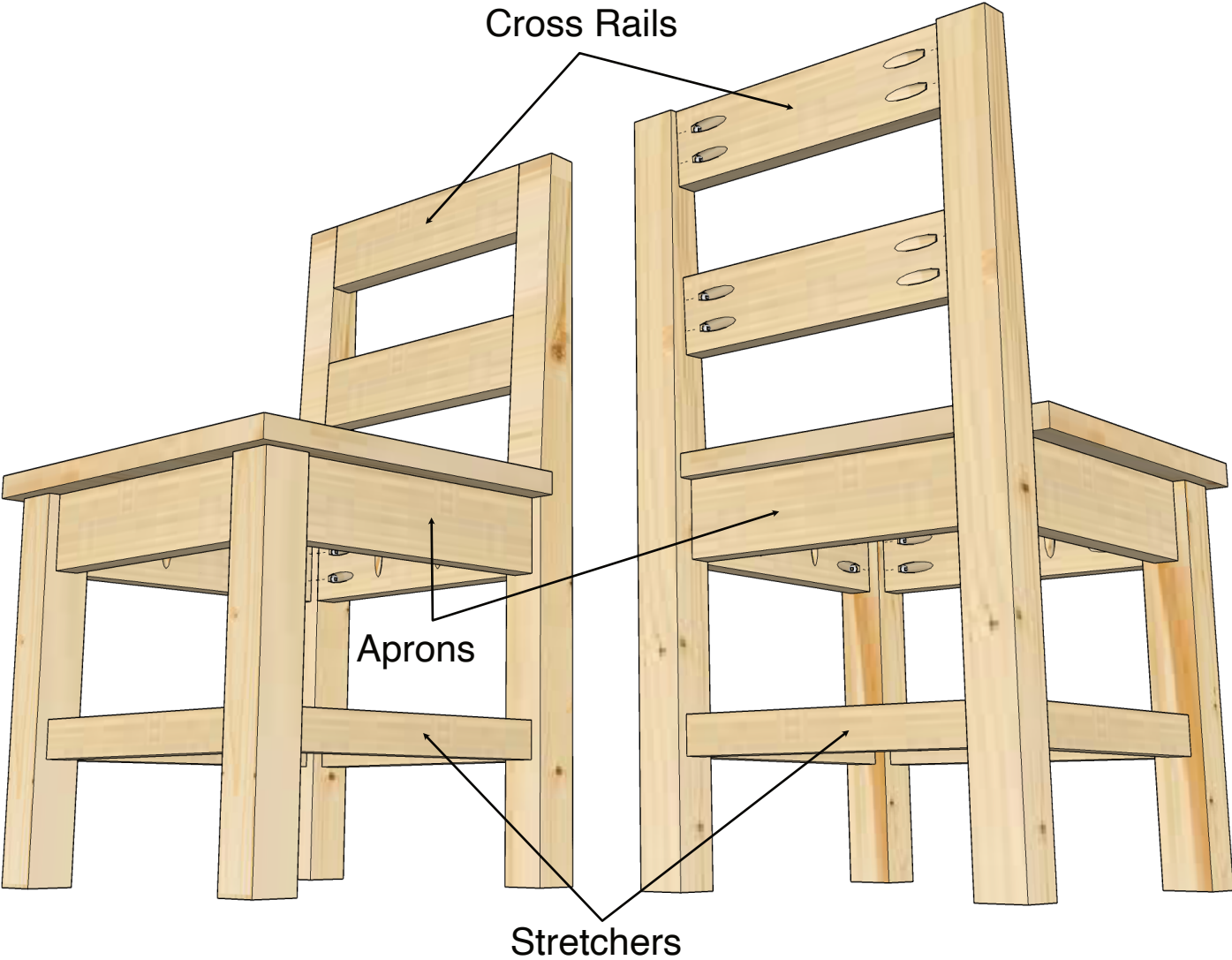


# Kid's Chair

The assembled chair



# Introduction

These plans are for building a chair to accompany the smaller kid-sized desk. This version uses pocket hole joinery. The Kreg pocket hole jigs are inexpensive and widely available, as are several others from various vendors.

Chairs are a little more complicated to build due to the joinery techniques and tools used, and the glue-up involved, but they can be done by anyone with reasonable woodworking skills.

**YOU MAY USE ANY JOINERY TECHNIQUE YOU WISH!** The important idea is to preserve the overall size of the chair, notably the seat height.

