint, this is the time to apply it and fuse each section that requires painting. See Step 12 for details.

Place all of the foiled sections on the layout pattern and brace the panel with the Morton Layout Block System.



Some tiny sections are tricky to get in place, so use a toothpick to adjust these little devils. I also placed a small bit of Blu Tack mounting putty beneath the smaller gems so they would be level with the rest of the panel.



Solder the panel together, flip the panel over, and solder the back.



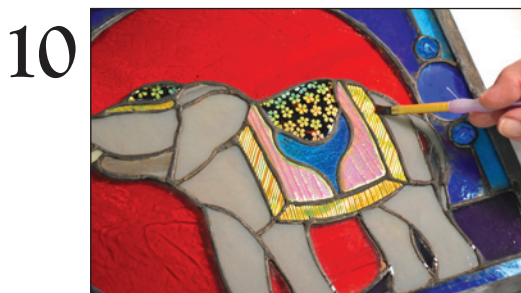
Create the zinc frame for the panel.

Cut the zinc framing for all four sides and secure the zinc in place with horseshoe nails. Solder the zinc wherever it meets a solder line on both sides.



Install the hanging hooks.

Place the hanging hooks an inch or two from the edge of the panel. Support the hooks with a section of scrap glass, then solder the hanging hooks directly onto the zinc frame.



Apply black patina to the solder lines.

First mark off the places on the feet where you will be soldering the wire later for the beaded anklets, since you don't want patina on those areas until you finish attaching the wire and beads. When applying the patina, avoid the area where the wire will be and only apply patina to the rest of the panel on both sides, including the zinc framing and hanging hooks. Clean the panel and let it dry.



Wax and polish the panel.

Using a soft cloth, apply the Kem-O-Pro wax to the front of the panel, let it dry to a soft haze, then repeat the process on the back of the panel. When the wax is dry, use another clean cloth and polish the entire panel. An old toothbrush will help remove wax from the tight areas.



Adorn your pachyderm.

Cut a section of the gold wire for the elephant's anklets and bend the wire into a slight curve. With a cotton swab, apply a tiny bit of flux to the area by the foot that has no patina. Using tweezers, position the wire so that it appears to dangle around the foot. Solder the wire onto one side of the foot.

String a few 4 mm beads on the wire, then solder the wire down on the other side of the foot. Repeat the procedure for all four feet. Use a cotton swab to clean off the flux, then apply patina to the soldered area.



To finish, paint your pachyderm.

I tested some fusible glass paint on sections of the gray elephant glass. The colors were not as bright as I wanted, so I chose to use Testor's hobby enamel instead, but the choice is yours.

Use a lightbox to illuminate the decorative designs to be painted onto the body of the elephant or transfer the design with Seral transfer paper onto the body. You can also freehand any design that you would like onto the body. Google "painted Jaipur elephants" to see the amazing array of designs used for the various ceremonies.

Use a fine-tipped artist brush to apply the paint, working in sections to avoid smudging the paint. Let the paint dry overnight.



## SQUARE STANDS



## ROUND STANDS



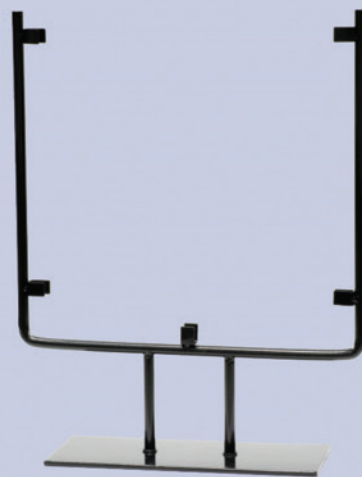
## ANGLED STANDS



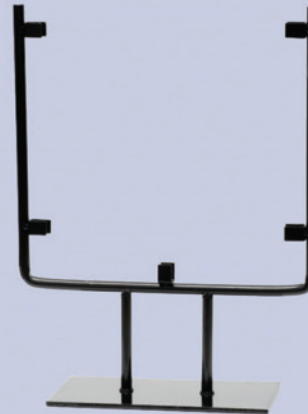
## POINT-DOWN STAND



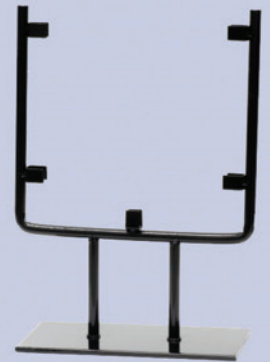
**AAN-DSPDS**  
Point-Down Stand



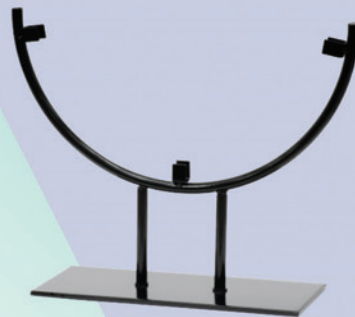
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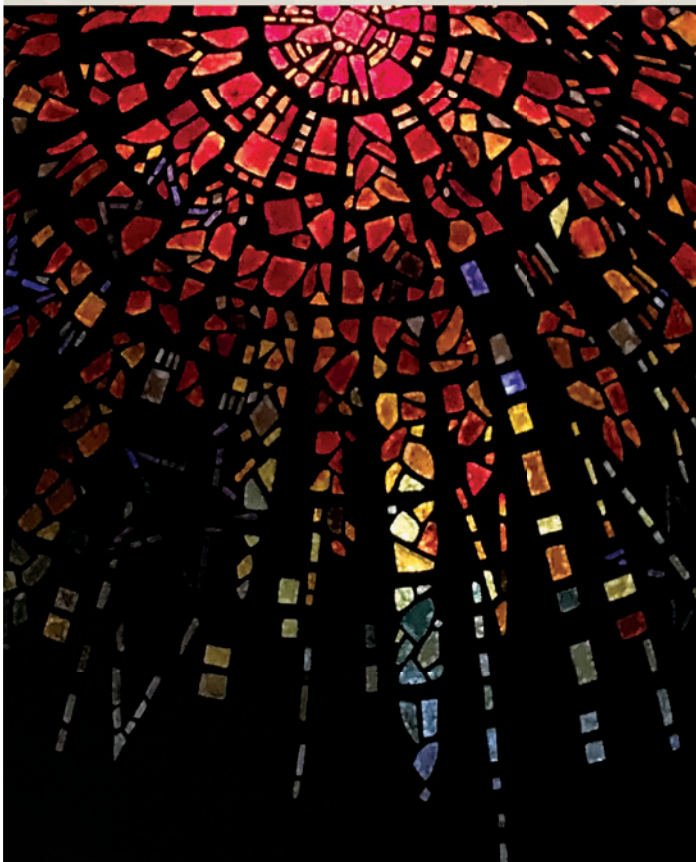
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## Saving Sacred Places' Stained Glass

Find out how the Stained Glass Association of America works to preserve, maintain, and advance the art of stained glass in our sacred places and beyond at [stainedglass.org](http://stainedglass.org)



Now that you have completed your elephant, hopefully you will reap the benefits of good fortune pledged by this magnificent creature. A vibrant stained glass ornamental elephant is also easier to maintain than an actual living one, and think of the money you will save on hay, let alone avoiding complaints from the neighbors about the constant trumpeting emitted from such a hefty pet.

GPO



*With a main focus in drawing and painting, Leslie Gibbs enjoys transforming her more traditional artwork into glass.*

*Charmed by both wildlife and the creatures of the sea, she often depicts the real along with the fanciful denizens of these worlds in her design and pattern books.*

*Leslie and Jon are longtime Florida residents. They currently live and work in a small beach town in Northern Florida, having forsaken the Badlands of South Florida for a more peaceful lifestyle featuring more wildlife and less concrete. A relentless jokester, the artist tackles life's common absurdities with a wicked sense of humor and a relaxed attitude. Visit [www.facebook.com/lesliegibbsstudio](http://www.facebook.com/lesliegibbsstudio) to learn more about Leslie and her art.*

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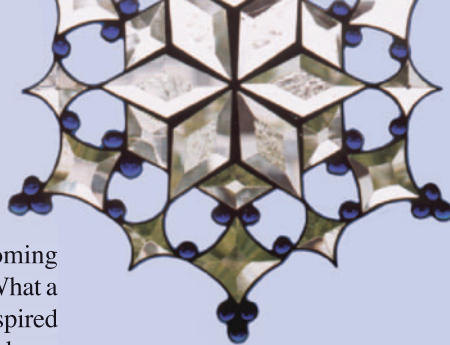


# The Magic of Snowflakes

*Design, Fabrication, and Text by Deverie Wood*







I love sitting by the window, watching the snow gently coming down and covering the earth with a beautiful white blanket. What a peaceful moment, and one of my favorite times. I have been inspired to create a reminder of that peace by designing snowflakes to hang in the window that are clear enough to let the light through. This snowflake is the second design in *The Magic of Snowflakes II*, my second collection of snowflake patterns.

Bevels, clear textures of glass, iridized clear textures . . . there are so many choices to use when creating these beautiful snowflakes. I enjoy a sense of focus in making them that reminds me of that moment of peace. It is amazing that after all these years creating them, every one I make comes out uniquely different than the last one. I never lose that sense of excitement of making them every year. Enjoy the moment of peace!



#### Glass

35 mm Clear Jewel (1)

2" x 6" Diamond Bevels or Glass (6)

1" x 1-1/2" Bevel or Glass Rectangles (12)

1-3/4" x 3" Diamond Shaped Bevels or Glass (6)

Glass Nuggets (30)

Iridized Glue Chip Textured Glass, 1/4 Sq. Ft.  
Waterglass

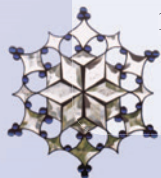
#### Tools and Materials

60/40 Solder 7/32" Copper Foil

18- to 20-Gauge Pretinned Copper Wire

Sharpie® Permanent Marker

Small Metal Tin with Lid



*Cut the rectangle and icicle shaped glass pieces for the points around the jewel from iridized glass.*

1

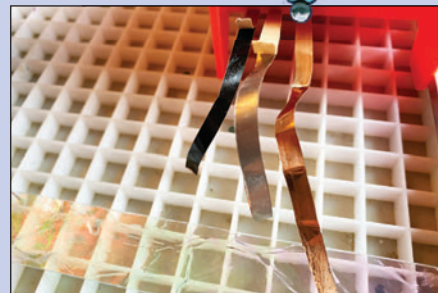


Cut six 2" x 3" concave diamond shaped pieces for the outer points and twelve 1" x 2" rectangles that go directly under the concave diamonds from the iridized waterglass and/or iridized glue chip. The Morton System helps to easily make accurate diamonds and rectangles. Mark the center bevels with a Sharpie marker to indicate where the points need to be broken in order to allow the center jewel to fit.

Using the Sharpie mark as a guide, cut the points with the glass cutter in the flat side of the bevel and break off the point. It should break off easily. Grind the breaks, so that all of the bevels fit on the pattern properly around the center jewel.

*Select the correct color of 7/32" copper foil for the project.*

2



The 7/32" copper foil is the size to use, because it offers better strength for the entire project. Select the inside color of the copper foil to match the color you have picked for the final solder line color—polished solder, copper patina, or black patina. This is important, because the copper foil will show on the inside of the clear bevel.

*Wrap all of the glass pieces, bevels, and nuggets with 7/32" copper foil and lay them out on the pattern.*

3



Clean all of the nuggets with glass cleaner first to help the copper foil hold better. Next place the nuggets, some foiled, some not foiled, into a small tin like the ones used to hold mints and shake the tin until the foiled nuggets are nice and smooth.

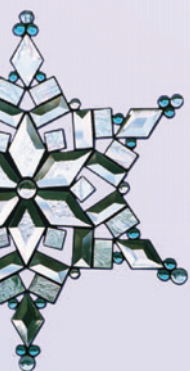
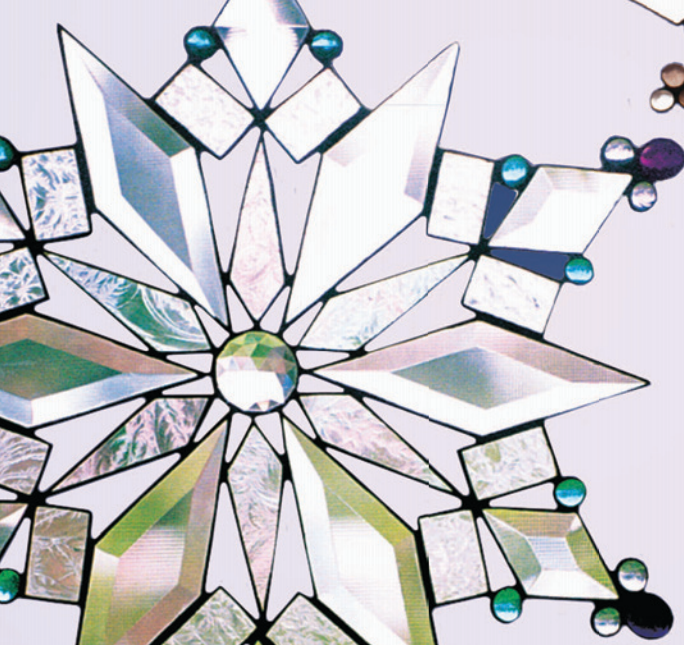
*Tack-solder the glass, bevels, and nuggets in place.*

4



I recommend that you use 60/40 solder for this project. Start soldering by tacking the center of the snowflake first. For row 2, tack the pieces, alternating with large bevel diamonds, into the jewel on the pattern lines to keep them accurate. Add the rest of the glass, bevels, and nuggets according to the pattern's dotted lines to make sure the symmetry is correct. It is best to tack-solder first. Then when it is all together, solder the rest of the snowflake.





*Solder the snowflake, front and back.*

5



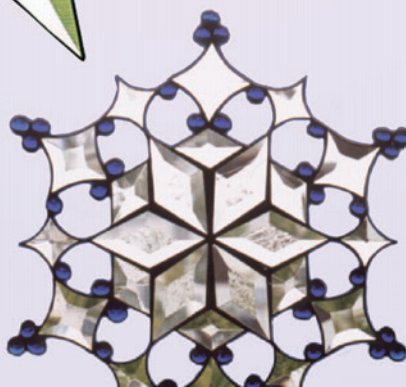
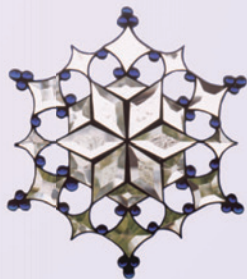
Solder the front side of the snowflake, then gently flip it over and solder the back of the snowflake. Tip up the snowflake and solder the inside edges of the bevels. Soldering the edges works better after the back side is soldered. The center jewel is generally thicker on one side, so using padding when soldering when the snowflake is flat is required.

6

*Build a bridge with the solder at the joints of the bevels, glass, and nuggets.*



The solder bridges should look like sloped edges at the joints, which makes the snowflake stronger.



7

*Use 18- or 20-gauge pretinned copper wire to make a loop at the top for hanging the snowflake.*



Start the wire at a solder joint and end the wire at a solder joint. Solder to the back side of the snowflake seam to offer more strength for hanging. The snowflake is stronger if the wire is soldered all around the outside on the back side.

After soldering, clean everything thoroughly with flux cleaner and a toothbrush. Apply polish or patina and buff with a soft cloth. Now hang it up, stand back, and enjoy your beautiful snowflake!

**GPO**



*In 1979, Deverie Wood took a class in stained glass and has loved working in the medium ever since. Within a year she had begun to design pieces and accept commissions for custom creations. After being the proprietor of her own retail store and a teacher of art glass techniques, she took her desire to inspire others even further by establishing Light in Glass Publishing.*

*Designing and selling her patterns has helped Deverie to organize them into five pattern books that are still selling today. With ever changing times and styles, there is always the desire to bring new inspiration to new generations of artists. Visit [www.deveriewood.com](http://www.deveriewood.com) for more pattern collections.*

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Jean Beaulieu offers stained glass pattern books in a multitude of themes for glass enthusiasts from beginner to expert, age 9 to 99.



Visit his online store for a complete listing of available patterns.

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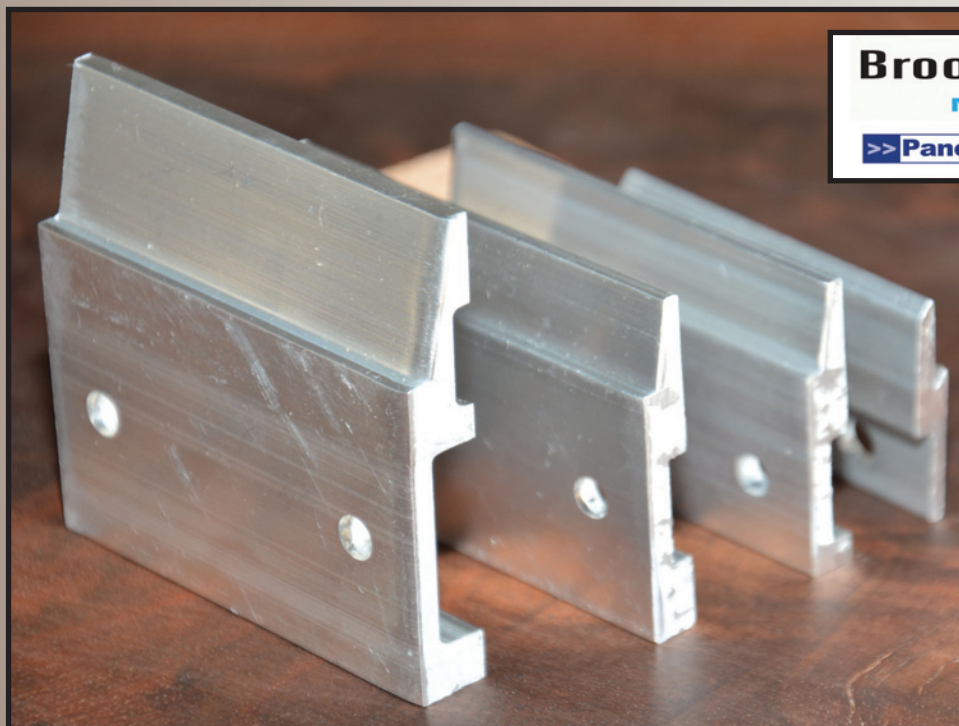
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# Round Gothic Window

*Design, Fabrication, and Text by Chantal Paré*

**“The Gothic cathedral is a blossoming in stone subdued by the insatiable demand of harmony in man.”**

**Ralph Waldo Emerson**



Originating a thousand years ago, Gothic architecture still has the power to move us with the skill our forebears used to turn stone into lace. When gazing at cathedrals, our eyes are drawn to the massive windows and their intricate decorative carvings.

I once borrowed a very old book on the topic of Gothic architectural ornaments from the McGill University library. It was filled with musty, amber, fragile pages, but among the precious historical line drawings, I found a series of round windows with astonishingly

graceful geometries. It was such a great find, I made digital copies of all of them.

In this 16"-diameter lead came project, one of these windows is reproduced with painted details. As I finished it, I admired the beautiful curves in the lead framework, and it occurred to me that while the painting helps more accurately reflect the peculiarity of Gothic design, it could certainly be done with the plainest float glass and still retain the magnificence of its inspiration.



**Wissmach Glass Co.**

SEEDY-01 Clear Seedy for Clear Background , 4 Sq. Ft.

**Youghiogeny Opalescent Glass**

3000-SP Mauve Stipple for Outer Border, 2 Sq. Ft.

**Reusche Glass Paint**

D292465 Amber Stain

1059 Stencil Black

Gum Arabic

**Tools and Materials**

1/2" U-Channel Zinc Came

3/16" H Flat or Round Lead Came

60/40 Solder Tin Foil

14-Gauge Pretinned Copper Wire

Light Box Fine Permanent Marker

Glass Cook Top Cleaner

Liner Paintbrush Badger Brush

Rough Bristle Brushes Painting Knife

Kiln Came Miter Saw Came Bender

Soldering Flux Lamp Black

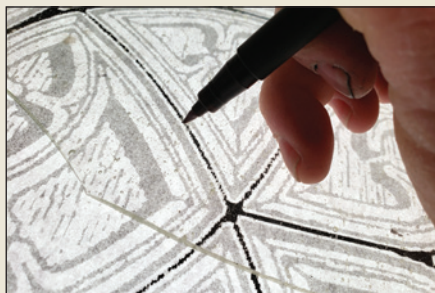
Window Putty Burnishing Brush

Electric Grinder Horseshoe Nails

Float Glass

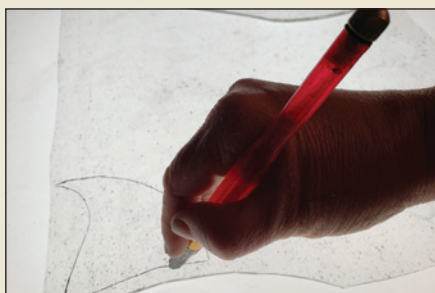
*Using light box illumination, individually trace the pieces onto the glass, with the glass smooth side up.*

1



*Score and break the glass pieces.*

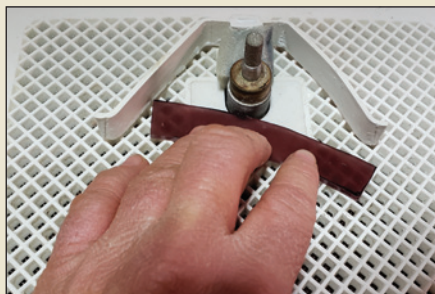
2



One cut at a time, score the glass just inside the marked lines, then break it off until all of the pieces are separated.

3

*Use an electric grinder to grind the glass pieces for a perfect fit with the pattern.*



4

*Prepare the glass paint on a piece of float glass.*



Drop one heaping tablespoon of Stencil Black paint powder and sprinkle with gum arabic the size of a pea. Add water a little bit at a time, mixing with a painting knife, until the slurry reaches the viscosity of heavy cream.

5

*Clean the glass before painting the black areas.*



Scrub the glass with cooktop cleaner, which contains very fine abrasives that remove refractory, hydrophobic manufacturing residue. Paint the black areas on the pattern. Against backlighting, trace with paint using a liner brush. Allow the paint to dry.

6

*Clean up the painted black outlines.*



Refine the painting by scraping off any unwanted paint with a wooden fid or a paintbrush with its distal end made into a point with a pencil sharpener.

7

*Fire the glass pieces to set the paint.*



Carefully place the glass in the kiln on primed shelves. The low 1050°F temp (well below recommended firing temperatures for tracing black) saves power in this first firing. After the kiln finishes the program, let it cool to near room temperature before opening the kiln.



### ***Firing Schedule***

Segment 1: Ramp 550°F to 900°F and hold 5 min.

Segment 2: Ramp 9999 (AFAP\*) to 1050°F and hold 10 min.

Segment 3: Ramp 50°F to 986°F and no hold.

Segment 4: Ramp 9999 (AFAP\*) to 950°F and no hold.

