

**ARDUINO<sup>®</sup>**  
**EDUCATION**  
**2023**

TEACH TODAY, FOR TOMORROW WITH  
CREATIVE STEAM LESSONS - BOTH  
IN CLASS AND ONLINE

**ARDUINO.CC/EDUCATION**



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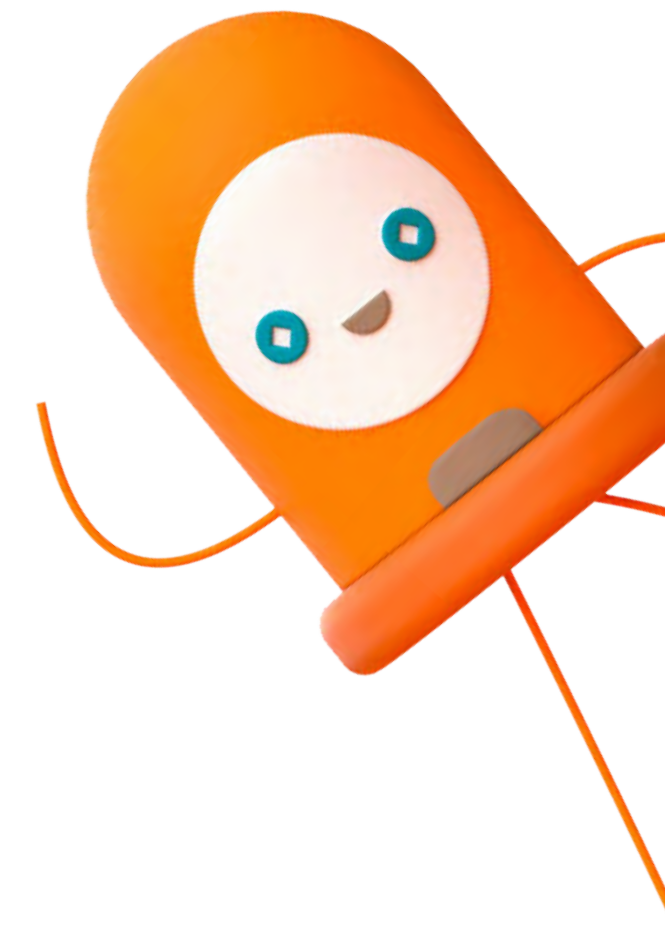
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# WELCOME TO ARDUINO® EDUCATION!

IN THIS CATALOG, YOU'LL FIND OUR FULL RANGE OF STANDARDS-LINKED STEAM KITS AND DIGITAL SOLUTIONS DEDICATED TO EDUCATION. YOU'LL DISCOVER HOW EACH KIT BENEFITS STUDENTS OF ALL AGES, BOOSTING NOT ONLY THEIR LEARNING OUTCOMES, AND DEVELOPING THE SKILLS THEY NEED TO SUCCEED.

MOST OF OUR KITS DON'T REQUIRE ANY EXPERIENCE TO GET STARTED, AND SEVERAL SUPPORT HOME SCHOOLING AND AFTERSCHOOL. THEY'RE ALL EASY TO USE, WITH POWERFUL LEARNING OUTCOMES LINKED TO THE REAL WORLD.

TEACH TODAY, FOR TOMORROW.



**DID YOU KNOW?**  
 Arduino has been to space!  
 It's also been used to program satellites and in testing a new fuel for space travel.



## ABOUT ARDUINO® EDUCATION

**Arduino® Education classroom solutions** progress students through STEAM from middle school to university, increasing in complexity to challenge them as they develop their skills. All our kits include:

- A range of electronic components, such as programmable boards, sensors, accessories, and mechanical parts
- Simple, open-source software
- Online content for students to build hands-on projects all linked to the real world
- Guided training and support for educators

The components students use are the same as those used in companies around the world, such as Google, FitBit, and Parrot, in applications like rapid prototyping, AI, drone technology, and machine learning. This link to the real world sets the foundation for students' future careers.

Our learning platform can be used remotely, and provides the tools needed to feel comfortable and confident in completing successful STEAM lessons and projects at home or in afterschool or STEM clubs.

Material includes video tutorials, Q&A sessions, and extra support made up of the most useful resources, ideas, and tips recommended by educators.

Several of the Arduino Education kits are suitable for homeschooling, including the Student Kit (page 10), the Explore IoT Kit (page 22), and the Engineering Kit Rev2 (page 26).

### VISION

Arduino Education makes technology, programming, and coding accessible to everyone, putting it into the hands of every student and educator - whether you're teaching from home or in the classroom.

### MISSION

We are focused on creating the next generation of scientists and artists with STEAM programs that progress students and help them thrive through middle school, high school, university, and beyond. Our technology, programming, and curriculum content are creative tools - just like brushes and paint - that support learning outcomes whether students are in class or learning remotely.

### VALUES

We champion students as they progress through their STEAM education by providing relevant, creative, and fun technology, programming, and curriculum content that enables them to thrive. We support the needs of educators by giving them the tools they need to feel at ease in delivering successful STEAM lessons and teaching their students real-world skills.

#### DID YOU KNOW?

The largest ever Arduino project was a 100m-long light installation which ran on 40 boards, controlled 15,200 LEDs, and used over 2km of cable!

## WHY USE ARDUINO EDUCATION KITS?

All our STEAM solutions are designed by educational experts and are grounded in the real world. They support and benefit educators and students in many different ways.



## HOW OUR SOLUTIONS BENEFIT EDUCATORS

**Classroom management** - All kits come in robust storage boxes to survive continual use with all the tools you need to deliver successful STEAM lessons and confidently teach your students critical future skills.

**Digital solutions** - As well as the kits, you can also access apps and digital platforms to support your STEAM lessons and projects.

**Hands-on workshops** - We and our partners regularly organize hands-on workshops. These workshops provide the opportunity to experience Arduino and learn how it can be applied across STEAM subjects.

**Dedicated online content** - All the materials you need for each lesson, resources to help with lesson preparation, content tips, timing suggestions for classroom management, and curriculum links.

**Lesson planning** - Each lesson is carefully planned to efficiently manage the set-up, teaching, and practical experimentation in the time available.

**Further support** - We're available to answer any questions you may have, and we respond quickly (meet the team on page 49). The Arduino Education community and forum also means you can share ideas and experiences with like-minded educators.

#### DID YOU KNOW?

Arduino boards can swim! If you put one in tap water then let it 100% dry out, it will still work. Just make sure it's not connected!



**HOW OUR SOLUTIONS BENEFIT STUDENTS**



**Develop future skills** - As well as teaching students about STEAM topics, our kits help develop the skills they'll need to succeed in the future, such as collaboration, communication, problem-solving and critical thinking.

**Grounding in the real world** - All the lessons and projects in every kit take their starting point in the real world, providing relevance and enhancing students' understanding of the world around them.

**Prepare students for future careers** - Kits include components used in professional companies, so students are using industry-standard technology that gives them a strong foundation for a future STEM career.



**DID YOU KNOW?**

One of the first Arduino projects ever made was an electroshock machine that could control the human body using electrodes on elbows and knees. The system reacted to music and sent electroshocks based on volume.

**LEARNING EVOLUTION**  
A solution for everyone!

Arduino Education creates the next generation of STEAM solutions that empower students on their learning journey



**SCIENCE JOURNAL** Transform smart devices into pocket-size science tools that encourage students to explore their world

**CLOUD** The simplest, fastest, low-code way to get students started with connected projects and the Internet of Things

<p><b>STUDENT KIT</b> Everything you need to run a STEAM class at home</p>	<p><b>CTC GO! CORE</b> Everything you need for engaging and relevant STEAM lessons</p>	<p><b>ENGINEERING KIT REV2</b> Help your students develop mechatronic engineering skills</p>
<p><b>EDUCATION STARTER KIT</b> Beginner-friendly guided solution for your classroom</p>	<p><b>CTC GO! MOTIONS</b> Build on your high school students' STEAM knowledge</p>	<p><b>TINY MACHINE LEARNING KIT</b> Learn fundamentals of machine learning &amp; embedded devices</p>
<p><b>JUNIOR CERTIFICATION</b> Certify students' knowledge of Arduino, programming &amp; electronics</p> <p><b>DIGITAL SOLUTION</b></p>	<p><b>EXPLORE IOT KIT</b> Take your first step in building internet-connected objects</p>	
	<p><b>STARTER KIT CLASSROOM PACK</b> Get started with electronics quickly and easily</p>	
	<p><b>ARDUINO CERTIFICATION</b> Certify your skills in electronics, programming, &amp; physical computing</p> <p><b>DIGITAL SOLUTION</b></p>	



## DIGITAL SOLUTIONS

Arduino Education digital solutions are apps and platforms that support your STEAM teaching and advance students' understanding of technology and the world around them.

ARDUINO	AGE	SUPPORTED PLATFORM	SUBJECT MATTER COVERED	DESCRIPTION	WHERE CAN YOU USE THIS?
SCIENCE JOURNAL	9+	Android/iOS App	Science, Technology, Math	A pocket-sized science lab that allows students to experiment, record data, and document observations like a real scientist.	CLASSROOM, HOMESCHOOLING, SELF-LEARNING, AFTERSCHOOL, SCIENCE CLUBS
CLOUD	12+	Web-based application	Science, Technology, Engineering, Math	Write and upload code directly from your browser, connect your devices, and build real-time dashboards.	CLASSROOM, HOMELEARNING, SELF-LEARNING, AFTERSCHOOL, SCIENCE CLUBS
JUNIOR CERTIFICATION	14+	Online exam	Science, Technology	Certify beginner students' knowledge of Arduino, programming & electronics.	CLASSROOM, HOMELEARNING, SELF-LEARNING
IOT CLOUD REMOTE	16+	Android/iOS App	Internet of Things	An app that allows you to control your Arduino devices remotely.	CLASSROOM, HOMESCHOOLING, SELF-LEARNING, AFTERSCHOOL, SCIENCE CLUBS
ARDUINO CERTIFICATION	16+	Online exam	Science, Technology	Certify your knowledge of Arduino in programming, physical computing, and electronics.	CLASSROOM, HOMELEARNING, SELF-LEARNING

## ARDUINO® EDUCATION KITS AT A GLANCE

Each kits four fundamental components for a relevant and engaging learning experience: hardware and components, online learning content, dedicated support, and the Arduino community

LEVEL	ARDUINO KIT	AGE	SUBJECT MATTER COVERED	DESCRIPTION	WHERE CAN YOU USE THIS KIT?
BASICS/ MIDDLE SCHOOL	STUDENT KIT	11+	Science, Technology, Engineering, Math	A programming and electronics kit designed for individual learning.	HOMESCHOOLING, SELF-LEARNING, AFTERSCHOOL, SCIENCE CLUBS
	EDUCATION STARTER KIT	11+	Science, Technology, Engineering, Math	Learn electronics and get started with programming. No experience necessary!	CLASSROOM
	STARTER KIT CLASSROOM PACK	14+	Science, Technology, Engineering, Arts	Get started with electronics quickly and easily. No experience necessary!	CLASSROOM
INTERMEDIATE/ HIGH SCHOOL	CTC GO! CORE MODULE	14+	Science, Technology, Engineering, Math	Everything you need to create engaging and relevant STEAM lessons at high school.	CLASSROOM
	CTC GO! MOTIONS EXPANSION PACK	14+	Science, Technology, Engineering, Math	Build on your students' knowledge with more complex concepts that develop computational thinking and future skills.	CLASSROOM
	EXPLORE IOT KIT	16+	Science, Technology, Engineering, Arts	Innovate, create, transform: get advanced high school and college students on their first step in building internet-connected objects.	HOMESCHOOLING, CLASSROOM, AFTERSCHOOL, SCIENCE CLUBS
ADVANCED/ UNIVERSITY	ENGINEERING KIT REV2	17+	Science, Technology, Engineering, Math	Challenge engineering students and help them develop mechatronic engineering skills.	REMOTE LEARNING, SELF-LEARNING, ENGINEERING LAB
	TINY MACHINE LEARNING KIT	18+	Science, Technology	All the tools you need to bring students' machine learning visions to life.	HOMESCHOOLING, SELF-LEARNING, ENGINEERING LAB





Buy the kit: [store.arduino.cc/student-kit](https://store.arduino.cc/student-kit)  
Code: AKX00025

**QUICK LOOK**

- Age: 11-14
- No. of students per kit: 1
- No. of lessons: 9
- No. of projects: 2 (open-ended)
- Learning time: 25 hours
- Languages: English, Chinese, Croatian, French, German, Italian, Portuguese, Spanish, Thai
- Perfect for self-learning and homeschooling

**WHAT'S IN THE KIT?**

The Student Kit comes with parts and components that are used to build circuits while completing the lessons and projects throughout the course. These include (but are not limited to):

- Learning guidance
- Step-by-step lessons
- Arduino UNO R3
- Breadboard
- Cables, batteries, wires, LEDs, resistors, push buttons
- Multimeter
- Potentiometers, capacitors, phototransistor, temperature sensor
- Servo motor

**STUDENT KIT**

**Learn electronics and get started with programming with this beginner-friendly kit, designed specifically for individual use and homeschooling.**

No prior knowledge is necessary - this kit guides you through 11 exciting activities, introducing concepts like current, voltage, resistance, and developing important 21st century skills, such as problem-solving and critical thinking.

You can easily use the kit for self-learning and homeschooling, as the online platform contains all the content students need: exclusive learning guidance, nine 90-minute lessons, and two open-ended projects.

Watch the Arduino Student Kit in action:  
[youtube.com/arduino](https://youtube.com/arduino)



Use the Student Kit to certify students' knowledge of Arduino, programming & electronics with Junior Certification - see page 30



Preview the content & try a demo lesson here:  
[arduino.cc/education/student-kit](https://arduino.cc/education/student-kit)

**Content & curriculum**

The Student Kit contains all the content students need: exclusive learning guidance, tips for remote learning, nine 90-minute lessons, and two open-ended projects.

Each lesson builds off the previous one, providing a further opportunity for students to apply skills and concepts they've already learned. You can track your students' progression and achievements via a logbook, which students complete as they work through each lesson. The beginning of each lesson provides an overview, estimated completion times, and learning objectives.

Throughout each lesson, there are tips and information that help to make the learning experience easier, and key answers and extension ideas are also provided. There's also an opportunity for students to present their work halfway through the lesson, so teachers can check in on their progress.

This Student Kit follows the US common standards and focuses on core concepts of coding and electronics.

