

Independent WINTER 2017 School

published by the National Association of Independent Schools

WHAT'S
HAPPENED
TO THE
HUMANITIES?



Hands-on learning in Catalina

Although Mount Madonna School (California) is situated on a mountaintop amid 300-plus acres of meadow and woodlands, the students there are well acquainted with the wonders of the sea.

The school's two-year marine science program includes a semester of marine biology and a semester of honors oceanography for all ninth- and tenth-grade students. Every year, the two classes travel to study the waters around Catalina Island. The ninth-graders participate in the Catalina Environmental Leadership Program (CELP), while the tenth-graders participate in programs at the Wrigley Marine Science Center, part of the University of Southern California's Wrigley Institute for Environmental Sciences. These trips, dur-



Students participate in underwater animal behavior ethograms.

ing which students gain hands-on experience in the water and the lab alongside scientists, are eligible for credits in the University of California System.

As a result of their mandatory participation in the trips, students graduate with the equivalent of five years of laboratory science experience.

"The Wrigley Center is situated in a marine-protected area that is studied by scientists from all over the world," says science teacher Lisa Catterall. "The cove at the facility harbors an ecosystem that has been restored to a near pre-human level of biodiversity. The chance to view



A student holds a sea urchin during a touch tank exploration lab.

an intact ecosystem as a reference point for what's possible in nature is what originally drew me to bring students to study at the center."

During the students' most recent five-day trip in

May 2016, ninth-graders engaged in three exercises to complete the lab portion, then spent the rest of the time engaged in leadership and character-building activities designed to push them out of their comfort zones and prepare them for doing research on the water, including kayaking and high ropes courses.

The tenth-graders worked alongside university researchers collecting and recording data to support ongoing work and were in the water every day. "They put in 12-hour days identifying microorganisms collected in plankton, conducting research such as ethogram studies, examining bioluminescence, or observing garibaldi territorial behavior," says teacher Nicole Culbertson.



Students design and build remotely operated vehicles (ROVs) that are then deployed for underwater research.