Easy Best Fit Mask

by YukonJulie

It looks like we are going to have to get used to wearing masks for awhile. As a sewist, I've been making masks for friends for the last few weeks, but have never been completely satisfied with the patterns I've tried out (which have been many).

I wanted to design a comfortable, well-fitting mask that's easy to make. If a mask isn't comfortable or doesn't fit well, people won't keep it on, or will take it on and off, which is counterproductive.

The mask patterns I've tried fall into two categories:

- a rectangular mask with pleats or gathers
- a more 3 dimensional mask with curved pieces, such as the Olsen mask, which I've made from this excellent instructable

The 3 dimensional masks are great, but are harder to make, and since they fit the face very closely, the pattern has to be modified for each individual in order to achieve a good fit. This is not feasible when making large quantities of masks for unknown recipients.

The rectangular pleated masks were easy to make, but had some shortcomings:

- they often gaped at the sides
- the double layer of pleated fabric at the side was bulky and stiff
- the direction of the pleats vented hot air upwards towards eyes, fogging up glasses
- the elastic was sewn directly on to the mask, and couldn't be adjusted to fit the ultimate mask recipient

My goal was to revamp the design to address these issues. My solution is an easy-to-make, comfortable mask which fits a variety of faces well - the **EasyBest Fit Mask.**

Supplies:

- cotton fabric - this can be from an old shirt, a sheet, or quilting fabric - these are all woven fabrics
- an old T-shirt
- 1/8" or 1/4" elastic, or use strips of T-shirt fabric, or shoe laces or other cord to hold mask around the ears. You will need two 16" strips of T-shirt fabric or cord **or** two 11" pieces of elastic
- 3" to 5" of wire, twist tie, pipe cleaner or other bendable metal to shape mask around nose

All fabric should be pre-washed in hot water and run through the dryer before cutting.

Step 1: Measure and Cut Fabric

The breakthrough in my design process comes from these two key changes to the standard rectangular mask:

- adding side panels to create a channel for the elastic or cord
- using T-shirt fabric for these side panels

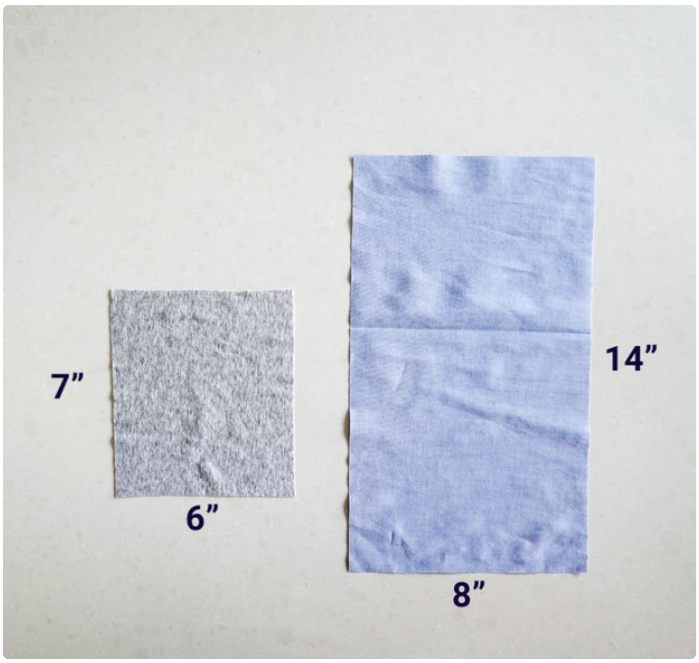
T-shirts are made from knit rather than woven fabric, which brings several advantages: the edges don't fray, and the material has some stretch so it conforms well to individual facial contours.