*"I THOROUGHLY ENJOYED THE ACTIVITIES PROVIDED IN THE ARDUINO STUDENT KIT. THE KIT IS GREAT VALUE FOR MONEY...I BELIEVE THE BUILDING, CODING, AND ELECTRONICS ASPECT OF THE PROJECTS WILL REALLY RESONATE WITH STUDENTS AND ENABLE THEM TO FIND SOMETHING TO ENGAGE WITH."*

- Jim Brown, STEM teacher, Sand Creek Middle School



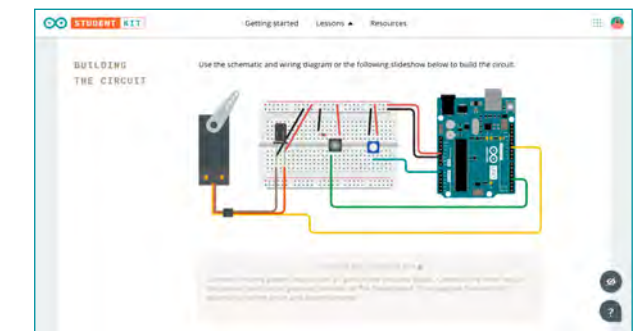
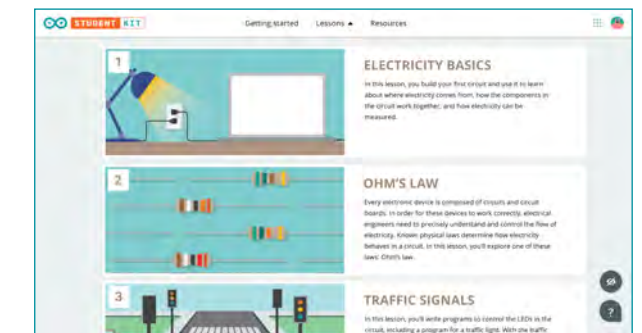
**Benefits of using the Student Kit**

- Affordable
- Quick and easy to get started with step-by-step lessons
- No experience required for educators, parents or children
- Lessons are fun and engaging with real-world topics
- Use the kit for homeschooling
- Go to at the speed of individual ability
- Improve problem-solving and critical thinking skills



**Key learning values**

- Basic concepts of electricity
- Safety
- Schematics
- Writing code
- Controlling a circuit
- Coding concepts
- Controlling a servo motor
- Producing sounds, tones, and music
- Measuring the intensity of light



Want enough kits for your classroom? Check out the Education Starter Kit on page 14

## HOW TO GET HANDS-ON WHILE LEARNING REMOTELY WITH THE ARDUINO STUDENT KIT

Penn State, or The Pennsylvania State University, is a land-grant institution that ranks as one of the best research universities in the world. It is one of the thousands of institutions worldwide affected by the coronavirus pandemic, with professors Herschel Pangborn and Pansy Leung of the Mechanical Engineering department finding new and innovative ways to teach remotely using the Arduino Student Kit.

### Dedicated to education: Meet Herschel Pangborn & Pansy Leung

Dr. Herschel Pangborn is an Assistant Professor of Mechanical Engineering at Penn State. Graduating from the university with a B.Sc. in Mechanical Engineering in 2013, he offers a unique understanding when it comes to the needs and experiences of his students.

Dr. Pansy Leung is the Director of Undergraduate Laboratories, and offers extensive expertise in mechanical engineering, previously working on an artificial heart during a post-doctoral position at the University of Arizona.

What both professors share is a passion for students to learn using hands-on methods in order to equip themselves to solve real-world problems and learn how to create real-world solutions.



Dr. Herschel Pangborn

### The Arduino effect

Herschel and Pansy had both previously used Arduino kits, and say that every experience they've had has been "very consistent and high-quality". Therefore, when it came to ensuring that their students could have an affordable, innovative and hands-on experience even when they were forced to learn from home due to Covid-19, Arduino became the obvious choice. Whilst Herschel admits his junior engineering students were amused that he recommended a kit geared towards 11-13 year olds, once they discovered the open-ended potential for the kit, they used it across projects on their course. Sarah, Amy and Jonah, students studying on both the mechatronics and circuit analysis & instrumentation courses, were also quick to add how helpful they found the kit. Sarah says, "the kit made a big difference to my understanding. As soon as I had it in front of me, I actually understood how circuits work in real life!"

**"Rather than traditionally spending tens of thousands of dollars on some very expensive equipment which is then out of date five or ten years later because of how fast technology moves, spending around \$70 per student on the Arduino Student Kit is actually a much better way to stay up to date because as technology improves, you can swap out different components."**

- Herschel Pangborn, Assistant Professor, Department of Mechanical Engineering, The Pennsylvania State University

## DEPARTMENT OF MECHANICAL ENGINEERING, PENN STATE UNIVERSITY

In an age where hands-on learning has become challenging, the students were grateful to work with something physical, with Jonah adding that, "the kit totally changed my remote learning experience. The Arduino Student Kit gave me an opportunity for hands-on learning in my own home, and that was a game changer."

The department has also used Arduino kits in other ways, with one professor, Jessica Menold, having students use Arduino in their final presentations to build battling robots. In fact, it's been a real departmental effort. Additional Penn State professors involved include Eric Marsh, Jean-Michel Mongeau, and Brian Foley. Many of the new lab procedures were drafted by PhD student Matthew Erdman, who served as Head TA for the course.

**"I for one found it extremely helpful to be able to touch the circuit and manipulate it physically because up until then I'd only been familiar with paper diagrams."**

- Sarah

Dr Pangborn and Dr Leung went on to confirm that the Arduino Student Kit has enabled their students to access tools using up-to-date technology, and that, "they have a multimeter now which is something every engineer should have. They have their own bread boards and wires and I think they're even going to use these things when they do their senior projects."

Aside from what they learn in class, Jonah also added that he enjoys exploring what else Arduino has to offer in his spare time using the "millions of online resources for inspiration!"

### A problem solved for problem-solving

Pansy is keen for students to experience a lab environment from a more hands-on, problem-solving perspective, and was in the middle of an exciting project to transform her lab into a problem-based process when the pandemic hit.

She says, "Students will apply what they learned with Arduino at junior level to solve real problems, instead of just getting an understanding of the theory behind problem-solving". Herschel also supports this, explaining, "Pansy is reinventing our lab so that our students understand that real-world connection. I think that's been scientifically born out by pedagogical research, which says that just confirming equations with students in labs doesn't really help them in terms of understanding better, either in theory or in application. They need the tools to get hands-on".

Amy, a student on both the mechatronics and circuit analysis and implementation courses, added to Pansy's point, saying, "I feel more prepared for the real world because I now have experience building and troubleshooting these systems, knowledge I would not have without the Student Kit."

### What's next for Arduino at Penn State?

As well as making the kit accessible at lab stations when face-to-face teaching can return, the professors at Penn State are hopeful that other classes will start to incorporate Arduino kits into their curriculum.

Pansy is also working on a new project with her students using Arduino kits to create a solar panel circuit, along with sensors to measure power, pressure and temperature.





Buy the kit:  
[store.arduino.cc/arduino-education-starter-kit](https://store.arduino.cc/arduino-education-starter-kit)  
Code: AKX00023

**QUICK LOOK**

- Age: 11-14
- No. of students per kit: 8
- No. of lessons: 9
- No. of projects: 2 (open-ended)
- Total learning time: 25 hours
- Languages: English, Chinese, Croatian, French, German, Italian, Portuguese, Spanish, Thai

**WHAT'S IN THE KIT?**

The Arduino Education Starter Kit contains all the hardware and software you need for eight students (in groups of two), including all the components and projects throughout the course. These include (but are not limited to):

- Access to exclusive online content
- 4x Arduino UNO R3
- Breadboards
- Cables, batteries, wires, LEDs, resistors, push buttons
- Multimeters
- Potentiometers, capacitors, phototransistors, temperature sensors
- Motors

**EDUCATION  
STARTER KIT**

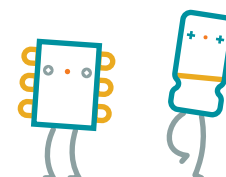
**Get started with programming and electronics in your classroom with a set of step-by-step exercises - no previous experience necessary!**

Teach middle school students the basics of programming, coding, and electronics including current, voltage, and digital logic. The **Arduino Education Starter Kit** is designed for use in the classroom, with students working together to complete 11 exciting lessons.

Lessons and projects can be paced according to your students' abilities, allowing each student to learn at their own level. You can integrate the kit throughout the curriculum, including subjects such as physics, chemistry, and even history.

There's enough content for an entire semester, so your students have the opportunity to become confident in programming and electronics and hone vital future skills, such as collaboration and problem-solving.

Watch the Arduino Education Starter Kit in action:  
[youtube.com/arduino](https://youtube.com/arduino)



Use the Education Starter Kit to certify students' knowledge of Arduino, programming & electronics with Junior Certification - see page 34



Preview the content & try a demo lesson here:  
[arduino.cc/education/edu-starter-kit](https://arduino.cc/education/edu-starter-kit)

**Content & curriculum**

The kit comes with access to an online platform with nine guided lessons, two open-ended projects, a glossary, invention spotlights, tips, and log books filled with exercises - a total of up to 25 hours of learning. Teachers are supported with teacher notes, evaluation guidelines, curriculum materials, and time management tables.

Each lesson builds off the previous one, giving students a further opportunity to apply the skills and concepts they have already learned.

The kit follows the US Common Standards and focuses on core concepts of coding and electronics.



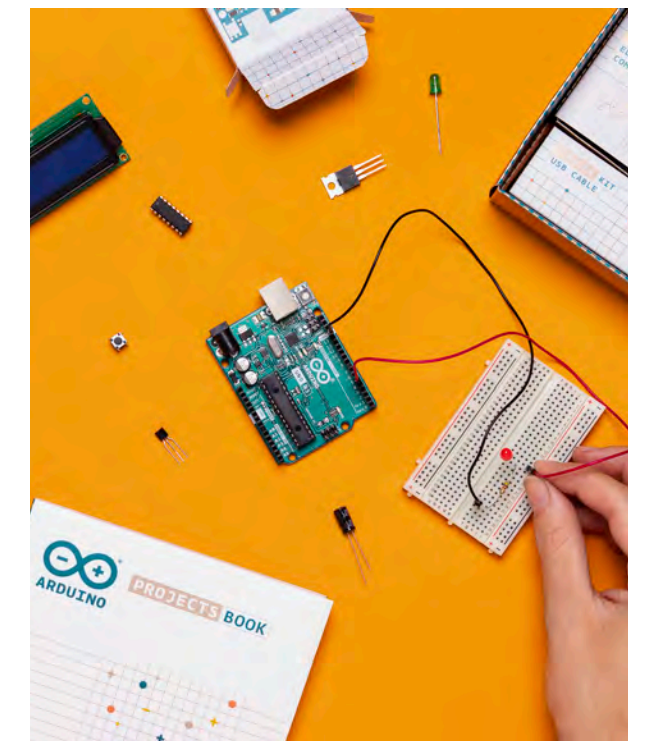
**Benefits of using this kit in your classroom**

- Easy to get started
- No prior coding or electronics experience is required
- Fun and engaging projects are linked to real-world topics
- Boost critical thinking, collaborative learning, and problem-solving skills
- Teach engaging lessons that are relevant, playful, and enable all students to thrive
- Increase your own confidence and teamwork skills with specially-designed content



**Key learning values**

- Basic concepts of electricity
- Safety in class
- Schematics
- Writing code
- Controlling a circuit
- Coding concepts
- Controlling a servo motor
- Producing sounds, tones, and music
- Measuring light intensity



*"WHEN WORKING WITH THE ARDUINO EDUCATION STARTER KIT, I LEARNED NEW CONCEPTS THAT I DIDN'T KNOW BEFORE AND I WANT TO LEARN HOW I CAN USE IT IN LIFE. IT MADE ME THINK ABOUT NEW POSSIBLE CAREERS"*

- Becca, middle school student, Pittsburg, USA



Want a kit for individual use? Check out the Student Kit on page 12





Buy the kit:  
[store.arduino.cc/starter-kit-classroom-pack](https://store.arduino.cc/starter-kit-classroom-pack)  
Code: K000007-6P

#### QUICK LOOK

- Age: 14+
- No. of students per kit: 12
- No. of projects: 15
- Total learning time: 11.5 hours
- Languages: Arabic, Chinese, French, German, Italian, Korean, Portuguese, Spanish

#### WHAT'S IN THE KIT?

This classroom pack contains six Arduino Starter Kits, each of which can be used by two students. Each of the six Arduino Starter Kits you get in the classroom pack includes:

- Arduino UNO R3
- USB cable
- Breadboard
- Wires, pushbuttons, LCDs, LEDs, diodes, resistors
- Phototransistors
- Potentiometers
- Temperature sensor
- Tilt sensor
- Motors
- Transistors
- Capacitors...and more!

## STARTER KIT CLASSROOM PACK

### Quickly and easily get started with learning electronics using the Arduino Starter Kit, designed for a full classroom.

The **Starter Kit Classroom Pack** teaches a class of 12 students about current, voltage, and digital logic, as well as the fundamentals of programming. There's an introduction to sensors and actuators and how to understand both digital and analog signals. Within all this, you'll be teaching students how to think critically, learn collaboratively, and solve problems.

These kits walk your middle school students through the basics of electronics in a hands-on way, by learning through building creative projects. You get a selection of the most common and useful electronic components and a guide book with instructions for 15 projects that help students take their first steps into the world of electronics. Starting with the basics of electronics before moving on to more complex projects, the kit helps students control the physical world using sensors and actuators.

Each individual Starter Kit can be used by two students, so this classroom pack is ideal for a classroom of twelve students.


