

Everything is
theoretically
impossible, until
it is done



THINK LIKE
A PROTON.
ALWAYS:
POSITIVE.

Campbell STEM Elementary

Visit Our Schools Presentation
February 24, and March 2, 2021

In a STEM school . . .

- **S**cience topics stimulate students' natural curiosity and provide real-life problems to solve in an inquiry-based, hands-on format.
- **T**echnology is used as a tool to gain knowledge, organize systems, and problem solve.
- **E**ngineering is used to design, create, build and improve to make things better and solve a problem.
- **M**ath is seen as AWESOME and an essential ingredient in all of the above!

Why do we need STEM schools?

- The early years are critical for STEM teaching and learning. Many students are turned off to math and science by 4th grade, and by 8th grade, many have already decided against higher level courses.
- 21st Century skills (teamwork, creativity, problem solving, life-long learning) are embedded in STEM learning experiences and pedagogy (inquiry based) and essential to any future job.
- Elementary is perfect starting point to build **interest** and **proficiency**, 2 essential factors which must occur together in order for a person to choose a STEM career.
- Students develop a Growth Mindset.

Why Campbell STEM?

- Staff interest, expertise and commitment to life-long learning.



Our Mission . . .

- Campbell STEM's mission is to prepare our diverse students for **21st Century citizenship** and instill a **joy of discovery**, through **integrative STEM learning**, **real world problem solving**, and a **caring environment**.

Campbell STEM's Vision . . .

- Integration of STEM into all subject areas
- Emphasis on:
 - **Engineering Design Process**
 - **Project-Based and Place-Based Learning**
 - **STEM career exposure** at every grade level
- Multi-grade level **Explorations** and **Socratic seminar**
- Extracurricular STEM activities
- Partnerships with STEM related businesses
- **STEM Lab** and **Maker Space**
- Campbell STEM School **learning lab for educators**

Amplified Science integrated science, social studies, and literacy at Grades K-6. Will continue to use Go Math!

