DEMOS WITH POSITIVE IMPACT: A RESOURCE FOR MATHEMATICS INSTRUCTORS
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In any form of instruction the instructor plays an important role as facilitator of learning. Demonstrations to accompany ideas and concepts are a requirement for effective instruction. Experienced instructors have private toolboxes of demos, conceptual approaches, or physical gadgets they use to encourage students to tune-in to mathematics. This rich, but largely unharvested source of tried-and-tested ideas forms the basis for Demos with Positive Impact, a project that will develop a web-based database of instructional demos and connect this resource to university mathematics instructors. This project takes advantage of the knowledge and experience of colleagues across the country and presents these valuable resources to the mathematics community in an attractive, user-friendly format. Demos with Positive Impact is a resource for instructors who are looking for ideas or demonstrations adaptable for various teaching styles and learning environments.

WEB-BASED WRITING AND PEER REVIEWING IN CHEMISTRY EDUCATION
Christie Jester, University of Texas at Austin, USA

Research has been done showing the usefulness of writing in learning academic subject material. In college programs, numerous techniques, such as summary writing and peer reviewing have been adopted. In the sciences, however, large class sizes often preclude students from having frequent writing opportunities. We solved this problem by creating a semi-automated web-based peer-editing program. Our goals were to help students learn chemistry concepts by writing about them and to prepare students for future careers by developing their writing skills. A peer-reviewing process and assessment rubric was devised to allow upper-level chemistry students to read, critique, and grade their classmates’ papers. Results of the rubric were stored to a database and were available to the writer through an on-line search. The course was served using a Macintosh and the inexpensive software FileMaker Pro 4.0 and Claris Home Page 3.0.

DEVELOPMENT OF MULTIMEDIA LEARNING MODULES IN CHEMISTRY USING AUTHORWARE 5.0
Christie Jester, University of Texas at Austin, USA; Joanne Williams, University of Texas at Austin, USA

Valence Shell Electron Pair Repulsion and Valence Bond Theories pose great difficulties for chemistry students. Using Authorware, we developed a user-friendly computer tutorial with multiple interactions and animations, an interactive glossary, periodic table, and practice problems and quizzes with personalized feedback. Students will use hyperlinks to move throughout the tutorial at their own pace, will be able to revisit sections of interest for extra help, and look up key words in the glossary. Three-dimensional molecular models and movie clips help students visualize molecular structure and hybridized orbitals. To encourage active participation and practice, students will be given short segments of text accompanied by a graphic, followed by several practice problems. End-of-chapter review questions will be similar in scope and form to those that students encounter on course exams.

INTEGRATING SPACE SCIENCE RESEARCH INTO AN INTERACTIVE WEB-BASED CURRICULUM: IMPLEMENTATION AND EVALUATION
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This poster illustrates two prototype web-based instructional modules created for the Lunar and Planetary Institute's Mars Millennium web site and CD-ROM project to support the National Aeronautic and Space Administration's Jet Propulsion Laboratory.