SantaMariaTimes.com

Students explore organisms from the sea, helping science

Teachers say field trip aligns with new school standards

NOVEMBER 19, 2013 12:45 AM • LAUREN FOREMAN / LFOREMAN@SANTAMARIATIMES.COM

Students in Riccardo Magni's AP environmental science class at Pioneer Valley High School formed grids of twine inside square-shaped bases of PVC pipe Friday.

The students would later use the measuring tools called quadrats to collect and monitor organisms from the sea.

"In AP environmental science, one of the goals is to give the kids field experience," Magni said. "It can't get any better than this."

Jessie Altstatt, program coordinator with Channel Islands National Marine Sanctuaries, led the group of 24 students who worked yards away from the shoreline at Shell Beach.

She said Pioneer Valley is one of about 12 Central Coast schools the marine sanctuary has partnered with in a LiMPETS Long-term Monitoring Program and Experiential Training for Students.

The program, funded through a settlement from a 1997 oil spill, allows students to input and access scientific data throughout the state.

The mid-November field trip also allowed students the opportunity to document evidence of sea star wasting detected in intertidal monitoring this summer.

Altstatt warned students to look for sea stars and document any evidence of wasting such as lesions or decay.

They are one group of organisms in a list of several that students searched for. A field guide included whelks, chitons, sunburst anemone and giant green sea anemone.

Magni said the research could have lasting effects on students who are exploring career fields.

"Any kind of fieldwork causes you to integrate what you learned in textbooks," Magni said. "This is absolutely critical."

Educators added that the research aligns with both Common Core State Standards that

embed science into informational text in English language arts and a new set of science standards intended to promote crosscutting curriculum and hands-on activities in science known as Next Generation Science Standards.

“It absolutely aligns with Common Core,” Magni said.

Jenn Sportsman, a science teacher at Righetti who also accompanied students Friday, said the work aligned perfectly with Next Generation standards.

Next Generation

The State Board of Education approved the standards for grades kindergarten through fifth and ninth through 12th in September and adopted the new science model for middle grade learning progressions Nov. 6.

Bama Medley, a teacher on special assignment in the Santa Maria- Bonita School District, was part of an 80-person team that helped review the science standards in 2011.

She said Monday that high schools will have an option between integrated or content-specific teaching approaches, but the new standards will mean better building on prior learning for all grade levels included.

“I think that they’re absolutely what the kids need,” she said.

The students who prepared tools for scientific research Friday did not talk about the shift in science standards or use terms like crosscutting, but they identified elements of their preferred learning styles that experts have touted as defining characterizations of the new standards.

Tori Valdez, a junior who is considering a career in marine biology, said she is more of a hands-on learner.

“I think that’s when you really learn something,” she said.

Jessica Cruz, another junior, said the field trip Friday will help unite content about pollution that they are currently learning with a unit about the ocean they had recently finished.

“It’s hands-on, so we get to see for ourselves,” she said. “It’s not like we’re reading a book about it.”

John Galisky, a teacher for almost 20 years at Lompoc High School who helped review the new standards, said the current standards (which have guided content taught in classrooms for 15 years) are divided by grade and separated into four categories of life, physical and earth sciences and investigation and experimentation.

Galisky has said when investigation and experimentation is not incorporated in the other content standards, hands-on learning is left out of instruction.

Next Generation Standards align content requirements with performance expectations that students will carry out in order to prove understanding.

Galisky said that performance could be a feature of testing, but assessment changes will follow

development of instructional materials in a slow rollout of the standards.

He said he thinks once the standards are implemented, they will open up more opportunities for independent research and for applying science.

“This is going to be a new way of teaching for a lot of teachers throughout the state,” he said.