



# Synergy

A newsletter for  
middle level  
science teachers  
(now including K-12)  
Summer 2004



## LEWIS AND CLARK PROCEED ON!

### The Commemorative Lewis and Clark Expedition continues the re-enactment of their Voyage of Discovery.

After a winter in quarters at Fort DuBois near St. Louis, the crew is making their way up the Mississippi and Missouri Rivers to Fort Mandan, where they will spend their second winter.



The PRCST Lewis and Clark Program was presented by Jane Konrad during several professional development workshops. These included:

1. A Mars exploration program conducted by Dr. Jerry Blackmon, California University-Retired, for teachers in Southwestern PA, I.U.#1. Konrad gave the Keynote address, highlighting the need for alignment to academic standards

and noting the analogy of the Lewis and Clark Expedition – Going Into the Unknown.

2. Children’s Literature Annual Conference hosted by the University of Pittsburgh-Greensburg, for elementary teachers and librarians.

3. Lower Merion School District summer workshop for teachers participating in their program for Gifted Students: Ellen Braffman, Coordinator of Gifted Services; Steven Barbato - Curriculum, Instruction, & Assessment Supervisor, Science & Technology Education.

The value of linking the natural and historical environments was demonstrated through study of the Lewis and Clark Expedition and its impact on the development of our nation. The rich potential for integrating study across disciplines was highlighted and specific examples of science/technology/environment content were explored.

The work of area teachers participating in the program was outlined and pictures of classroom work accompanied discussion of topics addressed, grade level opportunities, and standards achieved. The potential for community involvement and volunteer participation was included.



Participants were excited about the multiple facets of the program and enjoyed the videotape of the Eastern Legacy, the PRCST PowerPoint outlining the program, and especially the PRCST website that focuses on the scientific aspects of the expedition. <http://lewisandclark.pittsburghlegacy.com>

Dr. Charles B. Greenberg, Moderator and Primary Author.  
*(There is little about our Eastern Legacy impact on this expedition, although a wealth of information is available on the Internet about the journey from St. Louis onward.*

A special focus on the plants documented by Lewis and Clark was emphasized through development of a small Lewis and Clark section of the Western PA Unit – Herb Society of America’s herb garden located at the Phipps Garden Center/Conservatory in Pittsburgh. Development and maintenance of this garden was the subject of a session at the National Herb Society Annual Conference in May where Garden Chairman, Liz DePiero, and Jane Konrad spoke. A Lewis and Clark Garden is also being developed at St. Elizabeth School in Wilkinsburg under the direction of participating teacher Mary Beth Jaquay.

## Science-Technology-Society Green Design Programs



Teachers that have participated in the PRCST STS by Green Design Program continue to expand their classroom work, incorporating related components.

- A) An outstanding example is the work of **Serena Magrogan**, Northside Urban Pathways Charter School. Serena has involved students in two rich units of study:
1. The HOMES Curriculum – an STS energy efficient building/design unit. This was a big hit with the students who built and tested 1:4 scale models of their floor plans of universal dwellings (low income housing). Student exhibits included floor plans, models, and insulation analysis, simulating utilization of solar energy.



All work addressed academic standards. And students were required to achieve a level of 4 on the rubrics (levels 1-4). Students also prepared

presentations for a hearing before the Homes for Everyone Architectural Committee.



Students also built solar powered robots and presented them at National Chemistry Week with Atmospheric Chemistry as the theme. They presented robots at Conservation Consultants, Inc. (CCI) and at the National Green Building Conference last Fall.



2. The STS Issue Article Notebook – students prepared a notebook with 10 articles of STS issues. For each article student followed an analysis checklist, identified the players, included statements, listed underlying values, identified the STS issue, noted the science and technology involved, pointed out the societal aspect (people involved), included citations, and wrote a research question.

Students organized the 10 articles and 10 analyses into a folder/notebook and answered 13 “reflective questions”. All work addressed specific academic standards.

This was a very rich and exciting unit requiring critical thinking and various levels of risk assessment and decision-making by students. Related skills needed were acquired during the unit (research in newspapers, magazines etc., comprehension, analysis).

B. Another exemplary program was conducted by **Mary Beth Jaquay**, St. Elizabeth School –Wilkesburg, who worked with 8<sup>th</sup> grade classes:

1. Students built Model Houses using Green Design construction parameters. Students displayed these houses at the National Green Convention held here in Pittsburgh.
2. The students also constructed “Nature Chairs” – made from recycled materials. Five chairs were also displayed at the Green Convention.
3. A third project is development of a garden area at the school site with a pond and a variety of bird feeders. This provides rich avenues for academic study.

