



Garden arbor

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GARDEN arbor

Create your own private garden getaway for less than \$350

by **David Radtke**

If you're looking for a weekend project to beautify your yard or garden and you want it to be solid, straightforward and built to last, this project is for you. This graceful arbor triples as a shade trellis to grow flowering vines overhead and a garden retreat to melt away the hubbub of our too-busy lives.

This project may appear complex at first glance, but it's designed with foolproof methods for building the graceful arches, measuring and cutting

Project Facts

Cost

\$340

Time

3 days

Skill level

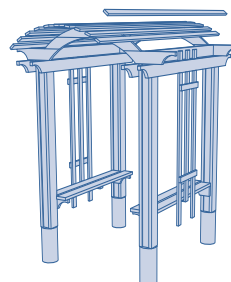
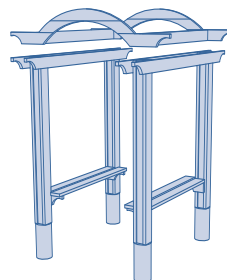
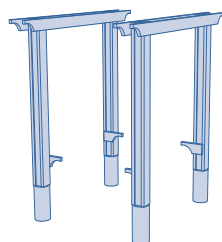
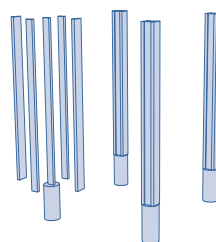
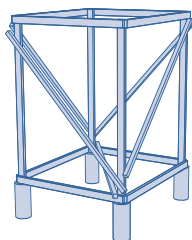
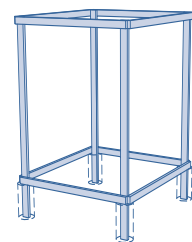
Intermediate

Special tools

Doweling jig, pipe clamps, jigsaw, belt sander

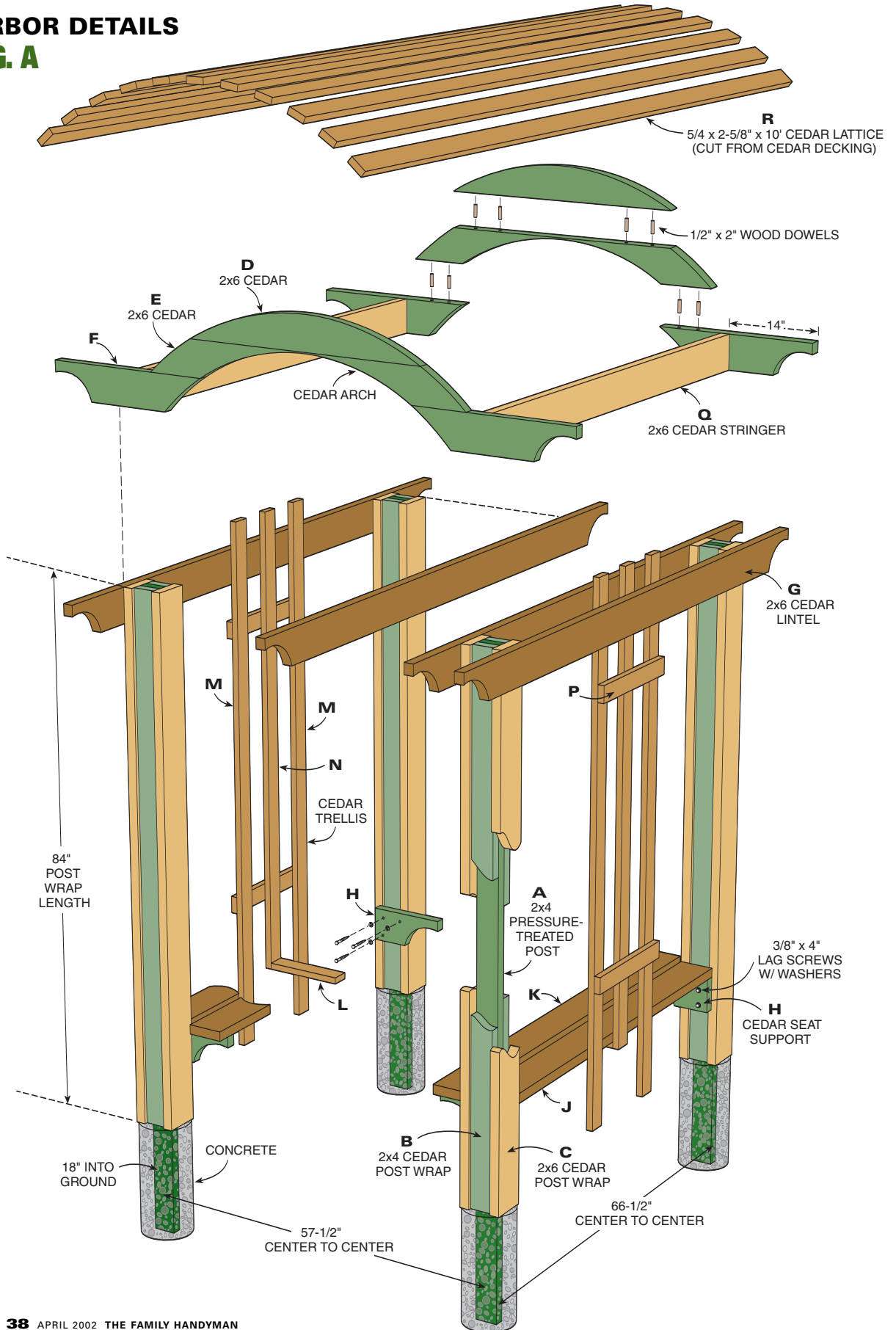
the decorative lintel ends and getting the posts precisely positioned. The whole project is made from ordinary cedar dimensional lumber and four 2x4 posts of pressure-treated pine. The trellis and roof lattice parts are cut from cedar decking and provide sturdy yet graceful support for climbing vines. You can either build the arbor over an existing path or walkway, or complete the project by laying a footpath using your favorite stone.

