

VEX

SSERC and VEX have collaborated since 2018, offering professional learning (PL) opportunities to Scottish education settings and providing VEX resources to schools, enhancing STEM and Computing Science experiences for learners.

VEX PL COURSE DATES

In the next academic year, SSERC Digital will be expanding these offerings, having Enthuse funded professional learning for VEX GO and VEX 123.

Find out more below and by clicking on each image:

VEX GO

A two day course comprising:

- Monday 5th February 2024 – in person at SSERC HQ
- Monday 11th March 2024 – live remote session via MS Teams



VEX 123

A two day course comprising:

- Friday 9 February 2024 – in person at SSERC HQ
- Monday 18th March 2024 – live remote session via MS Teams



VEX product range

The VEX product range is quite extensive as illustrated in the next number of pages.

While our current professional learning offering links to VEX GO and VEX 123 we have exciting plans for future VEX professional learning offers. >>



VEX 123

Ages 4+

Coding Starts Early for Ages 4+

VEX 123 is an interactive, programmable robot that takes Computer Science and Computational Thinking off of the screen and brings them to life.



1

Touch and Go

The 123 Robot can learn sequences by simple touch. Control movements and sounds to learn basic logic and problem solving.



Introduce **sequence** and the concept of **algorithms** by entering commands via the touch buttons on the top of the robot.

2

No Devices? No Problem!

The 123 Robot is programmable without a computer. Using the VEX Coder and physical Coder cards, you can learn real programming away from screens.



Take **sequencing** to the next level, introduce **selection** and use basic **loops** with the Coder and Coder Cards.

3

Powered by Scratch Blocks

VEXcode 123 — available for tablets, Chromebooks, Mac and Windows devices — allows you to unlock the full power and capabilities of your 123 Robot



Use Scratch blocks to create powerful programs using **sequence**, **selection**, **iteration**, **variables** and more!



Free STEM Labs and Activities

Our free STEM Labs lesson plans and Activities cover all aspects of STEM and incorporate other key subjects such as English and Art. They contain everything a teacher needs including handouts, presentations and videos. No prior STEM teaching experience is required to deliver rich lessons with VEX 123.

Mapped to **National Curriculum** and **Scottish Benchmarks**

Clutter-Free Classroom

Classroom organisation starts with having the right storage solutions. VEX 123 Classroom Bundles come with custom carry cases, bins, and a 6-Port USB charging box giving schools the freedom to move resources easily from class to class.



VEX 123 Kits

Start your VEX 123 journey with one of our kits, ready to be programmed 3 ways!



Includes:

- (1) 123 Robot
(Your Choice of Red, Green, or Blue)
- (1) 123 Coder
- (1) Robot Art Ring
- (1) USB Charging Cable
- (1) 123 Coder Cards (50-pack)

£109.99

123 Field

- Add a 123 Field to enhance activities
£24.99

Classroom Bundle Contents

Bundle Size	Small Classroom	Classroom	Large Classroom
# of Students	12	24	36
Robots	6	12	18
Coders with Batteries	6	12	18
Coder Cards (50-pack)	7	14	21
Fields (4 tiles, 8 walls)	3	6	9
Carrying Cases for everything	1	2	3
Charging Station and AC Adapter	1	2	3
Coder Card Storage Boxes	1	2	3
Robot Art Rings	6	12	18
Coding Posters	1	2	3
	£799.99	£1,524.99	£2,174.99

All VEX 123 Classroom Bundles are delivered free of charge to UK mainland addresses.

Simple, Yet Feature-Rich Robot

Touch Buttons for easy, device-free programming

Bluetooth to quickly connect with the 123 Coder or your own tablets, Chromebooks and computers

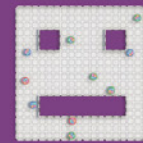


Integrated sensors ensure accurate movement and turns

Built-in rechargeable battery

Eye Sensor detects objects, colour and light level

Robot Play Spaces Reinvented



Developed with your classroom in mind, VEX 123 Fields offer a flexible and safe area to use your 123 robots.

