

1 ○

10 ○

100 ○

1,000 ○

10,000 ○

100,000 ○

1,000,000 ●







**You will need:**

Printed template

Scissors

A Cardboard box

Box Cutter

Glue

Hole Puncher

String

Beads (Large Bead Frame: 30 green, 20 blue, 20 red / Small Bead Frame: 20 green, 10 blue, 10 red)

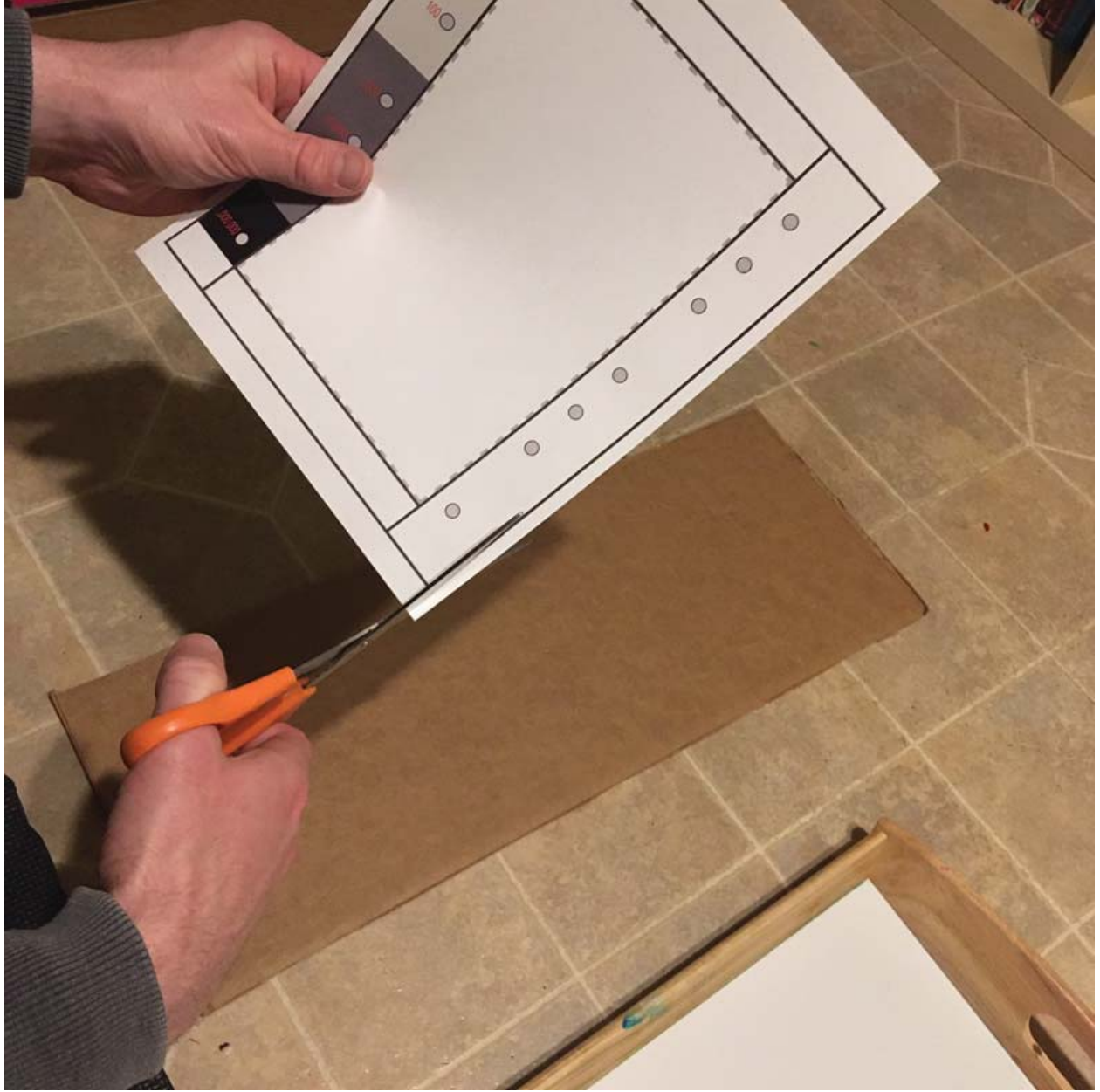
\*If you do not have these colors please try to get as close as possible or use alternate colors in the same quantities.

