

HART™



Kids Desk

PROJECT PLAN

Finished Dimensions: 25-1/2"W x 23"H x 24"D


Skill Level: Intermediate


Materials

Item	Qty
3/4" x 4' x 8' Plywood*	1
2" x 2" x 36" Board*	1
3/8" x 36" Wood Dowel	1
#8 x 1-1/2" Flat Head Phillips Wood Screw	
Sandpaper**: 150g, 220g & 320g	
Drill Bits: 3/8" & 1-1/4" Hole Saw	
Wood Glue	

* Board Dimensions are "nominal". Actual dimensions are smaller due to lumber industry standards. Cuts are actual length.

** Starting grit will depend on board surface condition, a rough surface will require starting with a coarse grit first.

 Grit is measured in the coarseness of the particles on the sandpaper. The lower the grit number, the coarser the paper. Heavy sanding would require 60 to 80 grit, medium sanding would require 120 to 220 grit, and finish sanding would require 320 to 400 grit. Super fine sanding would be 600 grit and higher.

 A select/premium board or plywood comes with a smoother surface finish. It is clear or has very few tight knots, and it will have straight and sharp edges. This grade of wood pairs well with other boards or panels better and requires less time to sand and finish.

Tools Used



Circular Saw



Drill/Driver



Orbital Sander



Jigsaw



Hand Saw



20V 1.5Ah Battery



20V 4.0Ah Battery



Charger



Tape Measure



Hole Saw & Arbor



Drill Bits



Countersink Bit




Utility Knife



Safety Glasses

Also Needed:
Drawing Compass
Clamps

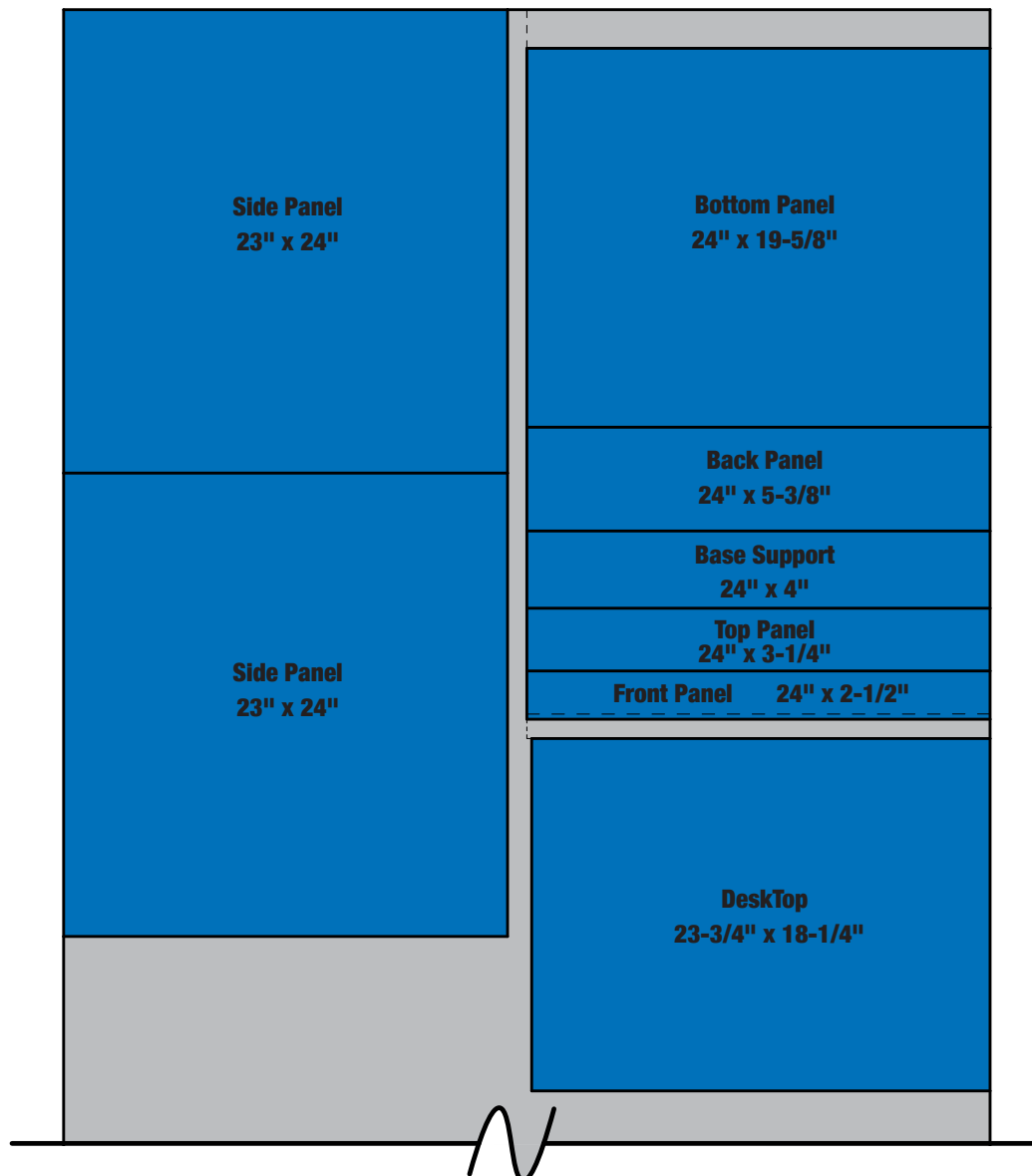
 **Battery Tip:** A 4.0 Ah battery is recommended to be paired with high amp draw tools for maximum efficiency.