The chair can be made from select grade pine or poplar for very little money. Finding poplar in sufficient thickness for the legs requires going to higher-end wood stores, so it may not be worth it for some. It is possible to glue up two  $\frac{3}{4}$ -inch boards as an alternative but this is more time consuming.

Two chairs can be made from one 1×8×6 ft long common board, one 2×4×8 ft long stud, and two 1×3×6 ft long common boards. This puts the low-end cost estimate at around \$17 per chair if using pine, not counting glue and miscellaneous supplies.

The seat is made from edge-gluing 1×8 boards (7- $\frac{1}{4}$  inch actual width) together to achieve the final width of 13- $\frac{1}{2}$  inches after trimming. Assuming your boards are cut square, the seat can be simply edge-glued and clamped until dry, or you can add a little more stability by joining them with biscuits

or alternating pocket hole screws, based on your skill set.

The legs are ripped from the 2×4 studs to final dimensions of 1- $\frac{1}{2}$  inches × 1- $\frac{1}{2}$  inches.

A cut list is included in these plans.

## Tools & Materials

A table saw is essential to rip the 2×4 boards to 1-1/2 inches wide for cutting the chair legs. If you have access to a planer or drum sander you may want to cut them thicker and then bring them to final thickness with those other tools. It is also useful for cutting the chair seat to size following glue-up. A circular saw with clamping guide could also be used but is more cumbersome.

A mitre saw is perfect for cutting pieces to specific lengths but you can also use a table saw with an accurate mitre cross cutting attachment.

You will need a pocket hole jig, as previously mentioned. 1- $\frac{1}{4}$ -inch screws are used for the main assembly and 1-inch screws are used to attach the seats.

Any interior wood glue will suffice for all the joints.

A wide planer or belt sander is used to finish the seat following glue-up but a hand plane or simpler sander will also work. All the boards are sanded to at least 120-grit before assembly.

Clamps capable of opening to 16 inches or more are necessary for assembly. Ideally, the use of a dedicated pocket hole clamp,

such as the Kreg Automaxx or similar, will speed assembly.

*You are highly encouraged to read through these instructions before beginning.*

## Chair Construction

### Cut out all the pieces

1. Begin by cutting out the seat pieces from the 1×8 board. Cut these about  $\frac{1}{4}$  inch longer (13-inches) than specified so they can be cut to length after gluing. [Optional] Cut three #20 biscuit slots into the boards prior to edge-gluing them. Edge glue the boards together and clamp, allowing at least 24 hours for the glue to cure. After the glue has dried, cut the seat to the final dimensions of 13- $\frac{1}{2}$  inches wide by 12- $\frac{3}{4}$  inches long (see illustration). You could also join the boards together using pocket hole screws in alternating directions and glue. Use a bandsaw or hand saw to cut the notches out of each corner along the back edge of the seat. Plane or sand the boards flat on both sides, finishing with 120-grit sanding.
2. Cut the leg pieces. It is easier to cut the legs to length from the 2×4 board first, then rip them to 1- $\frac{1}{2}$ -inch wide final thickness. The rear legs are 24- $\frac{1}{2}$  inches long and the front legs are 12- $\frac{1}{2}$  inches long. If you have access to a taper jig, cut a taper in the rear legs starting at 13- $\frac{1}{4}$  inches up from the bottom, to create a 1-inch width at the top of the leg. This is to create a slight incline in the backrest and is not absolutely necessary.
3. Cut the four aprons and two cross rail pieces from the 1×3 board. Then rip the remaining 1×3 board and 1×8 board into

~1- $\frac{1}{4}$ -inch wide strips, cut to the same 9- $\frac{1}{2}$  inches. These will make up the lower chair stretchers (see illustrations).

4. **Drill pocket holes.** Drill two pocket holes into the ends of each apron and cross rail pieces. The aprons each get additional pocket holes drilled into one edge for attaching the chair seat. These are 3- $\frac{1}{4}$  inches from the ends of the aprons.
5. Drill a single pocket hole into the ends of each stretcher.
6. With all the chair pieces cut out, sand them up to 120-grit sandpaper before assembling the chair. Sand the edges and give them a slight roundover to avoid sharp edges.