Watch the Starter Kit in action:  
[youtube.com/arduino](https://youtube.com/arduino)


#### Content & curriculum

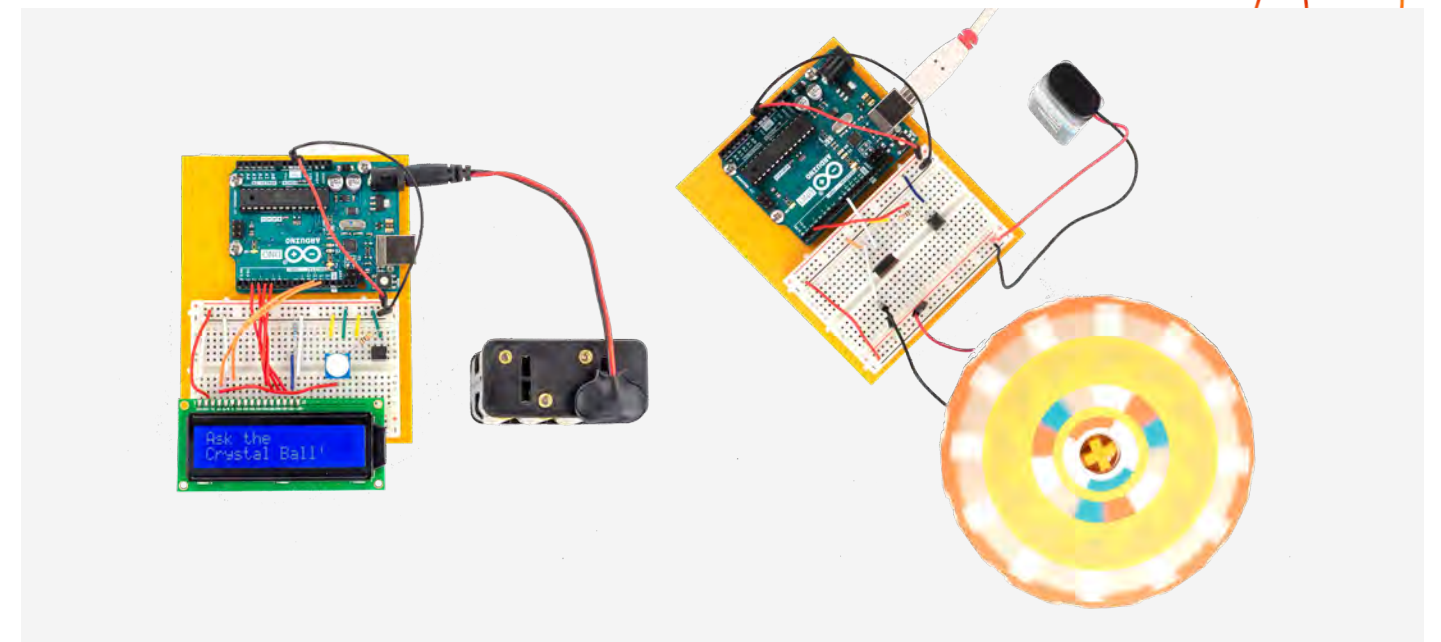
The Arduino Starter Kit comes with a 170-page guide book, which is one of the key features of this kit. It provides full instructions for each of the 15 projects, and helps students (and educators) easily follow the program. There are also plenty of helpful hints and tips.



Preview the guide book:  
[online.flippingbook.com/view/306420895/](https://online.flippingbook.com/view/306420895/)

-  **Benefits of using the Classroom Pack**
- No prior coding or electronics experience is required
  - Easy and simple to get started
  - Projects are fun and engaging with real-world topics
  - Boost students' critical thinking, collaborative learning, and problem-solving skills

-  **Key learning values**
- Learn the basics of using Arduino in a hands-on way
  - Get to know the most common and useful electronic components
  - Take your first steps into the world of electronics with interactive and sensing objects
  - Programming logic and syntax



"THE ARDUINO PLATFORM IS THE BEST WAY TO GET YOUR KIDS INTERESTED IN ELECTRONICS AND CODING. WITH EASY-TO-FOLLOW INSTRUCTIONS ALL LAID DOWN IN A NIFTY PROJECT BOOK, YOUR CHILD (AND EVEN YOU, YOURSELF) WILL HAVE A LOT OF FUN"

- Patrick Sinclair, All Home Robotics



Use the Starter Kit to certify students' knowledge of Arduino, programming & electronics with Arduino Certification - see page 30





Buy the Kit:  
[store.arduino.cc/ctc-go-core](https://store.arduino.cc/ctc-go-core)  
Code: AKX00015

#### QUICK LOOK

- Age: 14-17
- No. of students per kit: 24 students & 3 teachers
- No. of practical lessons: 8
- No. of projects: 12 (6 project building, 6 experimental sessions)
- Total learning time: 15 hours
- Languages: English, German, Spanish, Italian, Portuguese, French

#### WHAT'S IN THE KIT?

The CTC GO! Core Module includes all the materials you need to teach 24 students during 20 sessions of 45 minutes:

- Eight Arduino UNO WiFi Rev2 programmable boards
- Eight Arduino Education Shields
- Two different-sized breadboards for every board
- Electronic components including resistors, LEDs, pushbuttons, and buzzers
- Sensors including potentiometers, light, and ultrasonic sensors
- Modular building pieces for building eight guided projects
- Teacher guides
- Training webinars
- Replacement parts, and much more

## CTC GO! CORE MODULE

**CTC GO! is a STEAM learning kit for high school that integrates programming and electronics with your subjects through a set of playful, hands-on experiments grounded in the real world.**

Engage high school students in **STEAM** subjects, teach them how to use technology as a tool in a playful, hands-on learning environment, and how to apply that knowledge in the real world. A modular cross-curricular program, **CTC GO! Core Module** provides an easy-to-use, practical approach to STEAM concepts through project-based learning and enables students to design, create, and test a series of playful, well-documented projects and easy-to-assemble experiments.

What makes this kit really stand out is the training and support it comes with. This includes training webinars with an Arduino Education expert, training videos which explain each lesson's concepts, shorter videos which expand on lesson content, and direct email support from an education expert.

Watch the Arduino CTC Go! Core Module in action:  
[youtube.com/arduino](https://youtube.com/arduino)



Preview the content & try a demo lesson here:  
[arduino.cc/education/ctc-go](https://arduino.cc/education/ctc-go)

#### Content & curriculum

The software platform for educators provides all the materials you need for each lesson, resources to help you with lesson preparation, content tips, timing suggestions for classroom management, and curriculum links.

Educators also have access to the software platform for pupils, which includes step-by-step instructions, assembly videos, and fun activities to help them get started with programming, electronics, and building fully-functional, interactive projects.

All materials are created following latest education standards and relevant future century skills, and aligned with the National Curriculum of England.

*"THE STUDENT-LED LESSONS NAVIGATE USERS THROUGH WIRING THEIR OWN CIRCUITS AND THEN PROGRAMMING THE INCLUDED ARDUINO BOARD VIA THE ARDUINO SOFTWARE (IDE) TO MAKE LEARNING COME TO LIFE ON THE TABLE IN FRONT OF THEM."*

- Corinne Pachl, Technical Editor, Pitsco

#### Benefits of using the CTC GO! Core Module

- Everything you need for high school STEAM lessons in one place
- Easy to get started, with all the support you need
- Teach engaging lessons that are relevant, fun, and enable all students to thrive
- Enhance students' problem-solving and communication skills
- Create a playful, collaborative environment where students want to learn
- Extra support for students and educators through direct contact with our experts; concept videos; and meaningful information for a better learning experience

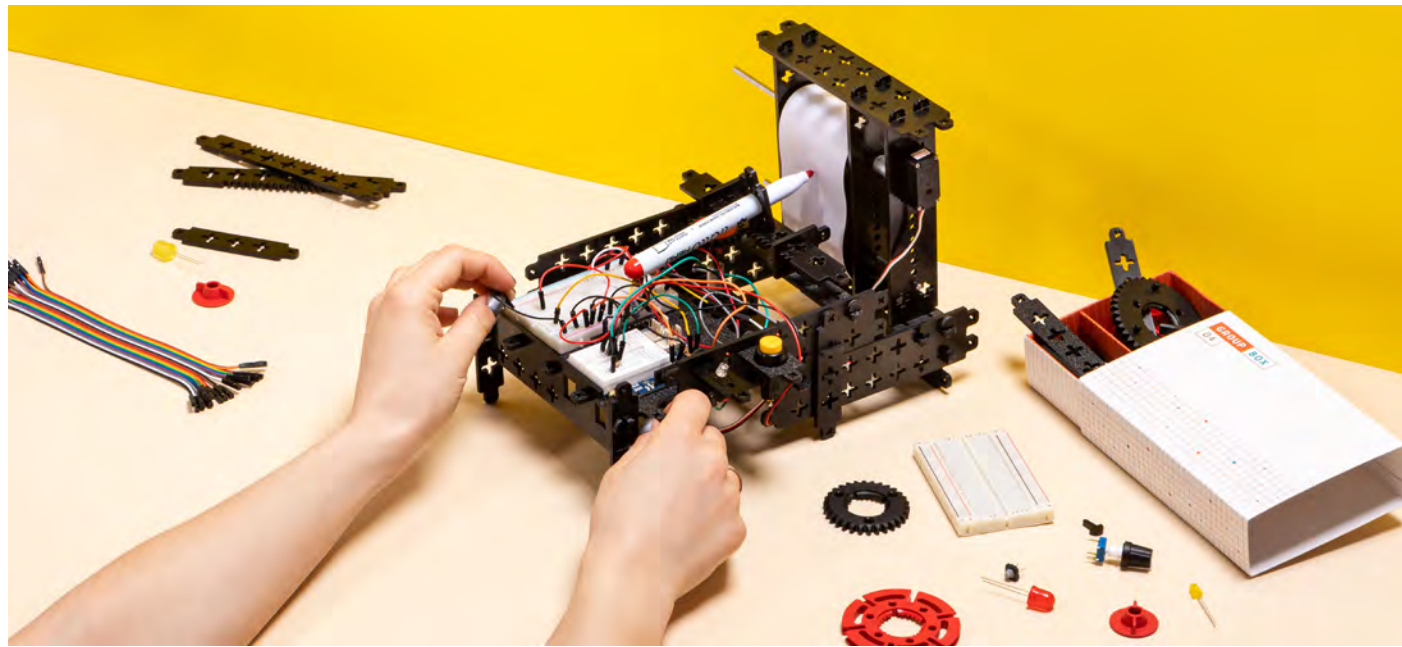
#### Key learning values

- The basics of electronics, reading schematics, and connecting commonly used components
- The basics of text-based programming language, controlling components, and reading data using code
- Creative ways of using technology, designing and developing physical computing projects
- Working collaboratively to tackle real-world problems within given constraints and instructions



**i** BUILD ON STUDENTS' LEARNING WITH THE CTC GO! MOTIONS EXPANSION PACK - see page 20





Buy the Kit:  
[store.arduino.cc/ctc-go-motions](https://store.arduino.cc/ctc-go-motions)  
Code: AKX00021



**QUICK LOOK**

- Age: 14-17
- No. of students per kit: 24 students & 3 teachers
- No. of lessons: 4
- No. of projects: 4
- Total learning time: 10.5 hours
- Languages: English, Spanish, French

**WHAT'S IN THE KIT?**

A toolbox with all the specific motions components and materials you need to build several guided experiments and projects in addition to the Core Module components:

- 16 servo motors
- Batteries and wires
- Mechanical assembly pieces
- Two markers
- Two screwdrivers, plus more

**Build on your high school students' STEAM knowledge with more complex mechanical concepts that develop computational thinking and future skills.**

If you've taken your students through the CTC GO! Core Module, the **CTC GO! Motions Expansion Pack** will build on what they have already learned about how to use mechanical parts and add movement to the projects.

The **CTC GO! Motions Expansion Pack** challenges students to go a step further in computing and design and technology by introducing them to new and more complex programming concepts that develop their logical reasoning, computational thinking, and problem-solving skills. The pack consists of essential mechanical and electronic components that allow students to add movements to their projects, and can be used for understanding the application of computational thinking in physics and math.

As an educator, you'll still get all the teaching support you need with webinars, videos, guides, and direct contact with an expert.

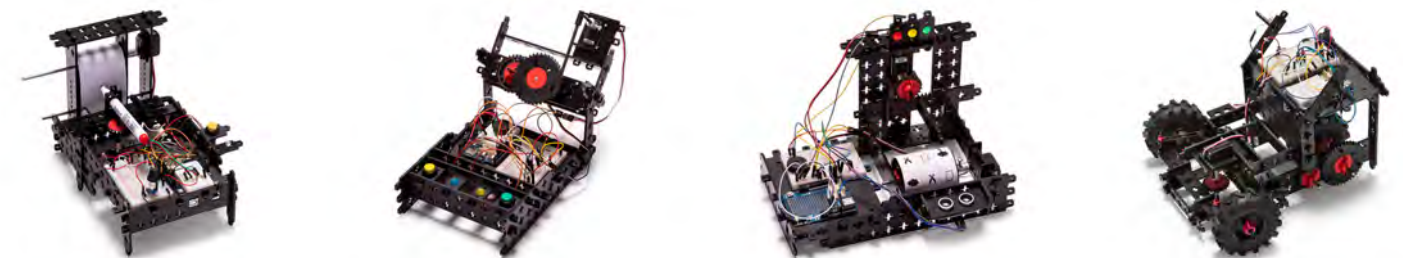
**Content & curriculum**

This expansion pack includes 14 learning sessions of 45 minutes each, with four guided lessons to learn how to start working with motors; three guided project-building sessions to apply this knowledge; and seven self-guided project-building sessions.



Preview the content & try a demo lesson here:  
[arduino.cc/education/ctc-go](https://arduino.cc/education/ctc-go)

It's aligned to the English National Curriculum, which is used in international schools across the world, and the U.S.'s NGSS for STEAM subjects for students aged 14 to 17. Curriculum links are provided within the educators' software platform.



