Resources:

Problem Statement:
The CDC has recently issued a statement saying that it recommended that people wear two masks in order to help prevent the spread of the new strains of COVID-19, they specifically recommended wearing a cloth mask over a surgical one. Thus we want to make it easier for mark wear to have the protection of both all in one adequate mask.
Idea:
We will make a multi-layered masking using fabrics such as cotton quilting fabric and polypropylene in order to design a mask that will fit the proper criteria.
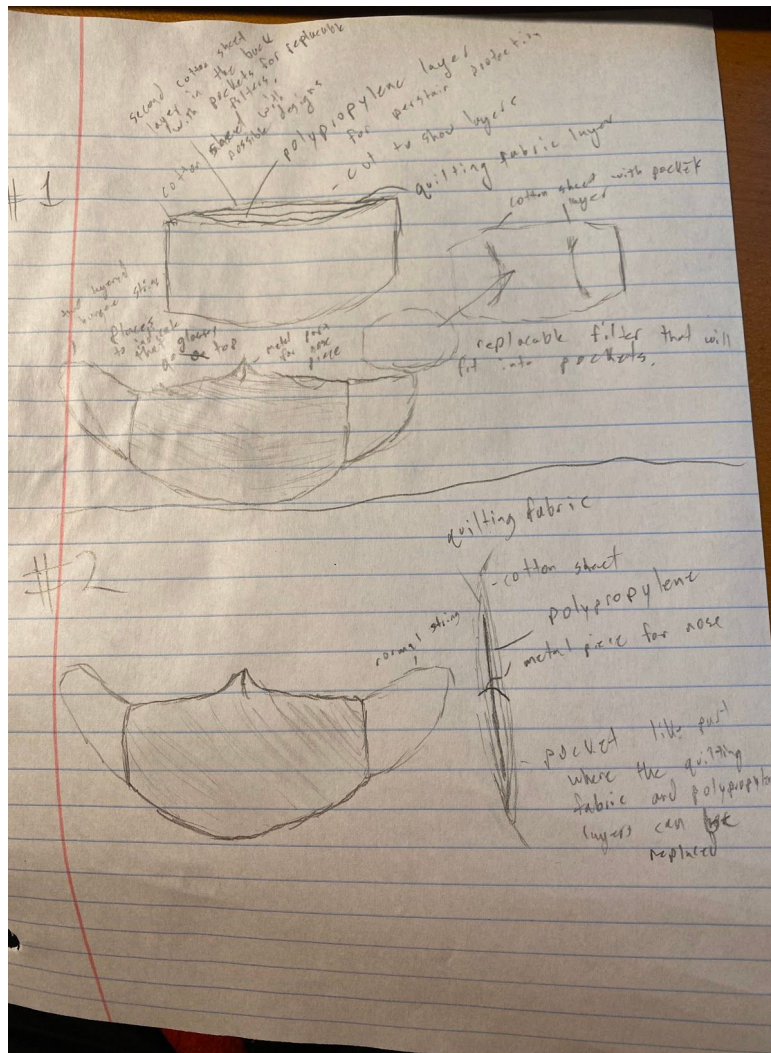
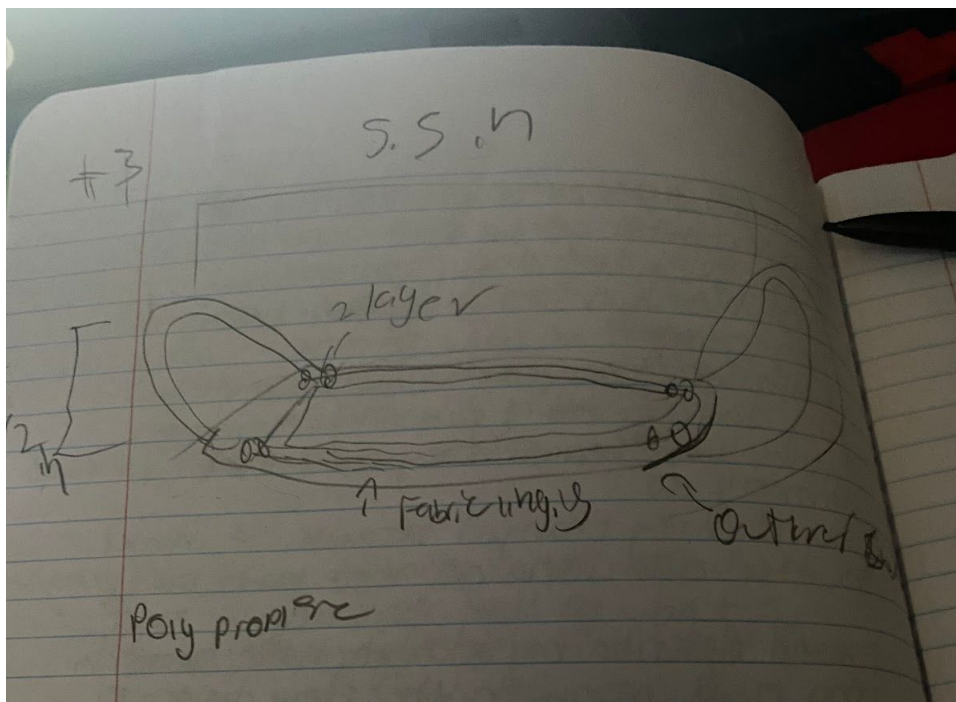|						
Design #1	2	4	5	4	5	20
Design #2	3	3	5	3	5	19
Design#3	4	3	5	2	3	17

