

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.

- **Rhett Allain on Confusion, Sweat, and Learning**
wired.com/story/how-to-ace-physics-class-even-if-you-dont-ace-physics/
wired.com/tag/dot-physics/
Rjallain.medium.com
WordPress: rhettallain.com

Allain teaches physics at Southeastern Louisiana Univ and is an active blogger (on Medium and Wired), writing about popularized physics and science, and a physics consultant for television shows. One of his recent blogs “How to Ace Physics Class (Even If You Don’t Ace Physics)” which I just shared with my new students this semester has a lovely new locution: “Confusion is the sweat of learning.” His wordpress site collects many of his works, specifically arranged for teaching introductory physics.

I regularly cite the analogy between learning physics and taking physical exercise at the gym to my freshman students, some of whom are athletes and most of whom are exercise-informed through schools sport and gym class. The analogy incorporates reflective, self-monitored, purposeful effort and the need for tenacity, managing frustration and expectations, and knowing when and how to seek help. “Watching a professor solve physics problems is like watching a physical trainer do exercises.” “It’s only a problem until you figure out how to do it, then it becomes an exercise you can practice.” “Feel the mental burn – you are changing your brain.” “Manage your frustration --take breaks, and know when to push through and when to get help.” “Ask your coach when you need help.” “Work the problem, and expect it to take work.” “Work with friends who can help provide feedback –misery shared is misery diluted.” These are all appeals to exercise analogies that help my students to focus on themselves and the physics, not on their trainer. Also “Use the textbook and the web,” and, for checking unit conversions “Ask Siri.”

On Wired, Rhett’s recent blogs include the physics of TV shows, movies, athletic events, COVID-19 and general imaginative physics (the energetics of cooking a chicken by slapping it is now a distant classic). Allain’s recent columns on Medium introduce LaTeX, Blog Hurricane Ida, examines a dog running on a stand-up paddleboard, modelling balls in trinket, examining the world via an IR camera, calculating Lagrange points, helicopter physics (Mars and human-powered variants), cardboard beds at the Olympic village in Tokyo, RC circuits etc.

- **The PoLS-T Network: HS Physics Education Global Network Initiative**
projects.iq.harvard.edu/pols-t-network
tinyurl.com/WS-POLSTyoutube

Originating in the NSF funded “Physics of Living Systems” project led by Harvard Physicist Eric Mazur, the PoLS-T Network has been very active working with physics teachers during the pandemic via Zoom, Slack and YouTube. About 600 members (including myself and some of my students) from over 40 countries aim to improve the quality and quantity of physics learning and teaching by discussing physics pedagogy, teaching, methodologies, technologies and research-based practices. The network held a free virtual (online) three day conference this past summer, and about 60 videos from that conference appear on their YouTube channel.

Their website collects many technology and remote instruction physics teaching resources, hosts active and past talks about physics learning and teaching, links to an active Slack and YouTube channels, and is worth a look, particularly for technophilic physics teachers looking for an online community. *Submitted to Modeling-L by Jane Jackson of ASU Physics.*

- **David Jackson Video Request and Introductory Mechanics Videos**
youtu.be/t9njFbjPqq4
compadre.org/ivv/

Jackson teaches physics at Dickinson College and is a team author of an excellent video series called “Interactive Video Vignettes” that I used with my pandemic freshman mechanics students. He is trying to collect views of a new pilot video prototyping a series of shorts on learning mechanics, in this case looking at the speeds and relative motions of spinning and rolling wheels.

- **Perimeter Institute Classroom Materials**
<https://perimeterinstitute.ca/teachers>
<https://resources.perimeterinstitute.ca/>

The Perimeter Institute has produced new and revised freely downloadable materials (registration is required) including a new classroom resource guide for teaching introductory optics and a revised edition of “Beyond the Atom: Remodeling Particle Physics:” including updated Higgs data and a new break-out activity. They have many other curriculum resources, posters (including a new Olympic sport physics poster) and I attended their free online teacher outreach on teaching Quantum Mechanics to HS students this past summer.