Hot Glue Gun



Step 1: Find a box that has a nice long side and cut that side out. Print out the template and make sure it will fit on the box.

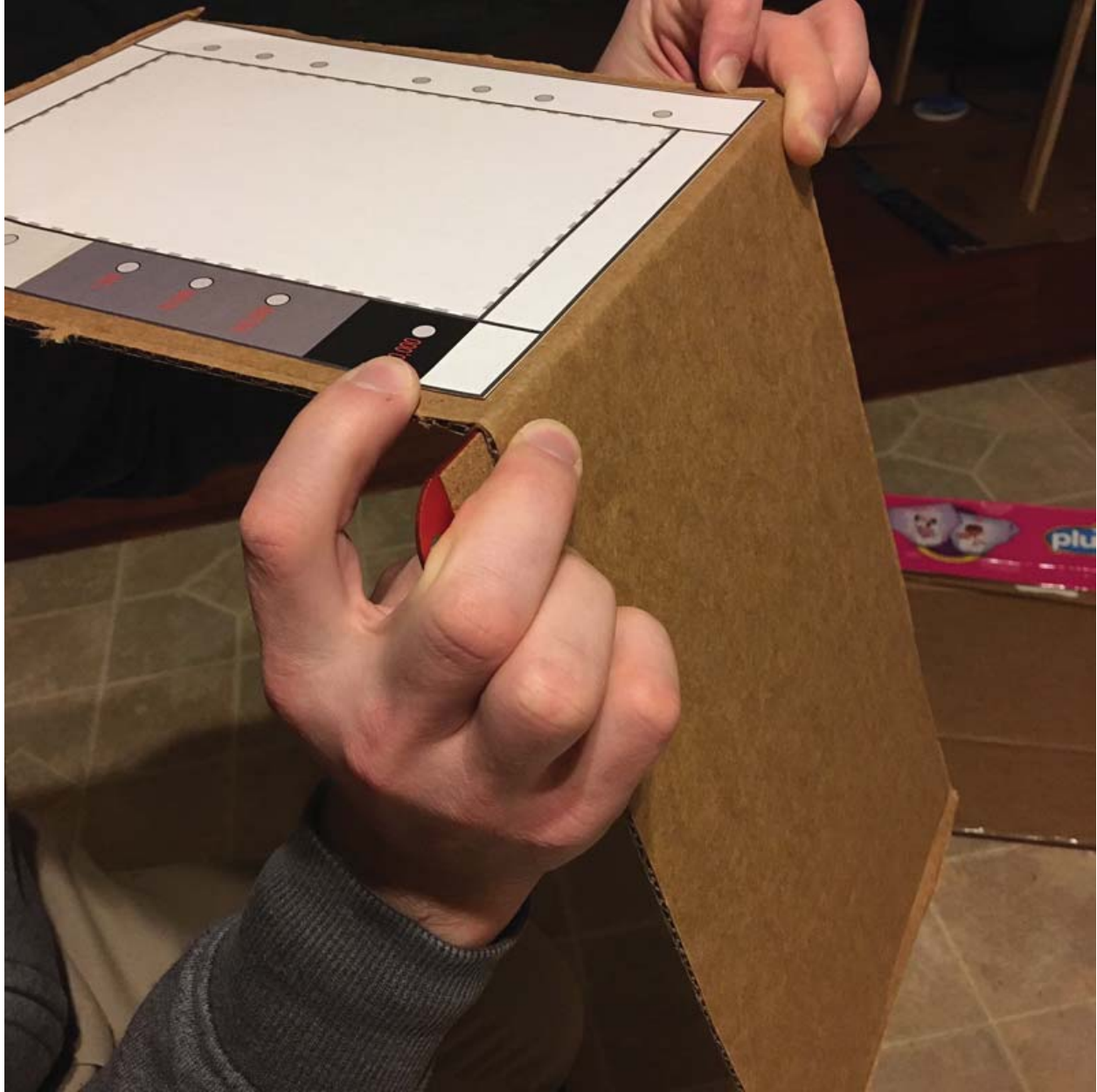




Step 2: Cut out the template to the outside edge.



Step 3: Glue the template with the top aligned to one of the short sides on the cardboard.



