

# impact

University of Idaho Extension programs that are making a difference in Idaho.

## Treasure Valley youth explore STEM circuitry craze

### AT A GLANCE

University of Idaho Extension teaches youth new hands-on circuitry activity in Canyon and Ada counties with positive learning outcomes and attitudes toward STEM.

### The Situation

Treasure Valley youth need more exposure to STEM out-of-school time programs. The Canyon County 4-H Expansion and Review Committee identified STEM education as a strength of 4-H programming. They also felt that UI Extension had a great opportunity to continue to partner with other youth serving organizations. Throughout the committee meeting a theme of diversity, more STEM education, time to participate in 4-H, and economic and funding issues were brought up. As part of our answer to their concerns, Extension has worked to find new and innovative, as well as cost effective, STEM education options. These collaborative Extension programs reached many underserved youth with new and exciting STEM lessons.

### Our Response

With support (\$5,000) from a UI Extension's Innovative Project Award, Extension faculty, staff and AmeriCorps members were able to provide a new program that is both unique and innovative to youth who are low-income, underserved and minorities in Canyon and Ada counties. Using 4-H curriculum such as the WearTec series and the Power Park series youth explored hands-on circuitry activities.



The monster activity completed on the last two sessions from WearTec, Book 2: Sewing & Microcontrollers.

Previously circuitry activities were piloted at the Parma Learning Center with the middle school youth using the WearTec Book 1: Circuitry curriculum. Youth enjoyed these learning activities so much that the returning students requested more for the following year.

The UI Extension Canyon/Ada summer team provided programming to the following sites that included three to six hours of lessons: Parma Learning Center, Parma Summer School Program, Caldwell Housing Authority, UI Extension office in Canyon County, Caldwell Parks and Recreation, and Boys and Girls Club (Garden City – Moseley Center). These sites target Canyon and Ada counties underserved groups such as ethnic/racial minorities and rural, isolated youth. Each site completed

a minimum of six sessions where participants were introduced to circuitry using the WearTech and Paper Circuits 4-H curriculums. Activities included: an introduction to circuits, making a bowtie, flashlight, name badge, greeting card, crown and sewing a circuitry monster.

Other sites such as NeighborWorks-Davis Park Apartments (Ada), Military Partnership Program (Ada) and NeighborWorks-Gateway Apartments (Canyon) completed at least one or two activities during a community event or day camp session. These sites target underserved groups including ethnic/racial minorities, rural, isolated youth and youth who come from military families.

### Program Outcomes

There were 80 youth that attended the six-session program. The majority were female (54%) and 38% were Hispanic/Latinx. Youth attending the six hours of lessons completed a post-survey made up of questions from 4-H Common Measures 2.0 Science block.

Youth indicated that they:

- Learned new things about STEM (80%)
- Are or are usually interested in learning about STEM (83%)
- Like STEM a lot or a little (100%)
- Would like a job that uses STEM (67%)
- Would like to study STEM after high school (76%).

As a result of conducting these educational activities, attendees have increased their knowledge and interest in STEM as well as their interest in studying STEM after high school.

Youth were also asked what the most interesting thing they learned was. The monster project was one of the most popular answers to this question. For this project youth hand stitched a circuit using conductive thread and embroidery thread. For many youth, this was their first experience sewing.

While the youth who attended the shorter programming did not fill out a survey, demographic data was collected. There were 38 youth in these shorter programs, with 63% female.

### The Future

We will continue to work with our community partners to provide circuitry programming, especially those sites that we did not reach during the summer due to issues such as facility staffing, conflicting schedules or different youth interests.

### Cooperators and Co-Sponsors

- UI Extension funding from Innovative Project Award.
- 4-H AmeriCorps members: Ilene Holgin, Sofia Dueñas, Yasmin Estrella and Diana Magdaleno.
- UI Extension, Canyon County 4-H Summer Program Assistant Kiera Packer.

### FOR MORE INFORMATION

**Carrie Johnson Clarich**, 4-H Extension Educator • University of Idaho Extension, Canyon County • 208-459-6003 • [carriej@uidaho.edu](mailto:carriej@uidaho.edu)

**Sendy Martinez**, 4-H Extension Educator • University of Idaho Extension, Ada/Canyon Counties • 208-287-5900 • [smartinez@uidaho.edu](mailto:smartinez@uidaho.edu)

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