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ARBOR DETAILS

FIG. A



Shopping List

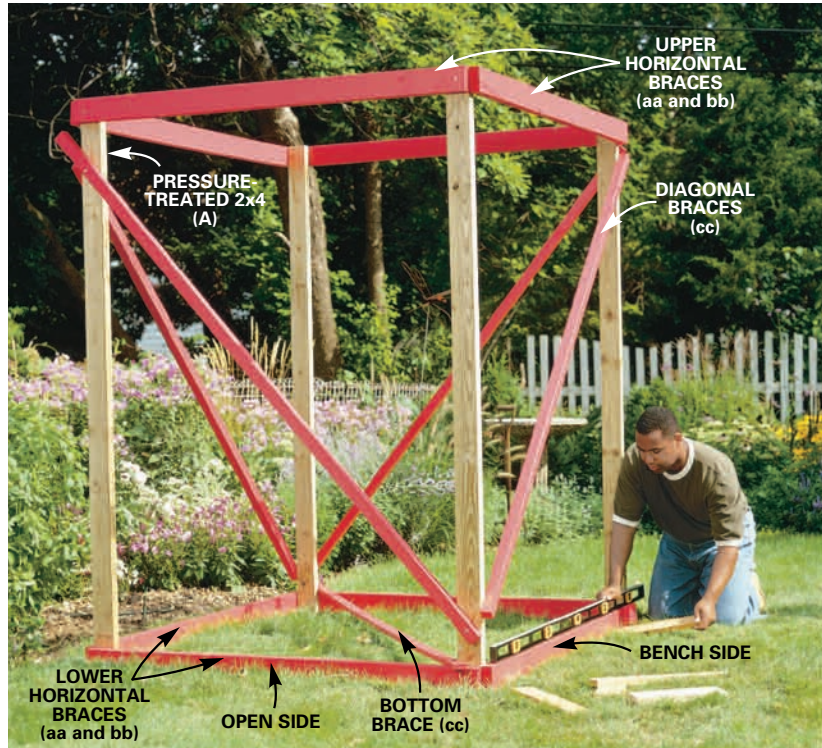
ITEM	QTY.
2x4 x 10' treated pine (parts A)	4
2x4 x 8' cedar (parts B)	8
2x6 x 8' cedar (parts C, H)	8
2x6 x 8' cedar (parts D, E, F, G)	8
2x6 x 12' cedar (parts Q, J, K)	3
5/4 x 6 x 10' cedar decking (L, M, N, P, R)	9
2x4 x 12' pine (horizontal braces)	4
2x2 x 8' pine (diagonal braces)	5
60-lb. bags of concrete mix	5
5-lb. box of 3" deck screws	1
5-lb. box of 2" deck screws	1
3/8" x 4" galvanized lag screws and washers	12
1/2" x 2" wooden dowel pins	16
Waterproof carpenter's glue (Titebond or Elmer's)	1 pint
Construction adhesive	1 tube