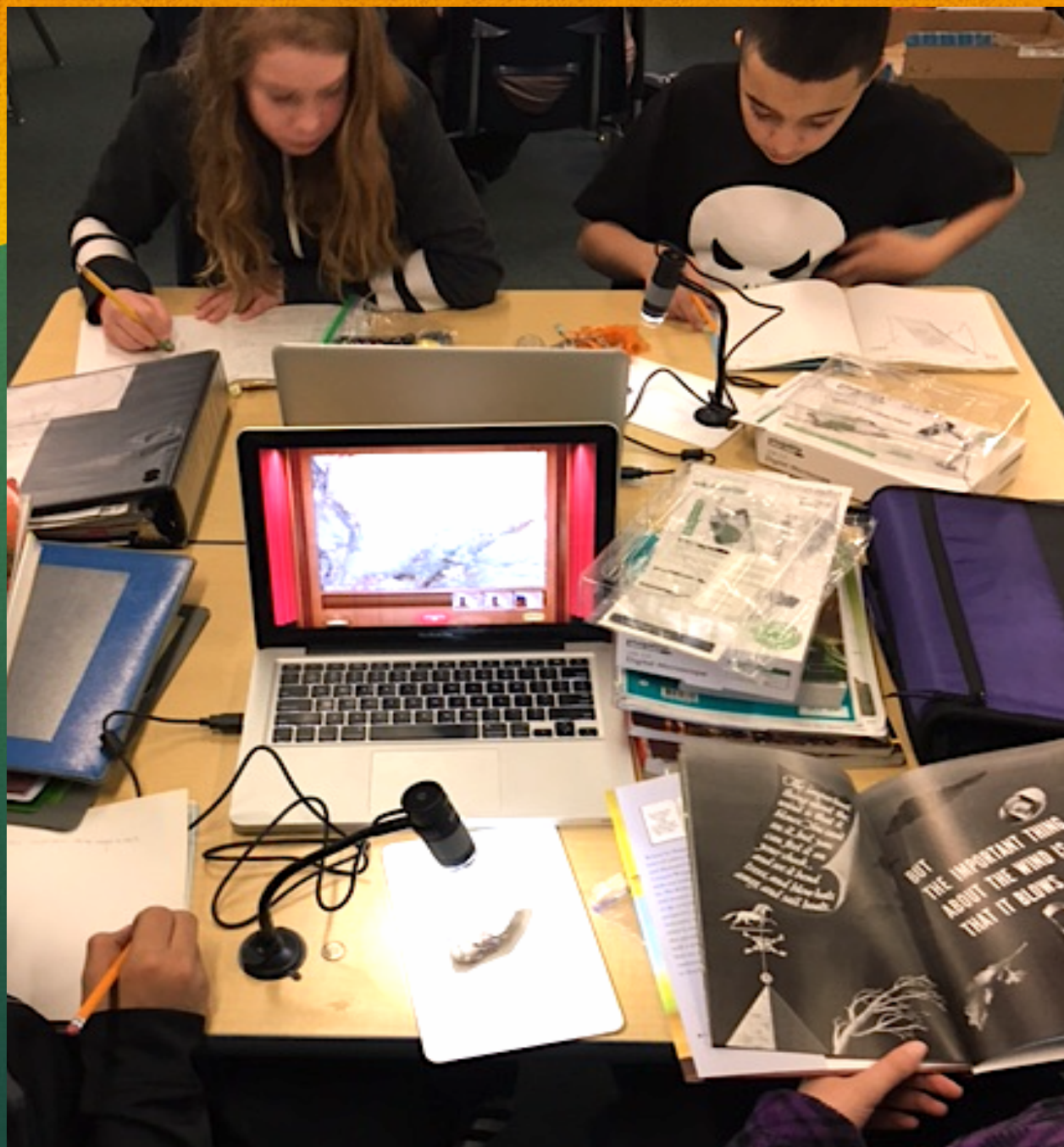
What we found about STEM schools

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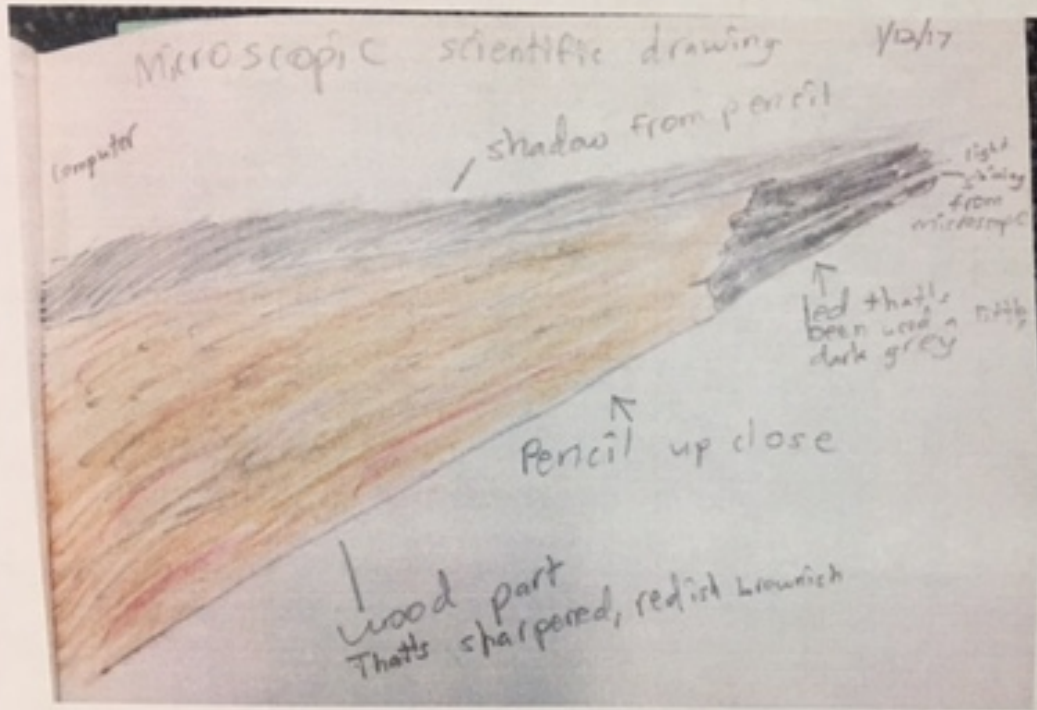
- Simply put, STEM education involves the integration of subjects - often including ELA, SS, Arts and more - by breaking down the “silos” of teaching independent subjects throughout the school day, and making connections to the context of the real world.

