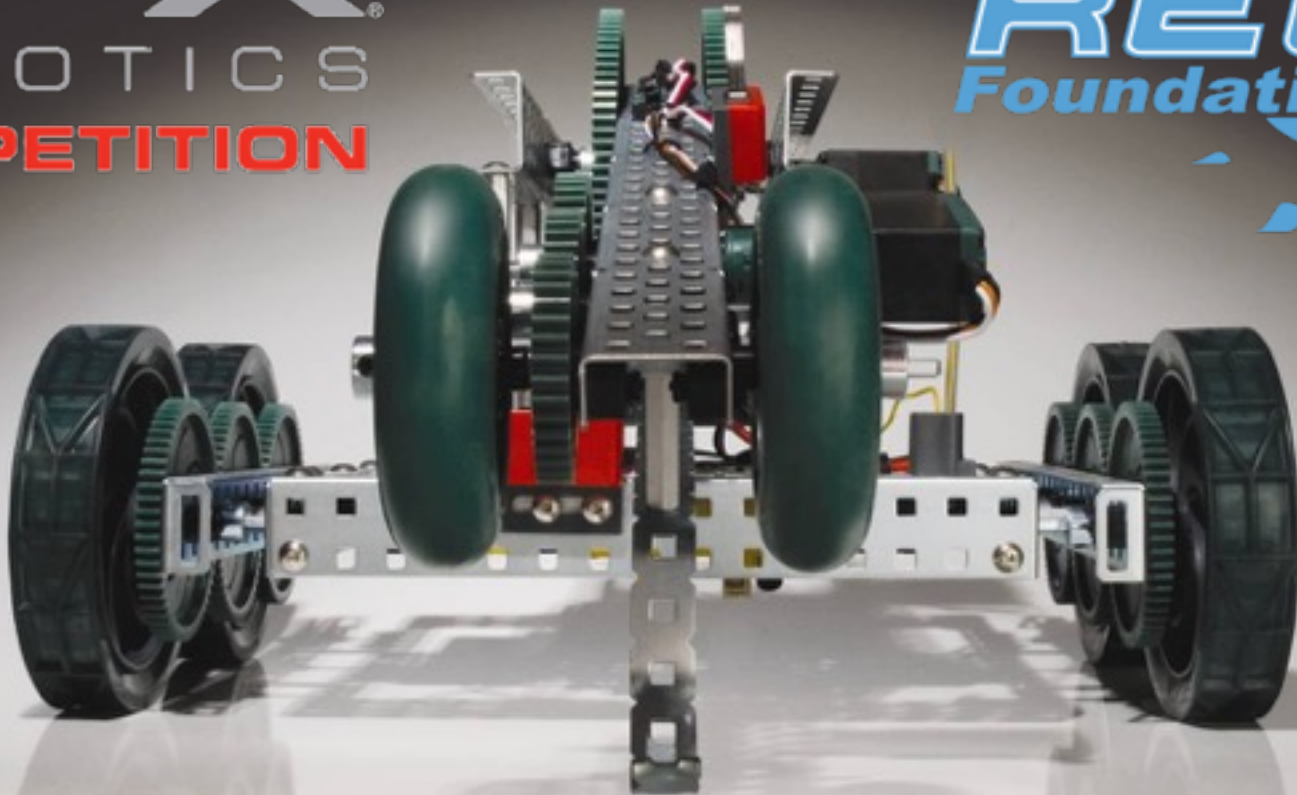


VEX
ROBOTICS
COMPETITION



VEX
ROBOTICS DESIGN SYSTEM

Think. Create. Build. Amaze. **VEX.**

AL Regional Support Manager

- Tonya Scott
- Tonya_scott@roboticseducation.org
- Role as regional support manager: source of info, large tournament support, connector

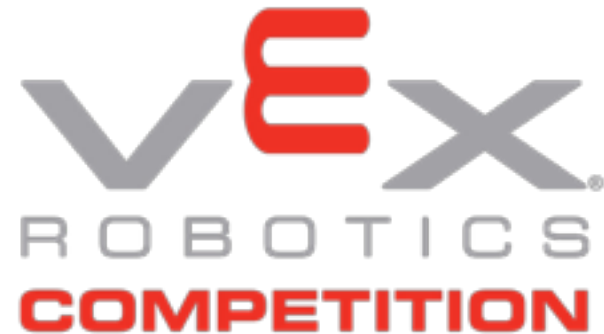
A Taste of VEX

- Information About the Program
- Review Competition Formats
- Build Robots
- Talk About Starting A Team
- Programming and discussion
- Q & A

VEX Tattoo



Classroom & Competition



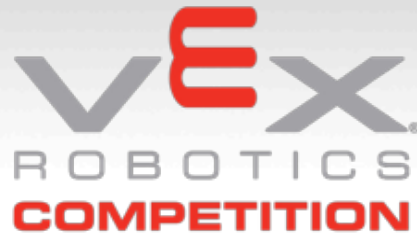
VEX is the **only** middle and high school robotics platform with significant penetration in both daytime classroom instruction **and** extracurricular competitions. It is also the **only** platform and competition that continues through college instead of ending at high school.



