

# **Applied STEM Learning**

Ages 11+



VEX Robotics covers Pre-K to College. We provide tools, curriculum, and professional development to support you and your students at every stage in the VEX ecosystem.



**27,000**Participating Teams



1,000,000 Students Reached Annually



**70+**Countries
Represented



**22,000**Participating Schools





## Applied STEM Learning for Ages 11+

The VEX IQ Education Kits and Classroom Bundles contain all the STEM hardware needed while educators get professional development, curriculum, and support. The VEX IQ Ecosystem promotes high-quality STEM education that is essential, relevant, and continual.





### Organised Storage

VEX IQ kits come packaged in storage bins where every part has its own dedicated location. Visual labels inside each bin keep everything organised and easily accessible.



### Complete STEM Solution

STEM Labs make teaching integrated STEM easier than ever before by engaging students with project-based learning whilst utilising the motivational effects of educational robotics.



### Coding for Everyone

VEXcode IQ brings Robotics and Computer Science to life for students at all skill levels. Choose between three different coding languages: Block- based, Python, and C++.

### Free STEM Labs and Activities



VEX IQ STEM Labs function as "plugin" lessons that can fit into your existing curriculum. Multiple labs can be utilised in sequential order to create a unique, extended learning experience. STEM Labs promote collaboration and exploratory learning and contain everything teachers need to deliver rich STEM lessons.

Students enjoy hands-on-learning activities that allow them to apply technology, science, maths and engineering skills as they enjoy a 21st-century learning experience.

STEM Labs have something to offer for everyone.

## **VEX IQ Competition**



In the VEX IQ Competition teams of students are tasked with designing, building and coding a robot to play with other teams in a game-based engineering competition. Classroom STEM concepts are put to the test as students learn lifelong skills in teamwork, leadership, communications, and more.

VEX Robotics hosts the world's largest robotics competition for students all over the world to compete against one another using a robot of their own design. Teams can compete regionally, nationally and internationally at both in-person and remote events.

Find out more at roboticseducation.org/vex-iq

# **VEX IQ Classroom Bundles**

The driving concept behind 21st century classroom design is flexibility. VEX IQ Kits, storage, fields, and game objects work together to make the teacher's job easier.

Classroom Bundles are the perfect solution for individual STEM classrooms. Bundles come in three sizes and include robot kits, extra parts, classroom charging, game field and game elements so you can bring the excitement of competitive robotics to your classroom.

# VEX IQ Education Kit -

The IQ Education Kit makes STEM manageable for teachers and fun for students! Every part in the kit has its own dedicated location with labels packaged in two storage bins

### Includes:

- (1) Robot Brain (2nd generation)
- (1) IQ Robot Battery (Li-Ion, 2000 mAh)
- (1) Controller (2nd generation)
- (1) Distance Sensor (2nd generation)
- (1) Optical Sensor
- (4) Smart Motor
- (1) Touch LED
- (1) Bumper Sensor
- (9) Smart Cables
- (1) Pin Tool
- (1) USB-C Cable
- (2) Storage Cases
- (5) Storage Jewel Cases
- (1036) Plastic Construction Parts



### **Classroom Bundle Contents**

	Small Classroom 228-8060	Classroom 228-8246	Large Classroom 228-8247
Number of Students	10	20	30
VEX IQ Education Kits (2nd gen)	5	10	15
STEM Games Field Tiles	12	24	36
STEM Games Field Walls	16	32	48
STEM Games Objects	18	36	54
Parts Posters	1	2	3
Extra Pin Tools	5	10	15
Classroom Charger (5 USB-C ports)	1	2	3
Spare Parts with Storage	1	2	3

# Simple. Flexible. Powerful.



Connects your entire robot together and includes a colour screen for quick and easy control



### **Smart Motors**

Make your robots come precise movement



# **Optical Sensor**

Battery
Uses Lithium-ion technology to provide all-day classroom usage in most situations, and includes a button for quick battery charge indication



to life with powerful and



### Lets the robot see light, colour and gestures, even in darker rooms





# **Bumper Switch**

Allows the robot to feel when it hits a wall or another robot and can be used as a limit switch



### Distance Sensor Uses a safe laser to accurately detect distances without interference



### Controller

Enables wireless robot control and wireless code download



Touch LED

Provides human touch input to the robot and colour output to human eyes



Scan to find

Instant answers to almost any question at help.vex.com





### **Educate with VEX**

The VEX IQ Classroom Bundles include all STEM hardware needed along with curriculum, support, and high-quality professional development offerings for educators.



### **Mentor a Team**

Mentoring a competition robotics team is simple and manageable with VEX IQ kits, support, and many more STEM resources.



## **Customize with VEX**

Each of the three VEX IQ systems (Education, Classroom, and Competition) offer the same development in both inspiration and ingenuity.

Courses

The following courses are suitable for applying for the "School IT Innovation Laboratory Scheme" or the "Quality Education Fund"

## **STEM Robotics Program**

Using the VEX IQ Robotics Kit, this initiative seamlessly integrates with schools to enhance students' STEM abilities. The curriculum includes workshops for active learning and real-world application.

## **Robotics Programming Certification Course**

This course is dedicated to inspiring students' interest in robotics technology, gradually learning how to design, build and program robots, and through practical operations, enabling the robots to complete specified tasks. The course proceeds from the shallower to the more advanced, comprehensively improving students' understanding and application abilities of robotics technology.

## **Python Robot Programming Course**

This course guides students to gain an in-depth understanding of Python programming and robotics technology. Through the VEX IQ Robot Kit and VEX VR virtual platform, students will learn basic to advanced Python programming skills, and gradually master the ability to develop robotic solutions.

# **ROBOFEST** Robot Challenge (HK) Competition Preparatory Course

Through the application of VEX or LEGO robot kits, students can learn in depth the basic knowledge and applications of robot technology from theory to practice. The goal of the course is to equip students to participate in the ROBOFEST robot competition and strive for good results.