Cutting List

KEY	QTY.	SIZE & DESCRIPTION
A	4	1-1/2" x 3-1/2" x 102" pressure-treated pine posts
B	8	1-1/2" x 3-1/2" x 84" cedar post wraps
C	8	1-1/2" x 5-1/2" x 84" cedar post wraps
D	2	1-1/2" x 5-1/2" x 41" cedar top arch members
E	2	1-1/2" x 5-1/2" x 54" cedar middle arch members
F	2	1-1/2" x 5-1/2" x 87" cedar bottom arch members
G	4	1-1/2" x 5-1/2" x 96" cedar lintels
H	4	1-1/2" x 5-1/2" x 11-1/2" cedar seat supports
J	2	1-1/2" x 5-1/2" x 61" cedar back seat planks**
K	2	1-1/2" x 5-1/2" x 66" cedar front seat planks
L	2	1-1/16" x 2-5/8" x 10" cedar middle seat supports
M	4	1-1/16" x 2-5/8" x 85" cedar outer trellis slats
N	2	1-1/16" x 2-5/8" x 74-1/2" cedar middle trellis slats
P	4	1-1/16" x 2-5/8" x 18" cedar horizontal trellis supports
Q	2	1-1/2" x 5-1/2" x 69" cedar stringers
R	11	1-1/16" x 2-5/8" x 120" cedar roof slats
aa	4	2x4 x 61" open-side horizontal braces*
bb	4	2x4 x 68" bench-side horizontal braces*
cc	5	2x2 x 96" diagonal braces

*Cut these braces to exact length

**Cut to fit



1 BUILD the post framework first, then before you pour concrete into the 18-in. deep postholes, shim and level the assembly. Note: The red lumber pieces are temporary supports to hold the posts in position while you plumb and level and pour the concrete (see text below).

The framework

When you're building any outdoor structure, setting and plumbing the posts can be a real pain. To make this task hassle free, I've designed a basic framework that resembles a cube (**Photo 1**) to hold the posts precisely in position while you mark the posthole locations. Then, once the holes are dug, this same framework allows you to easily plumb the posts as you pour the concrete. Here's how it actually works:

First, cut your posts to length. Next, check the width of your 2x4 posts. Pressure-treated wood is sometimes a bit wider than, say, 2x4 cedar. To prevent ugly gaps later, be sure the width of your posts is 3-1/2 in. (or just under to be safe).

