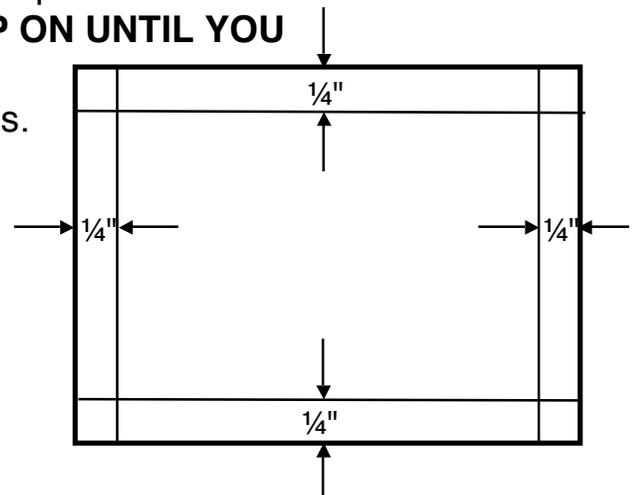
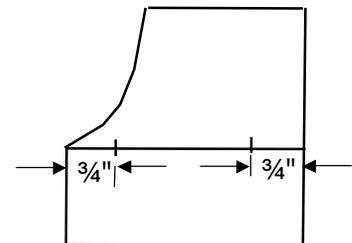


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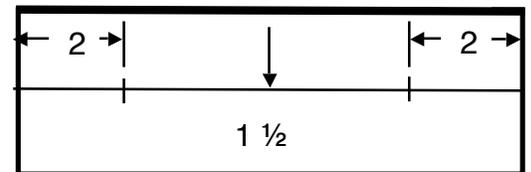
## SMALL SHELF WITH DRAWER PLANS

1. Show Kuhn plans and pencil to get a 7  $\frac{3}{4}$ " X 11  $\frac{1}{4}$ " piece of Pine. Write name on piece of pine and write numbers 1 and 2 on the end grain.
2. **ROUTER TABLE** – Cut Rabbits only the end grain, sides 1 and 2. First at Router 1 then at Router 2.
3. Show Kuhn after using the router for an Arrow to be used on the next step.
4. **BANDSAW** – Cut 2 pieces 5  $\frac{1}{2}$ " wide with the Arrow against. These two pieces are the **SIDE PIECES** (7  $\frac{3}{4}$ " X 5  $\frac{1}{2}$ ") of the **BOX**. Keep left over piece for next step
5. Hand in left over piece and show both pieces to get the left and right side pattern.
6. Trace the left and the right side pattern on sides opposite of the Rabbits. Make sure the chips made by the Router will be cut off when you use the **Jig Saw**
7. Stamp 1<sup>st</sup> and last name on the Rabbet side near the bottom on each piece.
8. Hand in one piece before going onto next step.
9. **JIG SAW** – Cut one piece, Kuhn should have the other piece, saving the pattern line. Start cutting on the side of the project, not the top.
10. Hand in scrap piece. Kuhn will retrace pattern on other piece if you didn't save the line.
11. Repeat step number 9 and 10
12. Give scrap to Kuhn to get 60 Grit.
13. Sand the edges cut by the Jig Saw. Put both pieces in the vice at the same time with Rabbits facing each other and sand until the same size. Use clamp if pieces spread apart. Keep 60 Grit in folders when done with this step.
14. Show Kuhn the pieces you just sanded to get 220 grit.
15. Sand the sides with your name stamped with 220 grit.
16. Hand in 220 grit and stain just the side you sanded. Put stained piece in cabinet to dry.
17. Show Kuhn stained project and a pencil to get **TOP PIECE** (3  $\frac{1}{2}$ " X 7  $\frac{3}{4}$ ") for the **BOX**. Put name on the best side of the top piece.
18. If **TOP PIECE** is too wide for the top go onto next step. If fits go onto Step 21.
19. Transfer measurement to your Top piece and draw a line.
20. Trim top piece on the **Band Saw**. Make sure you save the line when cutting. You should still see the pencil line when you're done cutting.
21. Show Kuhn that the **TOP PIECE** fits on side pieces to get 220 grit.
22. Sand top piece on the side opposite of name with 220 grit.
23. Hand in 220 Grit and stain the side you just sanded. Put stained piece in locker to dry.
24. Show Kuhn stained piece and a pencil to get **BOTTOM PIECE** (5  $\frac{1}{2}$ " X 7  $\frac{3}{4}$ ") for the **BOX**.
25. Stamp 1<sup>st</sup> and last name on worst side, this will be on the inside.
26. Show Kuhn stamped name for 220 grit
27. Sand just the stamped side
28. Hand in 220 Grit and stain just the sanded stamped side. Let dry in locker for one day.