*"THE ARDUINO EDUCATION CTC KITS HAVE STUDENTS GO THROUGH THIS ENGINEERING DESIGN LOOP IN EACH LESSON, WHICH ENABLES THEM TO PRACTICE ADAPTABILITY, CREATIVITY, AND PERSISTENCE. THESE SKILLS, AND OTHER 21ST-CENTURY SKILLS, CARRY STUDENTS INTO THE CAREERS OF TOMORROW."*

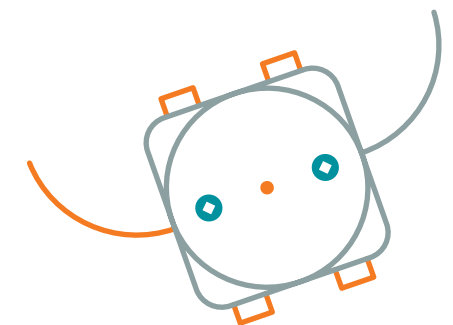
- Corinne Pachl, Technical Editor, Pitsco

**Benefits of using the Expansion Pack**

- Extend students' learning and challenge them to go one step further
- Boost learning outcomes in STEAM subjects
- An easy-to-implement, seamless addition to the Core Module
- Teach engaging lessons that are relevant, playful, and enable all students to thrive
- Enhance students' problem-solving and teamwork skills with specially-designed content and class dynamics

**Key learning values**

- Understanding the basics of servo control and being able to translate servos' rotational and linear motion by using gears and pulleys
- Expanding programming knowledge and concepts, controlling multiple attributes by reading data from sensors
- Being creative in ways of using resources and technology to design and develop physical computing projects
- Working collaboratively and efficiently to tackle real-world problems by following a design process







Buy the Kit:  
[store.arduino.cc/explore-iot-kit](https://store.arduino.cc/explore-iot-kit)  
Code: AKX00027

**QUICK LOOK**

- Age: 16+
- No. of students per kit: 2
- Total learning time: 10 hours
  - 3h of guided activities with 1 open ended project
  - 7h of guided activities with 9 open ended projects (comes with the School Plan - see page 37)
- Languages: English, Spanish, Italian, German, Portuguese

**WHAT'S IN THE KIT?**

- Arduino MKR WiFi 1010
- MKR IoT Carrier
  - Temperature, humidity, pressure, UV, light, gesture, proximity, color, Accelerometer & touch buttons
  - Plug and play moisture and PIR sensors
  - 2 Relays (24V), OLED display, buzzer and RGB LEDs
  - Plug-and-play connectors and cables and much more
- Plastic case

**EXPLORE IoT KIT**

**Innovate, create, transform: take your first step in building internet-connected objects and explore the Internet of Things (IoT)**

Get advanced high school and college students started with creating connected devices, known as the **Internet of Things**, quickly and easily. They'll learn how to build internet-connected objects and how to use technology to solve real-world sustainability problems through step-by-step tutorials and projects. Students will also need to research and propose solutions for challenging open-ended projects - fun, creative experiments with real-life components.

Create connections, decompose complex problems into simpler parts, allow students to innovate, and enhance their understanding of real-world technology with the Explore IoT Kit - an industry-standard IoT tool that will help prepare them for their future careers.

The kit includes the Arduino MKR IoT Carrier, which provides infinite possibilities for IoT projects. The integrated sensors, circuits and display leave you free to focus on programming and prototyping your ideas, rather than wiring and troubleshooting.

Watch the Explore IoT Kit in action:  
[youtube.com/arduino](https://youtube.com/arduino)

**i** For full access to all the activities and projects you can do with the Explore IoT Kit, subscribe to the School Plan in the Arduino Cloud - see page 36.



**Content & curriculum**

The Explore IoT Kit provides a comprehensive introduction to and understanding of the Internet of Things. After looking into current academic and industrial standards, we identified important concepts to teach using this kit. This includes a foundational introduction to the IoT with getting started activities, understanding how devices communicate and the tools used to facilitate communication, data management, analysis, and computational thinking by using real-world sensors to capture and modify meaningful data.

Students and educators have access to an online platform that includes 3 hours of guided activities and 1 open ended project.

To access even more activities and open-ended projects, that teach students the basics of IoT, subscribe to the School Plan in the Cloud (see page 36). This subscription gives you hands-on learning content that covers the fundamentals of IoT: hardware, networking, algorithms and programming, security, and data handling, all related to real-world sustainability issues. This learning content gives students the opportunity to research, draft, and build on their knowledge to propose solutions to real-world sustainability issues.

*"THIS IS WHERE YOU SHOULD START WITH IOT. [...] THEY PROVIDE 10 EDUCATIONAL EXERCISES WHICH COULD EASILY BE EXECUTED BY A STUDENT WITH SOME BACKGROUND IN CODING AND COMPUTERS. THIS WOULD BE A SLAM DUNK IN A HIGH SCHOOL CLASSROOM ENVIRONMENT."*

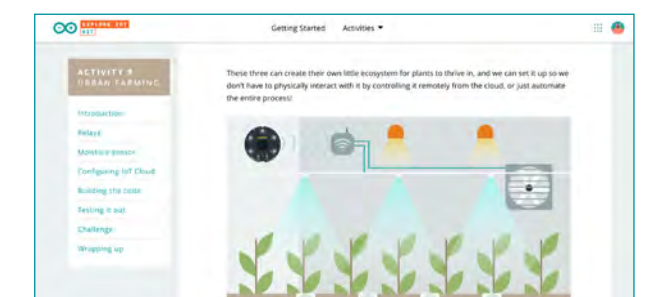
- TC, USA

**Benefits of using the Explore IoT Kit in your classroom**

- Get started quickly and easily with the Internet of Things
- Make a complex subject simple and accessible
- Enhance students' understanding of real-world technology and its applications
- Learn critical future skills for 21st century careers
- Be an innovator - learn how to use technology to make an impact on society
- Build functional prototypes inspired by real-world applications
- Gain confidence in designing and making your own connected projects
- Combine your knowledge with actual industry innovations

**Key learning values**

- Tackling real-world issues linked to the UN's sustainability goals
- Using technology to carry scientific investigations
- Using IoT devices to collect and process various data sets
- Formulating scientific research questions and data analysis
- Identifying systematic and random errors in the collected data
- Understanding the role of sensor technology in sustainable development
- Collaborating to solve community based problems using technological tools
- Creating, managing, and controlling visual dashboards using the Arduino IoT Cloud



Preview the getting started activities here:  
[arduino.cc/education/explore-iot-kit](https://arduino.cc/education/explore-iot-kit)

**i** Find out more about the Cloud and teacher subscription plans on page 36.



## HOW WHITE MOUNTAINS REGIONAL HIGH SCHOOL USED ARDUINO & THE IOT TO BUILD AN AUTOMATED GREENHOUSE

The internet of things, or IoT, refers to physical devices that are connected to the internet, collecting and sharing data with each other.

Teaching high school students about how the IoT works has some awesome benefits. It prepares them for future careers, enhances their understanding of the world and technology around them, helps bridge the STEM skills gap, and it supports them in securing jobs.

High school students taking computer technology, environmental and sustainability, and mechanics and fabrication classes at White Mountains Regional High School in New Hampshire, US, have recently collaborated to build an internet-connected greenhouse.

### Students are making school life easier with the IoT

Computer technology teacher Dan Hubacz, environmental and sustainability instructor Aidan Howry, and mechanics and fabrication teacher Dana Graham - and of course their students - are working with remote sensing applications that allow them to do things like automate lighting, regulate temperature, adjust humidity, and check on the greenhouse from their phones.

And this is all powered by the **Arduino Cloud** and the **Arduino Explore IoT Kit**

Dan says: "We were working with the Explore IoT Kit, and instantly I thought about what the potential uses are for this to make our life at White Mountains Regional High School a little bit better. I want my students to be working on things that are real and matter to them, and that also potentially have an impact on the community."



Daniel Hubacz

With that in mind, Dan worked with Aidan Howry to automate parts of the greenhouse she and her environment and sustainability students have been working in. The aim of this project was to automatically take care of the plants that the students grow throughout the year - without the need to come in on weekends and during school breaks to water and feed the plants, and ensure they were at the right temperature or had enough sunlight or water.

As Aidan says: "I would be on board in any way that the greenhouse could be automated and not just be a manual operation, because it's pretty challenging. We don't have water automation, we don't have an irrigation system, and we don't have any way to apply a liquid based fertilizer. For lights we use natural daylight, and we don't have any temperature, humidity or carbon dioxide control. There was a lot of room for opportunity!"

"I want my students to be working on things that are real and matter to them, and that also potentially have an impact on the community."

- Daniel Hubacz  
Computer Technology Teacher

### How this IoT project is helping students learn future skills

Talking about the project as a whole, Aidan goes on to say that: "It shows the kids what the opportunity is - large greenhouse facilities in industry would be automated. It models for the kids what they might see in industry."

## WHITE MOUNTAINS REGIONAL HIGH SCHOOL, NH

### What students think about their IoT project

Students from the computer technology, environmental and sustainability, and fabrication classes have acquired practical skills that they can take with them into the future, from connecting devices to automating manual processes and welding parts.

But they've also learned more from this project than tangible skills. They've honed their collaboration and communication, and they've got excited about learning and seeing results that mean something to them.

Madi, from the environmental and sustainability class, says: "I feel like we've been able to acquire a lot of different skills. Working with other groups, other people that we wouldn't normally be grouped with, gives you a real world experience." And her classmate Clara agrees, saying: "You can see how you can't really have one team without the other. It's really cool to see how your research can be implemented. That helps to be passionate about it. It's not hypothetical."

Jaden, who's in the fabrication class, says: "For me, I feel like when it comes together I think it's going to be like a new hope for what this school can do and what we are capable of. It's what we can do as a group and what we can produce to make the world a better place."

"For me, I feel like when it comes together I think it's going to be like a new hope for what this school can do and what we are capable of. It's what we can do as a group and what we can produce to make the world a better place."

- Jaden, Student

"This project has been exciting because of the collaboration between the three classes. You see kids who wouldn't normally be in the same classrooms actually working together."

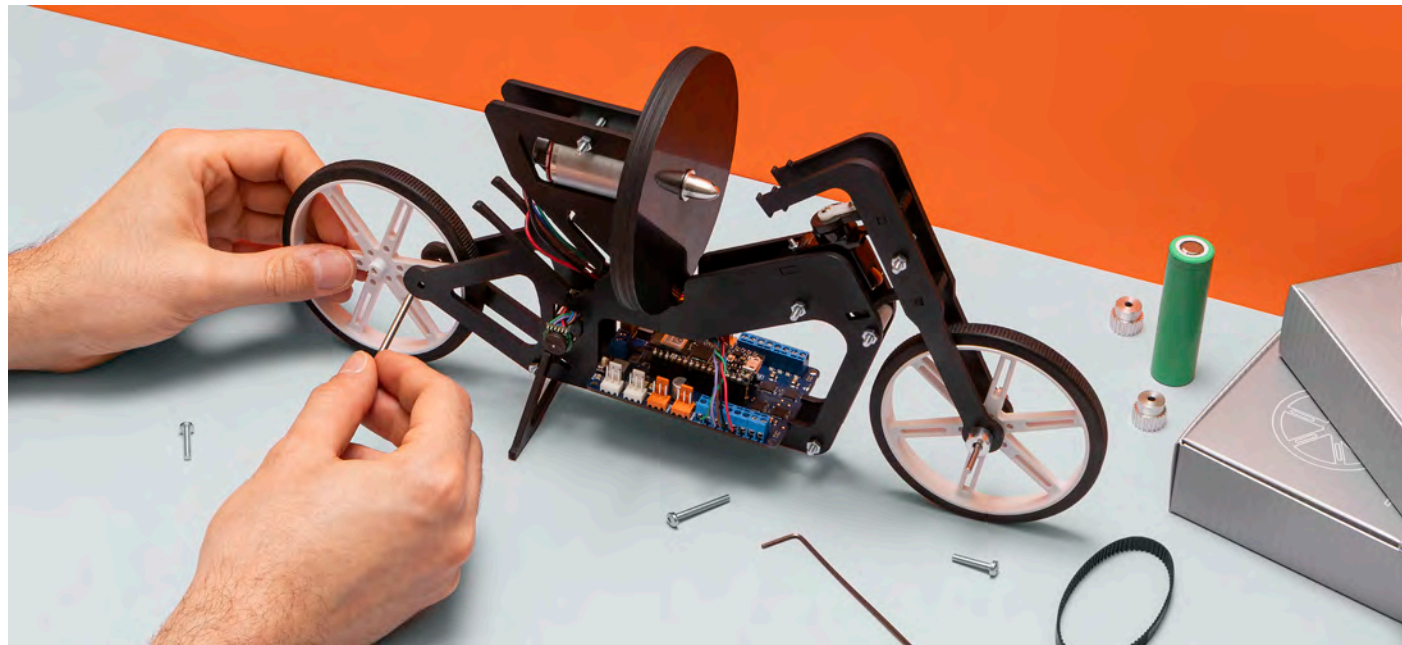
- Dana Graham, Welding/Fabrication & Industrial Mechanics Teacher

### How the Explore IoT Kit supports this project

The Explore IoT Kit gets advanced high school and college students to take their first steps in building internet-connected objects. In Dan's words: "As students were learning this topic, I didn't have to stand up there and lead the class through every little thing. I could point them to the online resources. It's a really slick system that's very user-friendly, especially for a newbie. My students are able to learn at their own pace and on their own time, and accumulate knowledge and build their skills as they need them and as their project requires."

"I think a project like this helps make that happen. It's real world for the students. They're out of the textbook and they're doing things hands-on, and something that's meaningful."

- Aidan Howry, Environmental & Sustainability Instructor



Buy the kit:  
[store.arduino.cc/engineering-kit-r2](https://store.arduino.cc/engineering-kit-r2)  
Code: AKX00022

#### QUICK LOOK

- Age: 17+
- No. of students per kit: 2-3
- No. of projects: 3
- Languages: English, Spanish

#### WHAT'S IN THE KIT?

- Arduino Nano 33 IoT
- Arduino Nano Motor Carrier
- Mechanical pieces to assemble the projects
- Batteries, motors, cables, wheels
- Webcam, and much more!
- A one-year individual license for MATLAB and Simulink
- E-learning platform

## ENGINEERING KIT R2

Designed around project-based learning, this kit is a hands-on learning experience that helps students develop key engineering skills and learn core aspects of mechatronics through MATLAB and Simulink programming.

The **Engineering Kit Rev2** is a versatile, practical resource that provides students with the necessary tools to explore mechatronic concepts, such as control systems, kinematics, and image processing, in an hands-on way.

Students are able to connect what they learn with real-world industries, are encouraged to think critically, and improve their depth of knowledge by learning theoretical concepts through experimentation. The kit demonstrates key control system concepts, core aspects of mechatronics, and MATLAB and Simulink programming. Ideal for advanced high school and college students, the projects cover the basics of model-based design, control systems, image processing, robotics, signal processing, and more - plus they're fun to do!

MATLAB provides an environment to program, design and iterate complex computational problems related to image processing, data analytics and other embedded applications.

Watch the Engineering Kit R2 in action:  
[youtube.com/arduino](https://youtube.com/arduino)

In partnership with



Preview the content & try a demo lesson here:  
[arduino.cc/education/engineering-kit](https://arduino.cc/education/engineering-kit)

#### Content & projects

The Arduino Engineering Kit Rev2 features three hands-on projects that can be tailored to your curriculum.