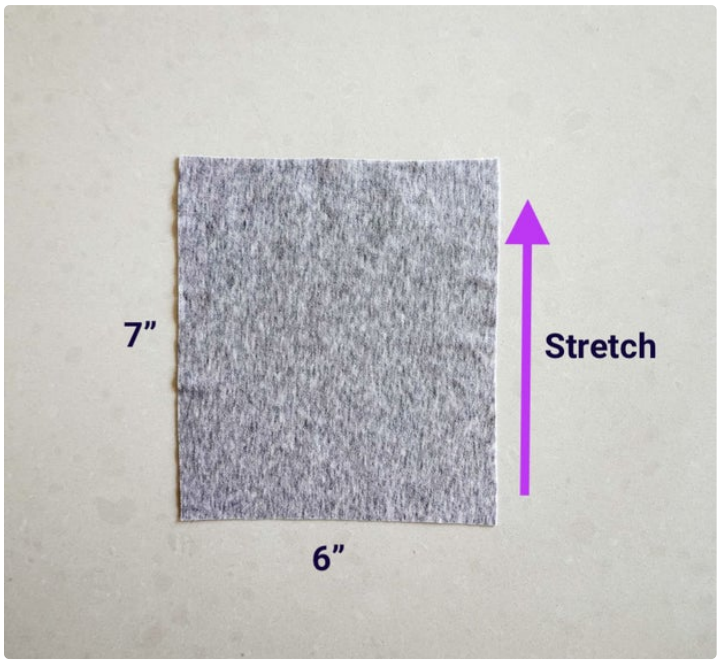
To make this mask, cut out:

- one 8" X 14" piece from the cotton fabric (for a smaller adult face cut fabric 7" or 7 1/2" wide)
- one 6" X 7" piece from the T-shirt knit

Knits generally stretch more in one direction than the other. On a T-shirt, the stretch will generally go around the body, rather than up and down. Cut your knit piece with the stretch going in the direction of the 7" side.

If making ties from the T-shirt fabric, the easiest thing to do is cut a strip from the hem of the sleeves, or the hem of the body of the T-shirt. This fabric is already two layers, sewn together - ready to use as a fabric tie. You will need either two 16" fabric ties or two 11" pieces of narrow elastic to attach the mask to the face.





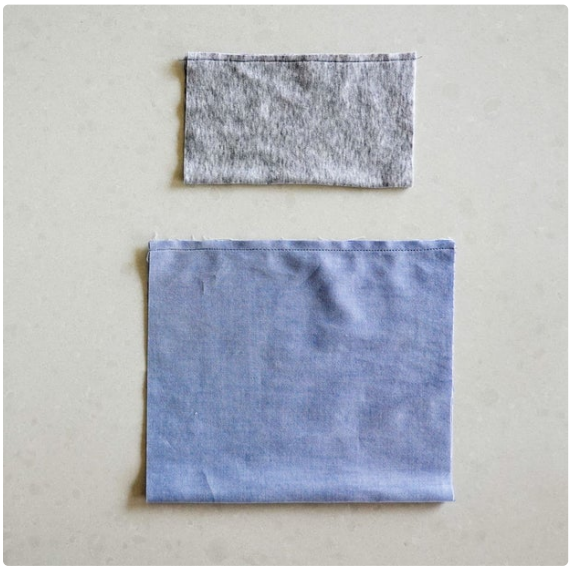
Step 2: Sew Your Two Pieces of Fabric Into Tubes

Fold each of the fabric rectangles in half, right sides together (i.e. good side of fabric facing in) and sew the raw edges together with a 1/4" seam allowance. You will be sewing along the 8" side for the main body of the mask, and along the 6" side for the knit side piece.

You now have 2 tubes.

Cut the knit tube in half, perpendicular to the seam, so you have two roughly 3" square tubes. Press the seam allowance flat, turn right side out, and press with the seam somewhere in the middle.

For the woven tube which forms the main body of the mask, turn right side out, keeping the seam along the bottom edge, and press.



1. After you've turned the tube right side out, with the seam allowance hidden on the inside, iron it again to make sure the seam is somewhere in the middle, not at the edge.

1. The main panel has been turned right side out. The seam is at the bottom and seam allowance is on the inside of the tube.

Step 3: Mark "INSIDE" on One Side

Use a permanent fabric marker to write INSIDE on the top of one side of the main tube. You may want to put

something behind the top layer of fabric, like a pad of paper, to make sure the ink doesn't go through to the outside of the mask.

