

Name _____

Lab # 5 -- Woodworking
 Tool Box

Description: This project is the common nail box plan. It is sized to achieve high utilization of the materials. A metal strap can be added to the handle for strength and the box can be painted.

Materials:

1/4" AC or CC Plywood
 3'x1"x12" #3 common pine
 4d Box Nails

4d Finish Nails
 4 - 1 1/2" x 6 flathead wood screws
 Waterproof wood glue

Tools:

Table saw
 Hand saw
 Saber saw
 Band saw
 Framing or combination square
 Hammer

Portable drill/screwdriver
 Countersink
 Nail Set
 Drill Press
 1" Forstner bit
 Plane

Grading:

Criteria (Tolerance +/- 1/16")	Possible	Score
Length (17")	2	
Width (13")	2	
Side/End Height (3 1/2")	4	
Handle Height (7")	2	
Box Square	2	
Dividers (size, fit, location)	6	
Handle hole (size and location)	2	
Screws	2	
Nailing and set.	4	
Workmanship (edges sanded, glue, fit of pieces)	4	
TOTAL	30	

Directions:

Review the plan before starting. Determine how to best use your piece of lumber.

1. **Cut out the bottom from the 1/4" plywood using the table saw for ripping (long dimension) and the radial arm saw for crosscut (short dimension).
2. Rip the pine lumber to width using the table saw.
3. **Crosscut the sides, ends, and dividers using the power miter saw.
4. **Crosscut the handle using the radial arm saw.
 - a) Layout the holes for the handle and drill them using a 1" forstner bit. Draw lines to connect the holes and cut out the handle hole using the saber saw.
 - b) Layout the angle cuts for the handle and cut them with the hand saw.
5. "Dry" fit your pieces to check your work. Then, use wood glue when assembling all parts.
6. Layout and nail the dividers to the handle using finish nails. Countersink the nails about 1/6" with the nail set.
7. Assemble the sides and ends using finish nails. Note: pre-drill the lumber if splitting is a problem. Countersink the nails.
8. Attach the bottom to the sides and ends. Place the good side of the plywood facing toward the inside of the box. Use the square to assure a square box.
9. Layout the location of the dividers on the sides. Insert the handle and dividers. Nail the dividers in place (from the sides).
10. Mark the location of the handle screws on the ends. Using the countersink, pre-drill the screw holes, then screw in the 4 screws.
11. Using box nails, nail the bottom to the handle. (Hint: use a guideline to insure that you nail in the center of the handle.)
12. Use a sanding block to smooth the edges.
13. **Write your name on the bottom of the project.**

** Can be done out of order if tools are not available.

