



Vexmen 92P Phoenix

POWERED BY TEAMWORK



Girl⚡Powered



My name is **SARA**. My name is **CATHERINE**.
We are **Vexmen Team 92P Phoenix**.



This is **OUR STORY** that is **POWERED BY TEAMWORK!**

We cannot believe this is our last year competing in the VEX IQ Challenge. Over the past three years, we have learned so much being **an all-girl-powered team** in the VEX robotics community. Most importantly, we learned to push each other to try diverse roles outside of our comfort zones when it comes to designing, building, programming, and strategizing our robot.



CATHERINE

We became interested in STEM subjects at an early age because our elementary school started the science fair in Kindergarten. It was always great fun and we have continued enjoying STEM. When we learned the Vexmen were starting a VEX IQ Challenge team, we were very excited and loved that we could apply **our teamwork**.





SARA



Our robotics spark began a few years ago while watching my older brother's team compete in the VEX Robotics Competition. We knew then that the energy we felt about robotics was going to **power** our new VEX IQ Challenge team.

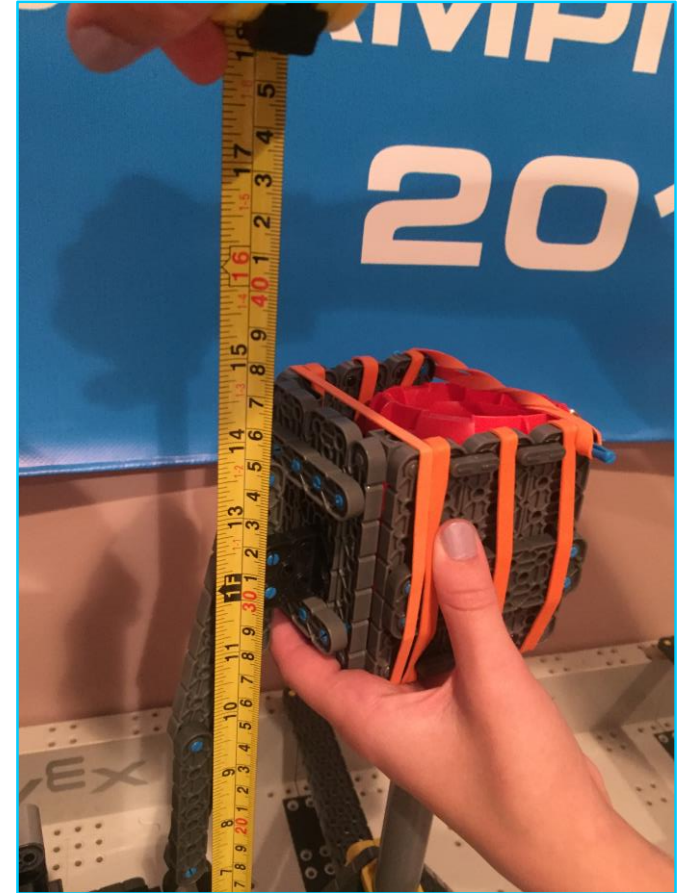
Designing, building, programming, strategizing, and earning awards for our efforts has been an enormous learning process for us **powered by our teamwork** and the diverse teams we would come to work with!

Powered to... DESIGN



SARA

Catherine and I learned early on that the engineering design process was key to a successful team! We also learned that the engineering design process is definitely **powered** by lots of ideas from lots of different people.

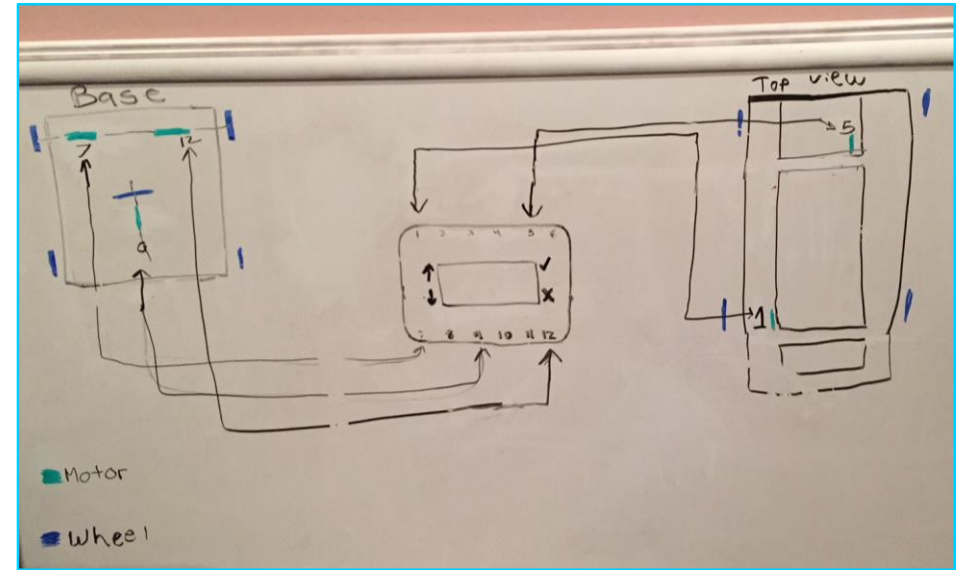


Powered to... DESIGN



CATHERINE

We find at least three options to address our challenges, with pros and cons for each option. We do this to push ourselves to find alternatives which we may not have considered if we picked the first option. Sometimes the second or third option is much better or at least it makes us think.



