

# Home-Made Face Mask Design

Studies in 2008 by Public Health England evaluated a range of household materials that, in the event of a pandemic, could be used by members of the general public to make individual facemasks.

These studies found that t-shirts and pillow cases made into a facemask using the design detailed below may act as a barrier against influenza, or to limit spread by a person with symptoms (we have no data on SARS-CoV-2 but it's not unreasonable to assume similarity).

It is important to stress, however, that the wearing of facemasks will only offer **limited** protection, and **should not be considered sufficient protection. Additional preventative measures need to be adopted.** These are detailed below:

- 1) Avoid close contact with people who appear unwell and who have fever and cough.
- 2) Cover your nose and mouth when coughing or sneezing, using a tissue when possible and disposing of it promptly.
- 3) It is also important to wash your hands frequently with soap and water to reduce the spread of the virus from your hands to face or to other people and cleaning hard surfaces like door handles frequently using a normal cleaning product.
- 4) If caring for someone with a flu-like illness, a mask may be worn to cover the nose and mouth to reduce the risk of transmission. The UK is looking at increasing its stockpile of masks for healthcare workers for this reason.

## **Please read all instructions before beginning**

### **Supplies:**

Two clean 100% cotton washed t-shirts in contrasting colours. (These can be obtained at relatively low cost from many retailers- Tip: Get a large sized t-shirt for extra material!). Using two colours will make it easier to remember which side of the mask is facing outwards and which is facing inwards so that you do not self-contaminate by putting the mask on back to front. However, if you wish to make the mask using one piece of material, we suggest that you mark the fabric in some way.

Scissors

Pencil/ Yellow marker pen

1.10m elastic

Needle + thread / sewing machine (preferable)

### **Cutting:**

Cut out the template attached to this document and place it on a single layer of the t-shirt. Use the pencil to draw around the template so that when you remove it, you have a guide as to where to cut. Cut around the rectangle. Repeat this with the other coloured t-shirt.

### **Step 1:**

Place the two rectangles on top of each other. If there is a significant difference between the appearance of the inside and outside of the material, place the softer sides facing each other.

### **Step 2:**

Either with a needle and thread or with a sewing machine stitch the two rectangles together at each end as shown on the template by seam A

**Step 3:**

You will now have a rectangle of fabric that is stitched at either end to form a loop. Turn this inside out, so that the edges at each end are neatly sewn together and the stitching is less visible. Iron the seams flat-this makes the next step easier.

**Step 4:** Again, using either a sewing machine or a needle and thread, sew the fabric together at either end where indicated by Seam B. This will create two 'tubes' at either end of the mask.

**Step 5:** Cut the elastic in half, creating two lengths, each approximately 55cm in length. Each length should be long enough to go around your head from the bridge of your nose to the back of your head. Tie a loose knot at one end of the elastic to help feed it through the tube. Do the same for the other tube. Once the elastic has been fed through there should be an equal length visible either side of the mask.

**Step 6:**

Pleating and folding: Fold the fabric as shown in the template: fold the uneven dashed lines backwards, and the evenly dashed line forward (may re-word/design this-image needed!). It may help to indicate on the fabric where the folds should roughly be. Iron the pleats flat. (This is where a paper version suggested below may be of assistance). **Helpful hint: Fold the paper template first to calculate how the pleats should be made.**

**Step 7:**

Pin the fabric with the pleats folded at either side of the mask, and at either side where the hard line indicates to hold the pleats in place. The length now on either side should be about 2/3 the original length of the mask. Iron the pleats flat and sew on either side, indicated on the template by seam C.

**Step 8.** The mask is nearly finished. Place the mask so that it sits on the bridge of your nose and under your chin. You may need some one to help you with this part. Hold the elastic at the back of your head at a comfortable length so that it keeps the mask on. It should be comfortable: not so tight that the elastic digs in, but not so loose that the mask does not stay in place. Mark the correct length and stitch the together the ends of the elastic to finish the mask.

**IMPORTANT:** Remember to always wear your facemask in the same orientation, i.e. you should always have the same side facing outwards (the contaminated side). Different colours used should help with this. Facemasks should be machine-washed frequently to eliminate any residual flu particles which may be contaminating the outside of the mask. Remove your mask by taking the straps from the back of your head and pull forward-do not touch the material part of the mask. If you do, please remember to wash your hands with soap and water before and after you touch your mask.

Davies, Anna & Thompson, Katy-Anne & Giri, Karthika & Kafatos, George & Walker, James & Bennett, Allan. (2020). facemask instructions COVID-19.doc.