

Building Bookcases

Well-built, brightly painted bookcases are sure to contribute to a successful **Books for the Border and Beyond** project. Your church will have as much fun assembling the bookcases as children at the family reading fair will have decorating and taking them home.

Build and paint bookcases prior to the border mission trip. Your project will require a bookcase for every family for which your church provides beginning home libraries. If possible, ask for input from the potential home library recipients regarding paint colors. This is a fun way to get them involved in the project.

The following pages include the tools and materials you will need, instructions for cutting the lumber efficiently, and preparation and assembly instructions. Take the **Lumber Cut Sheet** to your local lumber supply or home improvement store, and most will gladly cut all of the pieces for your project.

Once the lumber is cut, it's a good idea to sand all of the pieces and to pre-drill pilot holes in the side panels, according to the measurements on the **Prepare to Assemble** page.

At this point, bookcase building stations can be set up for children, seniors, or any age in between. With the wood sanded and pre-drilled, the bookcases come together very quickly.



Bookcase Directions

Materials

One sheet of 3/4" high grade plywood (one side sanded), measuring 4' x 8' (**see p. 4 for alternative cutting instructions using pine planks instead of plywood**)

One sheet of 1/8" fiberboard or plywood backing, measuring 4' x 8'

Scrap plywood to make two 11 1/2" x 8" **spacers*** for easy positioning of shelves

1 1/4" screws, 1" nails, wood glue, and paint

Sandpaper

Tools

- Electric drill/screw
- 24" bar clamp
- Table saw (if not ordering pre-cut lumber)
- Router or power sander or jig saw
- Hammer
- Sandpaper

Cutting

Five bookcases can be cut from one 4' x 8' sheet of plywood.

Seven back pieces can be cut from one 4' x 8' sheet of backing material.

The seven steps below are illustrated on the Cut Sheet on the following page.

1. Make first cut length-wise through 3/4" plywood 20" from edge. This will result in one 20" x 96" strip and one 27 7/8" x 96" strip.
2. From the 20" strip, cut thirteen pieces, each measuring 7 1/4"-wide for shelves.
3. From the 27 7/8" strip, cut two more 20" x 7 1/4" pieces for shelves.
4. From the remaining 27 7/8" strip, cut ten pieces, each measuring 8"-wide for side panels.
5. Cut length-wise through backing material 21" from edge. This will result in one 21" x 96" strip and one 26 7/8" x 96" strip.
6. From the 21" strip, cut three pieces, each measuring 26 7/8".
7. From the 26 7/8" strip, cut four pieces, each measuring 21".

*Read more about **spacers** in the **Prepare to Assemble** section.

