The Builders Challenge

Season 7 Charging Table Novice Build Plans

**Before using any tool, be sure to read and become familiar with operating instructions and safety features. The Builders Challenge is not responsible for any injury or harm to person or property during this build. These original build plans are not for resale or redistribution without written permission. However, feel free to recreate your own original plans for your build.*

Measurements: 24.75” H x 24” W x 17.50” D

Materials Needed – Estimated Material Cost: $65.00

- (2) 2x2 by 96” - *Premium Select 2x2’s will have all 4 sides square
- (1) 1x5 by 96”
- (2) 1x4 by 96”
- (1) ¾” x 24x48 sanded plywood
- (1) 5mm x 24x48 underlayment
- (1) ½” x 48” wooden dowel

Supplies Needed:

- **Wireless Phone Charger**
- **Wood Glue**
- **1-1/4” Pocket Hole Screw**
- **Drawer Pull**

Tools Needed:

- Saw (the entire build can be completed with a circular saw, miter saw or table saw)
- Drill/driver
- Speed Square
- Pocket Hole Jig (Kreg R3 Jr. is a great starter kit)
- Tape Measure
- ½" drill bit or ½" forstner bit
- Hand saw (I like flush cutting saws for dowels)
- Random orbit sander

Optional Tools For Inset Charger:

- Plunge Base Router
- Straight Cut Router Bit
- Hot Glue Gun or Double-Sided Carpet Tape

Cut List:

Table Top

- (2) 1x4 x 24"
- (2) 1x4 x 17.50"
- (1) ¾" sanded plywood 10.50" x 17" or (3) 1x4 x 24" if method used

Legs

- (4) 2x2 x 24"

Drawer Box

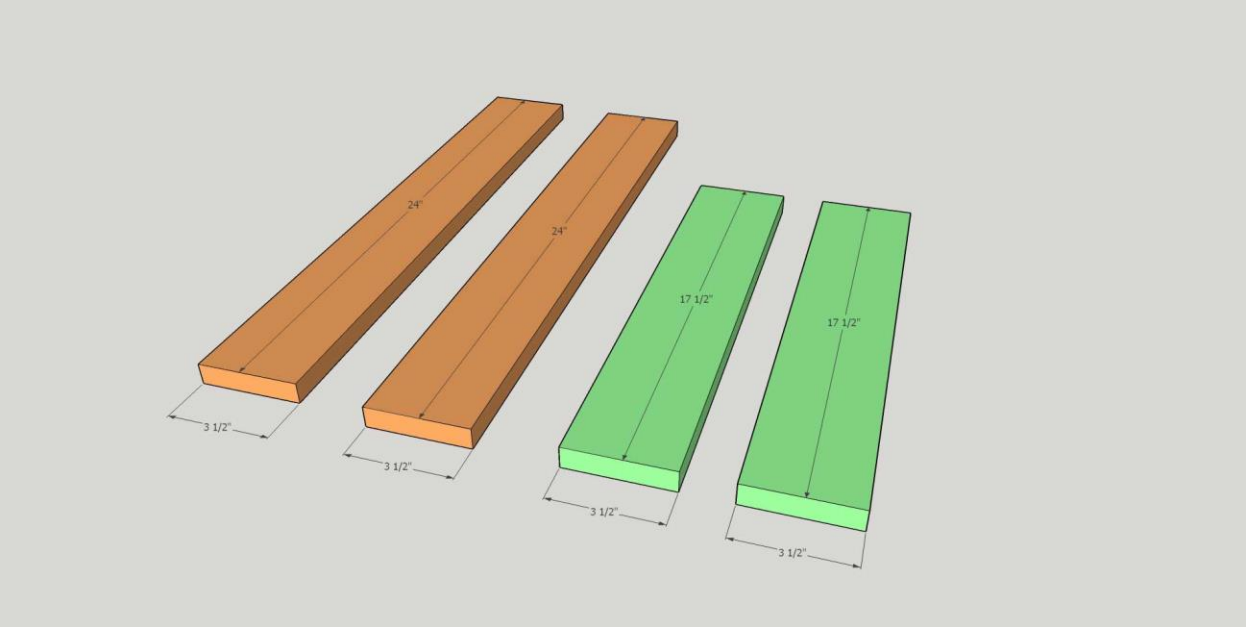
- (1) 1x5 x 21"
- (2) 1x5 x 14.50"
- (1) ¾" sanded plywood 14.50" x 21"

