

Dr. Darcy Favata (Santos)  
Magnet Lead Teacher, Stewart Middle Magnet School

Dr. Darcy Santos is a Magnet lead Teacher at Stewart Middle Magnet School. Stewart is known for its excellence in STEM and space education for the past 20 years. It maintains its credibility and standing as a nationally-recognized and award-winning magnet school. Dr. Santos' role as the Magnet Lead is to ensure the school's magnet theme is integrated in all classrooms, and to recruit and retain students to attend the school. Dr. Santos has led professional development opportunities throughout the school year that have focused on STEM and space education, and school activities have all been completed to maintain interest in the school's program offerings.

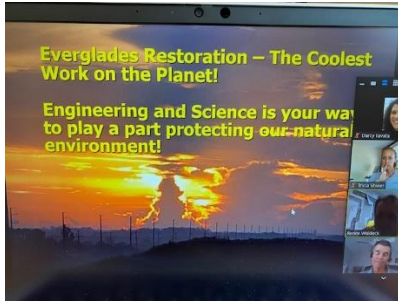
Dr. Santos started the school year by first conveying the importance of the magnet theme to the staff. She held professional developments detailing school highlights, so new staff could know and understand that they were at a unique school. Dr. Santos also started the year off with a grant from the Florida Space Consortium called STEM to the Stars, where the STEM curriculum was used a tool to facilitate the space education aspect of Stewart. The STEM to the Stars grant provided 4 lead teachers and 12 support teachers the funds to plan after hours. The planning revolved around themed months throughout the year. Monthly themes were Space Exploration, World Space Week, International Space Station, International Space Station National Laboratory, Mars Exploration, and Earth. Dr. Santos led the committee to plan and implement strategies and experiences that benefited the teachers with STEM/space education integration and the students in maintaining interest.

Dr. Santos has also made these events inclusive of students who have been working off-site in the e-learning platform, so the magnet theme does not get lost with their distance. She has done so by maintaining a social media presence, utilizing YouTube to live stream activities and document happenings, as well as providing video conferencing with special guests, so all students can participate.

Professional Developments and Activities this year:

- Space Exploration
- NASA STEMonstrations activities and space exploration lessons provided by subject area and aligned with the standards for each subject area: Example – Astronaut Space Crawl for Physical Education; Testing soil to determine its suitability for human habitation; Converting temperatures to determine suitability for humans; Sleep frequency
- World Space Week Spirit Week- Students dressed up according to the daily theme
- World Space Week Art Contest (winners were on exhibit for a month at Tampa International Airport)
- 20<sup>th</sup> Anniversary Celebration of the International Space Station
  - Sixty Rocket Launches- 20 for each grade level
  - Space Station Scavenger Hunts (virtual and on site in computer labs)
  - Guest Speakers from MAXAR Technologies
  - Art Installations
  - 20 Days of STEM and Space Exploration Videos and Trivia
    - Posted on morning announcements and online platform (Canvas)
    - Trivia question for each video with prizes to random participants
- MARS Perseverance Activities
  - Lessons integrated into core subject areas
  - Mission to Mars; Making a MARS Helicopter (from paper)
- Partnership with Jacobs Engineering
  - Women in Engineering- female city planners and scientists/engineers from Jacobs met to discuss their roles in engineering
- Earth Day Celebration
  - Planting of Butterfly Garden – 40 plants; STEM Garden Clean-up and planting
  - Riverfront Clean-up- 66 bags of trash were removed
- Guest Speakers
  - Tampa Bay Watch-Restoring the Tampa Bay estuary
  - USF Strong Coasts- Hydrodynamic modeling; Environmental engineering; Detecting lead contaminants in water
  - Jacobs Engineering- planning and climate change; Restoring the Everglades

## Photos and Evidence



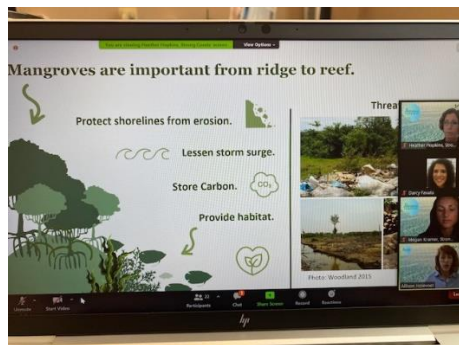
Screenshot of Everglades Restoration Zoom Presentation from Jacobs Engineering



