WHY VEX IQ?

We envision a world where every student is inspired by hands-on STEM learning. Students of all ages and backgrounds can recognize that creative problem solving is fun, and helps shape a better future.

VEX IQ provides these opportunities by packaging advanced concepts into an accessible, scalable package. The VEX IQ system naturally encourages teamwork, problem solving, and leadership for students and teachers!
Contents

Kits and Bundles .......................................................... 3
Programming ............................................................... 7
Electronics ................................................................. 11
Motion ......................................................................... 17
Structure ................................................................. 23
Classroom Tools ......................................................... 31
Competition Products ............................................... 33
Kits & Bundles

Build 21\textsuperscript{st} Century Skills

VEX IQ is a complete educational robotics solution designed to transform STEM learning. When students build, program, and control their own robots, they unlock a lifelong curiosity and passion for STEM. Our seamless snap-together system, integrated programming software, and teacher training tools will \textit{spark} innovation in the classroom.
Bring students’ creativity to life through robotics!

Super Kit

This kit provides everything needed for exciting hands-on learning and creative problem solving. Custom training tools allow students to learn about the engineering design process, mechanical principles, and computer science.

- 850+ pieces, includes Robot Brain, Controller, and Sensors.
- Designed for 2-3 students
- Scalable programming software included

Super Kit  228-2500  $329.99

To learn more about the Super Kit, visit vexiq.com, or scan the quick shop QR code to be taken directly to the product overview page.
Implement a full-scale STEM solution into the classroom

Classroom Bundle

Everything needed to successfully implement a hands-on STEM learning classroom experience. Establish students’ confidence in creative problem solving by providing the tools to build, drive and program robots in the classroom, after-school club, or summer STEM camp.

- (12) Super Kits - 10,000+ pieces
- Designed for 24-36 students
- Scalable programming software included

Classroom Bundle 228-4000 $3,849.99

3D Printing

3D printing technology is used to prototype, test, refine, and iterate products before they are released. This technology allows computer models to be quickly turned into real world prototypes.
Ignite a passion for problem solving with these expansion packs

**Foundation Add-On Kit**

Images not to scale.

Are you ready to teach more complex engineering principles and intricate robotics mechanisms? Elevate your students’ creative problem solving solutions with additional VEX IQ components.

- Contains 1,000+ pieces
- Storage bin with tray included for easy organization

**Competition Add-On Kit**

Images not to scale.

Ready to put your students’ robotics experience to the test? This kit is perfect for any VEX IQ Challenge team! Gain a competitive edge with advanced motion components.

- Omni-Directional Wheels allow for complex drivetrains
- Chain & Sprocket Kit for more elaborate mechanisms
- 8+ feet of tank tread and chain for intake mechanisms or drivetrains

**CAD**

Computer Aided Design (CAD) can be extremely helpful for teams to mock up their robot before the physical building begins. We are happy to offer teams the official CAD library of VEX IQ solid models online.

**Kits & Bundles**

228-2531  $79.99

228-3600  $99.99
Learning to Code has Never Been Easier

Hands-on robotics activities directly involve students in the learning process and allows them to take ownership of their creations. Through programming a VEX IQ robot, students will boost their computer science and computational thinking skills as they become better problem solvers.

```
forever

while (touchLEDValue(touchLED) > 50) {
  setLedState(touchLED, "red");
  setClawMotorOnAt(0, ClawMotor);  // Make sure the claw motor is on at 0 degrees
  setGyro(0, gyroSensor);          // Set the gyro to 0 degrees
  while (getGyroDegree(gyroSensor) < 180) {  // Slowly turn the robot's rotation
    setMotor([-2, 2, 2]);               // Turn the left and right motors
    forward(5);                        // Move forward
  }
}
```
VEX Coding Studio is a simple, intuitive programming environment that enables students’ coding skills to evolve with practice. Our coding resources will walk you through the process of programming with Modkit blocks, transition you to Modkit text, and pave the way to professional languages such as C++.

- Compatible with PC, Mac, Chromebook, iPad and Android Tablets

**ROBOTC and Modkit for VEX**

ROBOTC for VEX allows users to program their robots using an intuitive graphical drag and drop programming interface or text-based ROBOTC programming language.

**Robot Virtual Worlds**

Up your game with Robot Virtual Worlds. This program enables students to quickly enhance their problem solving and programming skills virtually.

**Annual Licenses**
- Robot Virtual Worlds (1-seat) 210-5503 $49.99
- Robot Virtual Worlds Team License (6-seat) 210-5505 $149.99
- Robot Virtual Worlds Classroom License (6-seat) 210-5507 $299.99

**Non-Expiring Licenses**
- Robot Virtual Worlds (1-seat) 210-5504 $79.99
- Robot Virtual Worlds Team License (6-seat) 210-5506 $299.99
- Robot Virtual Worlds Classroom License (6-seat) 210-5508 $599.99

**Site Licenses**
- Robot Virtual Worlds Annual (One-Classroom) 210-5509 $599.99
- Robot Virtual Worlds Annual (Unlimited Use) 210-5510 $999.99

**Homework Packs**
- Robot Virtual Worlds (180-day) 210-5511 $8.99
- Robot Virtual Worlds (365-day) 210-5512 $14.99

Modkit for VEX is a graphical programming environment, developed specifically for VEX IQ. Snap-together blocks makes programming truly accessible and fun for all ages and skill levels.
Spark creativity in the classroom with educational STEM Labs!