Lumber Cut List

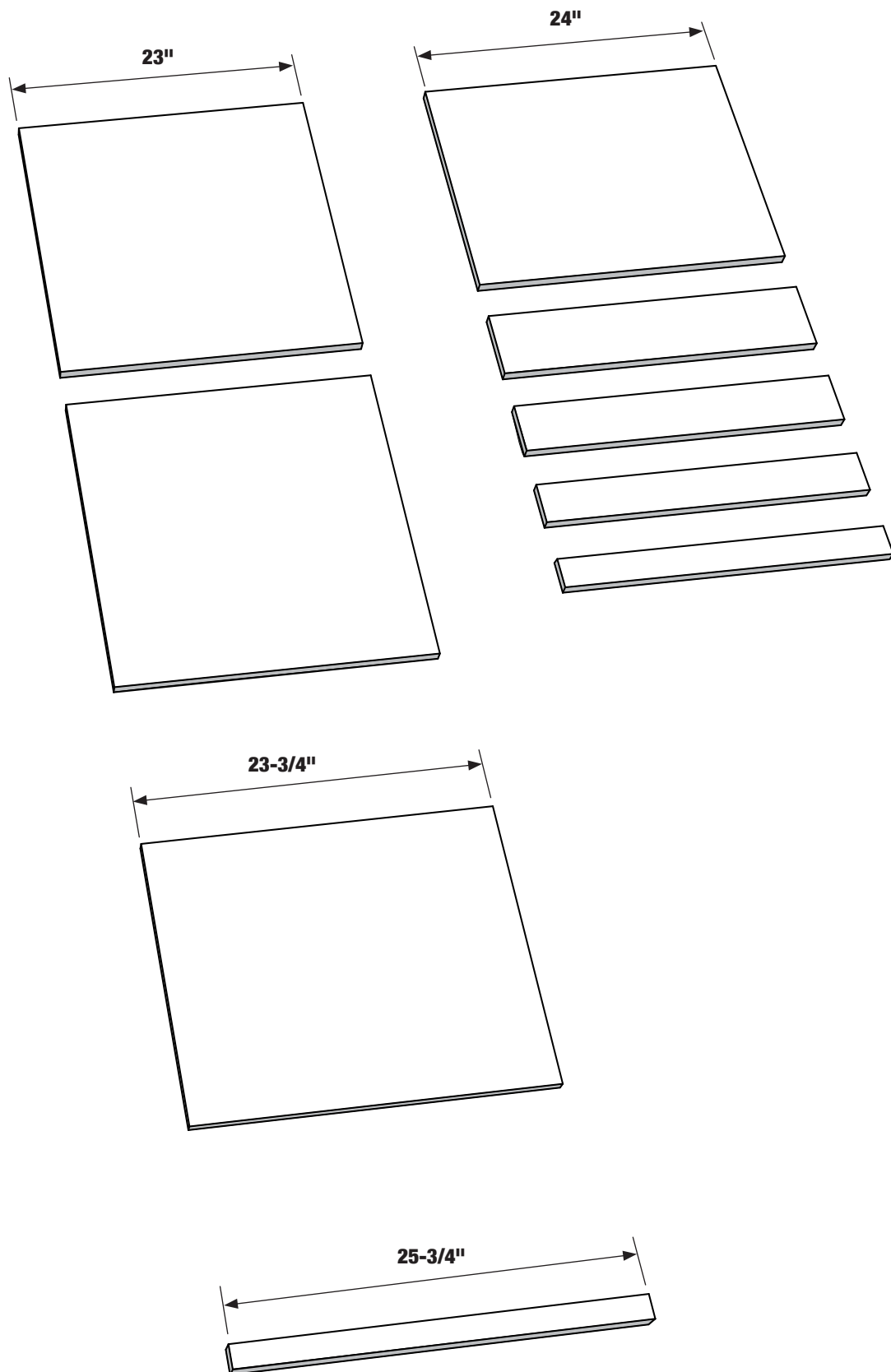
Board*	Description	Cut to	Qty
3/4" x 23"	Desk Sides	24"	2
3/4" x 24"	Bottom Panel	19-5/8"	1
3/4" x 24"	Back Panel	5-3/8"	1
3/4" x 24"	Base Support	4"	1
3/4" x 24"	Top Panel	3-1/4"	1
3/4" x 24"	Front Panel	2-1/2"	1
3/4" x 23-3/4"	Desktop	18-1/4"	1
2" x 2"	Hinge	25-3/4"	1

* Board dimensions are "nominal." Actual dimensions are smaller due to lumber industry standards. Cuts are actual length.

Lumber & Sheet Layout Guide



Lumber & Sheet Cut Layout Guide



Assembly Instructions

Step 1

Cut out all material using the Lumber & Sheet Cut Layout Guide.

