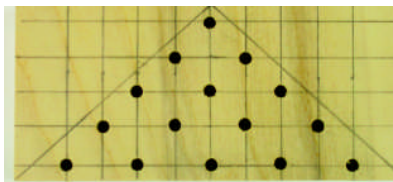
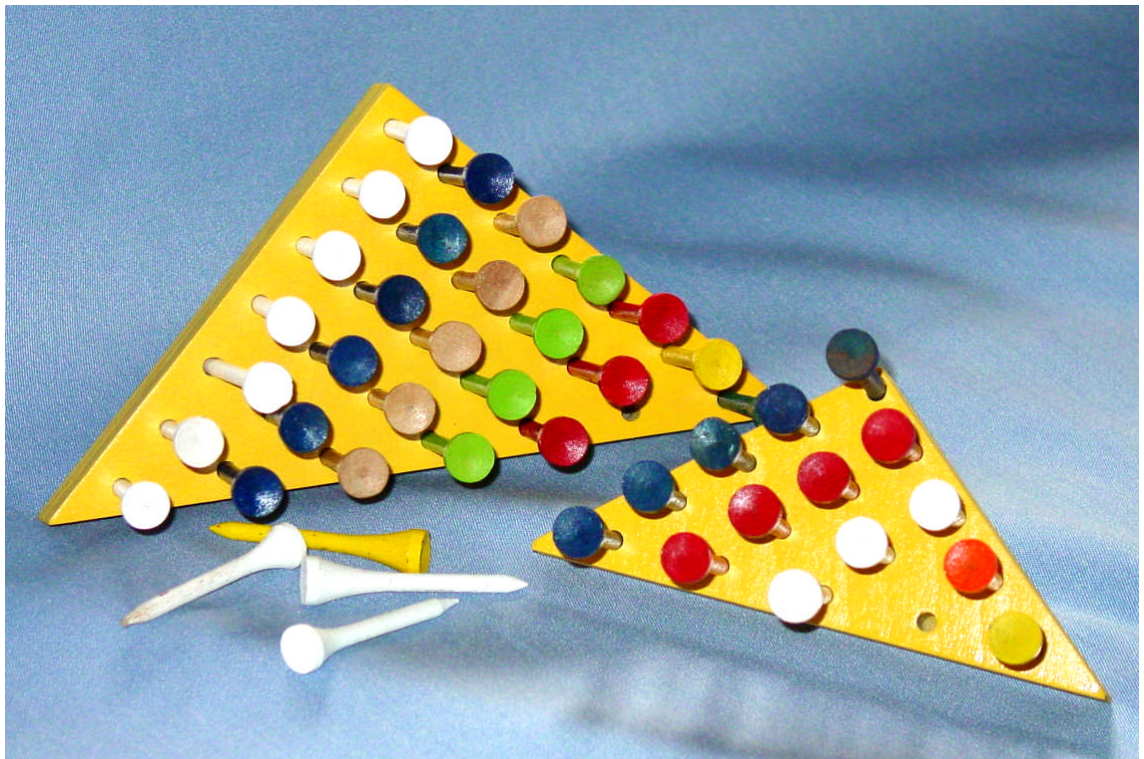


Peg Game



Lesson 6

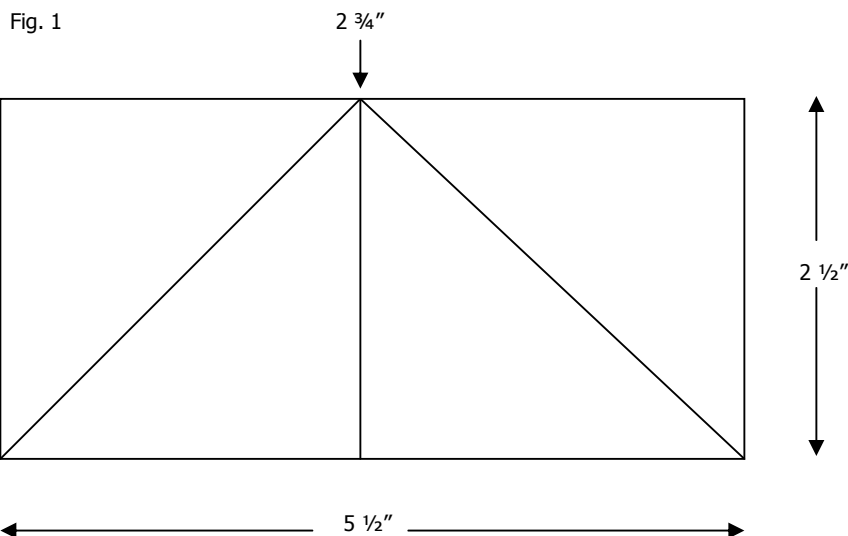
The Peg Game

Here's a fun and challenging game that's small enough to take with you just about anywhere. Make several to put around the house and in your parent's cars so when you find yourself bored a quick game is always at hand.

