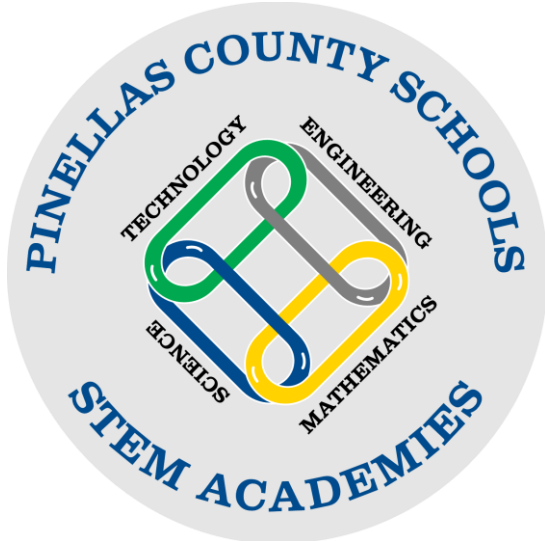


The STEM EFFECT

A PCS STEM Academy Newsletter



What is STEM?

STEM is an acronym for Science, Technology, Engineering, and Mathematics. The PCS STEM Academies offer rigorous programs for children grades 4th through 8th emphasizing:

- Student engagement in science, technology, engineering and math in multiple ways in a supportive and engaging environment.
- Development of student knowledge and application of STEM content and processes.
- Collaboration and learning from other students and from STEM professionals.
- Promotion of academic success and higher education.
- Encouragement of student interest in additional STEM learning opportunities and careers.

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The Cell Phone Challenge



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More STEM learning with remote controlled machines and the motion sensor

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Explore this page to learn more about PCS STEM Academy updates from a district perspective.

"I love STEM so much that I hope I get to join again next year!"

Current 4th Grade STEM Student

Fourth Grade STEM Club

STEM is an extra-curricular club that 4th graders at Anona love. It's a club where kids aren't afraid to show how smart they are. It also helps prepare kids for future careers. We learn responsibility, teamwork, cooperation, and perseverance. Challenges are exciting. Saving Fred taught us teamwork because we had to save Fred (a gummy worm) before he drowned.

Teamwork also helped us with Stacking Cup Towers. Sounds easy right? But with only 4 straws and a rubber band it was very challenging. We participated in the Hour of Code, and created packaging for the cellphone drop. Designing and racing cars was a blast. This year in STEM has been an awesome experience.

Cell Phones and Coding

Cell Phone Challenge

One day we received an email from UPS asking us to design a package that would protect a cell phone from breaking or cracking when it was dropped by a drone. We all had so many ideas, but first we did some research to learn what businesses used drones. We were surprised to see that Amazon uses drones inside their warehouses and that some hospitals use drones to get something faster to another hospital. Then we sketched up some designs and decided on a plan. Everyone brought in supplies, and we did lots of trading. Then came the fun-filled afternoon as we began to build our packages. The teams did a great job of working together and we learned from each other. We were glad UPS reached out to us to help in designing a package. It was a whole lot of fun.

Hour of Code

Hour of Code is a blast. There were a lot of different games to learn coding. For example, the most popular ones in our club were Minecraft, Frozen, and Star Wars. It was hard starting out learning the steps. Not surprisingly, eleven kids went home and made their own Hour of Code account. Brady and Ben play it a lot. Ben has won awards and is now on an even harder level called JavaScript. Coding was fun to learn and is something we need to know for our future careers.

Super Awesome Challenges
 Tests our skills and patience
 Extracurricular Wednesday Fun
 My favorite Club



Testing helped us redesign and improve our packaging.

Getting To Know 4th Grade Engineers



Faith, Eliza, Anthony, and Noah work together to make a cup pyramid.

The first weeks of STEM, we spent time doing activities that taught us many things, such as teamwork, perseverance, and how challenging STEM could be. One activity we did was called Stacking Cups. The challenge was to stack 10 plastic cups in a pyramid using only 4 strings attached to a rubber band. No Hands! Talk about impossible. We really had to talk out our plans and communicate our ideas in order to be successful. It took a lot of perseverance, but in the end, we felt so proud when we created our pyramid.

Another activity was called Saving Fred. Fred was a gummy worm who wasn't wearing his life preserver when he was out on a boat. One day the boat flipped and Fred fell out. Unfortunately, his life preserver was under the boat. We had to save Fred by getting him into his life preserver and back into the boat. We were only allowed to use four paper clips. It was a little frustrating but we were proud that we eventually saved Fred.



