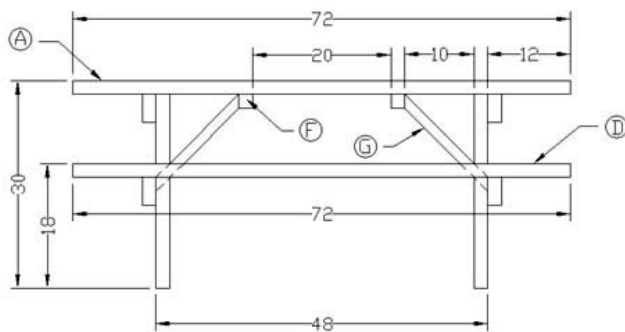


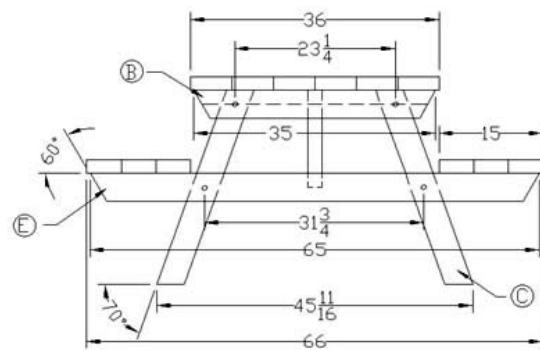
# How to Build a Wooden Picnic Table

This is a practical project that the whole family can team-up to build. The western red cedar's beauty and durability will ensure countless days filled with picnic barbecues and outdoor parties. The clear finish will protect the wood from decay, insects, and ultra violet light to help maintain its natural appearance.

PICNIC TABLE



FRONT VIEW




SIDE VIEW

## Technical Information for Building a Wooden Picnic Table

### A. Materials List:

QUANTITY	LETTER	NAME	SIZE	MATERIAL
6	A	Table Top Slats	2" x 6" x 72"	Red Cedar
2	B	Top Rails	2" x 4" x 35"	Red Cedar

4	C	Legs	2" x 4" x 29 3/4"	Red Cedar
6	D	Seat Slats	2" x 4" x 72"	Red Cedar
2	E	Seat Rails	2" x 4" x 65"	Red Cedar
2	F	Center Rails	2" x 2" x 35"	Red Cedar
2	G	Braces	2" x 2" x 17"	Red Cedar
8	H	Carriage Bolts	5/16" x 3 1/2"	Metal
8	I	Flat Washers	5/16 Cpak	Metal
8	J	Lock Washers	5/16"	Metal
8	K	Nuts	5/16" - 18	Metal
48	L	Wood Screws	#10 x 4 3/4"	Metal
8	M	Wood Screws	#10 x 3 1/4"	Metal
8	N	Wood Screws	#10 x 2 3/4"	Metal
 Red Cedar				

## B. Cutting Procedures:

1. The 2" x 6" x 72" table top slats (A) can be purchased for the proper length. They will not require cutting except for trimming the ends after they are assembled.

2. From a 2" x 4" x 72" board, use a radial arm saw to cut two top rails (B) 35" long. Adjust the radial arm saw to 60 degrees and trim both end of each top rail.
3. From a 2" x 4" x 120" board, use a radial arm saw to cut four legs (C) 29 3/4" long. Adjust the radial arm saw to 70 degrees and trim both ends of each leg .
4. You will need six 2" x 6" x 72" boards for the seat slats (D). Use a table saw to rip the boards 5" wide.
5. Use a radial arm saw to cut two 2" x 4" x 72" boards to 65 1/2" long for the seat rails (E). Adjust the radial arm saw to trim both ends of each board 60 degree angles.
6. From a 2" x 2" x 72" board, use a radial arm saw to cut the two center rails (F) to 35" long. Adjust the radial arm saw to trim both ends of each board to 60 degree angles.
7. From a 2" x 2" 36" board, uses a radial arm saw to cut the two braces (G) to 17" long. Adjust the radial arm saw to trim both ends of each board to 45 degree angles.
8. Place the top edge of the top rail (B) upside down in a bench clamp. Measure in from the top edge 1 1/2". Use a try square to find where this intersects the angle on the end. From the bottom edge measure over 1 5/8" from the edge of the angle and place a mark. Repeat these measurements from the opposite end of the rail. From the 1 5/8" mark on one end, measure over 3" and mark the bottom edge. Repeat this 3" measurement for the next eight marks. Repeat these procedures for the other three top rails.
9. Place the top rail (B) in a bench clamp and use a hand power drill with a 1/2" Foerstner bit to drill 1" deep holes at each mark. Us a 3/16" drill bit to drill completely through the rail at each mark. Complete this drilling procedure for the other top rail.
10. Place the top edge of the seat rail (E) upside down in a bench clamp. Measure in from the top edge 1 1/2". Use a try square to find where this mark intersects the angle on the end of the seat rail. From the bottom edge measure over 1 1/2" from the

edge of the angle and place a mark. From the 1 1/2" mark measure over 2 3/4", 2 1/4", 2 3/4" and 2 1/4" respectively. Place pencil marks at those measurements. Repeat these measurements from the opposite end of the rail. Repeat these procedures for the other seat rail (E).