Drawer

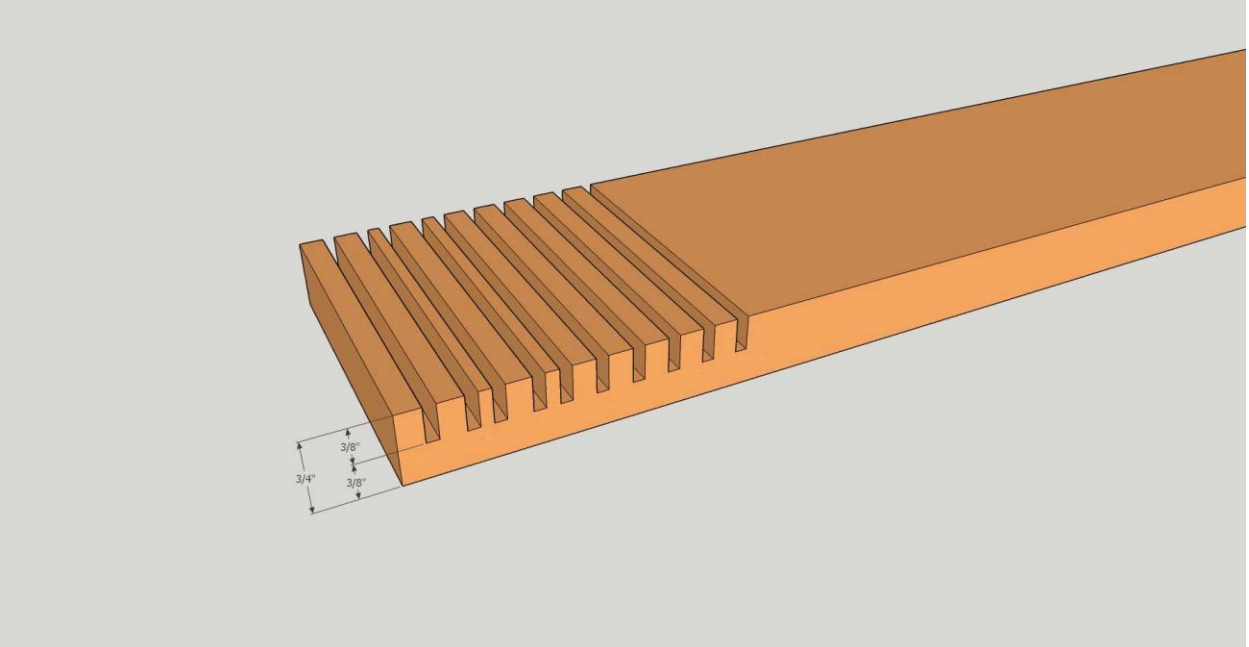
- (2) 1x4 x 13"
- (2) 1x4 x 21"
- (1) 1x5 x 21"
- (1) 5mm underlayment 14.50" x 21"

Top Assembly - Frame

*Note give the half lap joints a try on scrap wood to perfect your cuts. If the lap joint seems too difficult you can always join the pieces with pocket holes and skip the lap joint. You'll need adjust the measurements to a pair of 24" and a pair of 14" 1x4's if you remove the lap joint.



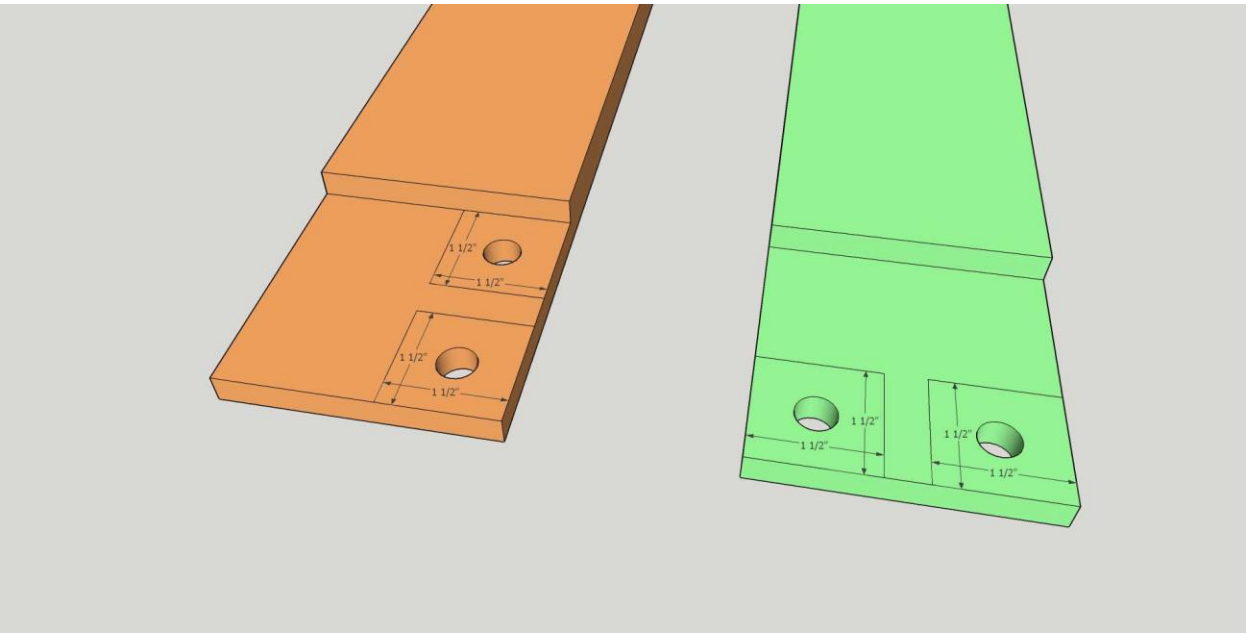
- Cut two pieces of 1x4 to 24"
- Cut two pieces of 1x4 to 17.50"



