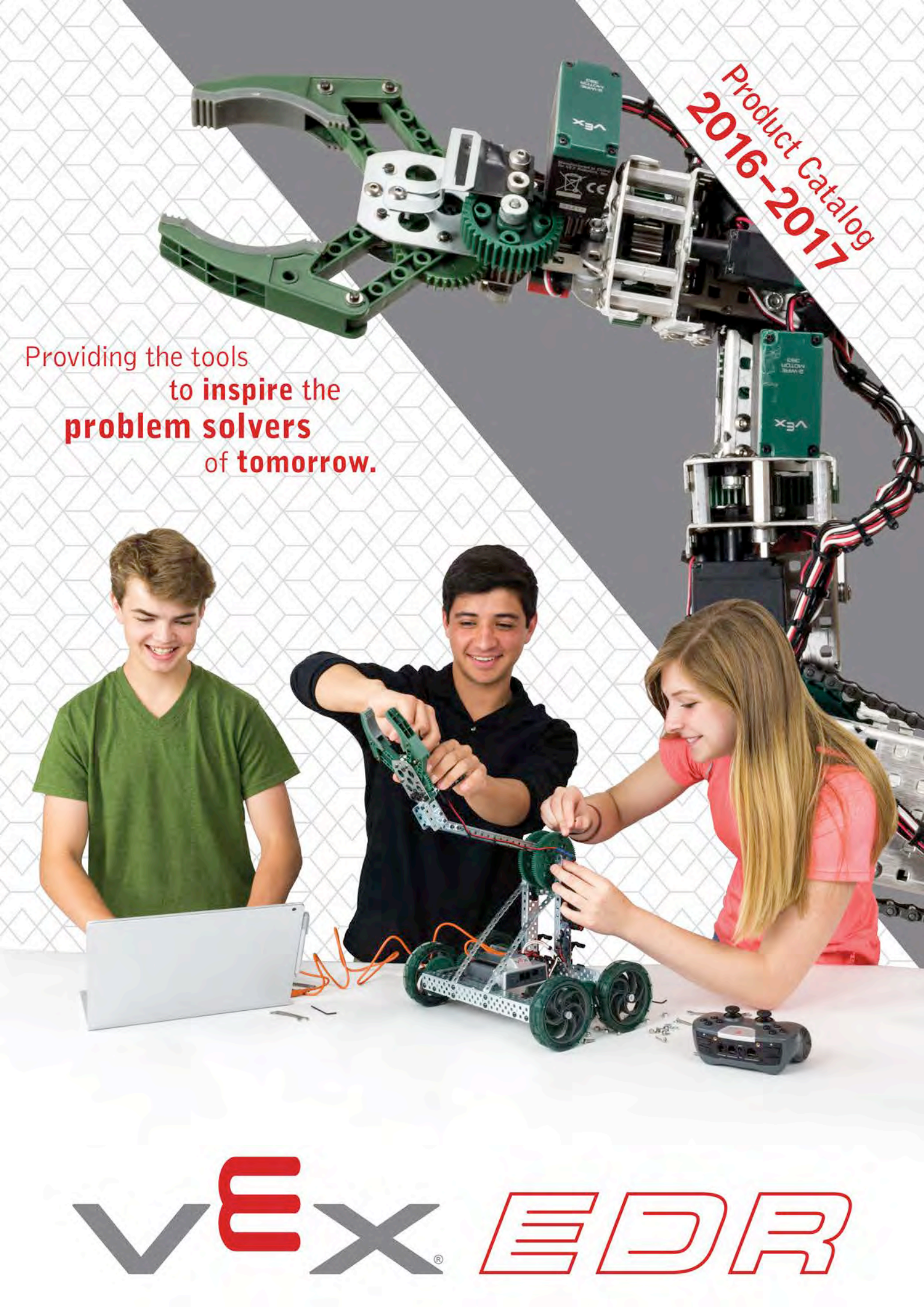
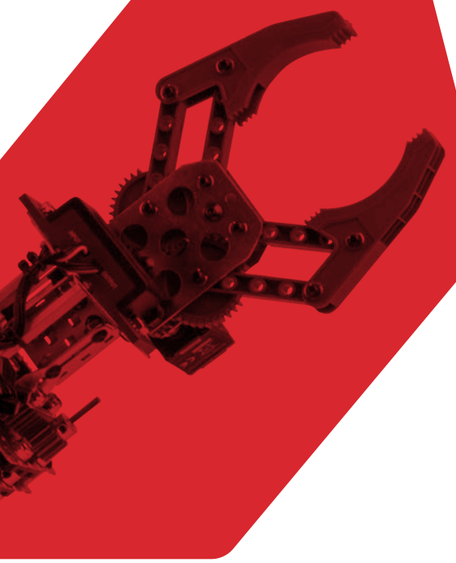

Product Catalog
2016–2017
Providing the tools
to inspire the
problem solvers
of tomorrow.
VEX
EDR

Contents



WHY VEX EDR?

VEX Robotics inspires students to become the problem solving heroes of tomorrow. VEX EDR offers students a rich and exciting platform to immerse themselves in the areas of science, technology, engineering and math (STEM) through the excitement of building robots. Educators can bring VEX EDR into the classroom with custom curriculum or use it as a teaching tool through after-school robotics clubs.

VEX EDR Kits & Bundles

A complete solution designed for use in the classroom or for a team involved in a competitive robotics program.

The VEX EDR curriculum is adaptable to any classroom situation: it begins by helping to teach the basics of engineering, expands into robotics and design, then culminates in a semester-ending competition. If you're fielding a competitive robotics team outside the classroom, these kits include the most popular items used to design and build VEX EDR competition robots.

To configure Kits & Bundles, please visit www.vexedr.com, or use the quick shop link to be taken directly to the product overview page.

All prices shown are in US Dollars and valid for US customers only. International pricing and availability varies by location.

Classroom & Competition Kits

Help a team of 4-6 students build whatever they can imagine

QUICK SHOP

Classroom and Competition Super Kit

The Ultimate Robotics Kit

Images not to scale.

The Classroom and Competition Super Kit combines both mechatronics and programming options for the ultimate robotics learning and building experience. Design advanced mechanisms with included mechanical components while integrating sensors to increase robot feedback and advanced programs.

- Clawbot Robot Kit (4 motors included)
- VEXnet System Bundle
- Additional 2-Wire Motor 393
- Robot Battery, Joystick Batteries and Chargers
- Includes robot programming software options

Classroom and Competition Super Kit	276-3000	$1049.99

QUICK SHOP

Classroom and Competition Mechatronics Kit

Learn about advanced mechanisms

Images not to scale.

The Classroom and Competition Mechatronics Kit provides a focus on mechanical functions and advanced mechanisms using our most popular motion and structure equipment.

- Clawbot Robot Kit (4 motors included)
- VEXnet System Bundle
- Additional 2-Wire Motor 393
- Robot battery, joystick batteries, and chargers
- Includes robot programming software options

Classroom and Competition Mechatronics Kit	276-2800	$849.99

QUICK SHOP

Classroom and Competition Programming Kit

Focus on autonomous programming

Images not to scale.

The Classroom and Competition Programming Kit allows for a focus on computer science and autonomous programming by including advanced sensors.

- Clawbot Robot Kit (4 motors included)
- VEXnet System Bundle
- Additional 2-Wire Motor 393
- Robot Battery, joystick batteries, and chargers
- Includes robot programming software options

Classroom and Competition Programming Kit	276-2900	$849.99

Classroom Bundle

A complete STEM classroom solution for 24-30 students

QUICK SHOP

Swept Away Classroom Bundle

Images not to scale.

This discounted "super bundle" allows you to implement a STEM program into your class in one easy step. It includes everything you need to build six robots PLUS the Swept Away field and game object set.

- Clawbot robot kit (4 motors included)
- VEXnet System Bundle
- Additional 2-Wire Motor 393
- Robot battery, Joystick batteries, and chargers
- (1) Swept Away field kit
- Includes robot programming software options

Swept Away Classroom Bundle	278 -3333	$5,299.99

Starter Kits

Everything needed to build your first robot today

QUICK SHOP

Clawbot Kit

Build your first robot

Images not to scale.

Included as the basic robot in all kits and bundles, the Clawbot's step-by-step instructions guide users in assembling the robot as they learn to work with VEX EDR parts.

- 300+ parts
- Step-by-step instructions included

Clawbot Kit	276-2600	$149.99

QUICK SHOP

Programming Control Starter Kit

Program your first robot

Images not to scale.

Build an autonomous only robot using the included programmable VEX ARM® Cortex®-based Microcontroller and various sensors.

- Clawbot Robot Kit (4 motors included)
- VEX ARM® Cortex®-based Microcontroller
- Robot battery and Smart Charger v2
- Limit switch (2-pack)
- Bumper switch (2-pack)
- Potentiometer (2-pack)
- Motor 393 integrated encoder module (2-pack)
- Ultrasonic range finder
- Line tracker
- Includes robot programming software options

Programming Control Starter Kit	276-2750	$439.99

QUICK SHOP

Dual Control Starter Kit

Program and control your first robot

Images not to scale.

This kit comes with everything needed to build a robot that can be controlled by a human operator or programmed to run autonomously.

- Clawbot robot kit (4 motors included)
- VEX ARM® Cortex®-based Microcontroller
- VEXnet Joystick & VEXnet Key 2.0
- Robot battery, joystick batteries, and chargers
- Includes robot programming software options

Dual Control Starter Kit	276-2700	$539.99

QUICK SHOP

Booster Kit

Images not to scale.

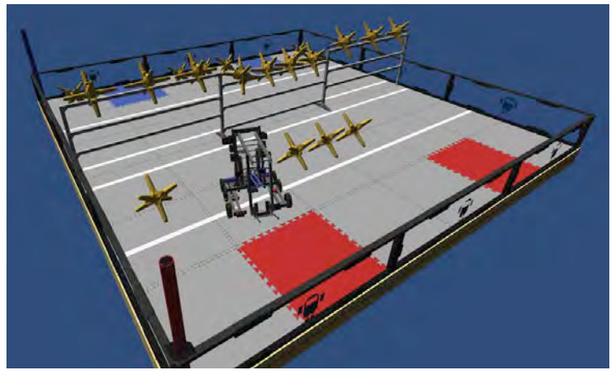
This kit includes pieces specifically recommended by VEX builders to maximize versatility. Contains over 600 pieces of VEX structural and motion components.

Booster Kit	276-2232	$179.99

Programming Resources

Robot Virtual Worlds

QUICK SHOP



Images not to scale.

Robot Virtual Worlds, developed by Robomatter, is a high-end simulation environment that enables students to take robotic programming experience to the next level with virtual trial-and-error before programming your final robot! Robot Virtual Worlds simulates VEX EDR and VEX IQ robots in 3D environments which can be programmed using the same language as physical robots, ROBOTC. The Robot Virtual Worlds environment is perfect for home, classroom, and competition environment

Annual Licenses		
Robot Virtual Worlds-VEX 4.X - Annual License (1-seat)	210-5503	$49.99
Robot Virtual Worlds-VEX 4.X - Annual Team License (6-seat)	210-5505	$149.99
Robot Virtual Worlds-VEX 4.X - Annual Classroom License (6-seat)	210-5507	$299.99
Non-Expiring Licenses		
Robot Virtual Worlds-VEX 4.X - Non-Expiring License (1-seat)	210-5504	$79.99
Robot Virtual Worlds- VEX 4.X - Non-Expiring Team License (6-seat)	210-5506	$299.99
Robot Virtual Worlds -VEX 4.X - Non-Expiring Classroom License (6-seat)	210-5508	$599.99
Site Licenses		
Robot Virtual Worlds-VEX 4.X - Annual Site License (One-Classroom)	210-5509	$599.99
Robot Virtual Worlds-VEX 4.X - Annual Site License (Unlimited Use)	210-5510	$999.99
Homework Packs		
Robot Virtual Worlds -VEX 4.X - Homework Pack (180-day)	210-5511	$8.99
Robot Virtual Worlds-VEX 4.X - Homework Pack (365-day)	210-5512	$14.99

VEX EDR Video Trainer

QUICK SHOP

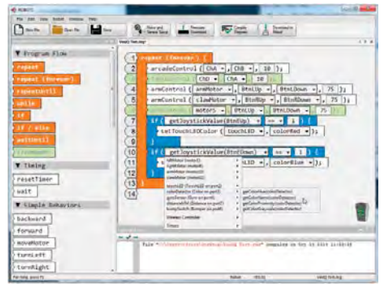
Images not to scale.

The VEX EDR Video Trainer (using ROBOTC for VEX Robotics) provides step-by-step videos, PDFs, rubrics, and so much more to get you up and running with the VEX ARM® Cortex®-based Microcontroller. The video trainer includes tutorials around Programming Fundamentals, the Engineering Process, Microcontroller Setup Instructions, Building Guides, Movement, Sensors and Program Flow.

Introduction to Programming	276-5514	~~$699.99~~ $499.99

ROBOTC for VEX Robotics 4.x (VEX EDR & VEX IQ)

QUICK SHOP



ROBOTC for VEX Robotics 4.x by Robomatter Inc. allows users to program their VEX robots using a brand new graphical drag and drop programming interface, or the popular industry standard C-based ROBOTC programming language – all in the same software!