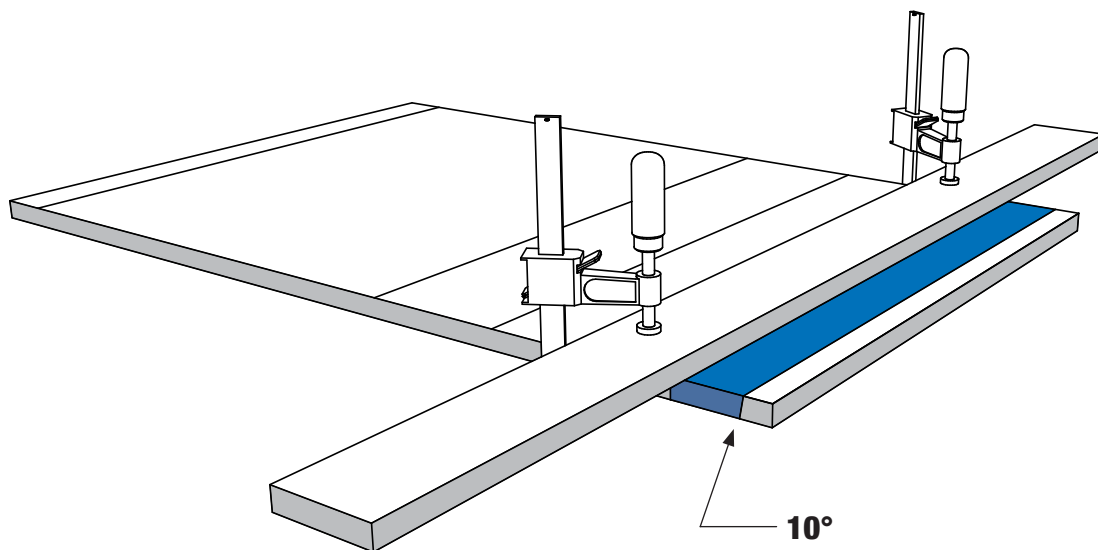
Group all of the 24" wide panels together and cut as (1) panel to start. Allow for approximately 2" of scrap at the ends.

Use a straight board and clamps to create a fence. This will help guide the edge of the Circular Saw.

To safely cut the small boards, start by cutting them first. Clamp the panel to a sturdy support. Then measure the panel height and clamp the fence in the appropriate position.

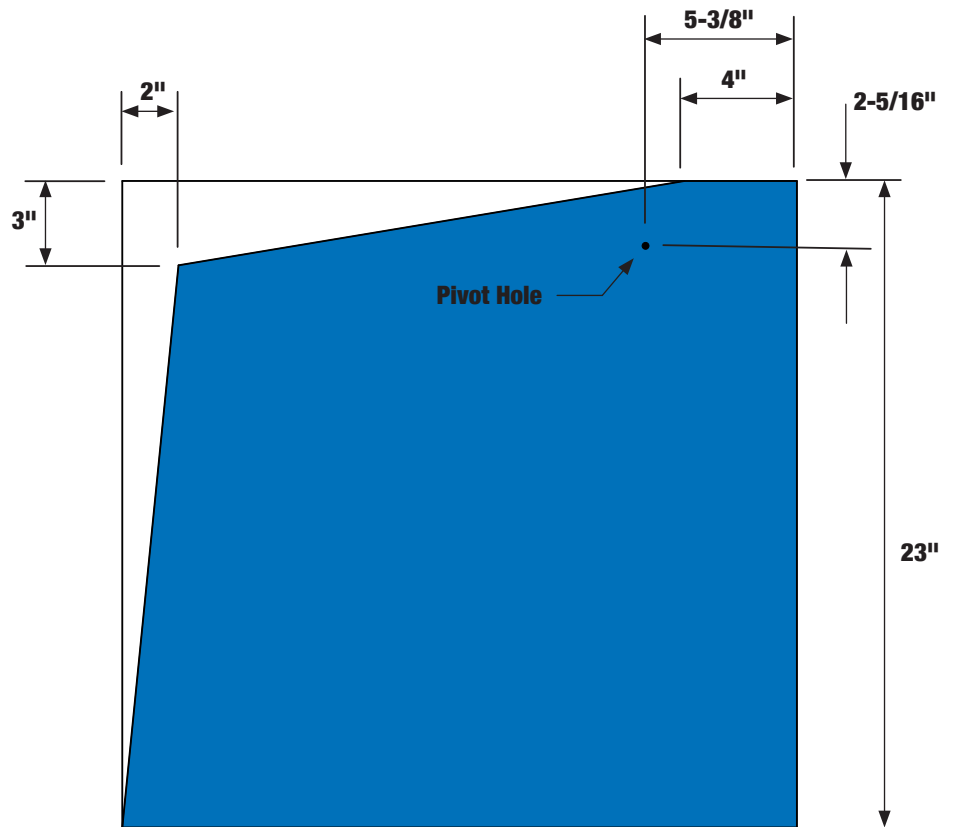
The first cut will be the desk's front panel. The top edge has a 10° angle on it to match the desktop slope. Set the Circular Saw Base to 10°. Check to make sure the distance from the blade to the fence is still accurate before cutting.

All other cuts are 90°. Adjust the fence accordingly.



Step 2

Mark the cut lines on the (2) 23" x 24" side panels. Also mark the location for the hinge pivot hole. Follow measurements shown in the diagram.