\*as fast as possible

8

*Prepare a  
matte layer.*



Prepare to matte your pieces as in step 6, but using less gum arabic the size of a peppercorn and more water. Apply this slurry to the glass with an ordinary paintbrush about an inch wide, aiming for only 10 percent transparency.

9

*Spread  
the paint.*



While the paint is still wet, spread it evenly by brushing back and forth very lightly with a badger brush. Allow the paint to dry.

10

*Reveal  
the shading.*



Remove some of the matte by tapping with blunted, stiff hog hair brushes to create brighter areas.



11

*Mix and  
apply the  
silver stain.*



Add 4 teaspoons of water to 1 teaspoon of silver stain powder in a small container and stir vigorously. Turn the painted pieces underside up, then paint the faux openings in the design with a thin coat of silver stain slurry. The thicker the coat, the darker the color will be.

12

*Fire the  
silver stain  
slurry.*



Line the kiln shelves with tin foil. This will enhance the metallic sheen on the underside of the stain, deepen the color, and make it uneven in an organic way that will produce an antique effect.

When the slurry is completely dry, return the pieces to the kiln, with the black paint on top and the silver stain on the underside. Use the same firing schedule as in step 8, but with Segment 2 ramped up to 1150°F. (Do not exceed the aluminum melting point of 1221°F).

13

*Once the  
kiln is cooled,  
remove the pieces  
and wash off the  
silver stain slurry.*





14

*Prepare the zinc frame.*

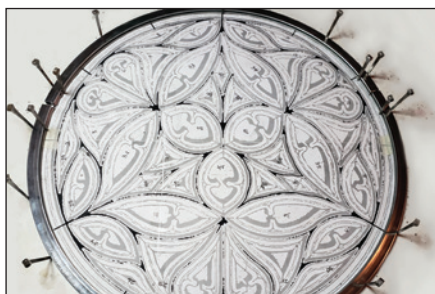


Bend the zinc came to form a frame. Insert the came in the bottom groove of the two follower rollers, with the open side of the came away from you. Using the side crank, bring the pressure roller forward and insure a snug fit. With the top crank, roll the whole length of the came back and forth once.

Repeat several times, each time bringing the pressure roller forward a little bit more. A small increment in pressure can make a large change in curvature, so proceed very gradually until the curvature matches that of the pattern outline. Be careful not to overshoot the curvature, since you cannot unbend the came.

15

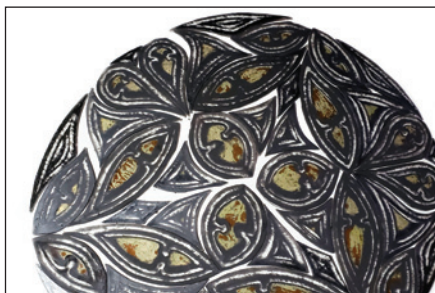
*Cut the came to fit the circumference of the window.*



Cut the came such that the circle is divided in three equal size segments that fit around the project circumference. Bending came often causes the channel opening to narrow. If that happens, widen it with a fid. Position the came around the pattern and secure it with many horseshoe nails.

16

*Arrange the pieces in their proper places and lay them on your worktable.*



The shadows in the drawing mean that each piece is slightly different. Note that even though their shape may be symmetrical, they are not interchangeable.

17

*Place the glass pieces on the pattern.*



Proceeding from top to bottom, place the glass pieces and their associated lead came segments one by one on the pattern, securing their placement with horseshoe nails. Gently tap the glass pieces into place using a soft mallet.

18

*Add the final piece of the frame.*



When you are done placing the glass pieces and lead came segments, install the last piece of zinc came by pushing it up into the remaining pieces. Secure it with horseshoe nails.

19

*Finish-solder the frame.*



With masking tape, mask the areas around each of the three solder joints that are around the zinc frame. Apply flux and drop solder. Remember that zinc takes a bit more flux and heat than lead. Continue by tacking each lead line that touches the zinc frame.

Solder the remaining joints on the first side of the project. Apply flux to each joint in a small area with a brush and cover with 60/40 solder. Strive to make consistent solder joint patterns on the flat came so that the legs of T, Y, and other junctions all have similar lengths of about 1/4". Gently turn the project over and solder the second side.

20

*Finish soldering the frame joints and apply hanging hooks.*



Using masking tape as resist, solder the lateral aspect of the zinc frame joints. Insert bent 15-gauge copper wire in two of the joints to form hooks and solder them in.

21

*Add lamp black to the window putty.*







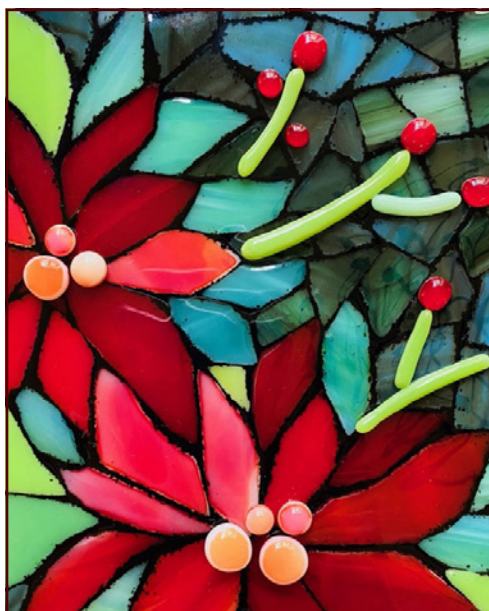
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## Oh Deer, Christmas is Here!



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*Artist: Shelly Heiss*



Wearing gloves, add one tablespoon of lamp black to a half cup of commercial window putty and knead the black into the putty.

22

*Push in the putty to fill the voids between the came and the glass.*



23

*Throw some whitening onto the project and burnish vigorously, making small circles.*



This will smooth the joints, patina the lead, and help set the putty.

24

*Clean the project with water and soap, scrape off any excess putty, and clean one last time.*



GPO

Two decades ago, Chantal Paré quit the fast-paced world of molecular biology to devote herself to the full-time pursuit of glass. She's liable to melt it, blow it, break it, paint it, or cast it, sometimes just to show it who's boss. Nothing else comes close to creating an object through which light can pass the same way it does through water.

Lately, Chantal is concentrating her efforts in glass painting. In her free time, she also draws and self-publishes patterns in a variety of styles ranging from Victorian to geometric that are available at [www.free-stainedglasspatterns.com](http://www.free-stainedglasspatterns.com).



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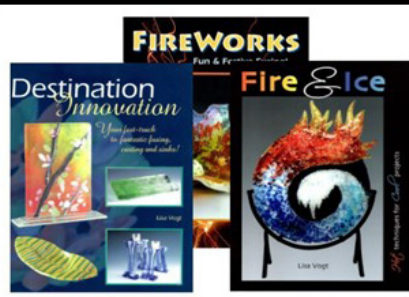
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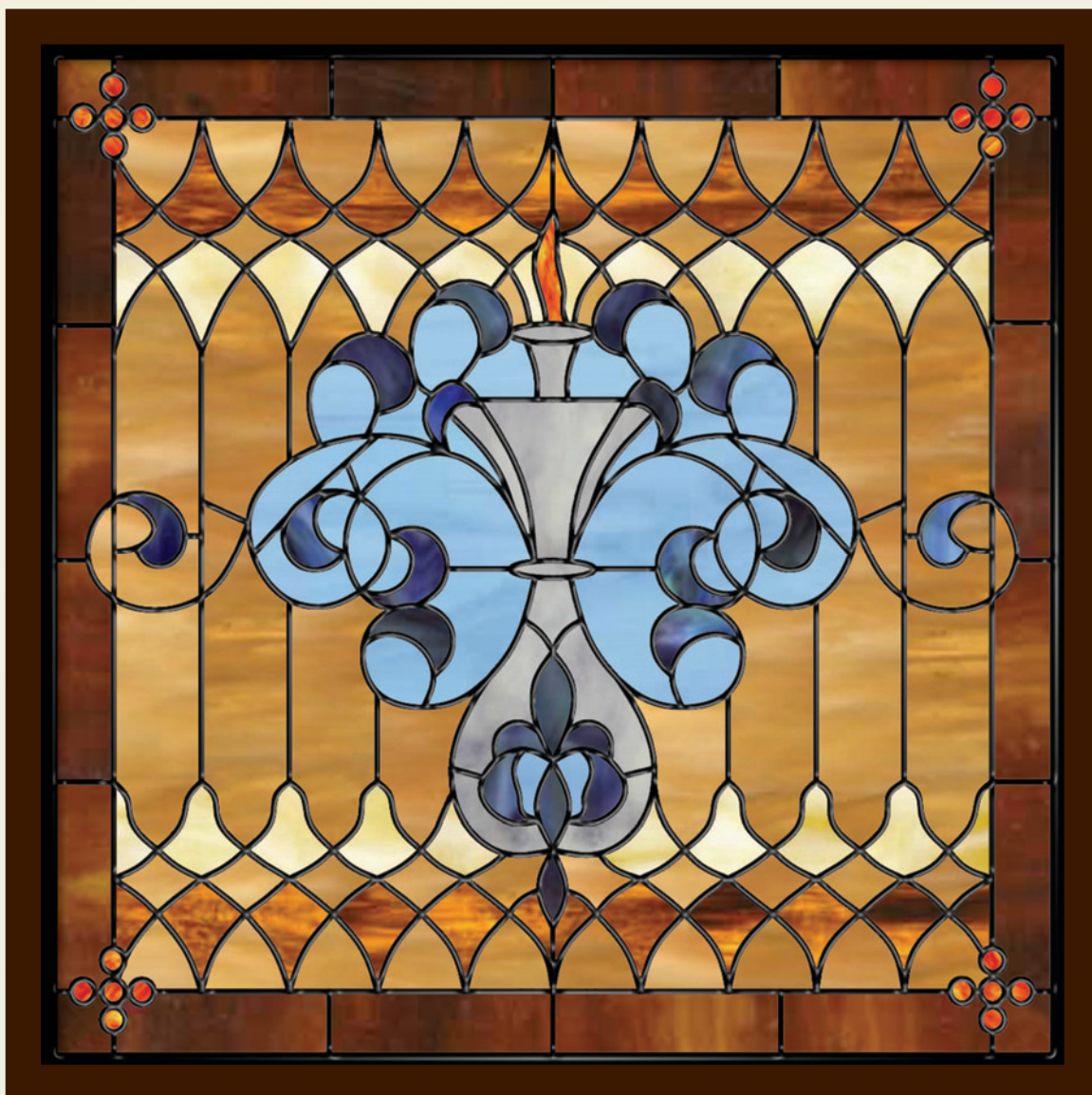
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# Victorian Flame

*Design by Paned Expressions Studios, Text by Darlene Welch*



During the Victorian era, artists focused on high fashion and elegance, and this 33" x 33" design certainly reflects that style and grace. The panel can be created exactly as shown here using the pullout pattern and suggested colors, but if you would like to have a simpler version, that's easy to do. For example, by using a graphics editing program you can turn this design into one with fewer pieces by removing some of the existing lines for a less intricate pattern. You could also add borders, resize the panel, change the shape of the piece, or cut out part of the design from the original motif to use as the central figure for a different project, as shown on the facing page. If you don't have access to a computer program, the same thing can be accomplished using graph or tracing paper.

*Victorian Flame* is one of nearly 120 offerings that are part of the *Tradition!* pattern collection from Paned Expressions Studios. Included are designs featuring Art Nouveau, Arts and Crafts, Edwardian Era, Tiffany Studios, Prairie/Art Deco, Victorian, and Manchester themes in projects for rounds, half rounds, transoms, and sidelights. The pattern files on the CD, which are image only with no software included, are provided in color as well as black and white in JPG, TIFF, and Glass Eye formats for both PC and Mac for easy resizing, reshaping, and recoloring. The designs also cover all levels of glass skills, so there is something for everyone. Visit [www.panedexpressions.com](http://www.panedexpressions.com) for this and many other stunning pattern collections from Paned Expressions Studios. **GPQ**



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145-SP Dark Amber/Opal/Crystal for Background, 4-1/2 Sq. Ft.

325-D Light Amber/Dense Opal/Crystal for Background, 1-1/2 Sq. Ft.

706-LL Light Amber/Brown Mystic Streaky for Background, 1-1/2 Sq. Ft.

155-LL Red/Yellow Streaky for Flame and Corner Circles, Scrap

613-D Williamsburg Blue/Dense Opal/Crystal for Torch, 1 Sq. Ft

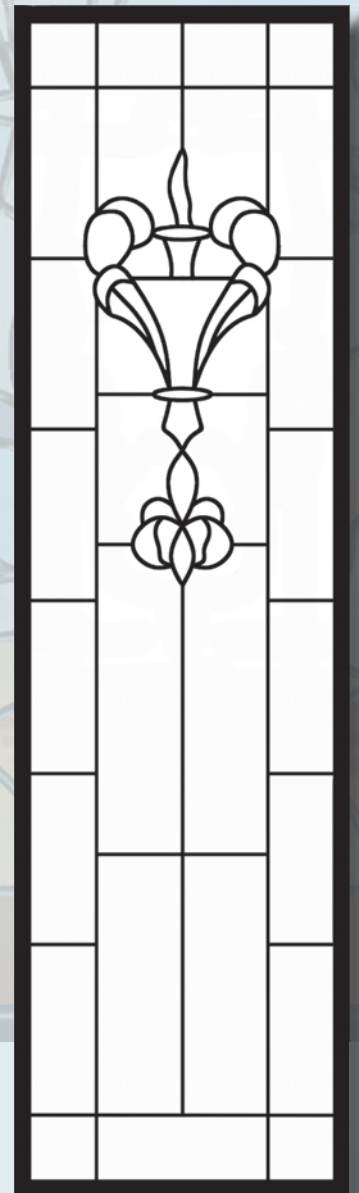
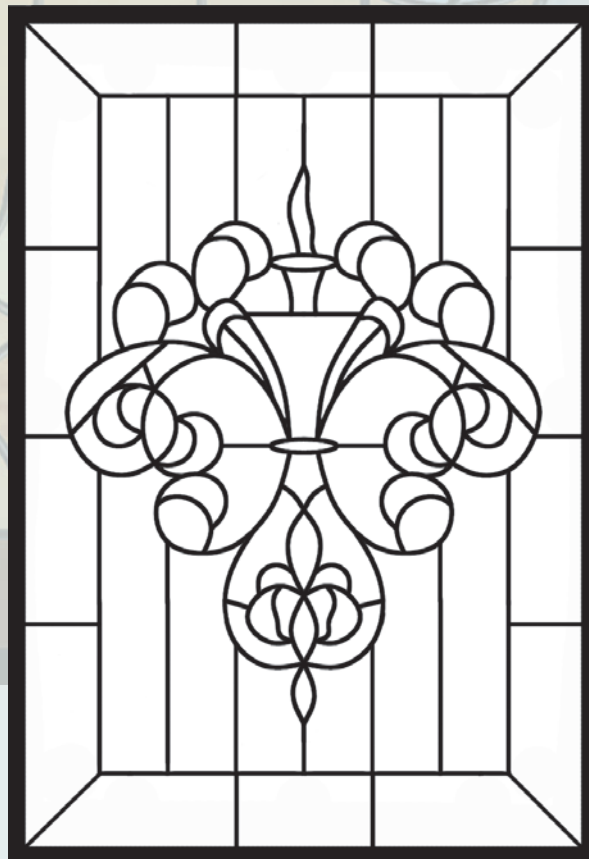
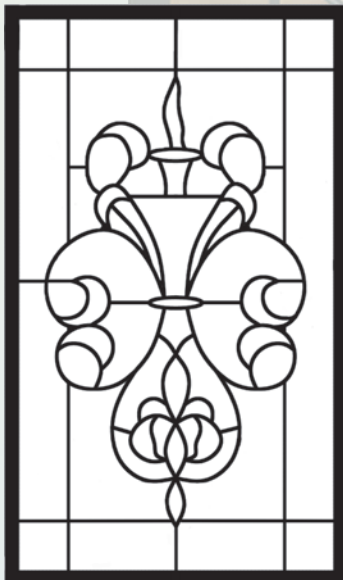
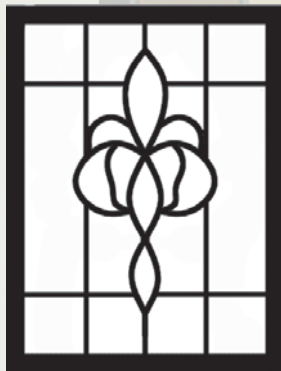
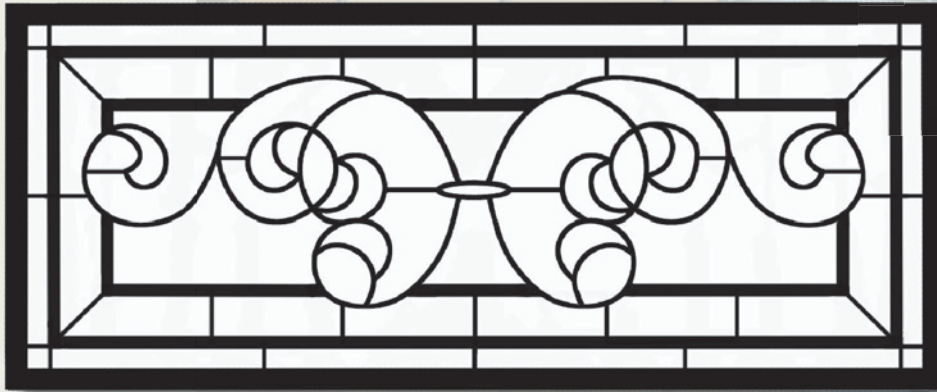
277-L Medium Blue Light Opal/Dark Blue for Center Background, 2 Sq. Ft.

441-L Dark Purple/Dark Blue/Medium Green/Dense Opal/Crystal  
for Center Design, 1-1/2 Sq. Ft.

**Tools and Materials**

7/32" Copper Foil Flux Solder

Black Patina 1/2" U-Channel Zinc



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# Desert Aura

*Design, Fabrication, and Text by Alecia Richardson*



The desert is often thought of as desolate and extremely hot, but as a child I lived in Arizona for a short time and fell in love with the desert for its hidden beauty. It has rich sands, amazing mountain ranges, and barbed, rich green cacti that I have worked to capture in this piece.

In this 8" circular design, I have incorporated a few nontraditional stained glass techniques. You will see glass-on-glass overlays as well as wire and copper foil overlays. And let's not forget 3-D leaves to complete this fun little desert scene.



### Youghiogeny Glass

1144-SP White/Green Stipple for Cactus, Scrap  
Yellow for Sun, Scrap

#### Additional Glass

Medium Amber Beige for Mountains, 1/8 Sq. Ft.  
Sky Blue/White Wispy for Sky, 1/4 Sq. Ft.  
Dark Leaf Green for 3-D Leaves, 1/8 Sq. Ft.

#### Tools and Materials

Scissors Sticker Paper Grinder  
Toyo Pistol Grip Cutter Push Pins  
Breaking Pliers Permanent Markers  
Rubbing Alcohol X-Acto® Knife  
7/32" Copper Foil 60/40 Solder  
Nokorode Paste Flux Kwik-Clean  
Hakko FX-601 Soldering Iron  
Novacan Black Patina  
Toothbrush Cotton Swabs  
18- and 20-Gauge Pretinned Wire  
Copper Foil Sheets Steel Wool

1

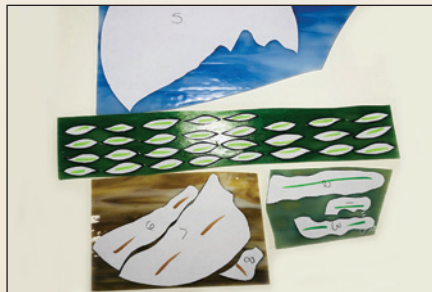
*Begin by making two copies of the pattern.*



One is on regular paper for the layout. The other one is on a full sheet of sticker paper for adhering the pattern pieces to the glass.

2

*Number the pattern pieces, cut them out from the sticker paper, and stick them to the glass.*



I prefer sticker paper, since it tends to stay better than glue on the paper.

3

*Score the glass as close to the pattern pieces as possible.*



4

*Use breaking pliers to separate the individual glass pieces.*



5

*Grind all of the glass pieces to get the best fit.*



6

*Clean the glass and assemble the pieces for the central design on the layout pattern.*



Remove the sticker paper from the glass. Clean all of the edges with alcohol, then assemble the main clean glass pieces on the layout copy. The 3-D leaves and cactus will be added to the project a little later.

7

*Apply foil to all of the glass pieces.*



Try to get the foil on as evenly as possible and burnish all of the sides of the foil.

8

*Pin the main glass design pieces in place on the layout pattern, then flux and solder the pieces together.*





Foil the leaves and cactus pieces and tin the edges with solder, then solder the cactus pieces together

9



Cut the 18-gauge pretinned copper wire to size and tack-solder the 3-D leaves in place.

10



Tack-solder lengths of 20-gauge pretinned bent wire to the cactus for accents.

11



The accents will give the cactus more of a 3-D look.

Tack-solder all of the 3-D leaves and the cactus in place and add a hanger now if needed.

12



Rays can be added to the sun by cutting varying lengths of the 18-gauge wire and tack-soldering them to the bottom outline of the sun.

13

Clean the glass thoroughly with Kwik-Clean, buff all of the solder with fine steel wool, and clean again.



14

Apply black patina with a toothbrush or with a cotton swab for any of the small areas.



Now give your design a final polish, and you're done.

GPQ



Alecia Richardson has always loved art from a very early age. She grew up drawing, painting, and trying many different crafts before she found her muse in stained glass in 2016. A self-taught stained glass artist, Alecia draws all of her own patterns and uses "out of the box" glass techniques, specializing in copper foil overlays and hand painting on glass. To learn more about her art, please visit [www.linktr.ee/AleciaExpressions](http://www.linktr.ee/AleciaExpressions).



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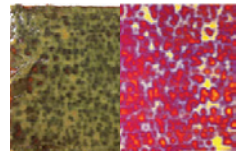


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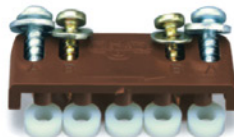
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# Blue Jay

Design by Marianne Crivello, Text by Darlene Welch



Sighting a blue jay, one of the perkier and brightest of birds, brings joy to the heart of any bird enthusiast. For those who also love glass art, this pattern provides the perfect way to capture that joy. Carefully selecting the glass types, colors, textures, and grain direction to match what is going on in the scene helps to create depth and realism in the piece. In this version, for example, matching the direction of the glass grain for the leaves and flowers and using a wispy blue for the bird's body work together to give the design a three-dimensional look.