For beginners, the new ROBOTC Graphical drag and drop interface allows users to get up and running quickly. ROBOTC also includes the fully featured C-Programming software.

In both Graphical and text based ROBOTC, users can learn key skills that easily transition to real world programming by learning industry standard C-Programming Language that is used by professional engineers and computer scientists every day.

Software Included!

Programming software options are available with VEX kits and bundles at no extra charge! Visit www.vexrobotics.com/software and log in to your account for more details and to choose your software.

Use the quick code to learn more info

VEXnet System Bundle

QUICK SHOP

Images not to scale.

The VEXnet System Bundle contains everything you need to get started controlling a VEX robot using the VEX ARM® Cortex®-based Microcontroller. This bundle is perfect for upgrading from legacy microcontrollers, or for schools with enough spare structure to start building additional robots!

- (1) VEX ARM® Cortex®-based Microcontroller
- (1) VEXnet Joystick
- (2) VEXnet Key 2.0
- (1) VEXnet backup battery holder
- (1) USB A-A Tether Cable

VEXnet System Bundle	276-1604	$399.99

VEX ARM® Cortex®-based Microcontroller

QUICK SHOP

Images not to scale.

The VEX ARM® Cortex®-based Microcontroller coordinates the flow of information and power on the robot. All other electronic system components must interface to the microcontroller - it is the "brain" of a robot.

- STMicroelectronics ARM® Cortex® M3 user processor
- Wireless with VEXnet technology
- (8) Standard 3-wire motor ports
- (2) 2-Wire Motor ports
- (1) I2C "smart sensor" port
- (2) UART Serial Ports
- (8) Hi-res (12-bit) analog Inputs
- (11) Fast digital I/O ports which can be used as interrupts

VEX ARM® Cortex® -based Microcontroller	276-2194	$249.99

VEXnet Key 2.0

QUICK SHOP

Images not to scale.

Provides wireless communication between VEX ARM® Cortex®-based Microcontroller and VEXnet Joysticks. Think of the VEXnet Key 2.0 as the "radio" that enables remote control.

- Uses VEXnet 2.0 communication protocol over 2.4 GHz data radio
- Rubber fins help retain the key once installed

VEXnet Key 2.0	276-3245	$39.99

Joysticks

QUICK SHOP

Images not to scale.

The VEXnet Joystick is the most intuitive way to wirelessly control a VEX EDR robot. With a familiar layout inspired by video game controllers, the VEXnet Joystick features a 2-axis accelerometer, 8 face buttons, and 4 shoulder buttons. Can be powered by AAA batteries or through the VEXnet Joystick Power Adapter. Have a lot of moving parts on your robot? Simply connect the Partner Joystick to the VEXnet Joystick using a Coiled Handset Cable and divide command between two separate operators! Great for building teamwork or for complex robots.

1	*VEXnet Joystick*	276-2192	$149.99
2	*Partner Joystick*	276-1891	$29.99
3	*Coiled Handset Cable*	276-1602	$6.99
4	*VEXnet Joystick Power Adapter*	276-1701	$12.99

USB A-A Tether Cable 6'

QUICK SHOP

Images not to scale.

Cable for connecting VEXnet components to sync and run in tether mode.

USB A-A Tether Cable 6'	276-1403	$9.99

Robot Batteries

QUICK SHOP

Images not to scale.

The VEX EDR 7.2V Nickel Metal Hydride (NiMH) Battery provides a rechargeable power source for use with your VEX EDR robots. Available in 2000 mAh or 3000 mAh sizes.

1	*7.2V Robot Battery NiMH 2000mAh*	276-1456	$19.99
2	*7.2V Robot Battery NiMH 3000mAh*	276-1491	$29.99

Robot Battery Charger

QUICK SHOP

Images not to scale.

The VEX Smart Charger v2 is capable of charging all VEX EDR robot batteries.

- Charges both 7.2V and 9.6V batteries
- Charges both NiCd and NiMH batteries
- Includes dual charge rates and an automatic shutoff

1	*Smart Charger v2*	276-2519	$16.99
2	*Battery Charger Power Cord - North America (Type A)*	276-2520	$1.99

Joystick Batteries & Chargers

QUICK SHOP

Images not to scale.

The 8-Bay AA/AAA Smart Battery Charger is capable of charging up to eight Ni-MH or Ni-Cd rechargeable AA or AAA NiMH Rechargeable Batteries (used with the VEXnet Joystick). Smart charger technology provides automatic trickle charging and temperature cutoff during the charge cycle while LEDs provide user feedback on the status of each charging battery.

1	*AAA NiMH Rechargeable Battery (6-pack)*	276-1696	$12.99
2	*8-Bay AA/AAA Smart Battery Charger*	276-1622	$24.99

Advanced Sensor Kit

QUICK SHOP

Images not to scale. Images not to scale.

Provides a complete mix of our most popular sensors in a value bundle.

- Line Tracking Kit
- Ultrasonic Range Finder
- Light Sensor
- Optical Shaft Encoders (2-pack)
- Potentiometers (2-pack)

Advanced Sensor Kit	275-1179	$99.99

Robot Battery Accessories

QUICK SHOP

Images not to scale.

Use Battery Straps or Battery Clips to keep your batteries secure, or move it to a more accessible position away from the Microcontroller using the Battery Extension Cable.

1	*Battery Strap (2-pack)*	276-2219	$4.99
2	*Battery Clip (4-pack)*	276-4042	$4.99
3	*Battery Extension Cable*	276-3442	$4.99

Motor 393 Integrated Encoder Module (2-pack)

QUICK SHOP

Images not to scale.

Designed to provide you with direct and detailed information from your robot's motors, the Integrated Encoder Module installs easily by replacing the plastic cap on your 2-Wire Motor 393. You can then use programming software to read what direction your motor is moving, how fast, and number of rotations.

Motor 393 Integrated Encoder Module	276-1321	$29.99

VEXnet Backup Battery Holder

QUICK SHOP

Images not to scale.

The VEXnet Backup Battery allows you to mount and connect (1) 9V battery. This battery keeps a VEXnet connection alive if the main battery fails.

VEXnet Backup Battery Holder	276-2243	$9.99

Motor Controller 29

QUICK SHOP

Images not to scale.

Uses a standard PWM signal (like one generated by the 3-wire ports on VEX Arm Cortex-based® Microcontrollers to drive a VEX 2-Wire Motor 393 or 269.

Motor Controller 29	276-2193	$9.99

Light Sensor

QUICK SHOP

Images not to scale.

Enables your robot to detect and react to light.

- Analog input of light levels
- Usable range of 0 to 6 feet
- Find dark or bright areas

Light Sensor	276-2158	$19.99

Potentiometer (2-pack)

QUICK SHOP

Images not to scale.

Can determine both the absolute position and direction of rotation. This measurement can help to understand the position of robot arms or other mechanisms using programming software. Potentiometers are typically used for "limited rotation" applications, such as an arm or lever.

- Measure angular position
- 250-degrees of adjustment
- Adjustable mounting angle

Potentiometer (2-pack)	276-2216	$12.99

Bumper Switch (2-pack)

QUICK SHOP

Images not to scale.

Ruggedized bumpers allow the switch to be triggered by large impacts without sustaining damage, like when a robot bumps into a wall.

- Provide feedback to microcontroller as events "happen"
- Useful as a trigger in a variety of applications

Bumper Switch (2-pack)	276-2159	$12.99

Optical Shaft Encoder (2-pack)

QUICK SHOP

Images not to scale.

Can measure both the relative position and direction of rotation of a VEX EDR shaft. This will allow you to calculate the rotation velocity of the shaft, as well as the distance it has traveled using programming software. Encoders are typically used for "infinite rotation" applications, such as drive wheels.

- Measure angular travel
- Determine rotational direction
- Calculate shaft rotational velocity

Optical Shaft Encoder (2-pack)	276-2156	$19.99

Limit Switch (2-pack)

QUICK SHOP

Images not to scale.

Kit includes a pair of simple Limit Switch sensors custom built for VEX EDR. Switches send a signal to the VEX ARM® Cortex®-based Microcontroller when they are triggered. These switches are great for signaling when a robot arm has reached the top or bottom of its motion.

- Provide feedback to microcontroller as events "happen"
- Bendable sheet metal switch "arm" is very versatile
- Useful as a trigger in a variety of applications

Limit Switch (2-pack)	276-2174	$12.99

Line Tracker (3-pack)

QUICK SHOP

Images not to scale.

Uses infared light to identify light and dark colored surfaces, and can be used with programming software to follow a marked path on the ground.

- Navigate down a marked path
- Includes (3) line tracker sensors

Line Tracker	276-2154	$39.99

Ultrasonic Range Finder

QUICK SHOP

Images not to scale.

Avoid obstacles and measure distances with the ultrasonic range finder. This device emits a high-frequency sound wave that alerts the robot to obstacles in its path.

- Measure distances from 1.5in to 115in
- Detect obstacles using high frequency sound waves

Ultrasonic Range Finder	276-2155	$29.99

Stay connected with **VEX Robotics!**

Yaw Rate Gyroscope Sensor

QUICK SHOP

Images not to scale.

Enhances autonomous movement and feedback from a VEX EDR robot by detecting a robot's rotation from its origin on a single axis.

- Single-axis gyroscopic sensor
- Detects a rotation of up to + / - 1000 degrees per second
- Connects to analog inputs on VEX ARM® Cortex®-based Microcontroller

Yaw Rate Gyroscope Sensor	276-2333	$39.99

Flashlight

QUICK SHOP

Images not to scale.

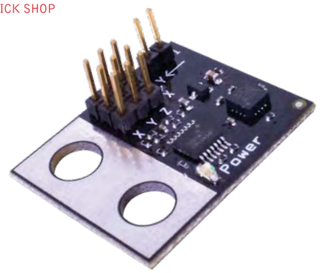
Turn night into day with this powerful 4-LED flashlight that draws power directly from the VEX ARM® Cortex®-based Microcontroller. Easy to mount away from your robot using the included threaded standoffs.

- No batteries required
- On/off switch control
- Receives power from a VEX motor port

Flashlight	276-2210	$12.99

Analog Accelerometer

QUICK SHOP



Images not to scale.

Measures accelerations on three axes simultaneously. By measuring the acceleration of the robot, one can calculate the velocity of the robot or the distance the robot has traveled. Accelerometers are also great for detecting collisions and determining if the robot is stopped or moving.

- Three axes accelerometer
- Selectable sensitivity via jumper: ±2g and ±6g
- 0-5V analog output (one for each axis)

Analog Accelerometer	276-2332	$39.99

Speaker Module

QUICK SHOP

Images not to scale.

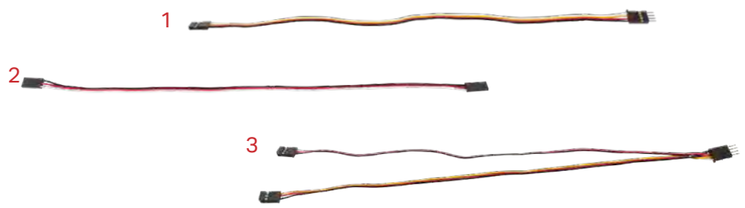
Use the VEX Speaker Module to output sounds from a VEX ARM® Cortex®-based Microcontroller.

- Connects to VEX ARM® Cortex®-based Microcontroller speaker port
- Volume controlled by internal knob

Speaker Module	276-1504	$9.99

Other Cables

QUICK SHOP



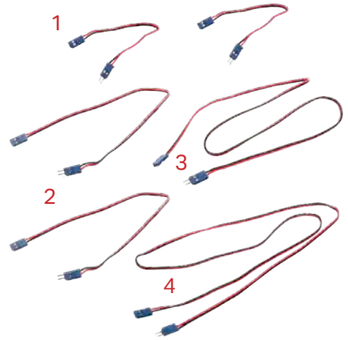
Images not to scale.

4-Wire Extension Cables to connect VEX I2C Devices with the VEX ARM® Cortex®-based Microcontroller or to each other. F-F 3-Wire Adapter Cables can be used for interfacing VEX components with other non-VEX systems. The Serial Y-Cable is used to connect the VEX LCD Display to the VEX ARM® Cortex®-based Microcontroller.

1	*4-Wire Extension Cable 12" (4-pack)*	276-1949	$19.99
2	*F-F 3-Wire Adapter Cable 12" (4-pack)*	276-2395	$19.95
3	*Serial Y-Cable*	276-1579	$7.99

2-Wire Extension Cables

QUICK SHOP



Images not to scale.

Used to extend the length of a 2-wire cable such that a motor or motor controller can be farther from a VEX ARM® Cortex®-based Microcontroller or Motor Controller 29.

1	*2-Wire Extension Cable 6" (4 Pack)*	276-1433	$4.99
2	*2-Wire Extension Cable 12" (4 Pack)*	276-1432	$7.99
3	*2-Wire Extension Cable 24" (4 Pack)*	276-1431	$7.99
4	*2-Wire Extension Cable 36" (4 Pack)*	276-1430	$7.99
	2-Wire Extension Cable Bundle	276-1429	$9.99

Extension Cable Retaining Clip (10-pack)

QUICK SHOP

Images not to scale.