STEM

I N T E G R A T I O N



A product of integration . . .

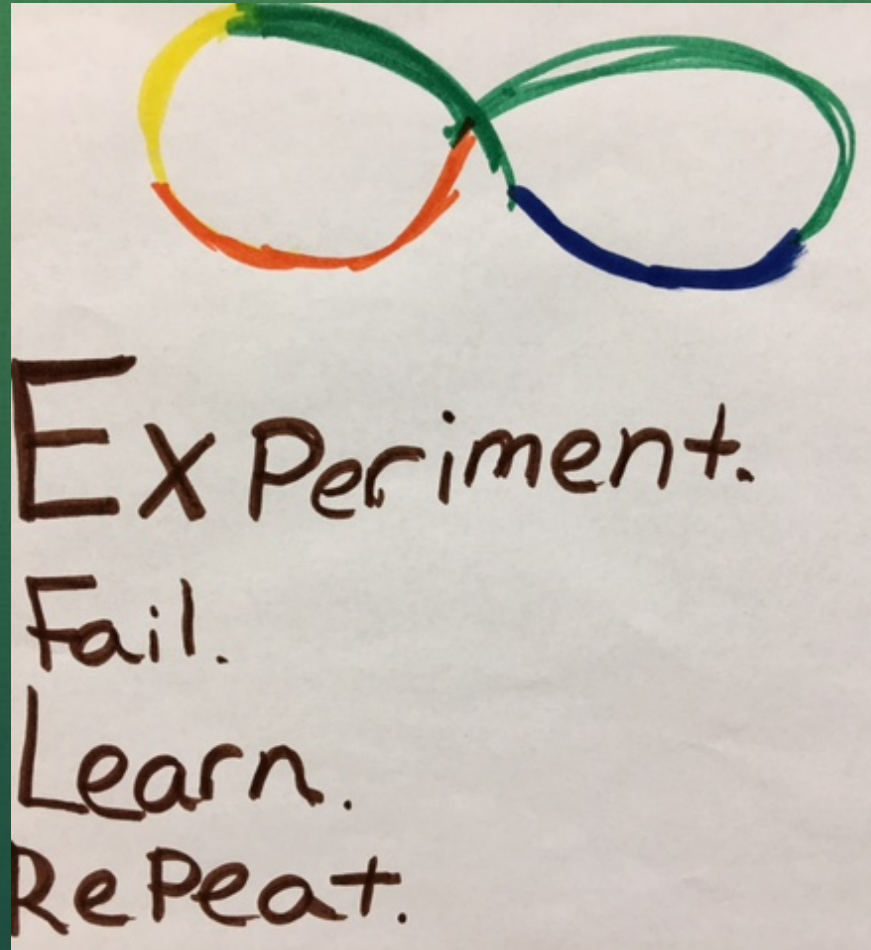


The important thing about a pencil is that you can communicate with it. It can be sharp and dull. It can take all my ideas and put it on paper. Writers can write with it, drawers can draw with it, and unfortunately haters can hate with it. Scientists need it to write down information. But the most important thing about a pencil is that you can communicate with it.