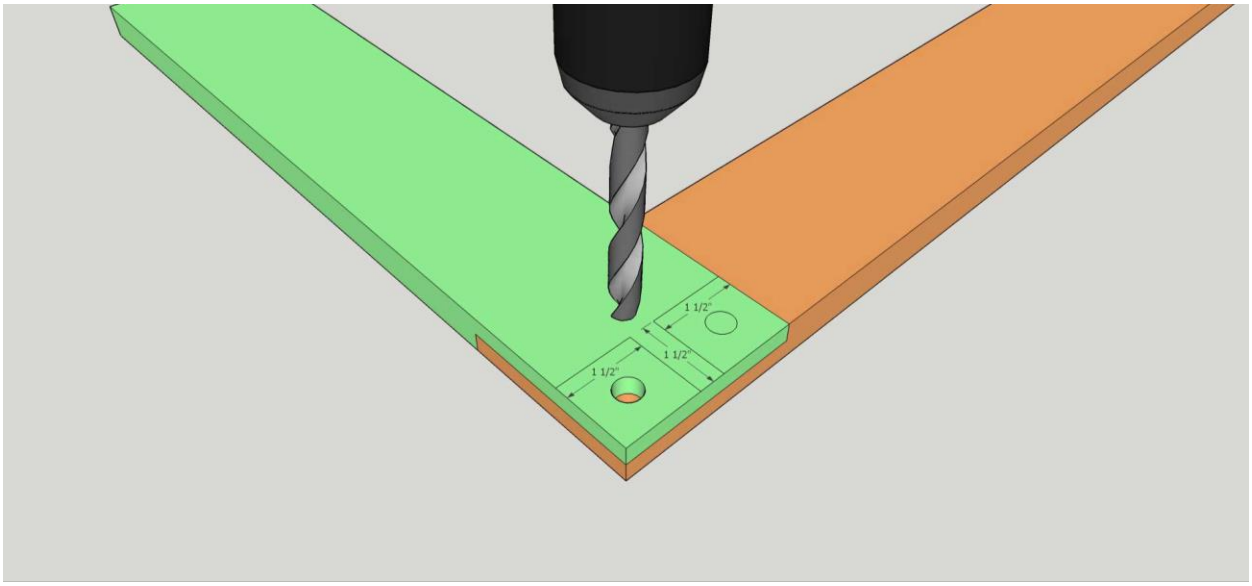
- Cut half lap to 3.50" x 3.50" and 3/8" deep (half the thickness of a 1x4) on the ends of each 1x4
- **Need help cutting half laps?** **Check out Adam's YouTube tutorial!** (Dado cut method shown above)

Top Assembly – Frame Continued

- After you've checked the fit of the half laps, use a ½" drill bit or forstner bit to pre-drill holes for the securing dowels.
- For the 24" (orange) 1x4, the holes will be drilled along the length of the half lap and the 17.50" (green) 1x4 will have the holes drilled on the end.
- The 1-1/2" x 1-1/2" spacing is so the 2x2 legs match up to the holes for assembly

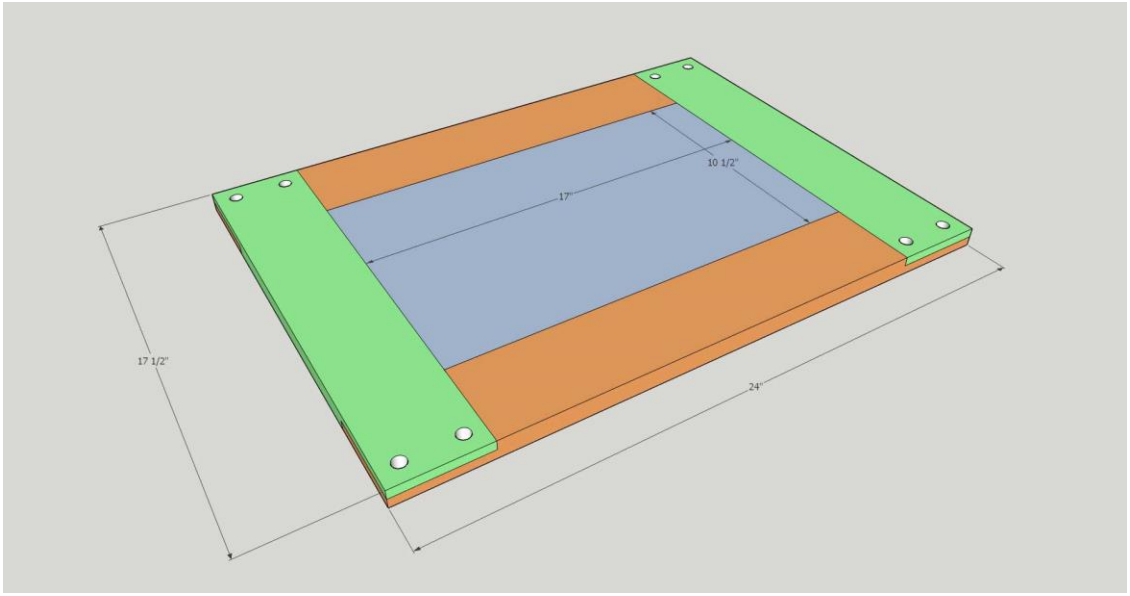


Pro Tip – Temporarily assemble (tape or clamp) your half lap joints to make the 17.50" x 24" frame before drilling the holes for the dowels. If you try to pre-drill before assembly your holes might not line up perfectly.