Plastic clips used for holding two 2-wire and 3-wire cables together. Use these to help secure your robot's electrical connections.

Extension Cable Retaining Clip (10-pack)	276-4128	$4.99

3-Wire Extension Cables

QUICK SHOP

Images not to scale.

Used to extend the length of a 3-wire cable such that a sensor or motor controller can be farther from a VEX ARM® Cortex®-based Microcontroller 3-wire application. The 3-Wire "Y" Cable allows 2 motors or servos to be driven by a single 3-wire motor output.

1	*3-Wire Extension Cable 6" (4-pack)*	276-1427	$4.99
2	*3-Wire Extension Cable 12" (4-pack)*	276-1426	$7.99
3	*3-Wire Extension Cable 24" (4-pack)*	276-1425	$7.99
4	*3-Wire Extension Cable 36" (4-pack)*	276-1976	$7.99
5	*3-Wire "Y"-Cable 6" (2-pack)*	276-1423	$4.99
	3-Wire Extension Cables (Small Bundle)	276-1395	$4.99
	3-Wire Extension Cables (Large Bundle)	276-1424	$14.99

Programming Hardware Kit

QUICK SHOP

Images not to scale.

Provides a connection between your PC and a VEX ARM® Cortex®-based Microcontroller. When used with the VEX ARM® Cortex®-based Microcontroller, the programming cable allows you to monitor sensor values, perform live debugging of the code, and execute wireless downloads between the microcontroller & PC.

- (1) Programming Module
- (1) USB A-A Cable 6 ft.
- (1) RJ12 6-pin cable 3 ft.

Programming Hardware Kit	276-2186	$49.99

LCD Display

QUICK SHOP

Images not to scale.

Receive real-time feedback from your robot to perform live debugging, view stored program configurations and select between them, or provide additional user input to your robot.

LCD Display	276-2273	$49.99

Competition Cortex Wire Retaining Clips

QUICK SHOP

Images not to scale.

These wire retaining clips are upgrades for the standard microcontroller clips and are designed to secure wires in a competitive robotics environment with zip ties. *(Zip ties not included.)*

Competition Cortex Wire Retaining Clips	276-2173	$3.99

LED Indicator Pack

QUICK SHOP

Images not to scale.

Compatible with VEX ARM® Cortex®-based Microcontroller digital outputs. Use these with programming software as feedback indicators, to debug code, verify microcontroller mode, or to create cool light patterns!

- (3) Red LED Indicators
- (3) Green LED Indicators
- (2) Yellow LED Indicators

LED Indicator Pack	276-2176	$9.99

Jumper (5-pack)

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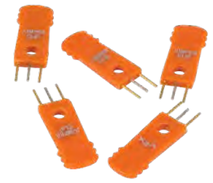


Images not to scale.

Plug these into any digital I/O port of the microcontroller to set programming options.

Jumper (5-pack)	276-1380	$2.49

Power Expander

QUICK SHOP

Images not to scale.

Balance a robot's motor load across two batteries to extend robot run time and increase performance.

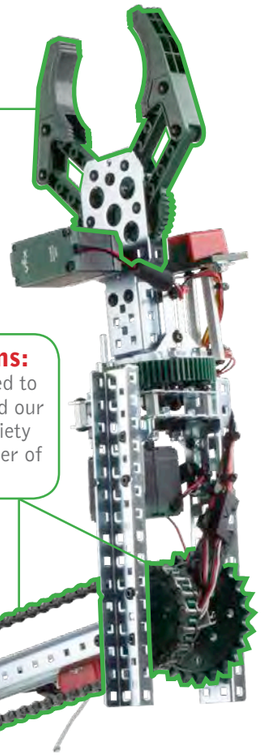
- Powers up to four (4) motors or servos
- Reduces motor load on primary battery
- Status port provides feedback to microcontroller

Power Expander	276-2271	$49.99

VEX EDR Super Clawbot

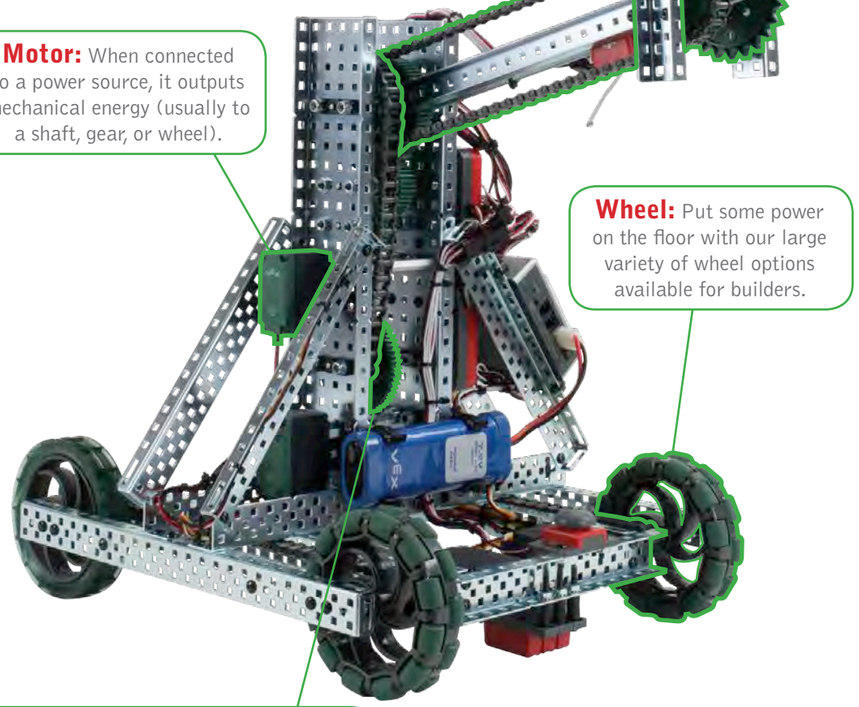
Use VEX EDR motion components to make your robot move!

VEX EDR's wheels, tank tread, gears, sprockets, and shafts seamlessly work together to enable motion of all types. This wide variety of motion components can be used at the heart of a high-speed racer, a high-torque tank, and everything in between.



Claw: Most robots have some sort of manipulator; this one uses a claw to hold objects. The smaller gear is driven by a motor, creating a high-torque gear reduction to ensure a firm grip.

Sprockets & Chains: These chains are designed to carry moderate loads, and our sprockets come in a variety of sizes to create a number of ratio possibilities.



Motor: When connected to a power source, it outputs mechanical energy (usually to a shaft, gear, or wheel).

Wheel: Put some power on the floor with our large variety of wheel options available for builders.

Gears: VEX EDR gears are one of the primary sources of power transmission. We offer a variety of both normal and high strength gears, that come in a multitude of shapes and sizes.

QUICK SHOP

Omni-Directional Wheels

Images not to scale.

Omni-Directional wheels roll forward like normal wheels, but slide sideways with almost no friction (no skidding during turns). Use these wheels to make your robot turn smoothly or build a holonomic drivetrain.

1	*2.75" Omni-Directional Wheel - Double Roller (2-pack)*	276-1902	$19.99
2	*3.25" Omni-Directional Wheel (4-Pack)*	276-3526	$39.99
3	*4" Omni-Directional Wheel (2-pack)*	276-2185	$24.99

QUICK SHOP

Traction Wheels

Images not to scale.

Traction Wheels are designed for optimal grip on soft surfaces like the foam tiles used in the VEX Robotics Competition.

Removing the tread of the 2.75" wheel reveals a low-friction wheel that can be used for other purposes. Removing the tread of the 4" and 5" wheels reveals a ribbed plastic wheel. 3.25" Traction Wheels include removable wheel inserts that allow them to be used with either standard Drive Shafts or High Strength Shafts, in either a driven or free spinning application.

1	*2.75" Wheel (4-pack)*	276-1496	$9.99
2	*3.25" Traction Wheel (4-Pack)*	276-3525	$19.99
3	*4" Wheel (4-pack)*	276-1497	$19.99

Rolling distance

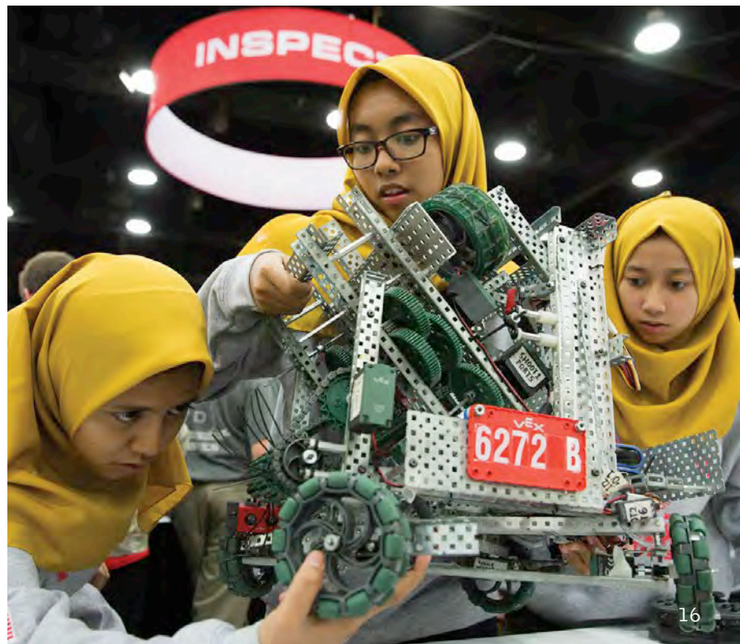
Circumference = Diameter × π

For each time the wheel makes a full rotation, it will roll forward a distance equal to its circumference. So if one calculates the circumference of the wheel, one knows how far the robot goes per wheel revolution.

2.75" (69.85mm) *Wheel*
*Rolling distance 8.6" **(219mm)***

3.25" (82.5mm) *Traction Wheel*
*Rolling distance 10.2" **(259mm)***

4" (101.6mm) *Omni-Wheel*
*Rolling distance 12.6" **(320mm)***



Other Wheels

QUICK SHOP

Images not to scale.

The VEX 4" High Traction Tires are replacements for the "all-purpose" treads found on VEX 4" diameter wheels. These tires are designed to provide high traction on smooth surfaces. *Note: This kit includes tires only, wheel rims not included. Simply remove the current 4" tires from their plastic rims and replace them with these high traction ones.*

Mecanum Wheels allow savvy robot designers to create drivetrains capable of moving in any direction using a standard chassis shape. Simply power each wheel with its own independent motor by changing the directions the wheels spin, your robot can now move sideways!

Wheel Legs are great for constructing all terrain or off road robots. These legs consist of (4) spoke "legs" protruding from a central hub with mounting holes for attaching mechanisms. They also have high traction rubber feet and an offset hub for "overlapping" wheels.

1	*4" High Traction Tire (4-pack)*	276-1489	$12.99
2	*4" Mecanum Wheel (4-pack)*	276-1447	$59.99
3	*6" Wheel Leg (4-pack)*	276-2218	$24.99

Motors

QUICK SHOP

Images not to scale.

The 2-Wire Motor 393 is the primary actuator used on VEX EDR robots. Build rotational mechanisms, drive bases, rotational joints, and conveyor belts. Anything that spins can be built using the 2-Wire Motor 393.

1	*2-Wire Motor 393*	276-2177	$14.99
2	*Motor 393 Refurb Kit*	276-2487	$4.99
3	*393 Motor Turbo Gear Set (4-pack)*	276-3527	$12.99
4	*Motor Controller 29*	276-2193	$9.99

Servos

QUICK SHOP

Images not to scale.

Servo motors are a type of motor that can be directed to turn and hold a specific position, rather than just spin forward or backward.

- Expand functionality with exact positioning
- Add pan and tilt to a camera
- 100 degrees of rotation

3-Wire Servo	276-2162	$19.99

Gear Kit

QUICK SHOP

Images not to scale.

Contains four sizes of VEX EDR Spur Gears (12-, 36-, 60-, and 84-tooth). To expand your inventing possibilities, the 60- and 84-tooth gears have extra mounting holes for attaching metal bars or parts.

Gear Kit	276-2169	$12.99

Advanced Gear Kit

QUICK SHOP

Images not to scale.

Contains several gear types designed to help you build advanced mechanical systems.

- Create linear motion with Rack Gears
- Transfer motion 90 degrees with Bevel Gears
- Add a differential to your drivetrain
- Get a large-reduction with Worm Gears

Advanced Gear Kit	276-2184	$19.99

High Strength Gear Kit

QUICK SHOP

Images not to scale.

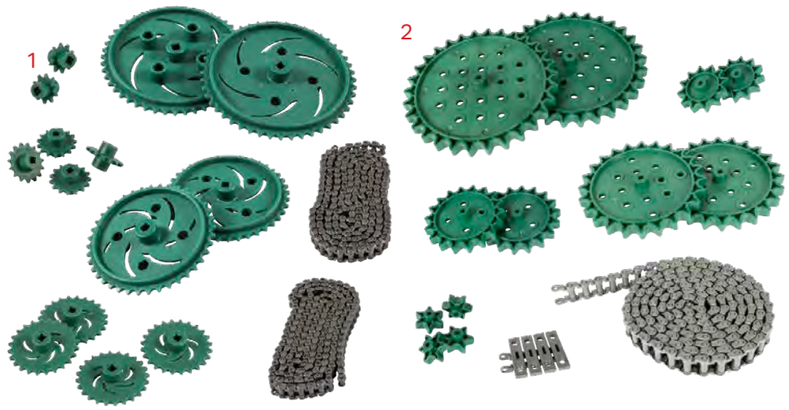
This kit features gears designed to handle higher loads. Each of these gears has a wider face width; this means each tooth is wider so applied loads will be spread over a larger area.

