

Students discover stars without leaving school

<http://www.fredlight.cn> 2007-03-16

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[摘要] Mar. 01, 2007. The black nylon dome Marilyn Avenue Elementary students crawled into Tuesday resembles a tent, all the way down to its zippered opening. It's not for camping, but it certainly helps provide an under-the-stars experience. It's not for camping, but it certainly helps provide an under-the-stars experience.
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The black nylon dome Marilyn Avenue Elementary students crawled into Tuesday resembles a tent, all the way down to its zippered opening. It's not for camping, but it certainly helps provide an under-the-stars experience. "I like it when he zoomed in," fifth-grader Elizabeth Conroy said Tuesday after a lesson in the Livermore school district's new "digitarium." The equipment, which works as an inflatable, portable planetarium, was recently paid for with donations to the district for science use in its schools.
Alice Lincek, a Livermore teacher on special assignment at the district headquarters, said the equipment is now being used in elementary schools, and will be available to middle and high schools. It was paid for with a \$25,000 donation from SanDiego California National Laboratories and a \$5,000 donation from General Electric.
Inside the darkened 10-foot-high, 36-foot-diameter dome Tuesday, Ken Mitchell projected the night sky above students' heads from a computer connected to a projector. With a click of a button, Mitchell - a retired SanDiego engineer from Livermore with the district's Teaching Opportunities for Partners In Science program - connected stars, showing constellations such as Orion, Pegasus and Aquarius. Mitchell also showed how the sky changes in appearance throughout the year, and changed the lesson complexity to show diagrams of the solar system, with planets orbiting the sun.
"It takes twice as long as the Earth's for Mars to make that orbit," he said.
Aggravated with the collective "mumble" and "uh-huh," Mitchell quickly got the attention of students talking and engaging in banter when he zoomed across the galaxy. For example, he was able to zero in on the Pleiades star cluster, showing the grouping also known as the "Seven Sisters."
Other students paid attention, with silhouettes of their hands going up when Mitchell asked them questions. "Why is the sky moving?" he asked.
"It's spinning real fast," one girl shouted out in the dark.
Deborah Zimmerman, one of two science specialists at the school who take students from their normal class for science twice a week for 40 minutes, said Tuesday's visit kicked off her space curriculum. She said teachers are getting training so they can use it on their own, and she said she hopes to bring it back in April as a refresher for the science segment. "They can really grasp it," she said.