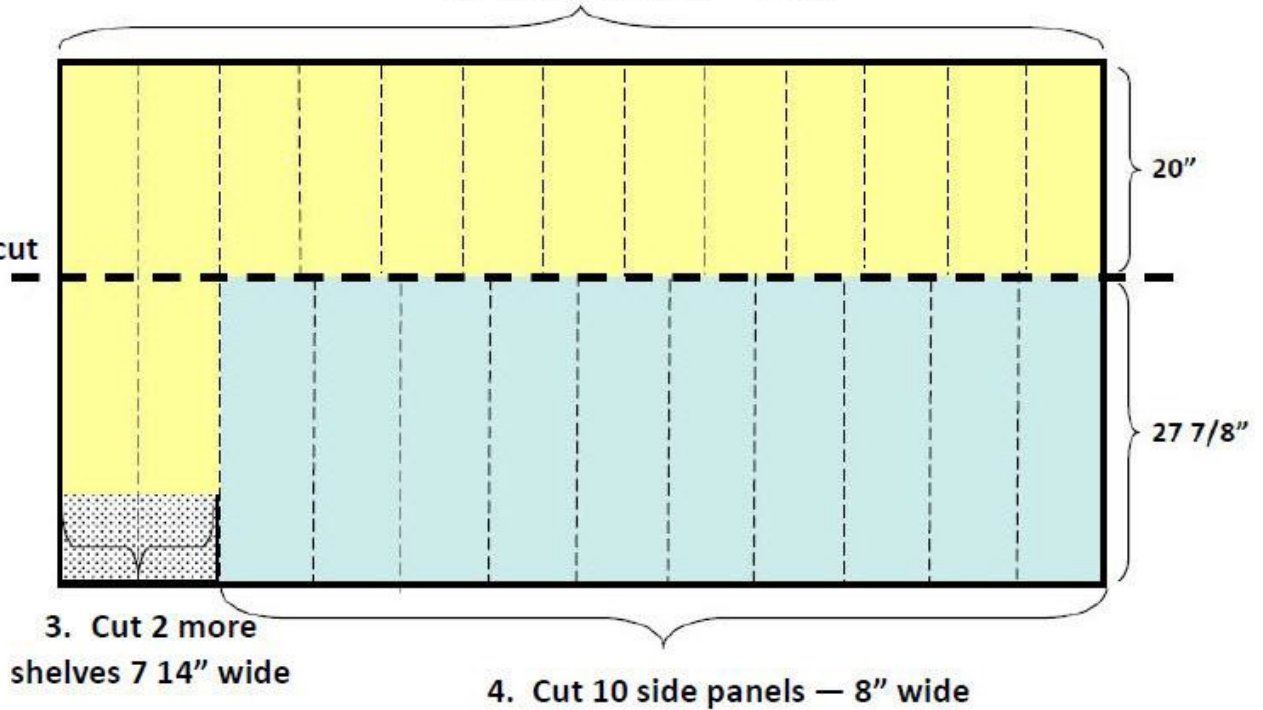
Lumber Cut Sheet

Shelves & Side Panels:

4' x 8' sheet of 3/4" high grade plywood, one side sanded (1/8" allowed for saw blade)

2. Cut 13 shelves — 7 1/4"

1. Lengthwise cut
(1st cut)

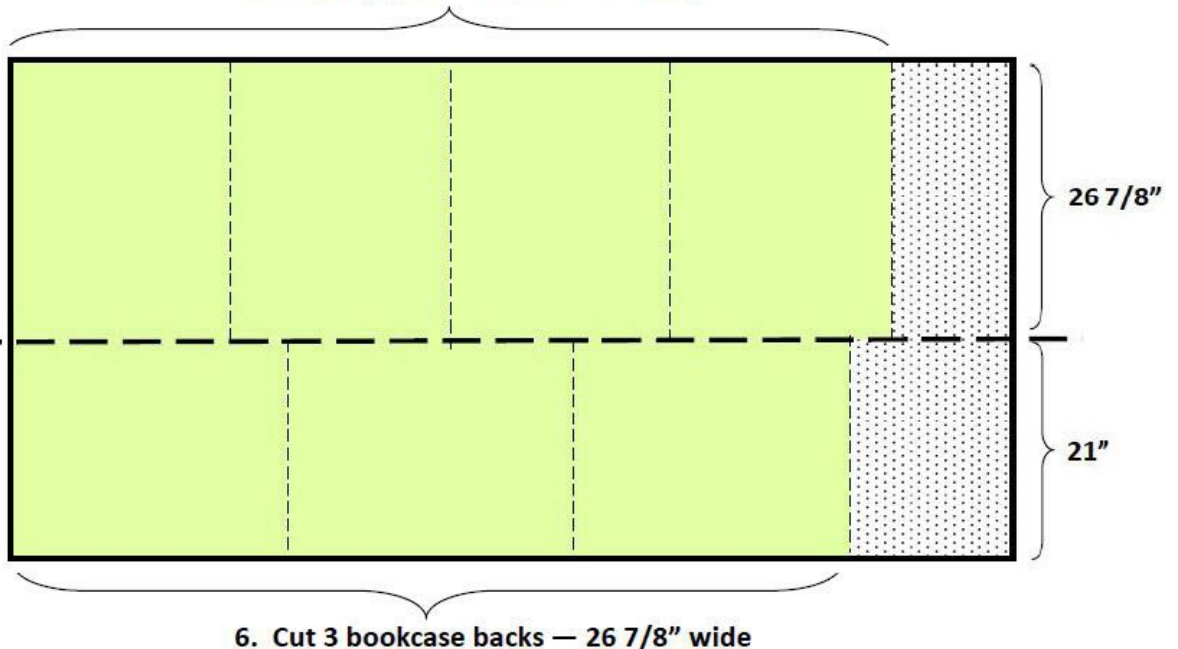


Backs:

4' x 8' sheet of 1/8" fiberboard or plywood

7. Cut 4 bookcase backs — 21" wide

5. First Cut



**Alternative Cutting Guide Using
10-FT. Pine Planks
Instead of Plywood for Shelves and Sides**

For one bookcase:

60" of 1" x 8" pine for 3 **20" shelves** (1 board)

56" of 1" x 10" pine for 2 **28" sides** (1 board)

For five bookcases:

300" of 1" x 8" pine for 15 **20" shelves** (3 boards)

280" of 1" x 10" pine for 10 **28" sides** (3 boards)

Use pieces to assemble bookcases according to the following directions.