- Compatible with all VEX EDR spur gears
- Metal square hole inserts prevent axles from "stripping"
- Round hole inserts enable free spinning idler gears

High Strength Gear Kit	276-2250	$19.99

Sprockets & Chain

QUICK SHOP



Images not to scale.

The best way to transfer power over long distances on a VEX EDR robot. Sprockets come in a variety of sizes for different ratio possibilities. Each chain link is also a master link, which allows for quick and painless substitution. The standard Sprocket & Chain Kit is designed to carry moderate loads, while the High Strength Chain & Sprocket Kit is capable of lifting up 50 pounds!

1	*Sprocket & Chain Kit*	276-2166	$29.99
2	*High Strength Sprocket & Chain Kit*	276-2252	$39.99
	High Strength Sprocket 6 Tooth (8-Pack)	276-3876	$12.99
	High Strength Sprocket 12 Tooth (4-Pack)	276-3877	$12.99
	High Strength Sprocket 18 Tooth (4-Pack)	276-3878	$12.99
	High Strength Sprocket 24 Tooth (4-Pack)	276-3879	$12.99
	High Strength Sprocket 30 Tooth (4-Pack)	276-3880	$12.99
	Additional High Strength Chain	276-2172	$24.99

Rack Gear v2 (16-pack)

QUICK SHOP

Images not to scale.

Turn rotary motion into linear motion.

- Use any VEX EDR spur gear as a pinion
- Stack multiple back to back for longer motions

Rack Gear v2 (16-pack)	276-4782	$19.99

High Strength 84-Tooth Gear (4-pack)

QUICK SHOP

Images not to scale.

- Double-thick face width and ribbing provide added strength
- Metal square hole inserts prevent axles from "stripping"

High Strength 84-Tooth Gear (4-pack)	276-3438	$12.99

Metal 12-Tooth Pinion (12-pack)

QUICK SHOP

Images not to scale.

- Double-thick face
- All metal gear for high strength
- Compatible with standard VEX EDR gears

Metal 12-Tooth Pinion (12-pack)	276-2251	$19.99

Tank Tread

QUICK SHOP

Images not to scale.

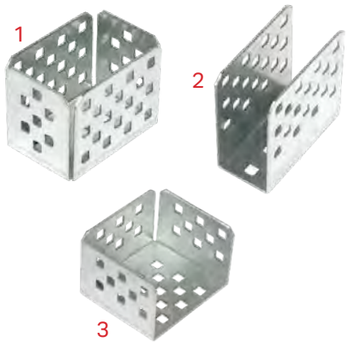
Build robot tracks which can overcome tough terrain, or build a conveyor belt for scooping up objects. The Tank Tread Upgrade Kit contains soft rubber pads for increased traction and fins to aid the conveyor belt mechanisms.

- Climb over obstacles
- Traverse rough terrain or soft surfaces
- Can be used for a robot conveyor belt
- Every section is a master link, create treads of any length

1	*Tank Tread Kit*	276-2168	$29.99
	Tank Tread Upgrade Kit	276-2214	$24.99

Advanced Gearbox Brackets

QUICK SHOP



Images not to scale.

These gearbox brackets provide support for several options of advanced motion, allowing you to create new ingenious mechanisms.

- Create linear motion with rack gears
- Transfer motion 90 degrees with bevel gears
- Add a differential to your drivetrain
- Get a high reduction with worm gears

1	*Bevel Gearbox Bracket (2-pack)*	275-1189	$9.99
2	*Rack Gearbox Bracket (2-pack)*	275-1188	$9.99
3	*Worm Gearbox Bracket (2-pack)*	275-1187	$12.99

Winch and Pulley Kit

QUICK SHOP

Images not to scale.

Implement a winch and pulley system and create block and tackle mechanisms that utilize mechanical advantage.

- Lift, lower, hang, drag and more
- Configurable for many applications
- Ratchet and pawl can be engaged to prevent back driving

	Winch and Pulley Kit	276-1546	$14.99

Spacers and Washers

QUICK SHOP

Images not to scale.

A spacer is used to create a space between two objects, often to properly position them and to eliminate "slop" on shafts. A washer is used to distribute the load of a threaded fastener, and teflon washers can be used when low friction is necessary. VEX EDR washers fit on all VEX EDR screws and shafts.

1	*Plastic Spacer, 4.6mm (20-pack)*	276-2018	$2.99
2	*Plastic Spacer, 8mm (20-pack)*	276-2019	$2.99
3	*Nylon Spacer Variety Pack*	275-1066	$4.95
4	*Washer, Teflon (25-pack)*	275-1025	$4.95
5	*Washer, Steel (200-pack)*	275-1024	$4.95

Shaft Couplers

QUICK SHOP

Images not to scale.

Shaft Couplers are the same length as VEX EDR clutches, allowing old 2-Wire Motors to be used in places that previously had a clutch without changing the shaft length.

	Shaft Couplers (5-pack)	276-1843	$4.99

Shaft Collars

QUICK SHOP

Images not to scale.

Collars lock to drive shafts, keeping wheels and gears from sliding along the shaft. Standard Shaft Collars are fastened in place using a setscrew, while Clamping Shaft Collars use standard VEX EDR button head screws and nuts to maintain a tight lock without scratching or damaging the shaft. Rubber Shaft Collars easily slide onto VEX EDR 0.125" shafts and use friction between to keep wheels and gears in place.

1	*Shaft Collar (16-pack)*	276-2010	$7.99
2	*8-32 x 0.125" Setscrew (32-pack)*	276-2385	$4.99
3	*Clamping Shaft Collar (10-Pack)*	276-3891	$4.99
4	*Rubber Shaft Collar (30-Pack)*	228-3510	$5.99

Universal Joint (5-pack)

QUICK SHOP

Images not to scale.

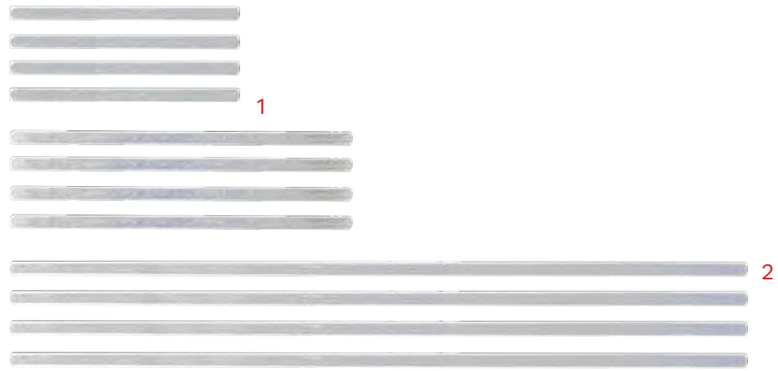
Provides a mechanical link between two intersecting, non-parallel shafts. Each side of the VEX EDR U-Joint includes a socket for a VEX EDR square shaft, and a set screw to hold the shaft in place.

- Create complex robot mechanisms

	Universal Joint (5-pack)	276-2723	$9.99

Shafts

QUICK SHOP



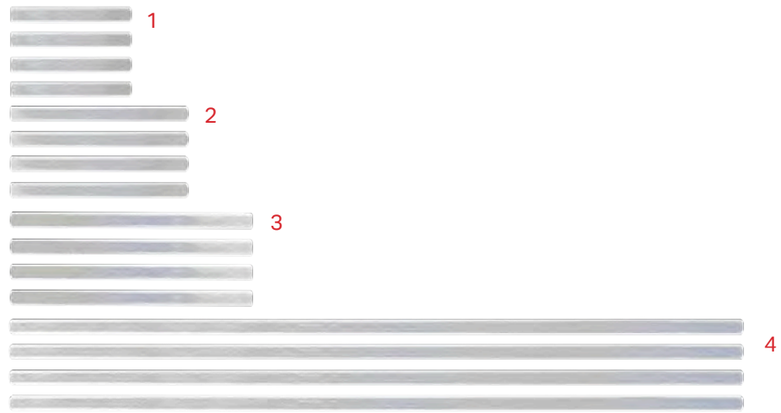
Images not to scale.

VEX EDR Square Drive Shafts have rounded corners which allow them to easily spin in a round hole or lock into a square hole. Insert these into a motor to power all of your applications.

1	*Drive Shaft 2" & 3" Pack*	276-2011	$5.49
2	*Drive Shaft 12" (4-pack)*	276-1149	$8.96

High Strength Shafts

QUICK SHOP



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VEX EDR ¼" High Strength Shafts and hardware are specifically designed for those applications that typical shafts just can't handle. Use these shafts in high-torque or high-impact situations, and never worry about your gearbox or intake breaking again.

1	*High Strength Shaft 2" Long (4-Pack)*	276-3440	$4.99
2	*High Strength Shaft 3" Long (4-Pack)*	276-3522	$4.99
3	*High Strength Shaft 4" Long (4-Pack)*	276-3523	$4.99
4	*High Strength Shaft 12" Long (4-Pack)*	276-3524	$14.99

High Strength Shaft Hardware

QUICK SHOP

Images not to scale.

High Strength Shaft Hardware functions similarly to standard ⅛" shaft hardware, just on a larger scale. Use the High Strength Shaft Bearing to allow shafts to turn smoothly, the High Strength Shaft Spacer Kit to position objects on a shaft while reducing friction, and the High Strength Clamping Collar to hold everything in place.

VEX EDR 2", 3", and 4" High Strength Shafts are manufactured approximately about 1 mm shorter than their respective 2", 3", and 4" 8-32 Standoffs.

This means that if you use standoffs to hold together two pieces of metal, the High Strength Shaft can rest on High Strength Shaft Bearings attached to those two pieces without any cutting required.

1	*High Strength Shaft Insert Kit*	276-3881	$9.99
2	*High Strength Shaft Bearing (10-Pack)*	276-3521	$7.99
3	*High Strength Shaft Spacer Kit*	276-3441	$9.99
4	*High Strength Clamping Shaft Collar (10-Pack)*	276-3520	$9.99

Intake Rollers

QUICK SHOP

Images not to scale.

Intake rollers are specifically designed for object handling and manipulation. The fingers grip and deflect to allow handling of various objects.

	Intake Roller (8-pack)	276-1499	$12.99

Bearings and Lock Bars

QUICK SHOP

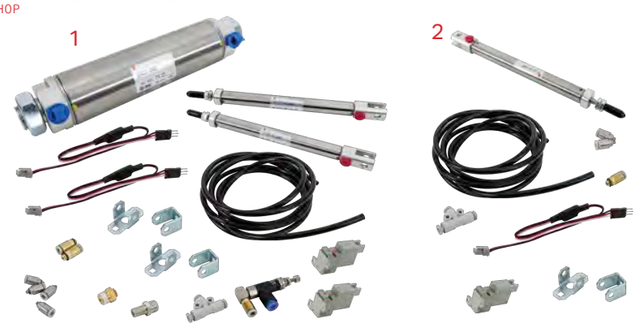
Images not to scale.

Use bearings to keep your mechanisms and wheels moving smoothly. The Bearing Flat mounts directly on a piece of VEX EDR structure and supports a shaft which runs perpendicular and directly through the structure, while Bearing Blocks support a shaft which is offset either above, below, or to the side of the structure. Reusable Bearing Attachment Rivets make mounting them easy. Lock Bars allow any VEX EDR component to be "locked" to a shaft so that it will spin with the shaft. The Drive Shaft Bar Lock is a steel version of the Lock Bar.

1	*Bearing Flat (10-pack)*	276-1209	$4.99
2	*Bearing Attachment Rivet (50-pack)*	276-2215	$7.99
3	*Pillow Block Bearing & Lock Bar Pack*	276-2016	$7.99
4	*Drive Shaft Bar Lock (8-pack)*	275-1065	$6.45

Single Acting Pneumatic Kits

QUICK SHOP



Images not to scale.

Uses air pressure to extend a piston with an internal spring to automatically retract the piston when air pressure is released.

1	*Pneumatics Kit 1 - Single Acting Cylinders*	275-0274	$179.95
2	*Pneumatics Kit 1A - Single Acting Cylinder Add-On*	275-0275	$59.95

Double Acting Pneumatic Kits

QUICK SHOP

Images not to scale.

Uses air pressure to both extend and retract the piston, allowing for higher retraction force and greater control.