This 7-1/4" x 8" free-form panel is just one of over 300 designs in *The Ultimate Pattern Book Volume 3* by Marianne Crivello. The volume is actually a collection of 12 pattern books that include *Secret Garden*, *A Choir of Angels*, *Wild Things*, *EIEIO*, *More Femmes Fatales*, *Quick Quilts*, *Christmas Cuties*, *Buds & Bevels*, *Happy Holidays*, *It's That Simple*, and *Fly Away*. Printed in an oversized 9" x 12" format, the patterns are ready to use and suitable for beginner to intermediate skill levels for everything from small panels and suncatchers to mosaics and fused designs. There's sure to be something for every budding glass artist. **GPQ**

## Wissmach Glass Co.

*All Glass from Scrap*

100-SP Dark Green/Opal for Leaves

569-D Champagne/Dense Opal/Crystal for Flower Petals

2-LL Yellow/Opal/Crystal Streaky for Flower Centers

199-LL Medium Amber/Dark Amber Brown Streaky for Tree Branch

100-L Dark Green/Light Opal for Background

557-L Medium Gray/Light Opal for Beak

275-L Dark Purple/Yellow Green/Medium Blue Light Opal for Back of Head

565-D Gray Dense Opal/Dark Gray for Head and Breast

WO-707 Light Blue/Dark Blue/White Opal Mystic Wispy for Head, Back, and Tail

119-LL Cobalt Blue/Light Opal/Crystal Streaky for Wing

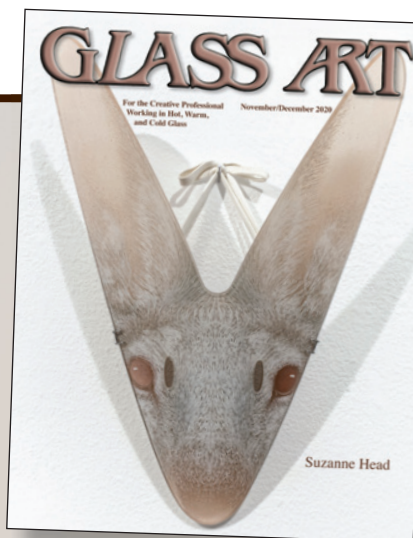
## Tools and Materials

7/32" Copper Foil Flux Solder

Black Patina 1/4" U-Channel Lead

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Don't miss the November/December 2020 issue of Glass Art®, where you'll meet glassblowing artist Janusz Pożniak, flameworking artist Maureen Henriques, and warm glass artist Suzanne Head. An easy way to print on glass and the latest industry news round out this terrific issue.



Above:  
Maureen Henriques,  
Sterling Silver Necklace.

On the cover:  
Suzanne Head, Rabbit Mask.

[www.GlassArtMagazine.com](http://www.GlassArtMagazine.com)

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# Baby Deer

*Design by Jean Beaulieu, Text by Darlene Welch*

This design comes to us from *Wildlife—Illustrated Designs of Wildlife* by Canadian artist Jean Beaulieu. It's one of 12 patterns that can be found in this collection that celebrates wildlife large and small, including several raptors, a fox, raccoon, squirrel, moose, wildcat, and more.

Various shades of browns and ambers are suggested as a realistic look for this deer with a silvery pink wispy for the center background and shades of purple for the borders in glass amounts that support the recommended 20" x 24" panel size. You could also select background colors that will be a better fit for your own home decor. Considering the angle of the animal's head, you might even think about making the deer into a fantasy carousel animal by using a brightly colored or patterned body and giving him a jeweled halter and harness to add some sparkle to your project. Don't be afraid to add your own original creative touches to help make the project your own.

Beaulieu has been a creator, artist, and painter since 1984. Viewers at his exhibitions often said that his paintings reminded them of stained glass. He began to explore that medium as well and has been working with glass since 1993. A very socially involved artist, he has linked his trade to a cause that is close to his heart, youth in the streets, and teaches them the implications of stained glass art. Visit [www.jeanbeaulieu.com](http://www.jeanbeaulieu.com), where you can find many additional pattern collections and learn more about the artist and his work, both personal and professional.

**GPQ**



## Wissmach Glass Co.

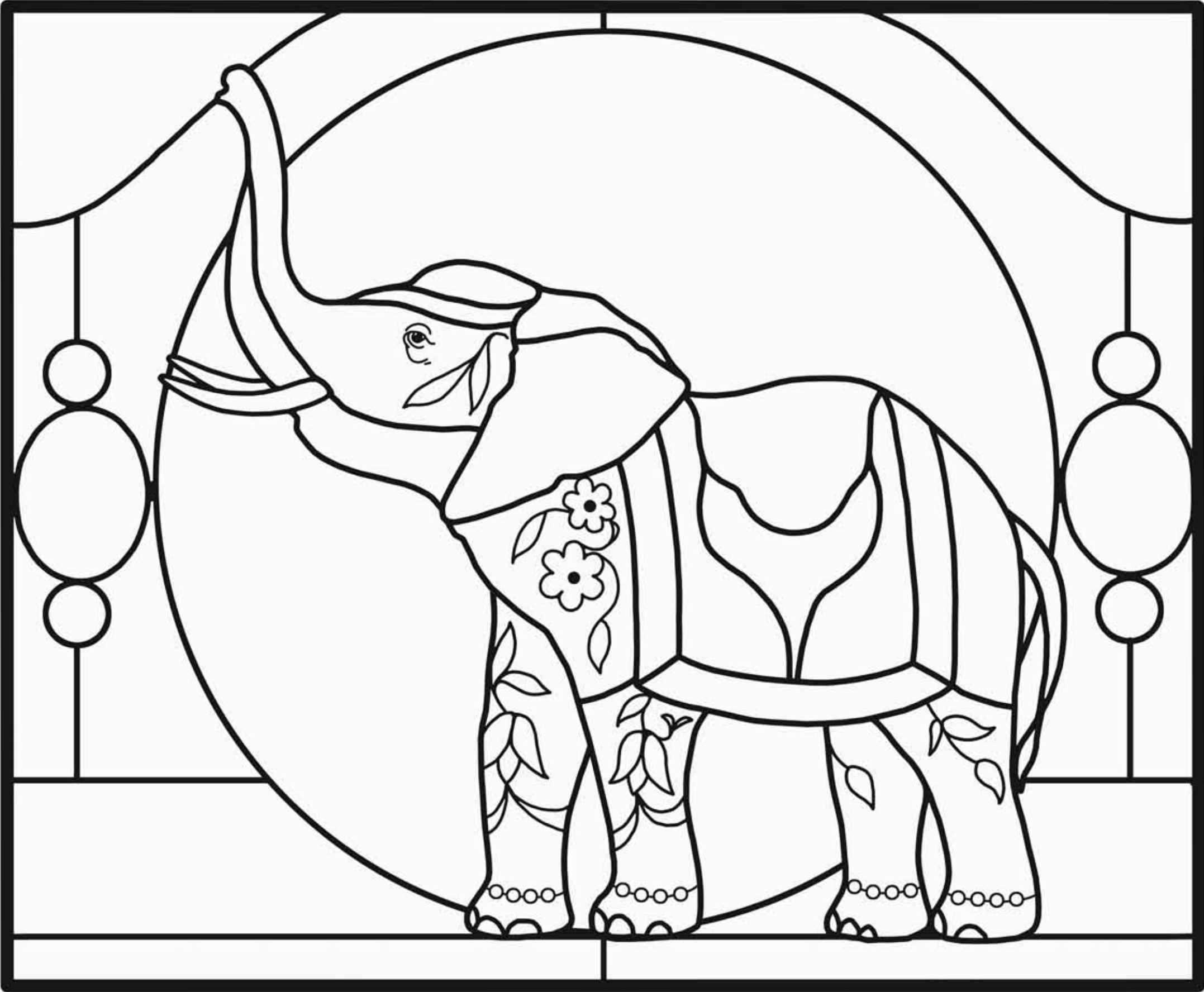
- BLACK Dense Black for Nose and Eye, Scrap
- 77-L Light Brown/Yellow Green/Light Opal for Back Neck and Head, 1-1/2 Sq. Ft.
- 315-D Medium Amber/Dense Opal for Inside of Ear, Scrap
- 199-LL Medium Amber/Dark Amber Brown Streaky for Head and Ear, Scrap
- 145-SP Dark Amber/Opal/Crystal for Face and Base of Antler, Scrap
- 325-L Light Amber/Light Opal/Crystal for Antler, 1 Sq. Ft.
- WO-14 Gold Pink/Silver/Opal/Crystal Wispy for Center Background, 2 Sq. Ft.
- WO-140 Medium Purple/Opal/Crystal Wispy for Inner Border, Scrap
- 67-L Dark Purple/Light Opal/Crystal for Outer Border, 2 Sq. Ft.

## Tools and Materials

- 7/32" Copper Foil Flux Solder
- Black Patina 1/2" Zinc U-Channel

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# Painted Pachyderm

## The Jaipur Elephant

Design by Leslie Gibbs

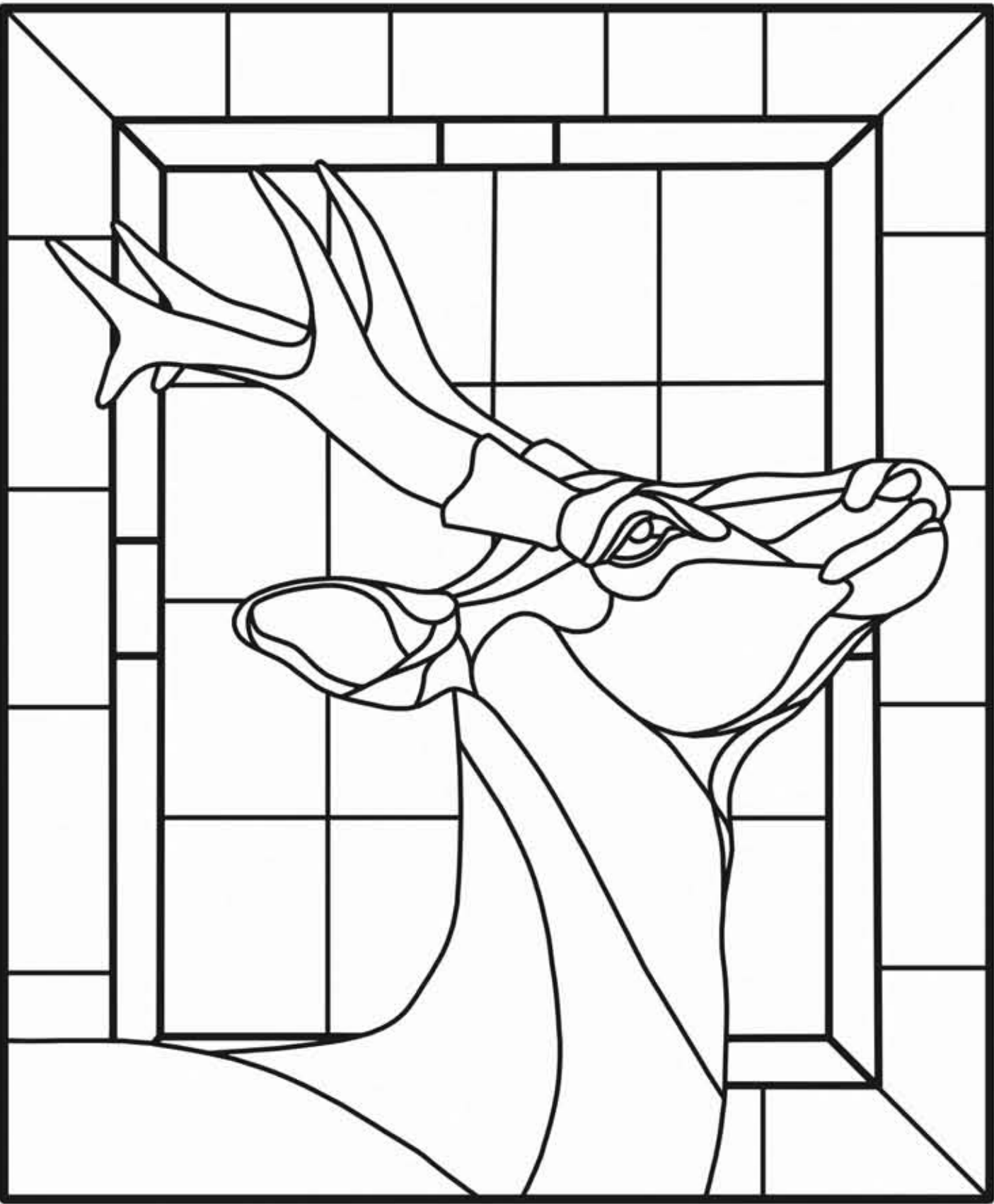
**Glass**  
Clear/Turquoise Blue/White for Upper Right and Left Corners, 3" x 6"  
Deep Royal Blue Iridescent for Inner and Lower Border, 6" x 12"  
Turquoise Blue Iridescent for Left and Right Outside Border, 2" x 10"  
Garnet Red for Circle Around Elephant, 5" x 14"  
Elephant Gray for Elephant Body, 5" x 10"  
Warm White for Tusks, Scrap  
Light Purple Transparent for Border Below Elephant, 2" x 6"  
Iridescent Gray for Under Trunk and Over Ear, 3" x 3"  
**Additional Glass**  
Fusing Compatible Dichroic Glass for Headpiece and Saddle, Scrap  
Fusing Compatible Clear Glass for Headpiece and Saddle (optional)  
4 Round Faceted Turquoise Gems, 19/32"  
2 Oval Faceted Cobalt Blue Gems, 1-5/8"

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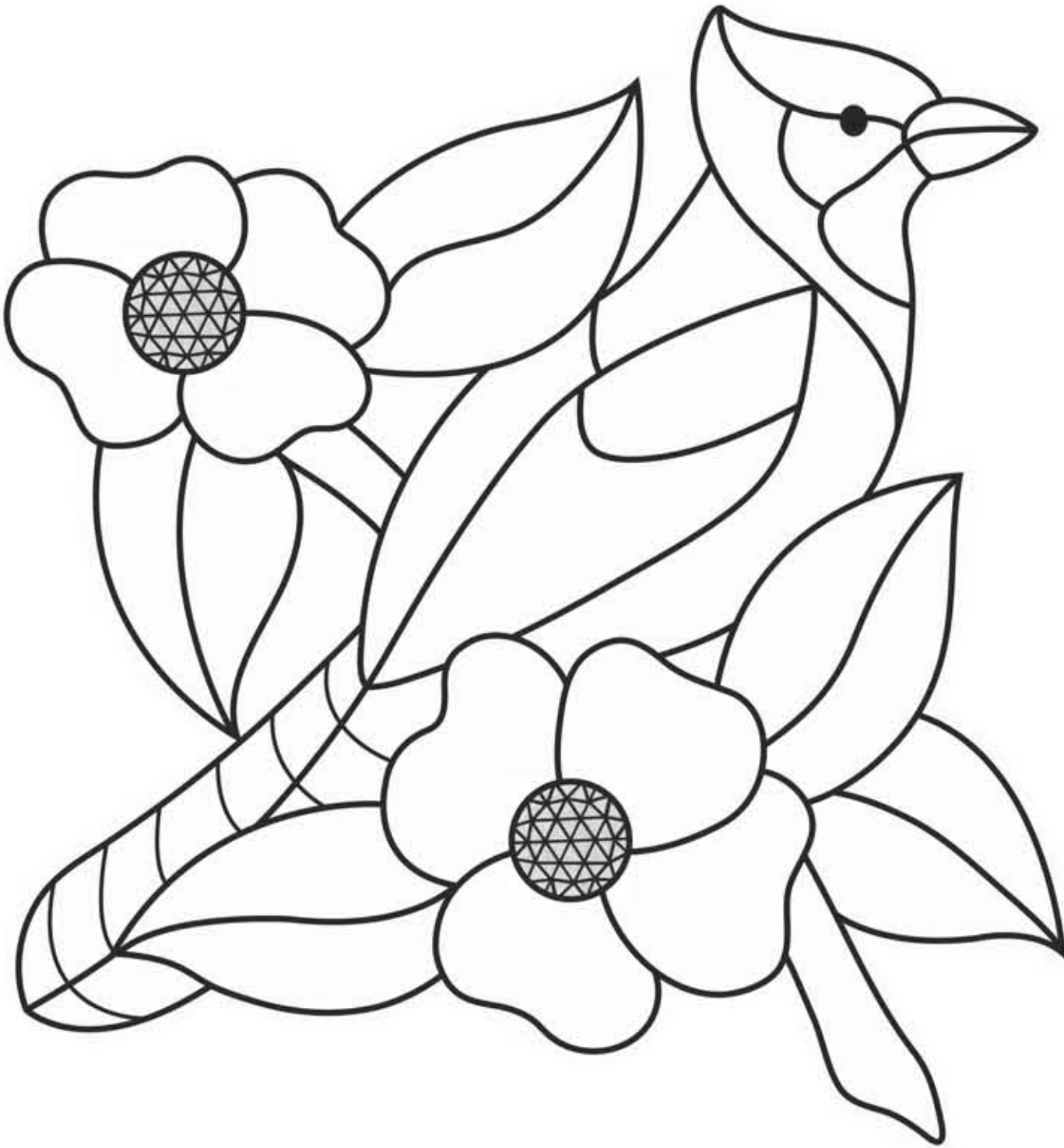
# Baby Deer

Design by Jean Beaulieu

**Wissmach Glass Co.**  
BLACK Dense Black for Nose and Eye, Scrap  
77-L Light Brown/Yellow Green/Light Opal for Back, Neck, and Head, 1-1/2 Sq. Ft.  
315-D Medium Amber/Dense Opal for Inside of Ear, Scrap  
199-LL Medium Amber/Dark Amber Brown Streaky for Head and Ear, Scrap  
145-SP Dark Amber/Opal/Crystal for Face and Base of Antler, Scrap  
325-L Light Amber/Light Opal/Crystal for Antler, 1 Sq. Ft.  
WO-14 Gold Pink/Silver/Opal/Crystal Wispy for Center Background, 2 Sq. Ft.  
WO-140 Medium Purple/Opal/Crystal Wispy for Inner Border, Scrap  
67-L Dark Purple/Light Opal/Crystal for Outer Border, 2 Sq. Ft.

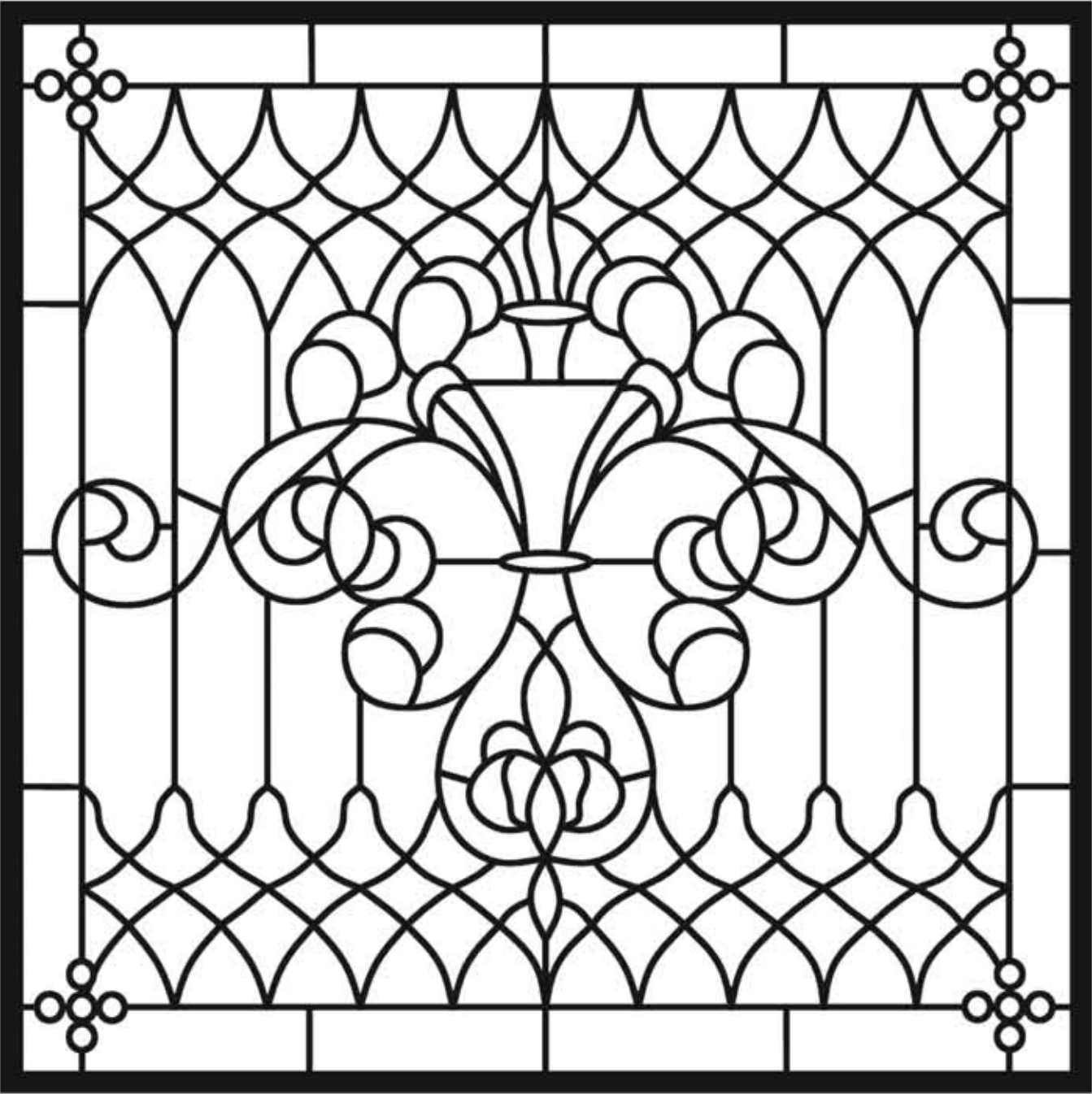


Enlarge to desired size



# Blue Jay

Design by Marianne Crivello



Enlarge to desired size

# Victorian Flame

Design by Paned Expressions Studios

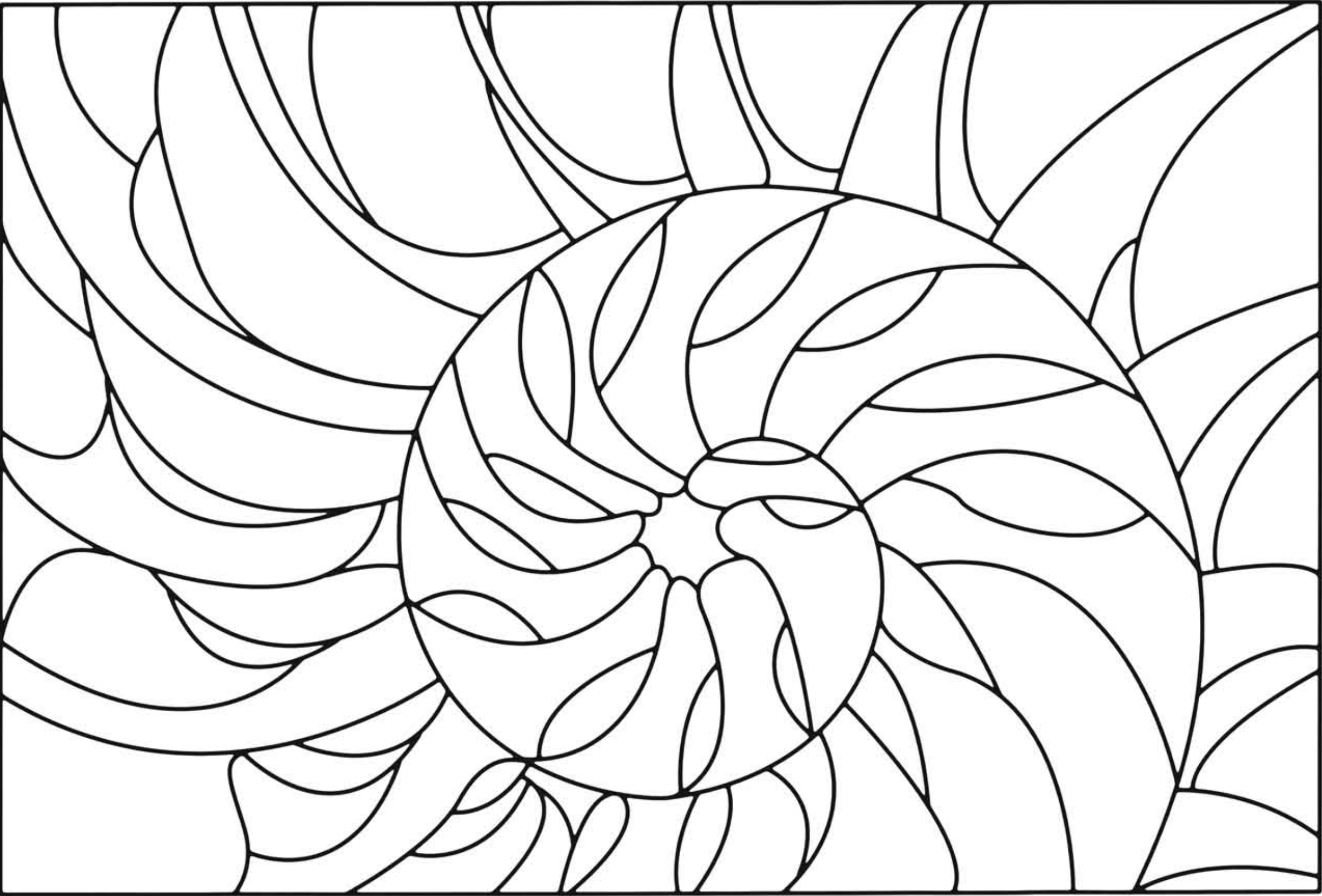
**Wissmach Glass Co.**  
145-SP Dark Amber/Opal/Crystal for Background, 4-1/2 Sq. Ft.  
325-D Light Amber/Dense Opal/Crystal for Background, 1-1/2 Sq. Ft.  
706-LL Light Amber/Brown Mystic Streaky for Background, 1-1/2 Sq. Ft.  
155-LL Red/Yellow Streaky for Flame and Corner Circles, Scrap  
613-D Williamsburg Blue/Dense Opal/Crystal for Torch, 1 Sq. Ft.  
277-L Medium Blue Light Opal/Dark Blue for Center Background, 2 Sq. Ft.  
441-L Dark Purple/Dark Blue/Medium Green/Dense Opal/Crystal for Center Design, 1-1/2 Sq. Ft.

