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# Aerospace Engineer

Online Challenge

Team A: Amelia, Logan, Hiyab

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# What is an Aerospace Engineer?

An Aerospace Engineer is someone who designs, builds, and tests aircraft, spacecraft, satellites, and other vehicles that travel inside and outside Earth's atmosphere. Aerospace Engineers include both Astronautical Engineers (in outer space) and Aeronautical Engineers (in Earth's atmosphere).



Photo from WWCAviation.com

# Why We Want to be Aerospace Engineers

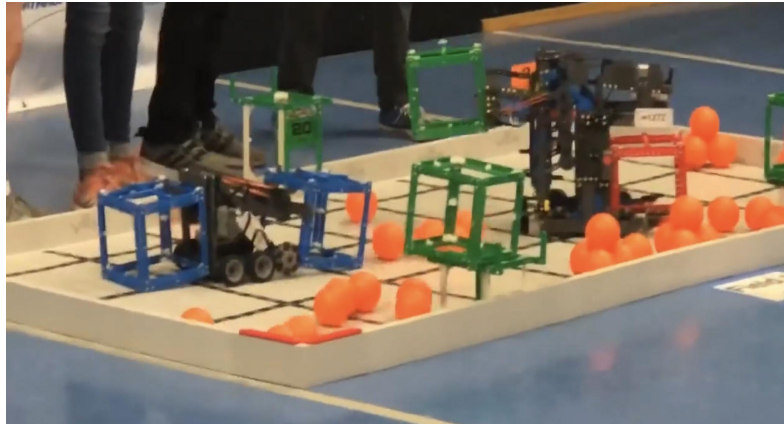
We want to be Aerospace Engineers because we all love to build things, problem solve, and test new ideas. We think it is amazing that some vehicles can fly and how much there is to explore in space!



Photo from History.com

# How Participating in VEX IQ Helps Prepare Us

Being an Aerospace Engineer requires a lot of attention to detail, problem solving, teamwork, and hard work. Participating in competitive robotics requires similar skills. Also, Aerospace Engineers spend extra hours working on their vehicle/machine just like how in robotics we spend extra time working on our robot.



VEX IQ Squared Away Marquez Robotics Red

# Skills Required

Some of the skills required to be an Aerospace Engineer are that you have to be good at math, engineering, and physics. You also have to pay attention to detail, be a good team player, be creative, and be good at communicating, problem solving, and using technology.



Photo from BLS.gov

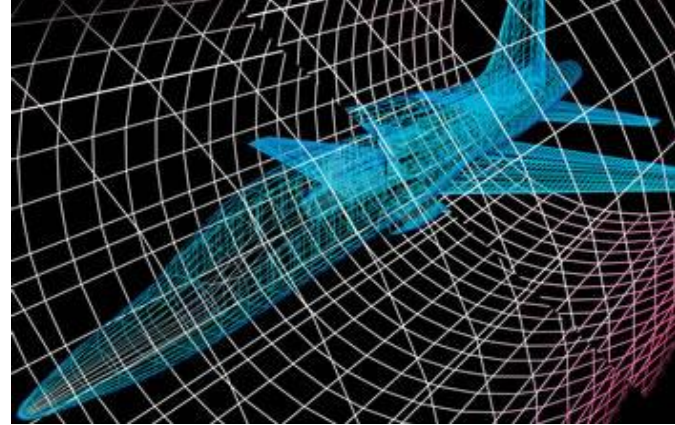


Photo from Arizona.edu



# How Will the Industry Evolve

The Aerospace Industry has been evolving for over 100 years. On December 17, 1903, the Wright brothers launched a successful flight of their flying machine which proved to the world that flying with an engine was possible. On October 4, 1957 the first rocket (the Sputnik) was launched into orbit by Russia. Sputnik cost about \$33 million.



Photo from NASA.gov

# How Will the Industry Evolve (continued)

We know that if we want to go further than the moon it will cost more and take better technology. Today companies are working on bigger and faster airplanes. NASA is working with SpaceX to build a rocket to take humans to Mars. In the future the industry will continue to grow. We imagine that maybe one day (hopefully in the next ten years) we will be able to fly nonstop around the world or even be able to fly to Mars!

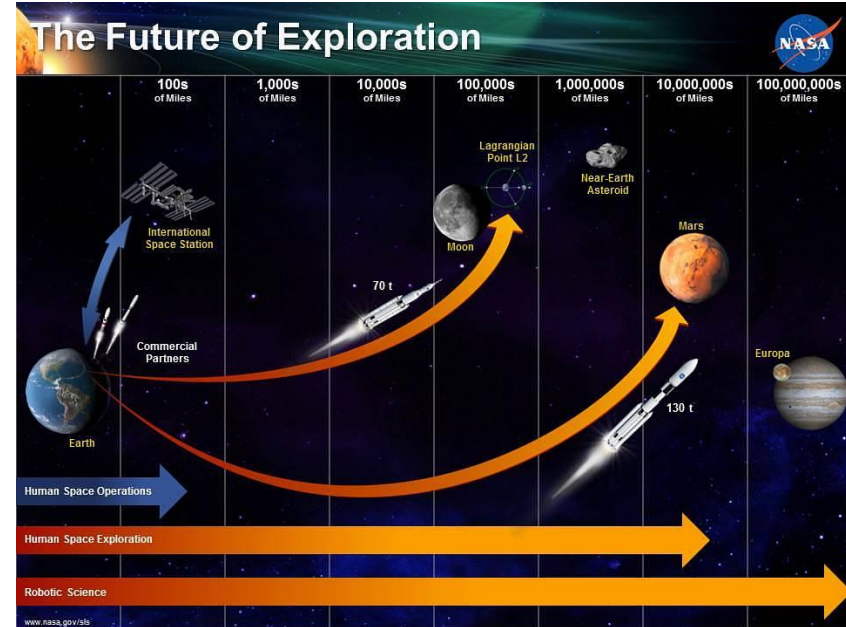


Photo from [jpl.nasa.gov](http://jpl.nasa.gov)

# Mary Jackson



Mary Jackson was born in 1921 in Hampton, Virginia. She became the first Female, African American Engineer. In 1942 she graduated from Hampton Institute with a degree in physical science and math and in 1951, she got a job at the “Langley Memorial Aeronautical Laboratory segregated West Area Computing Section”. Two years later, another engineer offered her a job at a Supersonic Wind Tunnel that would allow her to later get a promotion from a mathematician to an Aerospace Engineer at NASA.