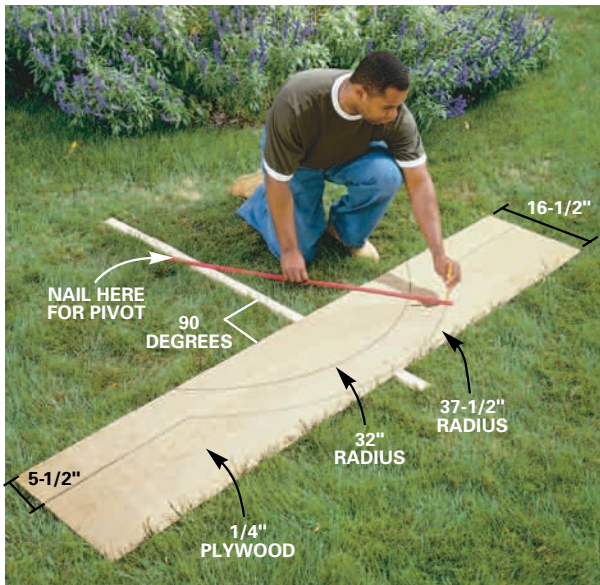
Next, cut your braces (aa and bb) to length and screw the upper open-side horizontal braces (aa) flush

with the top of the posts. Then measure up 18 in. from the bottom of each post and screw the lower horizontal braces to each pair of posts.

Next, stand the end panels upright as shown in **Photo 1** and screw the other pairs of horizontal braces to the posts. Next, add the diagonal brace. The diagonal braces will "square up" the cube. Make sure the diagonal measurements of each opposite cube side are equal before you screw them to the framework.

Once your framework is complete, move it around the garden to define your exact location. Once you've chosen the position, mark the posthole locations and dig postholes 18 in. deep and 8 in. wide. With the holes completed, set the framework legs into the holes (**Photo 1**). Level

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2 SCRIBE an arc onto a piece of 1/4-in. plywood 96 in. long to form the template for the arched ends of the arbor. Center, then fasten a board to the backside of the plywood. Then make a beam compass with a straight piece of wood. Nail one end of the compass strip (21 in. from plywood) on the board and drill two 1/4-in. holes for your arcs: one at 32 in. from the nail and the other at 37-1/2 in. Draw the arcs onto the plywood and cut the shape with a jigsaw.

each lower horizontal brace by shimming it where necessary (don't drive yourself crazy trying to get it exact; close is good enough). Then, mix up concrete (about a bag per hole) in a tub or wheelbarrow and fill each hole. Make the top of the concrete fairly flat to the ground level because you'll be adding 2x4s and 2x6s to the posts later.

The arches are the defining element of the arbor (like tailfeathers on a peacock)

The secret to making the arches is to first make a template like the one shown in **Photo 2**. Draw the template with the beam compass and cut the shape with a jigsaw. Lay the 2x6 cedar pieces E, F and G onto a set of sawhorses. Draw a line down the center of each piece and lay them edge to edge. Set the template onto the 2x6 pieces and trace the shape with a template. When you remove the template, you'll easily see where to position the dowels so they fall within the arch. Drill the 1/2-in. holes with a drill and doweling jig to 1 in. deep (use 2-in. long precut dowel pins available at a home center or hardware store).

Once you've drilled the dowel holes, spread glue onto the 2x6s only in the areas that are within the arch. Roll the dowel pins in glue and insert them into the holes, and clamp each assembly (**Photo 3**). Set them aside to dry overnight and then cut each arch along the marks with a jigsaw. Smooth the curves with a belt sander. To complete

the arch assemblies, mark and cut (**Photo 4**) the curved ends and smooth them with sandpaper.

Note: It's important to apply an oil-based deck finish within a day after assembly or at least finish the cut ends to keep them from checking in the hot sun.

Building the lower section of the arbor

Cut the 2x4 and 2x6 cedar wrap pieces (B and C) to length and then screw

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3 LAY parts D, E and F onto the sawhorses and push them together tightly. Lay the template over the pieces and trace the arch shape onto the pieces. Next, mark the dowel hole locations so they fall within the arch. Drill 1/2-in. dowel holes using a self-centering doweling jig. Coat the dowels and surfaces with outdoor carpenter's glue and clamp them overnight.





4 **CUT** the remaining pieces using the Cutting List on p. 39. Trace a curve on the ends of the arch assemblies, the lintels and the seat supports. We used a 9-1/2 in. section of the base of a 5-gallon pail with a radius of 5 in. Cut them out with a jigsaw and smooth the edges with a belt sander.