Dawson

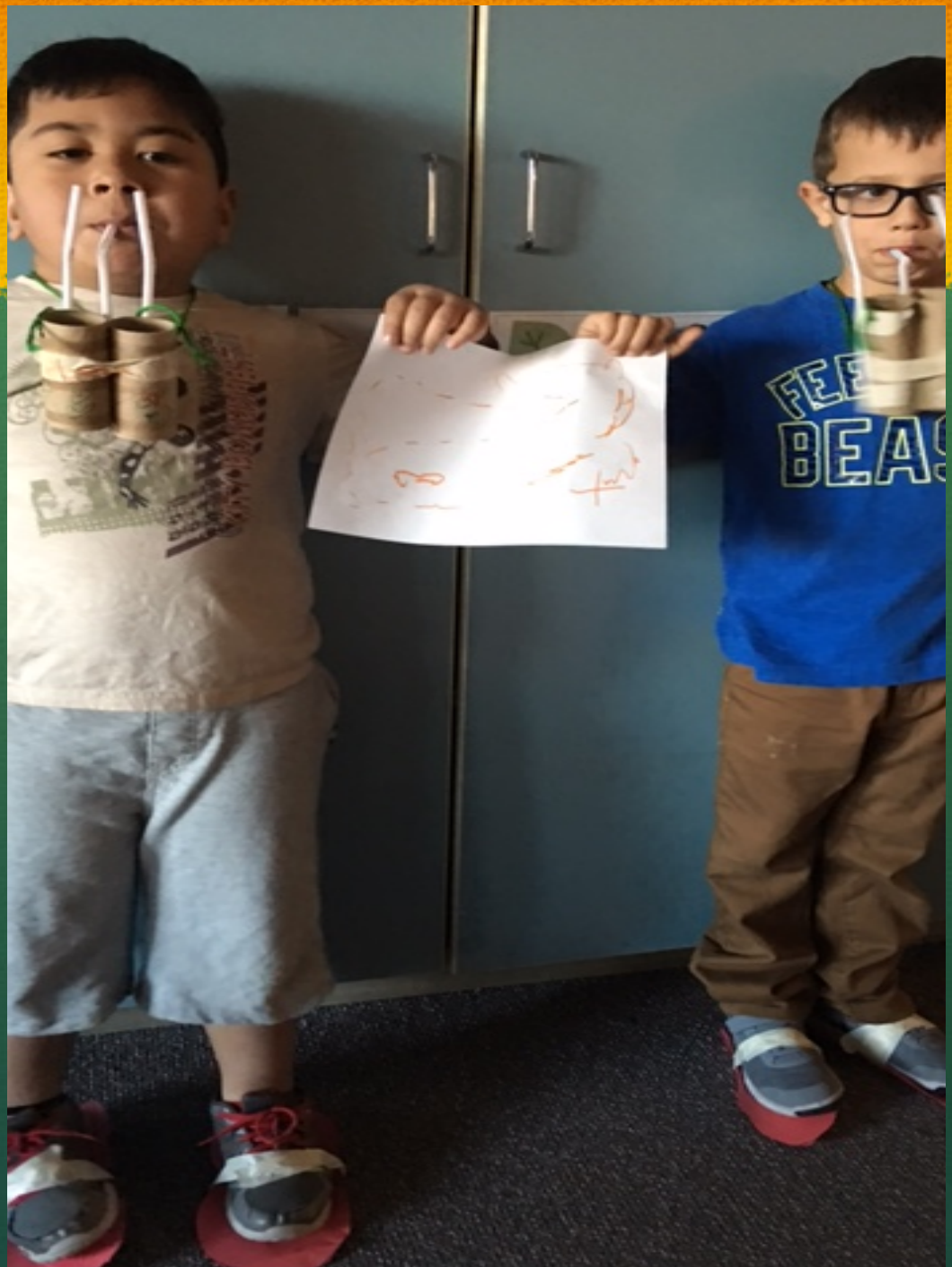
Engineering Design Process 5 E's:

