



Robotics Team Request August 2023

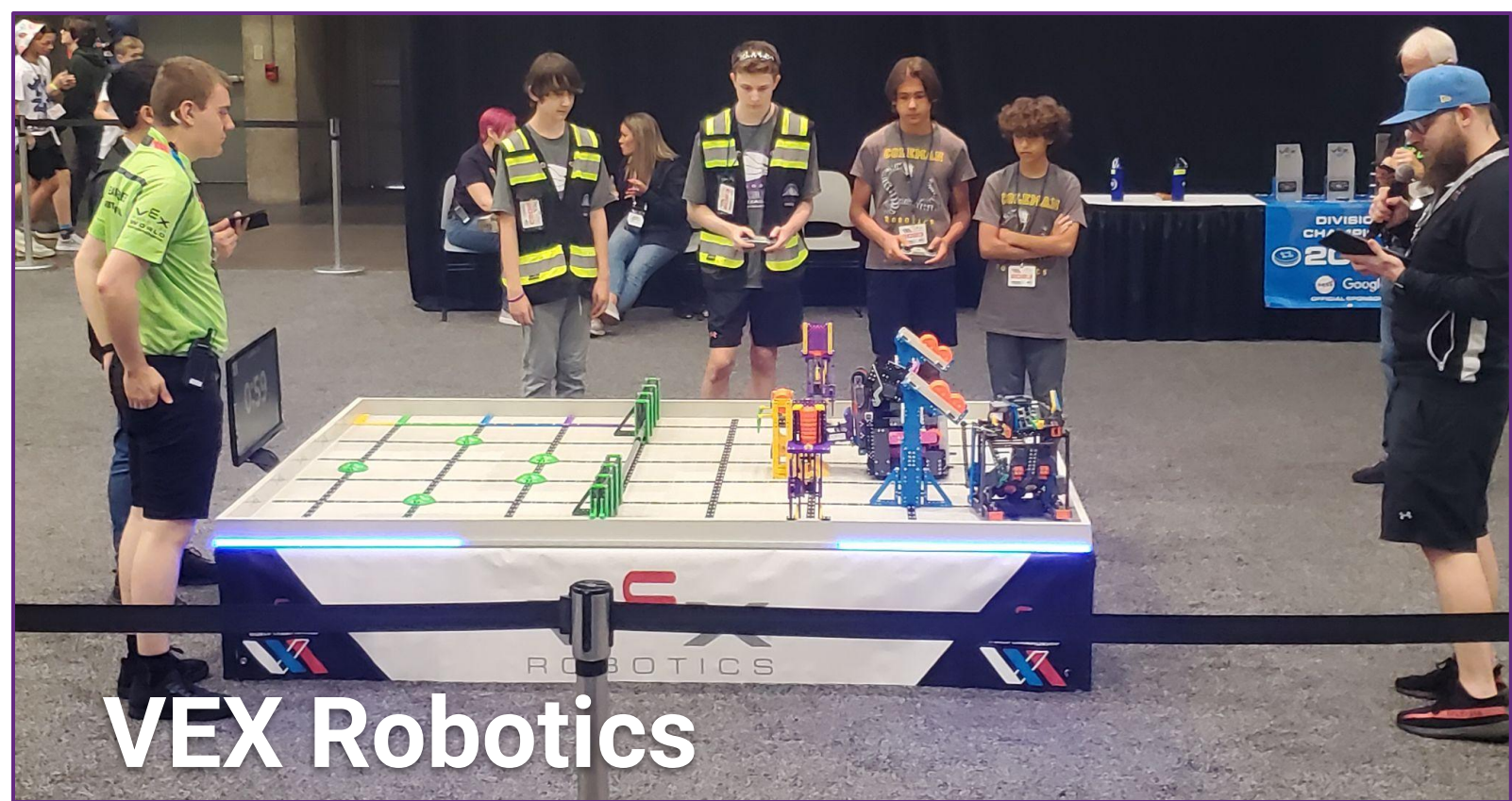


Robotics Team 32092, from **Stargate School** in Thornton Colorado, was founded in 2021 and had 42 middle school and high school students compete in VEX Robotics tournaments that first year. A year later student participation more than doubled, with 85 students competing.

The Robotics program is an excellent fit for our gifted students and their learning needs. Nearly **one of every six Stargate middle school and high school students took Robotics in 2022-2023**. More than half of those students joined the competition team and took their learning to a higher level! Most of those that didn't compete were in an introductory course and will be joining the competition team this year.

The projected numbers for this year's program are even higher. **This year we have seven sections of Robotics**, some of which are a year long. Some sections are full and cannot accommodate any more students.



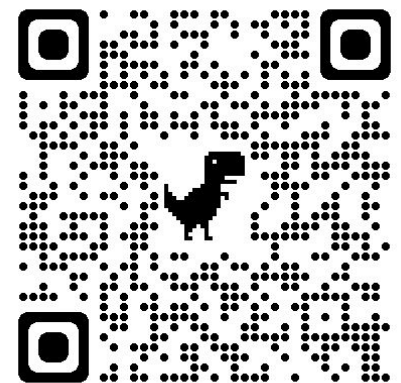


VEX Robotics

In the VEX Robotics Competition, presented by the [Robotics Education & Competition Foundation](#), teams of students are tasked with **designing and building a robot** to play against other teams in a game-based engineering challenge.

