



# FAQ

## GENERAL

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### **How is the Student Kit structured?**

The Arduino Student Kit is divided into nine step-by-step lessons and two open-ended group projects. The kit contains boards, a collection of sensors and actuators, access to an online platform, with extra content including invention spotlights, concepts, and interesting facts about electronics, technology, and programming.

You'll get all the hardware and software you need for one person, making it ideal to use for remote teaching, homeschooling, and for self-learning.

### **Who can use the kit?**

The kit can be used by anyone who wants to learn the basics of Arduino electronics and programming, and requires no prior knowledge or skills. The online content includes detailed step-by-step instructions, making this kit ideal for self-learning, homeschooling and remote teaching.

### **How can the kit be used?**

The kit can be used by parents homeschooling their children, educators that are remote teaching and for self-learning.

### ***How educators can use the kit for remote teaching***

The online platform contains all the content you need to teach remotely: exclusive learning guidance content, tips for remote learning, nine 90-minute lessons, and two open-ended projects. The beginning of each lesson provides an overview, estimated completion times, and learning objectives. Throughout each lesson, there are tips and information that will help to make the learning experience easier. Key answers and extension ideas are also provided.

### ***How the kit helps parents homeschool their children***

This is your hands-on, step-by-step remote learning starter kit that will help your child learn the basics of programming, coding, and electronics at home. As a parent, you don't need any prior knowledge or experience as you are guided through step-by-step. The kit is linked directly into the curriculum so you can be confident that your children are learning what they should be.

### ***Self-learning with the Arduino Student Kit***

Students can use this kit to teach themselves the basics of electronics, programming, and coding. As all the lessons follow step-by-step instructions, it's easy for them to work their way through and learn on their own. They don't need any previous knowledge as everything is clearly explained, coding is pre-written, and there's a vocabulary of concepts to refer to.

### **What is the recommended age for this kit?**

This kit is intended for ages 11 to 14.

### **What grade level are your materials appropriate for?**

The Arduino Student Kit follows the Common Standard Concepts and focuses on core concepts of coding and electronics.

### **Is previous electronics and programming knowledge required?**

We start from the basics so previous knowledge is not necessary.

### **What languages are currently available?**

English (EN) and Spanish (SPA)

### **What operating system is required?**

Windows 7 or higher, Chromebook, Linux, and Mac OS (including Catalina)

### **Is this the best kit for a beginner to get started with Arduino for remote teaching?**

Yes, this is the beginner level kit that will help you get started with Arduino

### **What topics do the Education Starter Kit covers?**

The Education Starter Kit covers nine main categories:

- **Electricity** Understanding concepts such as resistance, voltage, power and capacitance, being able to measure and calculate them.
- **Reading circuits and schematics** Understanding how electronics are represented visually, and the ability to read and analyze electronic circuits.

- **Arduino IDE** Understanding the functionality of the Arduino development environment, serial communication, libraries, and errors.
- **Arduino boards** Understanding the constitution and capabilities of an Arduino board and the functions of its different parts.
- **Frequency and duty cycle** Understanding the concepts of Pulse Width Modulation (PWM) and frequency, being able to calculate duty cycle.
- **Electronic components** Understanding how various electronic components such as LEDs, sensors, buttons and motors work, and how to use them in a circuit.
- **Programming syntax and semantics** Understanding the building blocks of Arduino programming language such as functions, arguments, variables and loops.
- **Programming logic** Ability to program various electronic components, read, analyze, and troubleshoot Arduino code.

### What is included in the box?

The kit comes with several parts and components that will be used to build circuits while completing the lessons and projects throughout the course. Here is a brief description of what is included in the kit:

- Access code to exclusive online content including learning guidance notes, step-by-step lessons and extra materials such as resources, invention spotlights and a digital logbook with solutions.
- 1 Arduino Uno
  - 1 USB cable
  - 1 Board mounting base
  - 1 Multimeter
  - 1 9V battery snap
  - 1 9V battery
  - 20 LEDs (5 red, 5 green, 5 yellow & 5 blue )
  - 5 Resistors 560  $\Omega$
  - 5 Resistors 220  $\Omega$
  - 1 Breadboard 400 points
  - 1 Resistor 1k $\Omega$
  - 1 Resistor 10k $\Omega$
  - 1 Small Servo motor
  - 2 Potentiometers 10k $\Omega$
  - 2 Knob potentiometers
  - 2 Capacitors 100uF
  - Solid core jumper wires
  - 5 Pushbuttons
  - 1 Phototransistor
  - 2 Resistors 4.7k $\Omega$
  - 1 Jumper wire black

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- 1 Jumper wire red
  - 1 Temperature sensor
  - 1 Piezo
  - 1 Jumper wire female to male red
  - 1 Jumper wire female to male black
  - 3 Nuts and Bolts

### **Do I need any prior experience with coding?**

No prior experience in coding is needed for the Arduino Student Kit. The kit takes you step-by-step to learn the basics of electronics and programming using practical, hands-on exercises, and projects.