Our STEM Labs were designed by a team of teachers, cognitive scientists, and pedagogy experts who worked closely with the world-renowned Carnegie Mellon Robotics Academy on educational robotics and computer science.

Mapped to educational standards, each STEM Lab is designed to transform the learning experience for students and teachers with fun and engaging activities. STEM Labs allow students to test and apply their knowledge along the way, while understanding the real-world relevance of what they are learning.

Each STEM Lab includes:

- Structured lessons
- Teacher materials for easy implementation
- Seamless integration from elementary through high school
STEM Labs *spark* critical thinking in the classroom through these guiding principles

**SEEK**
Discover new hands-on builds and programming opportunities to further students’ understanding of a subject matter.

**PLAY**
Test a build, observe how it functions, and fuel logic and reasoning skills through imaginative, creative learning.

**APPLY**
Become a 21st century problem solver by applying the core skills and concepts you learned to other problems.

**RETHINK**
Is there a more efficient way to come to the same conclusion? Consider how your solutions could apply to different problems.

**KNOW**
Fuel students’ motivation to learn by preparing them for their next challenge!
The Robot Brain features 12 Smart Ports to build robots with numerous motors, wheels and more mechanisms. The pre-programmed Driver Control and Autopilot modes have your robot moving right away, and you can create and run your own custom programs.

- Built in programs make robot building fast, fun, and rewarding
- Programmable with Modkit for VEX or ROBOTC

Robot Brain
228-2540 $99.99

Images not to scale.

Pair the Controller with a Robot Brain to drive your robot in a matter of seconds.

- Over 50 hours of battery life on a single charge
- Controller, Battery, and Radio each sold separately

Controller
228-2530 $39.99
The Bumper Switch gives your robot the sense of touch.
- Low force switch can detect light touch
- Use to detect walls or limit an arm’s motion

Bumper Switch 228-2677 $4.99

The Gyro Sensor measures turn rate and continuously calculates direction.
- Measures rotation rate up to 500 degrees per second
- Measures angles up to 3,000 times per second

Gyro Sensor 228-3014 $24.99

The Distance Sensor uses ultrasonic sound waves to measure distance.
- Measures distance from 50mm to 1m
- Continuously measures distance to minimize delays during robot operation

Distance Sensor 228-3011 $24.99

The Color Sensor detects the color of objects.
- Measures color hue
- Measures independent Red, Green, and Blue in 256 levels each
- Measures ambient light level

Color Sensor 228-3012 $24.99

The Touch LED outputs color and inputs touch. This is useful for student interaction when coding the robot.
- Smart sensor with internal processor and Red, Green, Blue LEDs
- Glows in up to 16 million color variations
- Constant on, off, or blink at any desired rate
- Touch sensor for student interaction with robot and software

Touch LED 228-3010 $9.99

The Smart Motor does more than just make your wheels spin or arm move. The built in processor, quadrature encoder, and current monitor allow for advanced control and feedback through the Robot Brain.
- Command speed, direction, time, revolutions, and degrees
- Mounts directly to your VEX IQ robot
- Command motors up to 3,000 times/second
- Encoder resolution is 0.375 degrees

Smart Motor 228-2560 $19.99
The Smart Radio expands the potential of the VEX IQ Robot Brain and Controller by enabling wireless communication with smartphones, tablets and computers using Bluetooth® 4.0+ connections.

**Smart Radio**
- SKU: 228-3530
- Price: $12.99

Images not to scale.

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Rechargeable battery for the VEX IQ Robot Brain.
- Nickel Metal Hydride technology (NiMH)
- 7.2V
- 2000 mAh

**Robot Battery**
- SKU: 228-2604
- Price: $19.99

Images not to scale.

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Rechargeable battery for the VEX IQ Controller.
- Lithium Ion technology
- 3.7V
- 800 mAh

**Controller Battery**
- SKU: 228-2779
- Price: $9.99

Images not to scale.

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The Robot Battery Charger quickly recharges your Robot Battery.
- Recharges in 2-3 hours
- Convenient desktop cradle design
- Built-in international voltage and frequency compatible circuits

**Robot Battery Charger**
- SKU: 228-2743
- Price: $16.99

**Battery Charger Power Cord - North America (Type A)**
- SKU: 276-2520
- Price: $1.99

Images not to scale.
Smart Motor Mount Add-On Pack

These plastic caps slide onto the back of any VEX IQ Smart Motor. Use the Single Motor Support Cap’s second set of mounting holes to attach your motors in new ways, or use the Dual Motor Support Mount to attach two Smart Motors back-to-back.

Smart Motor Add-On Pack 228-4034 $4.99

Tether Cable

The Tether Cable connects the Robot Brain to the Controller.

- Charges the Controller from the robot
- Allows the Controller to be re-calibrated via the Robot Brain’s LCD
- Allows firmware updates to the Controller from a Computer

Tether Cable 228-2786 $4.99

USB Cable

Standard USB micro to USB type A cable.