- Quick to assemble and disassemble
- Configure to any size and shape
- Markings represent 1-unit of 123 robot movement to help students understand the robot's movement
- Can be marked with drywipe pens and easily cleaned

Free Training

Free Lesson Plans

Free Software

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

123.vex.com

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Ages 8+

STEM Starts Early for Ages 8+

An affordable construction system that teaches the fundamentals of STEM through fun, hands-on activities that help young students experience coding and engineering in a fun and positive way!



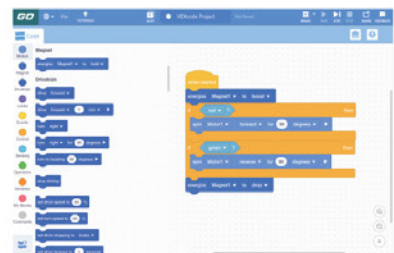
Getting Organised is a Snap!

Colour-coded VEX GO parts help teachers to stay organised and allows students to quickly differentiate between pieces making it quicker and easier to follow instructions



Complete STEM Solution

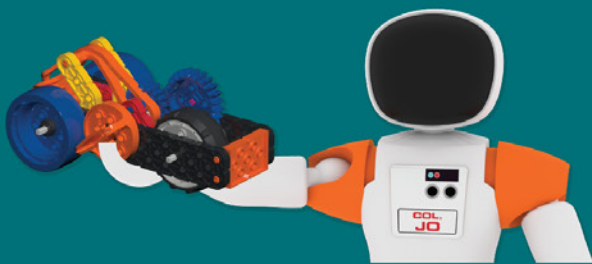
VEX GO lessons cover all aspects of STEM, not just computer science. Explore coding, fractions, energy, lifecycles, simple machines, design and much more!



Powered by Scratch Blocks

VEXcode GO - available for tablets, Chromebooks, Mac and Windows devices - allows you to teach **sequence**, **selection**, **iteration**, **variables** and more!

Free STEM Labs and Activities



Our free STEM Labs lesson plans and Activities cover all aspects of STEM and incorporate other key subjects such as English and Art.

They contain everything a teacher needs including handouts, presentations and videos. No prior STEM teaching experience is required to deliver rich lessons with VEX GO.

Mapped to **National Curriculum** and **Scottish Benchmarks**

Free VEX GO Challenge



VEX GO Classroom Challenge

This classroom-based competition allows students to earn recognition for the work they do when completing STEM Labs. By earning Star Points, students can gain Achievement Awards as they work through the 4 levels of challenges.

VEX GO Competition

Bring competitive robotics to your classroom! Design robots to explore Mars, monitor the oceans, build a village or search and rescue after a natural disaster! Students will compete with their classmates and put their robot driving and coding skills to the test!

Find out more at roboticseducation.org/vex-go

VEX GO Classroom Bundles

VEX GO Classroom Bundles are the perfect solution for individual STEM classrooms or for sharing resources between multiple classrooms and year groups. The bundles contain everything needed: multiple kits, spare parts, chargers and a storage solution that makes it easy to keep everything together or move from classroom to classroom.



GO Kit

VEX GO Kits are pre-sorted into a convenient reusable carrying case which keeps the parts organised and easily accessible



Includes:

- (1) Robot Brain
- (3) Motors
- (1) Battery
- (1) Switch
- (1) Eye Sensor
- (1) LED Bumper
- (1) Electromagnet
- (1) USB Cable
- (1) Tile
- (1) Pin Tool
- (220) Structural Parts
- (53) Motion Parts
- (1) Astronaut Figure
- (2) Storage Cases

£179.⁹⁹

Classroom Bundle Contents

	Small Classroom	Classroom	Large Classroom
# of Students	10	20	30
Carrying Cases for Kits	1	2	3
Go Kits + Storage, Field Tile	5	10	15
Spare Parts Bin + extra parts	1	2	3
Charger for all 5 batteries	1	2	3
Carrying case for fields, walls	1	2	3
Walls for the classroom Field	12	24	36
Extra Pin Tools	5	10	15
Parts Posters	1	2	3
	£1,049. ⁹⁹	£1,999. ⁹⁹	£2,849. ⁹⁹

All VEX GO Classroom Bundles are delivered free of charge to UK mainland addresses.

