

KELLER CITIZEN JANUARY 26, 2017 1:03 PM

Westlake Academy students create green machines



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WESTLAKE — Christmas tree lights powered by lemon juice and a water-powered machine that moves toys in Santa's workshop are a few projects Westlake Academy fifth-graders had fun creating before the winter break.

The projects, known as STEM (science, technology, engineering, math) challenges, are authentic learning experiences that “stick with” students longer than textbook lessons, said Laura Fischer, Westlake Academy fifth grade teacher.

“The grade five teachers have been intentional about adding more rigor and opportunity for hands-on, real-world learning experiences to our science curriculum and instruction,” Fischer said. “The STEM challenges are related to the concepts and objectives taught in the classroom, but extend far beyond the classroom walls ... the experiences are both relevant and fun for our students.”

So far this school year, three STEM challenges have been issued.

The first challenge involved crating a working model of a light, fan or combination of both using materials such as paper cups, plastic bottles, wires, batteries and paper clips. Rules included making sure the item could be moved and still remain operational, involve a series or parallel circuit and have an on/off switch.

October brought a Halloween theme for the second challenge, with students using their knowledge of properties and matter, and mixtures and solutions to create a “trick” (non-edible) or a “treat” (edible).

Student’s finished up the latest challenge in December, using renewable energy to create a “green machine” powered by wind energy, solar energy, hydro power, geothermal energy or a combination. At least 50 percent of the materials used for the machine was to be re-purposed. One student re-purposed a solar oven from a previous challenge to use sunlight to power lights on a Christmas tree.

“These are not the typical science investigations that people remember doing in school,” Fischer said. “I feel strongly about these learning experiences because they are authentic and they challenge students to ‘think outside of the box.’”

Fischer said with STEM challenges, teachers stress that the process is more important than the

challenges, she said. They are super excited at the end of the unit to share their STEM prototypes with their peers and teachers, and they learn from each other through this experience.”

Students shared their projects with Westlake Academy trustees during a recent board meeting.

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