1	*Pneumatics Kit 2 - Double Acting Cylinders*	275-0276	$229.95
2	*Pneumatics Kit 2A - Double Acting Cylinder Add-On*	275-0277	$89.95

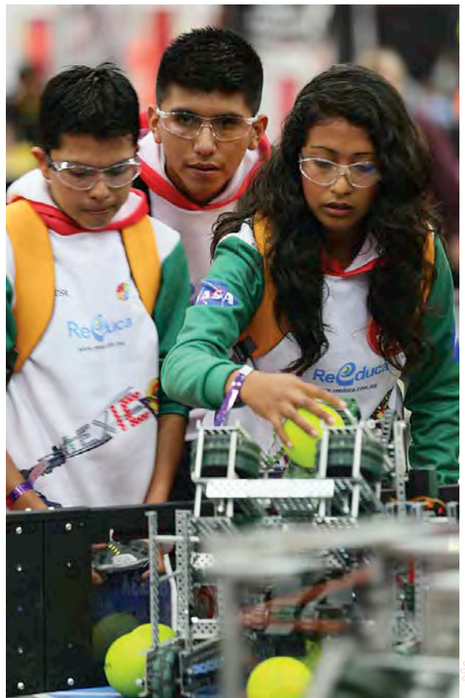
Pneumatic Accessories

QUICK SHOP

Images not to scale.

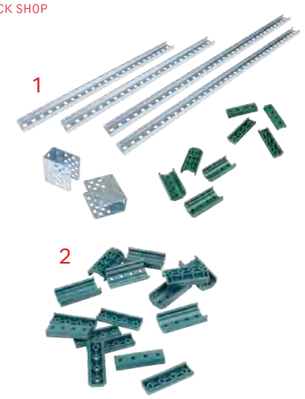
The Pneumatic Solenoid Driver Cable uses a digital On\Off signal from a VEX EDR microcontroller to actuate a pneumatic solenoid. Extra Pneumatics Tubing can be used for more versatility in design. Both are included in Pneumatics Kits 1 and 2.

1	*Solenoid Driver Cable (2-pack)*	275-1417	$29.99
2	*Pneumatics Tubing (5')*	275-0447	$4.95



Linear Motion Kit

QUICK SHOP



Images not to scale.

The Linear Motion Kit provides a method for VEX EDR builders to create linear mechanisms. Utilize the low friction slide rails for your own mechanisms or combine them with included Rack Brackets and VEX EDR Rack Gears (not included) to build direct driven linear actuators.

- Rails include holes on 0.500" increments
- Two rail lengths included - 12" and 17.5"
- Use with VEX EDR 8-32 hardware (not included)
- Additional Truck Kit contains (16) spare plastic trucks

1	*Linear Motion Kit*	276-1926	$24.99
2	*Linear Motion Additional Truck Kit*	276-4489	$9.99

Advanced Mechanics and Motion Kit

QUICK SHOP

Images not to scale.

Contains a variety of mechanisms to help a robot builder learn about the mechanics of motion. Use them to build examples of worm gears, lead screws, universal joints, bevel gear reductions and rotary cams.

- Create complex robot mechanisms
- Learn advanced mechanics principles

Advanced Mechanics and Motion Kit	276-2045	$24.99

Claw Kit

QUICK SHOP

Images not to scale.

Easily grab and manipulate various objects. Motor required and not included.

- Strong enough to hold a 12 oz soda can
- Dexterous enough to grab a feather
- Comes partially assembled

Claw Kit	276-2212	$19.99

Turntable Bearing Kit

QUICK SHOP

Images not to scale.

Provides two options for low friction, high load rotational joints. These are especially well suited for rotational joints with high side load. This kit makes it easy to build a turret on your robot!

- (1) 2.6" diameter Turntable Bearing
- (1) 4.25" diameter Turntable Bearing
- *Note: 12 tooth pinion gear required for a 4.25" diameter Turntable Bearing (not included)*

Turntable Bearing Kit	276-1810	$19.99

Swerve Drive Kit

QUICK SHOP

Images not to scale.

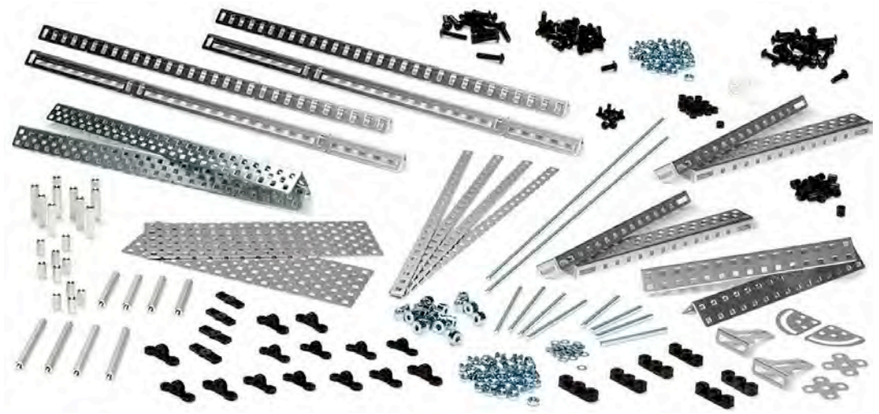
The swerve drive kit lets you build a unique drive and steering configuration for your VEX EDR robot. Get unmatched maneuverability and increased versatility through drive pods which can be configured to utilize up to 360 degrees of rotation. Includes all parts listed.

Swerve Drive Kit	276-0506	$14.99

Structure

Metal & Hardware Kit

QUICK SHOP



Images not to scale.

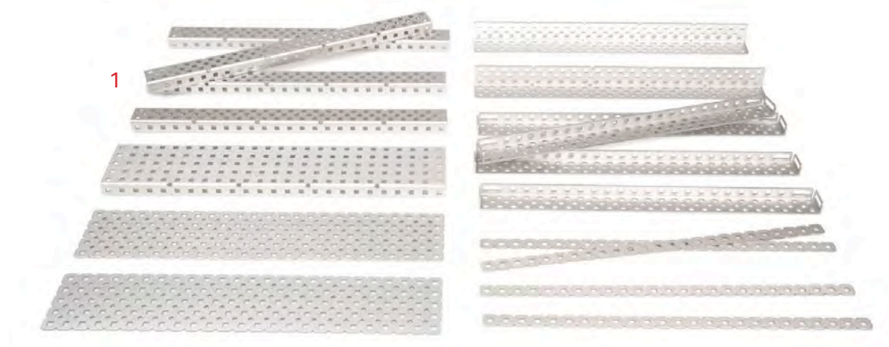
More parts for building the ultimate robot. Additional metal and hardware pieces let you create bigger, stronger, and more complex robots.

- (1) Steel chassis 15x16x2
- (10) Steel plates & bars
- (6) Steel gussets
- (52) Collars, shafts, and bearings
- (66) Standoffs & spacers
- (259) Screws, nuts, and washers

	Metal & Hardware Kit	276-2161	$79.99

Aluminum Kits

QUICK SHOP



Images not to scale.

Decrease the total weight of a robot or individual mechanism while still keeping it strong. VEX aluminum kits contain the same metal components as standard structural kits (C-Channel, Plates, and Bars), at a fraction of the weight for improved robot performance! *Note: Aluminum Structure Kit shown. Individual sizes called out.*

- Compatible with all VEX EDR motion and structure components
- Available in bundle kits or in single part multi-packs

1	*Aluminum Structure Kit*	275-1097	$79.99
	Aluminum C-Channel 1x5x1x25 (6-pack)	276-2290	$39.99
	Aluminum C-Channel 1x2x1x25 (6-pack)	276-2288	$29.99
	Aluminum Angle 2x2x35 (6-pack)	276-2304	$34.99
	Aluminum Chassis Kit 25x25	276-2319	$34.99
	Aluminum Bar 1x25 (16-pack)	276-2307	$29.99
	Long Aluminum Structure Kit	275-1410	$79.99
	Aluminum C-Channel 1x2x1x35 (6-pack)	276-2289	$34.99
	Aluminum C-Channel 1x3x1x35 (6-pack)	276-4359	$37.99
	Aluminum C-Channel 1x5x1x35 (6-pack)	276-2298	$44.99
	Aluminum Plate 25x5 (6-pack)	276-2311	$24.99

Steel C-Channels

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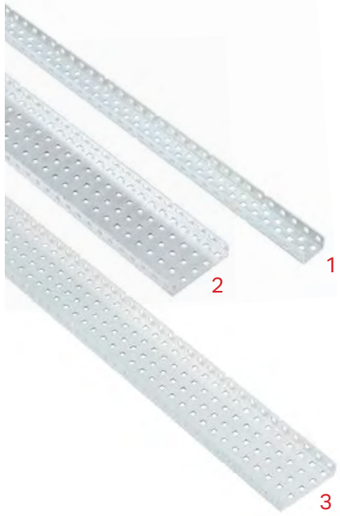

Images not to scale.

VEX EDR C-channel has holes on 0.500" increments. This structural member's excellent strength and bending resistance is perfect for building robust robots.

- Multiple sizes available
- Made from cold rolled steel, 0.046" thick, zinc plated
- Each channel is segmented into cuttable 2.5" pieces

1	*C-Channel 1x2x1x35 (2-pack)*	276-2906	$8.99
2	*C-Channel 1x5x1x25 (4-pack)*	275-1138	$17.99
3	*C-Channel 1x5x1x35 (4-pack)*	275-1139	$19.99

Bar 1x25 (8-pack)

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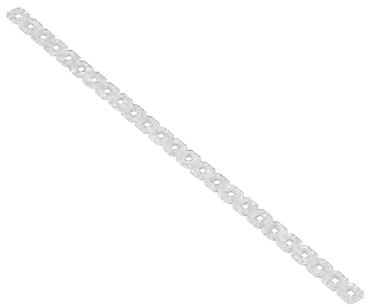


Images not to scale.

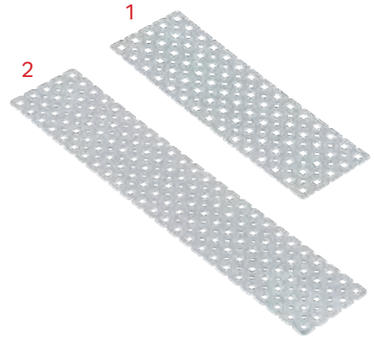
VEX EDR bar with holes on 0.500" increments.

- Made from cold rolled steel, 0.046" thick, zinc plated.
- Can be cut on 0.500" increments.

	Bar 1x25 (8-pack)	275-1141	$12.99

Plates

QUICK SHOP



Images not to scale.

Plate with holes on 0.500" increments and ⅛" diamonds in between. Can be cut on 0.500" increments and used to create custom shapes.

- Available in two sizes
- Made from cold rolled steel, 0.046" thick, zinc plated

1	*Plate 15x5 (2-pack)*	275-2023	$4.99
2	*Plate 25x5 (4-pack)*	275-1140	$14.99

Latex Tubing (10')

QUICK SHOP

Images not to scale.

This VEX EDR tubing can stretch more than 4 times its length and still spring back to its original shape. VEX EDR Latex Tubing is great for any application on a VEX EDR robot requiring spring loading.

- ⅛" outside diameter, 1⁄16" inside diameter
- Sold in two 5' lengths
- 35A durometer Latex
- Great for heavy lifting

	Latex Tubing (10')	275-1262	$9.99

Hinge (2-pack)

QUICK SHOP

Images not to scale.

Simple pivoting joint with 265 degree movement.

- 2.5" long x 1.3" wide
- Standard VEX holes
- Made from cold rolled steel, zinc plated

	Hinge (2-pack)	275-1272	$9.99

Nut Bar (4-pack)

QUICK SHOP

Images not to scale.

A plastic piece with 20 holes sized such that VEX EDR 8-32 screws will self-tap into them. By mounting these bars onto VEX EDR structural metal, you create a series of holes which can be used as nuts without having access to the back side of the plate.

- Can be used in tight places to help with robot assembly.
- Snaps into smaller increments without tools.

	Nut Bar (4-pack)	276-1748	$4.99

Nuts 8-32

QUICK SHOP

Images not to scale.

A hardware fastener with a threaded hole. All VEX EDR nuts are 8-32 threads.

- Keps nuts have an external tooth lock washer and are strong while still being removable
- Nylock nuts have an internal nylon lock that makes it perfect for strong connections that won't vibrate loose
- Hex nuts are non-locking and are great for quick prototyping

1	*Nut 8-32 Keps (100-pack)*	275-1026	$2.99
2	*Nut 8-32 Nylock (100-pack)*	275-1027	$3.99
3	*Nut 8-32 Hex (100-pack)*	275-1028	$2.99

QUICK SHOP

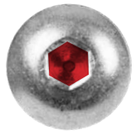
Screws

Head Types

Hex Drive 5/64"

Star Drive T15

Hex Drive 3/32"



8-32 Screws

2" 1.75" 1.5" 1.25" 1" .875" .75" .625" .5" .375" .25"

Locking Screws

.5" .25"

6-32 Screws

.5" .25"

Locking Screws

.5"

Specialty Screws

Shoulder Screw Hex Drive 3/32"

Thumb Screw

Images not to scale.

The proverbial glue that holds your robot together. VEX EDR screws come in a multitude of lengths and two standard thread sizes, 6-32 and 8-32. With 31 different types of screws, there is sure to be one to fit your needs.

Locking screws have been coated with a thread locker to help keep them locked into place. A locking screw can be installed 10-15 times and still retain a firm lock.