1. Explore
2. Explain
3. Elaborate
4. Engage
5. Evaluate



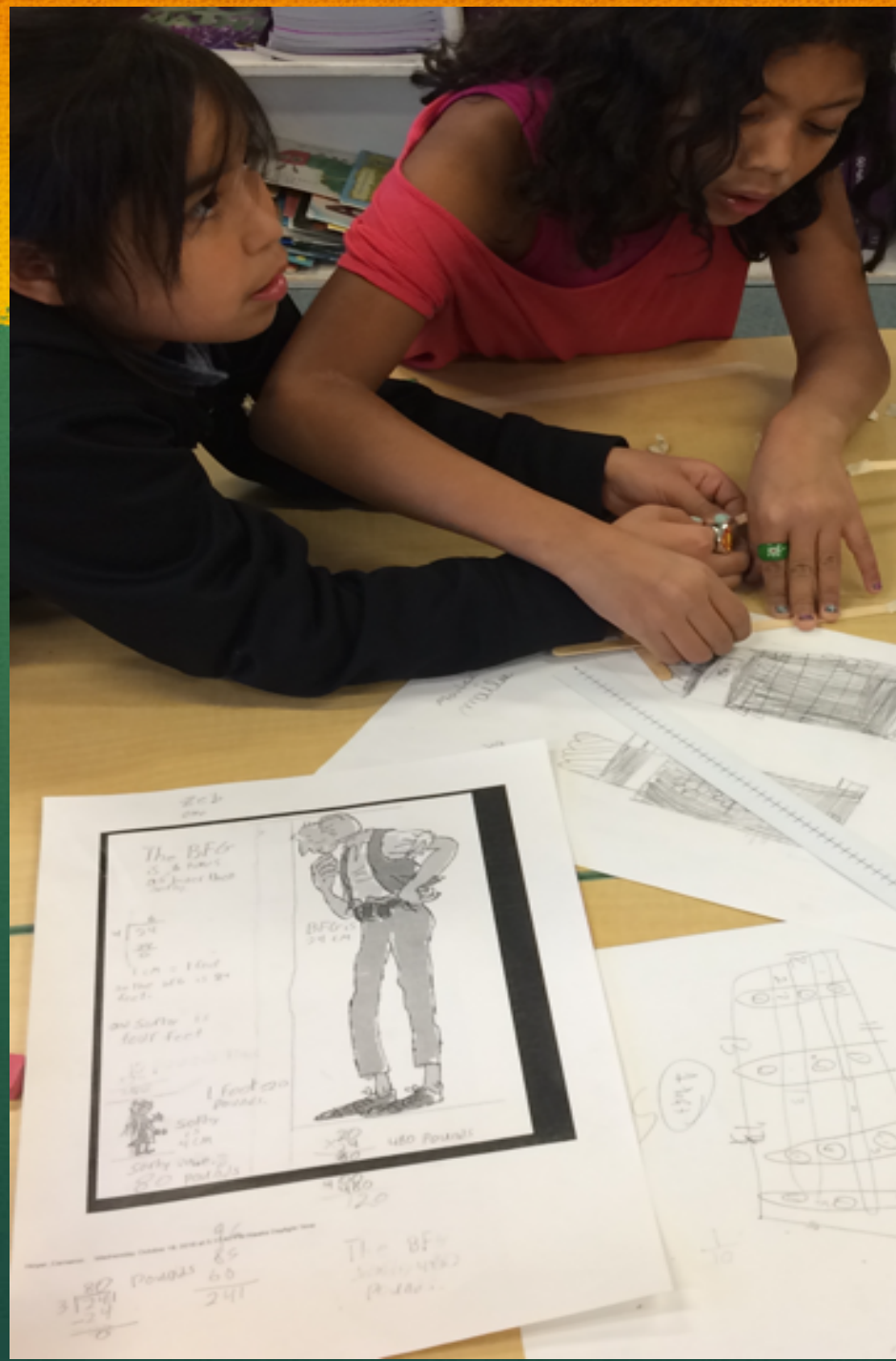
Kindergarteners:

Can you
design
something to
help you breathe
underwater?



3rd
Graders
designed
and built
beds to fit
and
support
the BFG.

Book by Roald Dahl



5th
Graders
designed
and built
boats to help
early
American
settlers
improve
their system
of trade.



Project-based Learning . . .

