MASK MANUFACTURING AND DISINFECTION **GUIDANCE FOR COMMUNITY SETTINGS** IN LOW-RESOURCE CONTEXTS

Instructions:

The purpose of this document is to provide guidance on how to manufacture/assemble, disinfect and wear a homemade mask for low-resource community settings. Please, read through this entire document before implementing the guidance to ensure that the recommendations are appropriate for context.

Introduction:

Compared to medical masks (surgical, N95, FFP2), homemade cloth masks yield higher infection rates caused by droplet and airborne microorganisms. These increased infection rates are mostly due to higher rates of particle penetration compared to their medical counterparts (MacIntyre, et. al., 2015, Rengasamy, et. al., 2010).

Yet, a homemade cloth mask might be needed in certain community settings. For example, in community settings where community-based transmission has been documented, a homemade cloth face mask should be worn by community members (CDC, 2020). The purpose of wearing a homemade cloth mask is to reduce the transmission of the COVID-19 virus in community settings from individuals who may be asymptomatic but spreading the virus (CDC, 2020).

In short, homemade cloth masks may offer marginal protection from droplet and airborne infections from asymptomatic persons by reducing the number of respiratory droplets from them to others (MacIntyre & Chughtai, 2015, Institute of Medicine, 2006, Rengasamy, et. al., 2010). Of note, wearing a homemade medical mask for asymptomatic individuals in communities with community transmission is similar in principle to an individual coughing or sneezing into their inner elbow.

Key Recommendations for homemade cloth masks:

- masks (Davies, et. Al. 2013). Medical/surgical masks are single-use masks.
- a surgical mask (WHO, 2020).
- at keeping particle penetration lower than single-layered masks (Edwards, 2020).
- then the fabric is too thin and should not be used.
- (MacIntrye, et. al, 2015).
- potentially make the fabric more prone to transmitting infection (Edwards, 2020).
 - Homemade masks should:
 - 0
 - 0

Guidance on Homemade Cloth Mask

Symptomatic individuals in the community should wear a medical/surgical mask if possible, as these types of masks provide greater protection from droplet infections. Specifically, medical/surgical masks are three times more effective at blocking the transmission of microorganisms than homemade cloth

Homemade cloth masks should not replace respirators (i.e. N95, FFP2). They should not be used if an AGP (aerosol-generating procedure) is being performed on a patient. An N95 mask should be used in these cases (CDC, 2020). Furthermore, health care workers (HCWs) are not advised to wear homemade cloth masks (MacIntyre et. al., 2015). In providing routine care to a COVID-19 patient, HCWs should wear

Homemade cloth masks can be assembled from many different materials readily available within the community. Yet, preliminary data show that masks made up of two or more cloth layers are more effective

Homemade cloth masks may be made from the following materials: cotton blends, a thick woven fabric like batik, quilting cotton, thick interwoven teacloth/towel, and/or gauze (Edwards, 2020, Jenkins, 2020, van der Sande, et. al., 2008, MacIntyre, et. al., 2015). In short, if sunlight can penetrate through the mask,

Physical distancing of at least 1-metre and adopting sound hand hygiene practices should accompany the wearing of a homemade face mask, especially in crowded community settings (CDC, 2020). Of note, wearing a homemade cloth mask does not replace good hand hygiene and physical distancing. Some studies suggest that when used in combination (cloth masks and hand hygiene), rates of infection decline

Make sure to keep the homemade cloth mask dry at all times. Even moisture form exhaling could

fit snugly but comfortably against the side of the face and cover the nose and mouth rest on the bridge of the nose and be moulded onto the face and side of the face

- come down below the chin 0
- be a conical or tetrahedral shape 0
- be secured with ties or ear loops 0
- include multiple layers of fabric 0
- allow for breathing without restriction
- be able to be laundered, cleaned, or disinfected (CDC, 2020). 0
- Sande, et. al., 2008).
- washing has taken place, masks should be left to air dry in a clean space.
- as unsoiled as possible to reduce the amount of infection.
- removing the mask, the wearer should be careful not to touch their face until they can wash their hands.
- community use.* See Annex1 for design suggestions.