Thumbscrews can be tightened/loosened by hand, speeding up robot assembly, and Shoulder Screws are perfect for pivots with minimal slop. Setscrews are used in Shaft Collars and U-Joints to clamp to a shaft.

There's nothing more frustrating than a stripped screw. With VEX EDR Star Drive Screws, this becomes a thing of the past. These grade 8 screws were designed to withstand a great amount of torque, which allows builders to truly "lock down" their mechanisms.

6-32 Hex Drive Screws		
Screw 6-32 x 0.250" Silver (50-pack)	275-0659	$4.95
Screw 6-32 x 0.500" Silver (50-pack)	275-1169	$4.95
Screw 6-32 x 0.500" Locking (100-pack)	276-1958	$9.99
8-32 Hex Drive Screws		
Screw 8-32 x 0.250" (100-pack)	275-1002	$7.49
Screw 8-32 x 0.375" (100-pack)	275-1003	$7.49
Screw 8-32 x 0.500" (100-pack)	275-1004	$7.49
Screw 8-32 x 0.625" (100-pack)	275-1005	$9.99
Screw 8-32 x 0.750" (100-pack)	275-1006	$9.99
Screw 8-32 x 0.875" (100-pack)	275-1007	$9.99
Screw 8-32 x 1.000" (100-pack)	275-1008	$9.99
Screw 8-32 x 1.250" (50-pack)	275-1009	$7.49
Screw 8-32 x 1.500" (50-pack)	275-1010	$7.49
Screw 8-32 x 1.750" (50-pack)	275-1011	$9.99
Screw 8-32 x 2.000" (25-pack)	275-1012	$7.49
Screw 8-32 x 0.250" Locking (100-pack)	275-1260	$19.99
Screw 8-32 x 0.500" Locking (100-pack)	275-1261	$19.99

Star Drive Screws		
Star Drive Screw 8-32 x 0.250" (100-pack)	276-4990	$4.99
Star Drive Screw 8-32 x 0.375" (100-pack)	276-4991	$4.99
Star Drive Screw 8-32 x 0.500" (100-pack)	276-4992	$4.99
Star Drive Screw 8-32 x 0.625" (100-pack)	276-4993	$5.99
Star Drive Screw 8-32 x 0.750" (100-pack)	276-4994	$5.99
Star Drive Screw 8-32 x 0.875" (100-pack)	276-4995	$6.99
Star Drive Screw 8-32 x 1.000" (100-pack)	276-4996	$6.99
Star Drive Screw 8-32 x 1.250" (50-pack)	276-4997	$4.99
Star Drive Screw 8-32 x 1.500" (50-pack)	276-4998	$4.99
Star Drive Screw 8-32 x 1.750" (50-pack)	276-4999	$5.99
Star Drive Screw 8-32 x 2.000" (25-pack)	276-5004	$4.99
Star Drive Screw 8-32 x 0.250" Locking (100-pack)	276-5006	$9.99
Star Drive Screw 8-32 x 0.500" Locking (100-pack)	276-5007	$9.99
Specialty Screws		
Shoulder Screws 8-32 (25-pack)	276-1408	$9.99
1/2" Thumbscrew (50-pack)	275-1485	$9.99

QUICK SHOP

Couplers 8-32 (2-sizes)

Images not to scale.

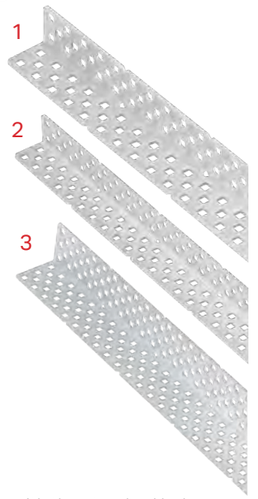
Used to connect multiple threaded beams to each other and create custom length standoffs.

- Double up standoffs
- Hex socket in one end (Star Drive version available)
- ½" and 1" lengths

1	*Coupler 8-32 x 1.000" (25-pack)*	275-1001	$4.95
2	*Coupler 8-32 x 0.500" (25-pack)*	275-1000	$2.95
3	*Star Drive Coupler 8-32 x 1.000" (25-pack)*	276-4988	$2.99
4	*Star Drive Coupler 8-32 x 0.500" (25-pack)*	276-4989	$1.99

QUICK SHOP

Angles



Images not to scale.

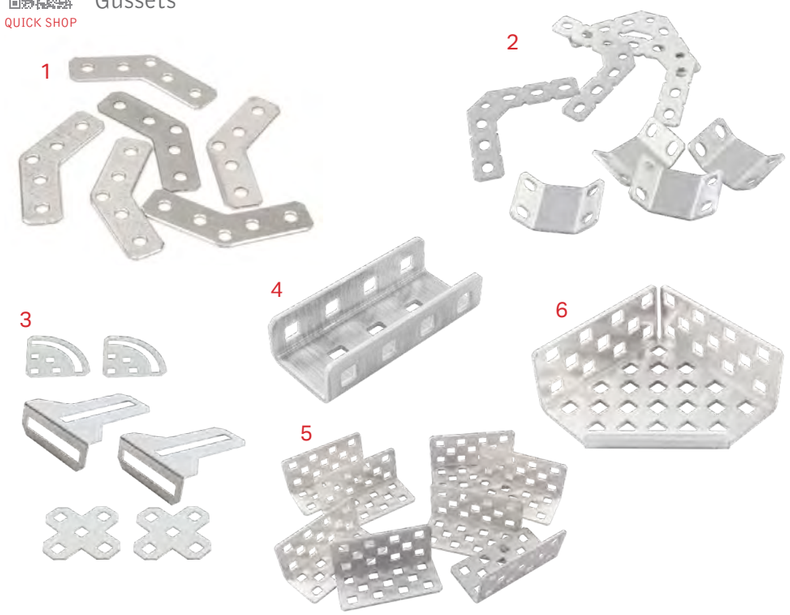
VEX EDR angles with the standard hole pattern is great for structural framing.

- Can be cut on 0.500" increments
- Made from cold rolled steel, 0.046" thick, zinc plated

1	*Angle 2x2x25 (4-pack)*	275-1142	$14.99
2	*Angle 2x2x35 (4-pack)*	275-1143	$17.99
3	*Angle 3x3x35 (4-pack)*	275-1144	$19.99

QUICK SHOP

Gussets



Images not to scale.

Used to connect pieces of metal and to strengthen your robot's joints.

1	*45 Degree Gusset (6-pack)*	275-1186	$4.99
2	*90-Degree Gusset Set (4-pack)*	276-2577	$12.99
3	*Gusset Pack*	276-1110	$7.49
4	*C-Channel Coupler Gusset (8-pack)*	276-2575	$19.99
5	*Angle Coupler Gusset (8-pack)*	276-2578	$19.99
6	*Angle Corner Gusset (4-pack)*	276-2576	$19.99

QUICK SHOP

Base Plate 30x15 (2-pack)

Images not to scale.

Designed to serve as a foundation for a variety of robotics applications. Use them as a base to create a large stationary robotic arm, interlock them to build larger manufacturing systems, or even use them as structural pieces in large-scale robotic applications.

- (2) Base Plates included
- 15-holes wide x 30-holes long
- Made from cold rolled steel, 0.046"thick, zinc plated.

Base Plate 30x15 (2-pack)	276-1341	$29.99

QUICK SHOP

Rubber Link (4-pack)

Images not to scale.

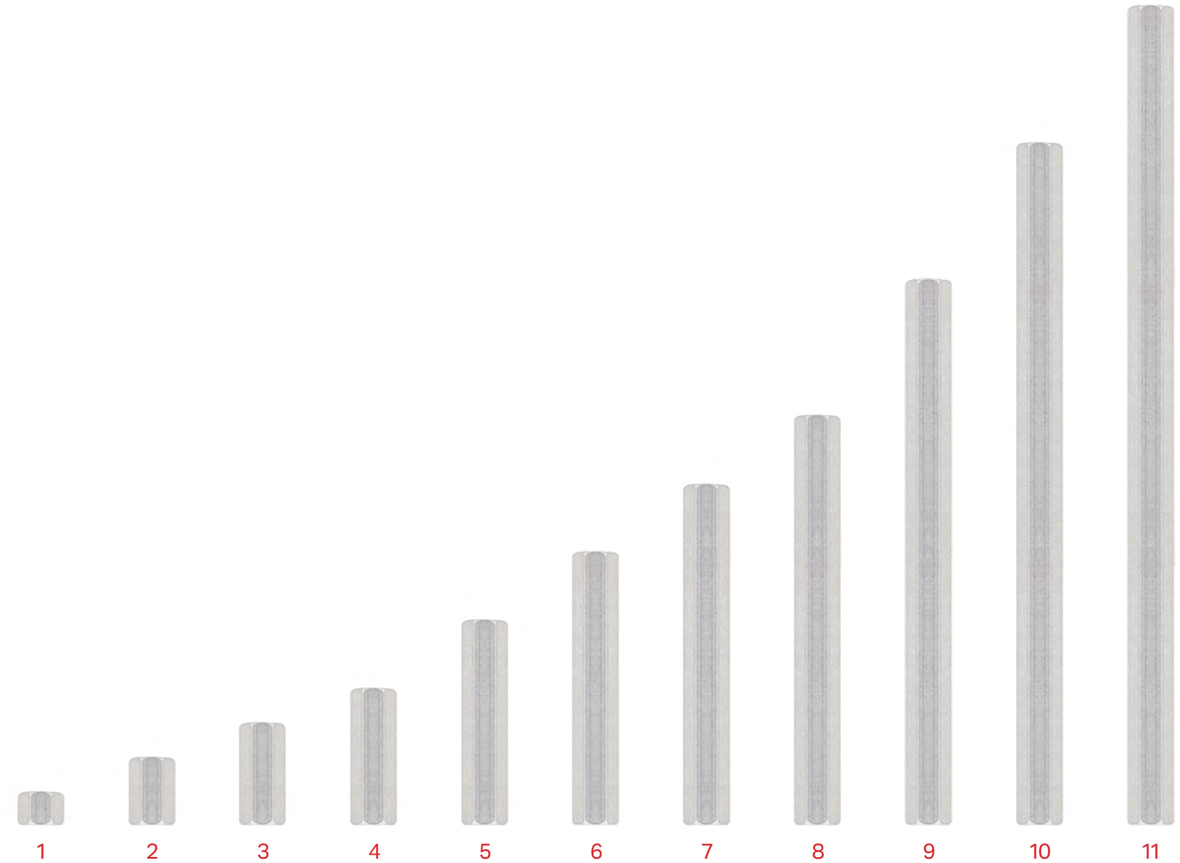
A flexible link used to create joints, springs, or to provide shock absorption.

- Flexible joints between standoffs or metal
- Add spring force to your design
- Provide shock absorption for delicate parts

Rubber Link (4-pack)	275-1029	$7.49

Standoffs 8-32 (12-choices)

QUICK SHOP



Images not to scale.

A standoff is used in mechanics and electronics to separate two parts from one another while creating a rigid connection. All VEX EDR Standoffs have 8-32 threads.

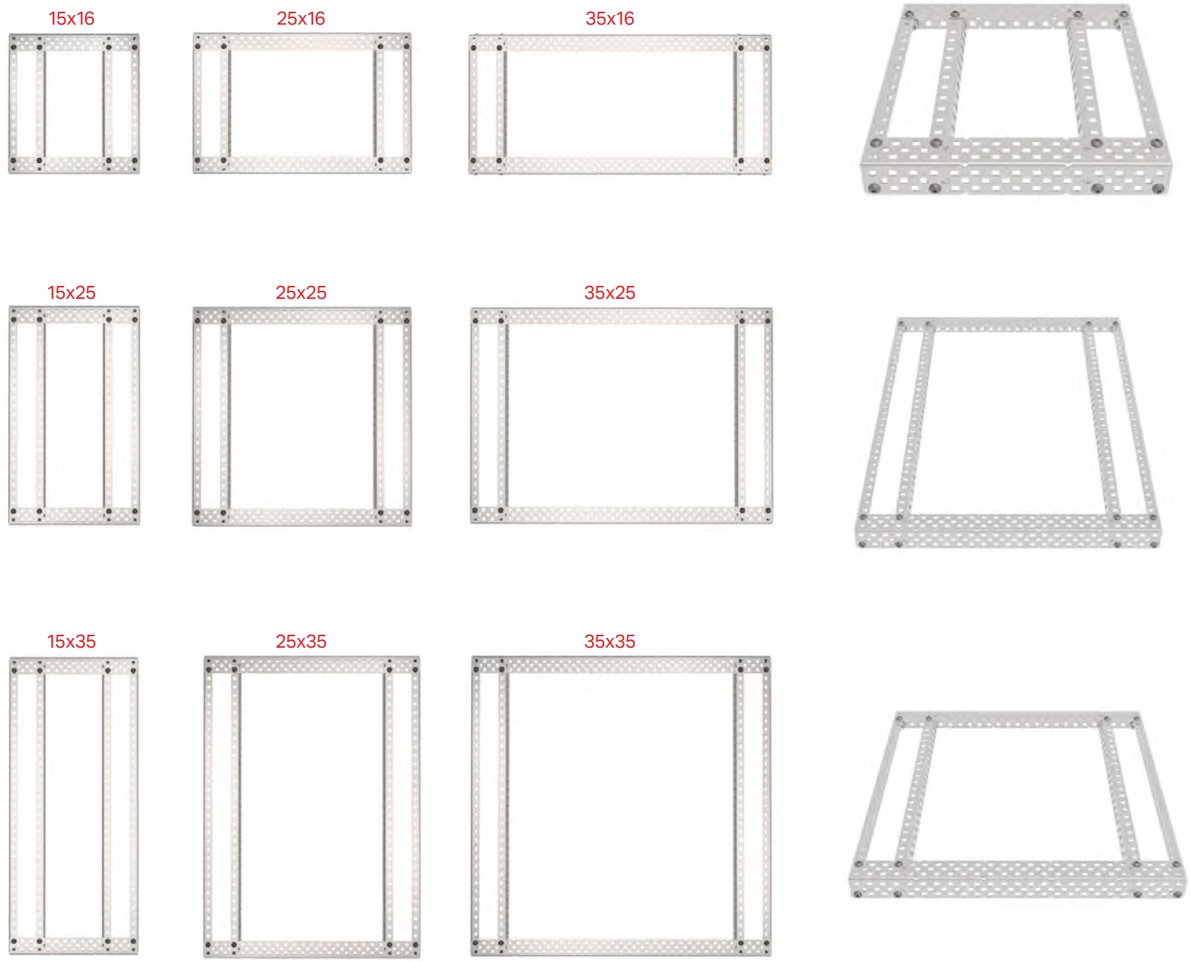
- Hex size is 0.250" across the flats
- Light weight aluminum
- 8-32 internal threads on both ends

