How to Sew a Pleated Face Mask

Supplies needed for 1 mask:
• 1 – 8” x 11” rectangle woven cotton fabric (mask front)
• 1 – 8” x 8” square woven cotton fabric (mask back)—use 2 if you want extra filtration or if fabric is very thin
• 2 – 11” pieces of elastic (1/8” or 1/4” wide)
• 1 – optional nose bridge wire (shown below: 1/3 pipe cleaner with ends folded in for safety)
• Thread
• Pins
• Scissors
• Sewing machine or hand sewing needles

Optional but useful:
• Ruler or measuring tape
• Seam ripper (in case of mistakes)
1. Place fabric right sides together. Center the square on top of the rectangle.

Note: I’m using solid-color fabric that doesn’t have a “right” or “wrong” side. Most print fabrics do, however. The right side is the front, the side meant to be seen. The wrong side is the back. So, “right sides together” means inside out.

2. Using a straight stitch (regular stitch), sew across the top and bottom of the square about ½” from edge (i.e., ½” seam allowance). If hand sewing, a running stitch or backstitch will work.

A slightly larger or smaller seam allowance is fine, though I wouldn’t go under ¼”. When machine sewing, I like to line the fabric edge up with the right side of the presser foot as a guide.

This is what the mask front looks like, wrong side out, after Step 2.
3. Turn the fabric right side out.

Beginners: Press with an iron if available. You may find the fabric easier to handle and sew if edges are neatly pressed.

4. Sew across the entire width of the bottom as close to the bottom edge as you can. This is called topstitching. It reinforces the seam and looks neat.

NEXT: If you’re not putting in a nose wire, topstitch the top of the mask the same way, then skip to Step 8. If you are using a nose wire, follow Steps 5–7.

This is what the mask front looks like after Step 4, right side out.
5. **OPTIONAL NOSE WIRE (Steps 5–7):** Place the nose wire inside the mask, tucked into the top seam allowance. Center the wire across the width of the mask.

6. Close the mask and sew across the top, just under the nose wire. It should be snugly tucked and sewn in against the top seam.

7. Sew a few stitches on each side of the wire, perpendicular to the top edge. This keeps the wire from sliding sideways. Backstitch a few times to secure it.

Take care not to sew on the wire, as that could break your needle. Better to leave extra room if you’re new to this.

Experienced sewists may prefer to zigzag stitch along the top edge, securing the wire in the middle (see photos on front of instructions).

This is what the mask front looks like after Step 7.
8. PLEATS: Lay the mask on a flat surface, front side up. Fold the top down about 1.5-2”. Fold about 2/3 of it back up. Pin in place.

Make two more pleats. For each pleat, try pinching 1.5–2” (or so) of fabric upward with your thumb and forefinger, both hands, just under the previous pleat. Fold the raised fabric downward and pin it. Press flat with an iron or your hands.

The mask should now be 3” to 3.5” high (I prefer 3”).

There are different ways to fold pleats; play around with it. Pleats don’t have to be perfectly straight or the same size. The important thing is the finished mask height (3–3.5”), and even that doesn’t have to be exact. This is a very forgiving pattern. It WILL fit.
9. Sew down the pleats by stitching two vertical lines about 2” in from each side. Make sure to catch the lining fabric.

Secure the pleats further by stitching two more vertical lines, about ½” in from each side.

This can be a tricky step for beginners. Go slowly. If the pleats slip while you’re sewing, you can add more pins closer to the edge, and be sure to press the pleats down with your fingers as you’re moving the fabric through the machine. (If you’re hand-sewing, hold them in place while stitching.) Just try not to sew over any pins, since you can break a needle that way. After you sew the two vertical lines, remove any remaining pins.

This is what the back of the mask end looks like after Step 9.

Take a moment to trim all those extra threads!
10. **ELASTIC CASING & ELASTIC:**
Fold one end of the mask in about \(\frac{1}{2}\)” towards the back. Carefully lay in one of the elastic pieces.

Fold the end in one more time until it reaches just past the 2” vertical line you sewed. Pin in place. This creates the elastic casing, the channel that the elastic runs through. Sew down the elastic casing, about 1/8” from the edge.

Repeat for the other end of the mask.

After folding, make sure the elastic is tucked all the way at the end of the mask so you don’t accidentally sew into it. Use extra pins if needed. If machine sewing, remove pins as you’re sewing to avoid hitting one with the needle.

This is what the back of the mask end looks like after Step 10.
11. Tie the ends of each ear loop in a loose slip knot. Try on the mask and adjust ear loops as necessary.

*** Hooray! You did it! ***

Finished size:
3” to 3.5” tall
8.5” to 9” wide
(+ ear loops)
Fits most adults

This pattern is intended for personal, educational, and charitable uses only. Cloth face coverings are not medical equipment but can serve an important role in public health. Please credit Prof. Mai-Linh Hong, University of California, Merced, if sharing the pattern.

Questions: please contact hongm@ucmerced.edu.

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