# Nautilus

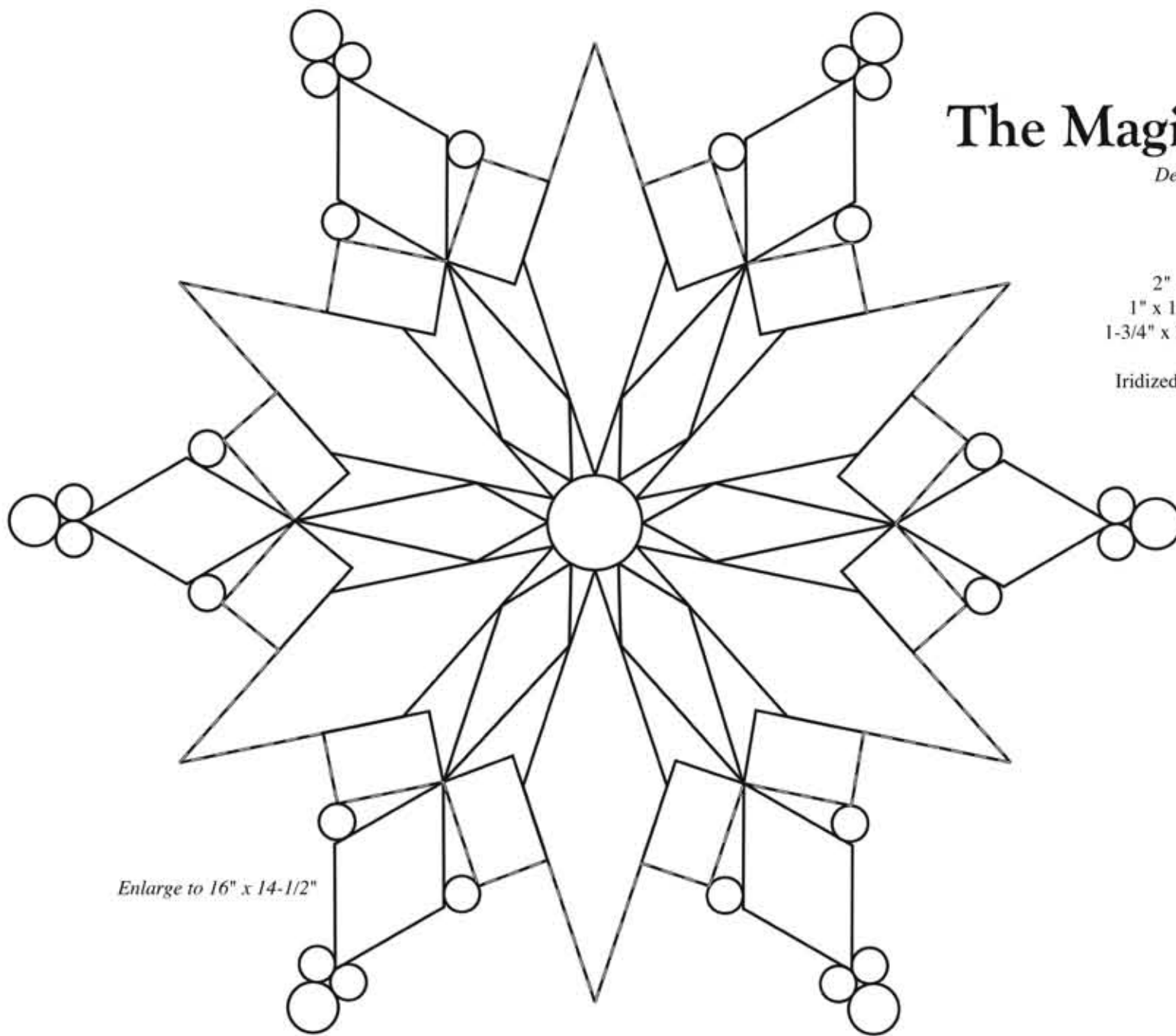
Design by Nautilus Glass Studios

**Wissmach Glass Co.**  
325-D Light Amber/Dense Opal/Crystal for Nautilus Shell and Background, 2 Sq. Ft.  
WO-27 Orange/Dense Opal/Crystal Wispy for Nautilus Shell and Background, Scrap  
503-D Dense Opal/Dark Gray/Brown for Background, Scrap  
WO-502 Opal/Medium Gray/Brown Wispy for Background, Scrap

Enlarge to desired size







# The Magic of Snowflakes

Design by Deverie Wood

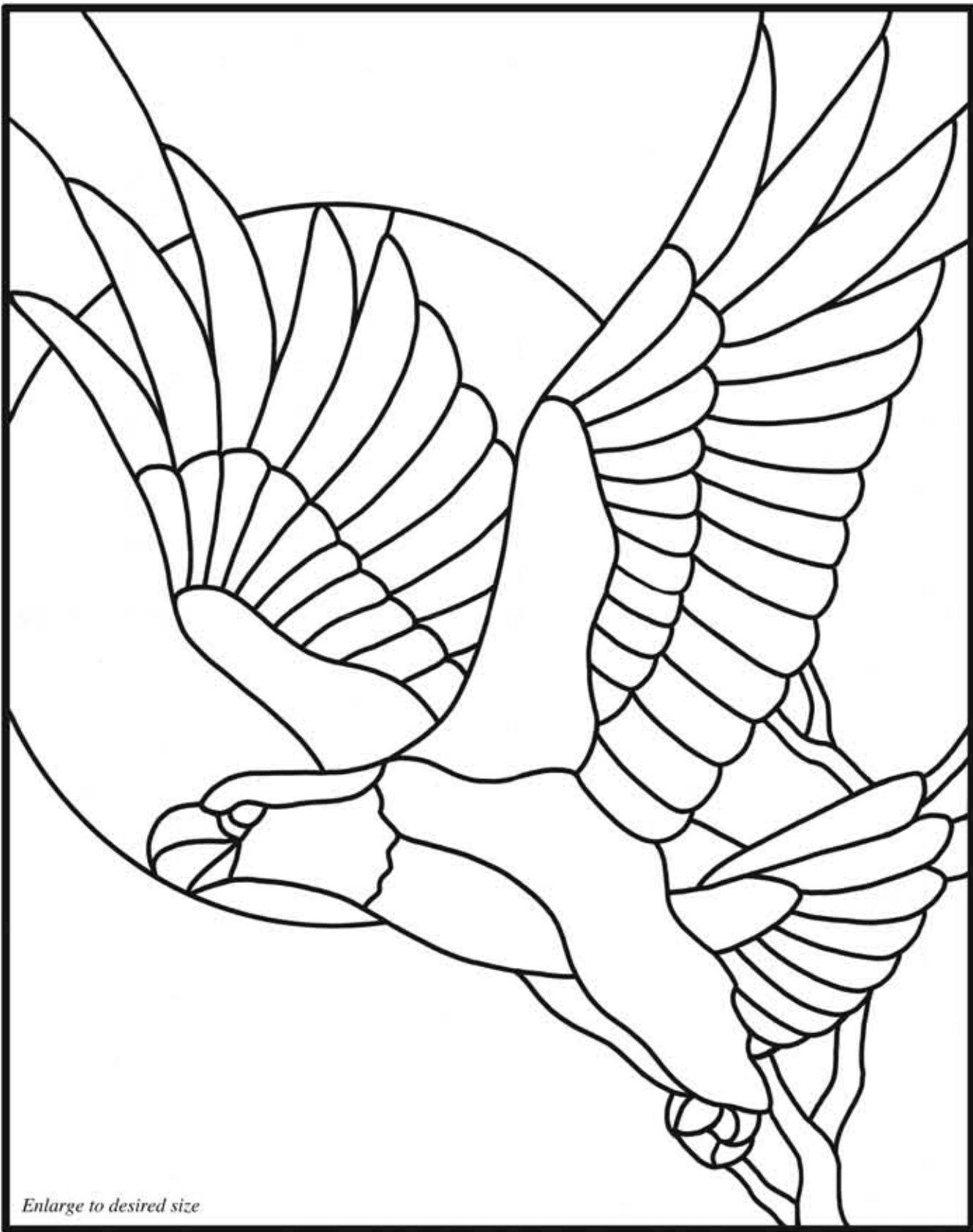
**Glass**  
35 mm Clear Jewel (1)  
2" x 6" Diamond Bevels or Glass (6)  
1" x 1-1/2" Bevel or Glass Rectangles (12)  
1-3/4" x 3" Diamond Shaped Bevels or Glass (6)  
Glass Nuggets (30)  
Iridized Glue Chip Textured Glass, 1/4 Sq. Ft.  
Waterglass

Enlarge to 16" x 14-1/2"

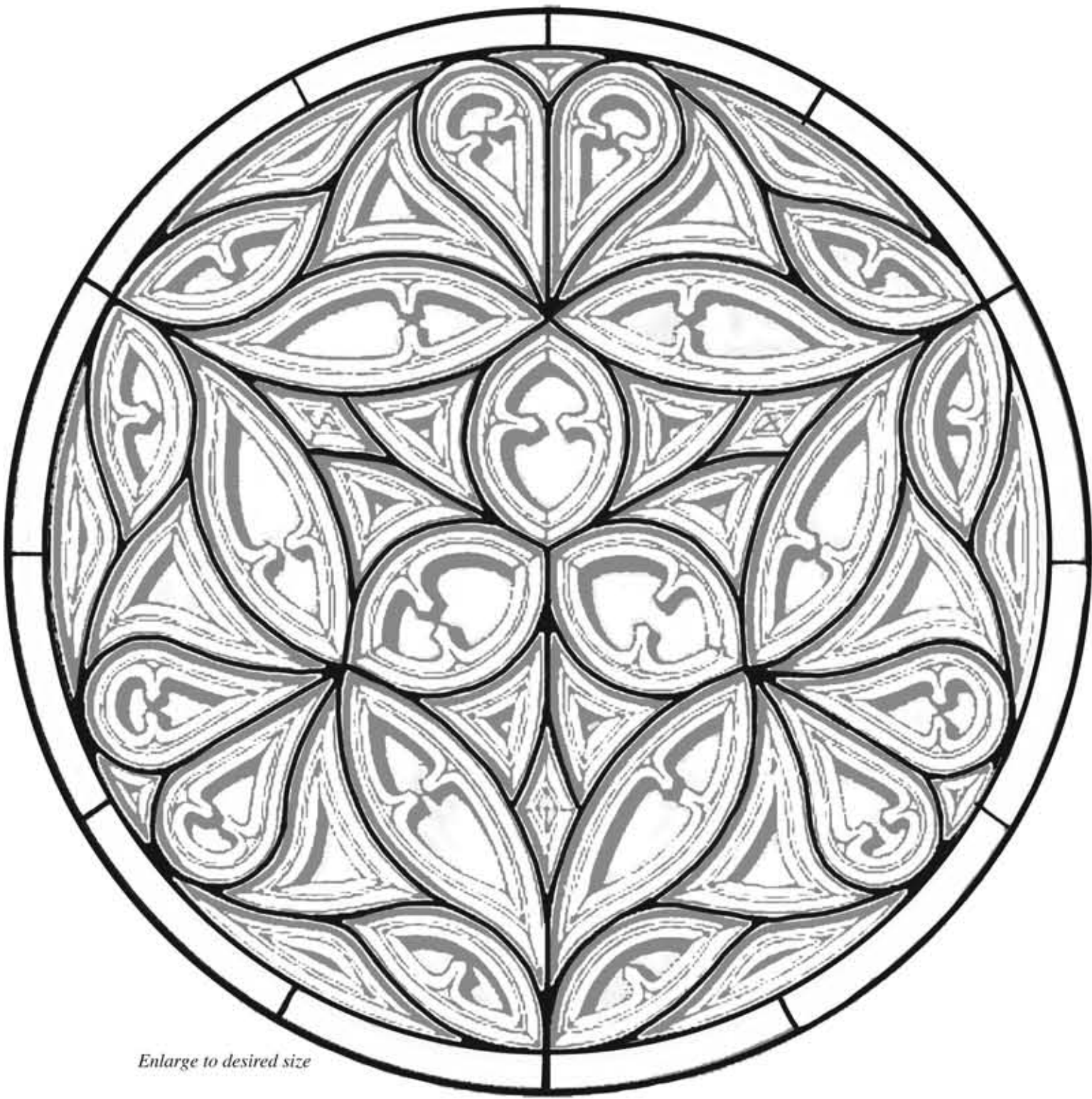
# Bald Eagle

Design by Terra Parma

**Wissmach Glass Co**  
WO-706 Light Amber/Brown/White Opal Mystic Wispy for Body and Wings, 1-1/2 Sq. Ft.  
155-LL Dark Purple/Green/Light Opal/Crystal Streaky for Small Wing Feathers, 1 Sq. Ft.  
199-LL Medium Amber/Dark Amber Brown Streaky for Outer Wing Feathers, 1 Sq. Ft.  
217 Medium Purple/Yellow Green/Opal/Crystal for Large Wing Feathers, 1 Sq. Ft.  
WO-051 Opal/Crystal Wispy for Head and Tail Feathers, 1/2 Sq. Ft.  
1-L Silver Yellow/Light Opal/Crystal for Beak and Foot, Scrap  
317-L Dark Amber/Light Opal for Tree Branch, Scrap  
27-D Orange/Dense Opal/Crystal for Sky, 3 Sq. Ft.  
317-D Dark Amber/Dense Opal for Sun, 2 Sq. Ft.



Enlarge to desired size



Enlarge to desired size

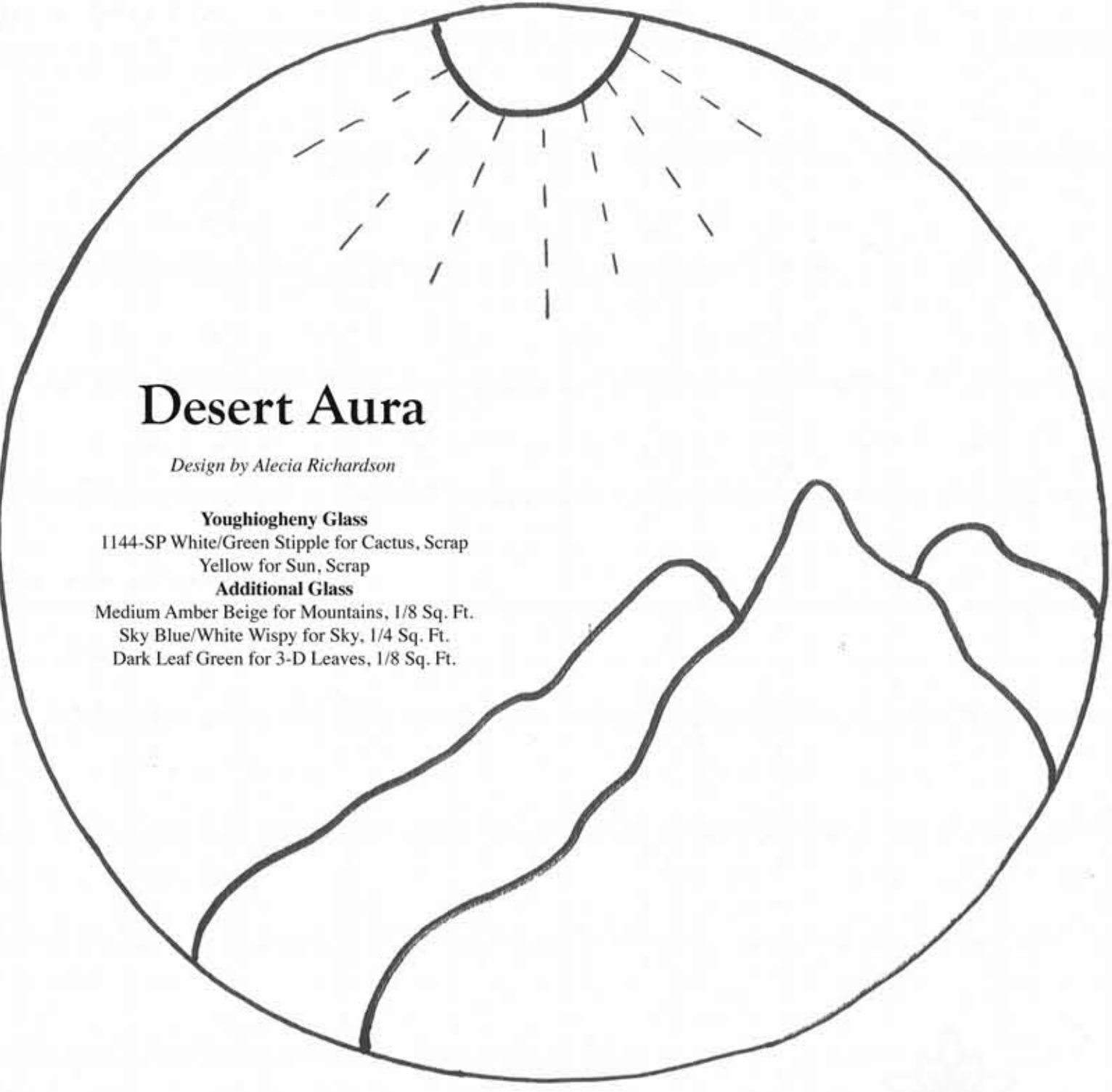
# Round Gothic Window

Design by Chantal Paré

**Wissmach Glass Co.**  
SEEDY-01 Clear Seedy for Clear Background, 4 Sq. Ft.  
**Youghiogeny Opalescent Glass**  
3000-SP Rosy Brown for Outer Border, 2 Sq. Ft.



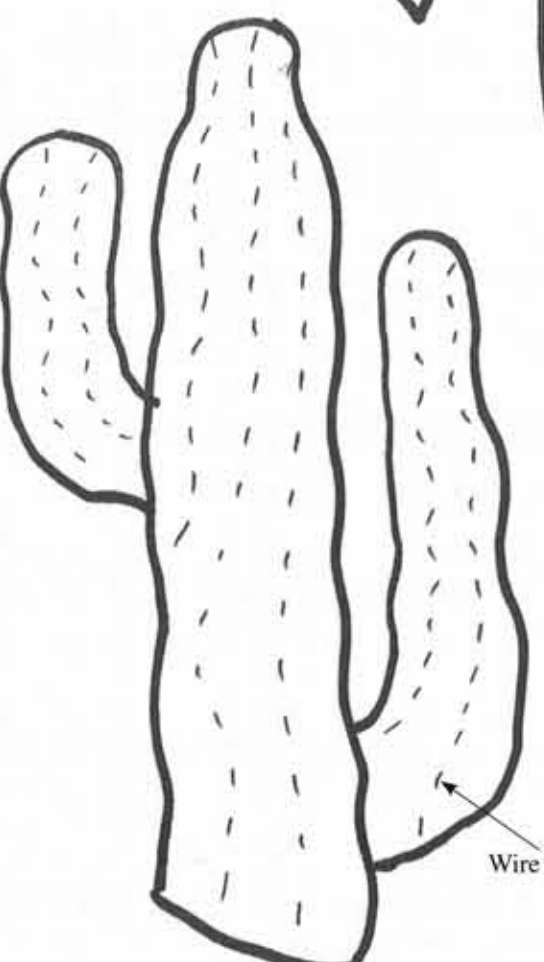
Leaves Cut 25



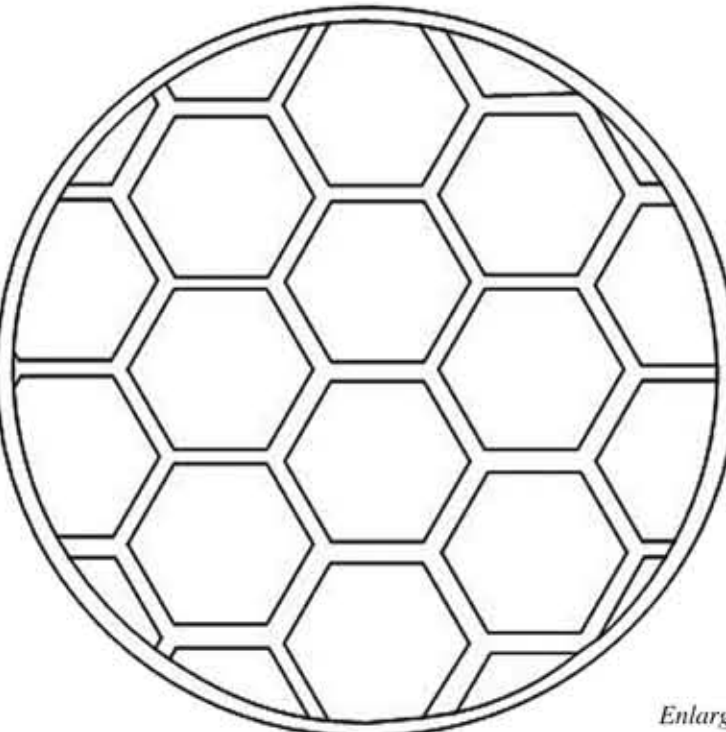
# Desert Aura

Design by Alecia Richardson

**Youghiogeny Glass**  
1144-SP White/Green Stipple for Cactus, Scrap  
Yellow for Sun, Scrap  
**Additional Glass**  
Medium Amber Beige for Mountains, 1/8 Sq. Ft.  
Sky Blue/White Wispy for Sky, 1/4 Sq. Ft.  
Dark Leaf Green for 3-D Leaves, 1/8 Sq. Ft.