- Connects the Robot Brain to a computer for programming
- Connects the Controller to a USB port for adapter or charger, charging the Controller Battery

USB Cable 228-2785 $4.99

Smart Cable (6-pack)

<table>
<thead>
<tr>
<th>Length</th>
<th>Quantity</th>
<th>Part Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>200mm</td>
<td>2</td>
<td>228-2780</td>
<td>$9.99</td>
</tr>
<tr>
<td>300mm</td>
<td>2</td>
<td>228-4037</td>
<td>$9.99</td>
</tr>
<tr>
<td>400mm</td>
<td>2</td>
<td>228-4038</td>
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</tr>
<tr>
<td>600mm</td>
<td>1</td>
<td>228-4039</td>
<td>$9.99</td>
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</table>

Smart Cable (4-pack)

<table>
<thead>
<tr>
<th>Length</th>
<th>Quantity</th>
<th>Part Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>800mm</td>
<td>4</td>
<td>228-2781</td>
<td>$19.99</td>
</tr>
</tbody>
</table>

200mm Smart Cable (4-pack) 228-4423 $4.99

Long Smart Cable (8-pack)

An assortment pack of (8) Long Smart Cables for VEX IQ Smart Motors and Sensors. Includes all parts listed.

Long Smart Cable (9-pack) 228-4422 $19.99

<table>
<thead>
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<th>Length</th>
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<th>Price</th>
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</thead>
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<td>228-2782</td>
<td>$4.99</td>
</tr>
<tr>
<td>1.0m</td>
<td>1</td>
<td>228-4036</td>
<td>$4.99</td>
</tr>
<tr>
<td>1.2m</td>
<td>1</td>
<td>228-4035</td>
<td>$4.99</td>
</tr>
<tr>
<td>1.4m</td>
<td>1</td>
<td>228-4034</td>
<td>$4.99</td>
</tr>
<tr>
<td>1.6m</td>
<td>1</td>
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<td>$4.99</td>
</tr>
<tr>
<td>2.0m</td>
<td>1</td>
<td>228-4032</td>
<td>$4.99</td>
</tr>
</tbody>
</table>

Images not to scale.

Images not to scale.

Images not to scale.

Images not to scale.

Images not to scale.
To learn more about colored parts, visit vexiq.com, or scan the QR code to be taken directly to the color overview page.

All prices shown are in US Dollars and valid for US customers only. International pricing and availability varies by location.
Construct your robot with these vibrant colors!

VEX IQ motion and structure elements come in a variety of colors!

In this catalog, this symbol is used to represent what items are available in additional colors. The base color for each product is shown for all items. Prices vary for additional colors.
Use the Basic Motion Accessory Pack to create rotary mechanisms for your robot. This pack is included in all VEX IQ Starter and Super Kits.

**Basic Motion Accessory Pack**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>Washer (20)</td>
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<td>$3.99</td>
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<tr>
<td>0.5x Pitch Spacer (25)</td>
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<td></td>
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<tr>
<td>Shaft Bushing (4)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2x2 Lock Plate (4)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1x3 Center Lock Plate (4)</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Mix and match gears to find the perfect speed and output for your robot. The Gear Base Pack features an assortment of tooth counts and sizes and is included in all VEX IQ Starter Kits and Super Kits.

**Gear Base Pack**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Tooth Gear (10)</td>
<td>1</td>
<td>$5.99</td>
</tr>
<tr>
<td>36 Tooth Gear (10)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>60 Tooth Gear (6)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>36 Tooth Crown Gear (2)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Make your robot move in all directions. This useful kit contains rack gears, worm gears and linear slider brackets, and VEX IQ gears in assorted tooth counts and sizes.

**Gear Add-On Kit**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>36 Tooth Crown Gear (4)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Linear Slide Bracket (4)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>12 Tooth Gear (10)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>36 Tooth Gear (10)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Worm Bracket (6)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>60 Tooth Gear (6)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Worm Gear (2)</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Rack Gear (8)</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>
Use this pack to transfer motion 90-degrees “around corners” using bevel gears, or add a differential to your drivetrain. Includes structural elements to enable your build!

24 & 48 Tooth Gear Pack

- 48-Tooth Gears (10)
- 24-Tooth Gears (10)
- 0x2 Idler Pins (8)
- 1x2 Idler Pins (8)

Differential & Bevel Gear Pack

Use this pack to transfer motion 90-degrees “around corners” using bevel gears, or add a differential to your drivetrain. Includes structural elements to enable your build!

- Double 2x Wide, 2x2 Double Offset Corner Connectors (8)
- 0x2 Idler Pins (9)
- 1x2 Idler Pins (9)
- Differential Gears (2)
- 18-Tooth Bevel Gears (20)

Planetary Gear & XL Turntable Pack

The Planetary Gear & XL Turntable pack provides two options for low friction, high load rotational joints. These are especially well suited for rotational joints with lots of side load - this kit makes it easy to build a turret on your robot!

