



This project makes a great gift for children and collectors alike.

Building A Rocking Horse

Skill Level: Intermediate

Perhaps you have a child who would benefit from an all-time classic wooden toy—or maybe a member of your family is a collector of dolls, carousel horses or country furnishings. In any case, this article presents information on building a sturdy, old-fashioned rocking horse. It is not a difficult project, requires only common tools and produces satisfying results for even inexperienced woodworkers. The whole project can be constructed from one 2" x 10" x 8' board, so the cost is minimal. Lowe's is happy to provide this information as a [service](#) to you.

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Tools & Materials


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Tools

- [Jig saw](#)  or [band saw](#) 
- [Hand saw](#)  or [table saw](#) 
- [Drill/driver](#)  with bits with 3/8", 5/8", 3/4" and 1 3/8" [bits](#) 
- [Block plane](#)
- Divider or compass
- [Clamps](#) 
- [File](#)
- [Dust mask](#)
- [Goggles](#)
- Hearing Protection

Materials

- 1- 2" x 10" x 8' (spruce)
- 20' length of 5/8" diameter braided nylon rope (the soft, silky stuff!)
- Leather-like material for ears
- Wood glue
- (14) 2 1/2" #10 screws
- (10) 1 3/4" #8 screws
- (14) 3/8" plugs or a 3/8" dowel to make plugs glue
- [Sandpaper](#)  (120 and 220 grit)
- Finish Materials

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To Begin

Use the [drawings](#) provided to generate full-size paper or posterboard templates of the project components. When scaling up the drawings, try not to be overly concerned about making the templates exactly like the drawings. They are provided as a reference to help you get started. They show the proportions of the project elements and illustrate how they are assembled, but they are not set in stone. In fact, you could put a dragon's head in place of the horse's head if you wish. Do not increase the curve on the bottom of the rockers. Do make the curve slightly flatter in the center of the rockers so the horse will sit up straight.

As you lay out and build your own rocking horse, keep in mind the safety of any child who may ride it. Even if you build the horse just to add to your home's decor, a child who visits may find it irresistible. Keep the following safety points in mind:

- All edges and corners should be gently rounded.
- Do not use treated wood in toy construction.
- Use only non-toxic finishing materials.
- The entire project can be built from a single 2" x 10" x 8'. Use your templates to trace the component outlines onto your wood and cut out the pieces in preparation for construction. Take care that there are no significant knots (larger than about 1/2") in the wood you plan to use for the rockers—they weaken the wood. You want your rockers to be strong enough to withstand the abuse dished out by an enthusiastic child.



[Click on the graphic for plans.](#)

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A Note About Using Screws

This project is assembled with screws. In areas where you don't want the screws to show, try this: Before installing a screw, drill a 3/8" [countersink](#) hole in the place where the screw will go. The hole should not be deep—1/4" will be fine. For a cleaner hole, special countersink bits are available. Put the point of the screw in the bottom of the hole and tighten it down. After the screw is in place, a small piece of 3/8" dowel can be glued into the hole over top of the screw head. The dowel is then sanded flush with the surrounding surface. This makes an attractive joint that looks as if it has been pegged. If you wish, you can also use 3/8" decorative plugs. They protrude a little from the hole and do not require trimming or sanding.

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The Head and Mane

(Consult the [head detail](#) drawing while completing this section)

Step 1: [Round over](#) all the [edges](#) of the head except the base of the neck where it will be joined to the seat.

Step 2: Secure the head vertically in a vise or clamp. Using a pencil, mark a series of fourteen points about 1 1/4" apart along the edge of the mane area of the head. Using these points as starter guides, drill the holes vertically into the edge of the head using a bit the same diameter as your rope (5/8"). Drill holes about 2 1/2" deep.

Step 3: Remove the head from the vise and lay it on its side. Trace the cut line for the mane installation directly on the head. Carefully cut out this line with a jigsaw or band saw. Don't backtrack or re-cut areas in an attempt to stay on the line. The object here is to have as small a [kerf](#) as possible. (A kerf is the area removed by the blade during a cut). After the rope is installed, the mane area will be glued back in place.

Step 4: You will need seven 12" pieces of rope. First wrap the rope with masking tape in the areas to be cut, then cut through both the tape and the rope. This will prevent the ends from unraveling.



With a little paint and imagination, the head looks just like a real horse.