VEX Robotics Classroom Lab Kit

- **Affordable & Challenging (& Re-useable)**
- **Ideal for the Robotics engineering lab**
 - Curriculum
 - Includes the most popular accessory items
 - VEXnet 802.11 Communication System
- **Ability to easily increase challenge level**
 - Advanced Sensors
 - Advanced Drive Systems
 - Advanced Programming
 - Pneumatics & More





- **Largest classroom-based robotics competition program in the world**
 - Affordable, Accessible, Educational
- **Over 4,800 teams competing in the official 2011/2012 Season**
 - Over 10,000 schools using the VEX Robotics Platform
 - Over 3,800 registered teams in 2010/2011 season
 - Over 2,000 additional teams are using VEX in other programs
- **Developing pipeline from middle school to high school to college**
 - 67% of teams in High School
 - 23% of teams in Middle School
 - 6% of teams in Elementary School
 - 4% of teams in College Challenge



2011/2012 Competition Impact

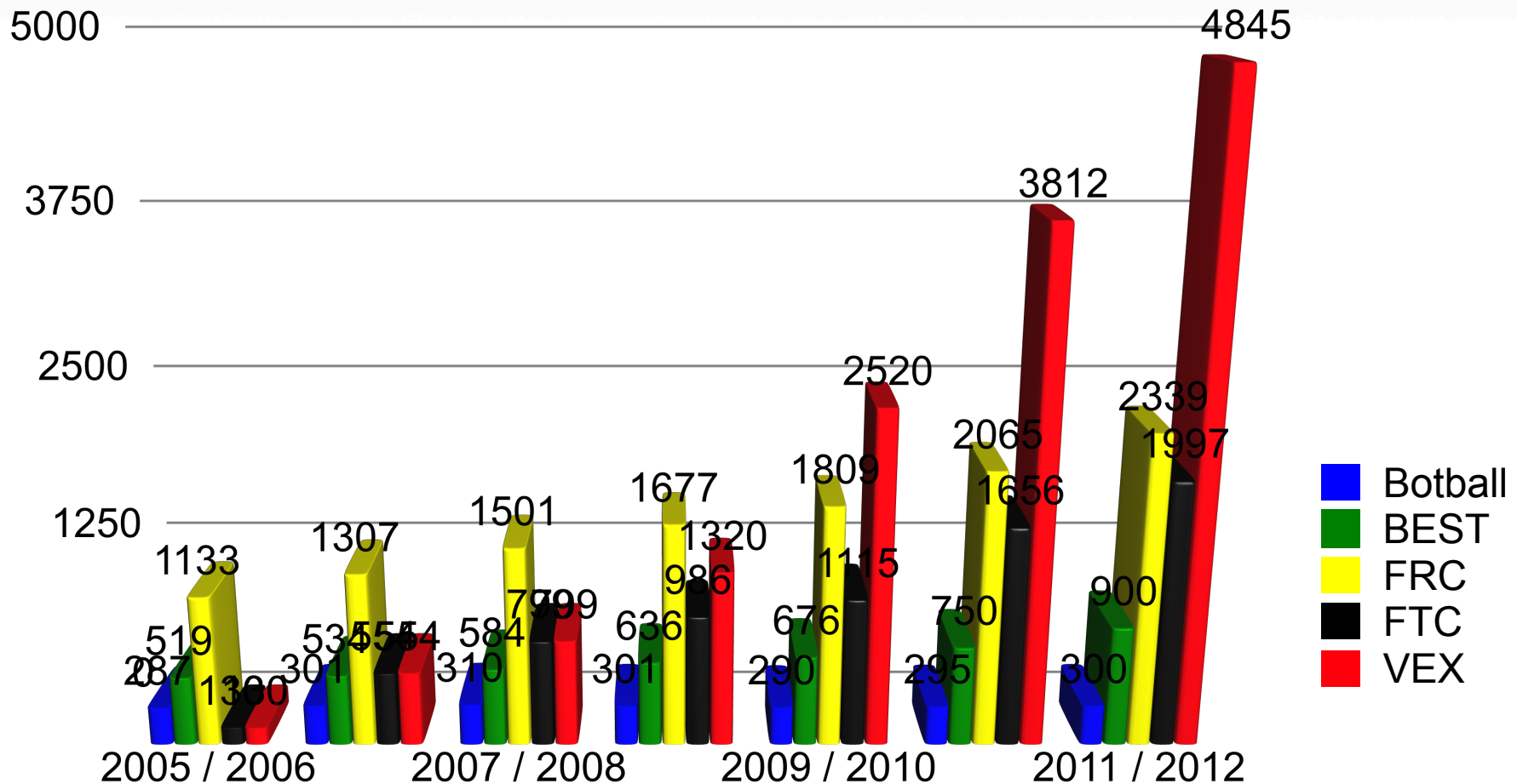
23 countries

300+ events

4800+ teams

50,000 students

Team Growth by Program

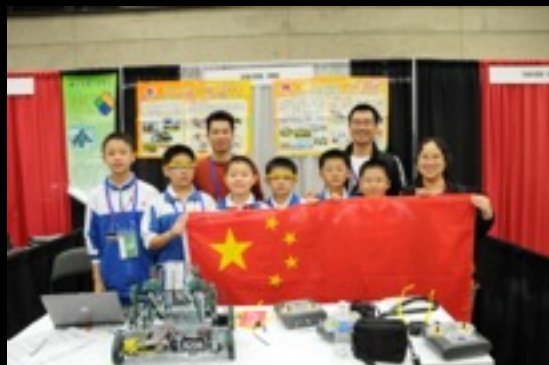


Total number of teams by year



VEX

ROBOTICS
COMPETITION



VEX Robotics Competition



Asian Robotics
Championship
November 2012

Latin America
Championship
January 2013

Pan Pacific
Championship
February 2013

United States