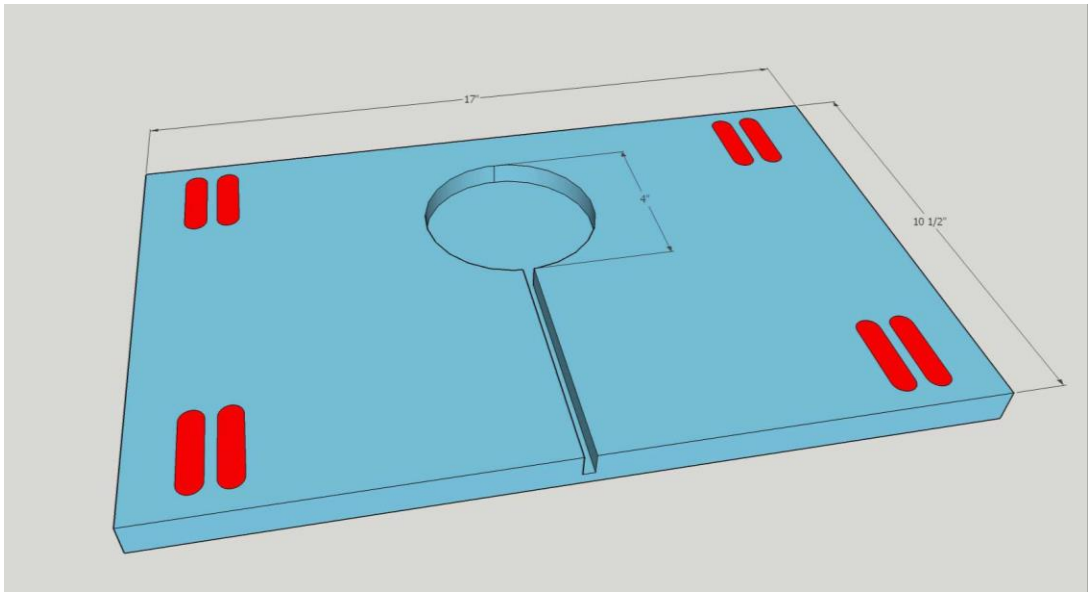
Top Assembly – Charger Insert

You'll need a 17" x 10.50" rectangle to fit within your frame for the wireless charger. If you have a router with a plunge base you can use the first method. If you are more comfortable cutting dados (*like in the video tutorial for the lap joints*) you can use the second method.



Charger Insert - Router Method

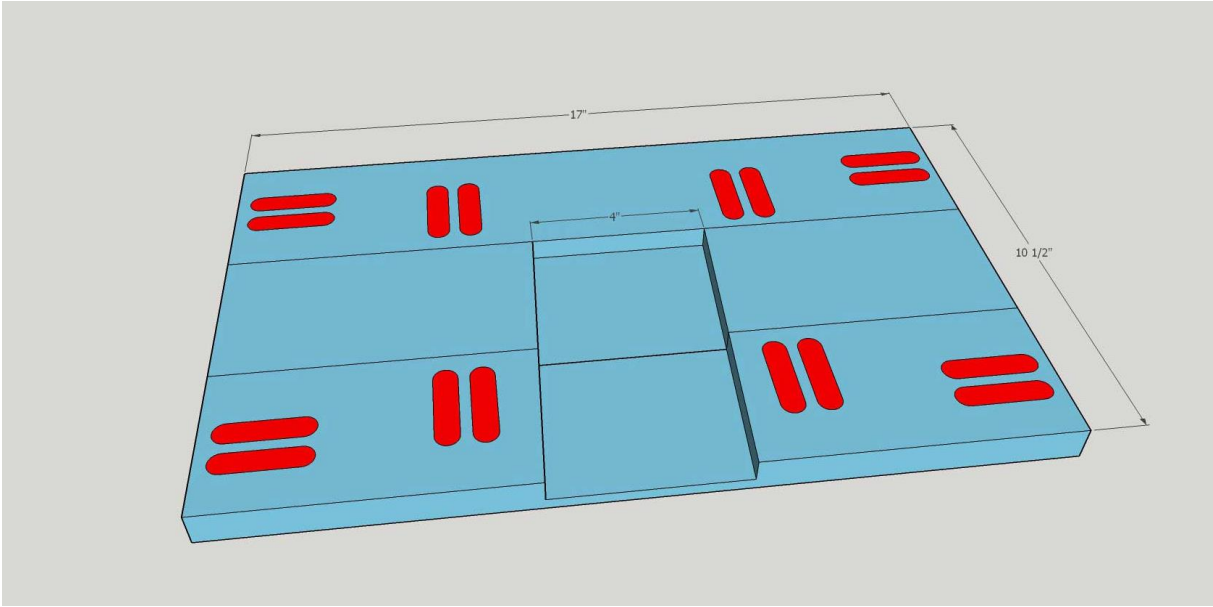
- Cut a piece of sanded plywood to 10.50"x17" then center and trace the wireless charger
- Using a downward spiral bit in your plunge base router, cut out the shape of the charger and the cord, go no deeper than ½" with the depth. It doesn't need to be perfect.
- Pre-drill ¾" pocket holes for assembly to the frame



Pro Tip – Don't route the full ½" depth on your first pass. Take 1/8" to ¼" passes for better accuracy.

