

# Wood Science A Closer Look

YANR-8d

ALABAMA COOPERATIVE EXTENSION SYSTEM / ALABAMA A&M AND AUBURN UNIVERSITIES, ALABAMA 36849-5612

## 4-H Woodworking Exhibit Plan

### Ball and Bat Shelf

#### Materials Needed

One 15" length of 1" x 6" board for the shelf (piece A)  
 One 15" length of 1" x 12" board for the shelf (piece B)  
 Two 3" wooden pegs  
 Wood glue  
 Sandpaper (80 grit and 210 grit)  
 Stain and Varnish for finishing

#### Tools Needed

Pencil            Square            Handsaw            Coping saw  
 Compass        Ruler            Screwdriver        Drill  
 2" and 1½" hole saw

#### How to Make a Ball and Bat Shelf

##### Piece A

1. Cut the 1" x 6" board exactly 15" long. Next, rip the board to make it exactly a 1" x 4" board. (Note: When you buy a 1" x 6" board it actually measure about ¾" thick and 5½" wide.)
2. Measure and mark a point 2½" over from the end and 2" from the back on both ends of piece A. Then use the compass to make a 2" circle at these two points.
3. Measure and mark a point 6" from the end and 2" from the back on both ends of piece A. Then use the compass to make a 1½" circle at these two points.
4. Marking the slots for the bat handles: Mark a point at the front of the shelf straight out from the edge on both sides of the 1½" wide circles. A square will help you do this. If you have done this correctly, these points should be 1½" apart.
5. Draw a horizontal line 1½" from the front of the shelf crossing the 1½" circles.
6. Draw a line from the intersections of the horizontal line on the 1½" circles to the reference points you found in Step 4. This is where you will cut the slots for the bat handles.
7. Using a 2" holesaw cut the holes for the balls. Use a 1½" hole saw to cut out the holes for the bats.
8. Use a coping saw to cut out the slots for the bat handles.

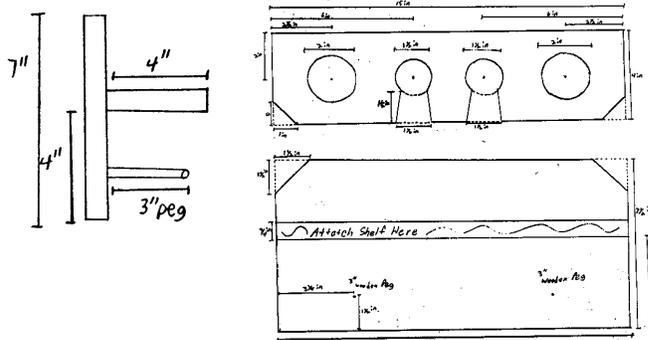
9. Making the angled corner on both ends of piece A: From the front side of piece A mark a point 1" from the end corner on the front and 1" from the end corner on the side. Draw a line connecting these two points to make the angled corner. Do this on both front ends of piece A.

##### Piece B

1. Cut the 1" x 12" board exactly 15" long. Rip it to make it exactly a 7½" x 15" board. (Note: When you buy a 1" x 12" board it actually measures about ¾" thick and 11¼" wide.)
2. Making the angled corners on the top of piece B: From the top of piece B mark a point 1½" from the end corner on the top and 1½" from the end corner on the side. Draw a line connecting these two points to make the angled corner. Do this on both top ends of piece B.
3. Drill the proper size holes for the pegs 4¼" from the ends and 1½" up from the bottom of piece B. Be careful not to drill the holes through the board.
4. Glue the wooden pegs into the holes. You may want to sand the project before you glue the pegs.

##### Assembly

1. Sand all surfaces with 80 grit sandpaper and then smooth surfaces with 210 grit sandpaper.
2. Stain and varnish the project.
3. Use three 1¼" wood screws to attach piece A 4" from the bottom of piece B.



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