Make a one-page guide to wearing a respirator properly

Starter · 1–3 hours · Free · Step-by-step guide

Online version: https://ai-safety-sandbox.vercel.app/projects/respirator-fit-guide/

Summary

A great mask that leaks at the sides protects far less than people think. Make a clear, visual guide to fitting a respirator and the most common mistakes.

Why it matters

In a severe pandemic, good protective equipment used correctly could keep essential workers safe. The source list highlights fit-testing guides and better communication as open gaps.

What you will have at the end

A printable one-page guide or infographic.

Steps (tick each box as you go)

- [ ] **1. Learn the basics (30 min)**
  Read reputable guidance on respirator fit checks (look for occupational health or public health sources). Note the difference between a fit check and a fit test.

- [ ] **2. List the common failures (20 min)**
  Beards, gaps at the nose, wrong size, loose straps, reusing damaged filters. Rank them by how often they likely happen.

- [ ] **3. Sketch the page (40 min)**
  Plan one page: three to five steps with simple drawings or photos, plus a “common mistakes” box.

- [ ] **4. Make it (1 hr)**
  Use any free design tool. Keep words short, text large and contrast high so it works when printed in black and white.

- [ ] **5. Test it on someone (20 min)**
  Hand it to a friend with a mask. Watch where they hesitate, then fix those parts.

What you need

- Any free design tool, or pen and paper
- Optionally a respirator to photograph

What you will learn

- How respiratory protection actually works
- Designing for real-world use
- Writing instructions people follow

Key terms

Elastomeric respirator
A reusable rubber-faced mask with replaceable filters. Properly fitted, it protects better than most disposable masks.

Source and links

Hatta & Bazarragchaa — A hundred project ideas in biosecurity (2025)
https://casualphysicsenjoyer.com/Essays+in+progress/Biosecurity/A+hundred+project+ideas+in+Biosecurity

When you have finished

Write a few paragraphs on what you did, what you found and what you would try next, and share it with a friend, your society or online.

Try next: Elastomeric respirator project ideas
https://ai-safety-sandbox.vercel.app/projects/elastomeric-respirator-ideas/

Courses, mentors, small grants and communities:
https://ai-safety-sandbox.vercel.app/next-steps/

Questions? Ask in AI Safety Cardiff University (AISCU): https://aiscu.org/

Notes