Now let's put some of those skills you've been working on like measuring, using the speed square, the brace drill, and sawing to good use. Find a piece of wood that's $\frac{3}{4}$ " thick 2 $\frac{1}{2}$ " wide and 5 $\frac{1}{2}$ " long or another way of writing the same measurement is $\frac{3}{4}$ " x 2 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ ". If you need to cut it down to size mark your lines, put on your safety glasses, grab your handsaw and get busy. Using your speed square draw a line down the center at 2 $\frac{3}{4}$ ". Now draw a line from the top of the centerline to the right bottom corner. Do the same for the left side. Your piece of wood should look like figure 1.

Items You'll Need

- $\frac{3}{4}$ " x 2 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ " piece of wood
- Hand brace drill
- $\frac{3}{16}$ " twist bit
- Handsaw
- Clamps
- Golf tees
- Speed square
- Measuring tape
- Safety glasses



Pick up your measuring tape and hook the end to the bottom of the triangle shape near the centerline. At $\frac{1}{4}$ " place a mark on the centerline and at the $\frac{3}{4}$ ", $1\frac{1}{4}$ ", $1\frac{3}{4}$ ", and $2\frac{1}{4}$ ". With your speed square or combination square draw lines across the length of the board at these marks. It should look like figure 2.

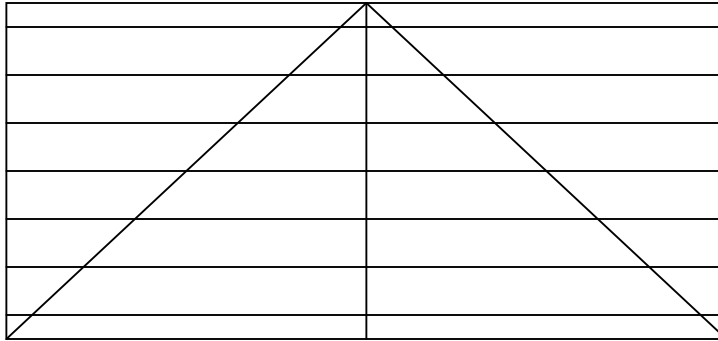


Fig. 2

Turn the piece around and mark these distances across the length of the triangle at $\frac{3}{4}$ ", $1\frac{1}{4}$ ", $1\frac{3}{4}$ ", $2\frac{1}{4}$ ", $3\frac{1}{4}$ ", $3\frac{3}{4}$ ", $4\frac{1}{4}$ " and $4\frac{3}{4}$ ". It should look like figure 3.

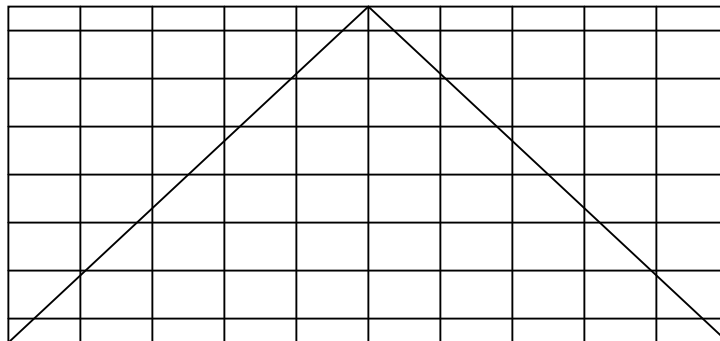


Fig. 3

Now our piece is ready to mark for placement of the holes. Use the picture below as a guide. Make sure the marks all line up as in figure 4 before you go to the next step.

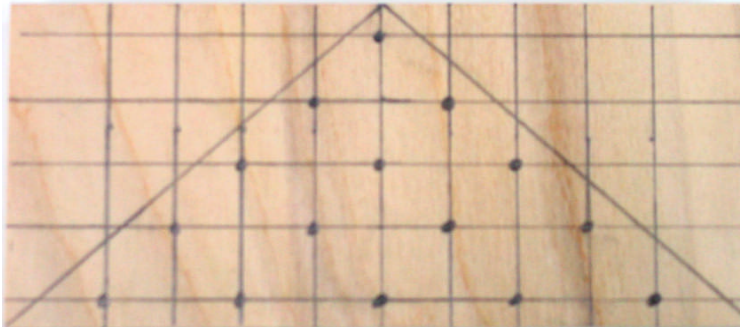


Fig. 4

Ok, now get ready to drill your holes. From the lesson on drilling we talked about the two easiest ways to drill holes with a hand brace; on the floor with a scrap piece underneath or held in place by clamps or a bench vise about chest high as in figure 5. Pick which way is best for you and get set up. Now we have to decide what diameter bit to use. If you're going to use golf tees, as in the picture at the front of the lesson, then a $3/16$ " twist bit should work perfectly. You want the tees tight enough to not fall out when the game is picked up but not so tight that they're hard to pull out. Use a scrap piece of wood to test the fit with what ever you decide to use as pegs first before drilling into your game piece.