Step 4: Using a ruler, gently bend the box at one of the 'lines' away from the template. This will later be folded and glued to provide support. Make another fold two inches into the back piece to act as the bottom of the frame

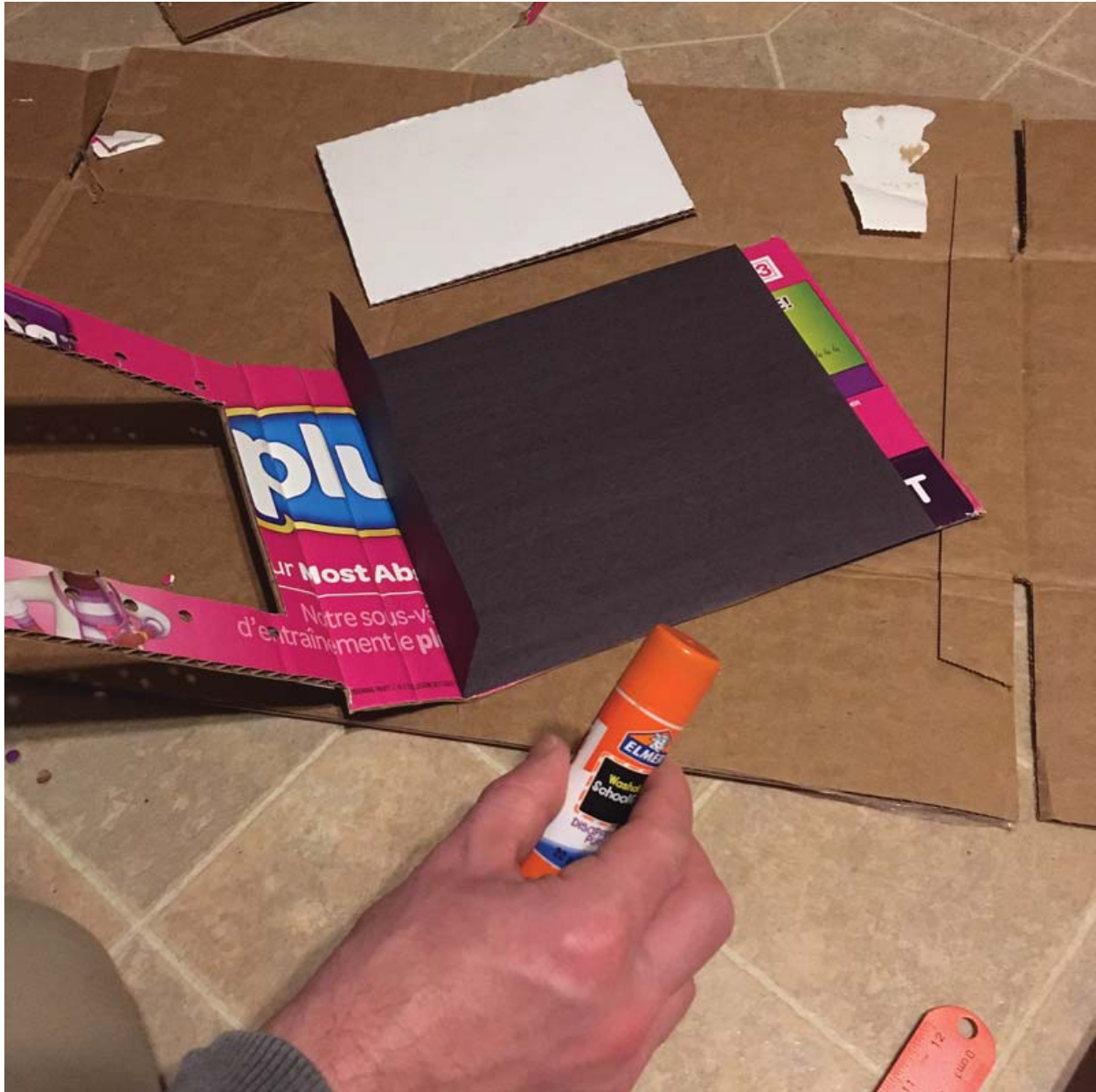


Step 5: Using a box cutter on a safe surface (cutting board or scrap cardboard) with a ruler, cut out the center of the bead frame (dotted line).