Wire Accents

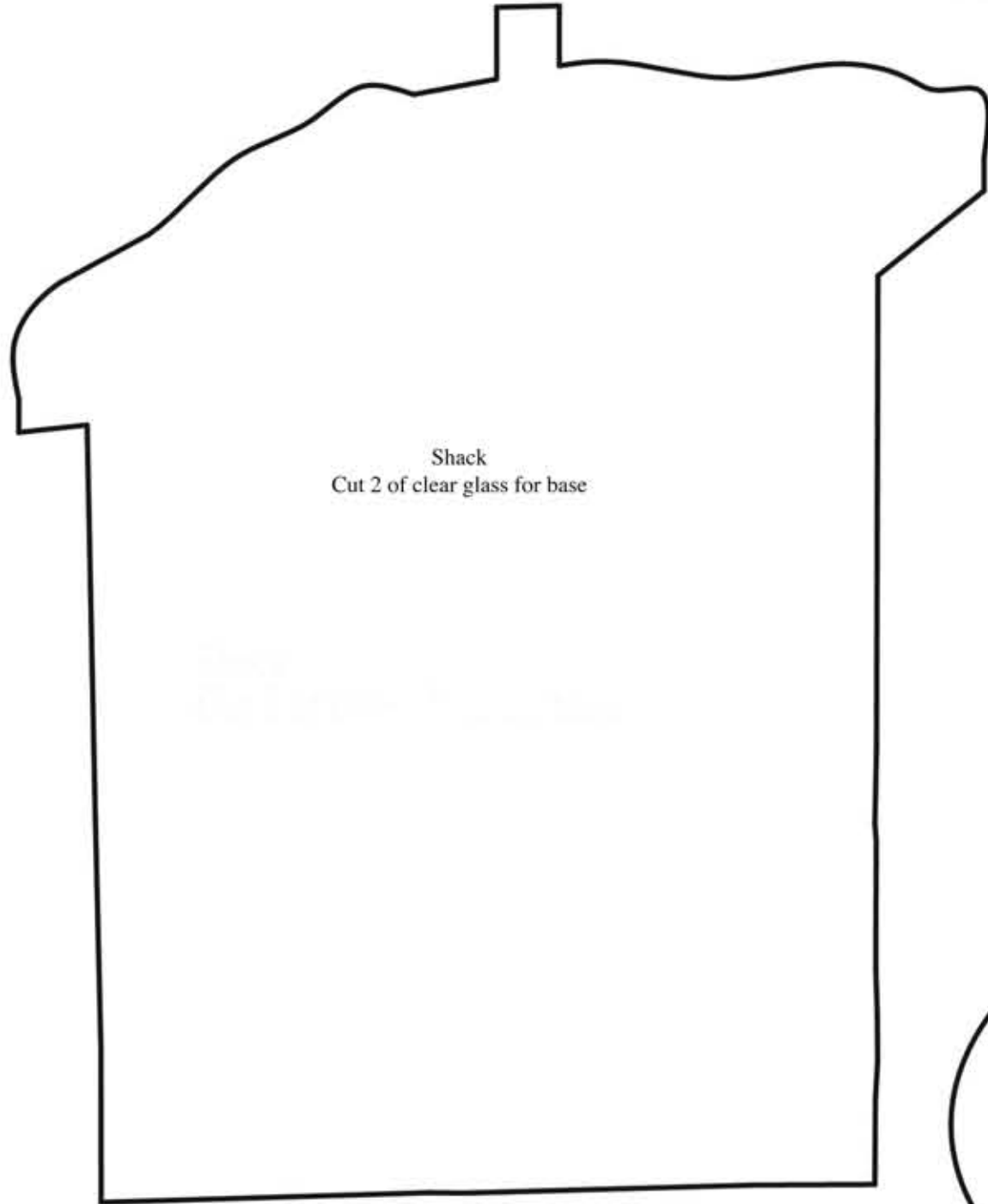
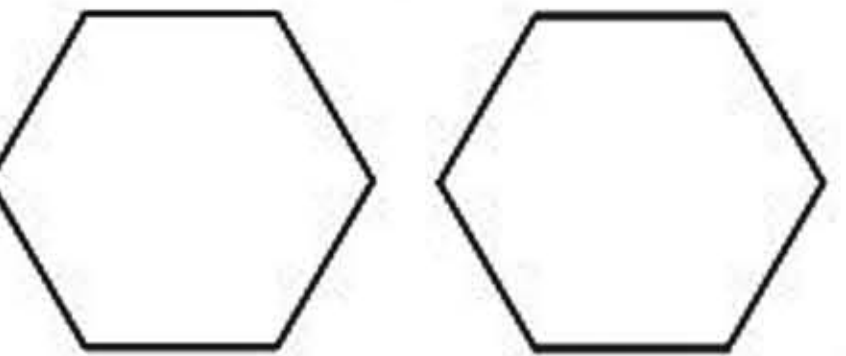
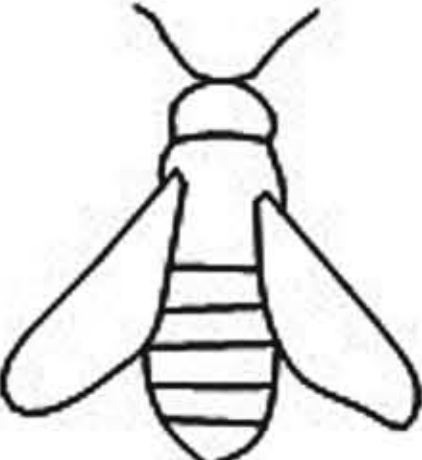


Enlarge circle to 8"

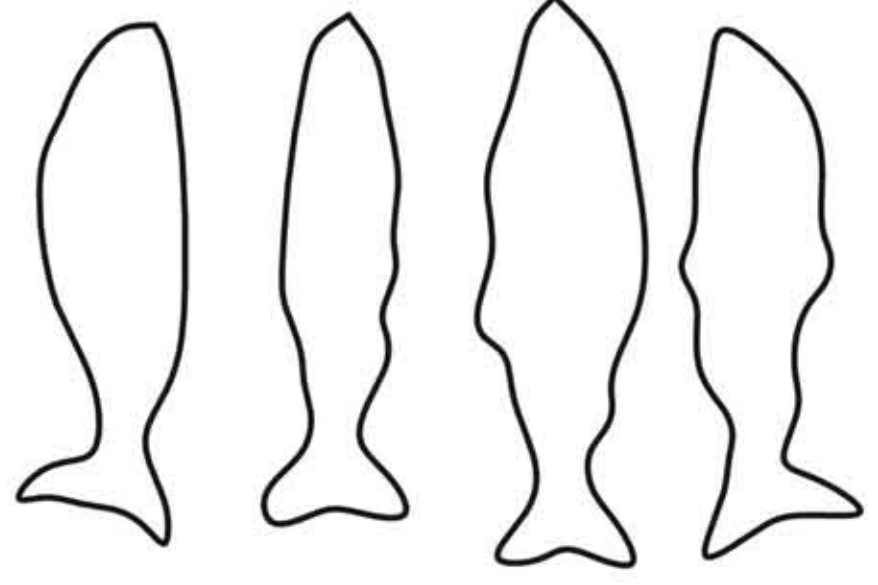
# Buzzing Bees Plate

Design by Lisa Vogt

**96 COE Glass**  
Clear for Base Layer, 1 Sq. Ft.  
Yellow Opal for Second Layer, 1 Sq. Ft.  
Light Amber for Honeycombs, 1/4 Sq. Ft.  
Medium Amber for Honeycombs, 1/4 Sq. Ft.  
Dark Amber for Honeycombs, 1/4 Sq. Ft.  
Black for Bee Body, 1/4 Sq. Ft.  
Dichroic on Clear for Bee Wings, Scrap  
Dichroic on Black for Bee Eyes, Scrap  
Yellow Stringer for Stripes  
Black Stringer for Bee Antennae

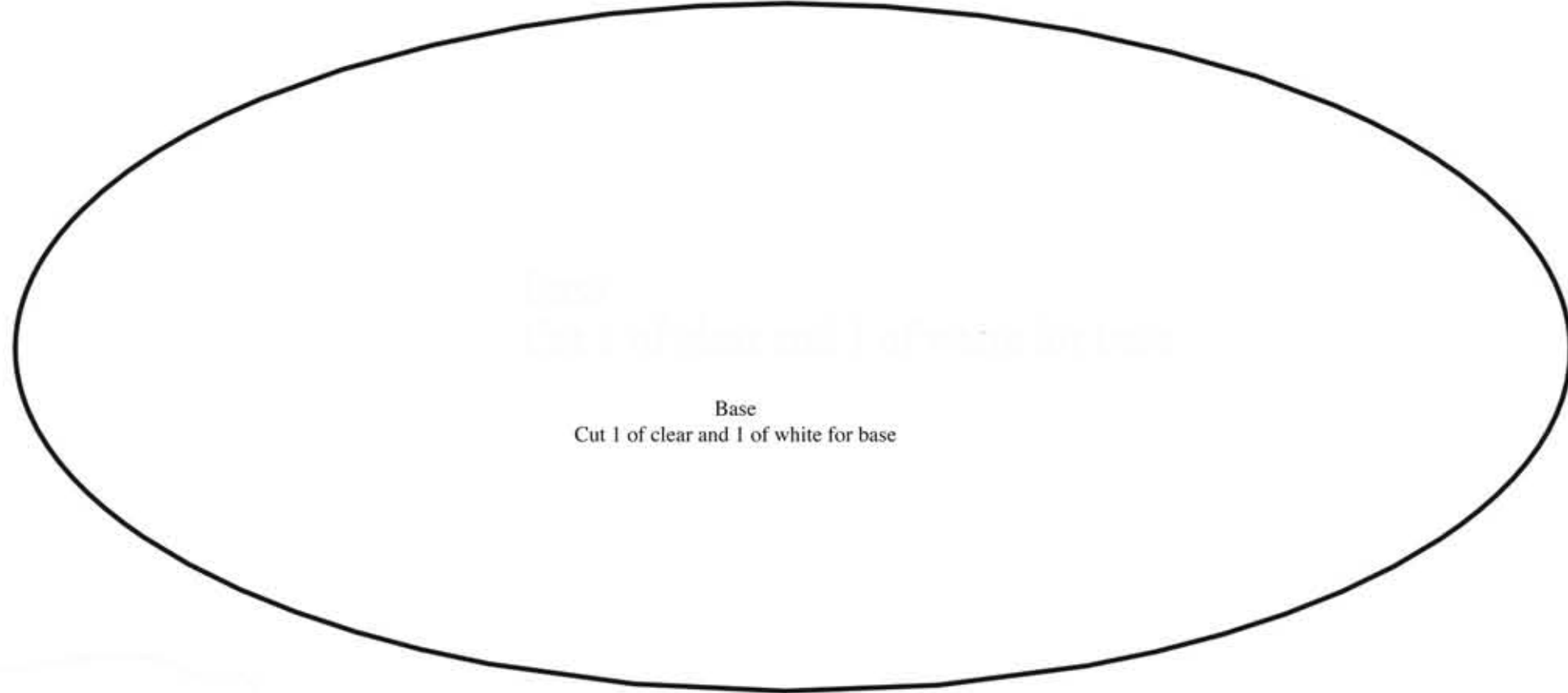


Shack  
Cut 2 of clear glass for base



# Ice Fishing Shack Wind Chime

Design by Robin Anderson



Base  
Cut 1 of clear and 1 of white for base

**96 COE Glass**  
Dark Green Opal Fusible Scrap for Shack, 1/2 Sq. Ft.  
White for Base and Snow, 3/4 Sq. Ft.  
Clear for Base and Shack, 1-1/2 Sq. Ft.  
Yellow for Window, Scrap  
Brown for Door, Roof, and Trim, Scrap  
Iridized Clear for Fish, 1/2 Sq. Ft.  
Colored Transparent for Fish, 1/2 Sq. Ft.  
**96 COE Glass Frit**  
Iridized Clear Medium Frit (optional)  
Clear Powder Frit



# Bald Eagle

Design by Terra Parma, Text by Darlene Welch

The bald eagle was chosen as the national emblem of the United States in 1792 because of its majestic appearance and representation of freedom and strength. This 16" x 20" stained glass design by Terra Parma of an eagle in flight is part of her *Images by Terra Pattern Pack Set 1021* pattern collection from Stained Glass Images.

The careful selection and placement of colors for the body and wings that is shown here in glass ranging from light, medium, and dark ambers to rich browns help to add depth and realism to the design and bring this magnificent bird to life. In this version, he is shown highlighted against a golden sky, but you can add your own special touch by choosing a different look for the panel's background. There are so many variations of glass available to choose from for the sky that the possibilities are endless. What a great way to bring your creative side to light.

**GPQ**



## Wissmach Glass Company

WO-706 Light Amber/Brown/White Opal Mystic Wispy for Body and Wings, 1-1/2 Sq. Ft.

155-LL Dark Purple/Green/Light Opal/Crystal Streaky for Small Wing Feathers, 1 Sq. Ft.

199-LL Medium Amber/Dark Amber Brown Streaky for Outer Wing Feathers, 1 Sq. Ft.

217 Medium Purple/Yellow Green/Opal/Crystal for Large Wing Feathers, 1 Sq. Ft.

WO-051 Opal/Crystal Wispy for Head and Tail Feathers, 1/2 Sq. Ft.

1-L Silver Yellow/Light Opal/Crystal for Beak and Foot, Scrap

317-L Dark Amber/Light Opal for Tree Branch, Scrap

27-D Orange/Dense Opal/Crystal for Sky, 3 Sq. Ft.

317-D Dark Amber/Dense Opal for Sun, 2 Sq. Ft.

## Tools and Materials

7/32" Copper Foil Flux Solder

Black Patina 1/4" U-Channel Zinc

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# Glistening Tranquility

## Exploring the Wonder of Winter

*Design and Fabrication by Alysa Phiel, Text and Photography by Jane McClarren*





One of the most striking scenes that comes with the arrival of winter is the outline of trees bared of their leaves standing tall against a snowy sky. This design captures that beautifully with its crisply painted trees surrounded by clear, wispy, and opaque snowy glass. Highlights added with white and dichroic frit complete this chilly scene.

To begin the project you'll use the permanent marker to draw the outline for your project on the kiln paper. This 8" x 11" panel will be built mostly with on-edge strip construction and will not require any cold working, so your outline should have right angles.

Determine the size and number of tree panels you would like to include in the project and cut the panels from the wispy blue/white glass, with the wisps going horizontally. Cut a piece of clear glass in the same size as each tree panel. These panels were 2" x 5" and 2-1/2" x 11". The 11" panel had an irregular edge that we kept for the top edge of the project. Finally, determine the placement of the tree panels within your outline and trace them onto the kiln paper.

### 96 COE Glass

#### Sheet Glass

Blue/White Wispy Glass or Wintery Glass  
for Painted Panels, 2" x 5" and 2-1/2" x 11"

Clear Glass, 2" x 5" and 2-1/2" x 11",  
plus Additional Clear for Strips  
Opaque Glass in Blue, Lavender, Turquoise,  
and Other Winter Colors, Scrap

#### Glass Frit

Powder Frit in Chambray, Alpine Blue,  
Cloud Opal, and Navy Translucent  
White Fine Frit

Dichroic Frit in Clear and Blue  
Clear Dichroic Scrap for Strips (optional)

#### Tools and Materials

Glass Cutter Morton Cutting System Running Pliers  
Permanent Marker Kiln Paper or Prepared Kiln Shelf  
Dental Tool or Toothpick Clear Gel Glue  
Liquid Adhesive Black Glass Paint Respirator Mask  
Small Needle-Tipped Squeeze Bottle  
Angled Clay Modeling Tool or Short Plastic Straw  
Mosaic Nippers or Frit Maker (optional)

1

Using the black glass paint, draw the base of the tree and trunk on the wispy glass.



We transferred a little of the paint into a small needle-tip squeeze bottle. That allows a more precise control of application, doesn't require hard pressure, and doesn't clog. Determine where you want the first branch and squeeze the paint bottle on the tree trunk, then stop squeezing and drag outward to create the branch.

2

Continue to add details for the trees and the ground.



Add branches to complete the trees. Also use the paint to create ridges for the ground, following some of the wisps in the pattern on the glass.

3

Repeat to create the second tree panel.



If desired, you can scrape off any excess paint from the tree and branches using a dental pick or toothpick.

4

Add frits and powders to enhance the design.



Using a clay tool or straw is a great way to control the placement of frit powders and fine frit. If you don't have a clay carver, use scissors to cut an angle off of one end of the straw. Scoop up one color of frit and sprinkle it in various areas below the tree area. **Be sure to wear a respirator mask in a well-ventilated area any time you work with glass frits and powders.**

5

Continue to add different frit colors to the area below the trees.



You can sprinkle a light layer of frit over the glass paint, which will show through and soften the lines after it is fused.



6

*Add shadows to the panel.*



Once you're happy with the frit placement, drizzle the area with liquid adhesive. Using the clay tool or straw, force part of the darkest color of wet frit underneath the other frit color to create shadowing.

7

*Enhance the scene by adding some white frit for snow.*



Sprinkle the medium white frit in waves over the ground area, in the sky, and among the trees to look like falling snow. You can also make your own frit by crushing white glass scrap. If you are making your own frit, nip white scrap into small frit-like pieces with mosaic nippers or crush the glass in a frit maker. A small coffee grinder works great for that.

8

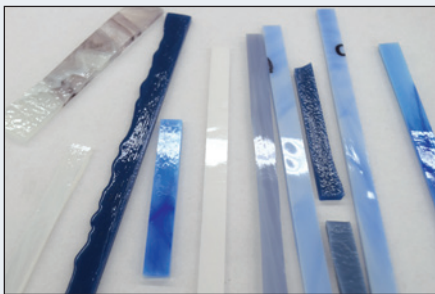
*Sprinkle the dichroic frit in the areas along the snow lines.*



Drizzle the snow and frit with liquid adhesive and allow the adhesive to dry. Glue the clear glass panels in place on kiln paper. Add a few drops of clear glue to the clear panels and top them with the painted tree panels.

9

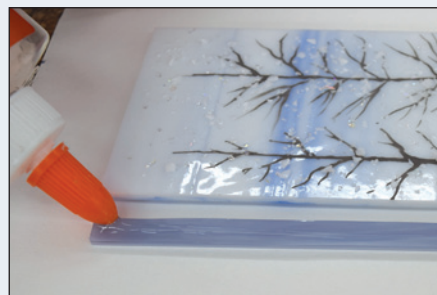
*Using the Morton System, cut 1/4" strips from your scrap glass colors.*



Start with 5 strips of each color as well as the clear and arrange several of the strips in front of your workspace so that you can easily see your options as you are building the panel. You will begin building the on-edge piece by framing the tree panels with glass strips.

10

*Attach the glass strips to the painted panel.*



Choose the first strip and use the permanent marker to mark where the strip needs to be trimmed for size. Using a glass cutter, trim the glass strip, glue it along the flat side, and attach it to the side of the painted panel. Continue to add strips around the panel, gluing each new strip to the previous one.

You can frame the tree panels with any number of strips that you choose. Each side does not necessarily need to have the same number or color of strips as all of the others. Some strips can entirely frame the tree panels, and some should be longer to create a base for the arrangement of perpendicular strips, which adds interest to the design.

11

*If desired, create a different look in your project by stacking strips instead of placing them on the edge.*



You can cut these strips narrower than 1/4" if desired. Stack and glue 2 strips. If you want to add dichroic sparkle to your project, stack a thin strip of clear dichroic glass on a strip of opaque glass. Be sure to trim strips running to the edges of the project outline as evenly as possible to create a straight outer edge.

When you have completed the entire project, use a dimensional fusing program for a softer and more organic finished look. The following is a suggested firing schedule. Remember that all kilns fire different, so you may need to make adjustments to work with your own kiln.

#### Dimensional Firing Schedule

Segment 1: Ramp 100°F/hr to 300°F and hold 15 min.  
 Segment 2: Ramp 150°F/hr to 1050°F and hold 10 min.  
 Segment 3: Ramp 250°F/hr to 1420°F and hold 1 min.  
 Segment 4: Ramp 9999 (AFAP\*) to 950°F and hold 90 min.  
 Segment 5: Ramp 100°F/hr to 800°F and hold 10 min.  
 Segment 6: Ramp 300°F/hr to 100°F and no hold.

\*as fast as possible

You now have a design that is perfect for celebrating the wonders of winter. Enjoy!

**GPQ**





Alysa Phiel, a regular contributor to Glass Patterns Quarterly since 2012, is a third-generation glass artist with 30 years of experience having been taught by her grandparents, longtime glass artists who owned their own studio for 12 years. Alysa then owned and operated

Creations in Glass with her mother for 10 years. She has also shared beginning to advanced classes with hundreds of students over eight years as the Director of the Warm Shop at Sonoran Glass School in Tucson, Arizona.

Recently Alysa opened her own studio, Wild Desert Glass, where she continues to create custom projects in addition to offering instruction in fused glass, stained glass, and mosaics. The artist's creativity and range of knowledge make her a fantastic teacher for students looking to create any type of glass art. She constantly experiments with new techniques and materials and helps others challenge themselves and expand their own skills as artists.

Alysa's work, which ranges from fused functional pieces and wall art to mosaic furniture and fountains, can be found in private collections all over the country. She also has numerous commissioned stained glass windows installed in homes and churches all around Tucson.