Simple, flexible, programmable



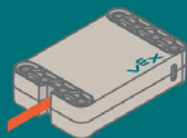
Brain
Connect via Bluetooth to a tablet, Chromebook, Windows or Mac device to code using VEXcode GO. Built in gyro and accelerometer to help your robots move with precision!



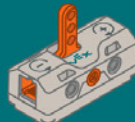
Motor
Each kit contains 3 motors to bring your creations to life and give your robots accurate movement



LED Bumper
An input and output in one! Detect when the bumper is pressed and control the colour of the light!



Battery
Essential for any VEX GO build that includes electronics. Recharge via the USB-C connector



Switch
Control a motor or the LED Bumper without the need to code by connecting them to a battery via the Switch.



Electromagnet
Collect and drop the Disks included in all VEX GO kits using the Electromagnet



Eye Sensor
Detect the proximity of objects, their colour and light level using the Eye Sensor

Free Training

Free Lesson Plans

Free Software

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

VEX IQ

Ages 11+

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.



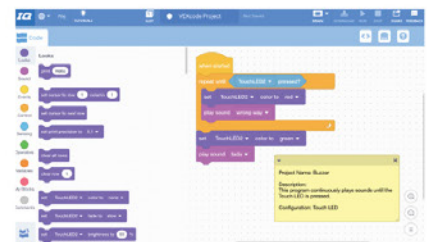
Organised Storage

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

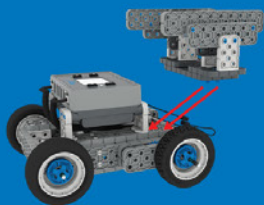
STEM Labs make teaching integrated STEM easier than ever before by engaging students with project-based learning whilst utilising the motivational effects of educational robotics.



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



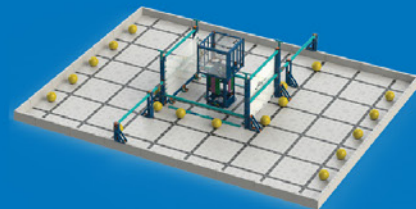
VEX IQ STEM Labs function as "plugin" lessons that can fit into your existing curriculum. Multiple labs can be utilised in sequential order to create a unique, extended learning experience. STEM Labs promote collaboration and exploratory learning and contain everything teachers need to deliver rich STEM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

Mapped to **National Curriculum** and **Scottish Benchmarks**

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



£349.99

Classroom Bundle Contents

	Small Classroom	Classroom	Large Classroom
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
	£1,949.99	£3,899.98	£5,849.97

All VEX IQ Classroom Bundles are delivered free of charge to UK mainland addresses.

Simple. Flexible. Powerful.