### Assemble The Chair

1. Begin assembling the chair by creating a left and right side assembly. Apply glue to the end of each piece and clamp into the final position. The aprons and stretchers should be centered, set back  $\frac{3}{8}$ -inch from the surface of the legs. Drive in 1- $\frac{1}{4}$ -inch pocket screws. The clamps can be removed after the screws are in place.
2. Two chair sides can now be joined by first attaching the top cross rail. This is flush with the top of the rear leg/back support, and flush with the front surface. Apply glue to the ends, clamp into place, and drive in 1- $\frac{1}{4}$ -inch pocket screws. The second cross rail is attached in a similar fashion, 5- $\frac{1}{2}$  inches below the first.
3. Next attach the rear apron. This piece is set flush with the front surface of the rear legs. Next attach the rear stretcher.
4. Finish the main assembly by attaching the front apron and stretcher.
5. Set the chair on a flat surface and ensure everything is in alignment before the glue completely dries. Even with the screws in

place, minor adjustment is still possible. Make sure all legs touch the surface and then apply clamps as necessary to hold this configuration until the glue completely dries, about 12-24 hours. Set a chair seat in place and apply heavy weights if necessary.

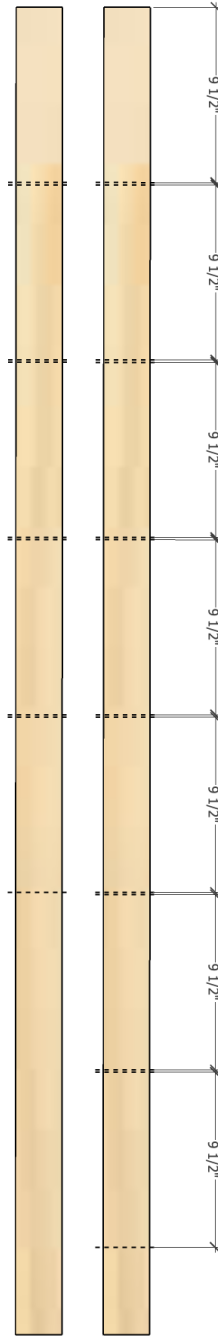
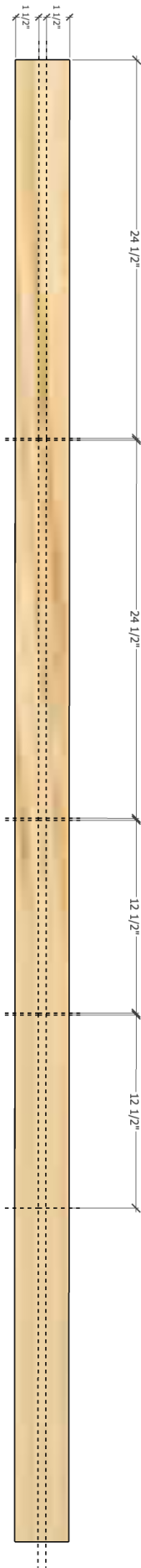
6. Complete the chair by attaching the seat. Place a seat on the table and turn the chair upside down over it and align it. When everything looks good, drive in 1-inch pocket screws to hold the seat in place. *Do not use glue to attach the seat.* We want to allow for seasonal movement without causing warping of the seat. Another alternative to attaching the seat is to use standard furniture z-clips and cut slots into the side aprons.
7. Now that the chair has been assembled, sand everything with a final 150 or 180-grit paper and wipe away any dust using a non-damp cloth.

# Kid's Chair

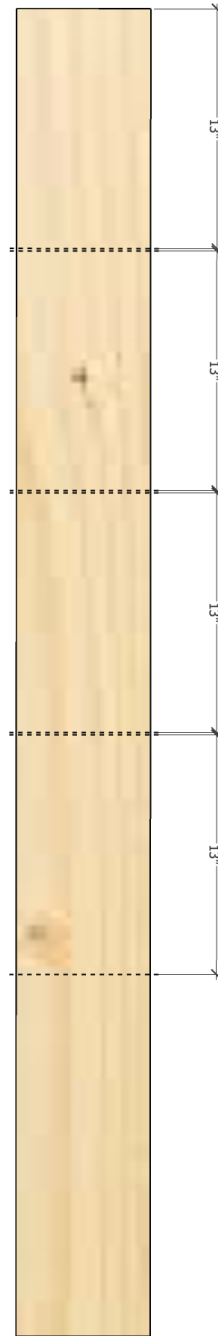
## Cut List

Cut stretchers from remaining section of 1×8 board and 1×3 board.