Engineering Fun With Remote Controlled Machines and Motion Sensors

Remote Controlled Racecars and Cranes

In the beginning of the year we built remote controlled Nascar race cars. We did this ourselves with very little help. First we had to look through the magazine for design ideas. We sketched our idea in our notebooks and then got all the parts we would need. When we were building, we had to keep taking it outside to test to make sure all the parts were working together. Three and a half weeks later, all the teams were done. We had a Grand Prix to see the team racecar that could go the fastest.

Another challenge was to make a crane that could move something across an imaginary river. We did some research and saw many different kinds of cranes. We used some of those ideas to design our own. We really needed a lot of perseverance for this challenge. It was difficult getting all the parts to work together. Some teams never got their cranes to work. They are sitting unfinished on the shelf. Good thing STEM lasts till May!

Motion Sensor

In S.T.E.M. class we learned how to use a motion sensor graph. The graph had different projections that changed. You might have to go very fast, backwards, or forwards, but all of a sudden you might have to go very slowly. We got to try different ideas. We tried to stay still and see if we would do better, we also talked about where we had to start and where we had to end. If you laughed you made the graph line move. Before, we had the chance to try it, the teams made up strategies to tackle the graphs. It was so much fun, even when you messed up. If you can, you should try this activity.

Super fun challenges

Time to build and test

Excellent teamwork needed

Miss it and you will be sad



Notes from the PCS STEM Coordinator

Electronic Communication

The Pinellas County School's STEM Academies are **GOING GREEN!**

Parent/Caregiver Email Update

With 178 STEM Academies impacting approximately 3,500 students and their families, we are using email as our main form of communication.

During March you will receive an electronic version of your child's STEM Academy newsletter that their Academy created. It is important that you keep your STEM Academy Facilitator up to date with any changes to your email address.

PCS STEM Site Update

I use this site to provide up-to-date information on STEM events, scholarship opportunities, videos, photographs, STEM Academy seat availability, STEM summer camps and current STEM trend data/articles/research. Please visit www.pcsb.org/STEM.

PCS STEM Apparel

PCS STEM Academy logo apparel is available to order! There are t-shirts, polo's, jackets and more for both male and females! <http://www.logooutfitters.org/pinellas-county-schools>

Annual STEM Expo

Last year with an overwhelming response of 900+ people in attendance, I am happy to announce that we will be hosting our 2nd annual PCS STEM Expo!

When: Saturday, April 30th

Location: USF St. Petersburg Campus

Cost: Free

Be on the look out for more additional details during the coming months!!

Community and Business Support

Volunteer's Needed

Are you someone who likes to work with their hands, has an interest in STEM content and wants to impact the future PCS STEM Academy students? We are always looking for volunteers who are willing to donate their time. If you are interested in becoming a volunteer to help support the PCS STEM Academies, please email the PCS STEM Coordinator Laura Spence at Spencela@pcsb.org.

Business and Community Support

If you are a business or community resource that would like to become involved by: providing speakers, donate resources, offering on site teacher pd opportunities, and other opportunities not mentioned. Please contact the STEM Coordinator Laura Spence at Spencela@pcsb.org to learn more.

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Science is all around us and with the national emphasis on STEM education, Pinellas County is engaging students to explore these areas of study. **Science Rocks Pinellas** is an educational television program produced with the Science Department of Pinellas County Schools where the main focus of the program is STEM! With the unique science opportunities of Tampa Bay, we showcase our students and teachers interacting with components of natural science and STEM within our community; ranging from the waters and parks surrounding Tampa Bay to high-tech businesses and robotics -- even theme parks! Our students and teachers go beyond the classroom to uncover the fascinating science of the Tampa Bay area. STEM Coordinator Laura Spence is the host and WPDS-TV14 Station Manager Dave Cook is the producer of the program.

The September edition of Science Rocks focuses on STEM summer programs engaging elementary, middle and high school students.

WPDS-TV14 is proud to announce that **Science Rocks Pinellas** has won the prestigious 2014 TELLY and Communicator awards for excellence in educational television programming.

Science Rocks Pinellas airs Monday and Friday evening at 7pm and can be viewed on Bright House Channel 614 or Verizon Channel 46 throughout the Tampa Bay area. Past episodes can be viewed on the WPDS-TV14 website www.wpds.tv/WPDSProgramVideos/Science_Rocks_Pinellas

and the WPDS TV14 You Tube Channel: www.youtube.com/channel/UC2fuJqKImU8yxDwJkRb2DQ