Championship
March 2013

NATIONAL

Brazil, Canada, China, Colombia, Japan, Korea, Mexico, New Zealand, Puerto Rico, Singapore, United Kingdom, USA

Cork Regional Competition

LOCAL EMC Cork



VEX Robotics & STEM

- Educational
- Affordable
- Accessible
- Do-able
- Safe
- Classroom & Competition

a) Science
b) Technology
c) Engineering
d) Mathematics
e) ~~All of the above~~
Robotics



Studies prove what we at VEX* already knew...
Students love Robotics.

Given a choice, middle and high school students prefer robotics among science courses. And our Classroom Lab Kits make it easier than ever to bring VEX Robotics to your school while making your budget go farther. With standards-based curriculum available from Autodesk, Intel and Carnegie-Mellon, VEX is quickly becoming the robotics platform of choice among schools internationally. We now offer local, regional, national and international competitions for students to test their skill and express themselves. Visit RobotEvents.com for event information. Only one choice is clear when considering an educational robotics platform – the VEX Robotics Design System.

Think. Create. Build. Amaze. **Vex.**

A product of Innovative Products, Inc.

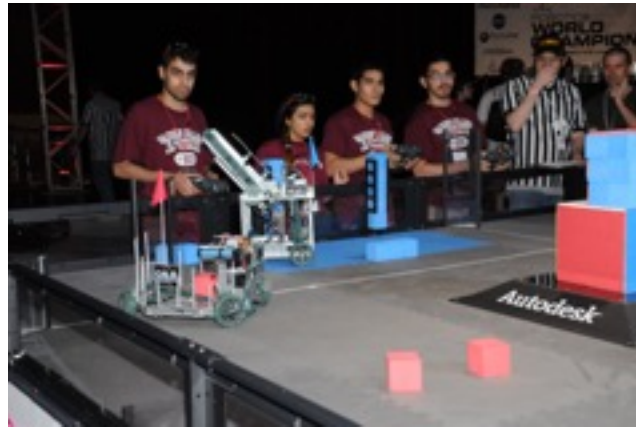
VEX
ROBOTICS DESIGN SYSTEM

Reseller Information Area
3.5" x 0.5" (89mm x 13mm)

©2009 VEX Robotics, Inc.