Step 5: For each piece of rope, thread both ends through adjacent holes in the mane section from the inside out. Have the rope halves extend equally from the area where the mane exits the wood.

Step 6: Using a sharp knife or chisel, carefully remove the wood from the edge of the head section between the holes. The object is to create a cavity for the loop of rope to fit in so the mane section can be glued back to the head without the rope interfering. Test the fit of the mane section against the head. It should fit tightly back into place and your horse should look like it has a braided main. If it doesn't quite fit yet, repeat this step until it does.

Step 7: Screw the mane section back to the head using two 2 1/2" #10 screws. Later, when the rocking horse is complete, you will unbraided the rope and comb out the silky mane. Then you can trim it with scissors for the desired look. For right now, wrap the ropes with masking tape to protect them while you continue with your work.

Step 8: Mark the placement of the hole for the handle. Drill the hole. Later, when the project is complete and ready for the finish, insert a well-sanded 8" piece of 3/4" dowel into the hole to serve as the handle.

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Attaching the Head to the Seat

Step 1: Round off the edges of the seat and sand it well all over. Then, lightly mark the centerline of the seat. This will help you find and mark the location where the head will join it.

Step 2: Using the centerline for reference, drill a 1 3/8" hole through the top rear of the seat for the tail. Don't drill the hole straight through at a 90 degree angle, slant it a bit so the tail will emerge at a more natural angle.

Step 3: Test fit the head to assure that it sits squarely on the seat. If it doesn't, make any necessary adjustments to the base of the neck with a block plane.

Step 4: Apply glue to the base of the neck where it will join the seat. Attach it with two 2 1/2" #10 screws. This will not create an adequate joint, but it will clamp the head in place while you perform the following steps.

Step 5: Drill two 3/8" holes, equally spaced, through the seat and into the neck from beneath. Make the holes about 3" deep.

Step 6: Cut two pieces of 3/8" dowel 2 3/4" long, and gently round one end of each.

Step 7: Roll the dowels in a small puddle of glue and insert them, rounded end first, into the holes. Drive them all the way into the hole to secure and offer support to the head/seat joint. The dowels should not protrude from the holes. If they do, trim them and sand them flush with the bottom of the seat.

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Assembling the Rocker Base

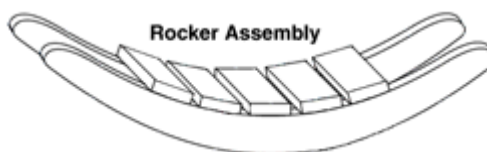
Step 1: After cutting out the rockers, clamp them together. File and sand them to match each other as closely as possible. Round the edges of the bottoms. For the tops of the rockers, gently round the edges so they are not sharp, but allow the rest to remain essentially flat. The rocker reinforcement strips will be attached in this area.

Step 2: You will need five 3" x 5/8" x 12" rocker reinforcement strips. To get them, cut out three 3" x 1 1/2" x 12" pieces from the 2" x 10". Then, rip each of these pieces in half. Gently round the edges of these pieces and sand them well. Predrill a 3/8" countersink hole in the center of the ends of each of these boards, about 3/4" from the edge.

Step 3: Mark the top center of the two rockers. Place marks 1 1/2" to both sides of the center-line on each rocker. This defines the area where the first reinforcement strip will be attached.

Step 4: Spread the rockers 12" apart and put the center reinforcement strip in place. Make any adjustments necessary for a good fit, then glue and screw the strip in place on both rockers. Use 1 3/4" #8 screws. Measure between the rockers at the front and back. Make adjustments as necessary until the two measurements are the same.

Step 5: Using a couple of 1/8" thick pieces of scrap as spacers, install another strip 1/8" behind the first. Do the same in front of the center strip. Finally, install the two outer strips in the same manner.



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Assembling the Legs

The legs of this rocking horse are 2" x 1 1/2" x 10 1/4". They are screwed to mounting blocks

which, in turn, are screwed to the seat. On the rocker end, screws pass from underneath through the reinforcing strips just next to the rockers and into the legs.

Step 1: If you haven't already, cut out the wood for your legs. You will need four pieces, 2" x 1 1/2" x 10 1/4". Also, you will need to cut out the mounting blocks to which the legs will attach (see illustration below). Don't round the edges of the legs yet. You'll do that after they are assembled. Both of the leg assemblies are constructed in the same way.