29. Glue all the Rabbits edges at the **GLUE TABLE** then glue project together at desk. Make sure that the back is even and the stain side is facing in. Hold in place with a partner for 10 minutes before putting on clamp
30. Put in two wooden clamps and wipe off excess glue with a dry paper towel. Leave on table until lights go off. Then check with Kuhn before putting on back table.
31. Help someone glue together their project
32. Sand just the back with the **SANDING TABLE** – only 4 students at a time.
33. Show Kuhn Box and to get the **TWO SIDE PIECES (2" X 4 ½")** for the **DRAWER**.
34. Stamp 1<sup>st</sup> name on one piece and last name on one of the other piece.
35. Glue the end grain, the rough side, at the glue table.
36. Show Kuhn to get the **FRONT AND BACK PIECES (2" X 7")** for the **DRAWER**.
37. Glue Drawer at your table with a partner on the **VICE PLATTER**. Make sure that the stamped name is on the inside and not upside down. Hold for 10 minutes with your partner before putting in vice.
38. Put in vice using the **VICE PLATTER**. Wipe off excess glue. Give Vice Platter to partner or Kuhn and leave drawer in your vice until the lights go out.
39. Help partner glue their drawer together.
40. Sand top and bottom of drawer with the Sanding Table until flat – only 4 students at a time.
41. Show Kuhn to get **MASONITE (5 ½" X 7")** for the bottom of the drawer.
42. Glue Masonite on Bottom – Make sure name is right side up and put in vice. Get extra clamps if needed. Wipe off Glue – Leave in vice until cleanup.
43. Sand the sides until no glue marks. Sand Masonite until bottom edges are even and the **DRAWER** fits into the box.
44. Show Kuhn the Drawer in the Box to get the **SHELF (5 ½" X 7")**
45. If shelf is too big take shelf to sanding table and sand the ends until shelf fits in the Box on top of drawer. You want a very tight fit.
46. Stamp 1<sup>st</sup> and last name on the back edge of the Shelf.
47. Show Kuhn to get 220 Grit.
48. Sand top and bottom of Shelf but not the edges.
49. Hand in 220 Grit and stain both sides but not the edges.  
Put in locker to dry.
50. Show Kuhn Box with drawer and shelf CLAMPED in place for two lines. Front of the shelf should be even with the front. **KEEP CLAMP ON UNTIL YOU HAMMER IN THE NAILS**
51. Measure ¾" from the end of each line on both sides.
52. Center punch then drill two holes on each side at **POWERMATIC DRILL PRESS**.
53. Show Kuhn holes to get baggie of nails.
54. Hammer in nails, hand in baggie, take off clamp, and take drawer out of box.
55. Counter Sink the nails with the Nail Set.
56. Sand Back of box until shelf is even with the back.