Step 4: Prepare Nose Strip

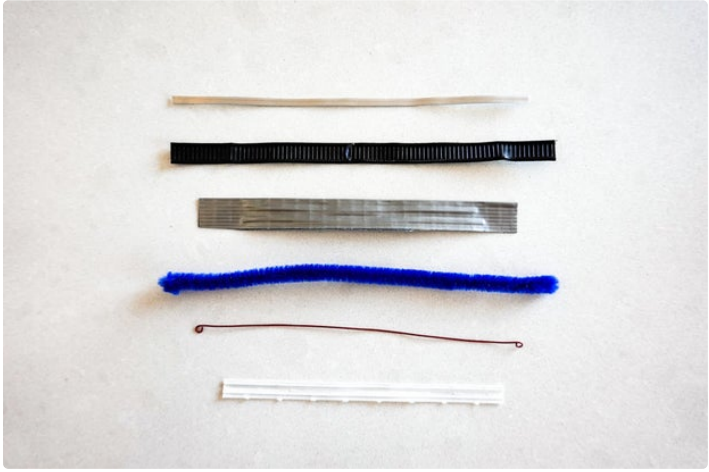
I have tried many things to replicate the metal (aluminum or zinc) nose strip which is commonly found in mass produced masks for medical use. This strip enables the mask to be shaped to conform to the shape of the wearer's face, allowing for a tighter seal along the top. A good seal provides better protection, and also reduces the upward flow of warm air which can cause glasses to steam up.

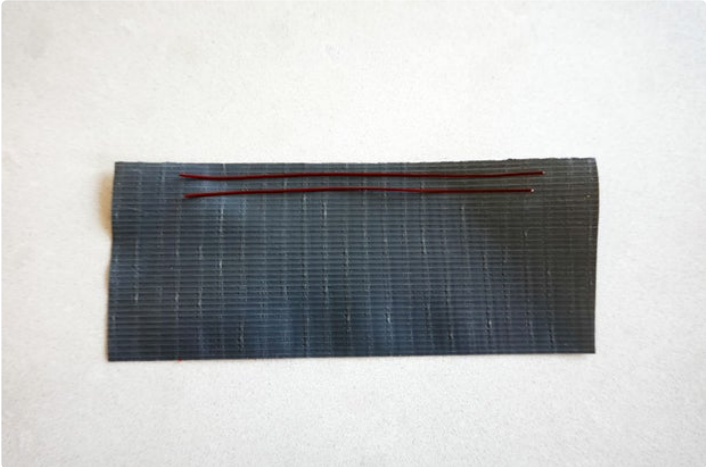
The first photo shows a variety of nose strips:

1. metal strip cut out of a commercial mask, 5" X 1/8" - this is what we are trying to replicate
2. plastic strip with two wires on inside, from a coffee package, 5 1/2" X 1/4"
3. duct tape strip with 2 wires inside it, 4" X 3/8" - easy to make - see 2nd and 3rd photos
4. pipe cleaner with tips turned in, 5 1/2" long
5. craft wire, tips curled in using round nose pliers, 24 gauge (thicker wire, e.g. 18" gauge, would be better). Sometimes I combine this with a plastic wrapped twist tie.
6. 2 plastic wrapped twist ties, not separated from each other, 4" long

Some mask makers have been able to find 1/4" wide rolls of aluminum, which would be ideal if you can find it.

I've tested these nose strip options and they work pretty well. The coffee package strip (#2) is ideal but not readily available. The pipe cleaners work well if it's a good quality pipe cleaner with decent wire in it. With many of these options, especially any plain wire, make sure you turn in the tips to avoid having wire ends poke out through the fabric. I find 4" is long enough for the nose strip but 5" is also good.



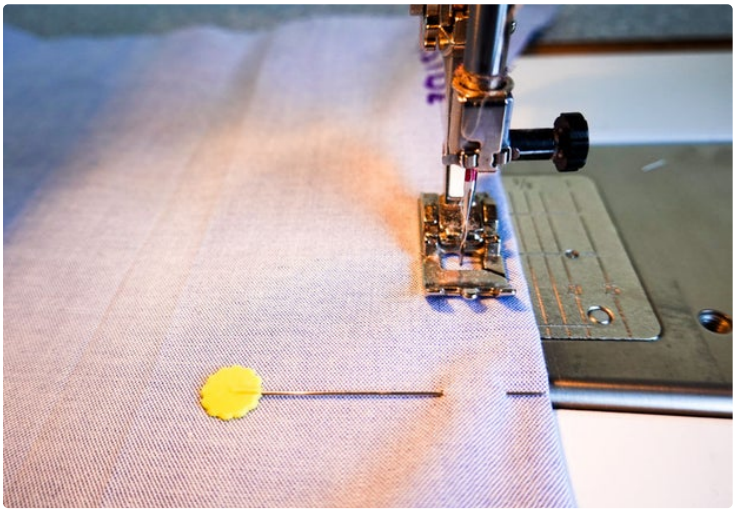


Step 5: Sew Nose Strip Inside Tube at Top of Main Panel

Enclose the nose strip in a channel inside the top of main mask tube. Start by centering the nose strip, pinning on one side to hold it tight against the top of the tube, and marking where the strip begins and ends with pins.

Once the metal strip has been pinned in position, enclose it with stitching. To keep the strip from moving around, start by sewing a narrow channel, then increase the width of the channel to accommodate the nose strip, trying to avoid sewing on top of the nose strip, then returning to a narrower channel.

The third photo shows what this looks like on the outside once you've sewn the nose strip in place.



Step 6: Mark Sides for Pleats

On the **outside** of the main panel, mark 1" intervals, starting from the bottom. Keep markings close to the edge so they will be hidden once the mask is sewn. Don't worry that the top mark is less than 1" from the top.

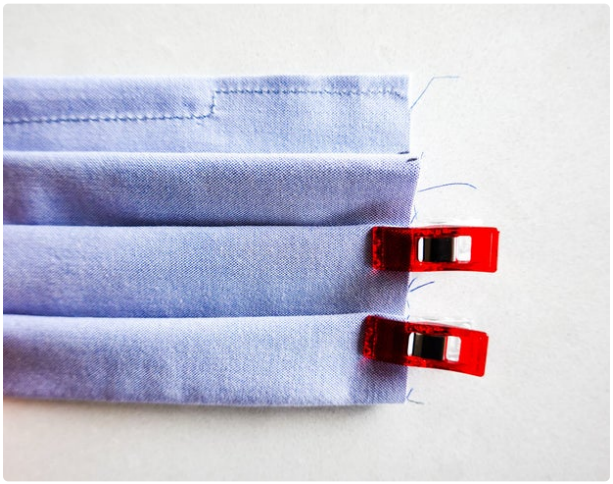
Use these marks as a guide to make three pleats.

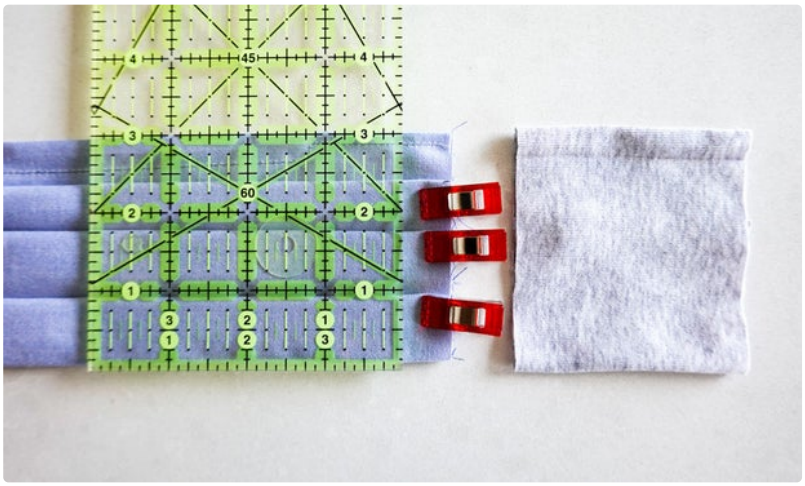
First pleat: bring bottom marking up to the next marking and clip or pin in place on both sides.