11. Place the seat rail (E) in a bench clamp and use a hand power drill with a 1/2" Foerstner bit to drill 1" deep holes at each mark. Use a 3/16" drill bit to drill completely through the rail at each mark. Repeat this drilling procedure for the other seat rail.
12. Place the top edge of the center rail (F) upside down in a bench clamp and measure over 1/2" from the bottom edge and place a mark. From the 1/2" mark measure over 2 1/2", nine 3" measurements and a 2 1/4" measurement.
13. Use a 1/2" Foerstner bit and a hand power drill to drill 1/2" deep holes at each mark. Use a 3/16" drill bit to drill completely through the rail at each mark.
14. Repeat the procedures in steps 12 and 13 for the other center rail (F).

**Note:** If a radial arm saw is not available, a skill saw could be used instead.

### **C. Sanding Procedures:**

1. Plane a 5" x 11" Koa board to 1/2" thick.
2. Rough sand all parts with a portable belt sander and an 80 grit belt.
3. Intermediate sand all parts with a portable belt sander and 120 grit belt.
4. After the project has been assembled, use an orbital sander and 220 grit sandpaper to finish sand the entire picnic table.
5. Hand sand all edges and round all corners.

### **D. Assembly Procedures:**

1. Layout the table top slats (A) side by side with the best sides down on a work bench. The ends should be flush with one another. Use two bar clamps to hold them in place.
2. With a measuring tape, measure 12" in from each end. Use pencil and a framing square to draw a line across each end at the 12" marks.
3. Place the inside edge of a top rail (B) on the line. Use a hand screw clamp on each end of the rail to hold it in position.
4. Use a power hand drill with a phillips screw drive to screw the 4 3/4" wood screws (L) to attach the top rail to the top slats. The outside top slats should extend 1/2" beyond the ends of the top rail.
5. Repeat steps #3 & 4 to attach the other top rail.
6. Measure over 12" from the top rails (B) to mark the placements for the two center rails (F). Use hand screw clamps to temporarily hold them in position.
7. Use the 3 1/4" wood screws (M) to attach the center rails to the top slats (A). The top slats should extend 1/2" beyond the ends of the center rails.
8. From the ends of the table top slats (A) measure over 11 5/8" in both directions. Place marks to drill holes for the legs (C). The center of the holes should be 2" from the top of the top rails (B).
9. Position legs (C) inside the top rails (B). The top/outside edges of the legs should be 4 11/16" in from the ends of the top rails (B). Use hand screw clamps to hold the legs in position.
10. Drill 5/16" holes through centers of the top rails (B) and the legs (C).
11. Place a carriage bolt (H) in each hole, place a flat washer (I) and a lock washer (J) on the end of the bolts and tighten the assembly with nuts (K).
12. Measure 8" vertically from the bottom of the top rails (B) and mark the spot on the legs (C) for the top edge of the seat rails (B). Find the center of the seat rails and measure 14 17/32" from

the center in both directions. Place these marks on the bottom edge of the seat rails. Align the inside edges of the legs with the  $14 \frac{1}{32}$ " marks on the seat rails. Be sure that the top of the seat rails align with the 8" mark on the legs. Clamp the seat rails to the legs with hand screw clamps. Place a level on the seat rails to make sure they are level.

13. Drill  $\frac{5}{16}$ " holes through the center of the legs (C) and the seat rails (E).
14. Position the two outside seat slats (D)  $\frac{1}{2}$ " beyond the end of the seat rails (E). Be sure that the ends of the seat rails are 12" beyond the legs (C).
15. Attach the two outside seat slats (D) to the seat rails (E) with wood screws (L). Position the other four seat slats with the seat rails and secure them with wood screws.
16. Make a center mark on both ends of the braces (G). Mark the center of the center rails (F) and the seat rails (E).
17. Align the marks on the braces with the marks on the center rails and seat rails. Attach the braces with the  $2 \frac{3}{4}$ " wood screws (N). Pre-drill the holes for the screws with a  $\frac{3}{16}$ " drill bit. Place two screws on both ends of the braces.
18. Clamp a board to the top of the table top slats to use as a guide for trimming the ends of the table top slats (A) flush with one another. Use a skill saw to trim both ends of the table top slats. Repeat this process for to trim ends of the seat slats (E).
19. Scribe a 1" radius arc at the four corners of the outer table top slats (A) and the eight corners of outer seat slats (D).
20. Use a jig saw to round the outer corners of the table top & seat slats.
21. Use a belt sander to smooth-out the corners of the slats.

### **E. Finish Procedures:**

1. Use plastic wood dough to fill all nail holes, cracks and imperfections.
2. Use an orbital hand sander and 220 grit sandpaper to sand the wood dough flush after it has dried.
3. Remove all sanding dust with a tack rag.
4. Apply a clear finish coat of spar varnish using a pure-bristle brush. Allow to dry 12 hours.
5. Lightly hand sand with 220 grit sandpaper.
6. Repeat steps #4 & 5 for as many coats of finish desired.
7. Allow final coat to dry 24 hours before using picnic table.

**Congratulations, your wooden picnic table is finished and ready to use!**