Note: MASK SHOULD NOT BE SHARED, EVEN AMONG FAMILY MEMBERS. ONE MASK PER PERSON **Bibliography:**

CDC. (2020). Use of Cloth Face Coverings to Help Slow the Spread of COVID-19. Coronavirus Disease 2019 they protect in an influenza pandemic? Disaster Med Public Health Prep. 7(4):413-418. National Academies Press. https://doi.org/10.17226/11637. 350. doi: 10.1136/bmj.h694. BMJ Open 2015;5: e006577. doi:10.1136/ bmjopen-2014-006577. https://apps.who.int/iris/handle/10665/331215 Infections among the General Population. PLoS ONE 3(7): e2618.doi:10.1371/journal.pone.0002618 https://healthcare.utah.edu/healthfeed/postings/2020/04/face-masks.php. to work better at filtering small particles than medical grade 5966



Homemade cloth masks may be worn up to three hours without an increase in particle penetration (van der

Homemade cloth masks must be cleaned daily. If possible, in the laundry with other linen with a water temperature range form 60-90 °C with laundry detergent. If washing machines are not available, washing the mask using hot water in a basin with laundry detergent is also sufficient. If hot water is not available, cold water with 0.05% chlorine should be used. Masks should soak for 30 minutes, and then be rinsed with water and laundry detergent (WHO, 2020). *The proposed fabrics have not been chlorine-tested. After all the

Masks should not be left to dry on countertops or other soiled surface areas. The mask should be maintained

When removing the mask, the wearer should be careful not to touch the outside of the mask. If the outside of the mask is touched during the removal process, the wearer must wash their hands immediately. Also, after

*The mask designs projected below are not intended for health care facility use. It is at the discretion of various governments to determine if and how they chose to enact the use and production of cloth-based masks for

(COVID-19). https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html

Davies, A., Thompson, KA., Giri, K., Kafatos, G., Walter, J., Bennett, A. (2013). Testing the efficacy of homemade masks: would

Institute of Medicine. (2006). Reusability of Facemasks During an Influenza Pandemic: Facing the Flu. Washington, DC: The

MacIntyre, CR., and Chughtai, AA. (2015). Facemasks for the prevention of infection in healthcare and community settings. BMJ.

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WHO (2020). Interim Guidance: Rational use of personal protective equipment (PPE) for coronavirus disease (COVID-19).