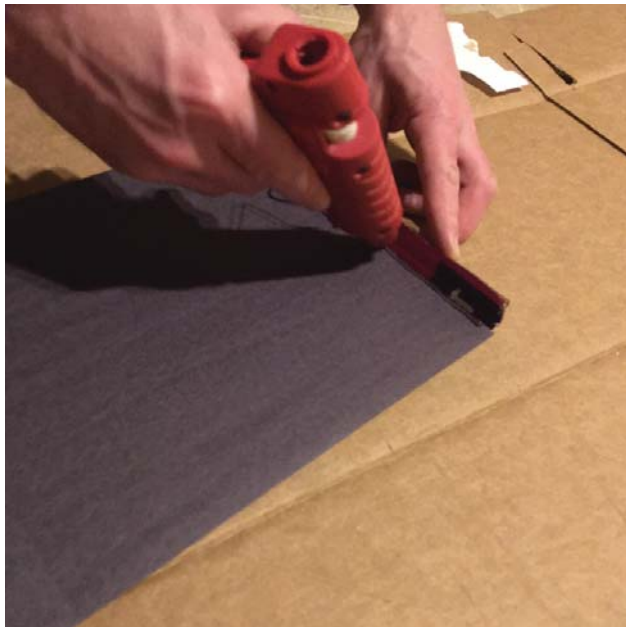




Step 6: Using a hole puncher, punch out each of the 14 holes (7 on each side).



Optional Step 6 ½: If your box is really busy, glue some construction paper over it. This will be the backdrop behind the beads!



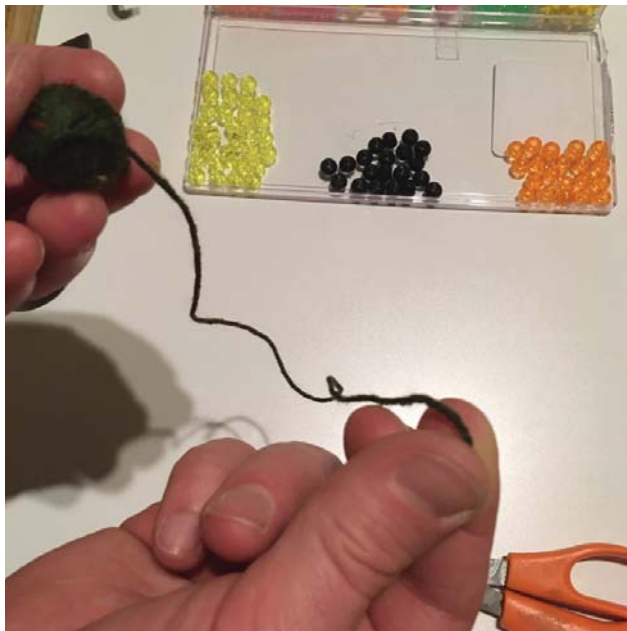
Step 7: Using a ruler, gently fold the top inch to half inch in and hot glue it. This is the back of the frame behind the beads.



