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WebSights



WebSights features reviews of select sites presenting physics teaching strategies, as well as shorter announcements of sites of interest to physics teachers. All sites are copyrighted by their authors. This column is available as a web page at <http://PhysicsEd.BuffaloState.Edu/pubs/WebSights>. If you have successfully used a site to teach physics that you feel is outstanding and appropriate for *WebSights*, please email me the URL and describe how you use it to teach. The person submitting the best site monthly will receive a T-shirt.

• ***The Elegant Universe website; http://www.pbs.org/wgbh/nova/elegant/program_d.html***

PBS and Nova have provided an outstanding resource through their website supporting Brian Greene's video and book *The Elegant Universe* at http://www.pbs.org/wgbh/nova/elegant/program_d.html, which describes how to integrate video into the classroom using an approach consistent with inquiry-based science instruction. Content is presented in a clear and interesting format, but each hour of video is broken into chapters, which facilitate focus on a particular aspect of the topic. *The Elegant Universe* deals with the history and principles of string theory in a clear, understandable manner, which exemplifies the nature of science.

Each chapter section on the site provides educators with a summary of the chapter, a more detailed listing of the major ideas presented in each, and a transcript of each section. These features all support educators in developing focus questions to improve student attention, in preparing viewing worksheets or guides, and extending into post-video discussion/writing/research activities. All video chapters are available in both QuickTime and Real Video format: the QuickTime version includes closed-captioning (which is helpful for English language learners as well as students with certain types of learning disabilities), with a few chapters that would be appropriate for use in middle school physical science and secondary physics classes.

Complementing the video available on this site are a number of interactive options, including interviews with the series author/host and physicists who participated in the video. Since not all of the physicists interviewed agree on string theory, the interviews demonstrate the nature of science. The interactive segments provide a first-rate means of visualizing difficult or complex concepts such as multiple dimensions, resonance

in strings, and the physical scale of strings. Finally, there are several additional pieces to the website that augment the videos: news clips that provide a nice intro to the series, podcasts on string theory, links to other sites dealing with string theory, and a list of bibliographic resources.

General information regarding using video-based lessons in the classroom can be found at <http://www.thirteen.org/edonline/ntti/resources/video2.html>. Also see David Denning's "Video in Theory and Practice: Issues for Classroom Use and Teacher Video Evaluation." Accessible at <http://ebiomedia.com/downloads/VidPM.pdf>.

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• ***Workshops and lessons about the physics underlying Color Mixing, the Incandescent Light Bulb, Graphite Pencil DC Circuits, Safe Driving, and The Seasons—<http://www.sci-ed-ga.org/modules—by> Dr. Larry Woolf***

Larry Woolf, a physicist at General Atomics active in education outreach, has developed classroom education modules, professional development, and workshop materials, posters, guidelines, and discussions on color science; the interaction of light and matter; the physics and materials science of the incandescent light bulb; using a graphite pencil to explore the electrical properties of materials and circuits; the physics of safe driving; and the seasons. Most are free of cost, with a few available at nominal cost.

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