Continue in this way until you have three pleats. You do not need to follow the marks religiously - they are just a guide. I generally make the middle pleat larger as this is where the most room is needed.

These pleats are designed so that the "valleys" that could fill with hot air are on the outside, not trapping hot breath on the inside. This is the reverse of the pleat direction in many mask patterns.

The goal is to make the pleated sides end up the same size as the knit side pieces, about 3" high.





Step 7: Sew Main Panel to Side Panels

Take one of the knit tubes and place it under the main tube, so that both outside raw edges are aligned. The knit tube should be against the **inside** of the main panel, and its seam should face the table. Carefully take out the clips or pins, one at a time, and reclip the main panel to the side knit tube, without losing the pleat.

Sew these two pieces together, using a 1/4" seam allowance. Repeat on the other side. It's best to always sew in the same direction that the pleats are going in (as in the 2nd photo). Backstitch at the beginning and end of the seam to secure it.

Once you've sewn this seam, you will have a smooth, clean join on the **inside** of the mask with no raw edges visible.

Step 8: Turn Side Pieces Over, and Sew Down on Front

Turn the side knit pieces over to the front, and sew them down very close to the raw edge of the knit fabric, just past the thick seam you have just sewn, which is now covered up.

Sew a second parallel line of stitching, to completely enclose the raw edges of the fabric seam. This second line of stitching creates a channel at the edge of the mask, about 1/2" wide, for the strap.

The 4th photo shows the outside of the mask once this stitching is complete, with the bulky raw edges of the pleated main panel completely enclosed by stitching.

The 5th photo shows the inside of the mask once the stitching is complete - not quite as pretty as the outside, but actually more comfortable, as the raw edges of the knit pieces (which could curl up and not lie completely flat) are on the outside, not the inside.

Step 9: Add Elastic or Cord on Both Sides

Use a safety pin or large needle to pull the elastic, strip of T-shirt fabric or cord through the channels on each side.

Tie a knot loosely, holding both ends of the cord in one hand, looping them over a finger and slipping both ends through the loop. If desired, the ends of the elastic, fabric or cord can be sewn together once the recipient has tried on the mask and adjusted for a comfortable fit around the ears.

Step 10: Try on Mask

Try on the mask and adjust the length of elastic or cord so it fits well by moving the knot.

Enjoy this comfortable mask and stay safe!

SAFETY NOTES:

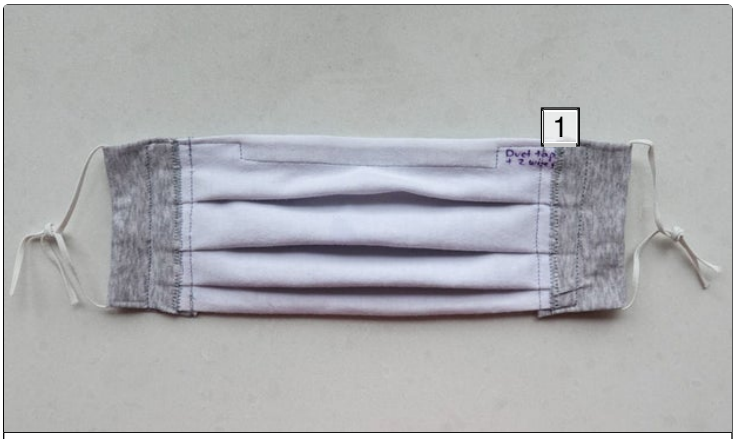
1. Wash your hands before you put on your mask, before you take off your mask, and after you take off your mask. Click here for good instructions on how to put on and take off a mask.
2. Wash your mask in hot water after each use. You can put it in the washing machine and the dryer. The wire will be a bit bent afterwards - just straighten it and store your mask flat. If you don't want to run it through the washing machine and dryer you could drop in in a pot of hot water and boil for ten minutes, then air dry.

Step 11: Option: Use Different Fabric for Inside of Mask

You can make the inside of the mask out of a different fabric to distinguish the inside from the outside. I find that having a knit T-shirt fabric on the inside makes the mask more comfortable. It may also provide increased protection, by having both woven and non-woven layers of fabric in the mask.

