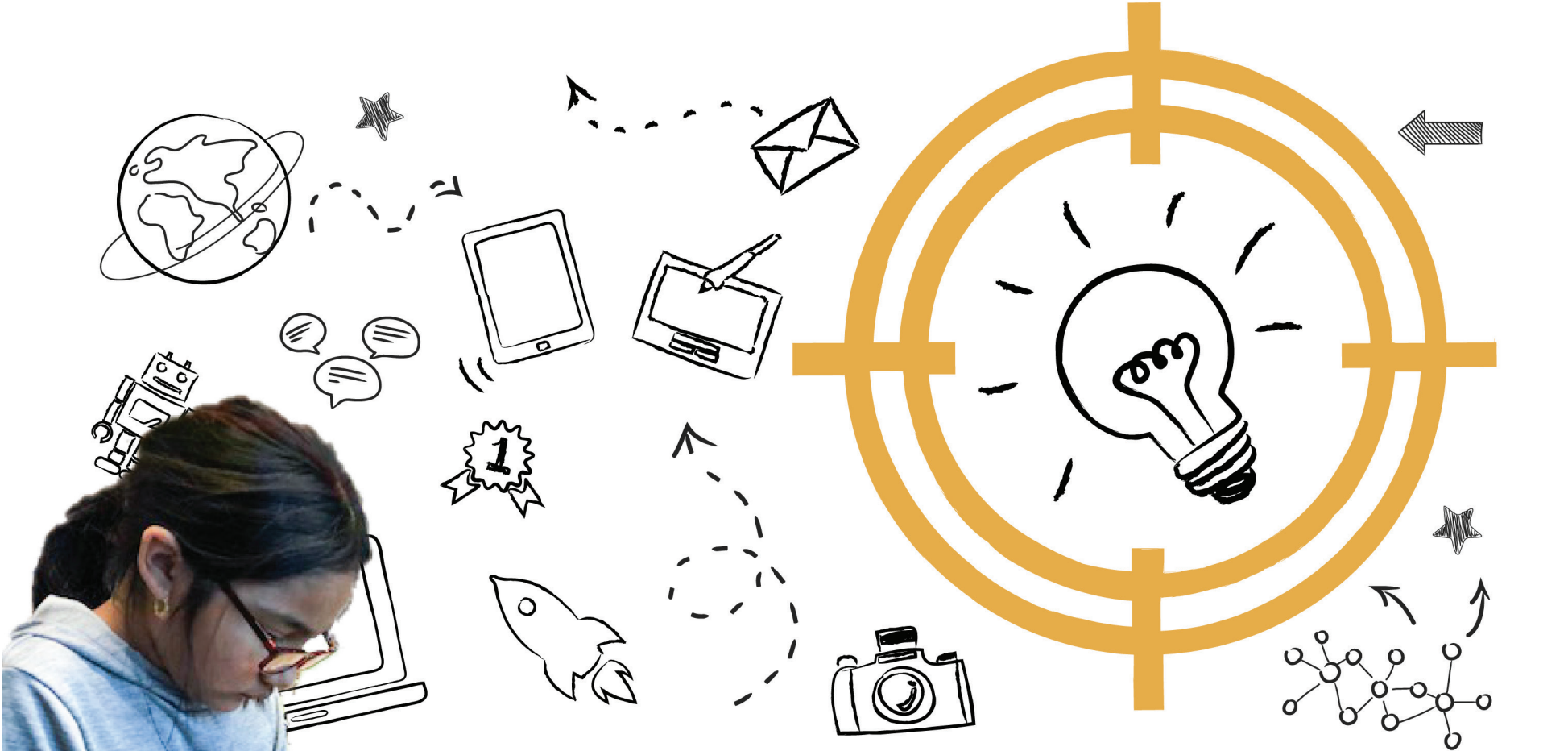


Makerspace comes to parkdale elementary



STEM Hub brings a new type of lesson to school

By GORGE STEM HUB

Every Wednesday afternoon, the Parkdale Elementary Library undergoes a transformation — from a place of quiet literary exploration to a bustling Makerspace.

On those days, a group of 30 third through fifth graders in Parkdale's afterschool ExCEL program get to flex their inventing muscles, building and creating through a regional effort called "Maker Club." At Parkdale, the students refer to this time as "Makerspace."