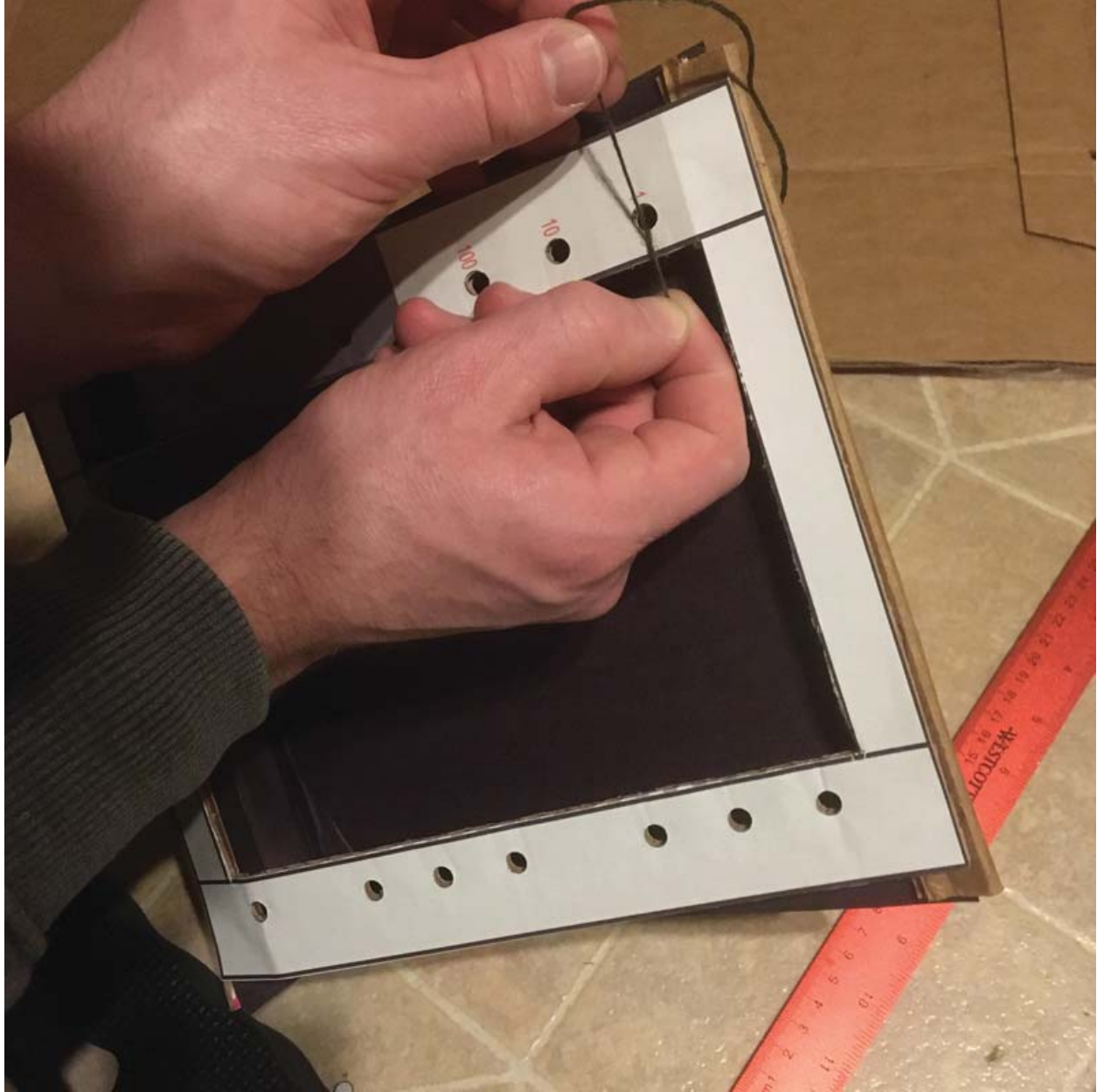


Step 8: Hot glue the top edge of the template to the folded cardboard on the back.

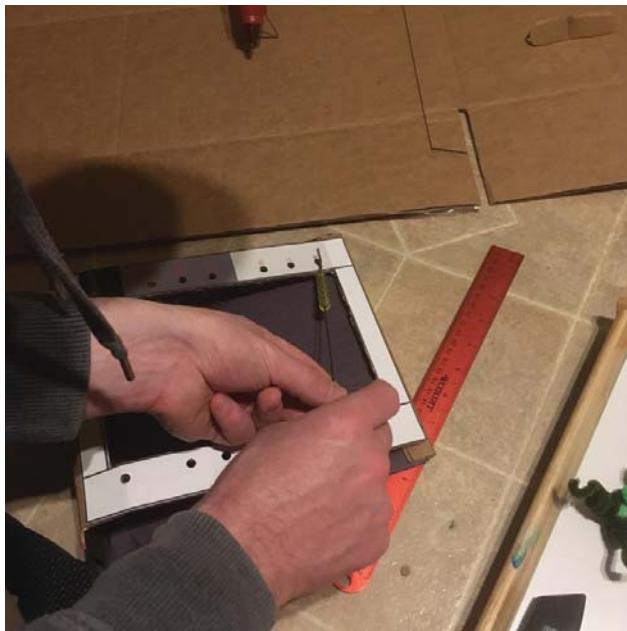




Step 9: Count and sort out your beads. Traditionally the bead frames use the Montessori decimal hierarchy which is green for units, blue for tens, and red for hundreds. This pattern repeats for each family (thousands, millions, etc.). If you cannot match the colors try to at least replace the colors with similar ones or use the same pattern but with different colors as shown in the picture. Just make sure they repeat in every trio. The large bead frame needs 70 beads altogether with 30 for the units, thousands, and millions, 20 for the tens and ten thousands, and 20 for the hundreds and hundred thousands. The small bead frame needs 40 beads in the same pattern but the highest category is the thousands.