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



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



Controller
Enables wireless robot control and wireless code download



Smart Motors
Make your robots come to life with powerful and precise movement



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



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



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



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

Free Training

Free Lesson Plans

Free Software

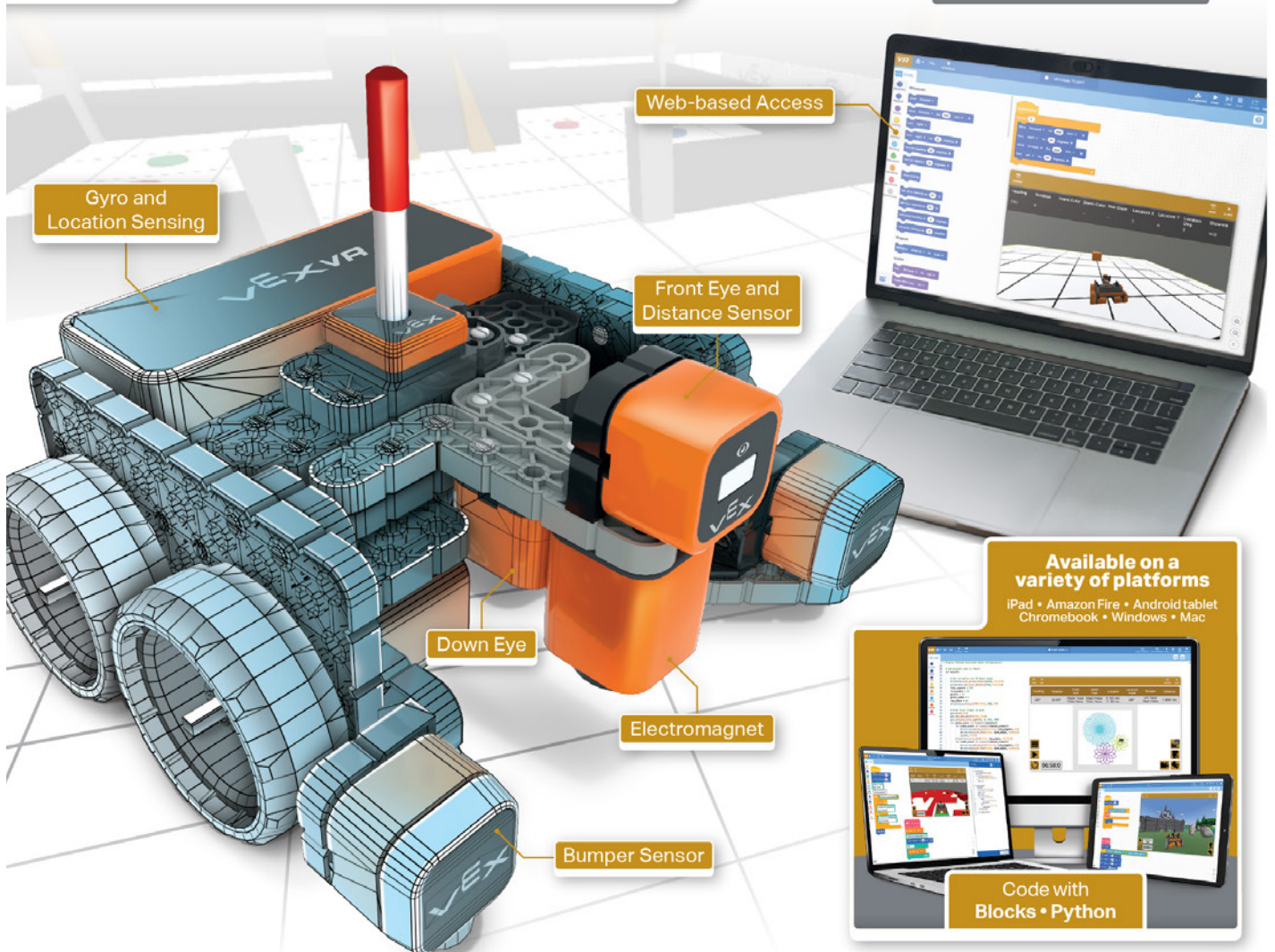
Instant answers to almost any question at help.vex.com

VEX CODE VR

codevr.vex.com

Real World Coding

AGES 8+



Available on a variety of platforms

iPad • Amazon Fire • Android tablet
Chromebook • Windows • Mac

Code with
Blocks • Python

CS Comes to Life

Accessible and Easy to Get Started

Education Certifications Included Curriculum (STEM Labs) Included Software Included

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

Are you a teacher that's new to coding?

No problem! We provide direct instruction, pacing guides, standard alignment, support within the VEX Library, and more!



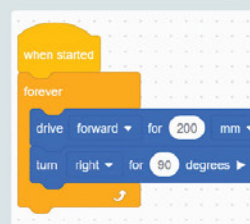
Resources include:
Hour of Code activities
STEM Labs curriculum
STEM Library documentation
Professional Development Plus

Simply go to vr.vex.com to get started!