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# Expanding Your Color Palette for Kiln Formed Glass

by Bob Leatherbarrow



## **Bullseye Glass Co.**

### **Kiln Formed Glass Powders**

0124 Red (referred to as A)

0120 Canary Yellow (referred to as B)

### **Additional Glass**

3" x 1" Test Strip of Clear Compatible Sheet Glass

1" x 1" Square Clear Compatible Sheet Glass Tiles, 6

### **Tools and Materials**

Measuring Teaspoon

2 Paper Cups Sifter

by Bob Leatherbarrow

Looking for a unique color palette for your next kiln formed glass project? Need a particular hue of yellow for that challenging commission? Want to be able to reproduce that palette whenever you need it? You can blend two existing colors of powder within a glass company's palette over a range of percentages by volume. In addition, making sample tiles will provide you with a permanent record for a range of colors between the two existing "stock" colors.

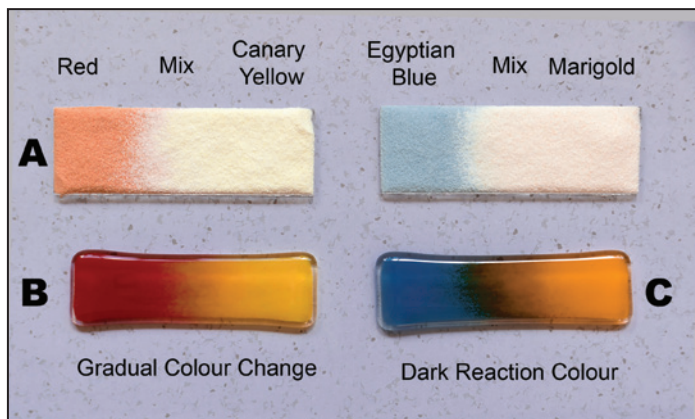
The methods described in this article are particularly useful for artists who use powders for painting with light, textural work, powder printing, and the ever-increasing number of other techniques involving glass powders.

## **Testing for Chemical Reactions**

If the two powder colors react chemically, then all of the blends will be a dark reaction color rather than the continuous transition between the two end colors. Check your manufacturer's reaction chart for powders that react chemically, or create a test strip as outlined below:

- Sift a wedge of color A (Red 0124) onto the clear glass test strip so that it is 1/4" thick at one edge, then thins out and ends 2/3 of the way along the length of the tile.
- Sift a wedge of color B (Canary Yellow 0120) as above, but start from the other end of the test strip.
- The test strip will have pure color A at one end, pure color B at the other end, and a zone of mixed A and B in the middle (Figure 1a).
- Fire the strip at 600°F/hour to 1450°F and hold for 5 minutes. Turn the kiln off.





(Figure 1) Chemical reaction strips. Each strip is 1" x 3".

If the colors grade gradually from A to B through the middle part of the strip, as in the test strip in Figure 1b (Red 0124 to Canary Yellow 0120), then a chemical reaction has not occurred and you can proceed to the blending exercise. If there is a new darker color in the middle third of the strip, as in the test strip in Figure 1c (Egyptian Blue 0164 to Marigold 0320), then a reaction has occurred and there is no need to try blending the powders. These reaction test strips not only indicate if a reaction has occurred, but they also show the color and intensity of the reaction. For those working with reactive colors, this is very useful.

## Blending Powders

By the end of this exercise you will have 6 square glass tiles, each of which will be covered with powders by volume percentages as follows: **Tile 1** – pure (100%) color A (Red 0124); **Tile 2** – 50% A and 50% B (Canary Yellow 0120); **Tile 3** – 25% A and 75% B; **Tile 4** – 12% A and 88% B; **Tile 5** – 6% A and 94% B; **Tile 6** – pure (100%) color B (Canary Yellow 0120).

When creating this sequence, always dilute the darker color A with the lighter color B. If you dilute the lighter color with the darker color, then 5 of the 6 color the tiles will be the darker color.

### Tile 1

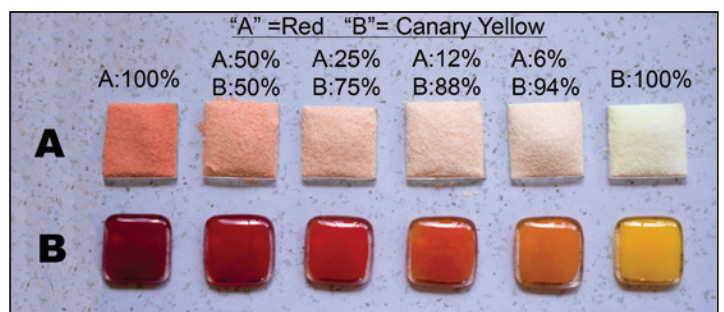
- Sift 1 teaspoon of pure color A onto a glass tile, and place the tile on the kiln shelf.

### Tile 2

- Combine 1 level teaspoon each of colors A and B in a paper cup and mix well to create a 50% A and 50% B mixture of the two colors.
- Remove 1 level teaspoon of the 50:50 mixture and set it aside in the second paper cup. This will be the stock mixture for Tile 3.
- Sift the remainder of the 50:50 mixture onto a glass tile and place the tile on the kiln shelf.

### Tile 3

- Add 1 level teaspoon of color B to the 50:50 mixture in the paper cup from Tile 2 above and mix well to create a 25% A and 75% B mixture of the two colors.
- Remove 1 level teaspoon of the 25:75 mixture and set it aside in an empty paper cup. This will be the stock mixture for Tile 4.
- Sift the remainder of the 25:75 mixture onto a glass tile and place the tile on the kiln shelf.



(Figure 2) Sample tiles of blended Red 0124 and Canary Yellow 0120 powders. The glass is approximately 20" x 7-1/2".



(Figure 3) Bob Leatherbarrow, Kilfenora, illustrating the use of blended red and yellow powders, 2006.



#### Tile 4

- Using the 25:75 mixture from the Tile 3 process, repeat the steps from Tile 3 to create a 12% *A* and 88% *B* mixture, the stock mixture for Tile 5, and place the tile covered with the blended powder on the kiln shelf.

#### Tile 5

- Using the 12:88 mixture from the Tile 4 process, repeat the steps from Tile 3 to create a 6% *A* and 94% *B* mixture and place the tile covered with the blended powder on the kiln shelf. There is no further need for a stock mixture.

#### Tile 6

- Sift 1 teaspoon of color *B* onto a glass tile and place the tile on the kiln shelf.

The completed suite of tiles is shown in Figure 2a. Fire the tiles at 600°F/hour to 1450°F and hold for 5 minutes. Turn the kiln off. The finished range of calibrated, blended colors is shown in Figure 2b. Tiles 1 and 6 represent the pure darker color *A* and the pure lighter color *B*. Tile 2, the 50:50 tile, is generally similar in color to pure *A*. It isn't until Tile 4 (12:88) and Tile 5 (6:94) that significant variations in color are observed.

### Implications

There is a myriad of color palette possibilities. Tints can be created by diluting a color—blue with white, for example. Various hues can be created by diluting a dark color, such as red, with a lighter color, such as yellow (Figure 2). An expanded gray scale can be created by mixing black or grays with white, or you can dilute opal powders with transparent powders. As you can see, the color possibilities are not only endless and can be uniquely yours, but you will be able to reproduce that color palette in the future!

Through experimentation and testing, you can also replicate existing colors in your glass supplier's catalog. For example, for Bullseye powders, a mixture of 25% Deep Cobalt Blue 0147 and 75% White 0113 results in a hue very similar to Cobalt Blue 0114. The background color in Figure 3 is very similar to Bullseye Tangerine Orange 0025 but was made before that color was available by blending Red 0124 and Canary Yellow 0120.

Once the sample tiles are labeled and stored, you have a permanent record of the blended colors and the ratio of constituent colors. Not only can you reproduce the colors whenever you wish, but you can also have confidence when designing color palettes with clients.

### Important Considerations

It takes a lot of light-colored powder to dilute a dark one. When artists order powders, they normally think of ordering a jar of each color. If you do a lot of blending, however, you will have to order lots of white and light-colored powders relative to the darker colors.

The 50:50 mixture is generally very close in hue to the pure dark color. If you don't have enough dark color to finish a project, you may be able to dilute it somewhat with white to increase the available volume enough to finish the project.

There is also an economic benefit to working with blended powders. If you apply them to clear or white sheet glass, which is generally the least expensive glass, your overall expense is generally less than working with colored sheet glass. A little powder goes a long way.

### Applications

There are many ways to use blended powders. I generally apply them to clear sheet glass. I prepare a blended color that will be the main color of the project. When applying the blended powder, I add highlights of the pure end member colors that make up the blend. I also add patches of white to tint or soften the blended color slightly.

The palette for the dominant area of the sculpture shown in Figure 3, for example, consists mainly of a blend of Bullseye Red 0124 and Canary Yellow 0120 to create a tangerine color. To vary the background, I included red to darken some areas and yellow to change the hue in other areas. I also used white powder to tint the tangerine somewhat. Remembering that it takes a lot of light-colored powder to dilute dark-colored powders, I added more yellow and white than I thought would be necessary. As you can see, the variations in the color palette are subtle but effective.

Blending kiln formed glass powders opens up the possibility of an infinitely large color palette that, with some minimal effort at documentation, can be reproduced. Time to get out your jars of powder and start blending!

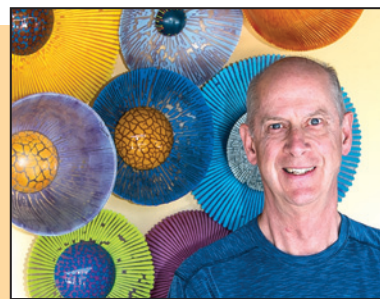
**GPO**



*Bob Leatherbarrow established Leatherbarrow Glass Studio in Calgary, Alberta, Canada, in 1988 and has created original kiln formed glass ever since. Known for his innovative styles, techniques, and designs,*

*he has taken an experimental approach to developing unique textures and color palettes using glass powders. His glass bowls and sculptures explore the subtle hues and delicate beauty of naturally occurring textures and encourage the viewer to ponder their origin.*

*In 2008 Leatherbarrow moved his studio to Salt Spring Island, British Columbia, where he continues to make glass and write e-books on his signature techniques. He has also been a popular instructor on both the national and international kiln formed glass scenes. Visit [www.leatherbarrowglass.com](http://www.leatherbarrowglass.com) to learn more about his work.*







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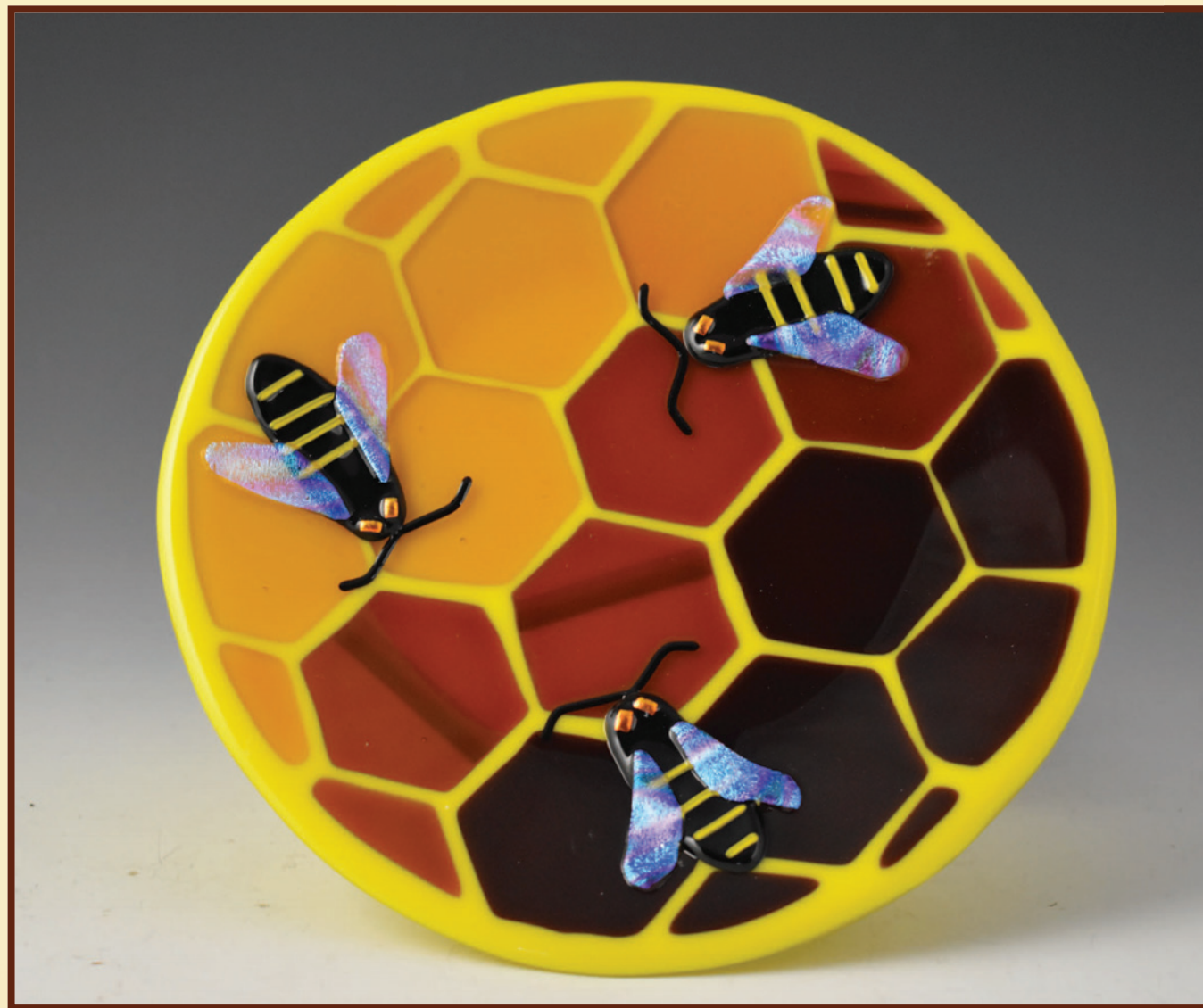
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# Buzzing Bees Plate

*Design, Fabrication, and Text by Lisa Vogt*



Winter is a wonderful time of the year. Its arrival means cooler temperatures, the culmination of a bountiful harvest, and seasonal celebrations with family and friends. This richly colored 8-inch buzzing bee plate is the perfect handcrafted accent to bring the warmth and comfort of the season to your home. Best of all, it's fast, fun, and easy to make. I'll show you how.

Most of my projects are built with two full layers of glass, and the design details are on top of the second layer. This ensures that my projects come out the same size and shape as my original pattern without shrinking or growing during fusing, but this project is different.

For the sake of the design, I added an almost complete third layer, then added design details on top of that. I was concerned that if I didn't support the yellow opal layer with a base layer of clear, the perimeter of the bowl might be thin and fragile. I decided to go thicker for the sake of long-lasting durability and consistent edge quality. Some project growth is to be expected with this type of assembly. As long as you're aware of the potential changes in the beginning, it's okay to deviate from your trusted method of fabrication.



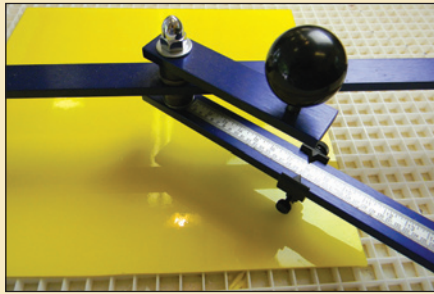
## 96 COE Glass

Clear for Base Layer, 1 Sq. Ft.  
Yellow Opal for Second Layer, 1 Sq. Ft.  
Light Amber for Honeycombs, 1/4 Sq. Ft.  
Medium Amber for Honeycombs, 1/4 Sq. Ft.  
Dark Amber for Honeycombs, 1/4 Sq. Ft.  
Black for Bee Body, 1/4 Sq. Ft.  
Dichroic on Clear for Bee Wings, Scrap  
Dichroic on Black for Bee Eyes, Scrap  
Yellow Stringer for Stripes  
Black Stringer for Bee Antennae  
**Tools and Materials**  
Thin Shelf Paper Scissors  
Glue Stick Fuser's Glue  
Slumping Mold



1

*Cut an 8" circle out of clear glass and a second 8" circle out of yellow opal.*



Stack the yellow on top of the clear and set the circles aside.

2

*Using the pattern as a guide, cut strips of glass out of the three shades of transparent amber for the honeycombs.*



3

*Glue the paper pattern pieces onto the glass and cut as closely to the paper as possible.*

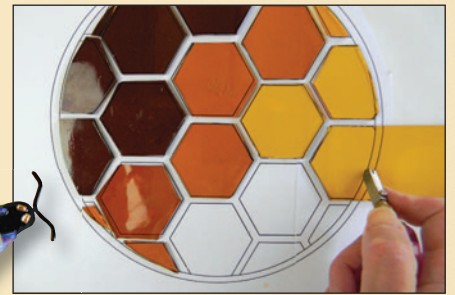


Cut up the paper pattern with scissors. Glue the honeycomb pattern pieces onto the strips of glass with a glue stick. Cut the glass as closely to the paper as possible.



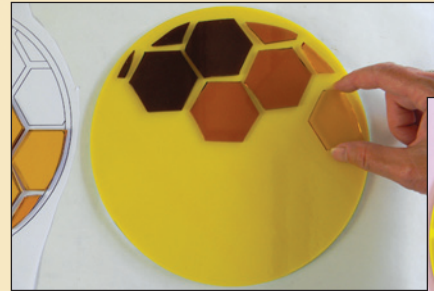
4

*Cut the perimeter honeycomb pieces to fit the pattern.*

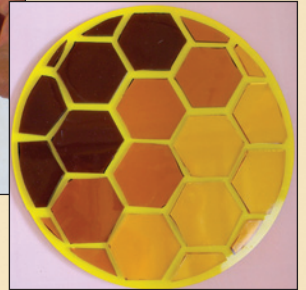


Grind the pieces if needed to improve the edge quality and overall fit, then clean and dry the cut glass. I use plain water and hand towels.

5



*Arrange the cut honeycomb pieces on top of the yellow opal layer.*



Increase the visual attraction of your art by placing the colors so that they transition from light to dark. Using the smallest amount possible, glue the honeycomb shapes in place with fuser's glue.

6

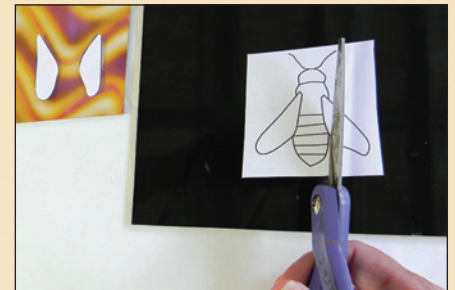
*Full-fuse the glass.*



Carefully load the assembled project into the kiln on a kiln washed or fiber paper-lined kiln shelf. Fire the glass to a full fuse temperature using the guide at the end of the tutorial.

7

*Using scissors, cut up two copies of the bee pattern, using one pattern for the body and the other for the wings.*





8

*Cut out the glass pieces for the bodies and wings.*

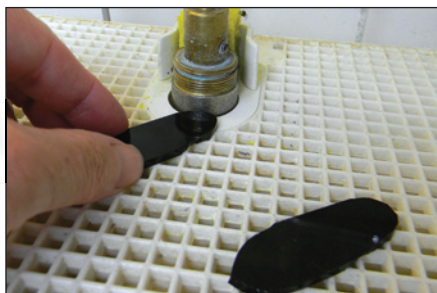


Glue the body pattern onto the black glass with a glue stick and cut around the pattern as closely to the paper as possible. Remove the paper pattern, glue it to another piece of black glass, then cut out a second and third bee body.

With the dichroic coating up, glue the wing pattern onto the clear dichroic glass and cut the glass pieces as closely to the pattern as possible. Repeat this step to make three sets of wings.

9

*Grind the black bee bodies to give them a smooth, round shape.*



I don't grind the clear dichroic bee wings, because it chips the coating around the edge. Instead, I nip the wings with pliers to improve their shape.

10

*Attach the yellow body stripes and dichroic on black glass eyes.*



Use your fingers or pliers to nip the yellow stringers to size for the bee stripes. Next, cut six tiny rectangles out of the dichroic on black glass for the bee eyes. Glue the eyes and stripes onto the black bee bodies.

11

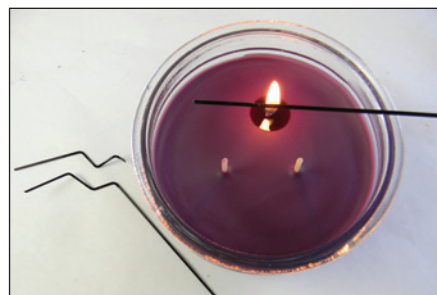
*Prop up the wings with fiber paper to hold them in place when firing.*



The raised tips of the stringers cause the wings to slide off of the bee bodies. To ensure that the wings stay where they're supposed to during firing, I prop them up with 1/16"-thick fiber paper. Simply cut the fiber paper to size and slip it under the ends of the wings. If you don't have 1/16"-thick material on hand, you can substitute several layers of ThinFire or Papyrus to make the thickness needed.

12

*Bend the black stringers in a candle to use later for the antennae.*



Making the antenna is fun and easy. Just bend the stringers with a candle. Place a black stringer directly in the flame of a candle and apply a little pressure until the glass bends. Move the stringer over a little and bend it again. Bend it a third time to make a soft W shape.

Be careful. The stinger is hot within an inch of the flame. And the stinger is *hot* a lot longer than you think. I bend several at one time and let them cool for a few minutes before handling them.

13

*Tack-fuse the bee wings onto the bodies using the guide at the end of the tutorial.*



When arranging the wings on the bee bodies, I intentionally place the dichroic coating facing up. This produces a velvety shine and delicate luster that is similar to insect wings.

14

*Arrange the tacked bees on the fused honeycomb plate.*



This is your opportunity to be the artist. Try different arrangements until you find one that really excites you.

15

*Place the antennae at the tops of the bee heads.*



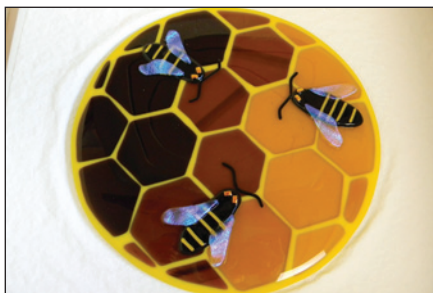
Snap the curvy black stringers to the size you want with your fingers or pliers. Once you have an interesting composition, place one of the antennae near each bee's head with tweezers.





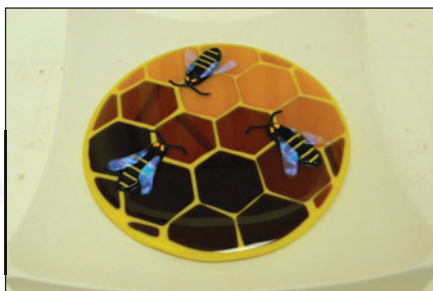
Fire the assembled glass to a tack fuse temperature using the guide at the end of the tutorial.