Step 10: Cut some string and tie it to the left side of the bead frame. Make sure to cut the other end well past the hole so you have enough to tie it.

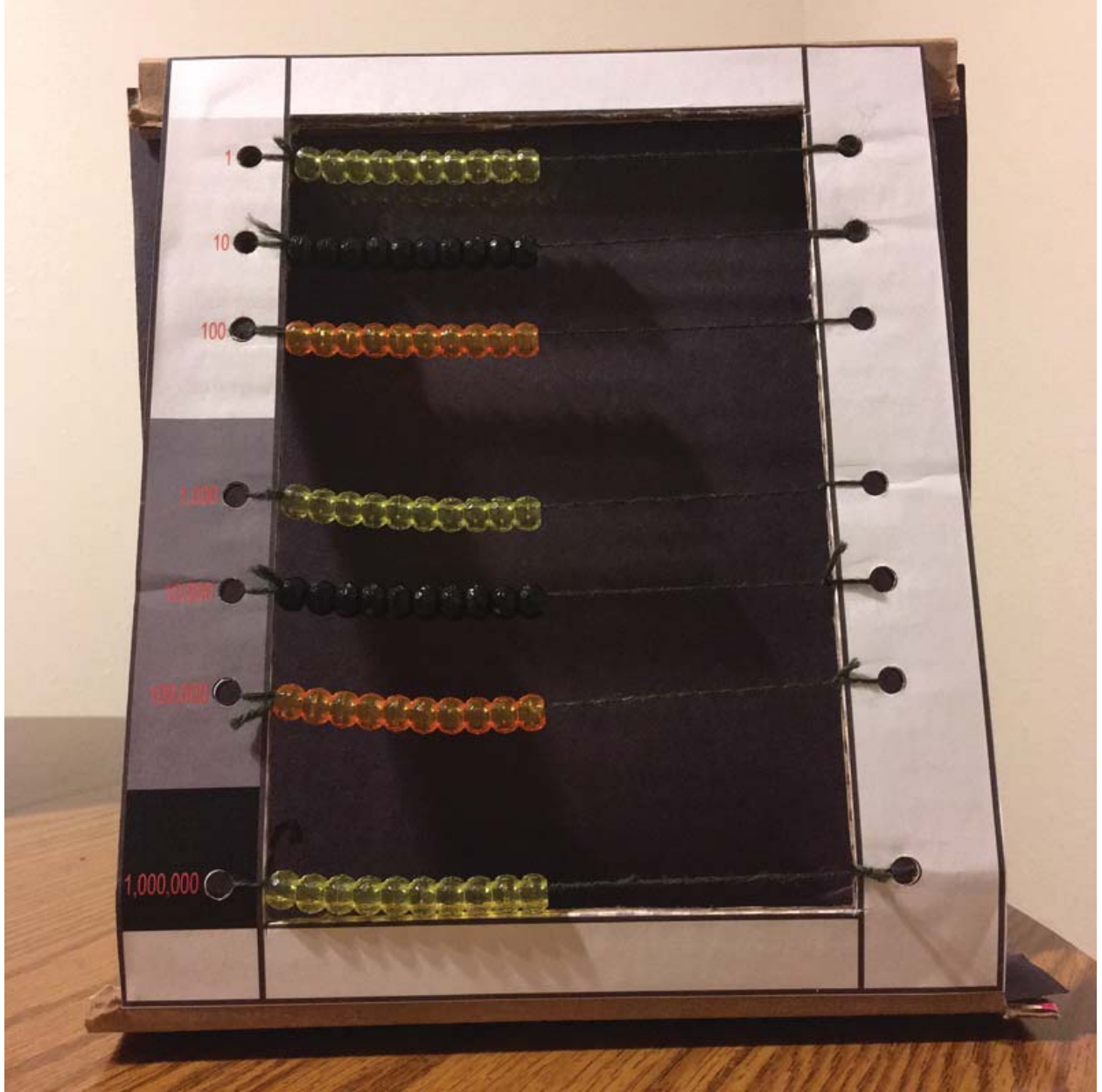


Step 11: Place 10 beads on the string for the units (traditionally green) and tie it to the right side hole.



Step 12: Repeat steps 10-11 for the other six holes making sure to alternate colors (see next step).





Finished bead frame! Get ready for some math fun!