- 0x2 Idler Pins (20)
- 0x3 Idler Pins (10)
- 1x2 Idler Pins (1)
- Washer (20)
- 3x3 Plus Gusset Beams (6)
- XL Turntable Outer Housing (12)
- XL Turntable Plain Bushings (4)
- XL Turntable 36 Tooth Ring Gear Bushings (4)
- 12 Tooth Gears (20)

Differential & Bevel Gear Pack

- 228-4418 $9.99

Double 2x Wide, 2x2 Double Offset Corner Connectors (8)
- 0x2 Idler Pins (9)
- 1x2 Idler Pins (9)
- Differential Gears (2)
- 18-Tooth Bevel Gears (20)

Turntable Base Pack

Images not to scale.

Includes 24 & 48 tooth spur gears to allow for additional gear ratio options not found in the VEX IQ Starter & Super Kits. One great application of this pack is the ability to create compact gearboxes by placing your motors side by side!

24 & 48 Tooth Gear Pack

- 228-4127 $5.99

- 24-Tooth Gears (10)
- 0x2 Idler Pins (8)
- 1x2 Idler Pins (8)

Turntable Base Pack

Images not to scale.

- 228-3507 $4.99

- Large Thrust Bearing Housing (4)
- Thrust Bearing Housing (6)
- Large Thrust Bearing Smooth Bushing (2)
- Thrust Bearing Smooth Bushing (3)

Planetary Gear & XL Turntable Pack

Images not to scale.

- 228-5655 $9.99

- 0x2 Idler Pins (20)
- 0x3 Idler Pins (10)
- 1x2 Idler Pins (1)
- Washer (20)
- 3x3 Plus Gusset Beams (6)
- XL Turntable Outer Housing (12)
- XL Turntable Plain Bushings (4)
- XL Turntable 36 Tooth Ring Gear Bushings (4)
- 12 Tooth Gears (20)
Four different sized tire diameters and two different sized wheel hubs. The number printed on the tire is the distance traveled per revolution.

Wheel Add-On Kit

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Large Wheel Hub</td>
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</tr>
<tr>
<td>Small Wheel Hub</td>
<td>6</td>
<td>$19.99</td>
</tr>
<tr>
<td>250mm Travel Rubber Tire</td>
<td>4</td>
<td>$19.99</td>
</tr>
<tr>
<td>160mm Travel Rubber Tire</td>
<td>5</td>
<td>$19.99</td>
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<tr>
<td>100mm Travel Rubber Tire</td>
<td>6</td>
<td>$19.99</td>
</tr>
<tr>
<td>200mm Travel Rubber Tire</td>
<td>7</td>
<td>$19.99</td>
</tr>
<tr>
<td>20mm Diameter Pulleys</td>
<td>4</td>
<td>$19.99</td>
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</tbody>
</table>

Explore simple machines with the Pulley Base Pack. This pack contains pulleys of different sizes and assorted rubber belts and is included in all VEX IQ Starter & Super Kits.

Pulley Base Pack

<table>
<thead>
<tr>
<th>Pulley Base Pack</th>
<th>228-3508</th>
<th>$5.99</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire (100mm Travel)</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>10mm Pulley</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>30mm Pulley</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>50mm Rubber Belt</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>30mm Rubber Belt</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

This flexible U-joint accepts square drive shafts and can transfer motion between non-aligned shafts.

Universal Joint Pack

<table>
<thead>
<tr>
<th>Universal Joint Pack</th>
<th>228-4419</th>
<th>$4.99</th>
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</thead>
<tbody>
<tr>
<td>Universal Joints</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Double 1x Wide, 1x1 Corner Connectors</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Double 1x Wide, 2x1 Corner Connectors</td>
<td>8</td>
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</tr>
</tbody>
</table>

Use VEX IQ Shock Absorbers to load your mechanisms with spring energy. Each pack comes with Absorbers in two different strengths to adapt to your mechanism.

Shock Absorber Pack

<table>
<thead>
<tr>
<th>Shock Absorber Pack</th>
<th>228-5654</th>
<th>$9.99</th>
</tr>
</thead>
<tbody>
<tr>
<td>2x Pitch Strong Shock Absorber</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>2x Pitch Weak Shock Absorber</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>
The Wheel Base Pack contains plastic hubs and rubber tires and is included in all VEX IQ Starter and Super Kits.

Wheel Base Pack 228-3505 $10.99
- 44mm Wheel Hub (4)
- 200mm Rubber Tire (4)

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.

200mm Travel Omni Wheel (2-pack) 228-2536 $9.99

Use chains and sprockets for additional reductions and to drive mechanisms across longer distances.

Chain & Sprocket Kit 228-2534 $19.99
- Chain Link (200 links)
- 32 Tooth Sprocket (4)
- 16 Tooth Sprocket (8)
- 24 Tooth Sprocket (4)
- 40 Tooth Sprocket (4)
- 8 Tooth Sprocket (8)

The Tank Tread & Intake Kit can be used to easily drive over or scoop up objects. Use this kit to create intake mechanisms, tank tread drivetrains and more!