Powered to... BUILD



SARA

Catherine and I learned that building a competitive robot was not easy, especially when there was a challenge involved! We learned that starting with a simple design and overcoming our mistakes **powered** our drive to build a successful robot.



Powered to... BUILD



CATHERINE

When building, Sara and I have found it is important to continue assessing the design to assure it works correctly. Often when you edit a design, a better result will occur.



Powered to... PROGRAM



SARA

Catherine and I learned that programming a robot takes lots of trial and error, especially when programming autonomous! However, when our programming does work as planned, it is so rewarding to know that we finally did it together!

```
19 backward ( 500 , degrees , 55 );  
20 // 1040  
21 setMotorTarget ( sideMotor , -610 , 60 );  
22 backward ( 725 , degrees , 55 );  
23 // wait ( 2 , seconds );  
24 setMotorTarget ( armMotor , 110 , 50 );  
25 // wait ( 1 , seconds );  
26 forward ( 60 , degrees , 50 );  
27 backward ( 45 , degrees , 45 );  
28 setTouchLEDColor ( touchLED , colorYellow );  
29 waitUntil ( getTouchLEDValue(touchLED) == true );  
30 repeat ( 20 ) {  
31   setTouchLEDColor ( touchLED , colorGreen );  
32   waitUntil ( getTouchLEDValue(touchLED) == true );  
33   resetMotorEncoder ( leftMotor );  
34   resetMotorEncoder ( rightMotor );  
35   resetMotorEncoder ( sideMotor );  
36   setTouchLEDColor ( touchLED , colorRed );  
37   backward ( 165 , degrees , 50 );
```

Powered to... PROGRAM



CATHERINE

In programming, we create a strategy and analyze the best way to perform that strategy. Since every field is slightly different, our program does not always work as expected. But when it does, it is so rewarding!

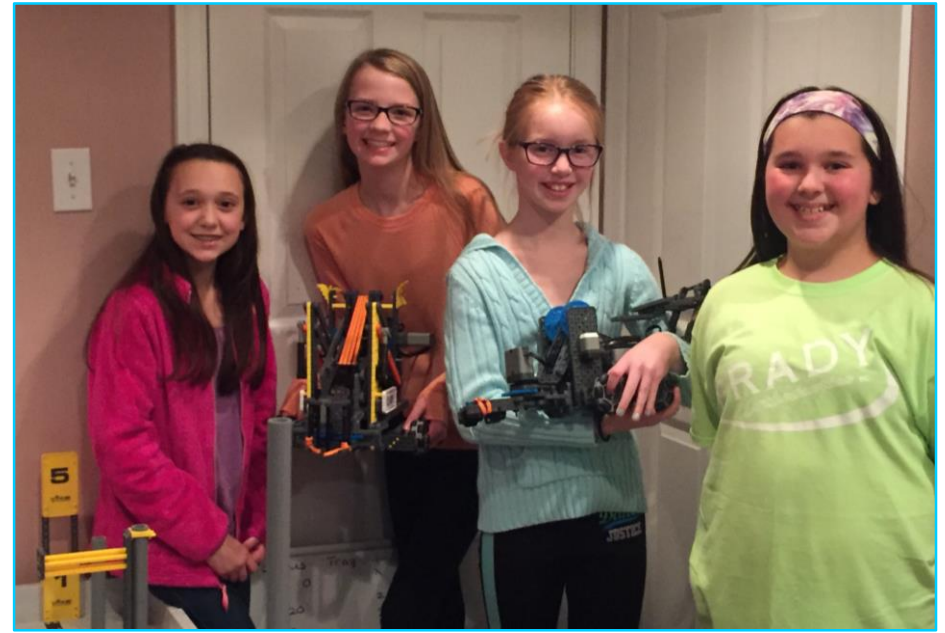


Powered to... STRATEGIZE



SARA

Catherine and I learned that strategizing with other VEX IQ teams regarding game challenges was super helpful! Most importantly, we have learned that the different teams we were matched with had very diverse members and robots to work along with.



Powered to... STRATEGIZE



CATHERINE

Strategizing is one of the most important parts of robotics, and it can change the outcome of every match for the better. We think about strategies for different robot types when we are practicing for competitions and go out of our way to strategize with other teams to avoid unfavorable matches.



Powered to... EARN AWARDS



SARA

Catherine and I learned that earning awards and trophies for our efforts was not what was **powering** our drive to do well, but it was a bonus! We learned the most rewarding experiences we had during competitions were those **powered by teamwork!**



Powered to... EARN AWARDS



CATHERINE

Earning awards is not the most important part of robotics, learning is. Learning is a reward in itself and makes robotics so fantastic for us...but the awards do not hurt!





CATHERINE



Who knew that watching Sara's older brother's Vex Robotics Competition team a few years ago would be **so powerful!**

Since getting involved in competitive robotics ourselves, **our two-girl powered team** has recruited 17 additional, diverse VEX IQ Challenge teams in our Vexmen organization.

We are super proud to say that we are **POWERED BY TEAMWORK!**



Our Story Credits



Team: Vexmen Team 92P Phoenix

Sara Hallahan & Catherine Shea

Title of Submission:

POWERED BY TEAMWORK