Step 2: Align the tops of two of the legs with the top of a support block as illustrated (at right). Use glue and two 2 1/2" #10 screws to attach each leg. After assembly, cut the excess wood off the top of the legs in a line with the top of the attachment block. Round the edges of the legs and attachment block and sand well.

Step 3: Using a block plane or an angled table saw blade, trim the top of the leg assembly to a slight angle (4 degrees nominal). The exact angle is not critical—you just want to have the front legs extend forward and the rear legs extend rearward a bit so they look more natural.

Step 4: Repeat steps 2 and 3 for the other leg assembly.

Step 5: Drill [pilot holes](#) through the support block for the two 2 1/2" #10 screws which will extend into the seat.

Step 6: Have a friend hold the seat assembly approximately in place over the rocker assembly. Put the legs in place between the seat and rockers so the feet are centered in the outside reinforcement strips of the rocker assembly, fore and aft. After you find the proper placement, draw an alignment mark under the seat to indicate where the leg assemblies should be attached.

Step 7: Turn the seat over and, using your alignment marks, attach the legs in place with the screws. Don't use glue at this point, just in case you have to make slight adjustments later to make everything line up just right.

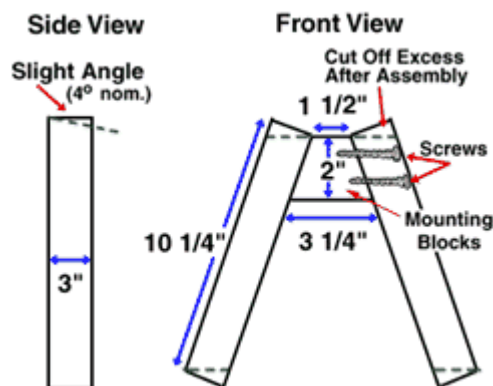
Step 8: Place the horse on the rocker assembly. At this point the project will look like a rocking horse except for one thing—the legs won't properly fit against the rocker assembly. To determine the correct angle to cut the legs to fit, it will be necessary to [scribe](#) the legs. Do this as follows:

1. Set a divider or compass so the points are 1/2" apart.
2. Put one end of the divider against the reinforcement strip on the rocker assembly and the other against the leg.
3. Carefully mark around the leg at an equal distance from the reinforcement strip (the divider will maintain the distance). You will have the exact lines necessary to cut the leg to fit.
4. Repeat the process for each leg.

Step 9: Using the marks you've made around the legs as guides, cut the bottoms off the legs.

Step 10: Place the horse on the rocker assembly. It should fit fairly well. Make any necessary adjustments until you are satisfied with the fit. Remember, you didn't glue the leg assemblies to the seat bottom, so you can move them a little if necessary to get the correct placement on the rocker assembly. When everything is adjusted, detach, glue and reinstall the leg assemblies to the seat bottom.

Step 11: Put glue on the base of the legs and put the horse in place on the rocker assembly. Install screws from underneath, through the reinforcement strips and into the legs.



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Tying Up the Loose Ends

You may choose to paint the horse's jaw line, mouth, eyes and bridle. If you wish, a nice bridle could be made from imitation leather material. Such a material would also be good to create a set of soft, free-standing ears. When finishing your rocking horse, keep the mane wrapped in masking tape and use care in the areas where the rope meets the wood. The tail can be added after the finish is applied. To make the tail, glue and tightly bind six 12" pieces of soft nylon rope (5/8" diameter) together at one end using string or yarn. After it has dried, glue the bound end into the hole previously drilled for the tail. Again, allow the glue to dry. Unravel the braids, comb it out and trim as desired.

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Finishing Hints

You may finish your rocking horse with any nontoxic finish. The horse can be painted, but the natural beauty of wood lends itself to mimicking a horse's coat. Darker finishes contrast well with a stark white main and tail. Water-based polyurethanes are environmentally friendly and would work well for this project. They do not have a strong odor, and you can clean up afterward with water. They do require a different finishing technique, however. Before applying the finish, rub down the project with a damp cloth. Allow the wood to dry and then sand to remove the raised grain.

You may want to do this a couple of times to reduce the tendency of the water in the finish to raise the grain when it is applied. (The same technique should also be used before applying water-based stains.) If you've never used water-based polyurethane before, don't be alarmed by the white milkiness of the product as it is applied. It will quickly dry to a completely transparent clear. Unlike solvent-based finishes, it will not lend an amber tint to the wood. Water-based polyurethanes also dry more quickly, requiring less time between coats.

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