# Mary Jackson (continued)

Mary Jackson worked on many things as an Aerospace Engineer including the Nose Angle of a cone at Supersonic Speed. Sadly, she died February 11, 2005. She got many remarkable awards including the Presidential Medal of Freedom and the Apollo Group Achievement Award. She has inspired us to work towards our goals, break barriers, and persevere.



Photo from theverge.com

# Kalpana Chawla

Kalpana was born on March 17, 1962, in the city of Karnal, Haryana in India. She took flying lessons before she migrated to America. She came to live in the United states in 1982. Then she became an American citizen and completed her studies in Aerospace Engineering. Later she worked in NASA's Ames Research Center where she worked on Robotic Situational Awareness Display and tested software for the space shuttles.



Kalpana Chawla

Photo from [airandspace.si.edu](http://airandspace.si.edu)

# Kalpana Chawla (continued)

Sadly she died on February 1, 2003 on the space shuttle when it burned up upon re-entering Earth's atmosphere. She died with six other crew members but, in her lifetime she did incredible things that will be in history for a long time. She was an amazing leader and an awesome person! She is inspiring because she learned a new language, was an astronaut, and an Aerospace Engineer, the first Indian woman to go to space, and an immigrant.



Photo from [livemint.com](https://www.livemint.com)

# Interview

We did an interview with Laura Richardson. She is an Aerospace Engineer and she is currently a Principal Project Manager for a private company called Northrop Grumman. As an Aerospace Engineer she works on cameras on air force jets that can detect missiles. What she builds saves many lives. As a Principal Project Manager, she helped keep a budget and keep everything very organized. She works on a team with about 100-200 engineers of all kinds. She said that the hardest part of being an Aerospace Engineer is some of her customers have hard aircraft that need to be built and it's hard to work on team with a lot of people. She also said that her favorite part is when she gets to meet the pilots whose lives she saved.



Laura Richardson

# Sources

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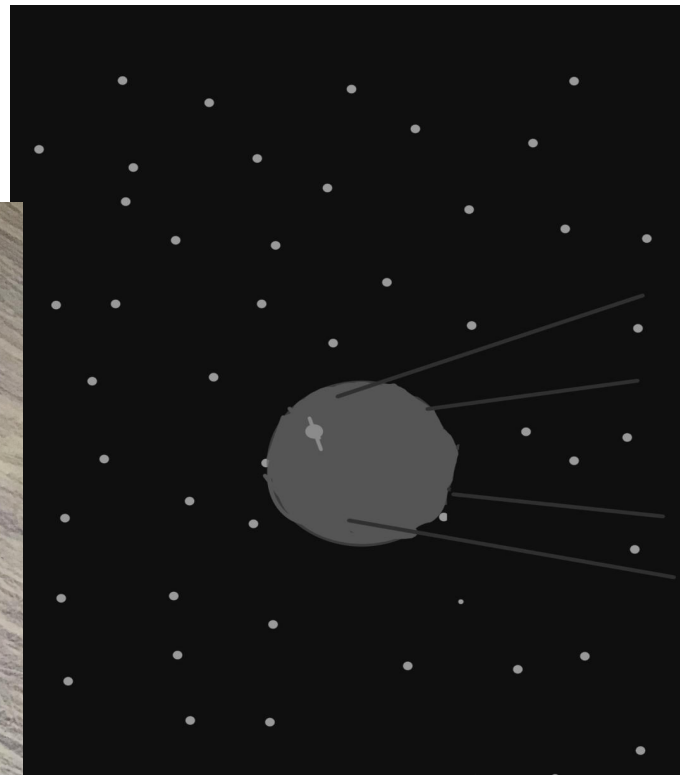
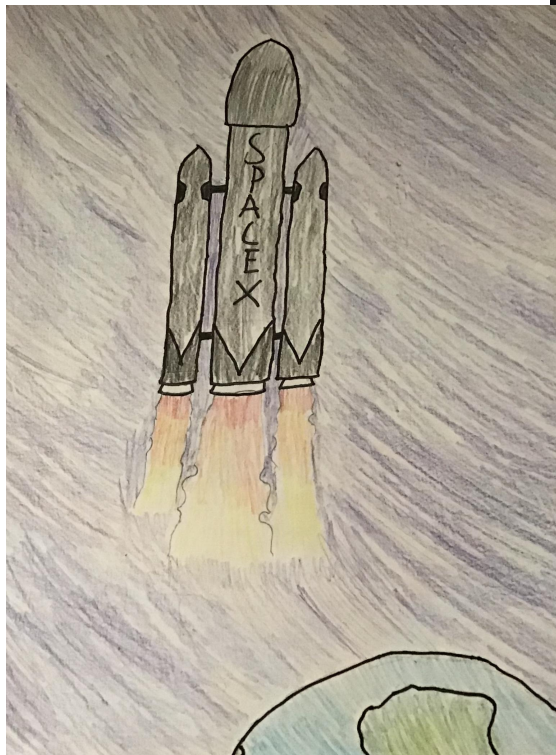
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# Credits

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