More Ideas for Authentic Activities

Earth Science

- **Preparing for an Earthquake**: Students work in groups to develop an advertising campaign in order to educate the public about the science behind earthquakes and how to develop an earthquake plan. Teacher may also have students develop their own earthquake plans with their families.

Chemistry

- **Petroleum Poster**: Students work in pairs or small groups to create a poster to educate the school community about petroleum. As part of the poster students include information regarding: (1) The science of oil; (2) How petroleum affects our global society; and (3) Alternative energy sources.
- **Lunar Habitation Module Prototype**: Students work in groups to develop a proposal for the development of a self-contained human support system to be tested on Earth and duplicated on the lunar surface. Students must take into account (1) Air quality issues; (2) Primary gases and their roles; (3) Emissions; (4) How emissions will be monitored; and (5) How emissions will be managed and air quality will be protected. Biosphere 2 in Oracle, AZ is used as a real life example. Based on the *Chemistry in the Community* curriculum (American Chemical Society, 2001).

Biology

- **Human Evolution Timeline**: Students design a timeline of human evolution, the product of which could be part of a museum exhibit. The timeline would depict the hominid species that lived over the past five million years and the species’ distinguishing characteristics (e.g. geographic range, physical characteristics, tool use, social structure). In order to construct the timeline, students must gather and synthesize information about the numerous hominid species, arrive at their own version of the evolutionary history of humans, and present the information in an information, yet engaging, format.
- **Human Cloning Debate**: The students hold a senatorial subcommittee regarding the generation of a bill promoting or restricting research on human cloning. In the role-play, students would take roles as either: (1) experts (e.g. scientists, religious community members, medical doctors, ethicists) who must present relevant information to the subcommittee, or (2) senators who must weigh presented information and design (and vote upon) an appropriate bill.

Environmental Science

- **Waste Management Campaign**: Students work in groups to generate a waste management plan for a community whose landfill is about to close. The students must design a comprehensive plan for managing different types of waste and create a campaign (posters, leaflets, etc.) with which to educate the community about their plan.
- **Save the Species!**: **Scenario**: Due to financial constraints, the endangered species list must be streamlined. **Project**: Groups of students are assigned different endangered species local to the area. Each group researches their species (natural history, reasons for listing) and presents an argument to the class as to WHY the species should remain on the list.

*Please contact the presenters (lineback@sciences.sdsu.edu or corinne_lardy@yahoo.com) for further details and materials for any of the above activities.*