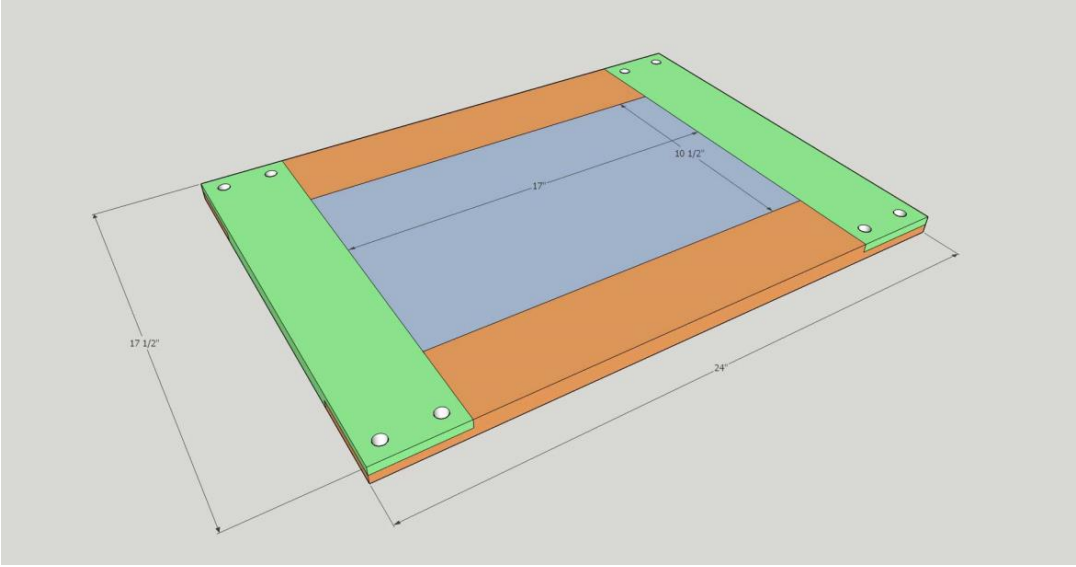
Charger Insert – Dado Method

- Cut three pieces of 1x4 to 17”
- Using the previous dado method, cut a centered 4” dado groove into two of them with a maximum depth of ½”
- Attach with ¾” pocket holes and 1-1/4” pocket holes screws and wood glue
- Pre-drill ¾” pocket holes for assembly to the frame



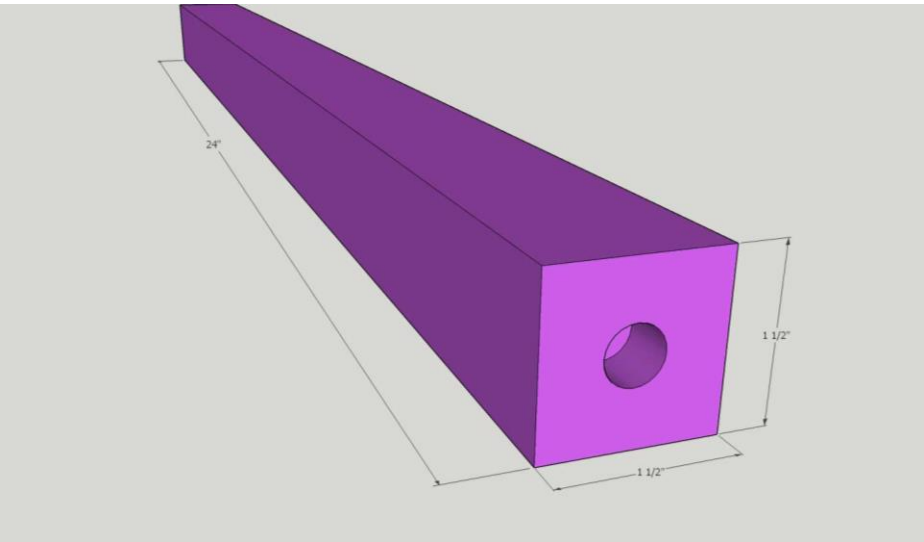
Assemble The Top

- Using wood glue and 1-1/4” pocket screws attach the frame to the center insert
- Use or tape to secure while the pieces dry

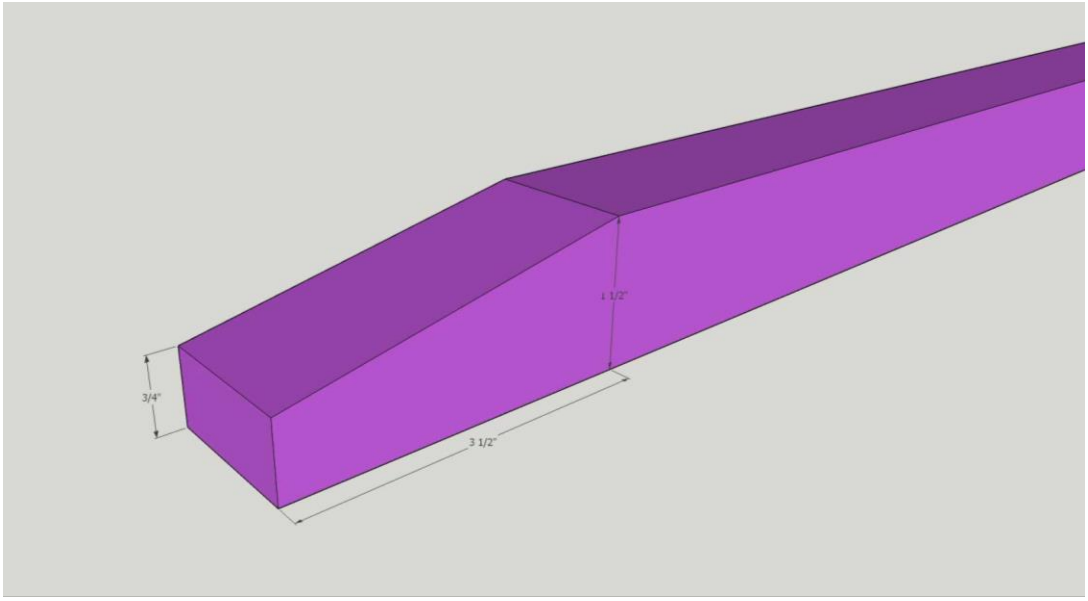


Prep Table Legs

- Cut four 2x2's to 24" in length
- Using the ½" drill bit or forstner bit for the top, pre-drill a centered dowel hole with a depth of at least 1" into one end of each leg. Need help drilling a straight hole? Check out **Tamar's Drilling Tip for Dowels** or line the legs up with the outer holes in the from the assembled top for assistance.