In Fall, 3rd grade students harvest a school-based garden they planted the previous Spring. After making a BIG pot of soup, most of the vegetables are donated to a local soup kitchen.



Raising Chickens . . .



Campbell Elementary School
Place Based Learning in

Wolverine Park

Park Exploration & Discovery



Place- based Learning

...

Discovery in Nature

Left top and bottom, and right top: Students engage in science education by looking for birds and habitat, and recording observations.

Bottom right: Students take a minute to relax and observe the tree canopy.



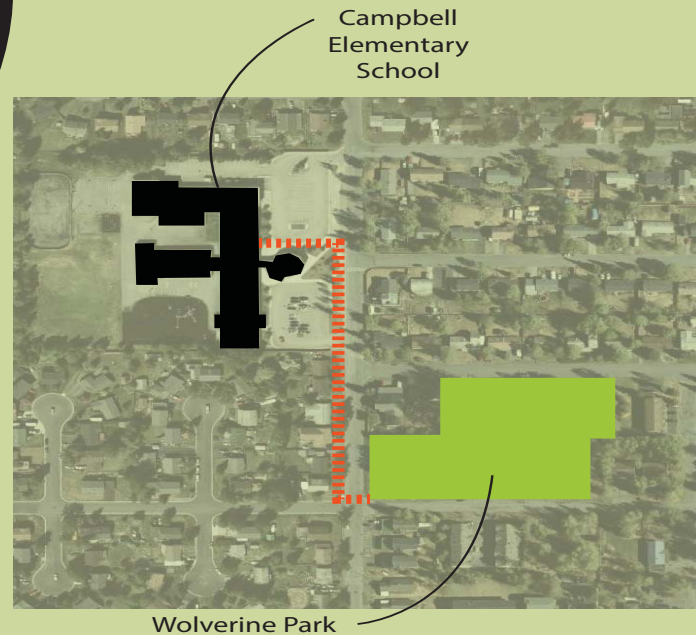
Campbell Elementary School

Place-Based Education in

Wolverine Park

The students at Campbell Elementary are engaging in place-based learning in their neighborhood park. They have been visiting the park for lessons in STEM (science, technology, engineering, and math), as well as art and stewardship.

Park Exploration



Left top and above: Students and teachers go on a winter solstice walk through the park.

