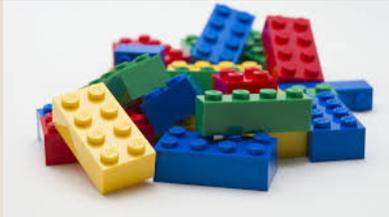




# WESTERN COLORADO COMMUNITY FOUNDATION

CELEBRATING TWENTY YEARS



## Building Blocks for STEM

**Community Foundation  
organizes drive to collect  
supplies for schools**

Time and again, we see our community respond generously to collection drives for canned food or back-to-school supplies. We are organizing something new: a community collection for LEGO and K'NEX building toys. These can be used or new. Cash to purchase additional supplies is also appreciated.

Called ***Building Blocks for STEM***, this collection effort is one part of a multi-faceted initiative by our Community Foundation to raise public awareness about STEM education in our public schools and to increase resources for STEM curriculum for K-12 students. We have learned that our elementary schools have a great need for resources like LEGO and K'NEX - both to teach core curriculum math concepts and to encourage creative



*A cavernous shop room at Central High School has been renovated into a Robotics Lab for their STEM*

*Academy students and the district-wide*

*Hi Fives Robotics League*

## New Robotics Lab *STEM Academy's expanding robotics program*

Four years ago, Central High School launched a STEM Academy, a specialized program within the high school open to students across Mesa County School District interested in a career in STEM (**S**cience, **T**echnology, **E**ngineering & **M**ath). The program has grown steadily and there are over a hundred students now enrolled. STEM Academy students complete the normal high school requirements for graduation plus required AP classes in Computer Science.

building design.

Notes Community Foundation Executive Director, Anne Wenzel, "I am guessing there are many families like mine who have bins of LEGO and K'NEX tucked in closets and under beds that their children no longer play with. We want to engage the community in a drive to collect STEM building toys and distribute them to our D51 elementary schools. We also encourage donations of new LEGO Classic and K'NEX that community members can purchase at stores like eBricks and Target."

***Building Blocks for STEM*** is scheduled to run from ***October 20th - 29th.***

**Collection sites include:** the lobby of downtown Alpine Bank, the MAVcard office at CMU's University Center, the downtown Central library and the Fruita library, the Math and Science Center, and D51 high schools (Central, Fruita Monument, Grand Junction, and Palisade).

Community members who would like to help us increase STEM resources in our schools are invited to send a donation payable to WCCF (Building Blocks for STEM in memo line) to P.O. Box 4334, Grand Junction, CO 81502. Donations will be used to purchase materials and equipment to expand coding instruction in the middle schools. We are collecting cash donations through December 31, 2017.

Each student commits to an internship and a special project in order to complete the STEM Academy requirements.

Central offers robotics classes to its STEM Academy students and is planning a Robotics Competition class. Central's STEM teachers and students are heavily involved in the district-wide high school robotics league, the Hi Fives, which has an impressive track record for success in state and national competitions. When the space at the Business Incubator was no longer available for the Hi Fives, the STEM Coordinator at Central started envisioning a dedicated space for robotics in part of his traditional shop building.

Our Community Foundation awarded \$20,000 to the STEM Academy to renovate the space over the summer and equip it with design software for laptop computers, movable work tables and other specialized equipment to provide a home for robotics engineering. In time, the Robotics Lab may be open to students from nearby Grand Mesa Middle School and students in summer camps offered by the John McConnell Math and Science Center.



*STEM Academy students stand in front of their "football field watering cart", a retrofitted golf cart they conceived, designed and built*

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**Getting Middle School Students  
Excited about STEM**  
*MESA after-school program  
supported with \$5,000 grant*



**Many thanks to our local nonprofit partners - D51 Foundation, John McConnell Math and Science Center and Mesa County Libraries!**

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**"Teching up" the D51 STEM Schools  
Chromebooks to be distributed to West Middle School and Central High School**

While many teachers and schools across Mesa County School District 51 are expanding STEM education opportunities, there is a formal "pathway" of STEM schools for students who want specialized opportunities and in-depth programming in STEM. These schools are: New Emerson Elementary School, Tope Elementary School, West Middle School and the STEM Academy at Central High School.

Each year for the past three years, our Community Foundation has partnered with D51 Foundation to raise funds



West Middle School teacher Heidi Ragsdale loves turning her students on to science - both in her 8th grade science classroom and in her after-school program. MESA stands for **M**ath, **E**ngineering and **S**cience **A**chievement and draws 50 West Middle School students to participate. Heidi also coordinates MESA programs across the district, involving 250-300 middle school students in fun engineering competitions.

Heidi and her students were thrilled to receive a WCCF grant to purchase state-of-the-art equipment like 3-D printers and materials so that MESA students can have more resources to help them with their building competition assignments.