On one chilly December day, the young learners had the task of creating a bristlebot — a miniature robot, built on the head of a toothbrush and powered with a tiny vibration motor. Integral to the task was the key idea of what creates a complete circuit. But just as important were the skills of following instructions (students were self-guided), trouble-shooting, working together, and persevering through setbacks. The motors, with their tiny stripped wires, were not particularly easy to work with and some of the batteries were dead. So each student who had a faulty first design had to investigate the potential cause.

After 20 minutes of building and trouble-shooting, supported by educator Jenni Donahue and volunteer Jay Lyman, most of the bristlebots were working.

"I'm a builder myself, so when I see kids get excited about it, it lights me up," said

Lyman, a retired engineer; that is what motivates him to support Parkdale's Maker Club all year, he said.

As the robots skidded around tabletops and tickled hands, the next task was introduced: Design something for your robot.

Without need for much additional guidance, the elementary learners sprang into action. Using mostly recycled materials, solo or in teams, the youth began designing houses, landscapes, a stadium, and even a trampoline for their bots. Fifth grader Esteban, holding up a cardboard case he was building, explained that he was "trying to invent something for (the robot) to defend itself." He and four other boys were also creating the stadium, with the hope that their robots could eventually battle.

Maker Clubs are a program of the Columbia Gorge STEM Hub, led in close partnership with local schools and other sites.

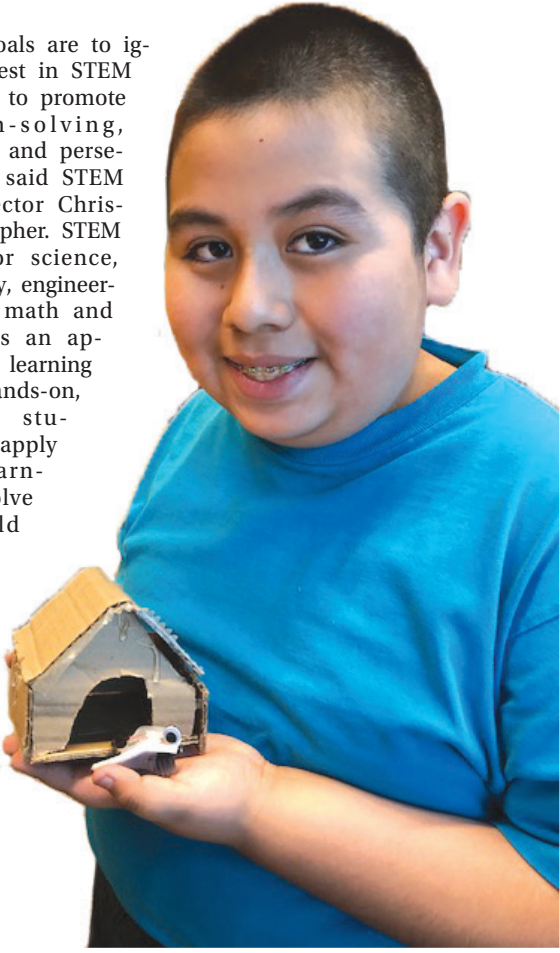
"The goals are to ignite interest in STEM early and to promote problem-solving, creativity, and perseverance," said STEM Hub Director Christy Christopher. STEM stands for science, technology, engineering, and math and represents an approach to learning that is hands-on, allowing students to apply their learning to solve real-world problems.

The STEM Hub creates

ed the curriculum and supply kits, but most sites lead the "clubs" with their own staffing. This model allows the program to impact far more students than if it were staffed by the hub and removes the prep time needed if the schools had to design the activities. Funded by a national grant to expand maker learning, the effort now has Maker Clubs at eight sites across Hood River and Wasco counties.

"It is a joy to see our students get so excited about the Maker Club program," said Parkdale Elementary Principal Gus Hedberg. "Jay and Jenni do a wonderful job of creating a safe and creative learning space where students can explore. The opportunities students have to experience science, technology, engineering, and math are extremely valuable

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PARKDALE ELEMENTARY students work on Makerspace projects during the ExCEL after school program. From top: Kandy Delgado, third grade, uses a glue gun to create a recycled material house; Cora Eby and Yahaira Pitones, third graders, play with newly-made bristlebots; Reijker Moore, third grade, and Logan Follett, fourth, team up on their building project; and Junior Rojas, third, shows off his bot. Top right, fifth grader Bryan Lachino displays his house and bot, as does fellow fifth grader Rigoberto Rodriguez.

Photos courtesy of Gorge STEM Hub