57. Show Kuhn box to get Masonite.
58. Draw a line  $\frac{1}{4}$ " from each side and show Kuhn to Center Punch in each corner.
59. Drill holes at the **DELTA DRILL PRESS**
60. Bring up this paper to get nails to nail on Masonite.
61. Glue and nail Masonite on the back. Hammer Masonite with pencil lines facing on inside of the box. Put Drawer under Box to make it level before nailing. Put in two Wooden clamps
62. While still in clamps sand the bottom of box until flat and no pencil marks. Leave in clamp until the end of the period
63. **DO NOT PUT DRAWER IN BOX. IT COULD GET STUCK.**
64. Sand top of Drawer with Sanding Table until drawer floats into box
65. Use Smooth file (not Rasp) to file the Masonite even with the back of your project.
66. Sand to get rid of scratches, pencil marks, dried glue, dirty wood. Sand until all sides and edges are even with 60 grit and a Sanding Block. Do not round over edges.
67. Use Wood Putty to fill in the countersunk nails and sand with used sand paper.
68. Fill the cracks in on the outside only of the Box **Wood Putty** and sand over Putty with used sand paper.
69. Write FRONT on the best side of your drawer.
70. Put drawer in front side first and trace a line on the Masonite to show how much you have to sand off. Show Kuhn before going to Disc Sander
71. Go To Disc Sander and sand back of drawer until you can't see the pencil line any more. Flip after every tap DO NOT SAND FRONT SIDE
72. Put Drawer in box, front side first, and sand the swirls off that were made by the Disc Sander. Sand until the front of the box, bottom and shelf are even with the drawer.
73. Show Kuhn the DRAWER in box to get **DRAWER FRONT (8  $\frac{1}{2}$ " X 3  $\frac{1}{4}$ " )**
74. Line up the Drawer Front even with the shelf trace the part that sticks out on the bottom.
75. **Band Saw** – Cut at Bandsaw. Make sure you save the line when cutting. You should still see the pencil line when you're done cutting.
76. Layout the following measurements on your Drawer Front.
77. Bring up drawer front and this paper to get nails
78. Start nails half way down on Drawer Front.
79. Take Drawer out of box and go to Glue Table and put glue on front of Drawer.
80. Put Drawer in box and center Drawer Front over Drawer make sure the Drawer Fronts best side is even with the shelf and the left and right side are even. Hold in place for 5 minutes before going onto next step.
81. Hammer on Drawer Front and take Drawer out of box.
82. Get two Spring Clamps to clamp in place for 10 minutes then put in vice until the lights go off. Remove glue with thin stick you can get from Kuhn.
83. Put Drawer in Box and sand until all sides are even with the sides and bottom and all pencil marks are off.
84. Take Drawer out of box and Counter sink the two nails on the front with the nail set and fill with Wood Putty. Also fill in any cracks on Drawer, outside only.



85. Draw and X from corner to corner of the drawer and show Kuhn and Center Punch where the two lines cross.
86. Drill a hole at Delta Drill Press.
87. Sand off all pencil marks.
88. Go to the Router Table and route around all the edges of the Drawer Front. Cut the Ends first then the sides.
89. Sand off fuzz with 60 Grit then hand in 60 grit for 220 grit.
90. Sand all over, inside and outside of Drawer with 220 Grit then hand in 220 grit to get 600 grit
91. Sand all over Box with 600 Grit and hand in 600 grit
92. Attach Knob to front of project with a drop of glue. Tighten Screw with small screwdriver.
93. Stain Drawer. Outside and top edges. Put in cabinet to dry, Masonite side up.
94. Sand all over box with 220 Grit out side and front edges only. Do not sand inside of box.
95. Hand in 220 Grit to get 600 Grit.
96. Sand all over with 600 Grit.
97. Hand in 600 Grit.
98. Do not look for drawer Kuhn has it.
99. Fill out Bill of Materials Formula: Length X Width divided by 144 Round to nearest 100<sup>th</sup>  
Example: Side is 7 <sup>3</sup>/<sub>4</sub>" X 5 <sup>1</sup>/<sub>2</sub>" = 7.75 X 5.50 = 42.625 rounded to nearest 100<sup>th</sup> 42.63  
42.63 divided by 144 = 0.296041667 rounded to nearest 100<sup>th</sup> = 0.30
100. Hand in Bill of Materials before you stain box.
101. Stain Box. Do not stain the inside. Only stain the outside, Masonite, and the front edges.
102. Fill out Evaluation up to question 19 and come get Bill of Materials.
103. Fill out Cost of each piece and grand total. Board Feet X \$2.15 = Cost  
Example Side of Box = .30 BF      .30 X 2.15 = .645 = \$0.65
104. Notes have to be neat, complete, in order and in pencil. Worth 25 points
105. Get Box from counter and hand in evaluation stapled on top of notes and Bill of Materials.