5 **WRAP** all sides of the pressure-treated 2x4s with cedar. Screw 2x4 cedar on the open sides of the posts and 2x6 on the bench sides of the posts using 3-in. deck screws. Be sure the tops of all the pieces are flush.



6 **CENTER** the lintels along the posts and screw them flush (four screws per post) with the top of the posts with 3-in. deck screws.

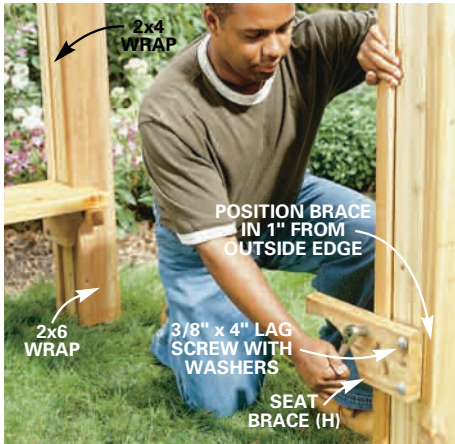
them to the posts as shown in **Photo 5**. The 2x6s will overlap the 2x4s a half inch on each side. Next, cut the lintels to length and the decorative shapes at the ends using the same technique as you did for the arch ends. Screw the lintels flush with the tops of the posts.

Don't mount the seat supports flush with the posts. Instead, measure back 1 in. from the outer edge of the wrapped posts to allow room for mounting the trellis later. Clamp the top of the seat braces 16 in. up from the bottom of the posts and then predrill and attach them to the posts with lag screws.

Note that the seats have a center support (L) connecting the 2x6 planks beneath for stability. Make this piece as well as the trellis and roof lattice by ripping 5/4 x 6 decking in half and then cutting the pieces to length. Screw piece L flush to the back of the seat planks.

Next, preassemble the trellis (parts M, N and P). Glue and screw (use construction adhesive here and 2-in. deck screws) the top horizontal tie 16 in. from the top of parts M and N. Screw the lower tie 22 in. from the bottom of parts M. Make sure the lattice assemblies are square. Set them aside for a couple of hours while the glue sets and then screw them to the seat and stringer above. Screw the center slat of the trellis over the center seat support (L) and then attach the outer slats to the back of the seat and at the top into the outer lintels.

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7 FASTEN the seat supports securely to the posts. Pre-drill the holes with a 5/16-in. drill bit. Then cut and screw the seat planks to the tops of the supports with 3-in. deck screws. Assemble the trellis and screw it in place.



8 FASTEN the stringers (Q) to the front and rear arches to form the arbor roof assembly. Clamp the top of the posts to temporary spacers to keep them parallel while you lift the roof assembly onto the lintels. Toe-screw the roof assembly to the posts and the lintels with 3-in. deck screws (three screws at each location).



9 RIP 5/4 x 6 cedar decking in half to make the roof lattice. Round the cut edges of each piece with a hand plane. Start in the middle and work each way, spacing the slats 2-5/8 in. apart. Screw them to the arches with 2-1/2 in. screws.

Fasten the roof assembly to the posts and lintels

Fasten the arches together with parts Q. Lift this assembly over the lintels (Photo 8), center it side to side and end to end, then toe-screw it in place. **Note:** Be sure to clamp braces to the posts before screwing the roof assembly in place. The clamps will help hold the posts parallel during the process.

Now you're ready to fasten the roof slats (Photo 9) cut from 5/4 x 6 decking that you've ripped in half. **Note:** Buy extra pieces of 5/4 decking for the roof lattice. You'll find that even though you picked straight lumber from the pile at the lumberyard or home center, some pieces will spring out of shape when you rip them with your saw.

Apply a quality exterior finish

We chose an oil stain/sealer that mimicked weathered wood, so even as the finish degrades over time, the appearance will be the same. Before you stain, spread a dropcloth below, especially if you have a patio or stone path under the arbor!



TFH plus

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