

Contact:
Jacinta Behne
303-632-5605
jbehne@mcrel.org
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GENESIS MISSION WEB SITE FEATURES NEXT GENERATION INSTRUCTIONAL TECHNOLOGY

Science educators realize the important role instructional technology plays in addressing national education standards. The Mid-continent Regional Educational Laboratory (McREL) in Aurora, Colorado supports that role as it brings classroom relevance to NASA's Genesis mission. Of particular interest to secondary science teachers and students is the recent release of a computer interactive simulation on modeling the periodic table. Students can master the table and the logic behind its development by patterning the same approach used by its 19th century creator, Dmitri Mendeleev, while they are engaging in a fun, computer interactive simulation. The focus of the activity is on understanding the characteristics and families of the chemical elements and the organization of the table based on this information. Students learn how the development of the periodic table exemplifies the use of scientific modeling in our quest for knowledge. Additionally, with the computerized interactive format, students realize the value that technology adds for quickly changing and analyzing models. The simulation, for all its uniqueness, is characteristic of types of educational materials now emerging from this mission on a regular basis.

University of Iowa Professor Robert Yager, known for his work in context-based science instruction and Science-Technology-Society (STS) reform efforts, notes that "it [the Genesis Web site] captures very well the content included in the National Standards dealing with inquiry, technology, science for meeting personal and societal challenges, and nature of science. It is almost as if someone knew what the standards were visualizing as exemplary programs, materials and teaching approaches. The questioning style is good. And, the dependence on student experiences is great. The whole effort represents what many of us talk about when we mention the power of context in terms of student learning and the curriculum."

In an attempt to further understand the origins of our solar system, NASA's Genesis mission will send a spacecraft to collect pieces of the sun called solar wind. However, another NASA goal in the Genesis mission is to reach out to teachers, students and the general public nationwide. NASA's aim is to heighten public awareness of the value of making a direct correlation between the study of planetary science and science and mathematics curricula. The Genesis Web site serves as a vehicle to achieve this outreach

objective. Created and maintained by educators at McREL, the site offers quality standards-based instructional materials. The McREL Genesis outreach team is refining an interconnected approach as they bring the real world into the classroom. The scientists at the Genesis mission partner organizations (Jet Propulsion Laboratory, Lockheed Martin Astronautics, Los Alamos National Laboratory, California Institute of Technology and the Johnson Space Center), are engaging in unique ways to stimulate and inform student and teacher discussions in planetary science and mission technology. Together with McREL, these organizations are redefining how they perceive educational outreach, both in the desired end-goals and in the processes used. The Genesis Web site can be found at: <http://genesismission.jpl.nasa.gov>

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