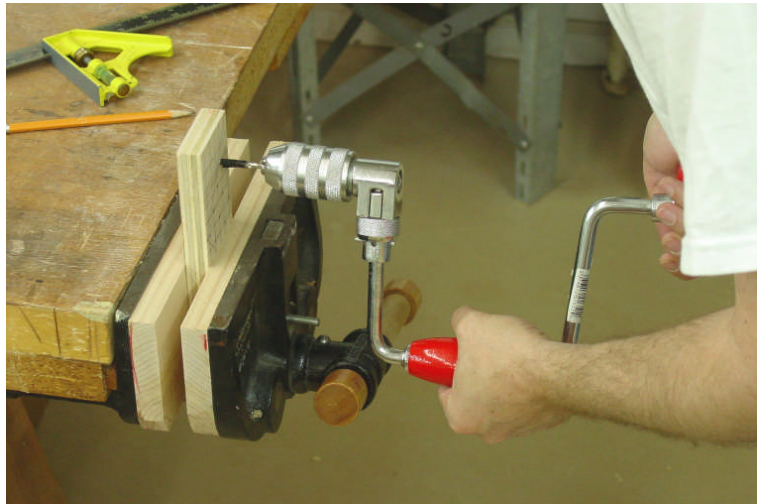


Fig. 5 Using hand brace in vise

Were not ready quiet yet to drill the holes. There's one more thing we need to know that we've not talked about. Can you guess what it is? We don't know how deep to drill our holes! If we drill holes all the way through the pegs will fall out the bottom, but if we don't drill deep enough the pegs won't hold and they'll fall over. Well, we did some experimenting with our peg games and found that we needed to drill about a $\frac{1}{2}$ " deep hole into our $\frac{3}{4}$ " board in order for the pegs to fit snugly. Here's a trick to make sure all your holes turn out to be a $\frac{1}{2}$ " deep. Lay your bit across the depth of the board and measure down $\frac{1}{2}$ ". Wrap a piece of tape around the bit where the bit hits the top of the board. Stop drilling when the piece of tape reaches the top of the hole. Figure 6 shows how to set the depth.

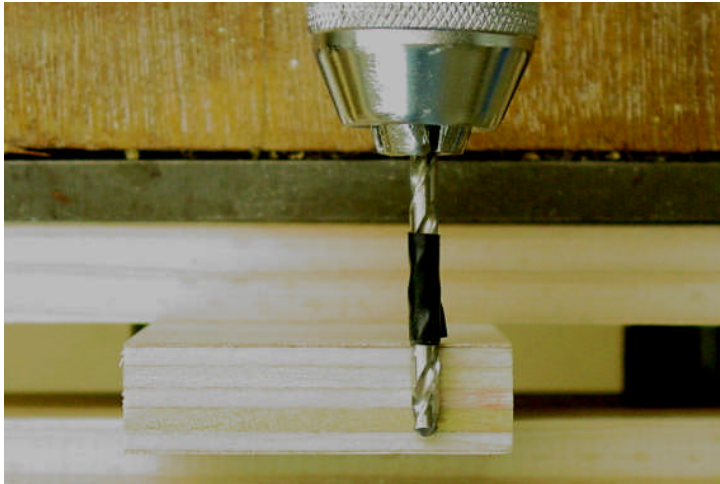


Fig. 6 Setting depth of hole to drill

Drill your holes and check the fit with the pegs you've chosen. Are all the tops of the pegs the same height? If not you may have to go back and check to make sure all the holes are drilled to the correct depth.

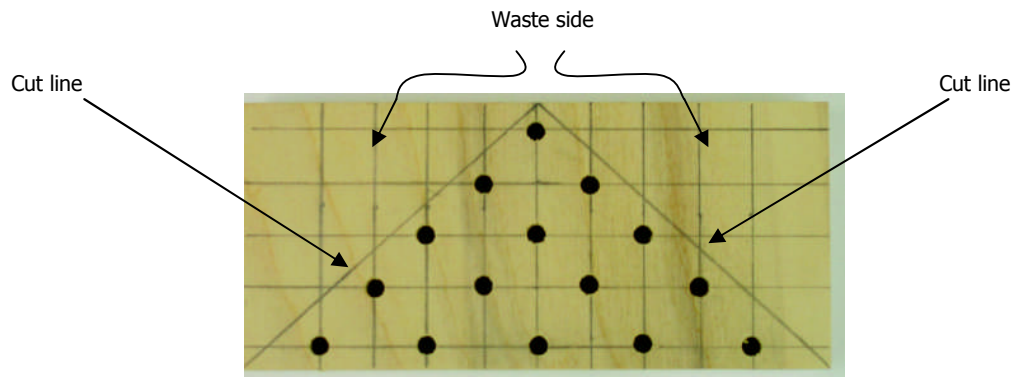


Fig. 7

Next the corners of the triangle need to be cut off. The lines for this are already drawn on your piece. Clamp the work piece to a sturdy bench or table with the waste side out over the edge. (See figure 8)

Now, all that's left to do is to sand the piece and apply your favorite color of paint. Read lesson 7 on finishing to learn some tricks of the trade to make your projects look the best they can. After all, you've spent a lot of time and effort building; you want it to look its best when you go to show it off to all your friends.



Fig. 8