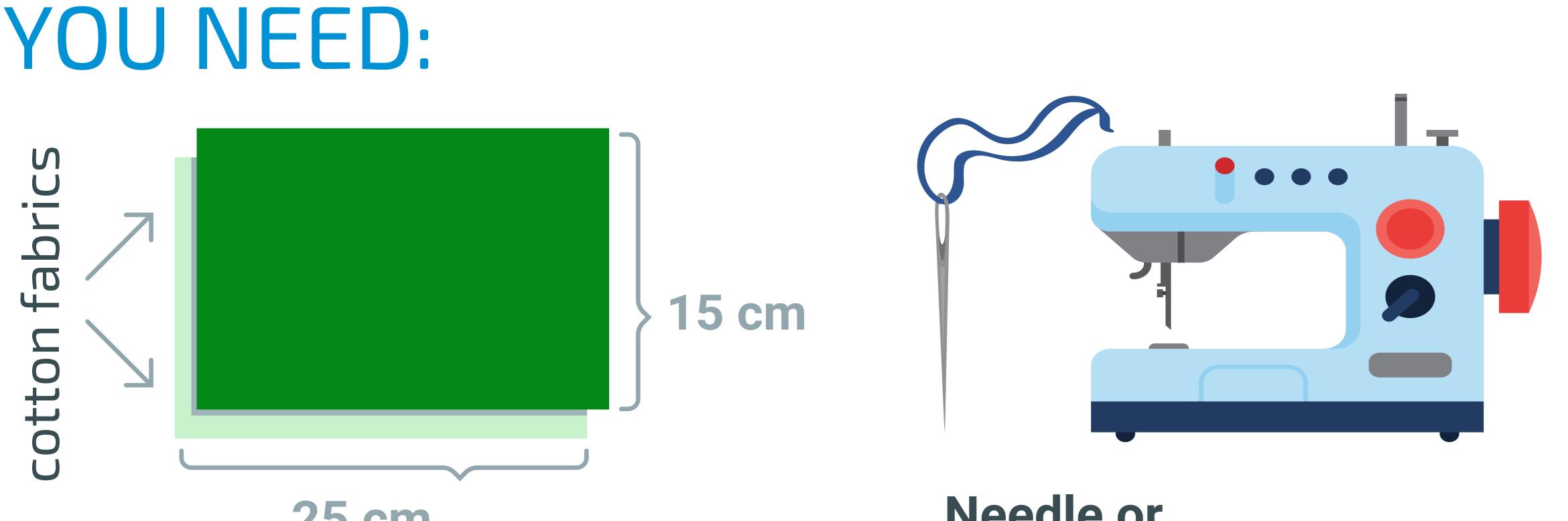
Van der Sande, M., Teunis, P., Sabel, R. (2008) Professional and Home-Made Face Masks Reduce Exposure to Respiratory

Jenkins, J. (2020). Homemade Cloth Face Masks: When They Help & How to Keep Them Sterile. University of Utah.

Edwards, E. (2020). Making your own face mask? Some fabrics work better than others, study find. Some fabrics were found

masks.https://www.nbcnews.com/health/health-news/making-your-own-face-mask-some-fabrics-work-better-others-n117





25 cm

Two cotton fabrics 25 cm length and 15 cm wide



Two pieces of elastic 15 cm length

Four cotton threads 20 cm length each





Cut two pieces of cotton fabric (length of 25 cm and height of 15 cm each)