Standoff Pack (276-2013) contains:
- (4) 3" Standoffs
- (4) 2" Standoffs
- (8) 1" Standoffs
- (10) ½" Standoffs

1	*Standoff 0.25" (10-pack)*	275-1013	$2.95
2	*Standoff 0.50" (10-pack)*	275-1014	$2.95
3	*Standoff 0.75" (10-pack)*	275-1015	$3.95
4	*Standoff 1.00" (10-pack)*	275-1016	$3.95
5	*Standoff 1.50" (10-pack)*	275-1017	$7.95
6	*Standoff 2.00" (10-pack)*	275-1018	$7.95
7	*Standoff 2.50" (4-pack)*	275-1019	$5.95
8	*Standoff 3.00" (4-pack)*	275-1020	$6.95
9	*Standoff 4.00" (4-pack)*	275-1021	$7.95
10	*Standoff 5.00" (4-pack)*	275-1022	$8.95
11	*Standoff 6.00" (4-pack)*	275-1023	$9.95
	Standoff Pack	276-2013	$15.99

Chassis Kits

QUICK SHOP



Images not to scale.

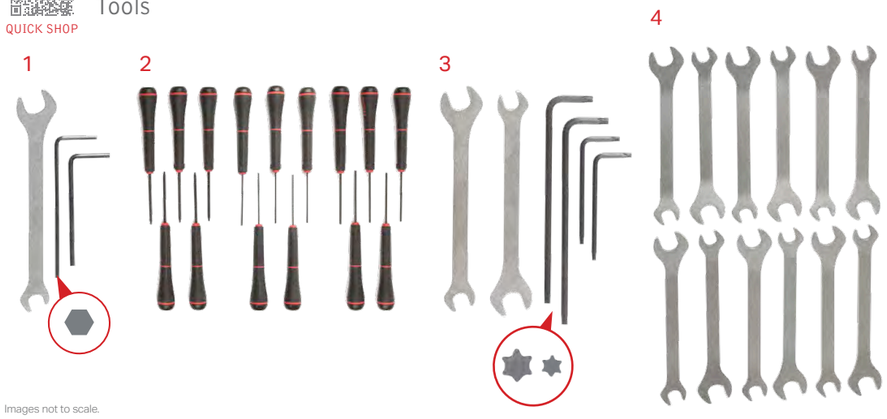
Standard VEX EDR chassis kits include (2) bumpers and (4) rails each. The flexibility and variety of design options makes these a great starting point for any mobile robot project.

- Rail mounting locations allow for variable chassis with width
- Space between rails is ideal for a protected chain run or gear reduction
- Wheels may be mounted outboard or between the rails for extra support
- Rails sold separately for additional versatility

Chassis Kits		
Chassis Kit, Small 15x16	276-2024	$18.99
Chassis Kit, Medium 25x25	275-1033	$21.35
Chassis Kit, Large 35x35	275-1034	$24.95
Chassis Rails		
Chassis Rail 2x1x25 (4-pack)	275-1145	$14.99
Chassis Rail 2x1x35 (4-pack)	275-1146	$17.99

Tools

QUICK SHOP



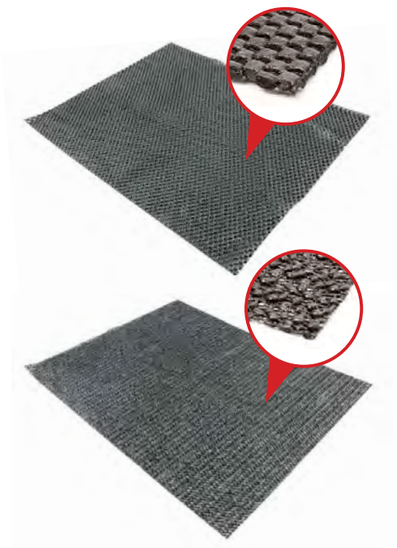
Images not to scale.

The Tool Kit contains all of the tools you will need to build with VEX EDR. The Open End Wrench fits VEX EDR nuts and standoffs, while the Hex Keys fit screws and shaft collars. The Performance Tool Kit contains tools that make working on your VEX EDR robot easier. If you're using Star Drive screws or couplers, don't forget to pick up Star Drive Keys or Screwdrivers to go along with them!

1	*Tool Kit*	276-1382	$2.99
2	*Performance Tool Kit*	276-1645	$39.99
3	*Tool Kit v2*	276-5010	$7.99
4	*Open End Wrench (12-pack)*	276-4350	$29.99
	3/32" Hex Keys (8-pack)	275-1030	$5.25
	5/64" Hex Keys (8-pack)	275-1031	$5.25
	T15 Star Drive Keys (8-pack)	276-5011	$7.99
	T8 Star Drive Keys (8-pack)	276-5012	$7.99
	T8 Star Screwdriver (5-pack)	276-5013	$14.99
	T15 Star Screwdriver (5-pack)	276-5236	$14.99

Anti-Slip Mat (2-Types)

QUICK SHOP



Images not to scale.

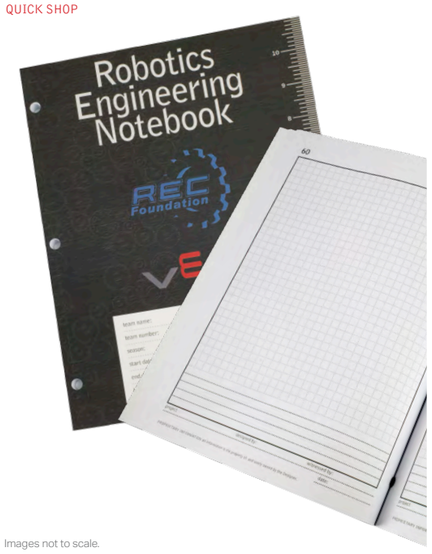
Cuttable and compressible high friction mats. Use for adding grip, friction, or padding.

-Available in two types, thin or thick
-Size is 12" x 15"

1	*Thin Anti-Slip Mat*	275-0121	$2.50
2	*Thick Anti-Slip Mat*	275-0120	$2.50

Robotics Engineering Notebook

QUICK SHOP



Images not to scale.

Use the Robotics Engineering Notebook to document the design, construction, and iteration of a classroom or competitive build project.

- (130) Blank Entry pages
- 3-hole drilled for binder storage
- Commonly used formulas and rulers available for easy reference

	Robotics Engineering Notebook	276-3023	$9.99

Cinch Strap

QUICK SHOP

Images not to scale.

Great for quickly mounting objects. Wrap the Cinch Strap around the object you want mounted, loop it through the buckle, and then back onto itself for a secure hold using VELCRO® brand hook and loop fastener. The buckle allows the user to "cinch" the strap tight around the application.

-Quickly mount an object
-Adjustable and reusable
-Secure holding circumference approximately 4 to 7 inches

	Cinch Strap	275-1258	$9.99

Adhesive Foam

QUICK SHOP

Images not to scale.

¼" thick foam with adhesive on one side that can be used for robot bumpers, vibration isolation, accumulator backing, and any other applications requiring compressive padding.

-1" wide x 0.250" thick
-60" long (cuts with scissors)
-Adhesive backed

	Adhesive Foam	275-1254	$9.99

Safety Glasses

QUICK SHOP

Images not to scale.

-Protect your eyes
-Lightweight frame and lens

	Safety Glasses	276-2175	$7.99

VELCRO® Brand ONE-WRAP® (5')

QUICK SHOP

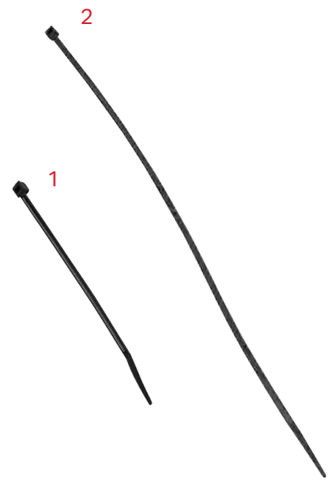
Images not to scale.

VELCRO® brand ONE-WRAP® that can be used to attach a light object. This wrap comes with Hook on one side and Loop on the other so that it attaches back to itself for an easy and secure closed loop.

	VELCRO® Brand ONE-WRAP® (5')	275-1259	$4.99

Zip Ties

QUICK SHOP



Images not to scale.

Can be used to hold together and manage cables, or to attach larger objects (like pneumatic cylinders) to metal.

1	*4" Zip Ties (100-pack)*	276-1032	$4.99
2	*11" Zip Ties (100-pack)*	275-0125	$6.99

Rubber Bands

QUICK SHOP

Images not to scale.

VEX EDR Synthetic Rubber Bands have dozens of uses on a robot. Their spring-like properties make them perfect for latches, triggers, and return mechanisms.

-#32 rubber bands are 3" x 1/8"
-#64 rubber bands are 3.5" x 1/4"

1	*Rubber Band #32 (20-pack)*	275-1089	$1.49
	Rubber Band #64 (10-pack)	276-3990	$2.99

VELCRO® Brand Adhesive Strip (5')

QUICK SHOP

Images not to scale.

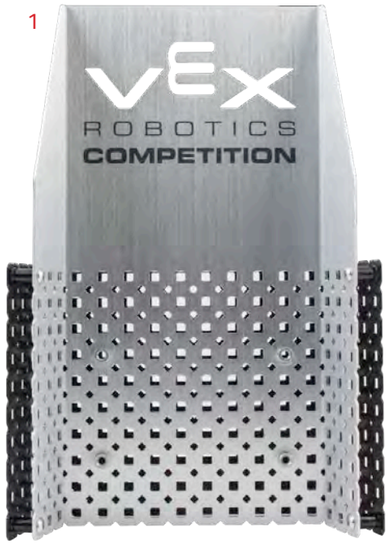
This VELCRO® Brand product has an adhesive backing so it can be attached directly to metal to hold a lightweight object like a battery or create a trap door. *(Not legal for use in the VEX Robotics Compeition.)*

	VELCRO® Brand Adhesive Strip	275-1257	$9.99

Competition Products

VEX Robotics Competition Trophies

QUICK SHOP



1

3

2

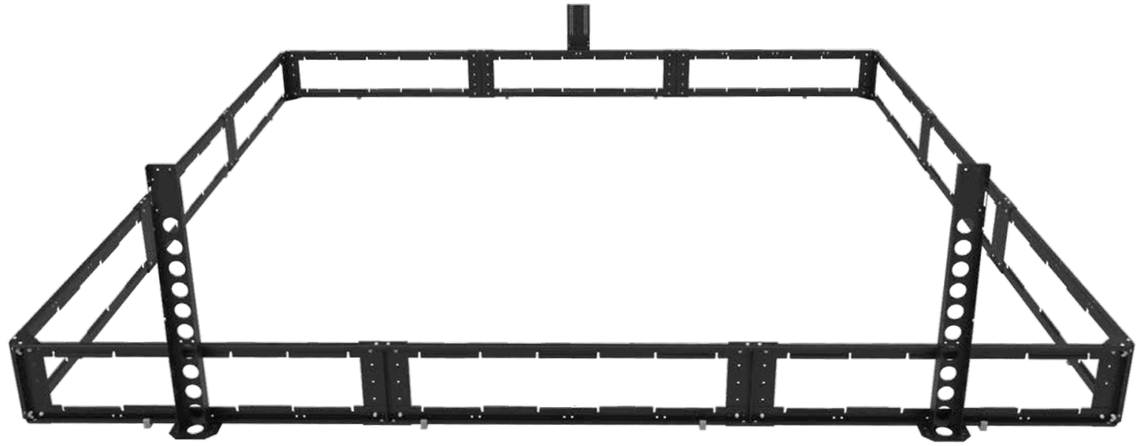
Images not to scale.

