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Please note that items listed in these project guides are suggested items that can be purchased at www.DelphiGlass.com. The items may not always be identical to those used in these project examples and are subject to change.

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Snowball Fight
Lead Came Panel


MATERIALS NEEDED
• Glass of your choice (we used Clear, White, Purple and Green)
• Round H Lead Came (such as 7/32” RH Lead)
• 1/4” Adjustable U Zinc Came
• Black Cement
• Whiting Powder
• Lead came tools, hanging rings and basic supplies also needed

Note: Quantities depend on desired finished panel size.

Step-By-Step Guide:
1. Enlarge the pattern (pg 5) to desired size.
   Produce 2 copies of the pattern.
2. Use lead shears to cut apart 1 copy of your pattern.
3. Tape cut pattern pieces on glass or trace.
4. Cut and grind glass to fit pattern pieces.
5. Cut zinc came border pieces to fit the left edge and bottom edge of the pattern.
6. Position uncut pattern and zinc came on a wood work board with 90° corner.
7. Stretch Round H lead came, making sure the channel is straight (do not allow came to remain twisted).
8. Beginning with the bottom left corner, position all glass and lead pieces to assemble your panel.
9. To complete this process, you will work left to right, from the bottom toward the top. Assemble glass into the zinc border, cut lead to fit between glass pieces, continue. Use horseshoe nails with stop blocks or a lead spacer and a glazing hammer to hold pieces firmly in place.
10. Cut zinc came to form the top and right borders of project. Position and secure with horseshoe nails.

11. Apply flux and solder all joints. 
   **Note:** lead came can be melted, make sure your iron is at a proper temperature before soldering.

12. Remove horseshoe nails, carefully flip panel over and solder all joints on the other side.

13. Add jump rings or hangers to zinc border if desired. 
   **Note:** 1/4" Adjustable U Zinc borders work nicely with wood framing stock if you prefer to build a wood frame.

14. Use a scrub brush to apply black cement to your project, taking time to carefully work cement under lead came at each lead line. Flip project over and cement from the other side.

15. Apply whiting powder using a clean scrub brush. 
   The whiting powder should cause excess black cement to ball up and be brushed from the panel surface. Flip panel over and apply whiting powder to the other side.

16. Use a Fid or similar tool to clean excess cement from corners or at lead lines. Be careful not to pull all cement out from between lead and glass.

17. Lay your panel on a flat surface to dry for 48-72 hours. During this time, use your Fid to clean any additional cement that seeps from under lead lines on both sides of the panel periodically (2 or 3 times a day).
Stained Glass Snowflake


MATERIALS NEEDED
• Glass of your choice (We used 1 medium Kokomo Clear Granite)
• 3” Triangles Bevels (3)
• 1-1/16” x 4-5/8” Parallelogram Bevels (6)
• Blue Rondels (3)
• 2-1/2” and 1-1/2” Star Bevels (3)
• 1” x 4” and 1” x 3” Granite Dichroic Bevels (3)
• 25mm Round Amethyst Gems (6)
• 30mm x 40mm Clear Gems (3)
• 1-3/16” x 2-3/4” Diamond Bevels (6)
• Small Glass Nuggets (19)
• 2-1/2” Pre-Tinned Curly Q Hanger (2 Packages)
• Wire (18 gage)
• Foil supplies, hanging rings, your choice of glass and basic supplies also needed

Step-By-Step Guide:
1. Print pattern (pg 8) on 8-1/2” x 11” paper.
2. Enlarge 343% to fit bevels to exact dimensions.
   Produce 2 copies of the sized pattern.
3. Use lead shears to cut apart 1 copy of your pattern to use for cutting glass diamonds.
4. Layout pieces according to pattern.
   Note: Each Bevel is handcrafted so pattern may need to be altered.
5. Tape cut pattern pieces on glass or trace.
   Grind pieces as needed.
6. Wrap all edges of bevels and glass in copper foil tape and burnish.
7. Tin edges of all pieces, layout on uncut pattern then solder pieces together front and back. Leaving the decorative points (shown highlighted in pink) till the end.

8. Apply wire around edges to help add support and reinforce pieces. See highlighted diagram. Wire is soldered in one continuous piece for strength.

   **Note:** Green highlighted section is one long piece of wire. Each blue highlighted section uses its own piece of wire.

9. Create hanging loops out of wire and position so it aligns with solder seams. Apply flux and solder in place.

10. Solder decorative points to the ends.

11. Clean and finish with a flux neutralizing cleaner, patina and polish as desired.
Snowflake Bevel Box

MATERIALS NEEDED
• Square Bevels, size of your choice (6)
• Glass Nugget
• Vitrea 160 Paint Markers
• Foil supplies and basic soldering supplies also needed

Step-By-Step Guide:
1. Draw snowflakes on bevel using Vitrea 160 Paint Markers. Use coloring pages or clip art as template or free hand. Oven cure following manufacturer directions.
2. Foil bevels and burnish.
3. Flux and tin each piece.
4. Assemble box easily with assembly tools and solder together leaving the top open.
5. Glue glass nugget to the center of the remaining square bevel for your lid.
6. Clean and finish with a flux neutralizing cleaner, patina and polish as desired.
Snowflake Decal Pendant