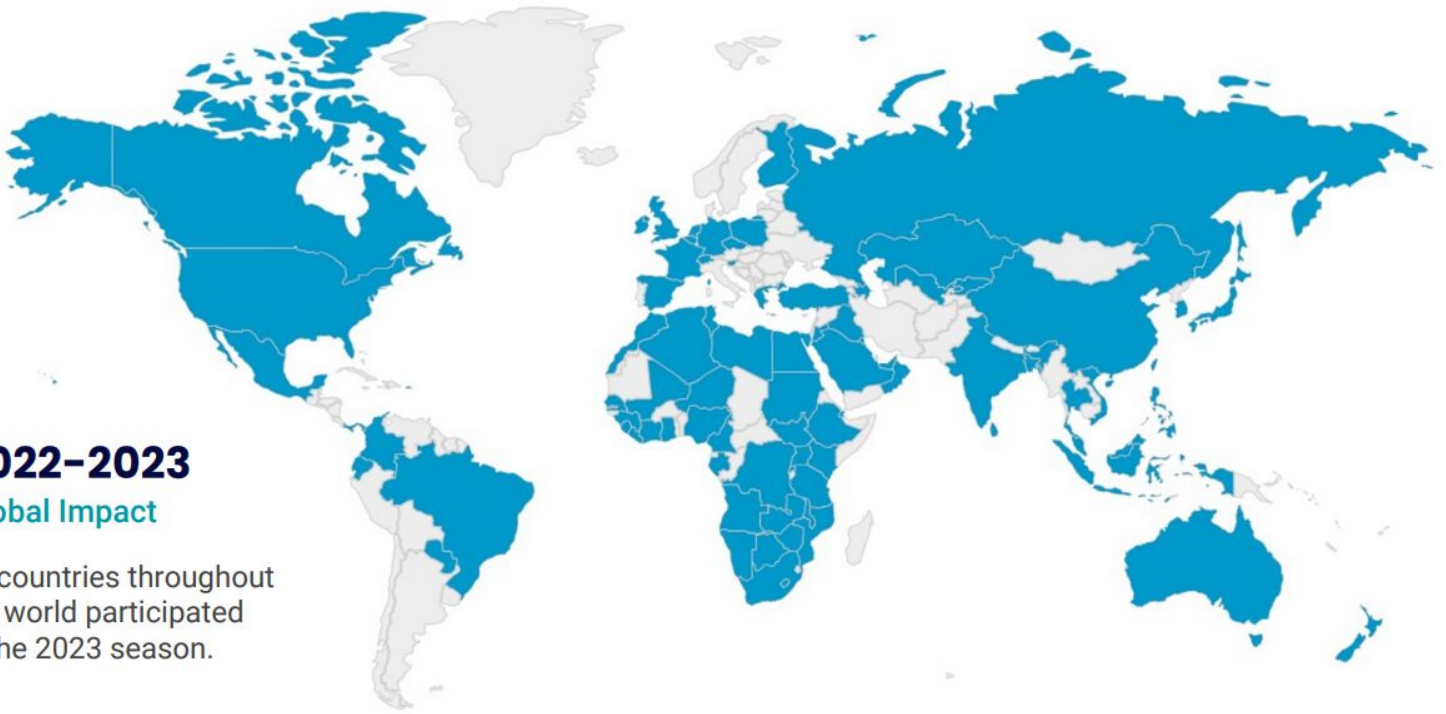
Classroom STEM concepts are put to the test as **students learn lifelong skills in teamwork, leadership, communications, and more**. Tournaments are held year-round at the regional, state, and national levels and culminate at the VEX Robotics World Championship each April! [<https://www.vexrobotics.com/cortex/competition>]

At Stargate, teams of four or five students collaborate to tackle the engineering challenges of the game. Every year the game changes in order to provide new learning opportunities as they go through the **Engineering Design Process**. Check out the VRC or VIQRC links to learn more about this year's competition.



[VRC Competition Overview](#)
(Stargate High School students)

[VIQRC Competition Overview](#)
(Stargate Middle School students)



2022-2023

Global Impact

92 countries throughout the world participated in the 2023 season.

2022-2023 Season Statistics for RECF VEX Tournaments (VIQRC, VRC, etc.)



40,000 teams



3,000 events



92 countries

Our goal? Earn a return trip to the **World Championship** and bring back another award!



30,000+
STUDENT COMPETITORS

50,000+
ATTENDEES

50
STATES

50+
COUNTRIES

[stat and image source: <https://roboticseducation.org/documents/2023/07/morning-session-event-partner-summit.pdf/>]

VEX ROBOTICS WORLD CHAMPIONSHIP

Team Accomplishments

Team 32092 has established itself as **one of the premier robotics teams in Colorado** at the Middle School level in just two years and our high school students hope to do the same this year.

