Exploring Robotics

An all-in-one solution opening up pathways for STEM education for middle school learners

Standards-based PBL curriculum
Classroom-friendly resources
All-inclusive STEM solution

Intelitek's Exploring Robotics provides an easy-to-implement solution for delivering early engagement and discovery of science, technology, engineering and mathematics topics for middle school students.

The complete and flexible classroom solution

Exploring Robotics makes implementation easy. Topics are perfect for 9-week programs. Each 9-week course provides everything needed out of the box, ready to use. You can choose flexible packages based on your class size.

Exploring Robotics can open up unlimited possibilities for middle school students! This exciting exploration of STEM (science, technology engineering and math) concepts can motivate students to pursue further education or even careers in STEM!

Using the VEX® IQ Robotics platform, Exploring Robotics generates excitement and enthusiasm for STEM. Each week students complete mini-projects that teach STEM concepts while delivering rapid positive outcomes for student engagement.

Students explore robotics while developing 21st Century skills like teamwork, creativity and problem-solving. Using robotics as a relevant and exciting topic, students see the connection between STEM and the world around them.

Aligns to

NEXT GENERATION
SCIENCE
STANDARDS

intelitek►► ®

Dynamic Solutions, Inspired Classrooms

Provide an immersive instructional experience with project-based learning

Quality components for STEM education tailored for middle school classrooms

EasyC® robotic programming software

EasyC provides the perfect robotic programming software for the classroom. With an intuitive drag-and-drop interface and robust video tutorials, beginners can produce effective programs quickly while also learning concepts of programming. Software features flexible perpetual or annual licensing options for your classrooms needs.

VEX® IQ Robotics platform

VEX IQ offers students an exciting platform for STEM education. VEX is the most classroom-friendly platform for robotics instruction with safe components in easily managed kits - perfect for team activities!

VEX IQ Super Kit includes structural components, motors, sensors, robot brain, controller, batteries, storage bin.
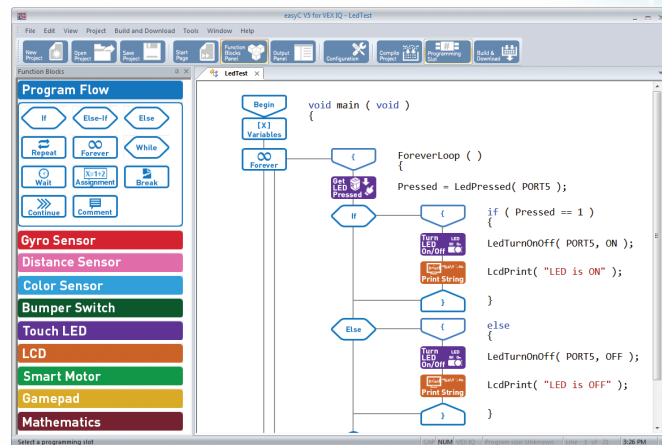
Ordering Information

Each program package enables students to work in teams of two with a dedicated VEX IQ robotic kit.

Software licenses are included for each student and one teacher. When ordering specify your software license terms: annual subscription or perpetual license. Perpetual license is permanent, requiring no renewal. Annual license is for 365 days.

2-Student package	2 VEX IQ kits, 3 seats easyC, e-learning course	STEM-EXPL-ROB02
10-Student package	6 VEX IQ kits, 11 seats easyC, e-learning course	STEM-EXPL-ROB10
20-Student package	11 VEX IQ kits, 21 seats easyC, e-learning course	STEM-EXPL-ROB20
30-Student package	16 VEX IQ kits, 31 seats easyC, e-learning course	STEM-EXPL-ROB30

Exploring Robotics Course Outline

Introduction
- Using LearnMate
- What are Robots?
- Driving the Model
- Natural vs programming languages
- Introduction to easyC

Basic Robot Movements
- Set Motor Speed
- Set Motor Time
- Set Motor Rotation
- Turning the Model
- Conclusion and Challenge

Repeating Actions – Loops
- Forever Loop
- Repeat Loop
- Variables
- While Loop
- Conclusion and Challenge

Reacting to Events – Conditional Branching
- Branching with Variables
- Touch Sensor – Output to LCD
- Touch Sensor – Controlling Motion (Part 1)
- Touch Sensor – Controlling Motion (Part 2)
- Conclusion and Challenge

Touch LED
- How Does it Work?
- Touch LED as a Touch Sensor
- Touch LED for Visual Feedback
- Touch LED for Indicating Distance
- Conclusion and Challenge

Ultrasonic Distance Sensor
- How Does it Work?
- Sensor Output to LCD – LED
- Rotating the Sensor to Detect an Object
- Moving the Model to Detect an Object
- Conclusion and Challenge

Color Sensor
- How Does it work?
- Sensor Output to LCD – LED
- Detecting Earth Properties
- Searching for a Mineral
- Conclusion and Challenge

Gamepad
- Arcade Control
- Single Motor Control
- Sending Variables
- Conditional Branching Using the Joystick
- Conclusion and Challenge

Compass – Using Gyro
- How Does it work?
- Sensor Output to LCD – LED
- Returning Home
- Final Program (Part 1)
- Final Program (Part 2)

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