

## Why is STEM important for the future?

STEM is important because it pervades every part of our lives. ... By exposing students to STEM and giving them opportunities to explore STEM-related concepts, they will develop a passion for it and hopefully pursue a job in a STEM field. A curriculum that is STEM-based has real-life situations to help the student learn.



## Why Girls in STEM?

- Women and girls are vastly underrepresented in STEM fields despite their talent and potential to be successful in these areas. While women make up almost half of the population, they account for only 24 percent of the STEM workforce<sup>1</sup>. Influential organizations, like *STEM for Her*, are striving to bridge the gender gap to create a stronger and more globally competitive and productive workforce. STEM jobs are growing at 1.7 times the rate of non-STEM jobs.—[www.stemforher.org/learn/learn/](http://www.stemforher.org/learn/learn/)

- The U.S. government is working tirelessly and aggressively to promote and encourage girls and women to become invested in and excited about STEM fields. There are significant government initiatives to provide accessible programs and information to young girls to foster their interest and engage them in a world of opportunities related to STEM. Some of these courses and events include mentoring, training programs, and the Educate to Innovate campaign.—[www.stemforher.org/learn/](http://www.stemforher.org/learn/)

## CRESTWOOD MIDDLE SCHOOL STEM/ PRE-ENGINEERING ACADEMY



### Administrative Team

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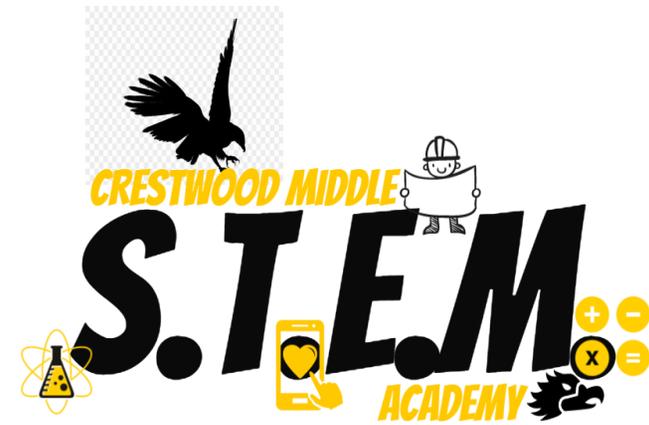
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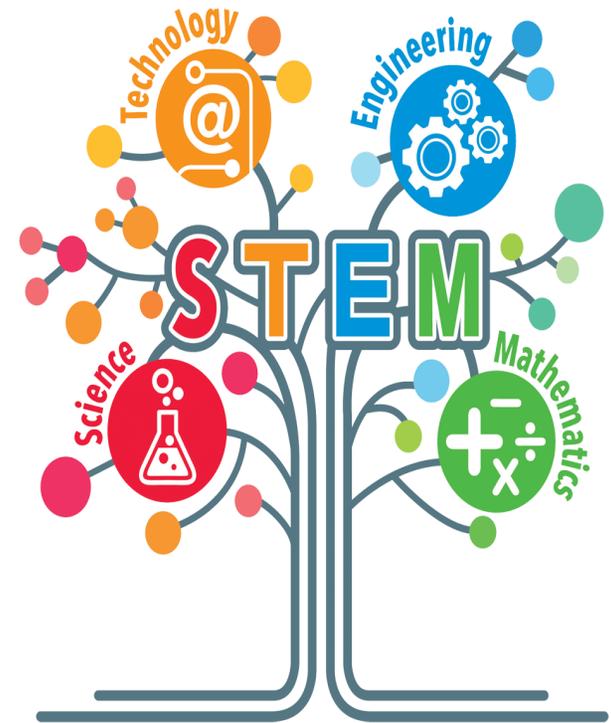
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*“High achievement always takes place in the framework of high expectation.”*

— Charles F. Kettering

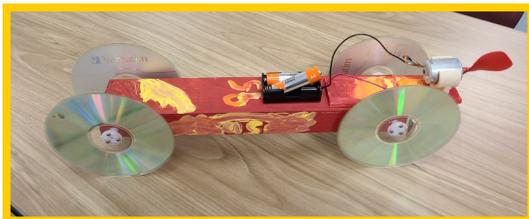
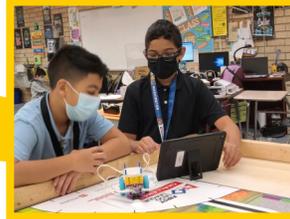


**“Attitude Determines Altitude”**

## What is a STEM /Pre- Engineering?

Science, Technology, Engineering, and Mathematics (STEM) Academy is a course of study designed to meet the needs of highly motivated students who wish to pursue studies in mathematics, science, engineering, drafting, physics, chemistry, and technology tailored to the curriculum.

STEM in the classroom involves a concentration in the STEM disciplines as well as interdisciplinary approaches and interconnectedness with other non-STEM subjects. A STEM classroom differentiates itself in providing more experiences for practice and engagement with visible tools and strategies.



## Crestwood STEM Program

The STEM program at Crestwood Middle School is a 3 Year Program which will enhance students understanding of STEM related careers and prepare students to further study STEM programs at the high school level. Crestwood Middle School is partnered with the STEM Program at Royal Palm Beach High School.

## Projects Incorporated Into Curriculum

- Coding
- Lego Mindstorms EV3 Robots
- Paper Roller Coaster Challenge
- Bridge Building
- Mousetrap Cars
- Kites
- Gliders
- Catapults
- Water Bottle Rockets
- CO2 Dragster Challenge
- MIT Marshmallow Challenge
- Isometric Drawing
- Mechanical Drawing
- 3D Printing
- Architectural Shelters/Tiny Houses
- Electrical Engineering



## Characteristics of STEM Academy Students

STEM Academy students demonstrate talent in mathematics and science. Intelligence with extraordinary analytic abilities, STEM students solve problems creatively and are curious about the way things work. They are divergent thinkers who enjoy puzzles and games. While capable of independent achievement, STEM Academy students are comfortable working in a group environment as members of a problem-solving team. Possessing developed study skills and disciplined work habits, STEM Academy students are willing to meet difficult challenges. STEM Academy students are generally open-minded, resourceful, inquisitive, and highly motivated for success.

## STUDENTS WILL

- Explore math and science in a personalized context
- Use engineering as the method for discovery, exploration, teamwork, and problem solving
- Use technology to allow for deeper understanding of the other three aspects of STEM
- Use inquiry approach to explore core science ideas, develop scientific process skills, as well as developing critical thinking and problem solving skills