Prepare to Assemble

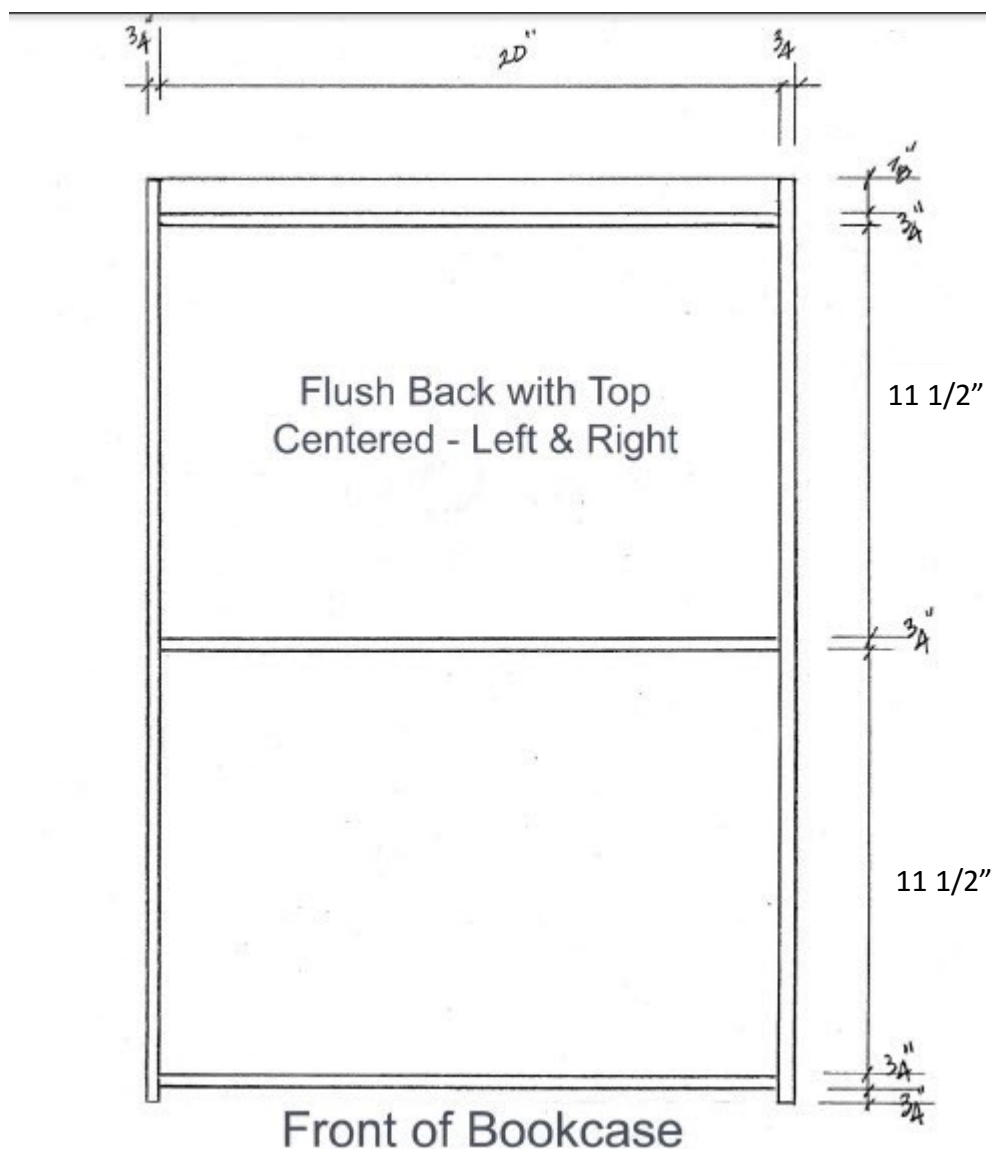
The schematic below shows the dimensions of the assembled bookcase.

Each shelf will fasten to the side panels with four screws, two on each side. To prepare, mark the top of each side panel and drill pairs of pilot holes:

- Top: 25 5/8" from bottom**
- Middle: 13 3/8" from bottom**
- Bottom: 1 1/8" from bottom**

Cut two pieces of 8" scrap lumber 11 1/2" long to be used as shelf **spacers**. These will allow for quick and easy assembly without having to take further measurements.

Sand lumber for shelves, side panels, and spacers. It's time to build.



Bookcase Assembly

1. On a flat surface, square up the bookcase, in its general configuration on its back, with two side panels and three shelves in between. Temporarily place the top shelf flush with the bottom of the side panels to space the bottom shelf 3/4" off the ground. Position middle shelf by lining up 11 1/2" **spacers** along inside surfaces of side panels, with ends against bottom shelf. Secure with bar clamp across middle shelf, fastened to side panels.



2. Attach bottom shelf to side panels by inserting two screws on each side through pilot holes.

3. Attach middle shelf to side panels using two screws on each side. (After one screw has been inserted on each side, remove bar clamp to access second pre-drilled hole.)

4. Relocate 11 1/2" **spacers** above middle shelf to determine top shelf position. Fasten top shelf to side panels using two screws on each side.

5. Flip bookcase over to attach back. Apply wood glue along back edges of side panels and shelves. Line up top edge of back with tops of side panels, and fasten in place using nails.



6. Stand the bookcase upright. Round off the top front corners, using a router or power sander or jigsaw.

7. Examine the bookcase for protruding nails or screws. Make corrections as needed. Fill in any plywood imperfections with wood putty and sand smooth.

8. Apply primer and paint.

9. Conduct a final quality assurance inspection, checking every inch of surface. **Make sure bookcase is smooth and safe for a child.**