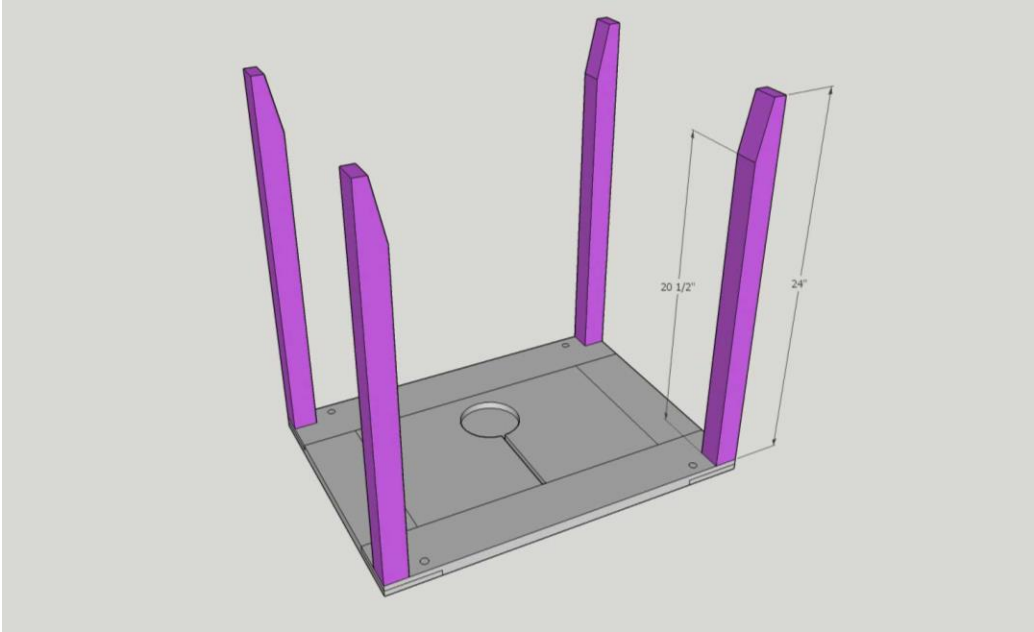


- Want to add a great craft detail? Try adding a taper to the table legs using **Tamar's taper method**. You can get a smaller taper like pictured below with a miter saw, table saw or circular saw and guide.

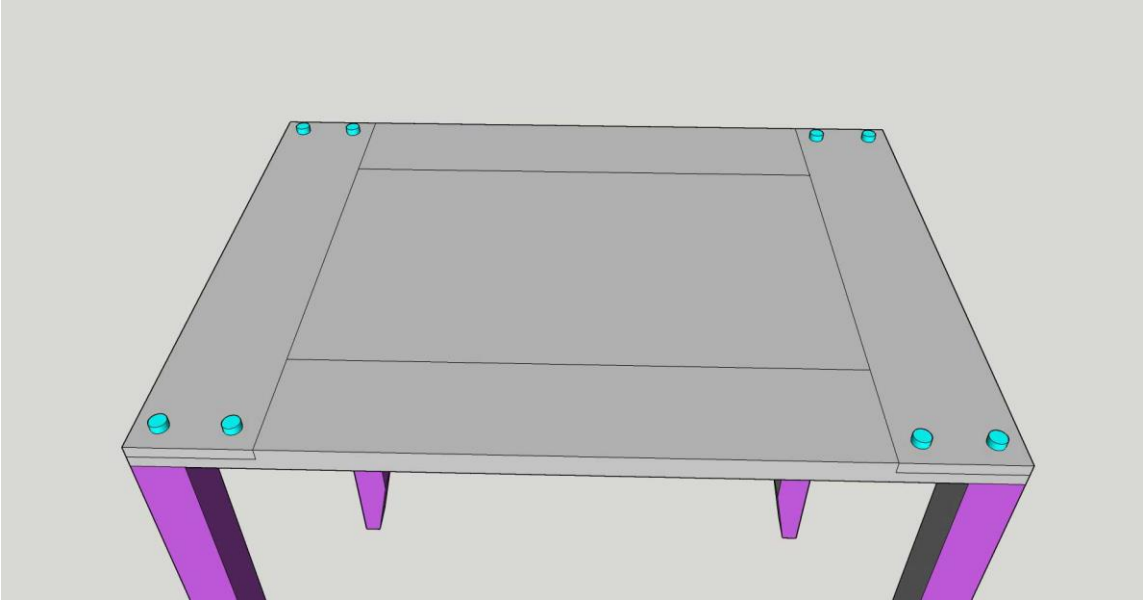


Attach Table Legs

- One at a time, add wood glue on the surface and in the pre-drill ½" hold. Then attach table legs to the top by driving a ½" dowel through the hole into the leg. You can pre-cut the dowel (cut it longer than needed) or use the full down and cut it off as you drive it into the leg.