VISIT WWW.VEXROBOTICS.COM

VEX Robotics Competition COLLEGE CHALLENGE



Online Challenges

The Ultimate Example of **Affordable & Accessible**


- No Entry Fee
- Any Student anywhere in the world can enter
- Community viewing & voting
- Wide Variety:
 - Inventor
 - Animation
 - Video
 - Product Design
 - Website
 - & more



2010 Design Challenges

Autodesk® Inventor® 2010 Digital Prototyping

Using Autodesk Inventor 2010, design a VEX robot that can do a household chore or activity falling under one of the following categories: household, convenience or entertainment. If you don't currently have Autodesk Inventor, you can download a free* version of the software on the Student Education Community at: www.education.autodesk.com



Requirements:

- Written description (PDF or MS Word)
- Design Images (png, jpg, gif, pdf)
- YouTube video showing disassembly

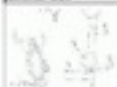
Challenge Opens:
01-24-2010 11:55 AM

Challenge Deadline:
03-06-2010 01:00 AM

Prizes:

- 1st: 2010 Autodesk Inventor VEX Digital Prototyping Award, One VEX Robotics Classroom (Kit Kit) including the Autodesk VEX Robotics Curriculum, Autodesk Inventor 2010 and Autodesk Logo Merchandise, Automatic Team Qualification for the 2010 VRC World Championship (if part of a registered VRC team)
- 2nd: One VEX Dual Control Starter Bundle, Autodesk Merchandise and Software Product (TBC)
- 3rd: One VEX Probot Robot Kit, Autodesk Merchandise and Software Product (TBC)


Latest Entries:
Jammer bot



[challenge details](#) | [view entries](#) | [enter this challenge](#)

Team Promotional Video

Registered VEX Robotics Competition teams can submit a video to be judged for the VEX Robotics Competition World Championship Promote Award.



Requirements:

- YouTube video (3-30:30)


Challenge Opens:
01-24-2010 11:55 AM

Challenge Deadline:
03-06-2010 01:00 AM

Prizes:

- 1st: 2010 VEX Robotics Promote Award, One VEX Robotics Classroom Kit Kit including the Autodesk VEX Robotics Curriculum, Automatic Team Qualification for the 2010 VRC World Championship
- 2nd: One VEX Dual Control Starter Bundle
- 3rd: One VEX Probot Robot Kit


Latest Entries:
promoting VEX




[challenge details](#) | [view entries](#) | [enter this challenge](#)

Design a Game Animation

Any individual student, student group or official VEX Robotics Competition team can submit an animated video that shows and explains their own design for a VEX Robotics Competition game.




Latest Entries:
Carrots, Peas, & Lyches



[challenge details](#) | [view entries](#) | [enter this challenge](#)

FUTURE Foundation Product Design

The FUTURE Foundation exists to advance robotics and technology through education. One of the most promising areas in robotics engineering for the next generation will be in using robotics and related machines to help people with disabilities. The FUTURE Challenge for 2010 is to design and build an assistive technology machine using VEX components.



[challenge details](#) | [view entries](#) | [enter this challenge](#)

Extracurricular Partners



Classroom Partners



Autodesk®



intelitek▶▶

and many more...