2×4×8 ft  
ripped to two  
1-1/2 × 1-1/2



1×3×6 ft  
(2)

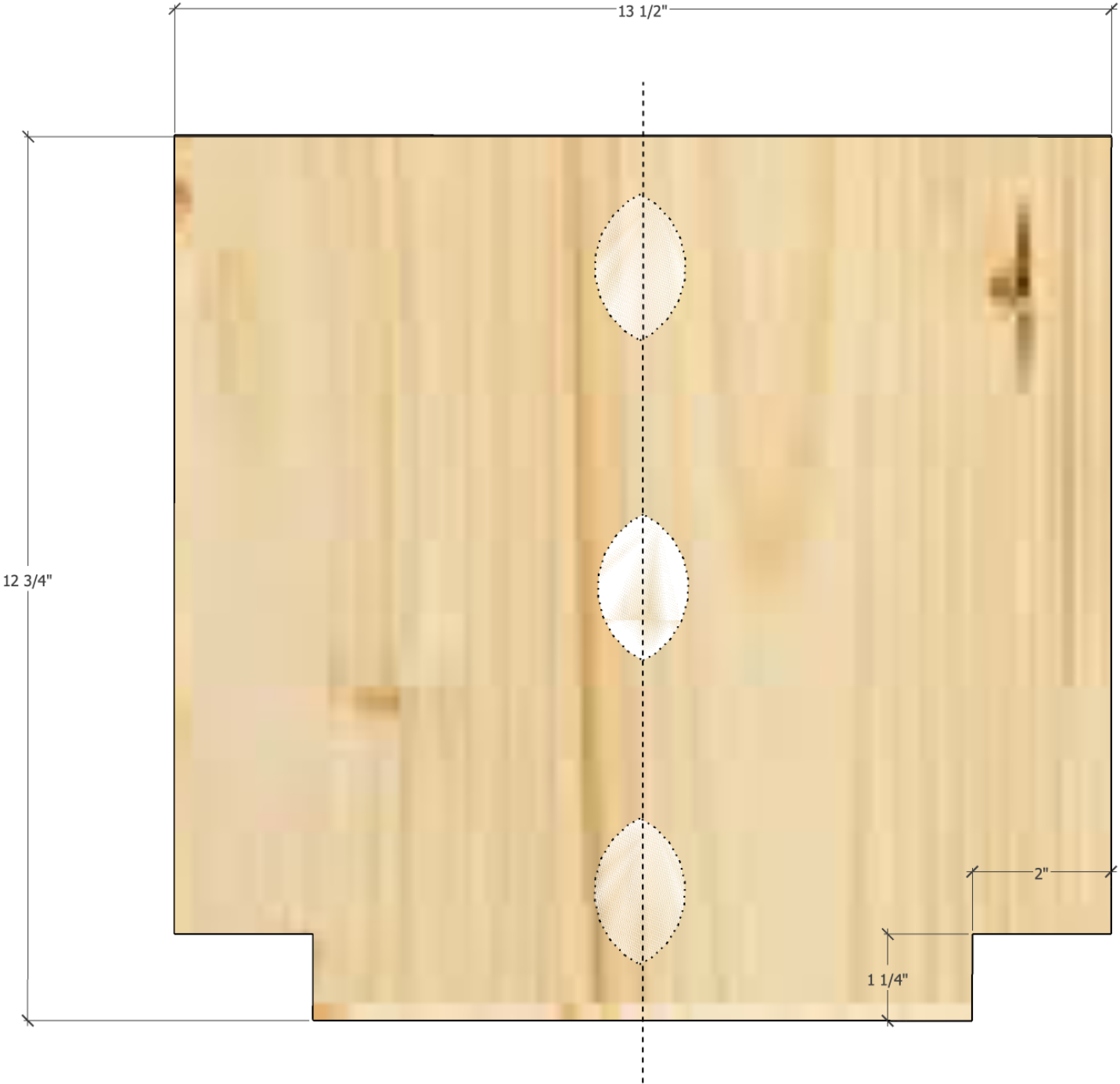


1×8×6 ft

# Kid's Chair

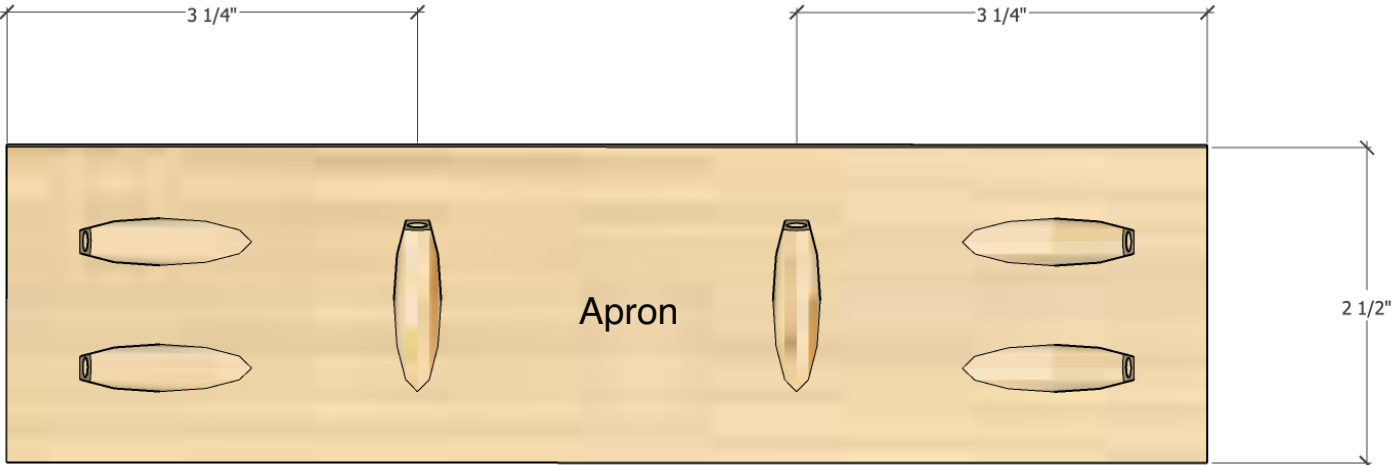
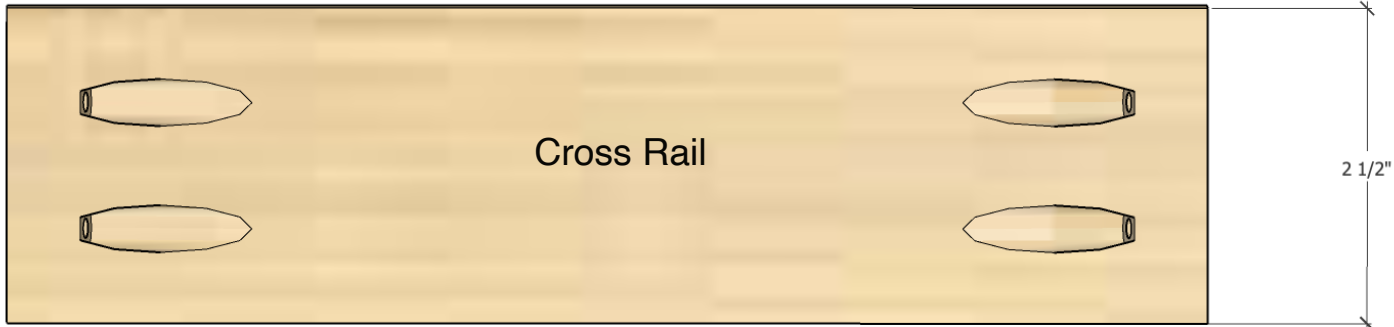