16



Slump the plate.

17



Place the bee covered plate in a slumping mold and fire it to the slump temperature using the guide at the end of the tutorial. Now you can enjoy this richly colored buzzing bee scene all season long. Happy Fusing!

GPQ

A video demonstration of this Buzzing Bees tutorial can be seen in the video Simple Pleasures: Glass Fusing with Lisa Vogt that's available from Lisa at [www.lisajvogt.com](http://www.lisajvogt.com).



## Firing Schedules

NOTE: All kilns fire differently. Test-fire these guides in your own kiln and make adjustments as needed.

### Full-Fuse Guide

Segment 1: Ramp 300°F/hr to 1300°F and hold 60 min.  
Segment 2: Ramp 500°F/hr to 1465°F and hold 10 min.  
Segment 3: Ramp 9999 (AFAP\*) to 960°F and hold 40 min.  
Segment 4: Cool to room temperature.

\*as fast as possible

### Tack-Fuse Guide

Segment 1: Ramp 300°F/hr to 1365°F and hold 10 min.  
Segment 2: Ramp 9999 (AFAP\*) to 960°F and hold 40 min.  
Segment 3: Cool to room temperature.

\*as fast as possible.

### Slumping Guide

Segment 1: Ramp 300°F/hr to 1265°F and hold 10 min.  
Segment 2: Ramp 9999 (AFAP\*) to 960°F and hold 40 min.  
Segment 3: Cool to room temperature.

\*as fast as possible.



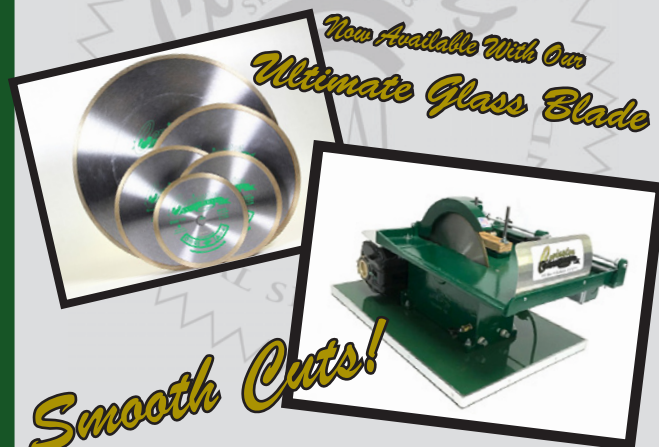
Lisa Vogt discovered glass while pursuing an education in fine art. For more than thirty-five years, this award-winning artist has drawn upon her fine arts background and own sense of style, drama, and whimsy to combine this historic medium with innovative glass techniques for limitless design possibilities. Her work has been on exhibit in major cities throughout the United States.

Lisa is the author of fourteen design books and a series of instructional videos in addition to frequent articles for industry magazines and fiction for publication. She also lectures at national and regional seminars and has been a featured artist on HGTV, PBS, and GPQ Glass Expert Webinars®.

A huge supporter of public art, Lisa regularly contributes artwork for auctions to benefit local, regional, and national charities. Her home and studio are located north of Tampa Bay in Wesley Chapel, Florida, where she resides with her husband and two daughters. Visit [www.LisaJVogt.com](http://www.LisaJVogt.com) to find out more about her work and seminars.



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# Nautilus

*Design by Aanraku Glass Studios, First Rendering by Jill "Wuss" Robinson, Text by Darlene Welch*

The nautilus, a mollusk native to the South Pacific waters that is a relative to cephalopod mollusks such as the squid and octopus, is the only one that has an external shell. The colors selected for this rendition of the design represent a more realistic look for the nautilus, but glass enthusiasts are welcome to create their own color schemes for a more personal touch. The glass amounts provided here are for the recommended 12" x 17-1/2" panel size, but the reduced size on the pullout pattern sheet will let artists resize their own project as desired.

This intriguing panel is one of the offerings that can be found in the pattern book, *Aanraku Eclectic II from the Original Collection Volume 2*, by Hiroyuki Kobayashi and Jeffrey Castaline. In addition to Nautilus, this unique collection of stained glass patterns by students of Aanraku Stained Glass Studios also includes floral and still life designs that are suitable for intermediate to advanced stained glass artists. Visit Aanraku Glass Studios at [www.aanraku.com](http://www.aanraku.com) to view the company's complete selection of pattern books and to learn more about Aanraku's Custom Pattern and Design Service.

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#### **Wissmach Glass Co.**

325-D Light Amber/Dense Opal/Crystal for Nautilus Shell and Background, 2 Sq. Ft.

WO-27 Orange/Dense Opal/Crystal Wisspy for Nautilus Shell and Background, Scrap

503-D Dense Opal/Dark Gray/Brown for Background, Scrap

WO-502 Opal/Medium Gray/Brown Wisspy for Background, Scrap

#### **Tools and Materials**

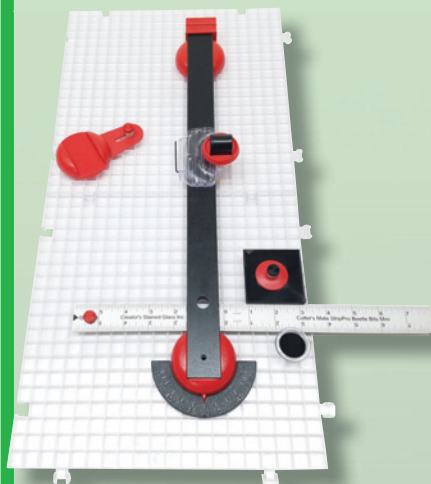
7/32" Copper Foil Flux Solder

Black Patina 1/2" U-Channel Zinc



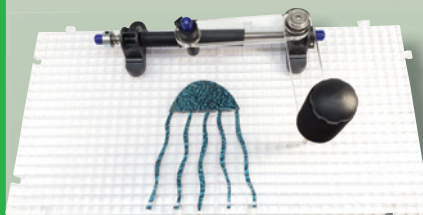
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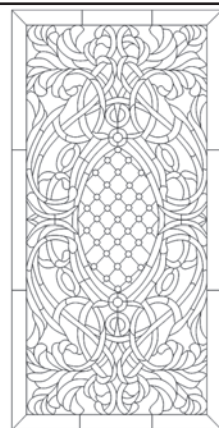
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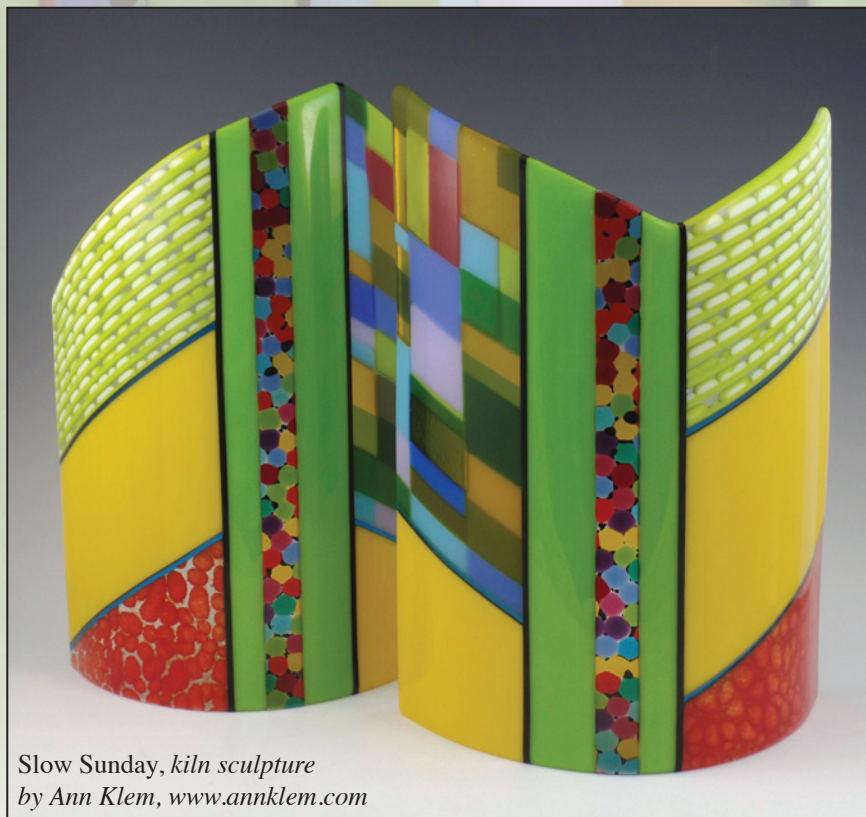
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# A Look at Multilevel Firings for Glass Art

by Dennis Brady



Slow Sunday, kiln sculpture  
by Ann Klem, [www.annklem.com](http://www.annklem.com)

Many artisans ask if it is possible to load shelves in multiple levels in their kilns the way potters do. It is possible, but the results are rarely satisfactory, since pottery doesn't require the temperature accuracy needed for glass. Potters often fire using ceramic cones to control temperature. The cones they use have a temperature variance as much as 100°F (40°C). That's the difference between a tack fuse and a full fuse. So much temperature inaccuracy is completely unacceptable for glasswork.

Early glass artisans soon learned that cones could not be trusted for firing glass. In order to be sure they got the results they wanted, they would peek into the kiln instead. When the glass had fused to the amount they wanted, they would turn the kiln off, allow it to cool, and manually turn it on and off to control the rate that the temperature dropped. Even that wasn't reliably accurate, so they convinced kiln makers to install electronic controls to provide an accurate temperature measure in the kiln. We now have electronic controllers for our kilns that can be programmed to reach heat to a specific temperature and remain at that temperature for a specific time.

## Comparing Glass to Pottery

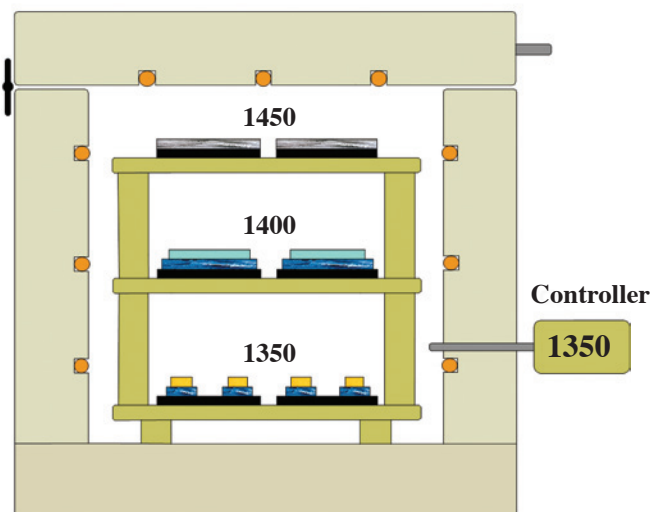
Glass artisans thought that if potters could load multiple levels of shelves into their kilns, they should be able to do the same with glass. In theory, that should work. In practice, however, it usually produced unacceptable results at all levels.

Heat rises, so obviously the temperature in the upper part of a kiln will be higher than the temperature in the lower part. That means glass on a higher level shelf will receive more heat than glass on a lower level shelf. Many artisans assume they can control that principle to produce different levels of fuses at different levels in the kiln. That would seem to indicate that they could accomplish the following—a full fuse on the top shelf, a contour fuse on the middle shelf, and a tack fuse on the bottom shelf. That works in theory but not in practice. There are a few factors that prevent doing this from being predictable.

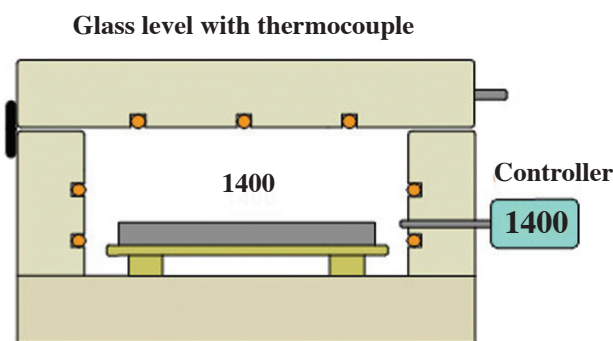
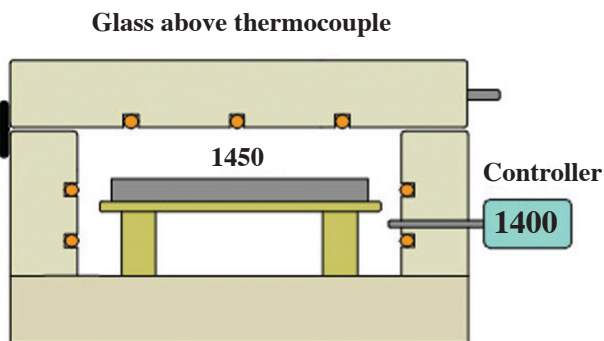
## Thermocouple Accuracy

The thermocouple reads the temperature in the kiln and displays a reading on the controller or pyrometer. It reads the temperature of the air at the level of the thermocouple. If glass is placed at that level, the thermocouple will be displaying the temperature in the glass. If the glass is placed higher, the glass will be at a higher temperature than the thermocouple reads. If the glass is placed lower, it will be at a lower temperature.

## Multi-level Kiln Firing







## Element Relativity

If your kiln has side elements, heat will come from the sides of the kiln and rise in the kiln. If you have a shelf above the side elements, the heat is likely to be trapped under the shelf and fail to rise the way it would without a shelf obstructing the heat rise.

If your kiln has lid elements, a shelf between those elements and any glass on a lower shelf beneath that shelf will restrict heat from reaching the glass at a lower level. The thermocouple will instruct the kiln to continue applying heat until the heat is the requested temperature at the thermocouple level. The obstruction from the upper shelf will hold much more heat at the upper level than you expect.

## Heat Distribution

One of the first things glass artisans learn when fusing glass is the importance of temperature accuracy and how important even heat distribution is to achieve that accuracy. Anything that impedes or obstructs heat distribution in your kiln will make it harder, perhaps impossible, to achieve that accuracy.

## Heat Retention

Whether you fire your kiln loaded with a single shelf or with tiers of shelves, how well the kiln holds heat after the elements are turned off will affect how much heat is applied to the glass. When you fire with lid elements, the kiln lid stays hot and continues to apply heat even after the elements are turned off.

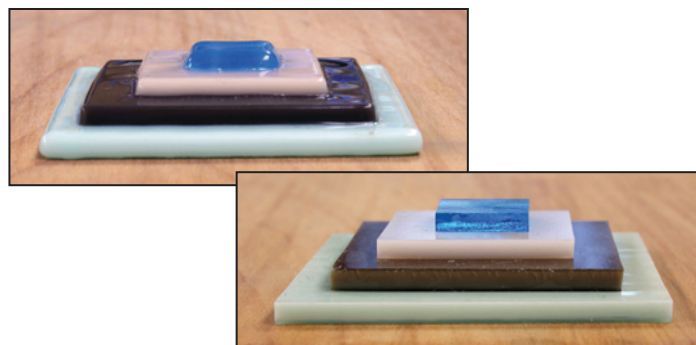
In the photos, both tile stacks were fired with the identical firing schedule in the same kiln. The one on the left was fired with only the side elements on. The one on the right was fired with only the lid elements on.

## Annealing

Some artisans anneal batches of glass in kilns with multiple shelves. This works, but it runs the risk that some of the glass will be annealed at the wrong temperature.

## Exception

It's a good practice to avoid firing multiple layers of shelves in your kiln. However, one exception is when you fire everything in the kiln to a full fuse with a hold long enough to be sure everything is fully fused. It doesn't matter if some of the projects are fired too high as long as all of them are fired high enough to achieve a full fuse. This can be done with full shelves the way potters do, but it works much better if you use partial shelves offset at different levels to encourage air flow to allow relatively even heat distribution.



Squares Comparison

## Final Thoughts

Other than the exception for loads of full fuse projects, firing kiln loads with shelves at multiple levels is a bad idea that should be avoided unless you have a **very** high tolerance for failure. Glass kilns are made shallow for a good reason.

GPQ

*Dennis Brady has been a full-time professional glass artisan since 1980 and currently works with stained glass, fusing, casting, glassblowing, and sandblasting. He has authored and published six books of stained glass patterns plus A Lazy Man's Guide to Stained Glass. Along with his sons, Dane and Jason Brady, he operates several companies. DeBrady Glassworks produces glass art; Victorian Art Glass sells tools, equipment, and supplies; and Master Artisan Products manufactures molds and tools for glass artisans. He has also created the website Glass Campus, which offers over 100 tutorials and videos teaching numerous glass art techniques as well as tips on how to make a living as a glass artisan.*



*Dennis teaches extensively in his home studio in Victoria, British Columbia, Canada, and as a guest instructor in several other countries. He is also a contributing artist to GPQ's live and recorded Glass Expert Webinars® and Master Glass Artisan Lecture Series®. His "push the boundaries" approach to experimentation and innovation is always, "How fast can I go until I skid into the ditch?" Visit [www.debrady.com](http://www.debrady.com) to learn more about Dennis and his art.*

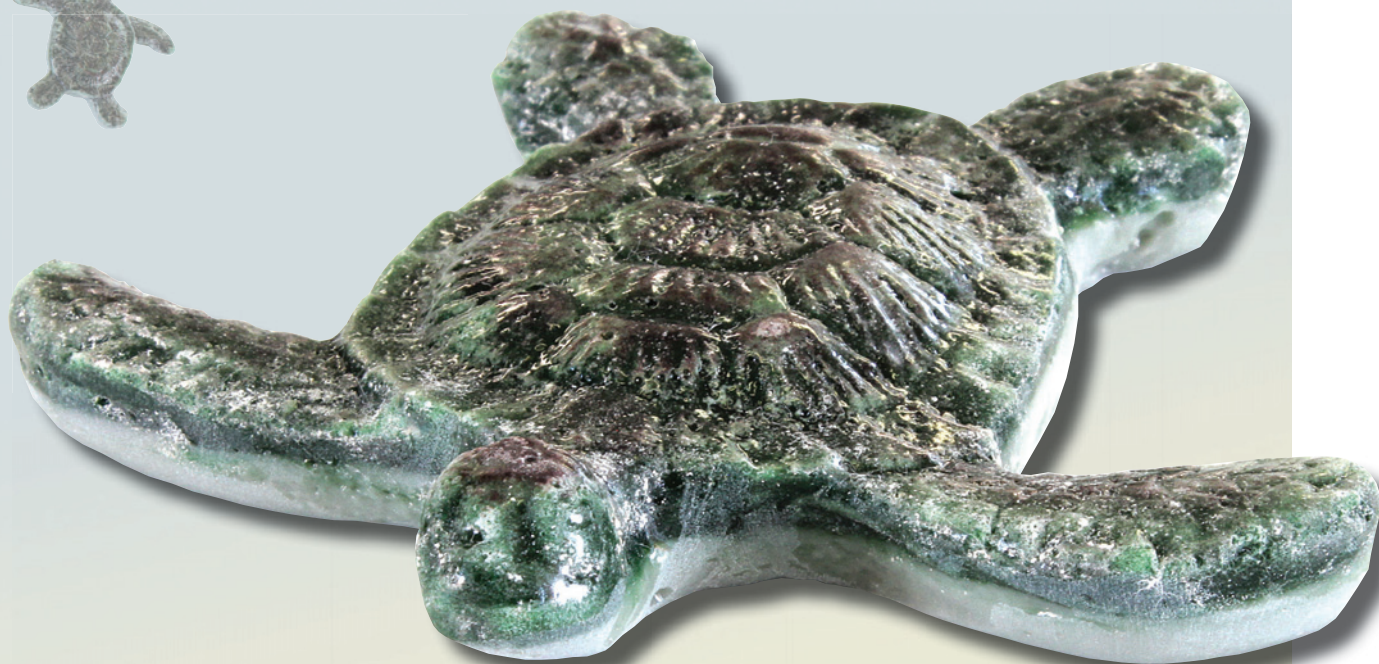
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# Making a Latex Rubber Mold

*Design, Fabrication, and Text by Dane Brady*

Photography by Jason Brady



Latex is an exceptional material for making a mold from almost any found object. It's cheap, easy to work with, and adopts fine detail. Latex molds are great for plaster/silica castings or glass powder castings for freeze and fuse.

When using your new mold for freeze and fuse projects, you'll fill the mold with wet powdered glass. Once the powder is packed into the mold, the water is forced to the top, then blotted off with a paper towel. The mold is then put into the freezer for about an hour until the wet powder is frozen solid in the mold. The mold is taken out of the freezer, and the frozen frit object is popped out onto a kiln shelf like you would pop an ice cube into a glass. The frozen glass object is then taken to a temperature hot enough to fuse all the powder frit together, forming a solid glass object.



## **Glass**

3mm Clear, 6" x 6"

## **Tools and Materials**

Plastic Sea Turtle

Latex Rubber (3 ounces)

Modeling Clay (Baseball Size Lump)

Cheese Cloth or Gauze (1 Sq. Ft.)

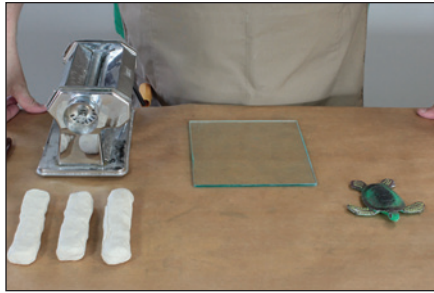
Small Dollar Store Brush

Modeling Clay Spatula



1

*Gather the tools and materials needed to make the mold.*



I've set out the toy turtle with the piece of float glass that I'll be using to build the mold on along with the modeling clay, clay spatulas, and a pasta roller. The float glass makes an excellent base to build a mold on, but you can use anything with a smooth surface. I'm using a pasta roller to roll out the clay, but you can also use a pie crust roller or even a wine bottle to roll out the slabs of clay.

2

*Roll out a slab of modeling clay and set it on the glass.*



The clay has a double purpose. It anchors the toy turtle in place on the glass, plus it elevates the turtle to create a deeper mold.

