STEM TODAY

Special interview edition with future STEAM leader | by Dominique Dooner

3.5 million STEM jobs unfilled!!

In just 2 years important STEM jobs will be unfilled! This could cause major issues in our future so programs like Vex Robotics is preparing students to be STEM career ready!

Vex Robotics turns students into future STEM leaders!

By teaching kids as early as grade 4 the engineering design process, they get many students to be future STEM leaders!

Vex Robotics - not just for robots!

Studies find that students in Vex Robotics go into many different jobs that require good problem solving - which is almost any important job!

Picture of Team 1012M with their robot. Aisha, Sasha, Dominique

Interview with a Vex Robotics student

We interviewed a Vex Robotics student Dominique from West Vancouver Canada. She is a first time Vex Robotics student in grade 5 and has always wanted to be a software engineer. Read our interview in this special student highlight edition!

What resources did you use to learn about software engineering?

I interviewed my dad who is a software engineer. He builds sensors and improves design processes and architect solutions with his team. I documented the process he uses (see right side)

I have a book called *Good Night Story for Revel Girls* and read about Grace Hopper. When she was little, she took apart her clock to see how things worked. Like the reverse engineering challenge I just did. She was a pioneer in programming and helped crack secret codes during the war among many other accomplishments. Very inspiring!

Also in the book was Mary, Katherine, and Dory who were all software engineers. They are the people who helped the first person to go to space! There is a movie made about them that I want to see.

Why do you want to be a software engineer?

Because I love to solve problems in creative ways and I love to code. Almost everything useful requires software engineering work so I can always work on something interesting and cool. I also have good friends who also like to code and build robots at Vex Robotics.

How was their process similar or different from what team 1012M did at Vex Robotics?

They defined a problem, gathered requirements, came up with a plan, built/created, tested, iterated (sometimes many times), improved, and shared.

See a picture step by step we did that is similar on the next page!

How was their process similar or different from what team 1012M did at Vex Robotics?

All the steps for engineering design was similar as well as having to collaborate and work in teams. But my dad's process had more time and meetings and because it was to be sold, they had to also think about how it looked and how it would be used by others.

Whereas ours just had to work and we did not have to think about how it looks. We also did not have to think about other people driving it or using it so we did not need to write instructions.

How has Vex Robotics helped you prepare for your STEM career as an engineer?

Because Vex Robotics program and our snapshot challenge helps us use the same engineering design process, I can learn and practice what I would be doing as a software engineer. I also get to work with different people to learn and learn things like gear ratio, controllers, and other skills that I did not have before. See next page for what we have been working on!

Team 1012M's engineering design process journal

Step 1: Define problem
Step 2: Gather requirements
Step 3: Come up with a plan

Step 8: Share!

Engineering Design Process

Step 4: Build

Step 6: Fail, iterate, rebuild & improve
Step 7: Repeat step 5 and 6 many times!

Step 5: Test

Thank you for reading and join Vex Robotics!