-Official VEX Robotics Competition trophies
-Award Plates for all standard VRC awards
-Packs available for simplified purchasing

1	*10" VRC Trophy Pack (Award Plate not included)*	276-1309	$39.99
2	*12" VRC Trophy Pack (Award Plate not included)*	276-1310	$44.99
3	*Award Date Plate 2016-2017*	276-5233	$4.00
	Award Plate "Excellence"	276-1280	$5.99
	Award Plate "Tournament Champion"	276-1281	$5.99
	Award Plate "Tournament Finalist"	276-1282	$5.99
	Award Plate "Robot Skills Champion"	276-1283	$5.99
	Award Plate "Robot Skills 2nd Place"	276-1284	$5.99
	Award Plate "Programming Skills Champion"	276-1285	$5.99
	Award Plate "Programming Skills 2nd Place"	276-1286	$5.99
	Award Plate "Think"	276-1287	$5.99
	Award Plate "Create"	276-1288	$5.99
	Award Plate "Build"	276-1289	$5.99
	Award Plate "Amaze"	276-1290	$5.99
	Award Plate "Innovate"	276-1291	$5.99
	Award Plate "Teamwork"	276-1292	$5.99
	Award Plate "Educate"	276-1294	$5.99
	Award Plate "Future"	276-1295	$5.99
	Award Plate "Judge's Award"	276-1296	$5.99
	Award Plate "Energy"	276-1297	$5.99
	Award Plate "Sportsmanship"	276-1298	$5.99
	Award Plate "Service"	276-1299	$5.99
	Award Plate "Community"	276-1300	$5.99
	Award Plate "Design"	276-1301	$5.99
	Award Plate "Promote"	276-1302	$5.99
	Award Plate "Invent"	276-1303	$5.99
	Award Plate "Mentor of the Year"	276-1304	$5.99
	Award Plate "Teacher of the Year"	276-1305	$5.99
	Award Plate "Volunteer of the Year"	276-1306	$5.99
	Award Plate "Partner of the Year"	276-1307	$5.99
	Blank Award Plate	276-1308	$5.99

Competition Field Perimeter

QUICK SHOP



Images not to scale.

The official VEX Robotics Competition field is set up on a foam surface with a sheet-metal and polycarbonate perimeter frame. Inside this perimeter, game-specific elements can be added.

- Includes ALL parts and polycarbonate required for frame assembly and two driver-control posts
- Does NOT include Field Tiles or electronics
- Spare components available separately

Competition Field Perimeter Kit	278-1501	$799.99
Spare Competition Field Wall Gusset	275-1182	$9.99
Spare Competition Field Corner Gusset	275-1183	$9.99
Spare Competition Field Hardware	275-1185	$9.99
Spare Competition Field Lexan	275-1202	$15.00
Spare Competition Field Control Post	275-1208	$34.99
Spare Competition Field Side Panel	276-3295	$49.99
Field Perimeter Rubber Foot (20-pack)	276-5156	$19.99

Competition Field Tile Kit

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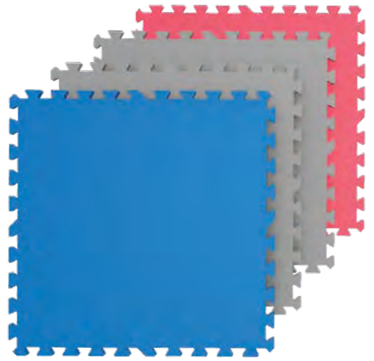


Images not to scale.

Comes with enough 2' x 2' interlocking foam tiles to fill one standard sized VEX Robotics Competition field.

-(36) Grey
-(2) Red
-(2) Blue

Competition Field Tile Kit	278-1502	$229.99

VEX Competition Field Monitor Stand

QUICK SHOP

Images not to scale.

This bracket allows you to mount an LCD monitor onto the VEX field perimeter, either on a corner or at the center of a wall panel.

Competition Field Monitor Stand	276-1572	$39.99

Competition Field Corner Bracket (4-pack)

QUICK SHOP

Images not to scale.

Replacements for the bottom gusset that joins the corners of the Competition Field Perimeter.

Competition Field Corner Bracket (4-pack)	276-4604	$39.99

VEXnet Field Controller Kit

QUICK SHOP

Images not to scale.

A full set of controllers and cables for use with the VEXnet system and/or the VEX EDR 75MHz Crystal Radios to enable consistent and fair competition match timing.

VEXnet Field Controller Kit	275-1401	$149.99

VEXnet Competition Switch

QUICK SHOP

Images not to scale.

Enable/disable up to four VEXnet robots. This switch also has the ability to toggle between autonomous & operator control mode. Use this kit to simulate a VEX EDR field controller for match practice!

-1 four-way competition switch

VEXnet Competition Switch	276-2335	$19.99

VRC License Plate Kit

QUICK SHOP

Images not to scale.

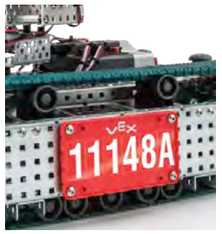
License plates and identification numbers for teams competing in the VEX Robotics Competition.

-Red & blue colors serve as alliance indicators as well as ID plates
-Attaches using standard VEX EDR screws and nuts or VEX IQ pins
-Plates come blank and are fully customizable

VRC License Plate Kit	276-3938	$4.99

License Plate Alphabet Sticker Sheet

QUICK SHOP



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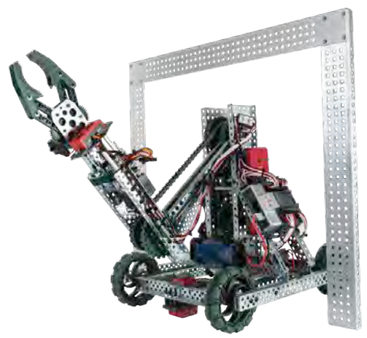
Spare License Plate Alphabet sticker sheet.

-Additional letter sheet for VEX U
-Can be used to create custom messages
-Comes with one sticker sheet per order

License Plate Alphabet Sticker Sheet	276-3937	$1.99

On Field Robot Sizing Tool

QUICK SHOP



Images not to scale.

Designed to quickly determine if a VEX Robotics Competition Robot fits into the 18" maximum sizing dimension. This sizing bracket does not require the robot to be sitting on a baseplate, and can be used to measure a robot on any surface.

On Field Robot Sizing Tool	276-2086	$39.99

3 Reasons to Start a Robotics Competition Team

Robotics competition teams provide many of the benefits common in other extracurricular activities: social development, improving self-esteem, helping bolster a college application, giving kids a sense of belonging. In addition, they teach core life skills while inspiring students to pursue STEM careers and become the leaders and problem solvers of tomorrow. Here are a few compelling reasons to start a VEX Robotics Competition team.

Prepare for the Real World

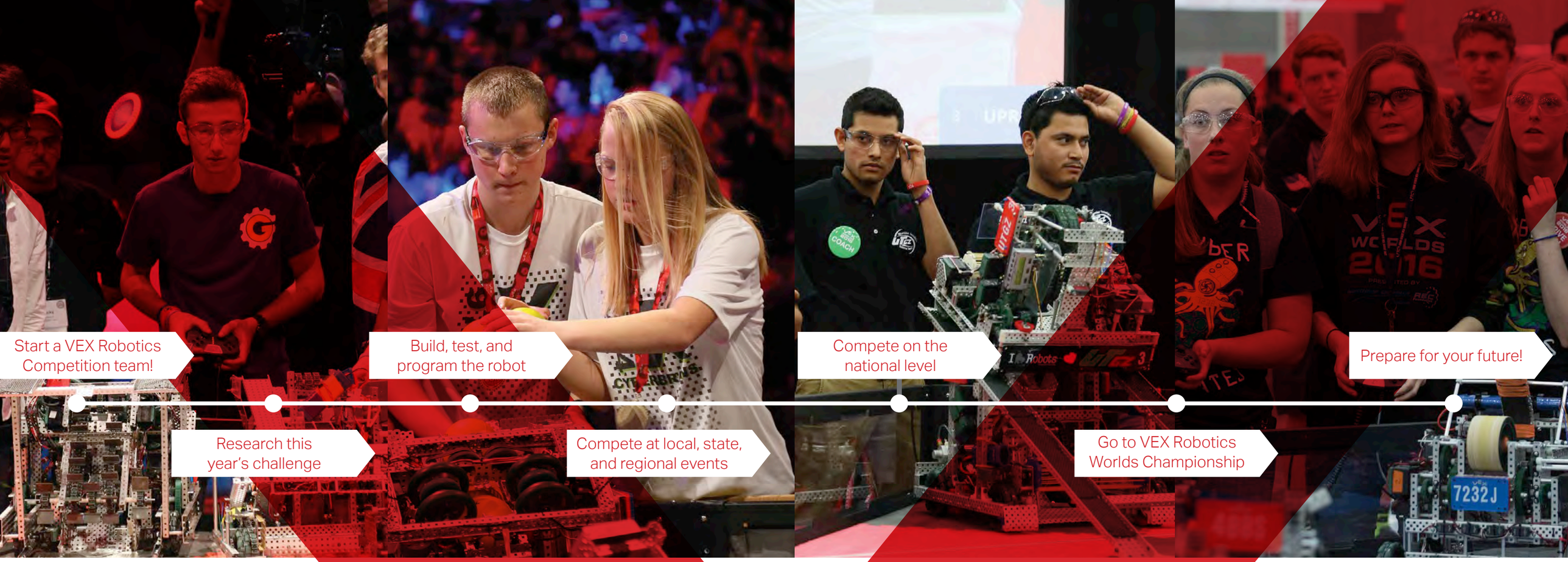
In VEX Robotics events, students must work as a team to design, build, and program their own robot. Not only are they responsible for all aspects of planning and preparing for the competition, if a robot breaks or malfunctions while competing, students must think on their feet and work together to come up with a solution. This teaches what it's like to work as a team to creatively solve problems under the pressure of a deadline.

Foster Learning at all Levels

If you've been part of a robotics competition team, you know that they're anything but dull. Competitions immerse students in dynamic teamwork, creative challenges, technical problems, project planning, time management, and more. As teams work to apply the engineering process to real-world problems, they must figure out how to work within the parameters given, and also figure out how to be as creative as possible. This adds up to a lot of STEM learning as students plan, iterate, prototype, design, and redesign their robots.

Fun for Everyone

While building and programming your robot may be the team's focus, there's a lot more involved. Just like any company, the team needs people who can design logos, create team merchandise, help with fundraising, track spending, coordinate and manage logistics, and additional tasks that aren't directly related to engineering. This is a great way for kids to see how their skills can add value in a STEM-related field.



The VEX Robotics Competition, presented by the Robotics Education & Competition Foundation, is the largest and fastest growing educational robotics competition for middle school through college-aged students in the world.

Each year, an exciting engineering challenge is presented in the form of a game. Students, with guidance from their teachers and mentors, build innovative robots and compete year-round in a variety of matches.

VEX ROBOTICS COMPETITION

The VEX Robotics World Championship is a gathering of top robotics teams from around the world to celebrate their accomplishments and compete with and against the best of the best.

The event features top teams from over 1,300 VEX Robotics tournaments happening in cities around the world from June through March each year. Visit VEX Robotics World Championship event pages for each division to get up to date on all the information needed to prepare for the event.

VEX ROBOTICS WORLD CHAMPIONSHIP

Merchandise Store

The VEX Merchandise Store is the one and only place to purchase VEX-branded apparel and accessories online. With more than 200 unique products already available, there is sure to be something for everyone!

Be sure to check back often, as new products are added all the time!

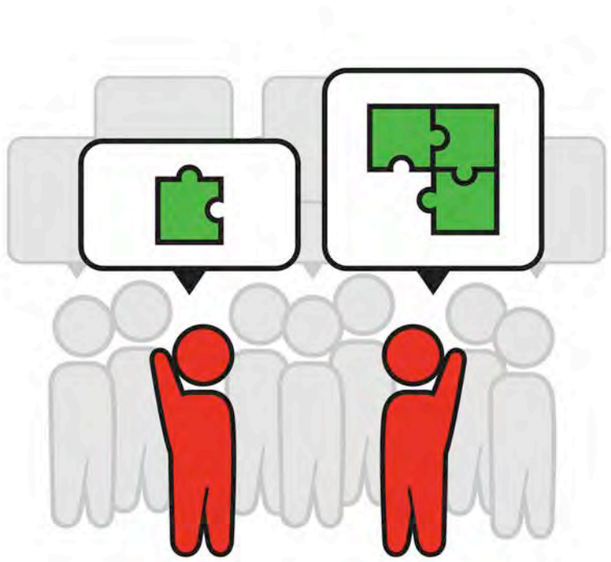
vexrobotics.com/merchandise

Questions?

We've got answers!

The VEX Forum is the go-to place for any VEX related question. Have a question about a specific game rule or situation? Ask it in the Official Q&A channel! Or, if you're having problems with your code or a specific part, post your question in a Technical Support channel for nearly instantaneous help from VEX staff or the rest of the community. Feel free to share your creations with us and the rest of the community in the Robot Showcase channel, or on VEX Social Media!

vexforum.com



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