

Making an Easy Arbor

Project Level: **Advanced**

At first glance, this project may appear difficult. But if you approach it as a series of steps, you'll be surprised to find that the arbor can be completed with relative ease.

Before you get started, check local building codes and any neighborhood regulations that might prevent you from building a project like this. Also, contact your local utility companies so they can locate



any service lines in the area to be excavated. This project requires some heavy lifting, so you may want to have someone to help move pieces during construction.

The finished project separated the vine and the house, lowering the potential for rot; fixed the sinking stoop; and created a more inviting entryway to the home.

Tool Box

The finished dimensions on the arbor shown are 56 inches wide, 45 inches deep, and 144 inches tall (including the legs).

- 4 (10-foot) pressure- treated 4 x 4s
- 10 (8-foot) pressure- treated 2 x 4s
- 2 (8-ounce) bottles weatherproof glue
- 5 pounds galvanized deck screws
- 20 (8-foot) pressure- treated lattice strips
- 1 pound galvanized 8d finishing nails
- Weatherproof putty
- 2 (10-foot) 5/4-inch pressure-treated deck boards
- 2 pressure-treated arches
- 1 (6-foot) pressure- treated 1 x 6
- Sandpaper ⓘ
- Paintbrush ⓘ
- Primer ⓘ and exterior paint ⓘ (optional)
- Gravel
- 4 (40-pound) bags concrete mix
- *Skill level: Advanced*



Problem 1: When this home was purchased, a vine was already growing over and around the front door. Although the homeowners liked the look, it had potential to rot the siding on the house by holding in moisture.



Problem 2: The stoop outside the front door was sinking. It was originally even with the sidewalk, but over time it had dropped several inches.

Step 1: Determine The Size

To determine the size, think three dimensionally. Proportions are important. You don't want the arbor to appear too skinny, tall, or narrow. The wider the arbor is, the taller the arch should be. The inside width of this arbor is 47 inches. Therefore the arch has a 47-inch diameter, making it 23 1/2 inches taller than the tops of the corner posts. You have to calculate how tall the sides should be as well as where the floor is going to fall in relation to the sides. This part of the process is very important because it will determine the dimensions of the finished product.

Step 2: Begin Constructing The Sides

Construct one side at a time. Install the side rails (pressure-treated 2 x 4s) on two corner posts (pressure-treated 4 x 4s) by making mortise and tenon joints. Glue all joints with weatherproof wood glue. Check for squareness using a carpenter's framing square. Countersink holes through the posts into the mortise and tenon joints, and insert galvanized deck screws. Attach clamps, and allow joints to dry overnight. Assemble the other side as directed above.



Safety Tip: Wear safety goggles when sanding, nailing, or using power tools. Wear a dust mask when sanding.



Step 3: Make The Lattice Panels

To make the panels, create wood channels that will hold the lattice strips. To make the channels, rip 2 x 4 stock to approximately 1 1/2 x 2 1/2 inches, and then cut to the appropriate lengths to fit the side rails and corner posts. Using a table saw or router, cut a dado into the ripped stock. Make the dado twice as wide as the thickness of the lattice strips. This will allow room to slide the lattice strips when assembling the panels. Install the channels into the inside of the corner posts and side

rails, securing them with deck screws. Cut the lattice strips long enough to reach the bottom of each dado from corner post to corner post and side rail to side rail. Carefully slide each lattice strip into the channels. After the strips are installed, secure them with galvanized finishing nails. Tip: The lattice strips can be fashioned into a basket-weave pattern, set in place at 45-degree angles, or positioned in a vertical/horizontal arrangement with the negative space creating squares or rectangles.

Step 4: Construct The Floor

Frame the floor out of pressure-treated 2 x 4s, checking for squareness. Countersink the screw holes, and attach the joists to the 4 x 4 posts. Depending on the span of the deck, a center joist may be necessary to lend stability to the floor. note: If any screws are going to show after installation, countersink the screws, and fill the holes with putty. After the floor is framed, install the deck boards. When determining the position of the deck, keep in mind that some length of the posts will be sunk in the ground. Unless you live in an area that has a deep frost zone or high winds, leg depths of 2 feet should be plenty. Cover the joists with pressure-treated 5/4-inch deck boards. The end grain of the boards should point upwards (toward the top of the arbor). This allows rain to run off quicker, which helps deter cupping and warping. For a neat appearance, slightly overhang the deck boards (this homeowner allowed about an inch). Secure boards with galvanized deck screws. All holes should be countersunk and filled with putty.