***"It is really exciting that my MESA program got this donation! This means that me and other kids can enjoy many fun things, while also learning a TON about Math, Engineering, Science, Technology."***

-Marshall Langland  
3rd year MESA student

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**Priming the AP Teacher Pipeline  
\$10,000 grant allows teachers to attend AP Summer Institute**

D51 Director of High Schools, Matt Diers, worries about not having enough qualified AP teachers in advanced math, science and computer science. Several years ago,

for Chromebooks to help increase the number of individual learning devices available to D51 students. This year our \$10,000 grant for Chromebooks will purchase devices for the STEM schools.

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## Montrose School District committed to STEM education

Montrose School District is a relatively small district with a big dream: to become the first STEM district in our state. In August, our Community Foundation attended a very enthusiastic district-wide back-to-school assembly and presented a \$10,000 check. Our funding will be used to equip Maker Spaces at Northside and Olathe Elementary Schools - encouraging creativity and design thinking in Montrose's youngest students.



*Community Foundation representatives Kristin Lynch and Monique Serra present Montrose elementary schools with funding for Maker Spaces at the back-to-school assembly on August 18th*

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significant funding for teacher professional development was eliminated from the state budget and since then few Mesa County teachers have been able to afford to attend a required AP Institute in Denver for proper credentialing. As AP science and math teachers retire in the district and there is increased demand for AP Computer Science classes, projections show few teachers able to fill those jobs.

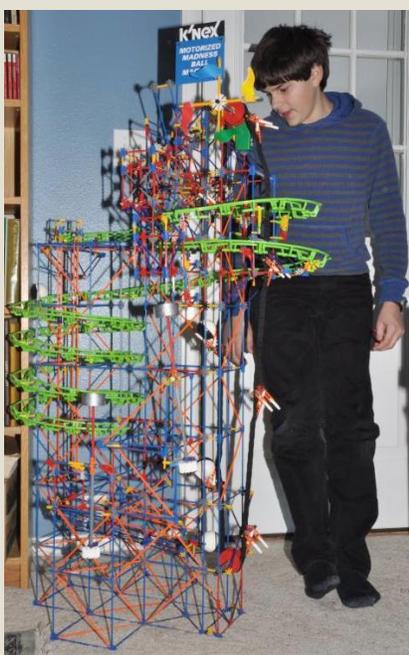
Our Community Foundation stepped in to provide a grant for ten teachers to attend the AP Summer Institute in Denver this summer. This funding covered the cost of registration and travel; teachers paid for their own rooms and meals for the week-long training. "This investment in teacher training has huge long-term impact for STEM education in our district," notes Matt Diers. "Now we have some credentialed teachers ready to step in and teach classes that our students need in order to be competitive in college and in their careers."

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## Reflections from the Executive Director

I remember when my son was a middle school student and entered various competitions organized by his enthusiastic science teacher, Ginger DeCavitch. Ms. DeCavitch organized the Mt. Garfield Middle School MESA after-school program to promote math, engineering and science activities. Favorites included building a contraption to drop raw eggs off the West Middle School roof without breaking them (how fun is that for 12-year-old boys?) and the famous milk jug boat crossing in the Orchard Mesa swimming pool. His milk jugs took on too much water and sunk; there were tears of frustration and disappointment. But Jeremy and his team mostly had fun. And they learned a ton. He is now a rising junior at a first tier engineering college, studying computer science and working in a co-op program as a software engineer this semester.

My son always LOVED building things. Wooden blocks, LEGO, popsicle stick bridges. I remember him saving his money to buy a K'NEX



*Budding engineer as a young boy building with K'NEX*



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Big Air Ball Tower kit. Designed for children 12 to 16, he bought it at age 9 and had the whole thing assembled and humming smoothly in his bedroom in half the time the box instructions said it would take to complete. He proudly showed the ball tower off to anyone who would show interest. Six months later he took it all apart and started building his own creations, mostly self-designed amusement park rides and such - things there were no instruction booklets for.

From these relatively innocent beginnings, my son - and so many K-12 students - get turned on to design thinking, applying what they know about laws of gravity and math to solve practical problems and challenges.

My son will graduate from college in two years with highly marketable skills in engineering and computer science. He will likely have his pick of jobs; there are so many businesses looking for young people with these skills. (Colorado is #1 in the United States for entry level computer science jobs.) How great would it be for our whole community to promote more STEM education opportunities for our young people - to encourage creative thinking, teach practical and marketable skills, prepare them for jobs that are awaiting, and send them into a world that continues to develop advancing technologies every day.

Join us this month in promoting STEM education! Please participate in our Building Blocks for STEM collection or consider making a cash donation - on Colorado Gives Day or any time before the end of the year.

-- Anne Wenzel