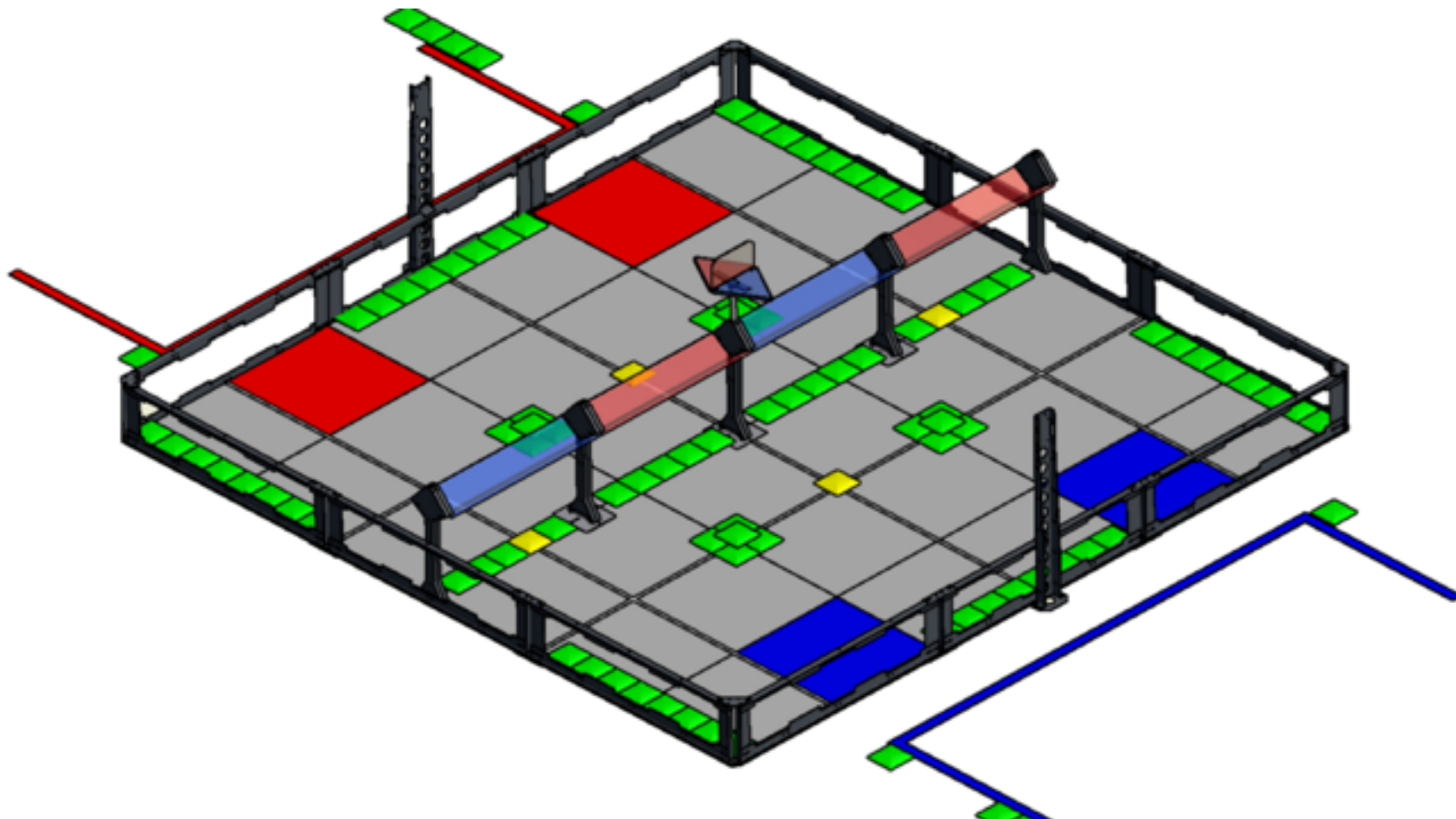


New Game Every Year

2012- 2013 Challenge **Sack Attack**

- **12' x 12' field**
- **102 game objects (bean bags)**
- **Programming**
- **On-line challenges**

Sack Attack Layout



Group Exercise

- **Groups of 3**
- **Record some characteristics of a robot that you would design for this game.**
- **Record some things that you should take into consideration during design.**
- **What are some game strategies?**
- **5 minutes**

Game Discussion

- Each match has two components
 - Autonomous
 - Driver Control
- Teams play several matches during a competition
- Two Parts to a competition
 - Qualifying (Randomly assigned a partner)
 - Finals

What makes the game special?

- **Communication - alliance partner**
- **Robot design**
 - Robot that can go under the trough?
 - Robot with a basket?
- **Game Strategy**
 - Do we park our robot or do we score points?

Competitions

- www.robotevents.com
- **Judged Awards (Based on team interviews)**
 - Team Energy
 - Promote Awards
- **GA had 231 teams last year**
- **Sure to break 300 teams**

What does a match look like?

- <http://www.youtube.com/watch?v=zM2lRiLlrs4&feature=related>

Build Time

- **Groups of 2-4**
- **Grab your supplies**
- **Get your parts organized**

Building With VEX

- **Minimal Tools**
- **Cutting is not necessary**
- **List of parts is manageable**
- **Robot can only be made with VEX parts**
- **Review of the parts**
- **Cortex System**

Square Bot

- **Follow the provided instructions**
- **Ask questions**
- **When done building, let me know.**

Tools

- **Allen wrench**
- **Screw Holder**

easyC Programming

- **Download easyC V4 for Cortex**

www.intelitekdownloads.com

- **Free tutorials**

www.intelitekdownloads.com/tutorials

How To Start A Team

- **Handout**
- **Free VEX curriculum online**
<http://curriculum.vexrobotics.com>

Events

- **Scrimmages**
- **Leagues**
- **WC Qualifying Tournaments**
- **Non-World Qualifying Tournaments**
- **Skills Only Challenges**