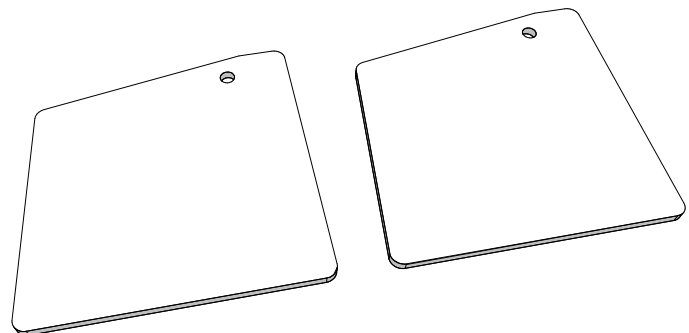
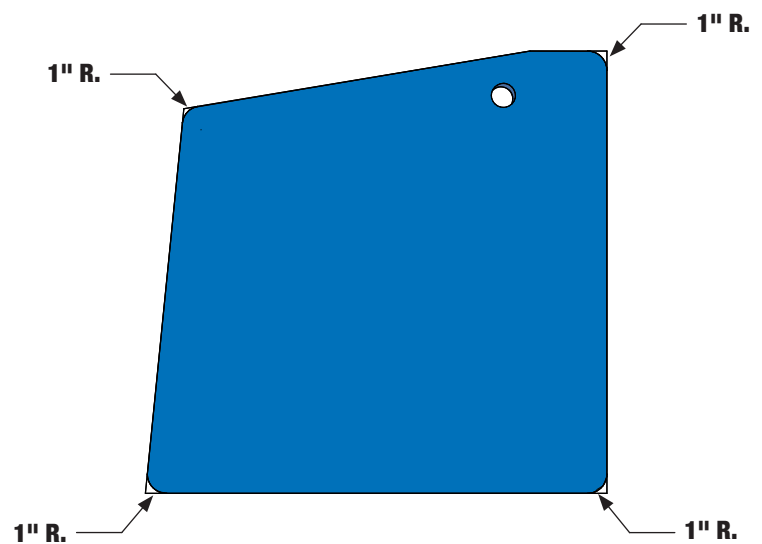


Step 3

Use a 1-1/4" Hole Saw to drill the pivot hole.

Draw a 1" radius circle on all (4) corners. Cut along circle with a Jigsaw.

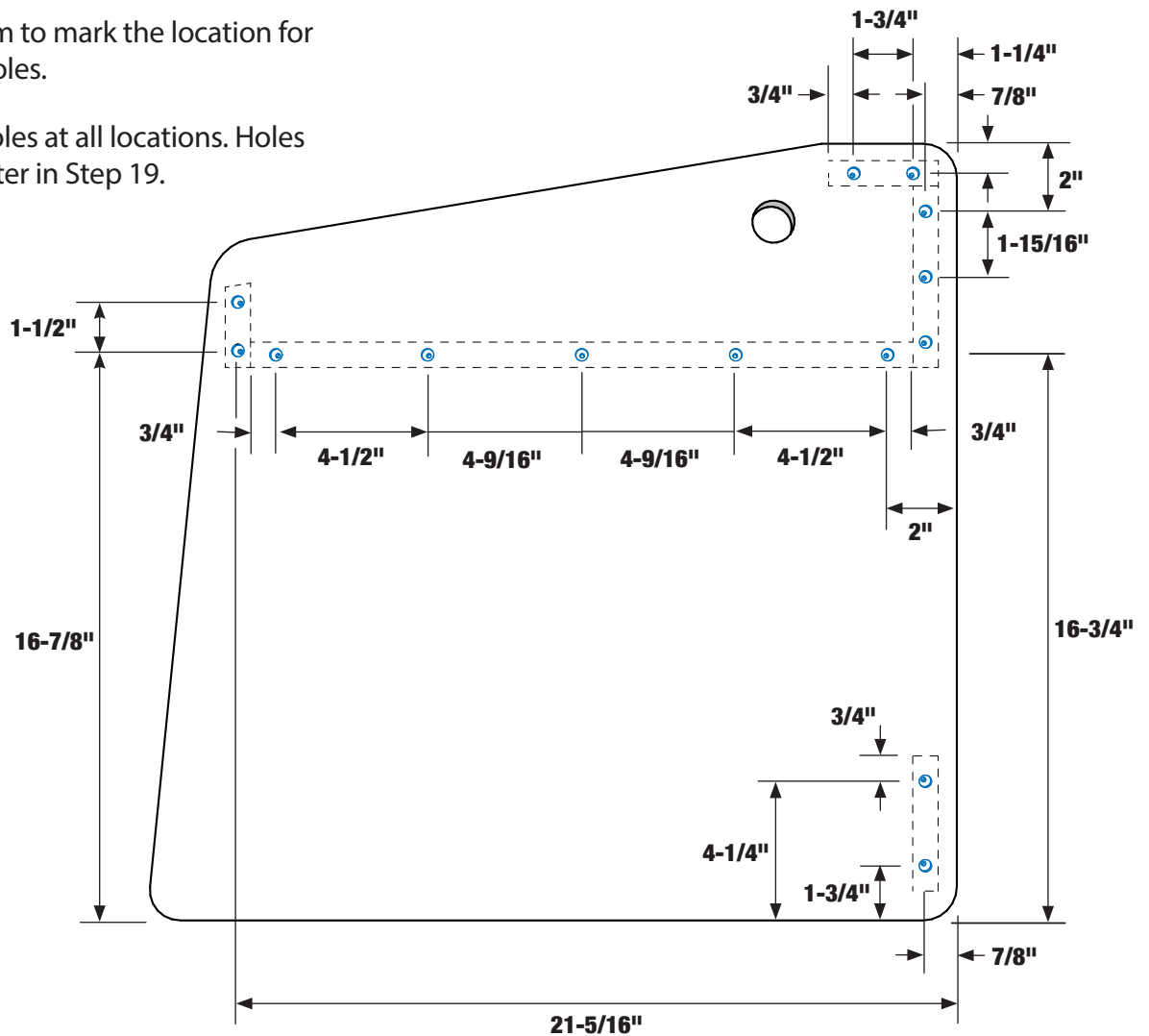
Repeat on the second side panel.



