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WebSights *features announcements and reviews of select sites of interest to physics teachers. All sites are copyrighted by their authors. This column is available as a web page at PhysicsEd.BuffaloState.Edu/pubs/WebSights/. If you have successfully used a physics website that you feel is outstanding and appropriate for* WebSights*, please email me the URL and describe how you use it to teach or learn physics—macisadl@buffalostate.edu.*

• Practical Conronavirus Physics: Face masks & ventilation

MinutePhysics: The Astounding Physics of N95 Masks
https://tinyurl.com/WS-MPn95

Repairing "Expired" N95 Masks
https://tinyurl.com/WS-repairN95

Decontaminating N95 Masks for Reuse
https://N95decon.org

Aerosol Filtration Efficiency of Common Fabrics…
https://tinyurl.com/WS-ACSmasks

Phys.org on Face Masks
https://phys.org/news/2020-06-mask-materials-droplets.html

Visualizing the effectiveness of face masks…
https://aip.scitation.org/doi/pdf/10.1063/5.0016018

On respiratory droplets and face masks
doi.org/10.1063/5.0015044

Rhett Allain: Face Masks in IR
https://tinyurl.com/WS-IRfaceMask

Physics Girl: The Science of Ventilation
https://tinyurl.com/WS-PhysicsGirlFlu

Physics Nerd Masks
https://redbubble.com/shop/physics+masks

Collection of expert links on staying safe
https://clarkvangilder.com/2020/07/24/covid-links/

Our safety has come to depend upon using breathing masks and understanding ventilation, airflow, and airborne droplet travel, and there are many interesting videos about how masks work (and don't), led off by an excellent article by Henry Reich's *Minute Physics*. His video discusses particle size and motion, and the electret properties of N95 mask fibers for trapping airborne particles. There are several recent studies and articles visualizing and characterizing face mask effects on coughs and sneezes via laser scattering and Schlieren photography. Notably, there are millions of "expired" N95 masks out there, where this expiration is largely due to degraded elastic bands holding the mask on the user. Good quality office rubber bands work well as replacements (I refurbished a box of filters myself). Since instructors often work with children and youth who sometimes wear their masks incorrectly, N95s or better are preferred whenever possible.

Dianna Cowern's *Physics Girl* addresses ventilation (and aircraft cabins), and you may want to invest in a tabletop air purifier if you are teaching in a room where windows are sealed. In sealed environments it becomes particularly important to protect your eyes as droplets landing upon eyeball surfaces will be washed into your sinuses and throat via ducts, so put your contacts away and break out the old spectacles and/or shields. Don't wear those masks with one-way valves; those aren't protecting others. Also stay out of unventilated rooms and choir practices; we should be considering teaching outdoors. Finally, for the physics T-shirt set, there are marvelous nerd pride masks. Stay safe and proud.

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• Practical online physics teaching productivity resources: CamScanner and FlipGrid

https://CamScanner.com
https://FlipGrid.com

CamScanner is a super useful smartphone app I've been using for about five years of online teaching, thanks to a local physics teacher. CS is a free app (I now pay for the advanced version) available for iOS and Android phones that easily allows one to take photos and turn them into pdf files. The app allows photography in a variety of lighting situations and angles, then squares up and removes shadows from the images (flattening it) and if you are happy, continue to take photos of pages until done, (re)name your document and share it via various online services or as an email attachment. Managing pdf files via the campus LMS (Learning Management Systems—like Google Classroom, BlackBoard, Schoology, etc.) are the required venue for me to deal with student reports, homework, short quizzes, exams, projects, reading logs, and so forth. My students use regular pencil and pen for all of their diagrams, figures, equations, etc., as they always have, then CamScan can turn these into (color) pdfs and load them up for me to view and grade online. Microsoft's Office Lens is a similar product and some of this kind of functionality is built into many smart camera apps and operating systems, but I've found CS to be superior for my students so far, and many of my students have used the app in their other courses as well after learning of it in physics. Many other instructors have made YouTube videos for their students; I just put a one page handout on the class webpage.

Another physics teaching colleague has convinced me to use FlipGrid after he has used it for some time predating the pandemic. FlipGrid is a convenient way to assign and collect short <5-minute student smartphone video assignments in an online or hybrid class. Video assignments can include having students create and share a short class introduction, or solve and explain a short physics problem for a quiz, homework or even exam question on a paper or whiteboard. These are quick ways to engage students in a stand-and-deliver, frequent low-stakes kind of assignment with strong authentication (you know who is doing physics in the video). FlipGrid videos can even be collaborated on if preferred.

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