



Dan MacIsaac, Column Editor

Physics Department, SUNY-Buffalo State College,
Buffalo, NY 14222; macisadl@buffalostate.edu

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 the authors. This column is available as a clickable 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.

• **Diagnoser**

A website analyzing and characterizing the conceptual state of students and tailoring instruction to students' conceptual needs, <http://www.diagnoser.com>. Jim Minstrell and his colleagues at Facet Innovations have developed an NSF-supported website that they have made freely available (after registration) to physics and physical science educators. The Diagnoser site contains three main components:

- a web-presented and evaluated **suite of questions** analyzing an individual student's conceptual state regarding an introductory science topic such as Newton's second law characterized into Minstrell's catalog of conceptual facets;
- a **teacher report generator** that can summarize and present the conceptual state of a class or group of students to guide instruction;
- a collection of research-based content resources including **elicitation questions**, **developmental lessons** (proactive plans and handouts), and **prescriptive lessons** (reactive activities directed at challenging and enriching particular strongly held facets that are less appropriate to the situation). These last resources include first-class teacher guides, facet descriptions, and student lesson materials.

Dan: closing paren here or there?

The Diagnoser site currently contains physics teaching resources dedicated to teaching descriptions of motion, nature of forces, forces to explain motion, and sound, light and waves. Some other topics are available (life sciences) and more are planned (nature of matter).

Facet-based instruction is described with background citations at <http://depts.washington.edu/huntlab/diagnoser/facet.html>.

Minstrell and colleagues are currently using these extensive materials (e.g., Diagnoser presently contains 34,000 question sets) in a Seattle-area trial of 22,000 middle and high school students. I used the content resources dedicated to **Identifying Forces** and **Forces as Interactions** within my own college class for pre-service elementary teachers with considerable satisfaction. This summer I hope to use more of the materials with my graduate course in teaching mechanics.

Submitted by Dan MacIsaac

DOI: 10.1119/1.2165452

- **Constructing an inexpensive working aluminum-air battery** by Paul Dougherty, <http://www.exo.net/~paul/activities/AlAirBattery/alairbattery.html>, from his webpage <http://www.exo.net/~paul>.

Submitted by Joe Zawicki

DOI: 10.1119/1.2165453

- **A friction applet and other activities appropriate for elementary students**, http://www.bbc.co.uk/schools/scienceclips/ages/8_9/friction.shtml. One activity from a suite of many similar physics and physical science applets and activities by the BBC at http://www.bbc.co.uk/schools/scienceclips/index_flash.shtml.

Submitted by Steven Priore

DOI: 10.1119/1.2165454