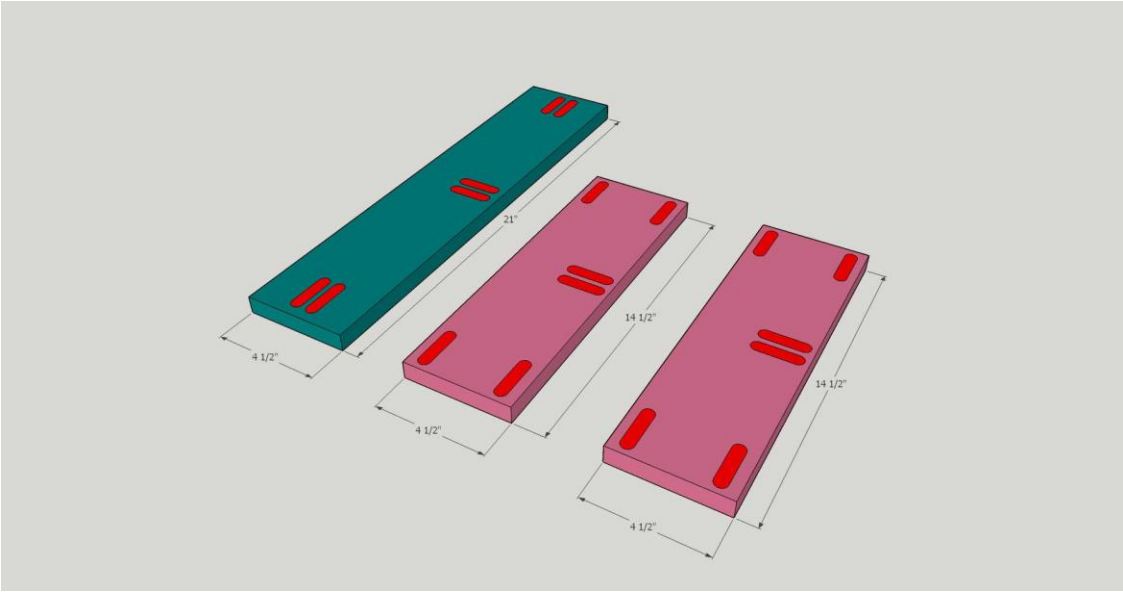
Pro-Tip – Use a mallet or a hammer onto a block of wood to drive the dowel into the leg. A normal hammer will damage the dowel.



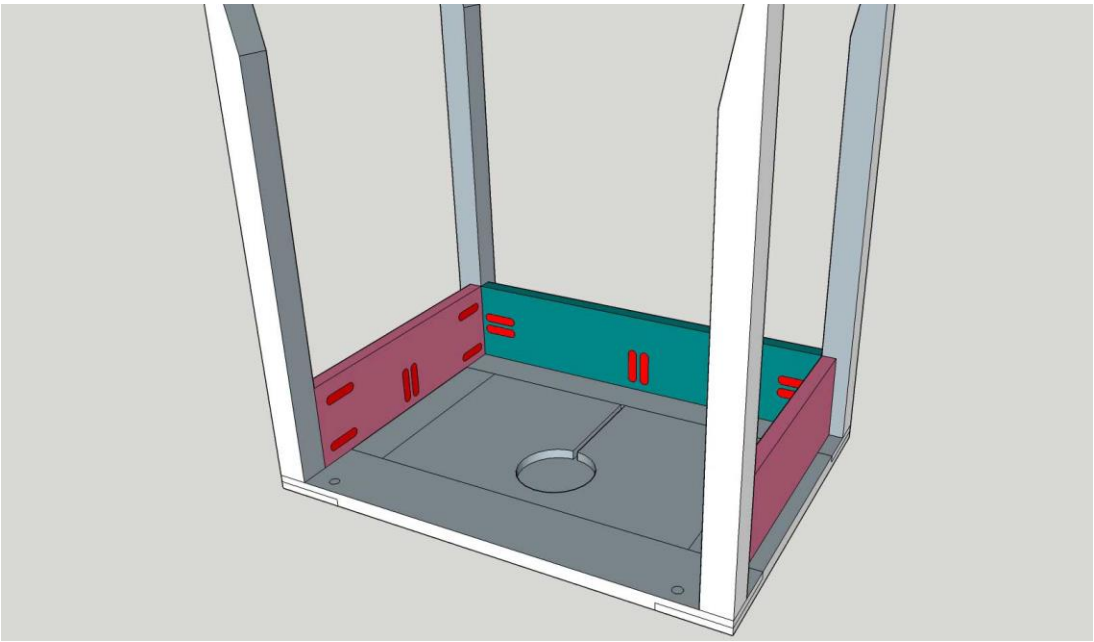
- Using a hand saw, cut off the excess dowel head then sand flush

Assemble Drawer Box

- Cut two pieces of 1x5 to 14.50”
- Cut one pieces of 1x5 to 21”
- Pre-drill ¾” pocket holes