To make the lining or inside of the mask from a different fabric, instead of cutting one 8" X 14" rectangle in Step 2, cut two pieces of different fabric, each 8" X 7 1/4", and sew them both together along the 8" side with a 1/4" seam allowance. The rest of the instructions remain the same. The photos show these two pieces of fabric, and the inside of a finished mask with white T-shirt fabric as the lining layer.

When sewing a knit and a woven fabric together, keep the woven fabric on top - this helps it feed more smoothly through the machine.



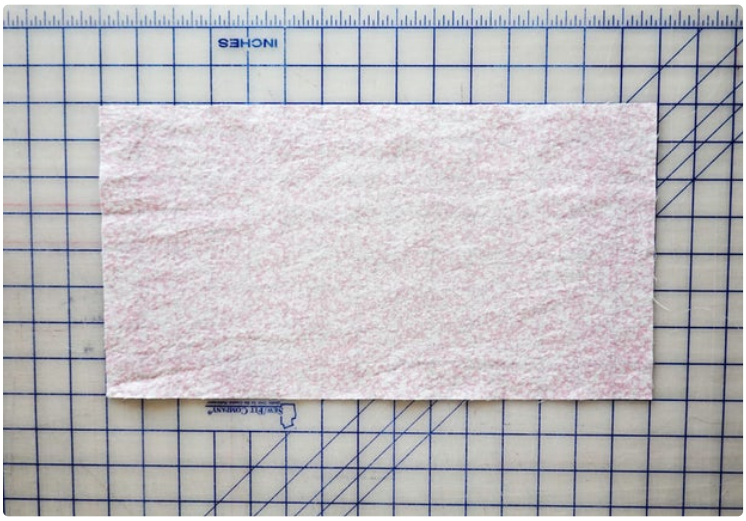
1. I often make a note on the inside of the mask of what I used for the nose piece. In this case, it was duct tape with 2 wires inside.

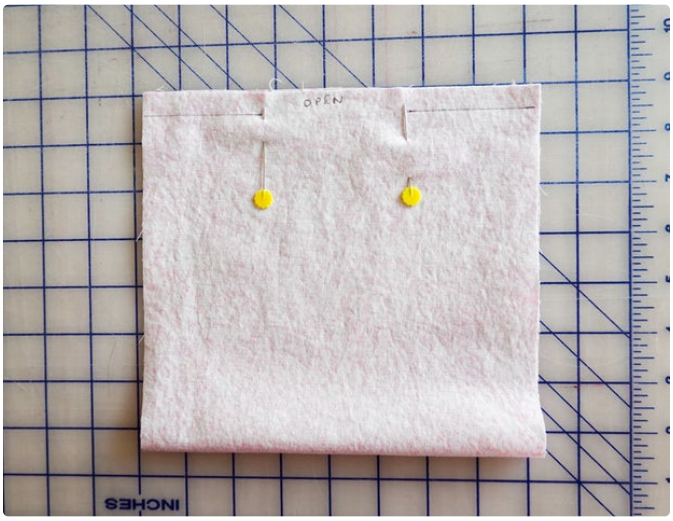
Step 12: Option: Small Design Change to Allow Insertion of Filter Layer

An additional level of protection may be provided by inserting a filter between the outer mask fabric and the lining.

This design variation creates a 3" opening on the inside at the top, which allows a filter piece to be inserted.

1. Cut the fabric rectangle for the main mask piece one inch longer, i.e. 15" X 8"
2. If you have a serger, serge the raw edges of the 8" wide edges, or zigzag to reduce ravelling.
3. Fold the rectangle in half, right sides together.
4. Using a 1/2 seam allowance, sew for 2 1/2", then backstitch. Sew in 2 1/2" from the other side, and backstitch. This leaves a 3" unsewn gap in the middle.
5. Iron the seam open. Press so that the edge of the seam allowance is at the top edge.
6. Turn right side out. You will have a 3" opening about 1/2" from the top of your mask.
7. The rest of the instructions for making the mask remain the same.