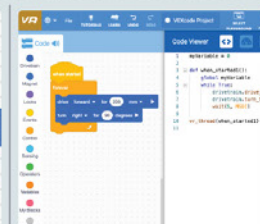
VEXcode VR is browser based, so there is no software to install! The program is always up to date, with **no installation or student accounts required.**

VEXcode VR teaches coding with a pre-built VEX robot - including a drivetrain, object pickup, sensors, GPS, and a pen. Bring excitement to your coding activities with a variety of 3D playgrounds - both inside the classroom and out!

Three Ways to Code in VEXcode VR



Blocks



Blocks + Python Viewer

```

1 #region VEXcode Generated
18 myVariable = 0
19
20 def when_started1():
21     global myVariable
22     while True:
23         drivetrain.drive_f
24         drivetrain.turn_fc
25         wait(5, MSEC)
26
27 vr_thread(when_started1)
    
```

Python

codevr.vex.com

📞 01925 251038

eusales@vex.com

Expanding the VEXcode VR Universe

Every license includes access for all the educators' students, both in school and at home.

Teach and learn coding with VR – Virtual Robots! VEXcode VR brings real world STEM concepts to life, making coding immersive, accessible, and fun.

Start with Blocks, then use our patented Switch coding to easily transition to Python coding.

With no student accounts or installation required, student learning submissions make collecting code, progress, and activity easy.

	VEXcode VR Free	VEXcode VR Enhanced	VEXcode VR Premium
Languages	Blocks	Blocks Python (browser)	Blocks, Switch , Python (Browser) Python (VS Code, coming 2023)
Playgrounds	15 playgrounds with basic graphics	18+ playgrounds with engaging graphics	20+ playgrounds with engaging graphics + AI and Data Science
Competitions	-	-	Playgrounds simulating VEX Competitions (GO, IQ, V5)
Professional Development	Educator Certifications	Educator Certifications	Educator Certifications, VEX PD+, VEX Community
Curriculum and Activities	Yes	Yes	Yes
Resources	Online	Online and Integrated	Online and Integrated
Learning Submission	-	Yes	Yes
Offline Version	-	Yes	Yes
Support	VEX Forum	VEX Forum, Email	VEX Forum, Email, PD+ Community
	Free	£170 per educator per year 210-8653 Free until September 2023	£430 per educator per year 210-8654 £260 until September 2023

Connect with a VEX sales rep!

eusales@vex.com

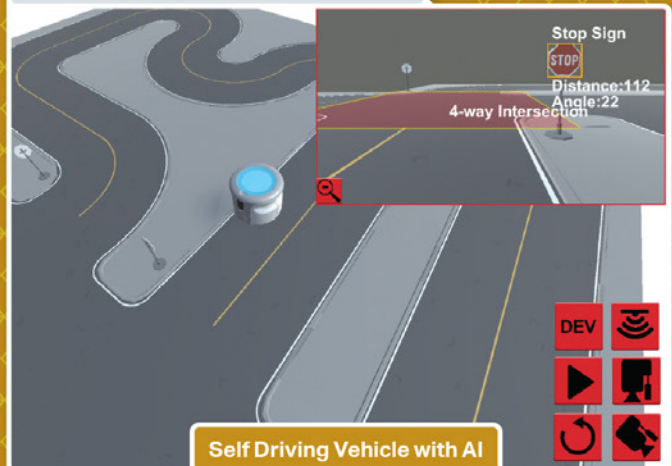
☎ 01925 251038

VEXcode VR Enhanced



VEXcode VR Enhanced features elevated graphics for increased student engagement! Features Python coding in addition to Block-based coding, making VEXcode VR even more engaging and accessible for students and educators. VEXcode VR Enhanced includes integrated resource access for teachers and students.

VEXcode VR Premium



VEXcode VR Premium takes VEXcode VR into the AI world! Includes advanced capabilities like Artificial Intelligence and evolved environments to code in. You can teach Data Science, Artificial Intelligence, and Self Driving Vehicles, bringing competitions to the CS classroom. Includes playgrounds that simulate VEX Competitions.

Free Teacher Certifications, Lesson Plans, and Software

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