PILOT ROCK

The science of fun
U of O program brings grad students out east

By SAMANTHA BATES
The East Oregonian

A class full of Pilot Rock first graders ran around, climbing on chairs, throwing whirley birds - paper helicopters - into the air and watching them spin to the floor.

In Helix, sixth graders mixed water and salt in plastic cups, then compared them on a scale trying to learn which one was more dense.

Both classes were learning science - in this case science spawned by kits and University of Oregon graduate students involved in what is known as the GK-12 Program.

Eric Shamay, University of Oregon chemistry doctoral student, helps first grader Riley Waggoner with a science project Wednesday at Pilot Rock Elementary School.

Staff photo by E.J. Harris

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In its third year, the GK-12 science program brings graduate students into the classroom to teach students and teachers a form of hands-on learning referred to as "inquiry-based science."

"We come up with challenges," said Eric Shamay, a UO chemistry doctoral student who worked with first and third graders in Pilot Rock. "We introduce terms like weight and stability. We ask questions. We get them to come up with questions. They learn by doing."

The Umatilla-Morrow Education Service District organizes the $3 million grant funding the GK-12 project and the 15 graduate students sent out to elementary and middle schools in Pendleton, Hermiston, Helix and Pilot Rock. The ESD also manages the science kits used in all the classrooms.

Sarilyn Newtson, who teaches sixth grade at Helix, said the kits really make a difference.

"It's easier for teachers to prepare and not have to do it on our own," she said. "The elementary teacher has to prepare for six or seven subjects. If one takes more time than the others it might not get as much attention as the others."

This is the end of the graduate students' second week at schools, working with grades 1-6. The first week graduate students took the helm in classrooms, showing teachers how to use the kits and giving kids the time to figure things out for themselves.

This week the graduate students turned things back over to teachers and acted more as assistants.

"My job is to get them comfortable with using the kits," Shamay said, "and push teaching without the text."
Some students are easier to let go of than others. Pilot Rock first grade teacher Lori Roach said she felt challenged at first. It was the science guy in Shamay versus the elementary teacher in her. But as things progressed, they met in the middle. On Wednesday she let the kids discover how to make their whirley birds fly - and to discover why they fly.

"It gave them a chance to explore," she said. "I will use that in my teaching. ... It may not be orderly, but it's free exploration time."

The graduate students say working with kids in Eastern Oregon is a nice break from their daily routine in Eugene.

Eric Abbey, a Ph.D. chemistry student who worked with first, second, fifth and sixth graders in Helix, said he usually works in a lab all day. Working with kids is a big departure from that.

"It's definitely one of the funnest parts of my year," Abbey said. "The kids absolutely love it. They always say, 'The science guy is here!'"

He's glad to see kids excited about science and getting to experience it in a way other than from the book.

"They get to explore stuff. They get to be messy," he said. "That's way more interesting than reading it out of a book."

Roach said she's glad to teach something hands-on, and not have to worry so much about teaching to a test.

"Lately we've been pushing so much reading and writing, I had to put science on the back burner," she said. Having someone to help, and having the kits to help, has allowed her to bring science back to the forefront.

Rather than learning from the text, Shamay said the students will learn from each other. One kid will figure things out in the experiment, then teach the other kids, and soon the entire class learns it.

"It's fun to see them grasping a concept I have trouble getting undergraduates to understand," Shamay said. "The same concepts they pick up faster because they don't have that background to hold them back."