

# GARDEN ARCH 4



**Before purchasing tools, timber and materials, read every step thoroughly then talk to one of our experts**

This garden arch features a cross-hatch lattice design on the sides and a curved arch overhead, however the design lends itself to modification. You could forgo the curved arch and replace it with a squared or peaked one. You could also replace or vary the latticed sides with pre made lattice.

The construction of the archway is easiest if you assemble it on the ground and set it in the ground when completed, so have a few helpers handy when it comes to this part.

## Step 1: Selecting Materials

Timbers such as cypress pine, cedar or pressure treated pine are ideal for this project.

If using treated pine you should use an H4 rating for the posts and an H3 rating for the rest of the components. Be aware that the timber is treated with compounds of copper, chromium and arsenic, termed CCA. When using this material:

- Wear gloves and dust masks when sawing.
- Any cut or sawn surface of this material will need resealing to ensure its effectiveness in resisting attack.
- Dispose of any off cuts by burying them. Don't burn them as the smoke and ash are toxic.

The measurements given below are for treated pine ... if you are using another timber you may have to adjust your measurements.

4/2.4m lengths 90mm x 90mm for posts.

2/3 m lengths 290mm x 45mm for the arch.

1/2.1m length 90mm x 45mm for rails.

6/1.8m lengths 45mm x 20mm for vertical lattice.

9/2.4m lengths 45mm x 20mm for horizontal lattice.

4/2.4 lengths 90mm x 20mm for roof lattice.

4/2.1m lengths 90mm x 35mm for temporary braces.  
This does not have to be treated.

Screws should be galvanised and sizes you will need are 75mm, 50mm, 40mm and 32mm.

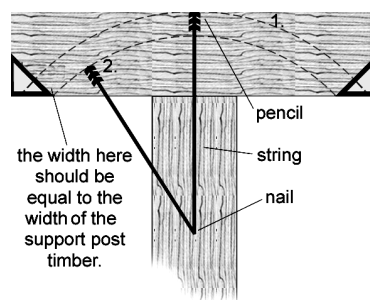
## Step 2: Cutting Out The Arches

This is perhaps the most difficult part of the job, so take your time measuring and cutting.

Each top arch (front and back) is cut out in left and right halves.

To create each half-arch:

Cut the two 290mm x 45mm x 3m lengths in half to make four pieces, then lay two of the pieces on a flat surface at right angles to form a "T."



Measure from the very top of the "T" crossbar to 762mm down the trunk of the "T." At this point (and centred from side to side), drive in a nail and tie a long (non stretchy) string to it. At the string's opposite end, tie a pencil so that, when the string is taut, the pencil is 762mm from the nail. Now, you have a reliable tool for drawing the arches. Alternatively you could use a narrow strip of ply with a nail in

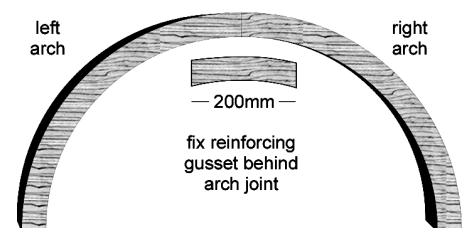
one end and a hole for the pencil in the other.

Arc the pencil from left to right across the entire top crossbar of the "T," to draw the top curve of your first half-arch. Next, shorten the string by 90mm to draw its bottom curve. Finally, using your combination square, mark a 45-degree angle through each bottom corner. Using the line you have just drawn, measure the distance between the 2 arcs ... it should equal the width of the square posts you will be using. If it doesn't you will have to adjust the length of the string and redraw your second arc. Once done, you can cut the 45-degree angles with a saw and then cut out the arch with a jigsaw. Lay out and cut three more arch halves using this piece as a template.

## Step 3: Making The Arches

The arches are formed by butting one left hand and one right hand half-arch together.

The centre join they form will need to be reinforced. Slip some wood scrap under the arch seam and with a pencil, trace along your arch at least 100mm to either side of the seam to create a template at least 8 inches long.



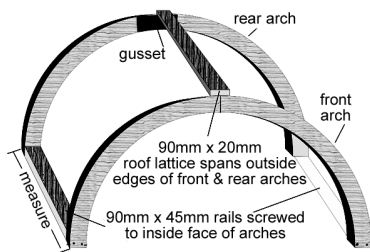
Follow the tracing with your jigsaw and cut out the gusset. Then cut out a second gusset, so there's one for both front and back arches.

Screw and glue each gusset to each arch centre with 65mm galvanised screws and then sand the arches smooth.

## Step 4: Assembling The Arches

The front and back arches are held together by 2 horizontal rails and 7 lengths of roof lattice.