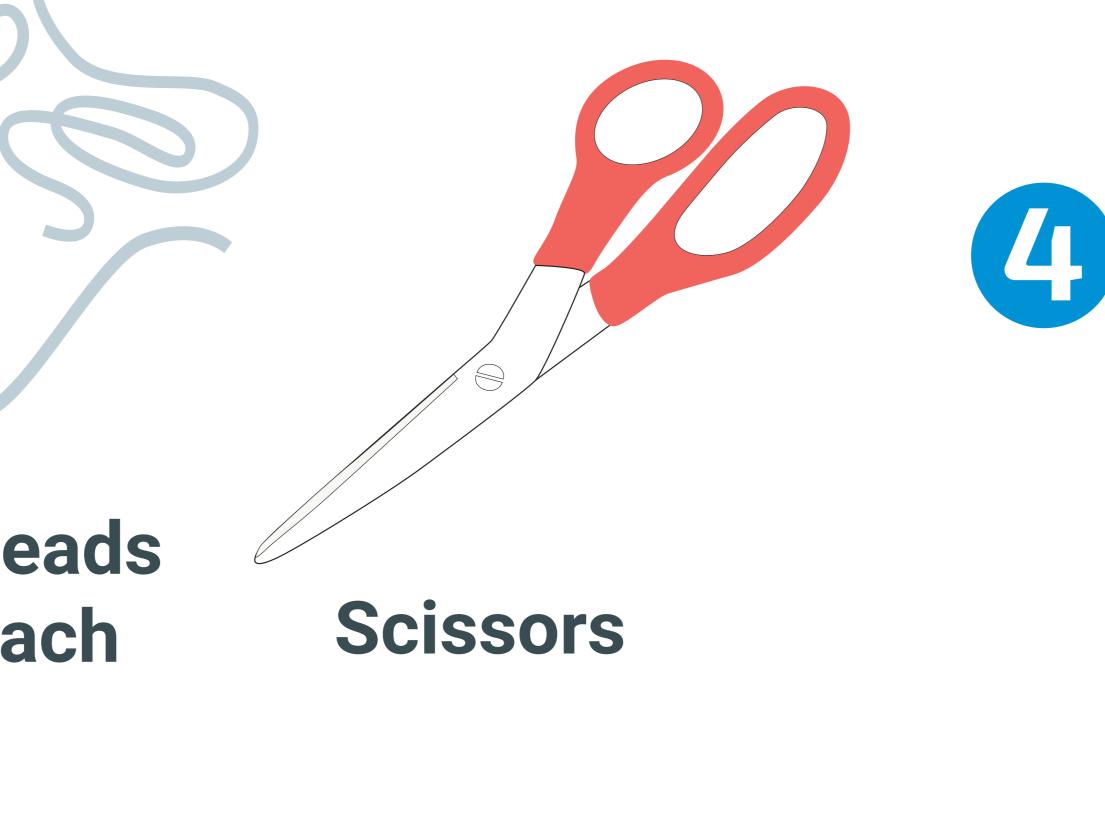


Hem the edges of the two fabrics by cutting any excess or jagged fabric away if fabric is ripped from large fabric spool.

Mask instructions adapted from CDC: https://www.cdc.gov/coronavirus/2019-ncov/downloads/DIY-cloth-face-covering-instructions.pdf

Annexe 1 Guidance on Homemade Cloth Mask

Needle or sewing machine. You may have a seamstress make the mask, if possible.