Materials to note: tightly woven cotton fabric (quilting fabric or cotton sheets.)
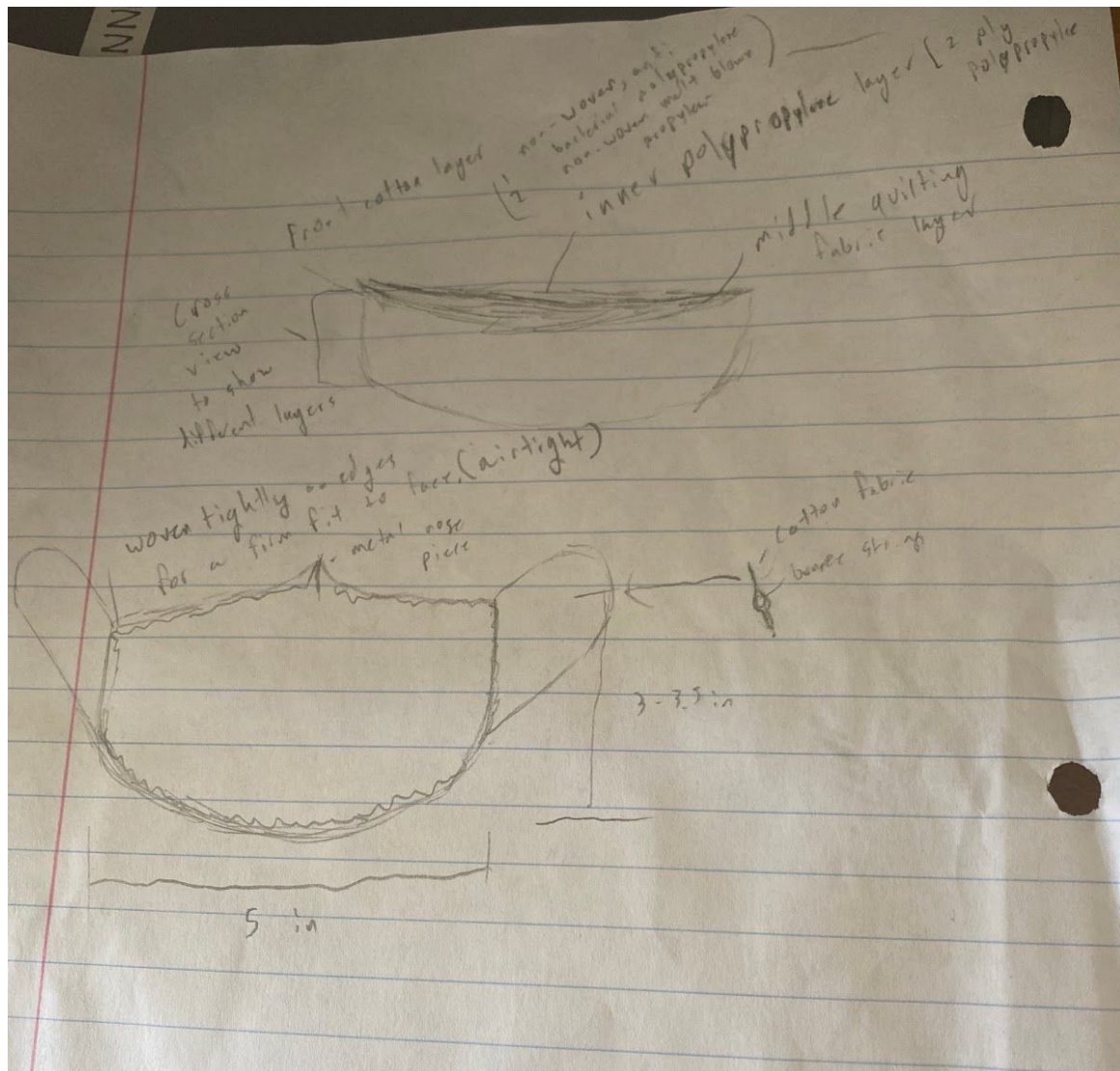Best overall material to note: polypropylene