Step 4

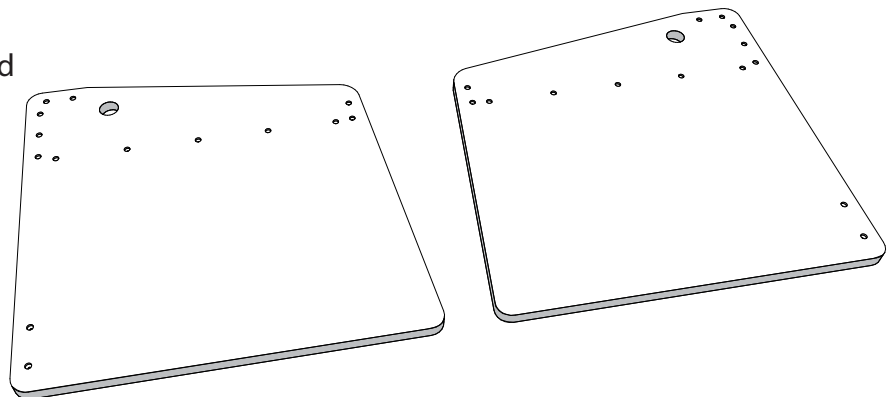
Follow the diagram to mark the location for the countersink holes.

Drill $\frac{3}{16}$ " deep holes at all locations. Holes will be plugged later in Step 19.



Step 5

Repeat Step 4 on the second side panel. Make sure the countersink holes are drilled on the opposite side.

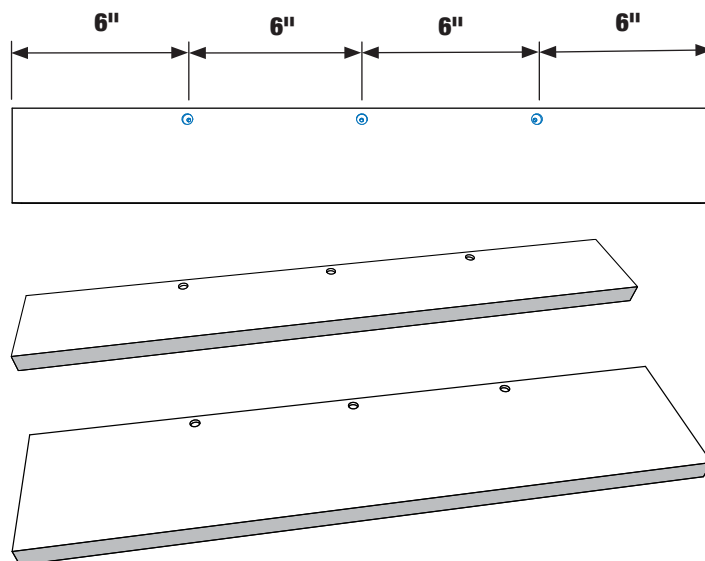


Step 6

Take the 24" x 5-3/8" back panel and mark locations for countersink holes.

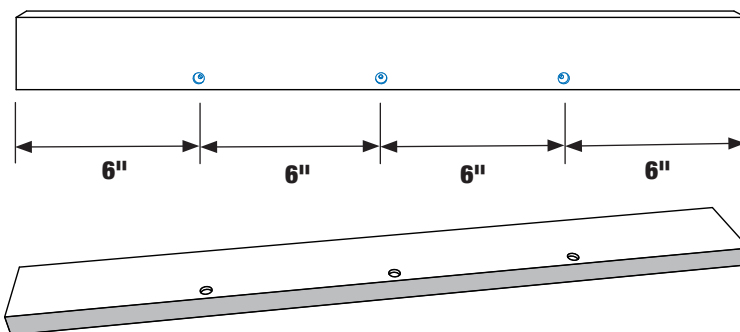
Measure holes 3/8" from the edge and 6" apart.

Drill both panels with the Countersink Bit. All holes are to be 3/16" deep.



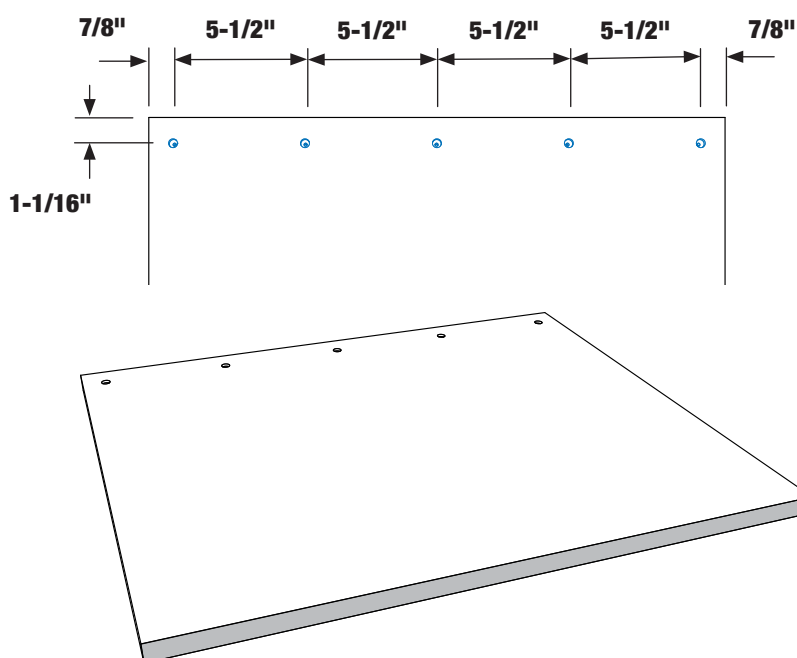
Step 7

Take the 24" x 3-1/4" front panel and mark the same locations as in Step 6. Countersink holes are to be drilled on the short side of the 10° cut.



Step 8


Follow the diagram to mark countersink hole locations for the desktop. Holes are to be placed 1-1/16" off of the edge.



Step 9

You will now cut the round ends to make the hinge.

Take the 2" x 2" x 25-3/4" wood dowels and draw lines from opposite corners to create an (X). This will help you locate the center of the dowel. Do this on both ends (fig-1).

 **Tip - Drill a 1" deep pilot hole with a 1/8" drill bit in the center of the (X). This will help guide the arbor bit.**

Wrap masking tape to set the depth of the hole. When the tape meets the wood, stop drilling.

Use the 1-1/4" Hole Saw and place the arbor bit on the 1/8" hole. Drill into both ends of the dowel as straight as possible. The Hole Saw should bottom out on the inside of the bit at 15/16" deep (fig-1).

On the outside of the dowel, mark a line 15/16" around both ends (fig-2).

Use a Hand Saw to gently cut away the outer material. Be careful to not cut into the round ends (fig-3).

Drill 3/8" hole approximately 1/2" deep where previous hole was drilled.

Take the 3/8" dowel rod and cut (2) 1/2" long sections. Apply glue to the inside of the hole and place dowel in the hole (fig-4). Apply enough pressure so the dowel is flush with the end. Do this on both ends.

Use a Utility Knife and sandpaper to clean up ends if necessary.

The finished length of the square part of the hinge should be 23-7/8" long.

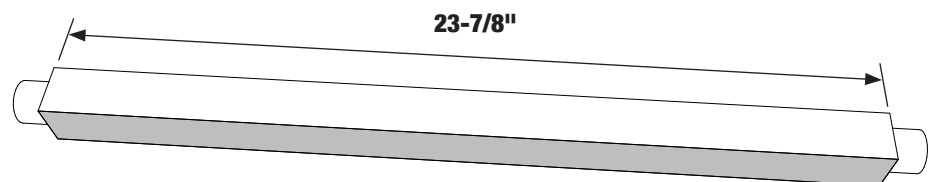
(fig-1)

(fig-1)

(fig-2)

(fig-3)

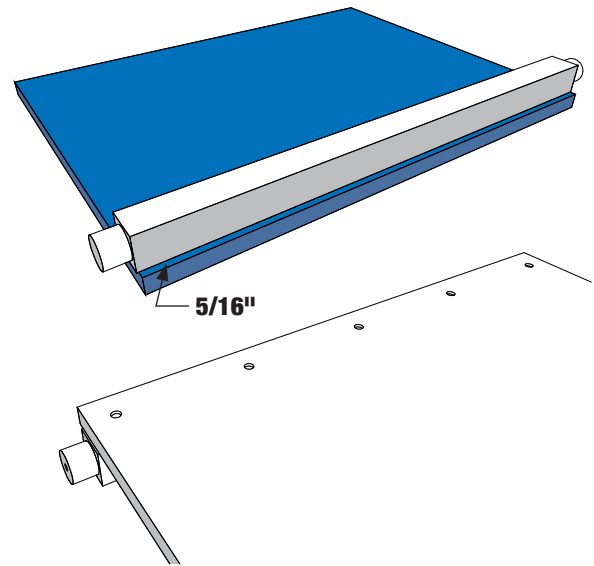
(fig-4)



Step 10

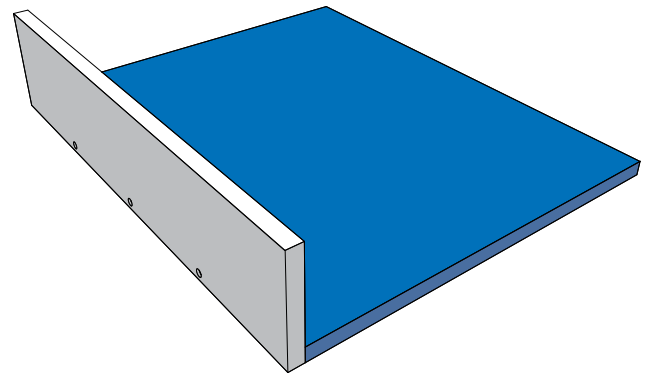
Place the hinge underneath the 23-3/4" x 18-1/4" desktop. The countersink holes should be facing up. Offset the square part of the hinge 5/16" from the back edge. This will center the holes to the center of the hinge. Make sure there is equal distance from each side edge. The square part of the hinge should overlap the sides of the desktop by approximately 1/16".

Attach with #8 1-1/2" wood screws (All attachments throughout this project will be made with these screws).



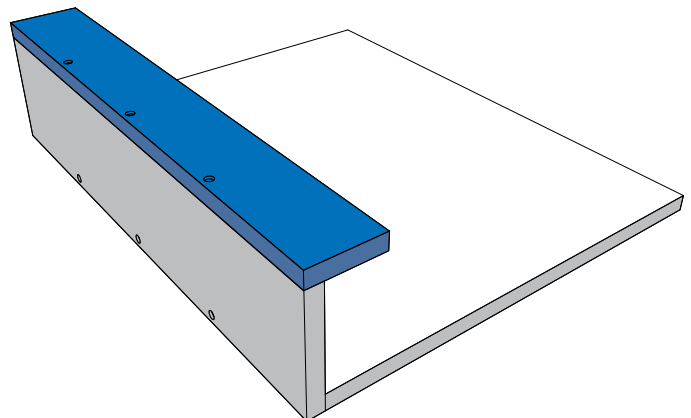
Step 11

Align and attach the back panel to the bottom panel.



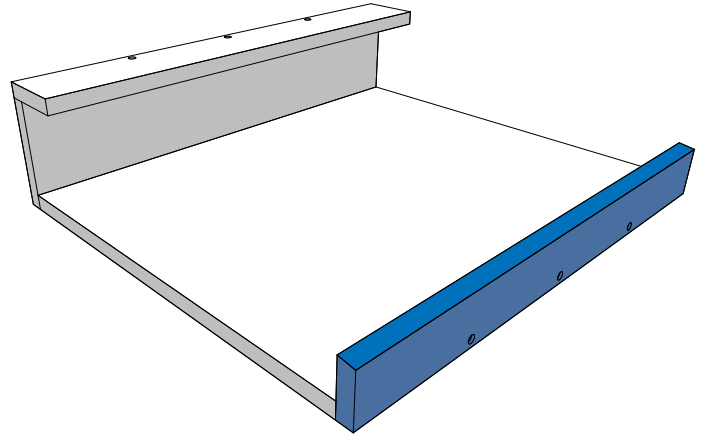
Step 12

Align and attach the top panel to the back panel.



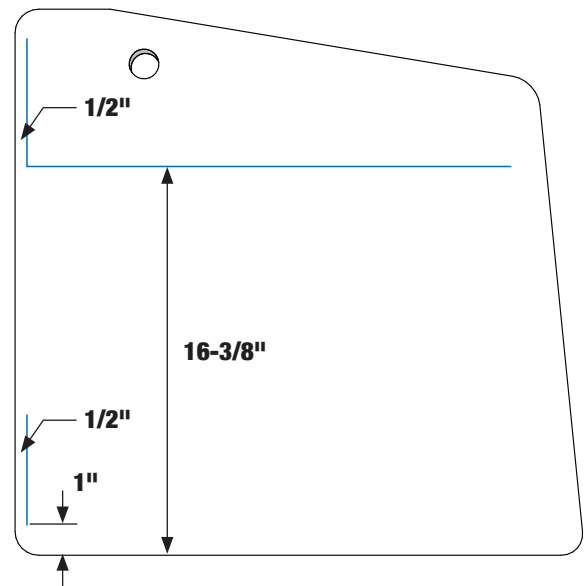
Step 13

Align and attach the front panel to the bottom panel.



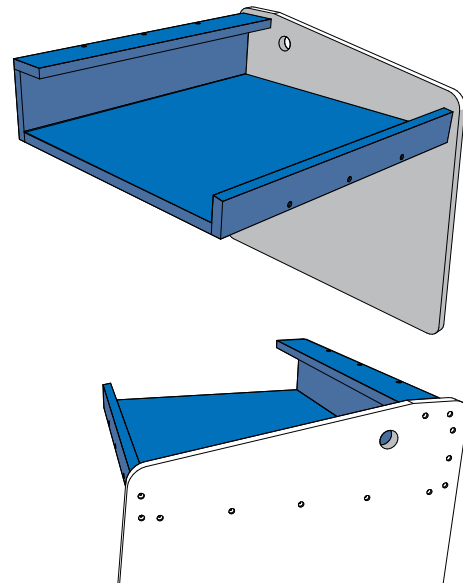
Step 14

Using the diagram, draw the lines that represent the bottom and back of the storage compartments on both side panels. Then draw the line that represents the back of the bottom support on the inside of both side panels.



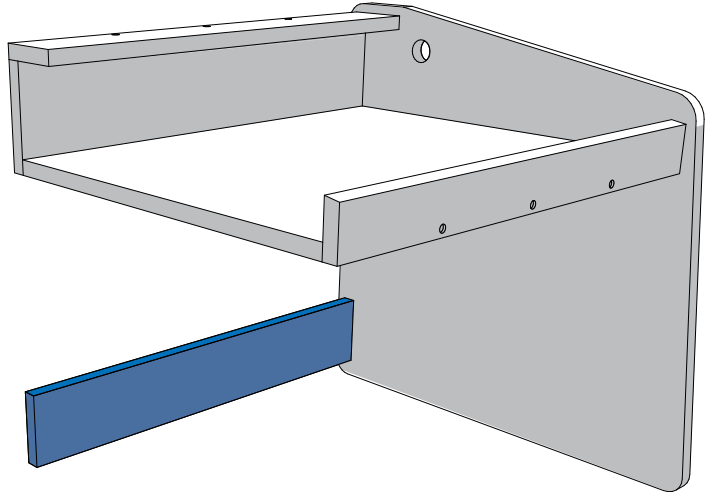
Step 15

Align the storage compartment to the lines on the side panel and attach.