1. 3" opening allows you to insert a filter piece if desired

Step 13: Potential Filter Materials

You may want to add a filter layer between the lining and the outer mask fabric using the design variation described in the previous step.

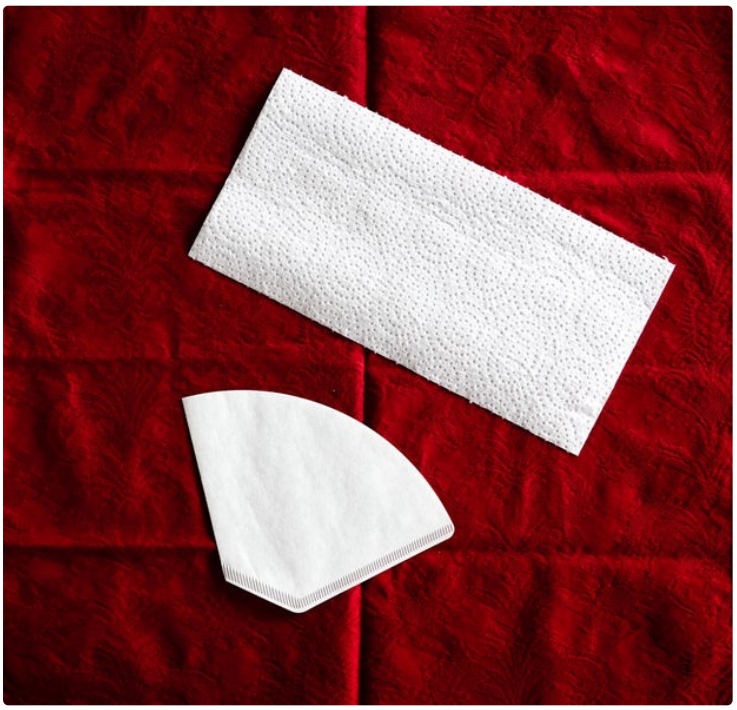
The filter should be made from non-woven material. The idea is to have something that further reduces the chance of airborne droplets reaching your face. However, a filter may make the mask less comfortable and breathable - it's a tradeoff.

You can cut your filter piece from:

1. a cheap non-woven fabric shopping bag
2. a coffee filter
3. a piece of interfacing
4. a paper towel or a Kleenex

The filter material should be cut to a 5" square, and inserted through the gap on the inside at the top of the mask. Throw the filter piece out before washing the mask.

Do **not** use vacuum cleaner bags as a filter material - although this was widely recommended in some online mask tutorials, vacuum bag manufacturers have advised that this is dangerous and could result in fiberglass or other harmful particles being inhaled.



Step 14: Pro Tips and Efficiencies When Mass Producing Masks

Once you have made one mask successfully, try these techniques to efficiently make many masks in a short period of time.

Time saving pro tips:

1. Cut all fabric with a rotary cutter and mat rather than scissors. You can cut several layers at once.
2. Organize your materials so you have enough to make many masks - you want to set up an assembly line.
3. Complete one step for all of the masks before moving on to the next step. For example, if sewing ten masks, insert the nose strip in all ten masks before moving on. Then sew all the side pieces to the main panel. With this approach, you change sewing machine settings only once. For example, when you are attaching the side pieces, you should lower the pressure on the pressure foot because you are sewing through multiple layers. When inserting the nose strips, you may want to change to a zipper foot.
4. Use a "header" and "footer" - small scraps of folded fabric, about an inch long, that you start sewing on, and end on. (The "footer" stays in the machine and becomes the "header" the next time you start sewing something). Any issues you may have with the stitching will show up in the header, rather than on your finished item. This is especially useful when you are about to sew a bulky seam or a knit that the sewing machine might not be too happy with.
5. Line up your fabric and sew pieces one after another, without cutting the thread in between - just sew a few stitches in between. This is called chain piecing. Snip the threads holding the pieces once finished.
6. In Step 8, instead of sewing two parallel lines when sewing the side pieces down on the front, sew a rectangle, so that you are starting and stopping once, rather than twice.