From your 90mm x 45mm timber, cut two 990mm lengths for the horizontal rails. Fit the rails as shown in the diagram (best to do this on a flat surface) and fix them with 75mm screws at each bottom edge of the arches.



Unlike the rails, each roof lattice piece is screwed on top of the front and back arches, not between them, so take an overall measurement of the left rail and front and rear arch

combined. This measurement will be used to cut the arch's roof lattice (it should be around 1080mm if you are using timber from the materials list.

Cut the seven lattice pieces and fit the topmost lattice piece (which goes on first), so its ends cover the centre seams of each arch. Then, drill two pilot holes (to avoid splitting) at each end of the lattice, and fix it to the top edge of each arch with 50mm screws.

Lay out the remaining lattice pieces (three each side of the centre piece) and fix them in the same manner as described above

## Step 5: The Side Lattice

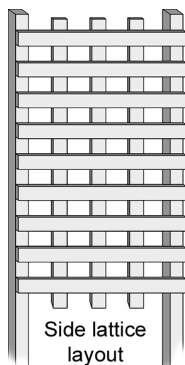
Cut the 18 pieces of side lattice (45mm x 20mm) to the same length as the roof lattice.

The side lattice pieces are fixed horizontally to all four posts, with the first piece set about 100mm from the top of the posts. The rest are then spaced at about 200mm centres down the post. You will have 1800mm of vertical lattice to play with so you can vary the spacing layout as desired.

As with the roof lattice, drill two pilot holes at each end of the lattice, and fix them to the outside of the posts with 50mm screws.

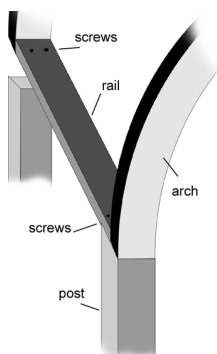
The vertical lattice (45mm x 20mm) can now be fixed to the horizontal lattice. This not only adds to the overall look, it also provides additional reinforcement.

Position one piece of lattice centrally to the horizontal lattice and fix it to top and bottom side lattice with one 32mm screw at each end. Remember to pre-drill the holes. You can now fix the remaining pieces equidistant from the centre piece.



## Step 6: Attaching To Posts

Choose a flat area and lay the top arch assembly on its back (so a face touches the ground) and butt the top of one side assembly to the rail of the arch assembly.



Drill two pilot holes through each arch rail into the top of each post and fix with two 75mm galvanised screws.

Repeat this process with the second side assembly.

While the completed arch is laying down, braces need to be attached to stabilize it before moving.

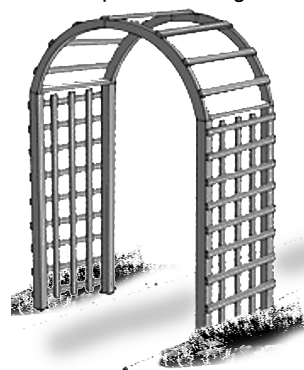
Cut four lengths of the 90mm x 45mm timber reserved for the braces so that they span the left and right posts. Two are for the front of the arch and two are for the back.

Making sure that the posts remain parallel to each other, fix the braces to the posts, one near the top of the posts and one towards the bottom of the side lattice. Do this to

the front and rear posts. The overhang of the braces will serve as "handles" when moving the structure to its final position.

## Step 6: Installing The Arch

Using some helpers, stand the assembled arch up onto its legs and using the braces carry it over to its final position. Use the four legs to mark the position of the post holes and move it aside. The holes should then be dug at least 450 mm deep by 300 mm square. Hiring a post-hole digger might save you a lot of work here. Put about 150mm of gravel into each hole.



Put the posts back in the holes and check that the posts are plumb (straight up and down) with a level. If necessary, lift the posts back out of the holes and shovel in, or take out, gravel to correct any problems, and check again that the posts are plumb.

Once everything is plumb, fill the holes with quick setting concrete, being sure to follow the directions on the bag. Allow at least 24 hours for the concrete to cure, then remove the temporary braces.

## Step 7: Finishing Off

Depending on the "look" you're after, you can let your new garden arch weather naturally or you can use 2 or 3 coats of a suitable outdoor acrylic paint or oil based stain.

Many people paint their projects prior to assembly to ensure that all pieces have a complete coating of paint.

## Garden Arch Hints

- This garden arch plan is very versatile. With an adjustment here and there you can convert it to a flat or peaked arch.
- Incorporate the arch into a fence or hedge ... the best garden arches lead to other unseen areas of your garden.
- Use your garden arch as a foundation for climbing plants. Roses look great on an arch, but keep them trimmed.
- Experiment with different looks by changing the layout of the lattice work.
- With a few modifications you could turn your arch into a module and add sections for a longer walk through.

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