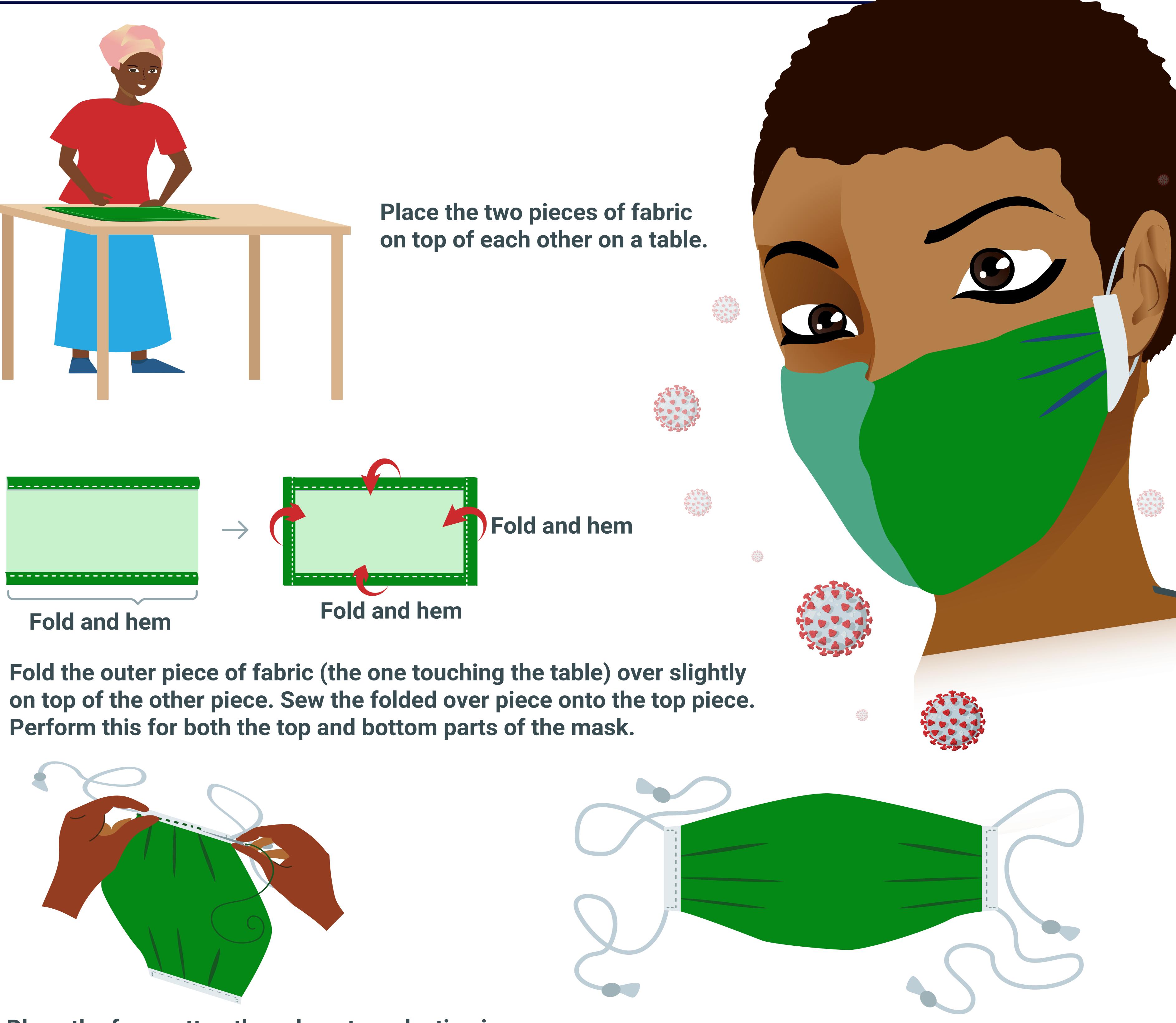


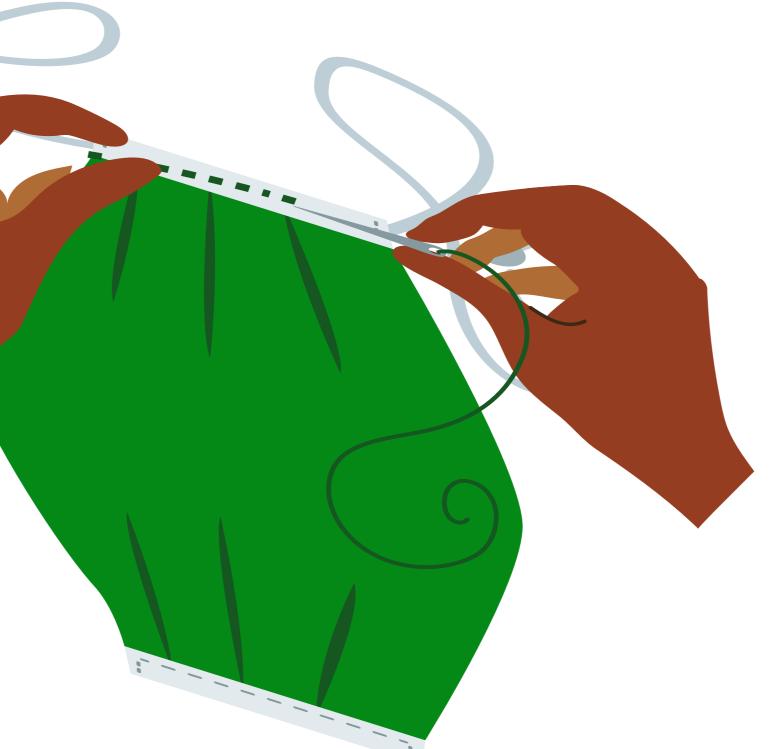
Place the four cotton threads or two elastic pieces on either side of the mask. Fold over the outer and inner pieces together on top of the threads or elastic. Sew these two sides pieces to securely hold the threads or elastic pieces in place.