Earth Day River Clean-up (66 bags were collected)



Butterfly Garden and art installation



USF Strong Coasts Presentation on Mangroves and Environmental Engineering



Smoothie Bar from STEM Garden Harvest



Women in Engineering Event from City of Tampa and Jacobs Engineering



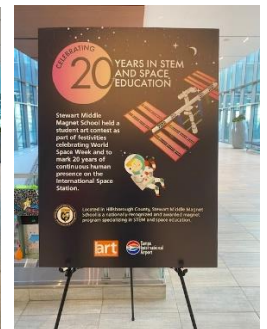
BlackHistory Month Door Decorating Contest on African-Americans in STEM



Dr. Haywood Brown, Obstetrician, Vice President of Institutional Equity for the Office of Diversity, Inclusion, and Equal Opportunity, Morsani College of Medicine, University of South Florida



Columbia, Challenger, and Apollo Memorial with our John Glenn Top Gun Academy students



Artwork on display at Tampa International Airport. I wrote the wording on the poster on right, and the airport designed it to showcase our winners.

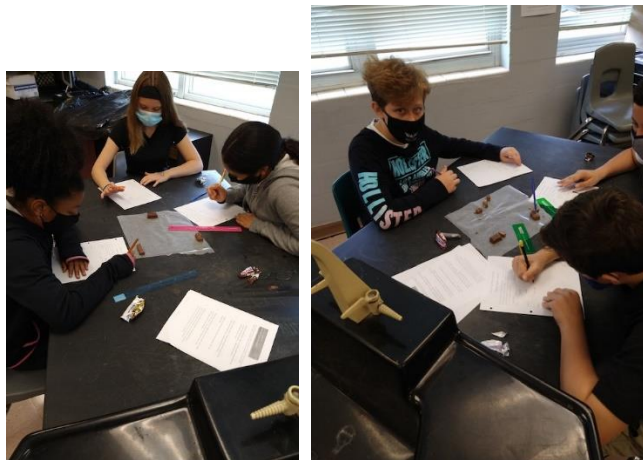




Rocket Launches and speakers from MAXAR Technologies on 20<sup>th</sup> Anniversary Celebration



Afton Kinkade, student pilot, being interviewed on Fox 13 (local news channel) and presenting to an elementary school on Zoom.



Students conducting an analysis of “findings” on a planet to determine if it supports human life. I provided the lesson to the teacher (via NASA Stemonstrations), so they could use it in their curriculum.

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## Stewart Middle School

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*Dr. Darcy Favata, Magnet Lead*

Stewart Middle Magnet School is a nationally recognized and award-winning magnet school that specializes in STEM and space education. Being a magnet school for over 20 years, Stewart has maintained its relevancy and rigor by keeping up with the trends in STEM as well as offering every student advanced curriculum. STEM is integrated into all classroom settings regardless of the course focus. Stewart maintains a close relationship with NASA and its affiliates, which means students are often conferencing and interacting with astronauts, Mission Control, Lockheed Martin, and Boeing.

Pathways at Stewart focus on engineering, robotics, gaming, aerospace, and academic advancement. Competitive with IB programs, Stewart offers nine high school credit courses to their students as well as Project Lead the Way (PLTW) programs. Stewart is the only middle school in the district that offers as many PLTW courses under its theme, and it is the only middle school in the district that offers aerospace as a high school credit course. In the aerospace course, students get to use Space Station Stewart where they use flight simulators to demonstrate aviation and aerospace techniques. Home of the Math Academy, 6th grade students complete two mathematics courses, so they take Algebra in 7th grade and Geometry in 8th grade. Stewart also has a fully accessible shop where students use band saws, scroll saws, planers, drills, and other tools to engineer their current feats.

Located in downtown Tampa along the up and coming Riverwalk area in West Tampa, Stewart's campus is also unique in that it is the only middle school with riverfront property. This allows students to participate in water quality testing, create and use autonomous underwater vehicles, and maintain the riverfront area for respite and relaxation. Stewart Middle Magnet has maintained its status and recognitions because of STEM integration across all curriculum, and because of its unique opportunities for all students.



Write up in the December 2020 edition of the Hillsborough County Public Schools' STEM Newsletter. Written by Darcy Santos.