3

*Place a second layer of modeling clay on top of the first layer to add extra depth.*



4

*Add a third layer of clay for even more depth.*



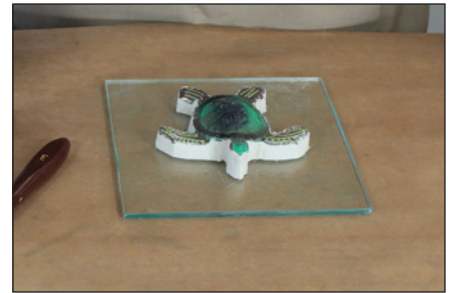
5

*Place the toy turtle on the clay and press it firmly down into the clay to be sure it stays in place.*



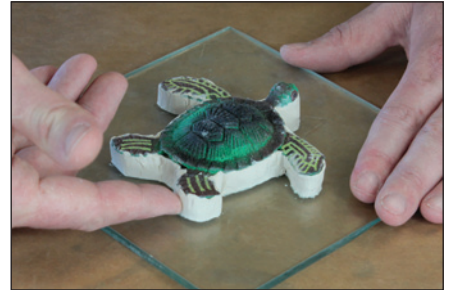
6

*Trim away the clay from everywhere except directly beneath the turtle.*



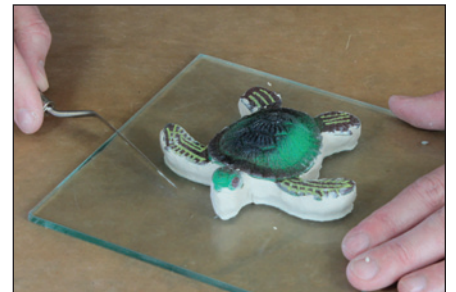
7

*Push the clay back under the turtle to create a slight curve to create some undercut in the mold.*



8

*Use the modeling spatula to smooth out the edge of the clay under the turtle.*



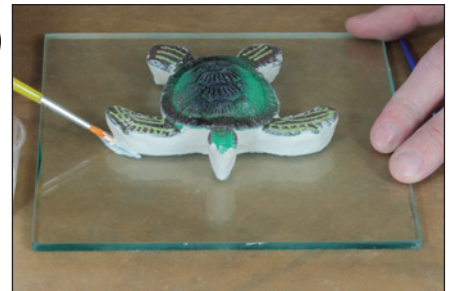
9

*Continue to push and smooth the clay back until the undercut is complete.*



10

*Apply the first coat of latex.*



It's especially important to get the latex along the edge of the clay against the glass to be sure that the mold has a clean edge.



Continue to apply the first coat of latex until the mold and the turtle are fully covered.

11



Leave the project until the latex is fully set and has turned from milky white to transparent amber.

12



Apply a complete second coat of latex.

13



Let the second coat of latex fully set before applying the first layer of cheesecloth and the third coat of latex.

14



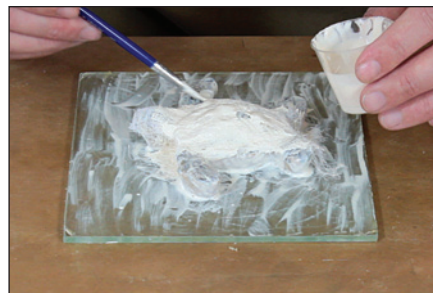
Set the turtle on the first strip of cheesecloth and apply the third coat of latex.

15



Fill the cheesecloth with latex.

16



Slather on lots of latex to be sure it soaks completely into the cheesecloth.

Finish adding the layers of cheesecloth, then cover with more latex.

17



Keep putting on more strips of cheesecloth until the turtle and glass base are fully covered. Apply more latex, making sure that everything is well coated and the latex is saturated.

Leave the mold until the latex is set and ready to be removed.

18



There's a lot of latex here, so it takes more the 24 hours to fully set.

Remove the latex mold from the glass base, then remove the turtle and modeling clay from the mold.

19



Just clean out any bits of clay left in the mold, and it's ready to use.

**GPQ**

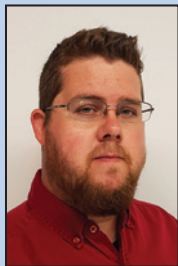
Glass Patterns Quarterly® invites you to join us on January 7, 2021, for the first live Wee Webinars™ offering. Dennis Brady will be teaching a one-hour class on making a latex rubber mold and using it to create a Freeze N Fuse project from start to finish. These one-hour webinars are a great value at only \$59 and offer the same extras as the longer Glass Expert Webinars®, including teacher handouts, a chance to ask questions via live chat, and a link to the recorded version that never expires. Participation in the live event is not required to receive the recording. Check the "Glass Expert Webinars®" link under "What's New" at [www.glasspatterns.com](http://www.glasspatterns.com) for more details.







Dane Brady was born into the glass business as part of his family's business, DeBrady Glassworks, since he was first old enough to help clean the studio. In the way of a traditional apprenticeship, he started as a beginner artisan and, as his skills developed, progressed to working on his own individual projects. Those skills grew to the place where Dane has developed a mastery of glass and wire sculpture, with some of his work being sold in galleries across Canada and throughout the United States.



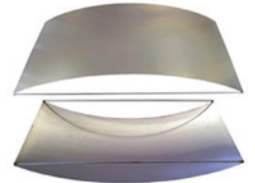
Samples of Dane's glass art are now on display in private and corporate collections in a dozen different countries. He has continued his learning experience by expanding into torchworking, fusing, casting, sandblasting, and mold making. Dane also teaches extensively at Victorian Art Glass in Victoria, British Columbia, and has been a teaching assistant for many years at Glass Craft & Bead Expo in Las Vegas, Nevada. Visit [www.debrady.com](http://www.debrady.com) to learn more about the family crew at DeBrady Glassworks.



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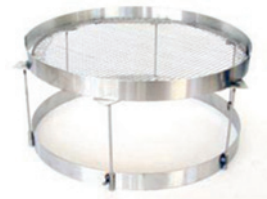
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# Ice Fishing Shack Wind Chime

*Design, Fabrication, and Text by Robin Anderson*

Once the ice is thick enough to be safe on the northern lakes this winter, the ice fishing shacks will begin to appear. Some are quite luxurious while others, like this one, are built out of whatever is handy. They all, however, give shelter from the cold weather while their occupants happily fish away. So here's a little shack perched on the ice amongst the snowdrifts, and it appears that the folks inside have had quite good luck!

## 96 COE Glass

Dark Green Opal Fusible Scrap for Shack, 1/2 Sq. Ft.

White for Base and Snow, 3/4 Sq. Ft.

Clear for Base and Shack, 1-1/2 Sq. Ft.

Yellow for Window, Scrap

Brown for Door, Roof, and Trim, Scrap

Iridized Clear for Fish, 1/2 Sq. Ft.

Colored Transparent for Fish, 1/2 Sq. Ft.

## 96 COE Glass Frit

Iridized Clear Medium Frit (optional)

Clear Powder Frit

## Tools and Materials

Glass Cutter Grozing Pliers Breaking Pliers

Kiln Washed Shelf or Kiln Paper Fuser's Glue

1/4" Fiber Paper Scrap Hi-Fire Wire or Fusible Rings

25 Pound Test or Higher Clear Fishing Line

Grinder Respirator Mask

3/4", 1/4", and 1/8" Regular Grit Heads

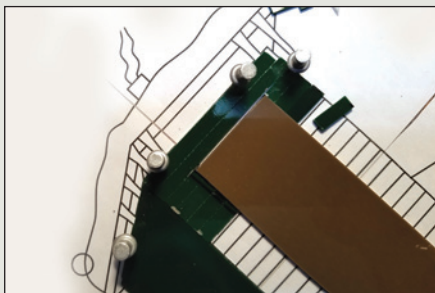
3/4" Fine Grit Head





1

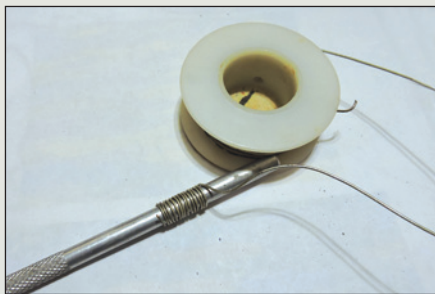
*Choose the glass for your shack.*



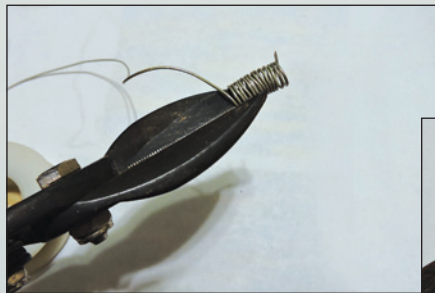
Because these shacks are often made of available materials, they can be quite colorful, so don't feel like you have to make yours all one color if you're short on scrap. Note that part of this one is "boards" and part is "plywood." Be creative!

2

*Make the rings from the Hi-Fire wire that will be used to hang the wind chime and the fish.*



You can buy ready-made rings from your friendly neighborhood glass retailer, or you can make your own quite easily from a roll of Hi-Fire wire. To do that, experiment with a pencil or a paintbrush handle to see what size rings you want and wrap the wire tightly around the one you choose. Each full wrap will make a ring, so make a bunch of wraps.



3

*Slide the coil off of the shaft and cut the coil apart into rings with a pair of tin snips.*



Bingo! You now have a whole bunch of rings! All you have to do is shape them a bit and close the gap on each one with a pair of pliers. By the way, it's always a good idea when you're placing the rings in your work to be sure the gap is embedded in the glass so it can never pull apart.

4

*Cut out the clear and white glass pieces for the base, add the hanging rings, and fire to a full fuse.*



Cut one piece of plain clear and one piece of white for your base. Then cut out two clear glass pieces of the portion of the shack that stands above the base. Your shack will be on top of them and on top of the clear/white base, so you want them to be flush.

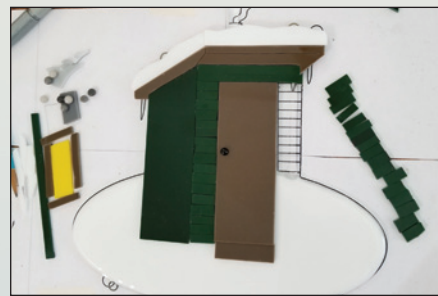
Grind the pieces if necessary so that they match fairly closely. If you are concerned about chips along the edge, finish any grinding throughout the project with a pass or two with the fine grit bit. That also reduces chances of devitrification.

Wash all of the pieces thoroughly and let them dry. Sift a *very* thin layer 1 to 2 grains thick of clear powder frit on the bottom pieces. This will help prevent any bubbles from forming but make it a very thin layer. **Be sure to wear a respirator mask in a well-ventilated area when working with glass frits.**

Add two rings along the roof line between the two clear base pieces for hanging the wind chime. Next add five rings along the lower edge of the base where you will later attach the fish—again between the clear and white layers. Assemble the pieces together to make one complete base. It's a good idea to put a little scrap of 1/4" fiber paper underneath all the rings. That way they will fire flat and not sag down. Fire to a full fuse using the schedule at the end of the tutorial.

5

*While the base is fusing, begin to cut and assemble the glass pieces for the shack.*



Again, be creative! You can make it all boards or all plywood if you want, give it different colors, and give it a stovepipe or not. Icicles are certainly optional! Irid frit or a few dichro flakes on the snow and ice can also add a nice touch. Remember also to free-cut the snow drifts. You don't have to follow the patterns, since they are just to give you an idea. You can stack up to 3 pieces in those snowdrifts.

Once you have the base out of the kiln and it is cool, clean it and assemble your cut out shack on it. The surface will be a bit rounded, so it may be a good idea to apply a spot of fuser's glue in places to hold the pieces as you work. If you think there is a danger of pieces moving about as they soften in the kiln, build a little dam with a piece of kiln furniture and some fiber paper to hold them in place.



6

*Cut out the fish that will hang from the bottom of the wind chime and fire them to a full fuse.*

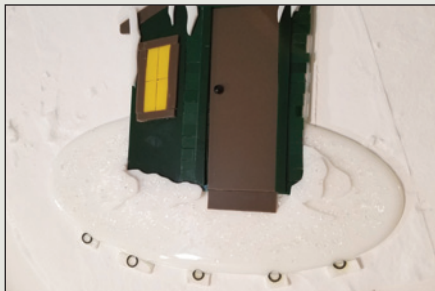




Using a “fish-colored” transparent glass with an iridized clear makes a really cool looking fish! You could also use an iridized colored glass with a plain clear, but you need 2 layers regardless. Don’t get too detailed, since it will be lost in a full fuse. Put a ring in each fish’s mouth to use for hanging him from the wind chime. If there is room in your kiln, you can fire your fish at the same time as the base.

7

*Check the rings to be sure they are still open and put the fiber paper supports back under their edges.*



8

*Put the fully assembled piece back in the kiln for a contour fuse.*



Fire to a soft contour using the suggested firing schedule at the end of the tutorial.

9

*Hang the fish from the bottom of the wind chime.*



After cleaning the fired piece, lay out the fish the way you want them to hang on the wind chime. Tie the fishing line with triple knots, add a spot of glue when you’re done, and vary the lengths a bit. Trim the ends, and you’re done!

**GPQ**

## Fusing Schedules

These schedules are for 96 COE glass. Kilns vary, as you well know, so make adjustments accordingly to fit your own kiln.

### Full Fuse Schedule

Segment 1: Ramp 200°F/hr to 1000°F and hold 20 min.  
Segment 2: Ramp 200°F/hr to 1220°F and hold 45 min.  
Segment 3: Ramp 200°F/hr to 1460°F and hold 6 min.  
Segment 4: Ramp 9999 (AFAP\*) to 960°F and hold 90 min.  
Segment 5: Ramp 200°F/hr to 700°F and no hold.  
Segment 6: Ramp 300°F/hr to 120°F and off.  
\*as fast as possible

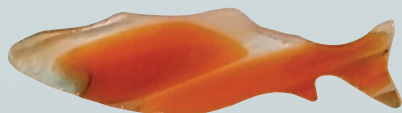
### Contour Fuse Schedule

Segment 1: Ramp 200°F/hr to 1000°F and hold 20 min.  
Segment 2: Ramp 200°F/hr to 1220°F and hold 45 min.  
Segment 3: Ramp 200°F/hr to 1370°F and hold 4 min.  
Segment 4: Ramp 9999 (AFAP) to 960°F and hold 90 min.  
Segment 5: Ramp 200°F/hr to 700°F and no hold.  
Segment 6: Ramp 300°F/hr to 120°F and off.  
\*as fast as possible



Robin Anderson got hooked on stained glass back in the early 1990s and opened her Sunny Brook Studio in 2000. Since then, she has become best known for her highly realistic pet designs, most of them done as memorial pieces for beloved companions who have passed. In 2013, Robin also turned her attention to making her designs available to other artists through her pattern books, *Best in Show*, *Best in Show – Puppy Class*, and *It’s a Cat’s Life*, all available from your local stained glass retailer, Amazon, or her Web page, [www.sunnybrookstudio.com](http://www.sunnybrookstudio.com).

Turning to fusing in 2002, Robin now enjoys trying all sorts of new ideas in fused glass, exploring its limits, and looking for new ways to achieve fabulous results. She loves to hear from other glass enthusiasts and can be reached at [rlandersn@suddenlink.net](mailto:rlandersn@suddenlink.net) as well as on Facebook at Sunnybrookstudio.



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# Repairing a Stuck Kiln Door

by Arnold Howard

**I**s the door of your front-loading glass kiln difficult to open and close? If so, do not fire the kiln again until the door has been repaired. The longer you wait to repair it, the more difficult the repair will be. Using a tight door damages the firebricks and the welds that hold the door to the hinge rod.

The type of kiln I will describe here has a bearing at the top and bottom of the hinge shaft. The bearings are called pillow blocks. The hinge shaft rotates inside a hole in each pillow block. When the door becomes very difficult to open, it can be removed and repaired as follows.

**1) Remove the bolts holding the top pillow block while an assistant holds the door.** Leave the bottom pillow block in place for now.

**2) Lift the door up and out of the bottom pillow block if the block isn't too corroded.**

**3) Remove the bolts holding the bottom pillow block.**

**4) Remove the top pillow block from the door shaft.** Corrosion will make the block difficult to remove. If the corrosion is severe, you may have to cut the pillow block off with a hacksaw. (Wear safety glasses while cutting and clean up any metal filings.) If you repair the door at the first sign of tightness, you will save a lot of time and won't have to saw off the pillow block.

If the pillow blocks are tight but can rotate, hold the shaft with locking pliers such as Vice-Grips and turn each pillow block with another pair of locking pliers. Avoid stressing the hinge shaft while you remove the pillow blocks.

**5) Sand the door shaft at each end where it fits into the pillow blocks.** Wrap a strip of sandpaper around the shaft and move the sand paper back and forth until the steel is perfectly smooth and shines.

**6) Replace the top pillow block, and if the bottom one is corroded, replace it too.** Also replace any corroded bolts. Make sure the pillow blocks rotate easily on the shaft.

**7) Install the bottom pillow block on the kiln.**

**8) Insert the door shaft into the bottom pillow block.** Have an assistant hold the door while you slide the top pillow block onto the door shaft and install the pillow block on the kiln.

**9) To finish, check to see if the door closes all the way.** If it doesn't, you may need to sand the firebrick door. Sand the vertical section that meets the kiln at the hinge side of the door. Sand just a little until the door closes all the way.

**GPQ**



*This top pillow block has 16 years of corrosion. Notice how the weld on the door shaft was beginning to crack because the door was difficult to open and close.*



*This kiln is newer than the ones in the other photos. It shows the top of the hinge shaft after I removed the door. The pillow block shown here was so corroded that I had to cut it off with a hacksaw.*





*The top pillow block, and sometimes the bottom one too, will be difficult to remove because of corrosion. You have to be patient. I use two pairs of locking pliers such as Vice-Grips to rotate the pillow blocks. Several drops of WD-40 help, but avoid getting it on the firebricks.*



*After I repaired the pillow blocks on this door, it still wouldn't close all the way, leaving a 1/8" gap on the side with the door handle. I sanded the firebrick door on the opposite side from the handle, then sanded along the vertical section near the door shaft where the door presses against the kiln. After a little sanding, the door easily closed all the way.*

*During the time that Arnold Howard worked at Paragon Industries, he saw kiln controls evolve from switches to touch screen displays and tested some of Paragon's first glass kilns. He also wrote Paragon instruction manuals and has taught two-day seminars at Paragon and Bullseye. Arnold currently owns Howard Kilns, a repair and kiln sales business, and works on all brands. Feel free to contact him at [arnoldhoward@gmail.com](mailto:arnoldhoward@gmail.com) or call/text (972) 333-1437.*



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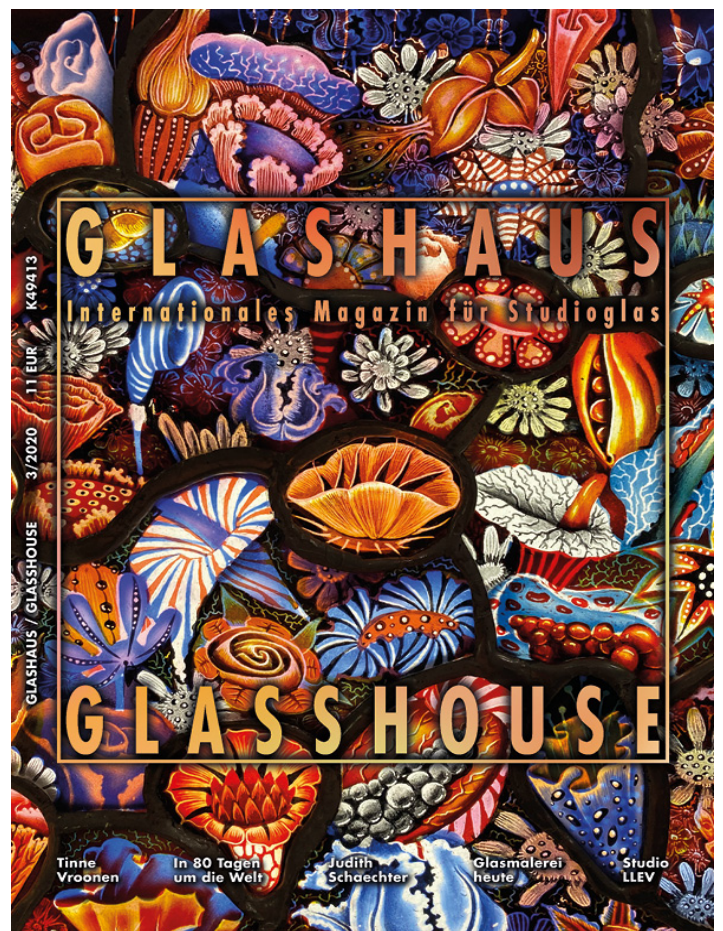
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www.treehouseglassstudio.com

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www.timelesstiffany.com

### **Anything in Stained Glass**

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### **Delphi Creativity Center**

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www.flamingoglass.com

### **Glass Endeavors**

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Minneapolis, MN 55406  
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www.glassendeavors.com

### **Michael's Stained Glass Studio**

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St Cloud, MN 56301  
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www.michaelsstainedglass.com

### **Sleepy Eye Stained Glass**

135 Main St E  
Sleepy Eye, MN 56085  
507-794-6449  
www.sestainedglass.com



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**Seraphim Studios LLC**  
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www.hilltopglasscreations.com

**Leaded Glass Design**  
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## TENNESSEE

**Fountain City Stained Glass LLC**  
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Email: fountaincitystainedglass@comcast.net

## TEXAS

**Blue Moon Glassworks**  
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www.austinbluemoon.com

**Stained Glass Crafters Workbench**  
7515 Eckhert Rd  
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## VIRGINIA

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## WASHINGTON

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206-242-2860

**Northwest Garden Bling**  
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www.facebook.com/northwestgardenbling

## WISCONSIN

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www.eglassgarden.com

**The Vinery**  
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Madison, WI 53714  
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www.vineryglass.com

**Hearts Desire Stained Glass and Beads**  
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Waterford, WI 53185  
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www.heartsdesirestainedglass.com

## CANADA

*Alphabetically arranged by province, city, then store name*

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Courtenay, BC Canada V9N 3P7  
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705-721-1323  
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**Artistry in Glass**  
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London, ON Canada N6H 5L6  
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www.artistryinglass.on.ca

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Maugerville, NB Canada E3A 8L1  
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### Jan Goldress

Of the nine kilns I own My GK Cress kilns are by far my most favorite. They are the most amazing kilns I own. There is no question that the GK1, GK2, and GK3 are the safest combining kilns on the market. Additionally they slump bowls perfectly! You'll never have a lopsided bowl again. These kilns are fabulous for doing jewelry or small pieces because you do not have to work around a thermal coupler and tip your tray as you're trying to load the kiln. The drop bottom makes it so easy to slide your full tray of composed pieces of glass right into the kiln, lift, close it and then fire. The size also makes it perfect for doing general fused pieces that you want to slump later, as well as pot melts. The GK1 and 2 are also excellent choice when doing vitriograph, murrinni , and twisted cane rods. I love the GK3 tall edition for doing perfect castings too!

- Designed for easy and safe manipulation of hot glass
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Model	Volts	Amps	Max Temp	Chamber Opening	Outside Dimensions	Fuse Size	Ship Weight
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GK2	240/208	18/16	2000°	12"x12"x9" H	25"x25"x39" H	20	180



Cress Mfg. Co., Inc. 4736 Convair Dr. Carson City, NV 89706  
 Phone (775) 884-2777 Fax (775) 884-2991 Website [www.cressmfg.com](http://www.cressmfg.com)  
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# Wissmach Luminescent Glass



Craig Mitchell Smith uses  
Wissmach Luminescent Glass  
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“Only Wissmach Glass can  
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the kiln, Wissmach is the  
perfect glass for me.”

*Craig Mitchell Smith, Grace*

Photography by Randy Blankenship



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