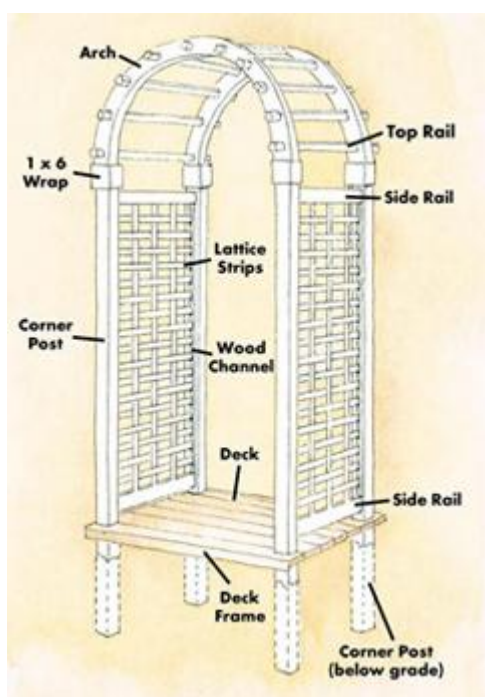
Step 5: Make The Arch

Because the arch is fairly complicated, consider getting help to make it for you. Several consulting trips may be necessary to ensure all measurements and designs are correct. You may find it useful to take examples of arbors that you've photographed or gotten from catalogs. note: The arch should be made out of pressure-treated wood and assembled with galvanized screws or nails. The number of top rails needs to be determined as well. This number is flexible, but traditionally an odd number is preferred. Be sure to tell the millworker that the holes in the arches for the top rails need to be aligned with each other and that the bottoms of the arches need to have mortise joints (see top left photo on the previous page). You should also discuss delivery time with the millworker. In this case, six weeks was required. note: Straight 2 x 6 or 2 x 8 boards can be substituted for the arches. (This may cut your expenses drastically.)

Step 6: Assemble The Arch

Create tenon joints on the top of all four corner posts to fit the mortise joints on the arches that the millworker made. The tighter these joints are, the stronger the construction will be. Join one of the arches with the fronts of the corner posts. Check the squareness of the sides in relation to each other using a tape measure. Once the sides are parallel, glue the joints, and use clamps to secure them. Drill and countersink holes through the fronts and backs of both joints; secure with galvanized deck screws. Repeat this process on the back of the arbor. Let dry overnight. Once the joints are dry, wrap them with 1 x 6

pressure-treated pine, gluing and nailing in place with galvanized nails (see illustration). This strengthens and hides the open joints. Countersink the nails, and fill the holes with weatherproof putty. Next, insert the top rails. They need to be ripped from 2 x 4s to the size of the holes in the arches. Their length is determined by measuring the outside depth of the arches and adding 2 inches. These extra inches will allow for some overhang on the front and back of the arbor. Slide the top rails through the holes from the front to the back, allowing the top rails to extend outside the arches some. Once the top rails are positioned, secure them from the top of the arches with galvanized deck screws. Again, countersink the screws, and fill the holes with putty. Be sure to fill all remaining holes and knots with weatherproof putty, and sand smooth.



For strength and stability, the arch of the arbor is attached to each corner post with an open mortise and tenon joint.



The panels are constructed out of channels made of wood that are attached to the side rails and corner posts. The lattice strips are inserted into the channels.

Step 7: Paint The Arbor

Painting is optional. If you choose not to paint, leave the arbor natural or stain it. If you choose to paint, you will need to prepare the surface. Sand the arbor, and remove all dust. Paint the arbor with a good primer. This not only prepares the wood for proper paint adhesion, but it also helps cover knots in the posts and prevent sap from bleeding through. A minimum of one coat of primer plus two additional coats of a premium exterior paint is recommended.

Step 8: Install The Arbor

Calculate where the post holes go, and dig them as deep as the legs are long. If you are using the arbor in front of a door like these homeowners did, be sure to center the arbor in front of the

of crushed gravel. Gently rock the arbor back and forth, while occasionally checking with a bubble level to be sure it's level. This allows some of the gravel to spill under the bottom of each post and, in effect, self-level the arbor. If the arbor needs to be raised higher, keep rocking it. More gravel will fall under the posts and slowly raise the height. After the correct height is reached, check again for levelness. Once you are satisfied with the height and levelness, tamp down the gravel using a flat surface. Fill the remainder of the hole with concrete. Check for levelness one more time, and make any necessary adjustments. Let dry. Weather, moisture content of the dirt and humidity will all affect the length of time it takes the cement to cure, but it's usually no more than several days.