Artist: Kayleigh Clark

MATERIALS NEEDED
- Snowflake High-Fire Decals
- Fusible glass of your choice or already finished cabochon
- Finding and necklace
- Fusing supplies and basic glass cutting supplies also needed

Step-By-Step Guide:
1. Cut glass to desired shape and size and full fuse.
2. Cut around decal design – leave as little extra room as possible.
3. Soak decal in a dish of warm water.
4. Slide the backing off one edge and hold that edge on your glass.
5. Gently slide the remaining backing.
6. Smooth and slide decal into position with your fingers.
   **Delphi Tip:** If the film wrinkles or does not want to move add a little more water.
7. Gently blot with a paper towel to remove water and air pockets.
8. Allow to dry for a few hours.
9. Place in the kiln and fire according to decal manufacturer firing schedule.
Snowman Bead
Artist: Val Oswalt-De Waard

MATERIALS NEEDED
• White Opaque Tested Compatible Rod
  (We used effetre rods)
• Black, Orange, Red and Green Tested Compatible Stringers
  (we made our own from effetre rods)
• Beadmaking supplies also needed

Step-By-Step Guide:
1. Dip your mandrels in bead release and allow to dry.
   **Note:** Release can be flame dried in the back of a torch flame to speed the drying process.
2. Slowly introduce your mandrel and white rod into the flame, holding them away from the torch head in the area of the flame outside the cone. (The cone is the blue triangle of color you see in the flame at the torch head.)
3. Turn the glass rod and mandrel between your fingers continuously. Allow a ball of hot, soft glass to form at the tip of the glass rod.
4. Lay the molten glass ball [gather] onto the hot mandrel, allow the soft glass to trail around the mandrel as you turn it, forming the base of your bead.
   **Delphi Tip:** Use a graphic paddle to create an even ball.
5. Continue heating the rod to soften. Use softened glass gather to wind onto the mandrel.
   **Delphi Tip:** Before reaching unheated (stiff) glass, taper or draw the rod away from the mandrel.
   Heat the thin string of glass until it separates. Repeat this process until your desired bead size is reached.
6. Then using a black and orange stringer begin adding the face.
7. Cool just outside the flame to set the shape of your bead. Place your bead in a container of Annealing Bubbles or between layers of Fiber Blanket to cool.
8. Repeat this same process, creating the body. Add black stringer dots to replicate buttons.
9. Following the same techniques create a cylinder shaped bead to create the hat.
10. We created our own stringer with red, green and white and added a band around the top for added color.
11. Then built up the hat rim at one end. You can use tweezers to turn up edges of the rim for a whimsical look.
12. Add red stinger dots to create holly detail.
13. Once beads cool, remove from mandrels. Use a bead reamer or bead hole cleaner to remove bead release residue.
14. Place finished beads on your choice of findings and enjoy!
Enamel Snowman Plaque

Created by Lanayia Shaw

MATERIALS NEEDED
• Pre-mixed Glass Enamel Pens
• Base glass of choice
  (We used 7" Pre-Cut White Circle)
• Clear glass to top layer
  (We used 7" Pre-Cut Clear Circle)
• Basic fusing supplies also needed

Step-By-Step Guide:
1. Decide on design; clip art, coloring page or stencils.
2. Cut 2 equal size pieces of glass or use pre-cuts to form your base. Clean glass thoroughly removing any residue.
3. Place clear glass on design.
4. Apply enamels using a brush, sponger/dabber or directly out of tube with enamel pen tips. Apply 4-6 light coats allowing each to dry completely in between.
   Delphi Tip: Make sure enamels are shaken well before applying to ensure best results.
5. After enamels are completely dry stack clear glass on base layer on prepared kiln shelf and fire according to manufacturer’s firing schedule included with enamels. Delphi’s exclusive enamels used in this project can be fired to a full fuse, which will eliminate extra firings.
6. Slump if desired. Another option is to display the flat piece using a display stand.
Fox Log Slice Casting

Instructions and images courtesy of Creative Paradise.

MATERIALS NEEDED
• Log Casting Mold
• An assortment of frit (96 COE frit was used in this project)
• Fusing supplies and basic glass cutting supplies also needed

Step-By-Step Guide:
1. Apply kiln wash to casting mold.
2. Sift powder Bronze in the mold cavity. Use a finger to gently sweep the Bronze into the wood creases. Place powder Pewter Opal frit in the bark crease.
3. Use a pipette or other delivery device to place powder Terracotta frit in the shape of the foxes ears, nose and forehead. Use a mosaic nipper to nip two small section of Black rod. Place one of the rod pieces at the end of the nose. Nip one of the rod sections in two and use the two pieces as eyes.
4. Place powder Ivory frit around the eye and in the cheek and muzzle area.
5. Sift powder Pale Amber below the face and sift a thin layer Pale Gray powder all over the exposed wood grain in the mold. Fill the bark area with fine Pewter frit and cover the center area of the cavity with fine Cloud frit.
6. Fill the cavity with medium grain Clear until the mold holds 78 grams of frit and fire to a full fuse according to table below.

**Note:** Your kiln size, controller, type, and individual project may require some alteration to this schedule for best results.

**Delphi Tip:** Keep a firing log to make it easy to replicate your favorite projects.

To see more ideas using the log casting mold, see Creative Paradises complete project guide at DelphiGlass.com/LogProjects

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Idea: Use pre-cuts as your design.