Wooden Sunglasses Frames

ADVANCED

APPROXIMATE TIME: 4 TO 6 1-HOUR CLASSES

TOOLS & MATERIALS

MATERIAL LIST

- Hardwood veneer, offcut rectangles minimum 3" x 7"
- 2"x 4" x 7" long
- Maple for the arms (approx. ½" x 4" by 6")
- Two long glasses screws
- Wood glue
- Non-toxic finish

TOOL LIST

- Bandsaw
- Scroll saw
- Drill (⅛" bit, and another tiny bit that fits the diameter of the glasses screws)
- Dremel with sanding bit
- Stationary belt sander
- Sandpaper — assorted grits

PROCEDURE

1. Mark the centre of the 2x4 on both of the long, thin sides this will represent the midpoint of your glasses frame on the top and bottom, along the midpoint where your nose goes.
2. Take the arms off your plastic glasses and place the frames on the long, thin side of the 2x4 so that the top of the frames are resting on the wood. Trace around the glasses to get an outline of the sunglasses as if you were looking directly down on them from above (Bird's-eye view).
3. Draw a curve that roughly runs through the middle of this outline you drew and extend the line straight out to the sides of the 2x4.
4. Cut along this line using the bandsaw. This will be your mold for gluing the veneers in.
5. Place your veneer pieces gently into the mold and draw a pencil line along the veneer where it meets the edge of the mold piece, then cut off excess veneer. You should be left with three pieces of veneer a bit longer but the same width as the 2x4. If you alternate the grains of the veneers, it will make your sunglasses stronger.
6. Sandwich the three pieces together and mark them with pencil on the centre line on top and bottom where you drew on the 2x4.
7. Take the lenses out of your glasses and place the frames down on a piece of veneer. Centre them, and then use a pencil to trace around the outer rim of your glasses and the inner edge where the lenses go.
8. To hollow out the frames, drill "eye holes" in the top veneer layer, and use a scroll saw to cut out the lens holes.
9. Sand the surface. Be sure not to take too much material off. Use the lenses to check the progress of your sanding – these pieces should be very slightly smaller than the diameter of the lenses, so that they can hold the lenses in place. Use this top piece as a stencil to trace the lens holes onto the middle and bottom veneer pieces.
10. Cut and sand the middle veneer holes slightly larger (by 1/16"). When you sandwich the three veneers together, this larger hole will be the groove that the lenses pop into.
11. Cut the lens holes from the bottom veneer exactly the same size as the top veneer. Clean up this cut line with the Dremel or spindle sander, double checking with the actual lenses to make sure you don't take off too much material.

12 Line up the centre line pencil marks, then glue the three veneers together and place in the 2x4 mold, making sure that all the centre lines on the veneers and the 2x4 pieces line up. Clamp and wait to set, but do not let dry completely. Remove the veneers before completely dry and scrape out any glue that remains in the centre groove where the lenses will pop into.

13 Cut out the outer line using a bandsaw or scroll saw, then sand and shape with the Dremel tool until smooth.

14 To make the arms, line up the top of the plastic arm on the long, thin edge of the maple (½" x 6"), and trace around it with a pencil. Cut this line carefully on the bandsaw, then clean up with the stationary belt sander.

15 On the big surface (4"x6"), lay down your plastic arms and trace around them. Cut along these lines with the scroll saw. These pieces will be skinny — be sure to keep your fingers away from the blade at all times. Smooth and shape the edges and faces of your arms with sandpaper.

16 To make the hinges, line the arms up with the top corners of your frames, and divide them into three horizontal sections. Draw the lines with a pencil, make sure not to make them longer than ¼".

17 Cut the frames so that the top and bottom pieces remain, making a "U"-shaped notch, and cut the arms so that the centre piece remains, leaving a small tab in the centre. Be careful here not to cut off too much material. Cut small amounts off and keep checking to make sure the pieces fit snugly, and not too loose.

18 Sand away any material on the frames or the arms that prevent the hinging movement.

19 Fit the arm "tabs" into the frame's "U"-shaped notch, then drill down from the top through the three pieces of wood. Counter-sink this hole with a larger drill bit so the glasses screw will fit flush. Screw the arms onto the frames.

20 Sand all of your pieces smooth with 400 grit paper.

21 Apply your chosen non-toxic finish.

22 Pop the lenses in and they are ready to wear!

EXTENSION CHALLENGES

1 Make the frames out of one solid piece of maple. Trace the curves from your plastic glasses in all 3 dimensions and cut out on a bandsaw. Use a Dremel with a cutting disc to carefully carve out the groove for your lenses. Shape your glasses to include nose rests.

2 Find a way to use the metal hinges from an old pair of glasses instead of making wooden hinges.

3 Keeping the inside lines consistent to fit with the lenses you have, experiment with changing the outside shape of the glasses to try different "looks".

4 Use different wood veneers to achieve a striped look on the top and sides of your glasses.

5 Make a custom wooden case for your new glasses.

6 Using an old set of clear prescription lenses, try making wooden frames for reading or distance lenses.

7 Explore other materials, such as old skateboard decks, to create different design features.