

Library: STEM

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more monthly STEM classes, including “Snap Circuits.”

Chris Png, a friend of Kim and Yoo’s, is an electrical engineer and a graduate of Carnegie Mellon University. He recently joined his friends in their spirit of volunteerism and service, teaching “Snap Circuits” and other STEM courses.

In parallel to the work done by this trio, Jennifer England has been an ever-present, inspiring force in library programming since the library’s reopening in 2015. An engineer by trade, England offers classes ranging from tile decorating with vinyl letters to personalizing handbags, and has helped many library patrons to master Cricut, a DIY cutting machine known for its steep learning curve.

Under England’s tutelage, students learn how to use the library’s Cricut cutter to make personalized reusable bags and tiles.

“We have also made string art, melted crayon art, wine classes,

holiday decorations, painted garden rocks and glitter mugs,” she said. “Upcoming projects include making terrariums, painted wine glasses and spring wreaths.”

An array of inspirational quotes that decorate the walls throughout the library were made with vinyl letters cut from the Cricut machine.

STEM is the future

According to Paul Shaver, the library’s director, STEM is now an integral part of the vocabulary of modern life.

“Science, technology, engineering and mathematics have been underrepresented areas of study in the United States. In an effort to promote skills in these areas, schools, public libraries and other essential institutions have taken on the task of offering STEM courses. We are following suit with our programs in order to allow our residents to keep up with this growing and exciting movement,” he said.

Shaver said he is proud that the



Kathy Brunet holds a sign made by teacher Jennifer Holland (right) with the library’s Cricut machine. This gadget was used to create the vinyl letters for the quote on the wall behind them.

Northvale Public Library is currently able to offer three STEM classes and two adult DIY classes each month, something that many municipal libraries would find difficult and costly.

“Northvale Public Library has one of the smallest buildings and budgets in the county, with only two full-time and five part-time staff members,” Shaver said. (Note: Northvale itself is small in comparison to other municipalities in Bergen County, at a little over 1 square mile in size, and with 4,600 residents.) “Yet, our library is able to accomplish all that we do, because of the phenomenal contributions made by exceptional volunteers like Jennifer England, Mike Kim, Jeffrey Yoo and Chris Png, and the contributions of the Friends of the Northvale Public Library.”

The Northvale Public Library had a setback in 2011. It was shut down amid a funding shortfall.

In 2014 however, Friends of the Northvale Library got the question of whether or not to reopen the library on the November ballot, where it passed by 618 votes to 538.

Today, the Northvale library remains in full swing, and boasts several STEM classes:

- Lego Mindstorms Robots

are Lego sets that are combined with motors, sensors and their own on-board individual computers to create many robots in different shapes and sizes. These sensors allow the robots to react to touch, sound, color and visual input that includes the infrared spectrum. The sets are used in schools throughout the country to teach children science and computer programming skills.

- **Raspberry Pi** is a credit-card-sized computer that can be plugged into any monitor or television with an HDMI input. It was developed in England to be a very low cost (\$35) computer that can be used to teach children basic computer programming

- **Snap Circuits** are a safe, convenient and quick way to teach children about electronics. Students as young as first grade learn about circuits, resistors, transistors, diodes and many other concepts in electronics. Each child or group of children is given a kit that allows them to do things like power motors, use solar panels and create their own radios.

- **Cricut** is the main technology used in the library’s adult DIY programs. It can be used to cut vinyl, felt and paper in patterns of

one’s choosing. It is primarily used to cut vinyl and then adhere the vinyl to various objects in new and creative ways. There are many examples throughout the building, including a number of author quotes on the walls.

A class in session

On Jan. 9, Chris Png taught his monthly Snap Circuits class to a small group of children in the library. Also on hand were Kathy Brunet, the head of the Friends of the Library, Emily Pepe, the youth services librarian, and Shaver.

The class consisted of four children, ages 6-11, all of whom were enraptured by the high-tech equipment. Amongst other things, they learned how to set up a radio transmission from a circuit board.

Hayong Ju, the mother of 6-year-old Yeji, said that she is delighted at how much her daughter loves the program. “She looks forward to coming here every month!”

Ian Kim, a 10-year-old, said, “I love all the STEM programs, but especially the robots.” When asked what he wanted to be when he grows up, Ian immediately piped up, “A computer genius!”

Photos by Hillary Vidars



Chris Png shows Sonny the snap circuit board he will be using in the class.

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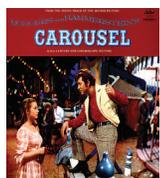
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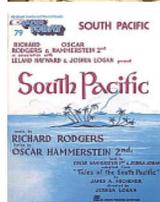
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