- Self-balancing motorcycle: Design a control system to keep this motorcycle upright using a flywheel for balance
- Webcam controlled rover: Build and program a rover that can navigate between given reference points using a camera to locate its position and move objects with a forklift mechanism
- Drawing robot: Build and program a robot that can duplicate any drawing it's given on a whiteboard

In addition to the open-source hardware in the kit, each student has access to an e-learning platform with step-by-step instructions, lessons, and other learning materials. The kit also comes with a one-year individual free trial license for MATLAB and Simulink, providing the students with hands-on experience in system modeling and embedded algorithm development.

"THE KIT WAS VERY EASY TO GET STARTED WITH. THE COURSEWORK IS LAID OUT NICELY INTO CHAPTERS AND IS EASY TO FOLLOW. THE STEP BY STEP PROCESS TO CONNECT THE BOARDS AND COMPONENTS TO THE VARIOUS SOFTWARE (ARDUINO IDE, MATLAB, SIMULINK) GIVES ANY USER A FOUNDATION OF CONFIDENCE IN THE BASICS OF THE TECHNOLOGY BEFORE JUMPING INTO THE MORE COMPLEX."

- Tom Rendon, teacher, Tulsa University, USA

#### Benefits of using the Engineering Kit Rev2

- Extensive learning outcomes provide students with a strong understanding of basic engineering concepts
- Students want to learn because the projects are fun and create an outcome-driven environment
- Broaden your students' 21st century skills with collaborative learning and problem-solving, and challenge them to think critically
- Help students connect their knowledge with real-world industries
- Educators can freely tailor the kit to their students' needs and their own curriculum
- Improve depth of knowledge by learning theoretical concepts in a hands-on way

#### Key learning values

- System modeling
- Control theory
- Robotics and mechatronics
- Image and video processing
- Text-based programming with MATLAB
- Visual programming with Simulink
- How to analyze and visualize data
- How to model and simulate behavior of dynamic systems



Includes a 1-year individual free trial license for MATLAB and Simulink.





Buy the kit:  
[store.arduino.cc/  
arduino-tiny-machine-learning-kit](https://store.arduino.cc/arduino-tiny-machine-learning-kit)  
Code: AKX00028

#### QUICK LOOK

- Age: 18+
- No. of students per kit: 1
- Languages: English

#### WHAT'S IN THE KIT?

- Arduino Nano 33 BLE Sense Lite board
- OV7675 Camera
- Arduino Tiny Machine Learning Shield
- USB A to Micro USB Cable

## TINY MACHINE LEARNING KIT

**The Tiny Machine Learning Kit, along with its related apps and courses, will equip you with all the tools you need to bring your ML visions to life.**

Ever wondered how to build a small intelligent device that reacts to sounds like a keyword being spoken, recognizes gestures like waving a magic wand, or even recognizes faces? With this kit, you can do all of that and more.

The Tiny Machine Learning Kit, combined with the exciting TinyML Applications and Deploying TinyML on Microcontrollers courses that are part of the Tiny Machine Learning (TinyML) specialization from EdX, will equip you with all the tools students need to bring their ML visions to life.

The kit consists of a powerful board equipped with a microcontroller and a wide variety of sensors. The board can sense movement, acceleration, rotation, barometric pressure, sounds, gestures, proximity, color, and light intensity. The kit also includes a camera module and custom Arduino shield to make it easy for students to attach their components and create their very own unique TinyML project.

You'll also be able to explore practical ML use cases using classical algorithms as well as deep neural networks powered by TensorFlow Lite Micro. The possibilities are limited only by your students' imagination!

#### Content & projects

A Professional Certificate program is offered by Harvard University and Google TensorFlow. Students will learn about the emerging field of Tiny Machine Learning, its real-world applications, and the future possibilities of this transformative technology.

In partnership with



#### Benefits of using the Tiny Machine Learning Kit

- Extensive learning outcomes provide students with a strong understanding of TML, its real-world applications, and future possibilities
- Broaden students' knowledge in a cutting-edge field
- Improve depth of knowledge by going beyond the traditional machine learning toolkit with hands-on experience
- Combine data science, computer science, and engineering to feature real-world application case studies

#### Key learning values

- Fundamentals of machine learning, deep learning & embedded devices
- How to gather data effectively for training machine learning models
- How to use Python to train and deploy tiny machine learning models
- How to optimize machine learning models for resource-constrained devices
- How to conceive and design your own tiny machine learning application
- How to program in TensorFlow Lite for Microcontrollers

This first course, Fundamentals of TinyML, teaches students the fundamentals of machine and deep learning. They will learn the language of tiny machine learning, which goes beyond the traditional machine learning toolkit due to the energy and memory constraints of tiny devices.

The second course, Applications of TinyML, dives into an array of applications, such as how tools like voice recognition work in practice on small devices and how to implement common algorithms, such as neural networks.

The third course, Deploying TinyML, uses the TinyML Program Kit for students to gain hands-on experience with training and deploying machine learning into tiny embedded devices.

Please note that this content is offered by Harvard University and Google's TensorFlow team. It does not include Arduino Education content.



**"THE FUTURE OF MACHINE LEARNING IS TINY AND BRIGHT. WE'RE EXCITED TO SEE WHAT YOU'LL DO!"**

- Prof. Vijay Janapa Reddi, Harvard University and  
Pete Warden, Google



## ARDUINO CERTIFICATION

You can choose from two different certifications - Junior Certification and the Arduino Certification Program.

Junior Certification is an entry level certification aimed at ages 14+ and/or those just starting out with Arduino, while the Arduino Certification Program is an intermediate qualification for those aged 16+ who've been using Arduino for a year or more.

Both certifications certify students' knowledge of Arduino, programming & electronics.



SKU: AKX00043 (bundle)  
SKU: AVX00067 (exam only)

### QUICK LOOK

- Age: 14+
- Multiple-choice, online exam
- Answer 25 questions in 60 minutes
- Languages: English

### EXAM SUBJECT AREAS

- Electricity
- Circuits and schematics
- Arduino boards and IDE
- Electronic components
- Programming

### WHAT'S INCLUDED?

There are two ways to get certified:

1. The Certification bundle: Includes the Arduino Student Kit, access to the online exam and one attempt to pass the exam
2. Online access to the exam only: This option includes access to the online exam with one attempt to pass the exam

### BENEFITS OF TAKING THE EXAM

- Affordable way to certify skills
- Boost students' confidence in STEM subjects
- Take the exam online anywhere, at any time
- A springboard to more challenging learning with Arduino

## JUNIOR CERTIFICATION

### What is Junior Certification?

Junior Certification is an online multiple-choice exam that can be completed from any computer with access to the internet. It consists of 25 questions with a 60-minute time limit.

Students receive their results immediately after submission, indicating whether they passed or failed. Passing the exam will grant students the Arduino Junior Certification certificate.

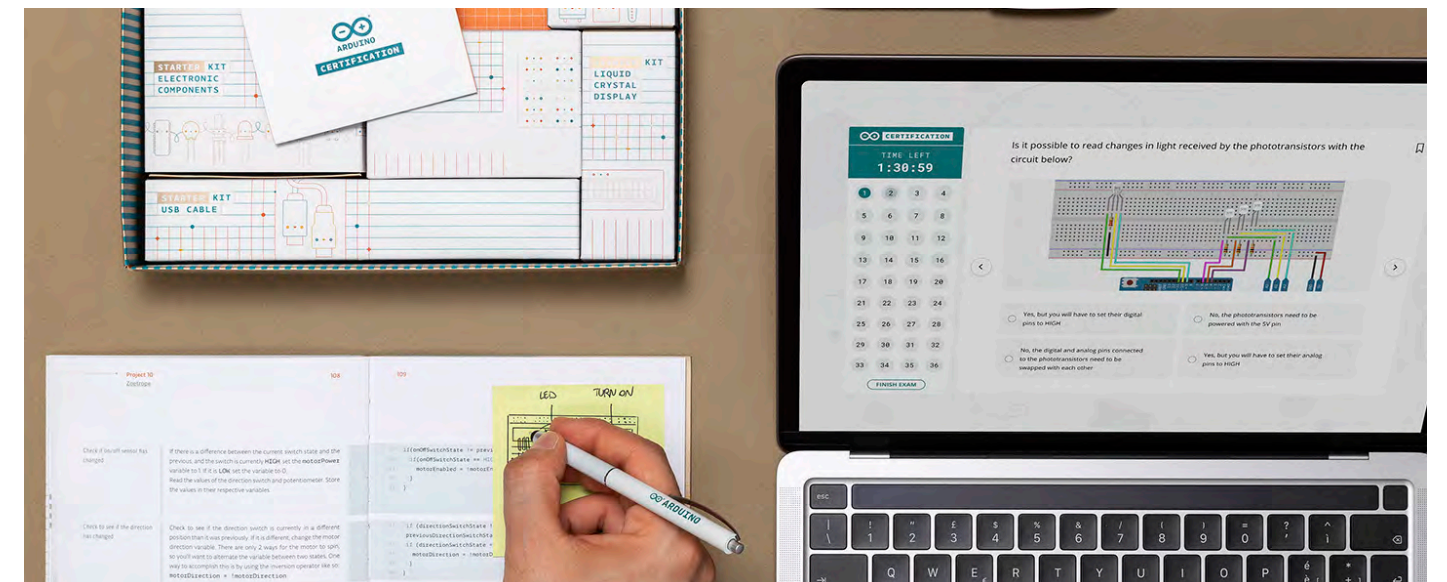
### Certify students' knowledge of Arduino, programming & electronics.

Junior Certification is the first tier in the Arduino Certification Program, which enhances students' personal skills while providing official recognition throughout their development.

The exam is multiple-choice and taken online, and provides official certification for those aged 14+ on knowledge of Arduino-related electronics and programming.

When students get Junior Certification, it demonstrates their aptitude, skills, and experience, not only with using Arduino components, but also with the subject matter. Junior Certification also provides educators and parents with an opportunity to assess their students' or child's level.

The exam is based on topics covered by the Arduino Student Kit (page 10) and the Arduino Education Starter Kit (page 14) - you only need to use one of these kits, not both. The more students have used the kit, the better their chances of gaining Junior Certification.



Get certified:  
[store.arduino.cc/fundamentals-bundle](https://store.arduino.cc/fundamentals-bundle)  
SKU: AKX00020 (bundle)  
SKU: AVX00067 (exam only)

### QUICK LOOK

- Age: 16+
- Multiple-choice, online exam
- Answer 36 questions in 75 minutes
- Languages: English, German, Spanish, Italian, Chinese, Greek, Bengali

### EXAM SUBJECT AREAS

- Electricity
- Reading circuits and schematics
- Arduino boards & IDE
- Frequency and duty cycle
- Electronic components
- Programming syntax and semantics
- Programming logic

### WHAT'S INCLUDED?

There are two ways to get certified:

3. You can purchase the exam on its own (you will have one attempt to pass it)
4. You can purchase the exam along with the Arduino Starter Kit in a bundle

### BENEFITS OF TAKING THE EXAM

- Add the certification to your resumé to demonstrate your knowledge of electronics, programming, and coding
- Increase your confidence in Arduino related electronics, programming and physical computing
- Become part of a wider professional network

## CERTIFICATION PROGRAM

### What is the Arduino Certification Program?

The 75-minute exam is web-based and consists of 36 questions. To obtain your certification, you will need to pass with at least 70 points out of 100 - and there's no long wait for results, as they are available straight after submission.

### Certify your skills in electronics, programming, and physical computing.

Officially certify your skills and knowledge in Arduino-related electronics, programming, and physical computing. The Arduino Certification Program (ACP) enhances your professional skills while providing official recognition.

Developed in consultation with interaction designers and electronic engineering professionals and taking leading technology curricula as its foundation, the Arduino Certification Program assesses skills based on practical tasks from the Arduino Education Starter Kit (see page 14). This kit, which is included in the bundle, provides a project book and all the components and support you need to get started with coding, electronics, and Arduino in a hands-on way.

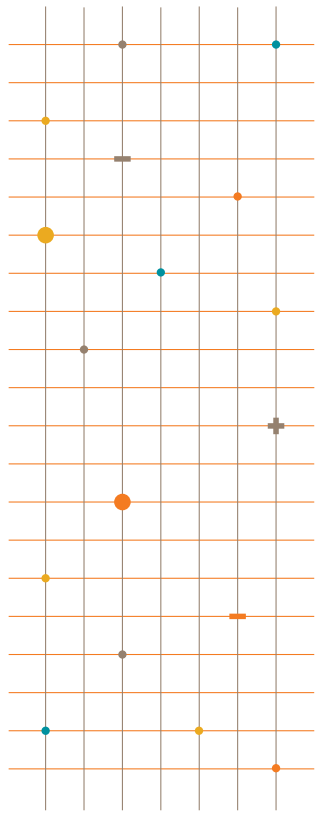
You can also take the exam on its own, without having to purchase the Arduino Education Starter Kit.

"ARDUINO'S CERTIFICATION PROGRAM IS PACKED WITH EXCITING SUBJECTS, AND IT'S WORTH TAKING A LOOK AT THEIR OFFER."

- Chris, Chipwired



## HOW ARDUINO CERTIFICATION HELPS SHAPE STUDENTS' FUTURES



Parklands College is a progressive school that has fully embraced technology, providing a richly-layered learning environment that prepares students for the future. Many subjects and courses lead to international certifications, including Arduino Certification, something that's essential for both teachers and learners.

**Meet Richard Knaggs, Director of Technology; Paul Mayers, Associate Principal of Innovation; Fungai Changunda, electronics teacher; and Noah Kemp, grade 12 student.**

Parklands College has been pioneering STEM in education since 2004, when they first established their robotics program. Director of Technology, Richard Knaggs, says, "What's essential for us is experiential learning. We want our learners to have experiences within the school space that will spark and ignite their real interests. When we first introduced our robotics and coding program, our learners began to prototype and build solutions to real problems using digital technologies. And what we found as we developed the program further was that they started wanting to do more with electronics."



Richard Knaggs

Students started working on their projects at home and coming up with innovative solutions to the world's challenges. Richard had students building prototype boats that collect plastic from the surface of the ocean, robots which communicated with each other when playing robot football, and much more.