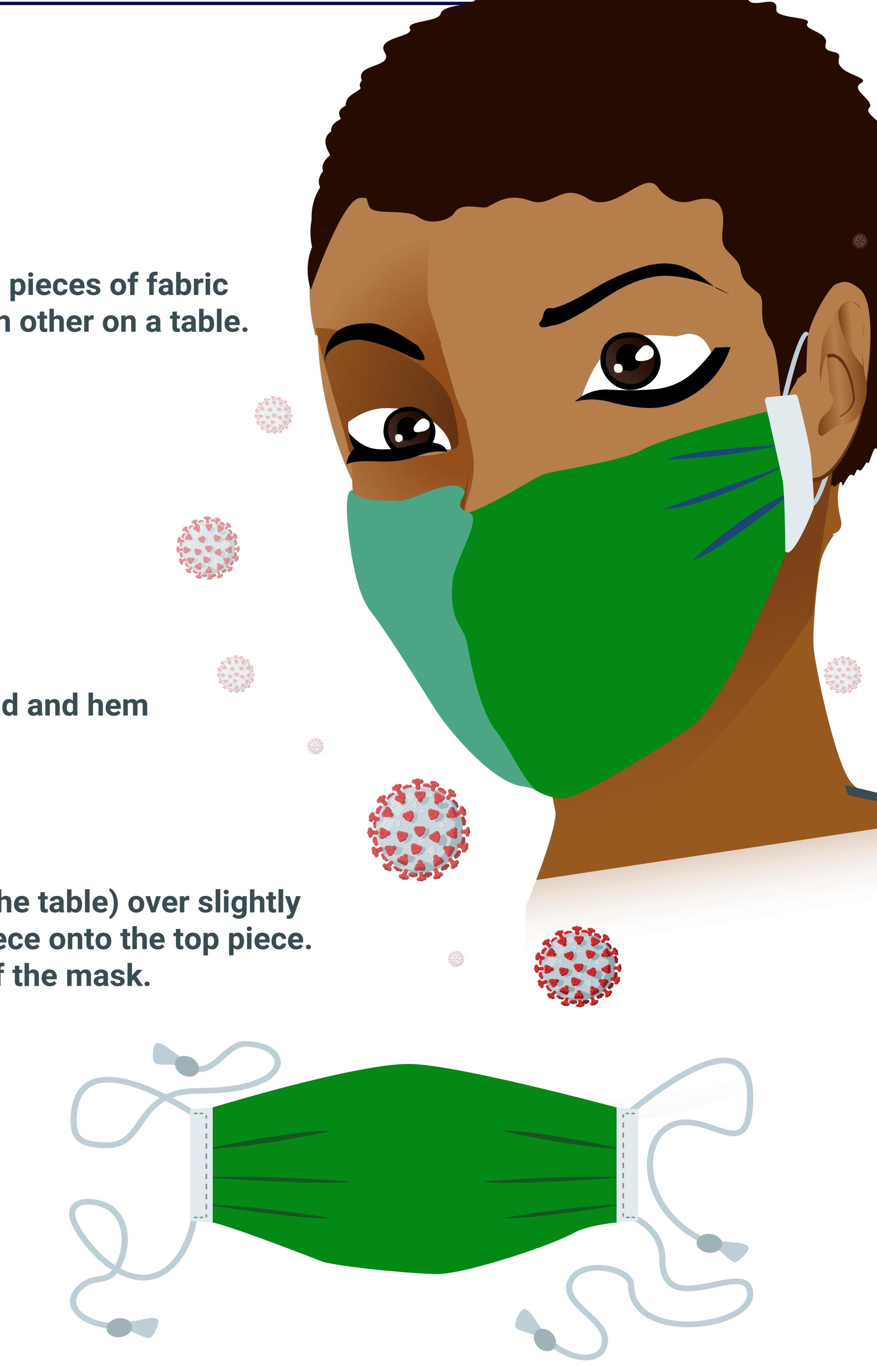
Tie the unsewn ends of the threads or elastic into a secure knot.

Make sure the knot is tight.









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