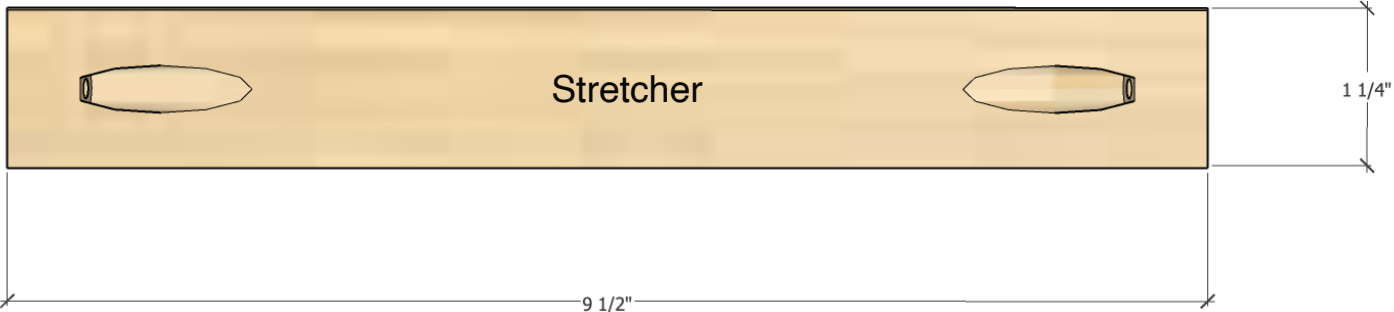
## Chair Seat

Ovals show approximate locations to place biscuit joints. You could also use pocket hole screws from alternating directions to join boards, or simply edge-glue them.