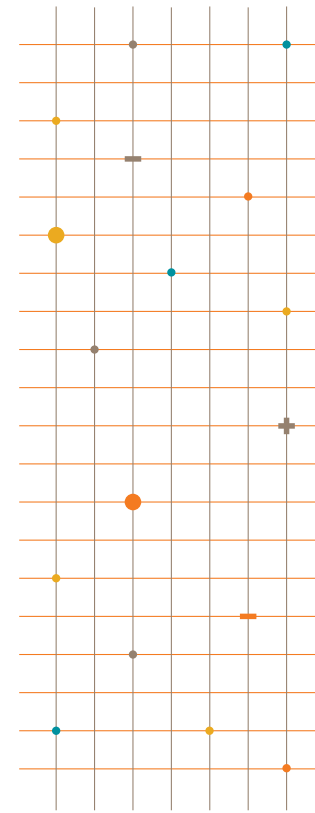
### A dedicated STEM space

In turn, this sparked the idea of building the "Experium Workshop", a dedicated space where learners can invent "minimum viable products" (MVPs) and participate in all kinds of STEM programs, including digital and electronics training, laser cutting, and 3D printing, through a challenge based learning approach. The Experium Workshop, which opened in 2020, is designed to give learners real career opportunities that allow them to experience what real world projects entail.

"The vision of the Experium is to get our learners to think about how they can make human life easier through the use of digital technologies, and the IoT space is one that we are currently very interested in. We brought in a digital electronics teacher as a way of building a foundation for learners in this area, where the learning is hands-on problem-solving through the creation of innovative products. And that's where Arduino comes in. It's a well-known platform that's available all over the world, and there are lots of resources available for it as well."

- Richard Knaggs  
Director of Technology

## PARKLANDS COLLEGE SOUTH AFRICA



Paul Mayers, Associate Principal of Innovation, adds, "Arduino is a great way to bring all this together in our curriculum and integrate learning across subjects. It gives our learners an understanding of what's possible in terms of how code meets the real world."

Fungai Changunda, Parklands' electronics teacher, says, "What better place to start than with Arduino? I looked at other STEM products as well, but what I like about Arduino is that it gives our learners a lot of room for growth. People use Arduino to solve real-world problems, like building ventilators during the pandemic. Knowing that I can also address such issues and actually teach our learners how to do something that solves real problems is very motivating for me as an educator."

"Arduino is a great way to bring all this together in our curriculum and integrate learning across subjects. It gives our learners an understanding of what's possible in terms of how code meets the real world."

- Paul Mayers  
Associate Principal of Innovation

### Expanding horizons with Arduino Certification

Although the College has only been using Arduino for the last couple of years, they are now introducing Arduino Certification for their students. Richard says, "We like to extend our subjects by making them relevant with industry recognised international certifications." Student Noah Kemp was actually the one who suggested Arduino Certification to his teachers. He says, "International certifications allow for better opportunities when you're going to university.

They really help you stand out, for example if you're applying to university or an internship. I got offered an internship in New Zealand to work in a lab, and I know having international certifications helped me get that."

Richard goes on to say, "We want to certify all learners in grades 10 through 12 with the Arduino certification because we believe that it will give them a really good electronics foundation for their futures. They will be able to create very impressive projects while at school, and overall it forms an important part of building a culture of invention and entrepreneurship at the College. Integrating international certifications form part of our vision to extend our learners' skill sets beyond the standard curriculum. This enhances our learners' attractiveness to employers and universities and provides hands-on experience that allows for building their futures while still at school."

"Arduino Certification is a really good introduction, covering all the fundamentals - and, yes, it's the first step, but it's necessary if you want to get a job in a STEM field."

- Noah Kemp,  
Grade 12 student



Visit [arduino.cc/education/science-journal](https://arduino.cc/education/science-journal) and download the app at:



## ARDUINO SCIENCE JOURNAL APP

**Shape your students' future: reason with data and think like a real scientist! A fun (and free) science classroom in your pocket.**

As they conduct experiments, students can record observations and make new, exciting discoveries. Through documentation and reflections, they can collect environmental data in real-time, and conduct experiments - just like a real scientist.

The **Science Journal** app can be used on its own or explored together with external sensors compatible with microcontrollers that connect using Bluetooth. By using external sensors, students can extend their experimentation and learning.

For a more in-depth experience of the world of science, the app comes with a range of free, topic-related lessons that are aligned with the NGSS and England's National Curriculum for Science.

The app is **classroom-friendly**, since it has been designed to teach the scientific method, problem-solving, and applying mathematical skills through real-life examples, and it can be applied in different educational backgrounds, from primary school right through to university. Students can sign in and access their experiments on any device to continue their learning and exploring the world, wherever they are.

Science Journal and all learning materials are free, open-source, and available for download for Android and iOS devices.



### Benefits of using the Science Journal

- Classroom & homeschool friendly
  - Easy data collection
  - Enhance existing lesson plans
  - Connect the digital and the physical worlds from your pocket
-  **It's simple to use and saves you time**
    - Create experiments and set assignments directly in the app
  -  **Boost student engagement**
    - The new design makes it easier and more fun for students to use
  -  **Keep everything in one place**
    - It's more efficient, no more switching between different platforms
  -  **More time for hands-on learning in the classroom**
    - It's more efficient, no more switching between different platforms

### The Teacher Plan

The Teacher Plan is a subscription service you can add to the Science Journal app, allowing you to integrate the app with Google Classroom and share this integration with your students.

### What you say

*"HOW CAN WE MAKE OBJECTIVE OBSERVATIONS? JUST OPEN THE APP AND WE'LL QUANTIFY SOME INFORMATION! WHAT IS DATA? LET'S COLLECT SOME NOW AND TALK ABOUT IT! HOW CAN WE VISUALIZE INFORMATION WITH A CHART? HERE'S WHAT WE JUST OBSERVED AND HERE'S WHAT IT LOOKS LIKE AS A GRAPH! NOW THAT'S SCIENCE"*

- Teacher August D., Ridgewood Elementary School

*"WIT'S REALLY COOL TO TAKE MEASUREMENTS FROM SOMETHING IN YOUR POCKET."*

- Teacher, 9th-12th Grade, Angevine, MS

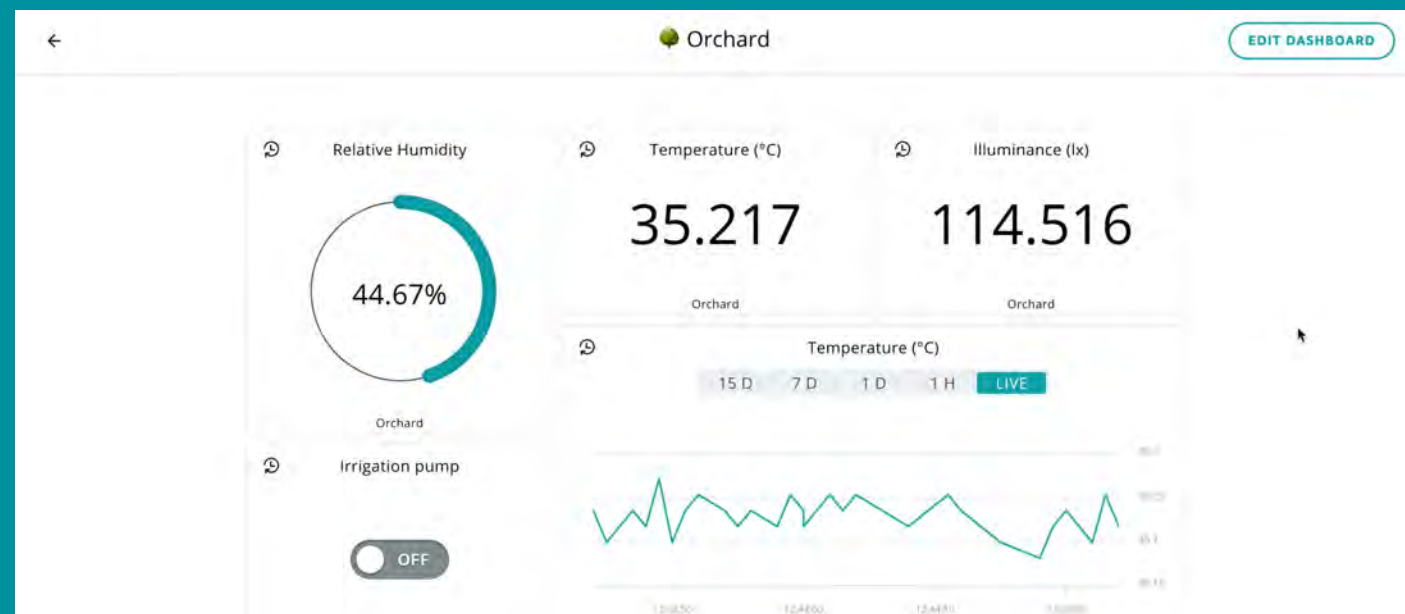
*"I'M AN ONLINE SCIENCE TEACHER...THIS IS A GREAT TOOL FOR HANDS-ON INVESTIGATIONS!"*

- Google review



The Arduino Science Journal app is compatible with the Arduino Nano 33 BLE Sense (see page 42).





[CREATE.ARDUINO.CC/IOT](https://create.arduino.cc/IoT)

#### WHY USE THE IoT CLOUD IN THE CLASSROOM?

- Develop knowledge in data science
- Use tech that's the standard for future careers
- Keep up-to-date with new tech
- Digital homework assignments
- Use it from anywhere

\* Not all products or boards are compatible with Chromebooks. Contact us to find out more.

You can try the IoT Cloud for free. You'll find two getting started projects and two lessons right here so you can get a good understanding of how it works.

## THE ARDUINO IoT CLOUD

### Connect the Cloud to the world around you

The **Arduino IoT Cloud** allows anyone to create IoT applications in just a few simple steps. With a combination of smart technology, user-friendly interfaces and powerful features, the Arduino IoT Cloud is for everyone: students, educators, makers, and professionals alike. You get:

- Ability to share sketches and create assignments in Google Classroom
- Automatically generated templates.
- The ability to build sensor networks
- Real-time data monitoring
- Wi-Fi compatibility
- A dashboard with 15+ unique widgets
- PC, Mac, and Chromebook\* compatibility

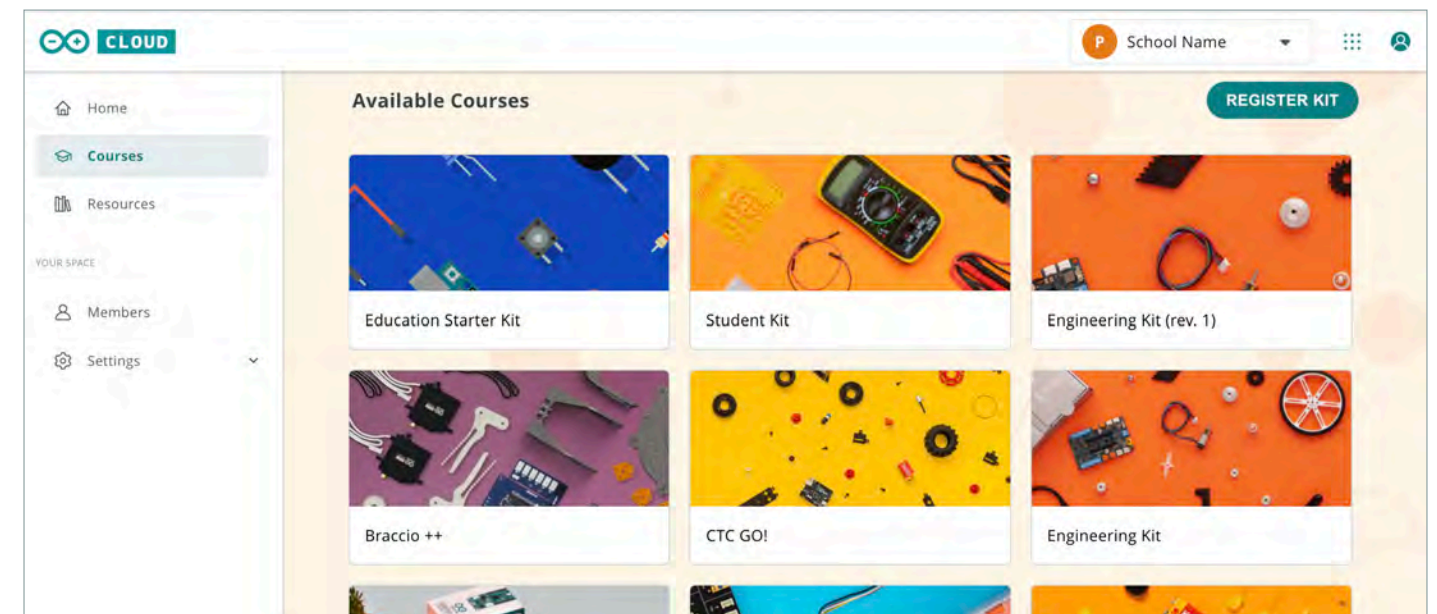
### How does the Arduino IoT Cloud work?

It really is as simple as connecting a device, then creating properties and a dashboard to monitor it.

1. **Connect a device** - a physical object, such as a hardware board, that can be contained inside a product. The board will read sensors, control actuators, and communicate with the IoT Cloud.
2. A sketch with the basics to sync your device and the dashboard will be automatically generated. Complete the sketch with what you want the hardware to do and **upload** it to the board.
3. **Monitor and control** your device using the dashboards.



The IoT Cloud is compatible with the Explore IoT Kit (see page 22). Find out more at [docs.arduino.cc/cloud/IoT-cloud](https://docs.arduino.cc/cloud/IoT-cloud).



## ARDUINO CLOUD FOR EDUCATION

If you're an educator managing a group of students, you can set up a virtual shared space - think of it like a digital classroom. In this shared space, you can see all the kits you have registered and add courses and lessons for your students to do. The space is compatible with all Arduino Education kits, and you can share your lessons via Google Classroom.

The main benefit of using this shared space is easy access to all your content and lesson plans for both you and your students. You can share your courses with any number of people and switch between them at any time.

The 'educator' version of the online content includes educator tips, logbooks, and more.

### How the shared space works

Setting up a virtual classroom takes a matter of minutes (it works best if you have a Google account so you can use the same credentials you use in your school):

- Go to [cloud.arduino.cc/home](https://cloud.arduino.cc/home) and **create your educational space** by filling in information about you and your teaching environment (you'll need an Arduino account to do this)
- **Register the product** you want to share with your colleagues or students (you'll need the registration code for your kit)
- **Invite students and colleagues** to your new shared space



### The School Plan explained

The School Plan is an affordable, subscription-based option that's designed for education. With this plan, you get access to both the shared space and the IoT Cloud (see page 36) with:

- Unlimited compilations
- Unlimited sketch storage
- Six months' data retention
- Sketch attachments
- Share lessons and sketches in Google Classroom



### Benefits of using the shared space

- Easy school management - straightforward sharing with other educators and students
- Simple tracking of projects and lessons with unlimited data retention
- Complete guidance with teacher support and lesson suggestions included
- Safe and easy to use even for younger students. If your students are too young for email, you can invite them by sharing a classroom code. They'll only see child-safe content, their accounts will be anonymized, and no personal data is collected

## ARDUINO BOARDS AND HARDWARE



### Different types of boards

All boards can be programmed using the same programming language, and code snippets are interchangeable between boards. Different boards provide different functionalities, such as Wi-Fi or Bluetooth connectivity, embedded sensors, or more memory space for student-made programs. Boards can be expanded with sensors and actuators to build fully-functional systems.