Tank Tread & Intake Kit 228-2878 $24.99
- Tread / Attachment Link (200 links)
- 24 Tooth Sprocket (4)
- Traction Link (40 links)
- Short Intake Flap (20 flaps)
- Medium Intake Flap (20 flaps)
- Long Intake Flap (20 flaps)
The Plastic Shaft Base Pack contains various length shafts great for different pitches your design may require. It is included in all VEX IQ Starter and Super Kits.

<table>
<thead>
<tr>
<th>Plastic Shaft Base Pack</th>
<th>228-3620 $7.99</th>
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<tbody>
<tr>
<td>1 4x Pitch Plastic Motor Shaft (2)</td>
<td>8 5x Pitch Plastic Capped Shaft (2)</td>
</tr>
<tr>
<td>2 3x Pitch Plastic Motor Shaft (4)</td>
<td>9 4x Pitch Plastic Capped Shaft (2)</td>
</tr>
<tr>
<td>3 2x Pitch Plastic Motor Shaft (2)</td>
<td>10 3x Pitch Plastic Capped Shaft (4)</td>
</tr>
<tr>
<td>4 5x Pitch Plastic Shaft (2)</td>
<td>11 2x Pitch Plastic Capped Shaft (2)</td>
</tr>
<tr>
<td>5 4x Pitch Plastic Shaft (2)</td>
<td>12 0x2 Idler Pin (6)</td>
</tr>
<tr>
<td>6 3x Pitch Plastic Shaft (2)</td>
<td>13 1x1 Idler Pin (6)</td>
</tr>
</tbody>
</table>

The Rubber Shaft Collars slide onto VEX 0.125” shafts. Friction between the rubber collar and steel shaft keeps wheels and gears from sliding in place during assembly and operation.

<table>
<thead>
<tr>
<th>Rubber Shaft Collar (30-pack)</th>
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<tbody>
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<td>1 4x Pitch Shaft (2)</td>
<td>8 5x Pitch Plastic Capped Shaft (2)</td>
</tr>
<tr>
<td>2 6x Pitch Shaft (4)</td>
<td>9 4x Pitch Plastic Capped Shaft (2)</td>
</tr>
<tr>
<td>3 8x Pitch Shaft (2)</td>
<td>10 3x Pitch Plastic Capped Shaft (4)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Rubber Bands</th>
<th>276-3990 $2.99</th>
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<tbody>
<tr>
<td>1 Rubber Band #64 (10-pack)</td>
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</tr>
<tr>
<td>2 Rubber Band #32 (20-pack)</td>
<td>275-1089 $1.49</td>
</tr>
</tbody>
</table>
This pack contains an assortment of (14) “long length” shafts to enable construction of even larger VEX IQ robots. Transfer motion over long distances with ease.

**Long Shaft Add-On Pack**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9x Pitch Shaft</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>10x Pitch Shaft</td>
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<tr>
<td>3</td>
<td>11x Pitch Shaft</td>
<td>4</td>
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<tr>
<td>4</td>
<td>12x Pitch Shaft</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>14x Pitch Shaft</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>16x Pitch Shaft</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>18x Pitch Shaft</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>20x Pitch Shaft</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>22x Pitch Shaft</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>24x Pitch Shaft</td>
<td>2</td>
</tr>
</tbody>
</table>

**Shaft Add-On Kit**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2x Pitch Shaft</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>4x Pitch Shaft</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>6x Pitch Shaft</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>8x Pitch Shaft</td>
<td>4</td>
</tr>
</tbody>
</table>

Follow @VEXRobotics on Instagram!
The 1x Beam Base Pack contains various beam lengths and is included in all VEX IQ Starter and Super Kits.

The 1x Beam Odd Length Pack contains additional “odd number” length beams for use in building robot structure.

### 1x Beam Base Pack
- **1x Beam Base Pack**
- 228-3503 $4.99
- 1. 1x3 Beam (2)
- 2. 1x4 Beam (6)
- 3. 1x6 Beam (6)
- 4. 1x8 Beam (8)
- 5. 1x10 Beam (6)
- 6. 1x12 Beam (4)

### 1x Beam Odd Length Pack
- **1x Beam Odd Length Pack**
- 228-4412 $4.99
- 1. 1x3 Beam (8)
- 2. 1x5 Beam (6)
- 3. 1x7 Beam (8)
- 4. 1x9 Beam (8)
- 5. 1x11 Beam (6)
- 6. 1x13 Beam (6)
1x Beam Foundation Add-On Pack

The 1x Beam Foundation Add-On Pack includes additional 1x beams, great for adding structural support to VEX IQ robots.

<table>
<thead>
<tr>
<th>1x Beam Foundation Add-On Pack</th>
<th>228-3519</th>
<th>$3.99</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1x3 Beam (2)</td>
<td>4 1x8 Beam (4)</td>
<td></td>
</tr>
<tr>
<td>2 1x4 Beam (4)</td>
<td>5 1x10 Beam (4)</td>
<td></td>
</tr>
<tr>
<td>3 1x6 Beam (4)</td>
<td>6 1x12 Beam (4)</td>
<td></td>
</tr>
</tbody>
</table>

1x Beam Long Pack

The 1x Beam Long Pack contains additional long length beams for use in building robot structure and linkages.

<table>
<thead>
<tr>
<th>1x Beam Long Pack</th>
<th>228-4416</th>
<th>$7.99</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1x14 Beam (6)</td>
<td>3 1x18 Beam (6)</td>
<td></td>
</tr>
<tr>
<td>2 1x16 Beam (8)</td>
<td>4 1x20 Beam (8)</td>
<td></td>
</tr>
</tbody>
</table>

1x2 Beam (20-pack)

This kit includes (20) 1x2 length beams each with center holes.

| 1x2 Beam (20-pack) | 228-4414 | $4.99 |
### 2x Beam Base Pack

The 2x Beam Base Pack contains various length beams and is included in all VEX IQ Starter and Super Kits.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2x2 Beam (4)</td>
</tr>
<tr>
<td>2</td>
<td>2x4 Beam (6)</td>
</tr>
<tr>
<td>3</td>
<td>2x6 Beam (6)</td>
</tr>
<tr>
<td>4</td>
<td>2x8 Beam (6)</td>
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<tr>
<td>5</td>
<td>2x10 Beam (4)</td>
</tr>
<tr>
<td>6</td>
<td>2x12 Beam (6)</td>
</tr>
<tr>
<td>7</td>
<td>2x16 Beam (4)</td>
</tr>
<tr>
<td>8</td>
<td>2x20 Beam (2)</td>
</tr>
</tbody>
</table>

**Part Number:** 228-3509  **Price:** $9.99

### 2x Beam Foundation Add-On Pack

The 2x Beam Foundation Add-On Pack includes additional 2x beams of various lengths. Includes all parts listed.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2x2 Beam (4)</td>
</tr>
<tr>
<td>2</td>
<td>2x4 Beam (4)</td>
</tr>
<tr>
<td>3</td>
<td>2x6 Beam (2)</td>
</tr>
<tr>
<td>4</td>
<td>2x8 Beam (2)</td>
</tr>
<tr>
<td>5</td>
<td>2x10 Beam (2)</td>
</tr>
<tr>
<td>6</td>
<td>2x12 Beam (2)</td>
</tr>
<tr>
<td>7</td>
<td>2x16 Beam (4)</td>
</tr>
<tr>
<td>8</td>
<td>2x20 Beam (2)</td>
</tr>
</tbody>
</table>

**Part Number:** 228-3518  **Price:** $5.99
The 2x Beam Odd Length Pack contains additional "odd number" length beams. One great application for this pack is to make your robot more structurally sound by creating right triangles!

The 2x Beam Long Pack contains additional long length beams for use in building robot structure and linkages. Use these to make your robot reach higher or further!
The 4x Plate Base Pack is included in all VEX IQ Starter and Super Kits. 

<table>
<thead>
<tr>
<th>4x Plate Base Pack</th>
<th>228-3504</th>
<th>$4.99</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4x4 Plate (4)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4x12 Plate (2)</td>
<td></td>
</tr>
</tbody>
</table>

The 4x Plate Foundation Add-On Pack includes additional 4x plates, great for adding structural support to VEX IQ robots.

<table>
<thead>
<tr>
<th>4x Plate Foundation Add-On Pack</th>
<th>228-3515</th>
<th>$5.99</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4x6 Plate (4)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4x8 Plate (4)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4x12 Plate (2)</td>
<td></td>
</tr>
</tbody>
</table>

Larger structural plates are useful for robot bases or construction of large scale projects.

<table>
<thead>
<tr>
<th>Large Plate Add-On Pack</th>
<th>228-4415</th>
<th>$7.99</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6x12 Plate (2)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>12x12 Plate (2)</td>
<td></td>
</tr>
</tbody>
</table>
The Corner Connector Base Pack contains an assortment of 84 offset and chassis corner connectors and is included in all VEX IQ Starter and Super Kits.

The Corner Connector Foundation Add-On Pack contains an assortment of 54 corner connectors, useful for creating rigid connections in any VEX IQ application.

The Corner Connector Advanced Add-On Pack contains an assortment of 172 corner connectors, useful for creating rigid connections in many VEX IQ applications.

Corner Connector Base Pack

1. 2x Wide, 2x1 Offset Corner Connector (4)
2. 2x Wide, 2x2 Offset Corner Connector (4)
3. 2x Wide, 3x2 Corner Connectors (12)
4. Double 2x Wide, 2x2 Corner Connectors (8)
5. Double 2x Wide, 1x2 Corner Connectors (16)
6. Double 2x Wide, 1x2 Offset Corner Connectors (12)
7. 1x Wide, 1x2 Corner Connectors (16)
8. Triple 1x Wide, 1x1 Corner Connectors (16)
9. Triple 1-2-1x Wide, 1x2 Corner Connectors (16)
10. Triple 2x Wide, 2x2 Corner Connectors (12)
11. 1x2 Left Chassis Corner Connectors (16)
12. 1x2 Right Chassis Corner Connectors (16)

Corner Connector Foundation Add-On Pack

1. Large Chassis Corner Connector (6)
2. 2x Wide, 1x2 Offset Corner Connector (12)
3. 2x Wide, 2x2 Corner Connector (10)
4. 2x Wide, 2x1 Corner Connector (6)
5. 2x Wide, 1x1 Offset Corner Connector (6)
6. 2x Wide, 2x1 Offset Corner Connector (4)
7. 2x Wide, 1x2 Corner Connector (6)
8. Worm Bracket (4)

Corner Connector Advanced Add-On Pack

1. 1x Wide, 1x1 Corner Connectors (20)
2. 2x Wide, 2x2 Offset Corner Connectors (12)
3. 2x Wide, 3x2 Corner Connectors (12)
4. Double 2x Wide, 2x2 Corner Connectors (8)
5. Double 2x Wide, 1x2 Corner Connectors (16)
6. Double 2x Wide, 1x2 Offset Corner Connectors (12)
7. 1x Wide, 1x2 Corner Connectors (16)
8. Triple 1x Wide, 1x1 Corner Connectors (16)
9. Triple 1-2-1x Wide, 1x2 Corner Connectors (16)
10. Triple 2x Wide, 2x2 Corner Connectors (12)
11. 1x2 Left Chassis Corner Connectors (16)
12. 1x2 Right Chassis Corner Connectors (16)
The Standoff Foundation Add-On Pack contains additional standoffs to help create trusses and other stiff structures.

Standoff Foundation Add-On Pack

1. Straight Standoff Connector (12)
2. 1x Standoff (6)
3. Mini Standoff Connector (6)
4. 4x Standoff (2)
5. End Standoff Connector (4)
6. 0.5x Standoff (6)
7. 6x Standoff (2)

The Standoff Base Pack is included in all VEX IQ Starter and Super Kits.

Standoff Base Pack

1. 2x Standoff (14)
2. 1x Standoff (12)
3. Mini Standoff Connector (12)
4. 6x Standoff (6)
5. 0.5x Standoff (12)
6. 4x Standoff (6)
7. End Standoff Connector (6)

The Specialty Beam Base Pack contains uniquely shaped and angled beams, and is included in all VEX IQ Starter and Super Kits.

Specialty Beam Base Pack

1. 4x4 Right Angle Offset Beam (4)
2. 3x5 Right Angle Beam (4)
3. 3x4 Tee Beam (4)
4. 3x3 45 Degree Angle Beam (4)
5. Elastic Band Anchor Plate (2)
6. 2x3 Right Angle Beam (4)
7. 3x3 30 Degree Angle Beam (4)
8. 3x3 60 Degree Angle Beam (4)
### Magnetic Beam Pair

Use Magnetic Beams to teach students how magnets work by comparing how they interact with ferrous metals (or other Magnetic Beams) vs non-magnetic items. Attach them to VEX IQ robots to create new object manipulation tools.

- Contains one North and one South Pole
- Responds to any ferrous metal or standard magnet
- Color-coded for easy sorting

**Magnetic Beam Pair**  228-3167 $7.99

### Thin Sheet Attachment Pin Pack

Attaches a thin sheet (up to 0.25mm / 0.010” thick paper, cardstock, or plastic) to standard VEX IQ structure. Use a 6.35 mm / 0.25” hole punch to incorporate ramps, custom curves, or other personalized elements into your VEX IQ creations.

**Thin Sheet Attachment Pin Pack (50)**  228-4417 $4.99

### Connector Pin Pack

The Connector Pin Pack is included in all VEX IQ Starter and Super Kits.

- 1x1 Connector Pin (120)
- 1x2 Connector Pin (30)
- 2x2 Connector Pin (10)

**Connector Pin Pack**  228-3058 $9.99

Images not to scale.
Bring VEX IQ into the classroom with our 12 unit education guide and teacher supplement.

- Mapped to National Standards (STL, NGSS & Common Core)
- Lesson Plans include materials lists, time constraints & answer keys
- Designed for Elementary & Middle School Levels

Guide & Supplement
1 Education Guide Teacher's Supplement 228-4339 $9.99
2 Education Guide 228-3319 $9.99

VEX STEM Posters (4-pack)

Add some VEX-inspired art to your classroom with these fun and creative posters! Featuring iconic VEX IQ elements, these unique posters are the perfect complement to any robot lab or classroom.

- 19” x 27” (48.3cm x 68.6cm)
- Folds down to A4 paper size
- Matte finish with gloss highlights

VEX STEM Posters (4-pack) 276-5319 $4.99

Storage Bins & Trays

Convenient storage bins and trays for VEX IQ items.

- Bin dimensions: 21in x 13in x 6.5in
- Tray subdivides parts into 13 sections of varying size
- Bin also functions as the correct size for VEX EDR components

Storage Bin, Lid & Tray 228-3036 $29.99
Storage Tray 228-2930 $9.99
**VEX IQ Robotics Camp Handbook**

Images not to scale.

The VEX IQ Robotics Camp Handbook enables you to hold a robotics camp regardless of your experience level.

- For beginner to intermediate users
- Flexible one-, three-, and five-day camp options
- Instruction through open-ended challenges
- Options for both mechanical & programming focus

VEX IQ Robotics Camp Handbook 228-4411 $9.99

**VEX IQ User Guide, Build Instructions & Build Tips Poster**

Images not to scale.