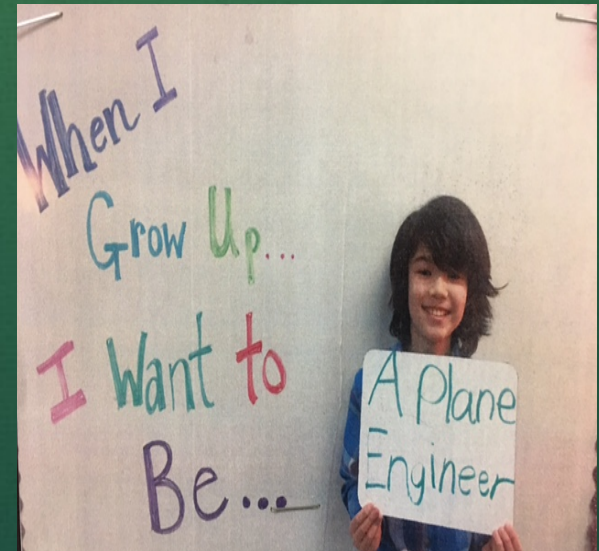
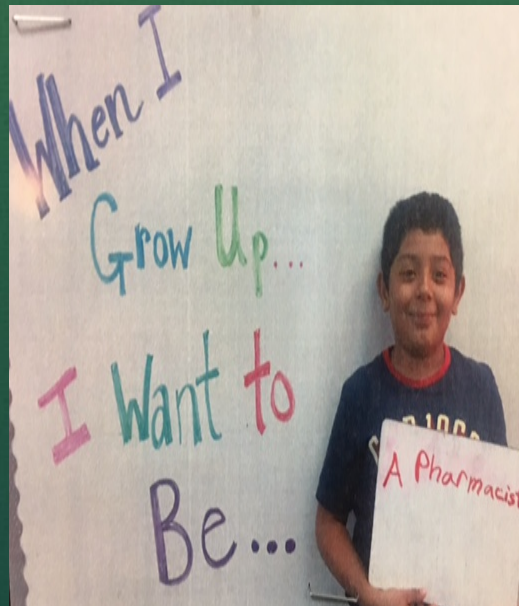
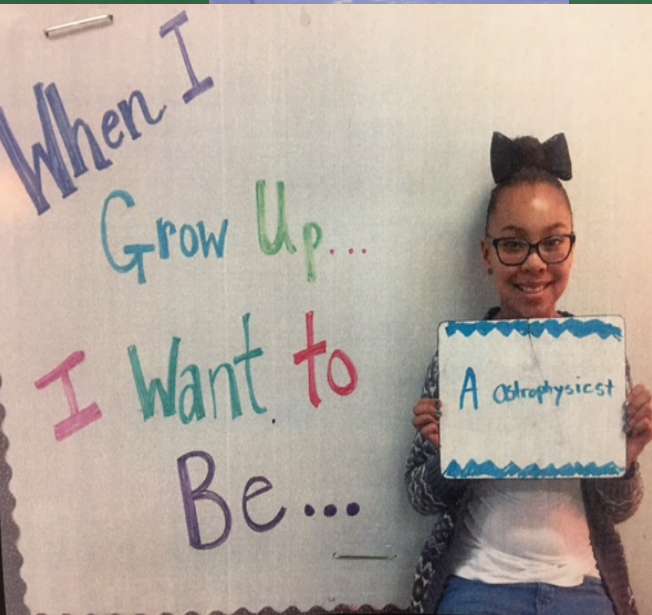
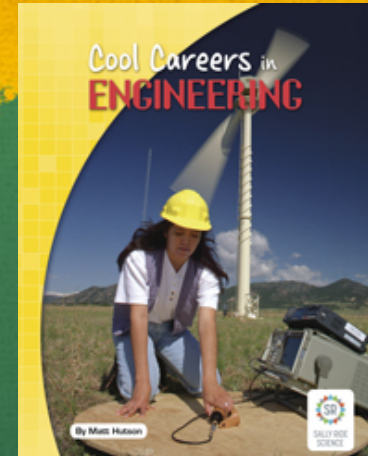
Left: Mrs. Wilcox's 2nd grade class pose in front of the Wolverine Park entry sign.



Exposure to STEM Careers in every grade



Sally Ride Science



10 Things Students Love About Campbell STEM Elementary

1. STEM Lab

- 5 Computer Carts
- 150 iPads
- Apple TVs
- Engineering Lego Wall
- 3-D Printing

2. Hands on Learning

- Project/Place-Based Learning
- Engineering Design Process

3. Clubs and Activities

- STEM Club
- Coding Club
- Lego Robotics
- Botany Club
- Student Advisory Board
- Choir
- Sports
- Student Mediators

4. Explorations

- Multi-Age Learning Opportunities

5. Special Activities:

- Science Fair
- Aviation Day
- East High Science Club Day
- Social Emotional Learning Days
- Anthropology Day
- Lunch & Learns

6. Community Service Projects

- Wolverine Park Adoption
- Green House and Garden
- Day of Caring Events

7. Library Makerspace

- Students freely explore, create, and collaborate while participating in:
 - Crafts
 - Games
 - Building Supplies
 - Engineering Challenges

8. Ice Rink

- Ice Skates
- Snowshoes
- Skis

9. Outdoor Learning Opportunities

- Campbell Creek Science Center
- Jewel Lake Ice Fishing
- Orienteering at Kincaid Park
- Learning Stations at Wolverine Park
- Explorations to Alaska Wildlife Refuge and Alyeska
- Greenhouse and Gardens
- Apple Orchard and Chickens

10. Safe Place to Learn

- A great community with staff that is:
 - Friendly
 - Caring
 - Helpful