### Open-source hardware & software

The open-source hardware allows advanced students to go in-depth into how the technology is built, and even learn how to make their own boards. Both the Arduino programming environment and the software running on the boards (known as the Arduino Core) are open-source, and freely available for students to experiment with.

### Arduino Education specific boards

Arduino Education boards have been designed with the classroom in mind. They are reusable, replaceable, and upgradeable. All the different types of boards have been tested for durability and student safety.

### CONTENT

This openness extends to our content as well. Once you have Arduino boards or kits, you can expand on the content we provide you with, or create something entirely new. Boards are the base of Arduino kits, and content is tailored to each board and the extra parts included in the kit. You can add other parts or even adjust the kit content to other boards.



## MOST USED BOARDS IN OUR EDUCATIONAL KITS



### ARDUINO UNO R3

This board is your entry to the unique Arduino experience: great for learning the basics of how sensors and actuators work, and an essential tool for project prototyping.

[STORE.ARDUINO.CC/UNO-REV3](https://store.arduino.cc/uno-rev3)  
SKU: A000066



### ARDUINO UNO WIFI REV2

This board is the ideal way to get started making your first Internet of Things application, as it includes an onboard Inertial Measurement Unit (IMU) and Wi-Fi.

[STORE.ARDUINO.CC/UNO-WIFI-REV2](https://store.arduino.cc/uno-wifi-rev2)  
SKU: ABX00021



### ARDUINO MKR WIFI 1010

This board simplifies the prototyping of Wi-Fi-based IoT applications thanks to the flexibility of the ESP32 module and its low power consumption.

[STORE.ARDUINO.CC/MKR-WIFI-1010](https://store.arduino.cc/mkr-wifi-1010)  
SKU: ABX00023



### ARDUINO NANO 33 BLE SENSE

The Arduino Nano 33 BLE Sense is an evolution of the traditional Arduino Nano 33 BLE, but with a series of embedded sensors including humidity, temperature, light, microphone, and many more.

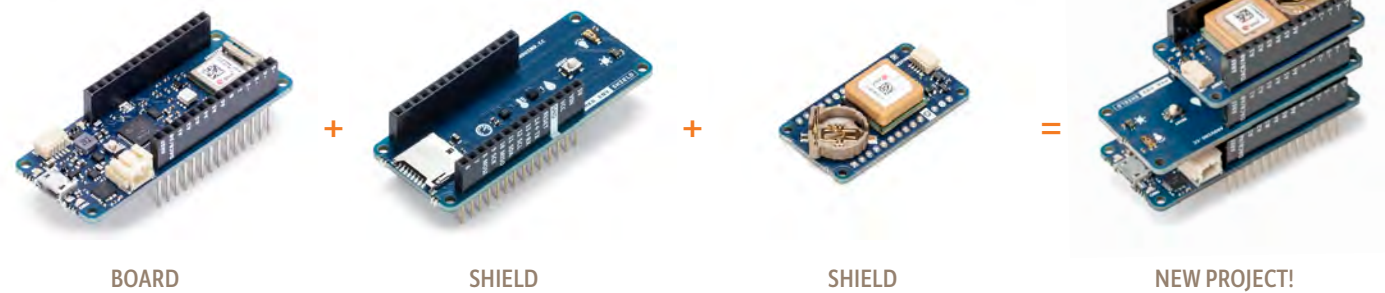
[STORE.ARDUINO.CC/NANO-33-BLE-SENSE](https://store.arduino.cc/nano-33-ble-sense)  
SKU: ABX00035  
SKU: ABX00031 (WITHOUT HEADERS)



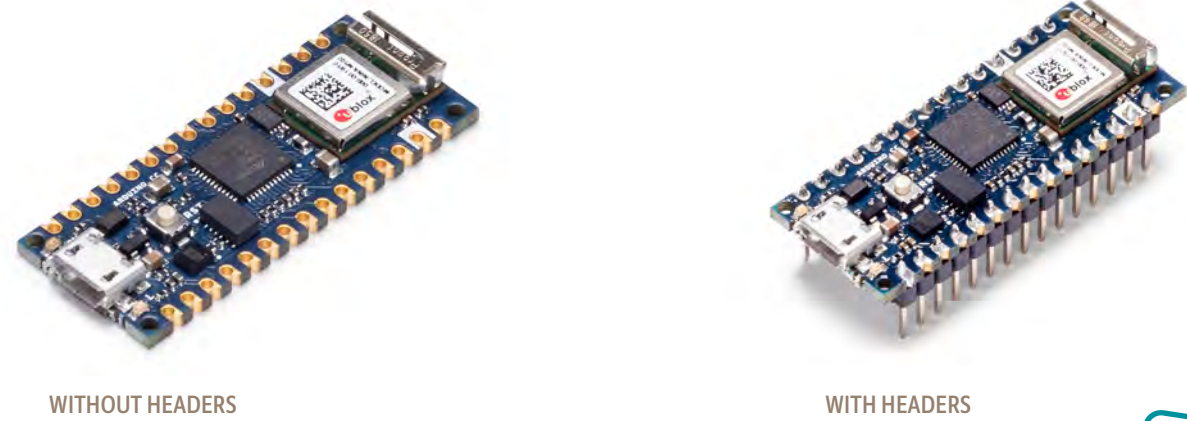
## SHIELDS AND CARRIERS - ADD EXTRA FUNCTIONALITY TO YOUR PROJECTS

Shields and carriers are extensions to your board's capabilities. They help you prototype projects that require, for example, Wi-Fi or Bluetooth connectivity, several motors (servo or DC) or extra memory, if your main board doesn't include those characteristics.

Shields are boards that can be plugged on top of other Arduino boards, extending their functionality. Most Arduino shields are stackable, so you can add more than one at a time.

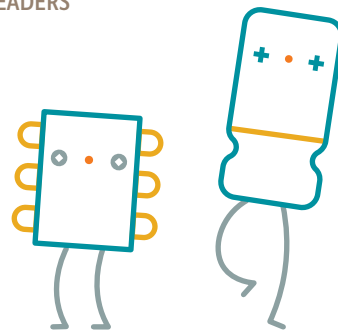


To connect shields and carriers to a board, you'll need headers. If you have a board without headers, you will need to brush up on your soldering skills!



Because most schools aren't equipped with soldering equipment, we recommend buying boards which have headers.

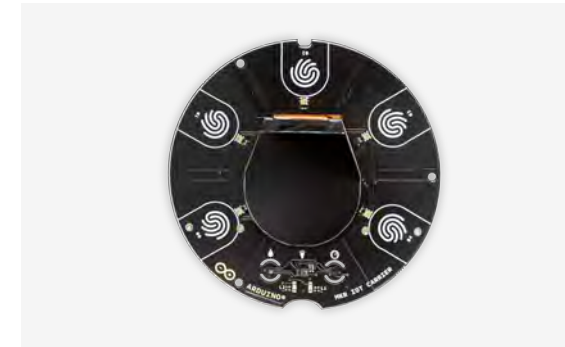
Carriers are also designed as add-ons for your boards. A carrier can be used to connect other actuators and sensors, or attach DC or servo motors. Both shields and carriers come with a dedicated library that allows you to add new functions and create objects to support your hardware.



## ARDUINO MKR IoT CARRIER

Control what you want, how you want. The MKR IoT Carrier provides infinite possibilities for IoT projects. The integrated sensors, circuits and display leave you free to focus on programming and prototyping your ideas, rather than wiring and troubleshooting.

[STORE.ARDUINO.CC/MKR-IOT-CARRIER](https://store.arduino.cc/mkr-iot-carrier)  
SKU: ABX00047



## ARDUINO MKR MOTOR CARRIER

This carrier is useful if you want to connect several motors, sensors, and actuators via a series of 3-pin male headers to your mechatronic project.

[STORE.ARDUINO.CC/MKR-MOTOR-CARRIER](https://store.arduino.cc/mkr-motor-carrier)  
SKU: ASX00003



## ARDUINO NANO MOTOR CARRIER

The Nano Motor Carrier provides a quick and easy way to connect and control motors. Designed to facilitate motor control, it takes care of the electronics, allowing students to focus on prototyping and building their projects.

[STORE.ARDUINO.CC/NANO-MOTOR-CARRIER](https://store.arduino.cc/nano-motor-carrier)  
SKU: ASX00003



## ARDUINO MKR EDUCATION SHIELD

This is a custom-made shield specially tailored for educational purposes to enable quick and easy learning while building projects.

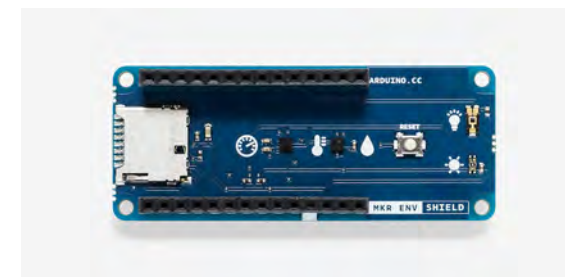
[STORE.ARDUINO.CC/EDUCATION-SHIELD](https://store.arduino.cc/education-shield)  
SKU: TSX00006

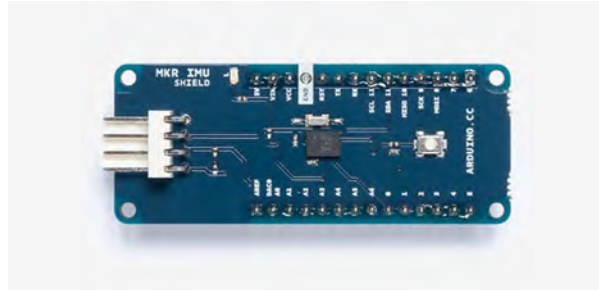


## ARDUINO MKR ENV SHIELD

This shield allows a MKR board to acquire environmental data collected by an array of sensors (pressure, temperature, humidity, and UVA/UVB/light intensity).

[STORE.ARDUINO.CC/MKR-ENV-SHIELD](https://store.arduino.cc/mkr-env-shield)  
SKU: ASX00011





## ARDUINO MKR IMU SHIELD

This shield allows a board to integrate inertial measurement and get the three-dimensional acceleration, yaw rate, and magnetic field strength data in three perpendicular axes.

[STORE.ARDUINO.CC/MKR-IMU-SHIELD](https://store.arduino.cc/mkr-imu-shield)  
SKU: ASX00002

## ARDUINO NANO FAMILY

Nano boards are characterized by their tiny size, yet powerful and robust footprint. They are the ideal choice for wearable projects like cosplay or for experimenting with drones, for a very competitive price.

### ARDUINO NANO 33 IOT

Wi-Fi and Bluetooth connectivity, combined with low power architecture, make this board ideal for your connected projects.

[STORE.ARDUINO.CC/NANO-33-IOT](https://store.arduino.cc/nano-33-iot)  
SKU: ABX00032  
SKU: ABX00027 (WITHOUT HEADERS)

### ARDUINO NANO EVERY

A robust and reliable board that's perfect for beginners interested in experimenting with hardware.

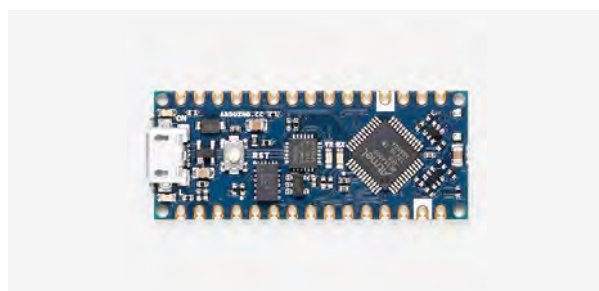
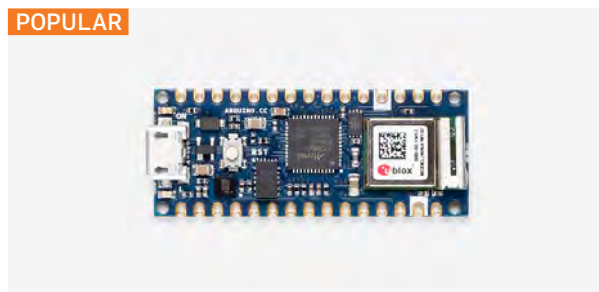
[STORE.ARDUINO.CC/NANO-EVERY](https://store.arduino.cc/nano-every)  
SKU: ABX00033  
SKU: ABX00028 (WITHOUT HEADERS)

### ARDUINO NANO 33 BLE

This board is based on the powerful Nordic nRF52840 Bluetooth SoC, a Cortex-M4F Arm processor that can handle the most demanding projects.

[STORE.ARDUINO.CC/NANO-33-BLE](https://store.arduino.cc/nano-33-ble)  
SKU: ABX00034  
SKU: ABX00030 (WITHOUT HEADERS)

POPULAR



## ARDUINO REPLACEMENT PARTS

In the excitement (and sometimes chaos) of hands-on classroom learning, small parts can go missing. Here, you'll find the most common replacement parts - we recommend having them on standby just in case!



### Arduino Replacements Pack

This **replacement pack** extends and enriches any Arduino kit, and provides back up components for most Arduino Education kits when you need them. It contains 183 parts commonly used in electronic projects in school, universities, and for homeschooling and STEM clubs.

- 10 resistors 220Ω, 5 resistors 680Ω, 5 resistors 560Ω, 5 resistors 1kΩ, 5 resistors 4.7Ω, 5 resistors 10MΩ, 5 resistors 1.2Ω, 10 resistors 10kΩ, 5 resistors 1MΩ
- Several kinds of actuators: 1 piezo buzzer, 5 red LEDs 5mm, 5 green LEDs 5mm, 5 yellow LEDs 5mm
- 1 temperature sensor [TMP36], 1 tilt sensor, 2 phototransistors, 1 mosfet transistor, 2 capacitors 100 uF, 1 zener diode
- 5 potentiometers, 5 push buttons 12 mm, 1 optocoupler, 1 steel ball 12mm diameter, 1 Battery Wire 9V with open lead
- And much more!