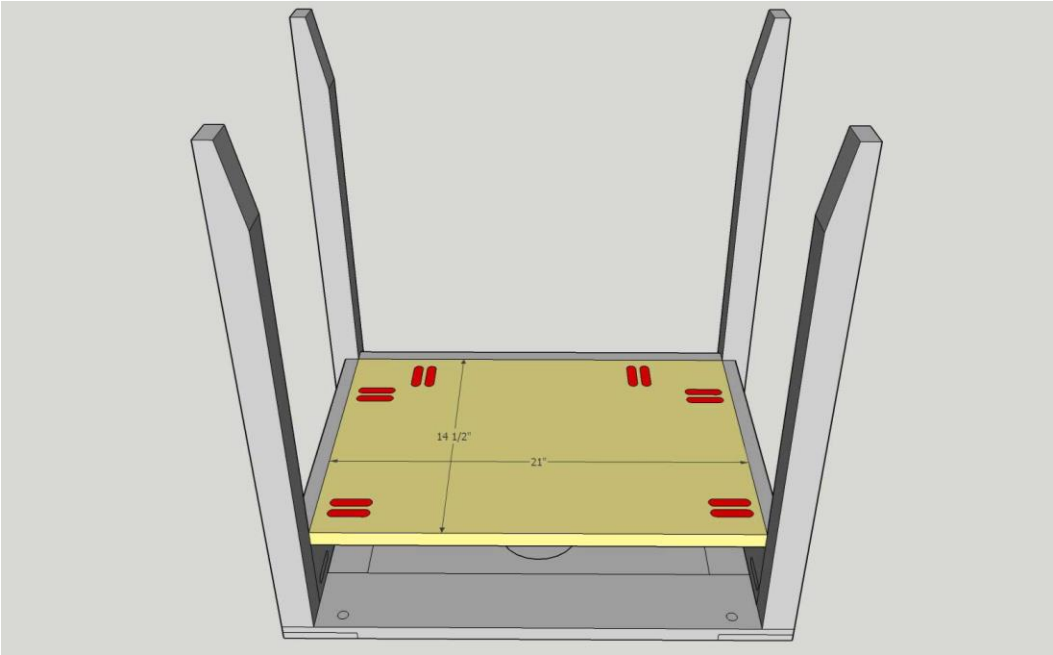


- Attach to legs using 1-1/4” pocket screws and wood glue
- Make sure the pocket holes are facing inward and the pieces are flush with the inside of the table legs (groove for the charger cable should face the 21” piece



Attach Drawer Bottom

- Cut a piece of plywood to 21” x 14.50”
- Pre-drill ¾” pocket holes into 3 sides
- Attach to drawer box using wood glue and 1-1/4” pocket screws



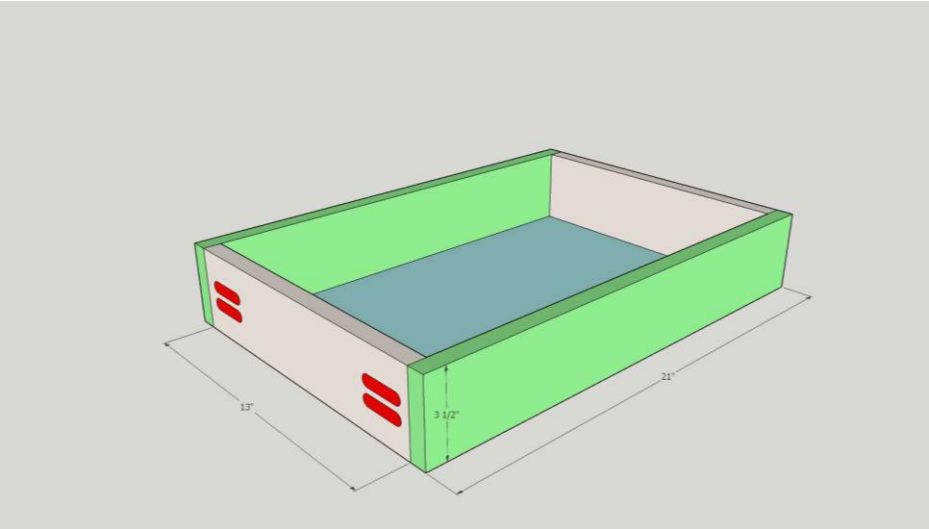
Pro-Tip – Before attaching the drawer box bottom, install the wireless charger. Use a glue gun or double-sided carpet tape so the charger is securely attached, but also easy to remove if needed. Drill a hole in the back panel or the bottom of the drawer box to run the charger cable.

*Before moving on to the drawer build be sure to measure the inside dimensions of the space. Measuring from the back of the drawer box to the front legs should be 14.50” x 21”. If your measurement is off, adjust the measurements for the drawer build to match.

The drawer for this build will be a friction fit, which means it’s recommended to make your cuts for the drawer back and front pieces 1/32” to 1/16” short. If you’d rather use drawer slides or if you want to put those new dado skills to use you can use this “**How to build a better drawer**” tutorial for help.

Drawer Build

- Cut two pieces of 1x4 to 21”
- Cut two pieces of 1x4 to 13”
- Pre-drill ¾” pocket holes into the ends of the 13” 1x4
- Add wood glue and assemble the drawer with 1-1/4” pocket screws with the screw holes facing outward
- Cut the sheet of underlayment to 14.50” x 21” and attach to the bottom of the drawer using wood glue. If you have a brad gun you can add brad nails or pre-drill and add screws. If you want a stronger drawer bottom, check the “**how to builder a better drawer**” tutorial



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- Cut a piece of 1x5 to 21”
- Pre-drill and attach the drawer face using wood glue and wood screws (or you can use brad nails)
- Be sure to leave a ¾” overhang on the bottom
- Attach drawer pull and insert drawer