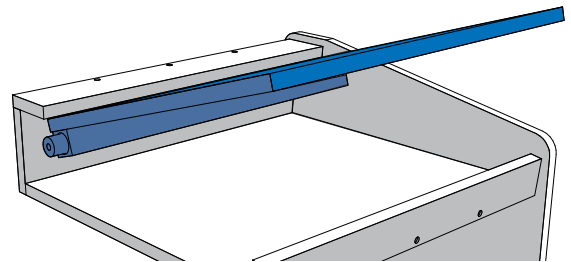
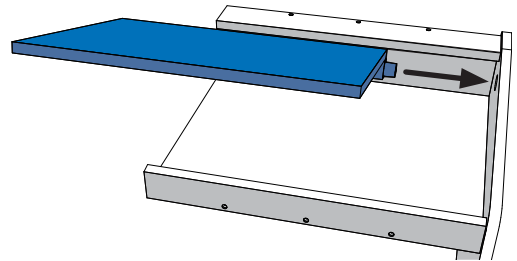
Step 16

Align the bottom support and attach.



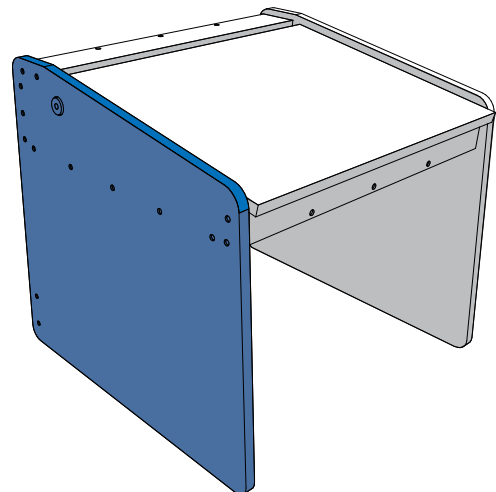
Step 17

Insert (1) round end of the desk top hinge into the pivot hole.



Step 18

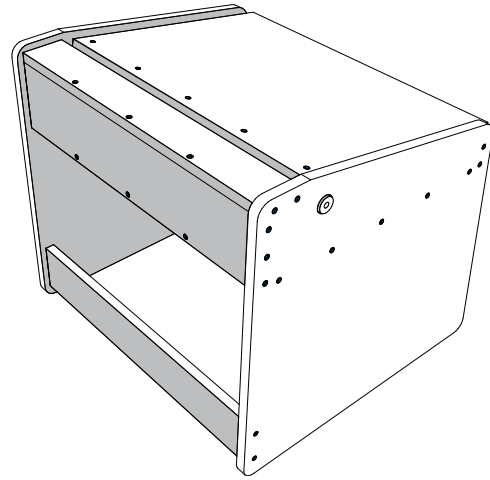
Align the pivot hole on the other side with the desk top hinge. Then align the storage compartment to the remaining side panel and attach.



Step 19

Take the 3/8" dowel rod and cut it into 3/16" sections. Glue and plug the dowel rods into all countersink holes.

Let glue dry and then sand all raised plugs so they are flush with the surface.

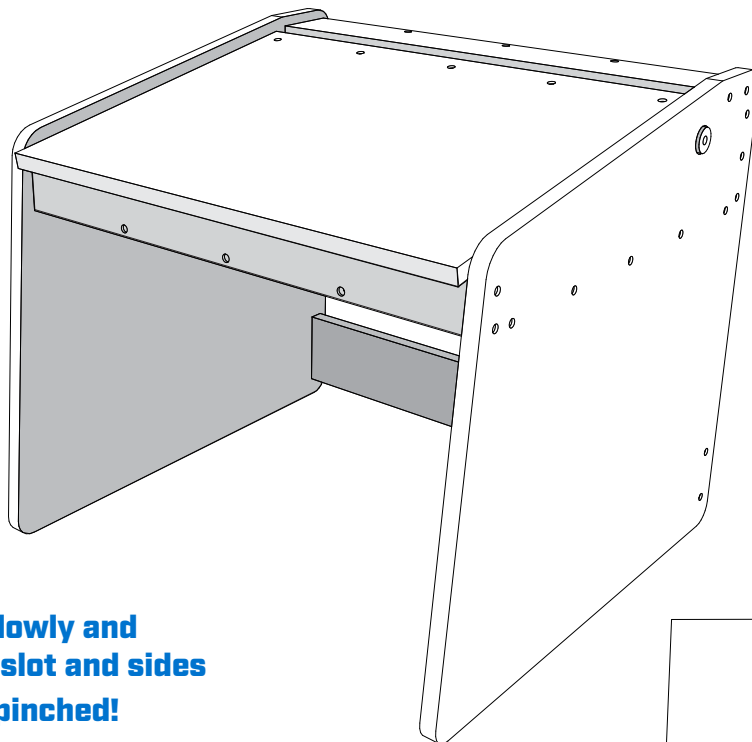


Step 20

Sand and finish to your desire.

The desktop will now stand on its own in its full upright position.

Kids Desk is complete!



Safety Note:

Be sure to close the desktop slowly and keep fingers clear of the back slot and sides to prevent them from getting pinched!

H Rougher finish – Use 60-80 grit sandpaper to hand sand with the grain of the wood.

Smoother finish – Use 60-80 grit sandpaper to remove scratches & imperfections.

Followed by using 120-220 grit to smooth.

Finish Sanding – Use 320-400 grit sandpaper

Super fine sanding – Use 600+ grit sandpaper

