

## **Students Use Earthworms to Power Recycling Program**

By Darcy Leigh Richardson

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CARLSBAD – It's a 7-foot-long wooden box, painted light blue and decorated with student handprints, paint splashes and stars. To anybody who's visiting Pacific Ridge School in Carlsbad, the box could be a student art project or a container for sports equipment.

But when science teacher Todd Burckin opened the lid during lunch break, apple cores, banana peels, shreds of newspaper and tiny red worms were scattered throughout the soil in the box. The “worm bin” is part of the school's recycling program, and while students are studying algebra and history, 10 pounds of red wiggler earthworms are busy producing fertilizer for compost.

Pacific Ridge, an independent, nonprofit school for grades seven through 12 that opened in the fall with 108 students, partnered with the Solana Center for Environmental Innovation to launch the project, known as vermicomposting, or composting with earthworms. Burckin said the soil in the box will be harvested in two to three weeks and used for a herb and vegetable garden on school grounds.

“Green vegetables, especially lettuce, have been eaten very quickly,” Burckin said. “We feed the worms about twice a week. They really love coffee grounds kids bring from home, egg shells and banana peels. The kids have really embraced the project.”

Tara Fuad, school recycling project manager at the Solana Center, said the recycling organization has given eight other schools in San Diego County worm bins. The earthworms digest organic material in the bin's dark, moist environment and then excrete fertilizer.

“I think there is a general trend in people wanting to learn how they can reduce waste and use resources more wisely,” Fuad said. “Composting takes a while, but it isn't that hard to manage a worm bin. It's a great way to augment a recycling program at schools because the worms turn food waste into nutrients that are good for a garden.”

At Pacific Ridge, students sort plastic bottles and cans, paper products and food waste in separate containers to be recycled. Martin Boyd, 15, a ninth-grader at Pacific Ridge, is one of the students who regularly feeds the worms.

“It's good to save fruit and not just throw it away,” Boyd said. “We recycle at home, too, but I'd never heard of a worm bin before. It will be fun to have a garden at school and plant our own vegetables.”

Burckin said that once the students start harvesting the soil for the garden, worms will be fed only on one side of the bin so they can keep producing fertilizer. Eventually, Burckin hopes the students will maintain the worm bin on their own.

“Kids really feel they can make a difference when they do projects like these,” Fuad said. “By starting recycling programs at schools, it builds the foundation for kids to be environmental stewards. My hope is that kids will take their knowledge out to their communities and their parents, and know that everything they do helps to make a difference.”

The Solana Center sells different varieties of composting bins and hosts composting workshops. For information, visit [solanacenter.org](http://solanacenter.org) or call (760) 436-7986.

## DETAILS

### Vermicomposting facts

- Vermicomposting, or composting with earthworms, is a way to recycle food scraps and produce nutrient-rich soil.
- Red wiggler earthworms eat up to half their body weight in organic material every day. Their excretions, called castings, become fertilizer.
- Vermicomposting requires a specific bin. Bins are 10-to 15-inches deep, have a tight-fitting lid and holes drilled in the bottom for ventilation. The bedding for the worms can be made of leaves or moistened newspaper.

*Source: The City of San Diego Environmental Services Guide to Backyard Composting, found at [solanacenter.org](http://solanacenter.org)*