Use all 3 layers of fabric in one

Things to test for:
Airflow for being able to breath properly
Overall effectiveness
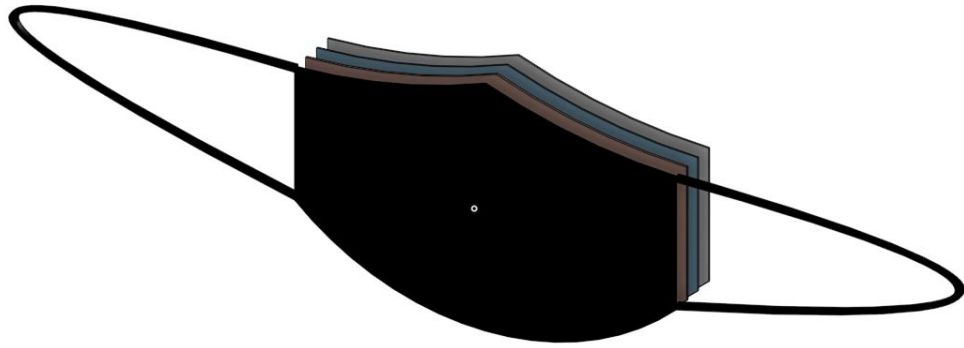Airtight fit?

Mask final design notes:

- Removed the inner cotton layer since it's unnecessary and could potentially make it hard to breath
- Removed filter pocket because that could cause a lot of unnecessary waste and it's better to just clean the mask
- Aiming to make it reusable since disposable masks don't mean decomposable so it could be harmful to the environment.
- Tightly woven around edges to secure to face and be airtight
- Cotton fabric string with bungee or elastic string inside to make it adjustable and not hinder comfort
- Have the polypropylene layer be the innermost part
- Only 3 layers to make it so those with asthma wouldn't potentially have trouble breathing
- Scrapped the shareability idea since that's just not a good idea especially with a mask of this grade
- Inner polypropylene layer consists of the first and third layers used in a surgical mask
- Melt-blown layer as second ply of polypropylene with an anti-bacterial layer
- Polypropylene layers should be non-woven for best results

Final Sketch:

Front cotton layer

(½ non-woven, anti bacterial polypropylene non-woven melt blown propylene)

inner polypropylene layer [2 ply polypropylene

middle quilting fabric layer

Cross section view to show different layers

woven tightly on edges for a firm fit to face (airtight)

metal nose piece

cotton fabric

bearer string

3 - 3.5 in

5 in

First CAD:

First Work Illusion: