KIWIBOTS
NEW ZEALAND
http://kiwibots.co.nz

A STEM Education Revolution.

Robot Starter Kits & Bundles for your Classroom.

Complete robotics solutions.
Build your first robot today!

Key Features

Ready To Go

After following the simple step by step assembly guide that comes with the kit, your students will be able to drive their robot using the controller without needing to wait to program it. Once they are captivated they will start to program it to obey their commands.

Curriculum

There is a wealth of free curriculum material available and more is being added all the time. Topics include such topics as simple machines, gears and programming.

All this makes self directed learning possible.

Programmable

The VEX IQ platform gives students a reason and desire to program.

From graphical programming through Python to RobotC. VEX IQ has it all.

Team Building

The focus of the VEX IQ competition is to teach students to collaborate. Teams work together to maximise their scores in a match. A winner is determined at the end by the alliance that has the highest accumulated score. Students have to share to compete!

Extensive....

VEX IQ kits come packed with features

A Controller that lets your students drive their robots before they even start to program them.

A **Robot Brain** that has **12 input/output ports** into which you can plug any Smart Sensor or motor. You can have upto 12 motors on a robot.

Bluetooth radio option that lets you use your smartphone to control your creations.

Add on parts are available so your robots can grow as needed.

Simple, Flexible, Powerful.

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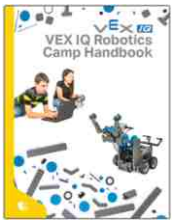
Curriculum

VEX IQ CURRICULUM

VEX have developed the VEX IQ Curriculum as a completely FREE companion to the VEX IQ platform for junior and middle school students. Aimed at years 3-9, the curriculum offers twelve flexible units of instruction that can be used in sequence, in chunks, or as standalone lessons. The project-based units instill proper engineering practices from an early age, while maintaining the fun and excitement that comes from playing with VEX IQ. Whatever your junior and middle school STEM education needs may be, the VEX IQ Curriculum is a learning tool that will excite and inspire your students.

Carnegie Mellon Robotics Academy

An Introduction to Programming VEX IQ curriculum is designed to provide concrete, contextualized lessons that seamlessly integrate grade level mathematics, programming and engineering activities for students. In the curriculum, students learn about robotics technologies and how they impact modern industries. The curriculum is designed to support both teachers brand new to the VEX IQ system as well as those with previous robotics experience. The programming sections of the curriculum use ROBOTC Graphical, the perfect language for beginners, and can be completed with real VEX IQ robots or simulated Robot Virtual Worlds robots.



The VEX IQ Robotics Camp Handbook complements the VEX IQ curriculum by enabling you to hold a robotics camp regardless of your experience level. This handbook gives educators, competition teams, and community volunteers the in-depth training materials and other resources they need to provide a great robotics experience for students of all ages. The Camp Handbook is available for purchase or as a free PDF download and includes sample programs written in both ROBOTC and Modkit.

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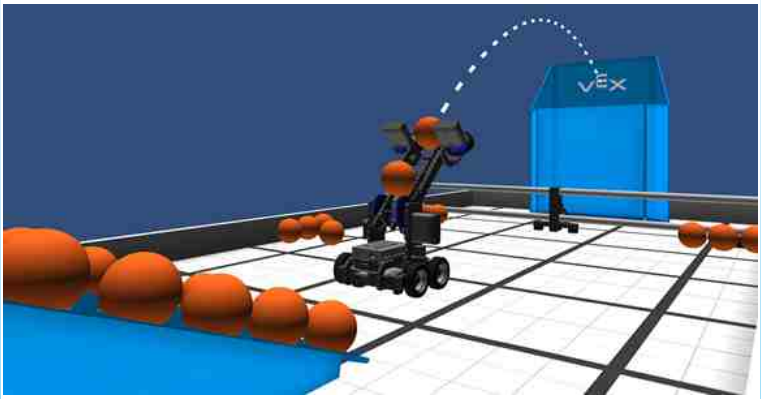

Challenges

VEX IQ CHALLENGE

The VEX IQ Challenge consists of the VEX IQ Challenge robot game and the optional STEM Research Project. The VEX IQ Challenge provides an opportunity for students, with the guidance of an adult mentor, to explore and solve exciting science, technology, engineering, and mathematics (STEM) challenges.

Students develop valuable knowledge, skills, and experience and a tremendous sense of accomplishment in building a robot and developing a STEM research project to solve the VEX IQ Challenge.

Teamwork

In VEX IQ challenges two robots work together on the field to maximise the points they get in a match. Students never feel that they have failed, or lost, at Technology even if one robot stops or does not do so well. Each team accumulates the points they achieve during each match they play during a competition.

Each match a team plays during a competition is played with a different team.

At the end of the day champions are determined by the robots that have accumulated the highest score. Thus effort is rewarded while not discouraging young people.

Virtual Worlds

No Robot, No Problem!

Robot Virtual Worlds is a high-end simulation environment that enables students, without robots, to learn programming.

Research has shown that learning to program in the RVW is more efficient than learning to program using physical robots. The RVW environment is perfect for home, classroom, and competition environments!

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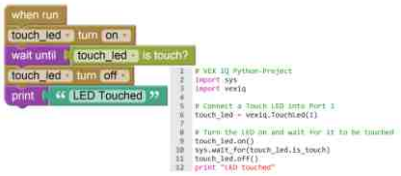
Programming Options

Modkit is a free on line programming option for VEX IQ. It is very much like Scratch.

Students drag and drop the parts of their robot onto the robot design page then drag and drop blocks to create their programme.

http://www.modkit.com/



RobotMesh offer another free on line graphical programming option.

Those who are familiar with **Python** will be pleased to see that they can use it with VEX IQ.

http://www.robotmesh.com/

RobotC offers the best of all worlds it has a graphical programming option that can, at the click of a button, be converted to RobotC.
Robot Virtual Worlds allows them to learn to program in an entertaining environment then transfer their programs to a real robot.
Great for teaching programming.

http://www.robotc.net

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Accessories++

Robot Brain & Controller

The VEX IQ Brain and Controller are included in the Starter and Super Kits. They require special mention as combined they allow students to create fantastic programs.

The Robot Brain has 12 I/O ports that can have any smart sensor plugged into them.

All the buttons on the controller can be accessed by your student's software running in the Brain in any way they want.

Sensors

All VEX IQ sensors including the motors are smart sensors. They can be plugged into any of the **12 ports on the Robot Brain** in any combination.

A complex machine can be built with 12 motors; or a tic-tak-toe game can be created with 12 Touch LEDs.

Ultrasonic distance sensor, Gyroscope, Touch LEDs, Colour Sensors/Line followers..... Designs are only limited by your student's imagination.

Structure

The number of parts available is growing all the time and they come in various colours. Design elements can now be colour coded to help people understand how a machine works.

Tank treads, gears, pullies, along with structural elements, complete the package.

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CAD & 3D Printing

Design it.

AUTODESK.

Autodesk is investing in education. Autodesk is committed to equipping you and your students with tools and resources to help you achieve academic and future career success.

Fusion 360™ is the first 3D CAD/CAM tool of its kind, connecting your entire product development process in a single cloud-based tool.
Quickly iterate on design ideas with sculpting tools to explore form and modeling tools to create finishing features.

Fusion 360 Free to schools and works on Macs & Pcs.

3D Print it

Engineers and designers at VEX Robotics often use 3D printing technology to prototype, test, refine, and iterate our products before they are released. 3D printing technology allows computer models to be quickly turned into real world prototypes. We are excited to support the VEX community's desire to customize and extend their VEX IQ experience through the use of custom 3D printed elements.

To ensure a positive 3D printing experience, we've compiled a few useful tips that will help your 3D printed parts correctly interface with the VEX IQ system.

Share it

SNAP CAD

SnapCAD is a community-built solution for designing virtual VEX IQ models and creating printable, shareable instructions for them. Use SnapCAD to test out a novel idea in the virtual world before building it physically, or to share your creations with the world in the form of step-by-step build instructions!

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Support

Kiwibots

We are here to help and will act as your front line of defense.

We use Team Viewer to look at your code if you get stuck and have a great local team that know the product inside out.

We can talk you through any aspect of the VEX program and love doing so.

VEX IQ forum

VEX IQ is a world wide program with people all over the world who can help you if you get stuck.

Topics include:-

General Discussion
VEX IQ Product Discussion
Technical Discussion
Official Answers
Challenge Discussion

VEX are very good at answering questions and so far nothing has proved impossible.

RobotC forum

The team at RobotC have their own forum where questions regarding RobotC are answered and any issues that you may find are resolved.

Most teams in New Zealand use RobotC so there is plenty of local talent to solve those programming questions.

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VEX IQ

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"To Inspire a passion for STEM"

The Kiwibots are a Charitable Trust that was formed to make a difference in New Zealand by creating a passion for STEM. We have been doing so for eight years and New Zealand have been VEX World Champions for the last seven years.

We exist due to the gracious support of our sponsors, volunteers, teachers, parents and the enthusiasm of the students.

We are excited about New Zealand's future.

Start Now!

Make Contact

Join in with the biggest and fastest growing classroom based robotics competition in the World.

VEX IQ is the platform and competition for your school.

Chris Hamling
National Manager - Kiwibots
c.hamling@kiwibots.co.nz
Skype: chris.ham
Mob: 021 664 176

Make a Difference

It is easier than it looks.

Students are motivated to discover solutions for themselves.

We are here to help.

This is their future we just have to help the discover it.

The fun robots in this brochure 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!

$nz425 excl**

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Vodafone Events Centre
MASSEY UNIVERSITY
CPIT
the ROYAL SOCIETY of NEW ZEALAND TE APĀRANGI
SMC
AUTODESK
AURA Auckland University Robotics Association
WelTec
CADPRO
THE AMERICAN CHAMBER OF COMMERCE IN NEW ZEALAND

*The starter kit does not include sensors.
**Subject to Exchange Rate variations

VEX IQ

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VEX IQ Starter Kit with Controller

Options

Essential

Starter Kit with Controller
$nz425 excl**

Omni wheels

$nz16 excl**
Make it easier for your robot to turn. We believe every robot needs them.

Software
To make the robot do more.

Modkit	$free
Robot Mesh	$free

Highly Recommended

Sensor Pack
$nz115 excl**
Improves the robot's view of the world around it.

Software

RobotC
$us80***

Robot Virtual Worlds
$us79***

RobotC & Virtual Worlds
$us139***

Upgrades

Bluetooth Radio Pair
$us46**
Lets smartphones control the robot. Students can write their own Apps that talk to their robot.

Tank tread

Chain

More parts

More colours

More.....

**Subject to Exchange Rate variations
***Volume discounts available buy direct on line

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You are never alone. The links below are just a few of the vast resources that are available on line.
Just Google VEX IQ for more
Happy hunting!

Links

Web sites

Kiwibots 'Home of VEX in NZ'
VEX IQ in the USA
RobotC
Robot Virtual Worlds
Autodesk Education
Snap CAD
Modkit
Robot Mesh

VEX IQ forum
RobotC for VEX IQ forum

Kiwibots VEX IQ web store
VEX IQ starter kit & controller

Curriculum

VEX IQ Curriculum
Carneigi Mellon programming
VEX IQ @ Robotics Academy
RobotC VEX IQ Graphical
RobotC Cortex training
Modkit
Autodesk Fusion360 training
Autodesk Design Academy
Explore VEX IQ
RVW Curriculum Companion
VEX IQ Videos

Competitions

VEX IQ 'Bank Shot'
Autodesk CAD challenge
Robot Virtual Worlds

The number and quality of VEX IQ based competitions is vast. The ones shown above just represent the tip of the iceberg.

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