Buy the pack: [store.arduino.cc/products/arduino-replacements-pack](https://store.arduino.cc/products/arduino-replacements-pack)  
Code: AKX00030

### Engineering Kit Motors Backup

This kit contains one servo motor, one geared motor with encoder, and one micro DC motor with encoder. Each of those motors can be used as a **spare component** for Arduino Engineering Kit Rev2 projects, or to get any other prototype to start moving around.

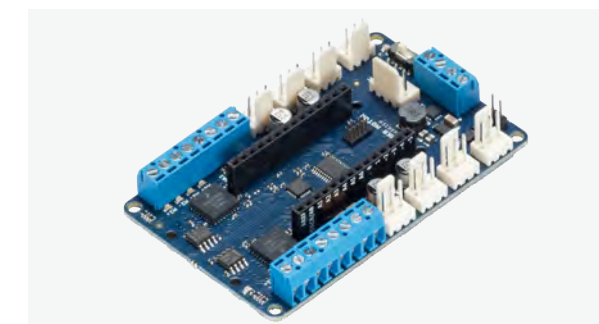
Buy the kit: [store.arduino.cc/collections/edu-family/products/engineering-kit-motors-backup](https://store.arduino.cc/collections/edu-family/products/engineering-kit-motors-backup)  
Code: AKX00033



### Nano Motor Carrier

The Nano Motor Carrier provides a quick and easy way to connect and control motors. Designed to facilitate motor control, it takes care of the electronics required to control the motors, allowing students to focus on prototyping and building their projects.

Buy the kit: [store.arduino.cc/nano-motor-carrier](https://store.arduino.cc/nano-motor-carrier)  
Code: ASX00003





## POPULAR



## PORTENTA FAMILY - A SERIES OF HIGH-PERFORMANCE INDUSTRY-RATED BOARDS

Outstanding performance and industry-grade security, leveraging the Arduino ecosystem to deploy powerful AI algorithms and machine learning on the edge.

[STORE.ARDUINO.CC/PORTENTA-H7](https://store.arduino.cc/portenta-h7)  
SKU: ABX00042

## NICLA FAMILY - OUR TINIEST INDUSTRIAL-ORIENTED BOARD

Easily deploy low-power AI and machine learning within existing infrastructures. Fully equipped with industrial-grade sensors, the Nicla boards are designed to work as an autonomous, battery-operated system.

### NICLA SENSE ME

A high-performance, low-power board that packs state-of-the-art Bosch Sensortec technology into our smallest form factor yet.

[STORE.ARDUINO.CC/NICLA-SENSE-ME](https://store.arduino.cc/nicla-sense-me)  
SKU: ABX00050

### NICLA VISION

Deploy computer vision at the edge faster than ever, with our ready-to-use, standalone intelligent camera.

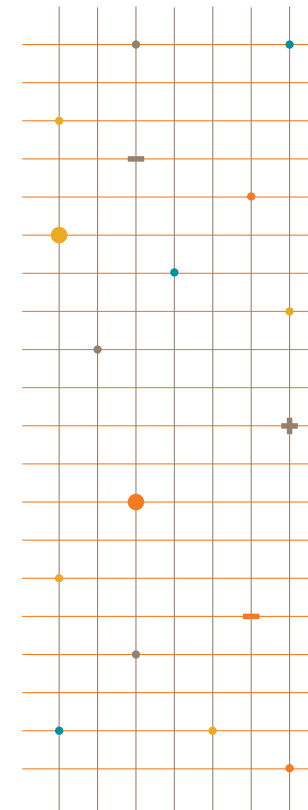
[STORE.ARDUINO.CC/NICLA-VISION](https://store.arduino.cc/nicla-vision)  
SKU: ABX00051

### EDGE CONTROL

A remote monitoring and control solution, optimized for outdoor environments. Edge Control can be positioned anywhere and is suitable for precision farming, smart agriculture, and other applications requiring intelligent control in remote locations.

[STORE.ARDUINO.CC/ARDUINO-EDGE-CONTROL](https://store.arduino.cc/arduino-edge-control)  
SKU: AKX00034

## ARDUINO EDUCATION INSPIRATION LABS



### Extend STEAM learning beyond the classroom

An Arduino Education Inspiration Lab is a dedicated space, whether that's in a school, university, business, or other institution, that provides innovative, exciting STEAM learning opportunities and certifications.

In an Inspiration Lab, you can hold specialized STEAM courses for students, teacher training and professional development, and one-off workshops or projects. You could even open the lab to the public so that they too can learn about Arduino Education solutions, extend their STEAM knowledge - and have fun!

### Benefits of creating an Inspiration Lab

- Provide students with the skills they need to get career-ready
- Increase engagement in STEAM learning
- Boost students' future skills, such as problem-solving, collaboration, and critical thinking
- Support and train educators to deliver engaging, hands-on, playful STEAM lessons with confidence
- Promote a culture of technology innovation and development
- Provide mentorship and certification programs for educators and students
- Develop design thinking, product design, and innovation skills

### How do Inspiration Labs work?

An Inspiration Lab is a space for schools, teachers, and educators to collaborate, connect, share success, and seek support.

You can host classes, teacher training sessions, professional development courses, and workshops in a space that's set up with complete Arduino Education solutions and run by people who we'll train to use and teach with Arduino products.

Additionally, having an Inspiration Lab helps you connect with your local community and establish a creative hub where anyone can get hands-on with technology and drive their own STEAM learning.

### What educators say about Inspiration Labs

"STUDENTS CAN DO THINGS THEY THOUGHT WERE IMPOSSIBLE. STRONG TO HAVE A LAB WHERE BOTH STUDENTS AND TEACHERS CAN GET SUPPORT AND INSPIRATION. TEACHERS GET AN OPPORTUNITY TO TEACH ABOUT THE WORLD AROUND THEM WITH TECHNOLOGIES."

- Anthony Jacques,  
Arduino Education,  
Inspiration Lab Manager



## ARDUINO EDUCATION'S PARTNERSHIPS



### Working with forward-thinking academic institutions and robotics competitions around the world

To meet our aim of empowering all students on their STEAM learning journey, we work with educational thought leaders, academic institutions such as high schools and universities, and other educational innovators to build strong partnerships.

Together, we hope to enable students to thrive as they find their place in the world and give them the tools they need for a successful future.



World Robot Olympiad (WRO) is a global robotics competition and STEM skills programme. It's a fantastic way to help young people develop the passion for and skills in STEAM, computing, and robotics that the global economy needs. It supports them in shaping their future as problem-solvers, innovators, and entrepreneurs.

As an official sponsor of WRO, Arduino Education offers tutorials, forums, virtual testing and training environments, and guidance on how to use Arduino products for support in the various competition categories and also for school curriculum requirements.

The synergy of the values and ethos of WRO and Arduino Education mean that together, we can help students from middle school to university to expand their STEAM learning horizons, as well as improve important future skills such as collaboration, critical thinking, communication, and problem-solving.



### Partnering with world-renowned academic institutions

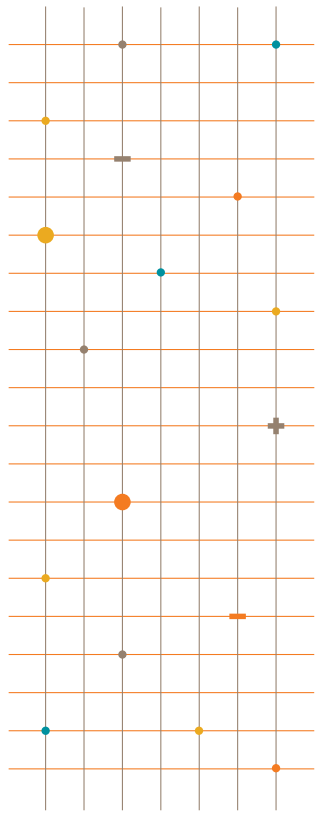
We also work alongside well-known universities, middle and high schools that thrive on innovation, and global corporations. These partnerships include product research, furthering support in STEAM for disadvantaged students, and building STEM and robotics hubs for local communities.

If you or your academic institution would like to partner with Arduino Education, please contact us at [arduino.cc/education/contact-us](https://arduino.cc/education/contact-us).





## EXPAND LEARNING WITH EXTRA RESOURCES

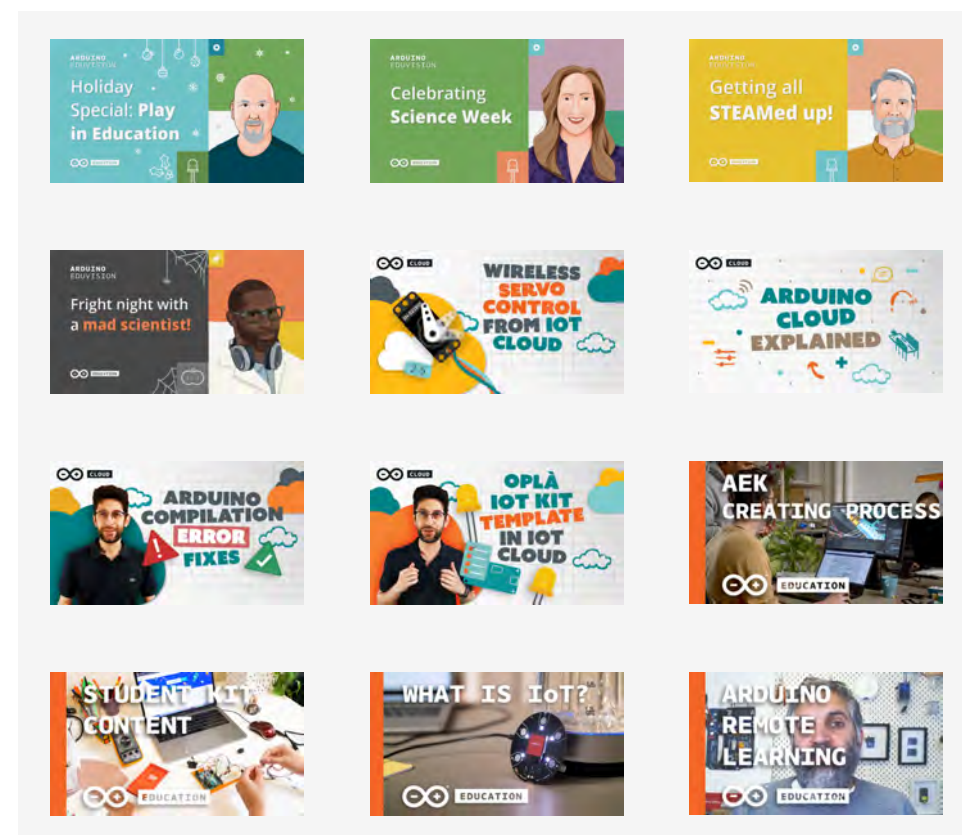


While each Arduino Education kit comes with plenty of content, lessons, projects, and guidance, we want to ensure you have the basics of using Arduino in your classroom covered, and the resources to take your lessons a step further should you wish to.

At [arduino.cc/education](https://arduino.cc/education), you'll find lots of supporting content, including:

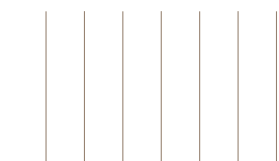
- Tutorials
- Videos
- Tips & tricks
- Our podcast
- Educational blog

Additionally, head over to the Arduino YouTube channel ([youtube.com/arduino](https://youtube.com/arduino)) to explore each product in more depth, including unboxing videos, getting started guides, project tips, and much more.

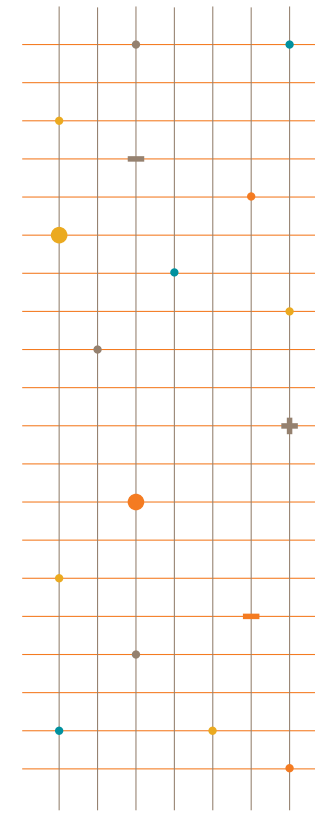


### Don't miss out!

Sign up to our educator newsletter at [arduino.cc/education](https://arduino.cc/education) and we'll send you regular updates and new content. Plus, you'll be the first to know about new products - and educators get a 10% discount off selected educational kits throughout the year!



## MEET OUR CUSTOMER EXPERIENCE TEAM



Our expert customer experience team is on hand to answer your questions, provide technical support, and assist you with using your Arduino Education kits.

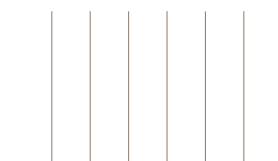
You can contact our friendly team through the contact form at [arduino.cc/en/contact-us](https://arduino.cc/en/contact-us).

We keep our documentation up to date at [docs.arduino.cc](https://docs.arduino.cc), where we have our tutorials and "getting started" guides, and at [support.arduino.cc](https://support.arduino.cc) where we keep our FAQs and troubleshooting articles.



You'll also find a hub of information about Arduino Education, how to register, and each of our kits and digital solutions on our website at [support.arduino.cc](https://support.arduino.cc).

And if you're seeking advice and inspiration from fellow educators, you can also become part of the thriving Arduino community at [forum.arduino.cc](https://forum.arduino.cc).





# GET IN TOUCH

Buy Arduino Education products for your school or homelearners from [STORE.ARDUINO.CC](https://store.arduino.cc)



Buy from selected selected Arduino Education Partners at [STORE.ARDUINO.CC/DISTRIBUTORS](https://store.arduino.cc/distributors)

## NEED SOME HELP?

Contact us at [ARDUINO.CC/EDUCATION/CONTACT-US](https://arduino.cc/education/contact-us)

*"WHAT I LIKE ABOUT ARDUINO IS THAT IT GIVES ROOM FOR LEARNERS TO DO A LOT WITH IT. PEOPLE USE ARDUINO TO SOLVE REAL-WORLD PROBLEMS. KNOWING THAT I CAN TEACH STUDENTS HOW TO DO SOMETHING THAT SOLVES REAL PROBLEMS IS VERY MOTIVATING FOR ME AS AN EDUCATOR."*

- FUNGAI CHANGUNDA, TEACHER

[ARDUINO.CC/EDUCATION](https://arduino.cc/education)