These printed documents were all created to be learning tools for the VEX IQ system. Use these materials as guides for building your VEX IQ robots!

**Note:** All of these materials are included when you purchase a Starter Kit or Super Kit.

User Guide, Instructions, & Poster

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Control System User Guide</td>
</tr>
<tr>
<td>2</td>
<td>Clawbot IQ Build Instructions</td>
</tr>
<tr>
<td>3</td>
<td>Super Kit Contents &amp; Build Tips Poster</td>
</tr>
</tbody>
</table>

Clear easy-to-follow illustrations accompany examples

Step-by-step instructions with augmented online resources provided

Build tips and 1:1 scale parts enhance the experience

Teacher Resources 32
Trophies and award plates are available for Event Partners looking to add additional awards to their event or for schools and teams needing spare trophies for awards they have won.

**VEX IQ Challenge Trophies & Award Plates**
- **VEX IQ Challenge Large Trophy** 228-3143 $19.99
- **VEX IQ Challenge Small Trophy** 228-3171 $14.99
- **Award Plate “Excellence”** 228-3296 $1.99
- **Award Plate “Teamwork Champion”** 228-3178 $1.99
- **Award Plate “Teamwork Finalist”** 228-3179 $1.99
- **Award Plate “Robot Skills Champion”** 228-3181 $1.99
- **Award Plate “Robot Skills 2nd Place”** 228-3182 $1.99
- **Award Plate “Design”** 228-3297 $1.99
- **Award Plate “Energy”** 228-3185 $1.99
- **Award Plate “Sportsmanship”** 228-3186 $1.99
- **Award Plate “Judges”** 228-3187 $1.99
- **Award Plate “Build”** 228-3188 $1.99
- **Award Plate “Create”** 228-3189 $1.99
- **Award Plate “Think”** 228-3190 $1.99
- **Award Plate “Amaze”** 228-3191 $1.99
- **Award Plate “Innovate”** 228-3298 $1.99
- **Award Plate “STEM Research Project”** 228-3184 $1.99
- **Award Plate “Teacher of the Year”** 228-4057 $1.99
- **Award Plate “Mentor of the Year”** 228-4058 $1.99
- **Award Plate “Volunteer of the Year”** 228-3243 $1.99
- **Award Plate “Student Achievement”** 228-4059 $1.99

A set of 3-inch cubes that can be used as part of VEX IQ Challenge Highrise, to build a color-sorter, or disassembled and used on a robot. Includes all parts listed.

**Cube Kit**
- **Cube Kit** 228-4967 $29.99
- **Red Cubes (6)**
- **Blue Cubes (6)**
- **Green Cubes (6)**

Plates can be customized.

**VEX IQ Challenge Blank Team Number Plate**
- Blank Team Number Plate (1) 228-3193 $1.99
Use the VEX IQ Engineering Notebook to document the design, construction and iteration of a classroom or competitive robot.

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

The official VEX IQ Challenge Field Perimeter & Tile kits are available as a full field, half field, and individually! Practice on the same surface you will be competing upon! The field’s snap-together construction allows for easy assembly.

<table>
<thead>
<tr>
<th>VEX IQ Challenge Field Perimeter &amp; Tiles</th>
<th>228-2550</th>
<th>$199.99</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEX IQ Field Perimeter Wall</td>
<td>228-4833</td>
<td>$4.99</td>
</tr>
<tr>
<td>VEX IQ Field Corner Wall</td>
<td>228-4834</td>
<td>$4.99</td>
</tr>
<tr>
<td>VEX IQ Field Tile</td>
<td>228-4832</td>
<td>$9.99</td>
</tr>
<tr>
<td>VEX IQ Challenge Half Field Perimeter &amp; Tiles</td>
<td>228-3051</td>
<td>$99.99</td>
</tr>
</tbody>
</table>
The VEX IQ Challenge, presented by the Robotics Education & Competition Foundation, provides elementary and middle school students ages 8 through 14 with exciting, open-ended challenges that enhance their STEM skills through hands-on, student-centered learning.

The VEX IQ Challenge fosters student development of the 21st Century skills required to prepare them to become the next generation of problem solvers.

vexiq.com/competition
Compete on the national level

The possibilities are endless

Go to the VEX Robotics World Championship

The VEX Robotics World Championship is an annual gathering of the top robotics teams from around the world who come together to celebrate their accomplishments and compete with and against the best of the best!

Recognized by the Guinness Book of World Records as the World’s Largest Robotics Competition, VEX Worlds is a one-of-a-kind experience for over 1600 teams from 40+ countries as they compete to become the next World Champions.

vexworlds.com
10 Build Instructions are available online!

vexiq.com/explore
Only have a VEX IQ Starter or Super Kit? You're in luck - these fun robots can be built using the 850+ parts found in any of the VEX IQ Starter or Super Kits! They’re even designed to be controlled using the built-in Driver Control program; no code needed!

These robots may require additional parts or programming beyond a single Super Kit, but don’t worry - the helpful instructions and downloadable code will get you up and running in no time!
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phone 905-492-2099

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phone +852-2152-0727

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email auinfo@vexrobotics.com
phone +61 08 8326 5500

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