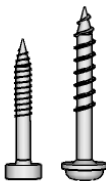


# Kid's Chair

## Cross Rails, Aprons, and Stretchers



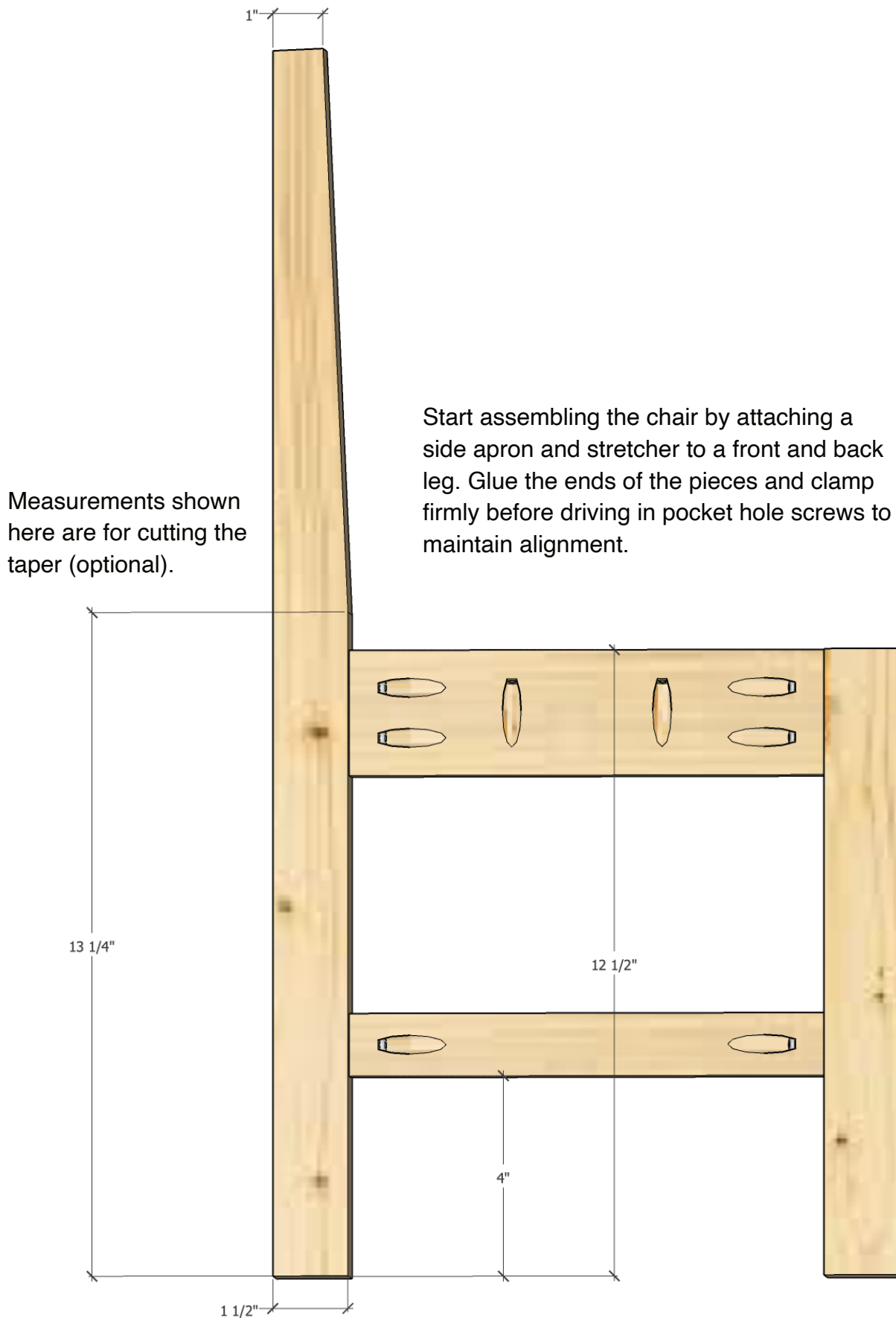
1-inch pocket hole screw for attaching seat.



1-1/4-inch pocket hole screw for assembling chair.

# Kid's Chair

## Side Assembly





# Kid's Chair

## Overall Dimensions