Here's what we've done in our first two years as a team:

- Grew from 10 teams in our first year to 20 teams in our second year.
- Competed in 25 tournaments, including local, state, and world championship levels.
- Qualified eight teams to the World Championship tournament in Dallas, Texas.
- Earned 45 awards, including one Innovate and two Judges Awards at the World Championship.
- Hosted two tournaments for dozens of other local teams from across Colorado to participate in.





Robotics Request

Stargate's Robotics program has grown rapidly and needs additional support to accommodate this growth!

The High School class is currently made up of students with varying levels of robotics experience, ranging from three years to zero years experience with robotics. Many students join the High School Robotics class hoping to receive direct instruction but the course isn't designed that way. **By purchasing a set of entry level EXP robotics equipment, Stargate can offer an introductory level course appropriate for High School students**, something we already do for our Middle School.

When we started our program we opted for Education robot kits instead of competition kits as a cost savings measure. **Stargate students have proven again and again that they are ready to grow beyond what the Education kits offer and need the more advanced Competition kits.** Competition kits include sensors and other equipment that isn't included in Classroom kits.

Furthermore, top tier teams have equipment that that help them achieve their success. For example, high achieving high school teams have pneumatics equipment. No Stargate teams have this equipment and unfortunately it shows at tournaments. Talent and hard work can only take Stargate teams so far. **If Stargate teams are to achieve at the highest levels they are capable of, they need a level playing field which includes access to this equipment.**

Additionally, as VEX rolls out new equipment our students don't have access to that equipment. **Older equipment is no longer supported by VEX Robotics.** For example, every year VEX creates a "Hero Bot" model for use in that year's engineering challenge. Hero Bots models are now being produced only with Generation 2 Robot kits as older Gen 1 robot kits lack some of the required parts. Fortunately, if we were to purchase Gen 2 kits for our Advanced Robotics students we can repurpose our older Gen 1 kits for use by our Middle School Intro to Robotics students. There is a similar issue with the high school classes needing a Competition kit rather than an Education kit to build the Hero Bot for their game.

We have worked with Stargate's Grant Committee and submitted several grants (e.g. Toshiba, CenturyLink, Sony, etc.) but have not been awarded many grants. The only ones we did receive were two small donations, from a local non-profit Elaras Robotics and from Harbor Freight.

Robotics students pay a \$100 class fee. If on the competition team they pay an additional \$100 fee. Teams that earn trips to the State and World Championship tournaments incur far greater expenses.



Robotics Request

Here is what we are asking from Fundraising to help support these amazing students:

Item Name and Link	Number	Unit Cost	Quantity	Cost *
High School Intro to Robotics				
VEX EXP Large Classroom Bundle	280-8292	\$11,997.00	1	\$11,997.00
VEX Classroom Cart	254-8345	\$399.00	3	\$1,197.00
High School Advanced Robotics				
VEX Portable Competition Field Perimeter	276-8242	\$799.99	1	\$799.99
VRC Anti-Static Full Field Tile Kit	276-7175	\$249.00	1	\$249.00
Smart Field Controller	276-7577	\$149.99	1	\$149.99
VEX V5 Competition Super Kit	276-7040	\$1,899.00	14	\$26,586.00
V5 Pneumatics Kit	276-8750	\$299.00	14	\$4,186.00
Pneumatics Tubing (5')	275-0447	\$5.49	14	\$76.86
Rotation Sensor	276-6050	\$39.99	14	\$559.86
Inertial Sensor	276-4855	\$49.99	14	\$699.86
Distance Sensor	276-4852	\$45.99	14	\$643.86
Optical Sensor	276-7043	\$45.99	14	\$643.86
V5 GPS Sensor	276-7405	\$199.99	14	\$2,799.86
Middle School Advanced Robotics				
VEX IQ Competition Kit (2nd generation)	228-7980	\$649.00	18	\$11,682.00
IQ Smart Motor	228-2560	\$22.99	18	\$413.82
IQ Robot Brain (2nd Generation)	228-6480	\$149.99	2	\$299.98
IQ Controller (2nd Generation)	228-6470	\$79.99	2	\$159.98
VIQRC Full Volume Full Game & Field Element Kit	228-8360	\$134.99	1	\$134.99
VIQC Field Kit (Full 6'x8' Field)	228-7396	\$320.00	1	\$320.00
IQ Pneumatics Kit	228-8795	\$119.99	18	\$2,159.82
Storage				
Plastic Stack & Hang Bin. 8-1/4"W x 14-3/4"D x 7"H. Blue - Pkg Qty 12	WB269684BL	\$74.90	1	\$74.90
Plastic Stack & Hang Bin (24) 5-1/2"x10-7/8x5" & (24) 4-1/8"x5-3/8"x3". Blue	WB269682BLP	\$79.95	1	\$79.95
Total (NOT including shipping or tax)				\$65,914.58



Contact

Thank you for your consideration. Our team can't do it without support like yours!

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STARGATE
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