### **What are the minimum requirements?**

USB port and Arduino IDE must be installed. Check [here](#) to make sure you have installed the most recent version: <https://www.arduino.cc/en/main/software>.

### **What's the difference between the Education Starter Kit and the Student Kit?**

The main differences between the Education Starter Kit and the Student kit are:

The **Education Starter Kit** has enough components and materials for eight students. It is designed for use in a classroom with educators and students. It comes with two logbooks; one for educators which contains solutions, and a student logbook which only includes the exercises. Classroom management is also included.

The **Student Kit** has all the components and materials that one user needs. It is designed for students learning from home or for self-learners. Educators and parents have all the content they need to support their students and children as they learn remotely. The student kit comes with one logbook which contains both the exercises and the solutions.

### **I have trouble registering a kit, what should I do?**

If you have trouble registering your kit, please contact us at <https://www.arduino.cc/education/contact-us>



## ACCESS TO ONLINE PLATFORM

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### **How many lessons are included in the kit?**

The Arduino Student Kit includes content for nine online lessons and two open-ended group projects. Each lesson builds off the next and gives the opportunity to apply skills and concepts that were covered previously.

Each lesson comes with exercises from a logbook that needs to be completed as they work through the lessons. The logbook also comes with the solutions for self-evaluation and knowledge reflection.

### **How long does a lesson last?**

Each lesson is designed to last 90 minutes.

The basics of electronics in the entire content takes around 17 hours to cover. Extra material such as Resources, Inventions Spotlight and extension information are included in the online content. If the teacher decides to include these materials, the total time will be up to 25 hrs.

### **Do I need to follow the activities in the order provided?**

Yes, each lesson builds off the next and gives students the opportunity to apply skills and concepts that were covered previously - therefore, we recommend you to follow the order of the lessons.

### **How do I access the online content?**

Each kit comes with a unique activation code, displayed under the lid of the kit of the packaging, which has to be redeemed in order to access the online content.

In order to access the online content for the first time, you will need to go to [studentkit.arduino.cc](http://studentkit.arduino.cc), enter your activation code, select your role (educator or student), and create an account. After that, you can access the online content by logging in to [studentkit.arduino.cc](http://studentkit.arduino.cc) with your account.

### **How many educators and students can be added to the platform?**

Each kit allows one user (educator or student) to access the online platform. When activating your kit, you will be asked to choose if you want to use it to teach or to learn, which will determine what kind of content you see on the platform.

### **What are the open-ended projects?**

The Arduino Student Kit comes with two open-ended projects. An open-ended project is a lesson where concepts learned in previous lessons are applied in a free way, guided by the criteria, objectives, and consideration from the teacher to build a project. At the end the students can demonstrate their projects in the class.



### **What are the teacher notes?**

The Student Kit is designed to provide a more in-depth step-by-step learning experience for remote teaching, homeschooling and for self-learning. The teacher notes provide guidance to the teachers and parents while implementing the lessons. In the teacher notes, teachers and parents will find extra information in relation to the lessons, activities, exercises as well as tips and ideas on how to enrich the learning experience.

### **Are the teacher notes visible to students?**

The teacher notes are only visible to the users that selected the parent/educator role when activating their kit, and will not be visible to students. Parents or educators can enable the teacher's notes by clicking on the eye icon in the bottom right corner of the screen.

### **What are the further notes?**

The further notes are meant to provide important and relevant information for the students to enrich their learning experience. The further notes are also meant to provide a more in-depth guidance for self-learning.

### **Where can I find the logbook?**

The logbook can be found on the main page of the platform, right before the list of the lessons.

### **What is the resource tab?**

The resource tab is a section for students with extra information that helps to provide more comprehensive learning experience.

The content inside the resource tab is not included in the basic electronic hours that lasts 17 hours, but teachers and parents can use it for the extended version of the course that lasts 25 hours.

### **What is the difference between the open-ended projects and the exercises inside the lessons?**

The difference between the open-ended projects and the exercises inside the lessons is that the exercises are focused on making sure the concepts have been understood. They provide a hands-on way of learning.

The open-ended projects are lessons where the students apply and demonstrate the different concepts and skills learned previously in a practical way.

### **What are the Inventions Spotlights?**

In the Invention Spotlights, students learn more about the invention and facts behind



the topics and lessons they are going through. The purpose is to provide a broader view and historical insight.

**I forgot my Arduino account passwords, how can I recover it?**

You can reset your password [here](#) by submitting your username or email address.

## SUPPORT

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**A component is not working, what should I do?**

If a component is not working, please contact us through the contact form. You can find it by clicking the question mark on the lower right corner of the screen.

**My kit is missing a part and I cannot perform the experiments. What should I do?**

If you are missing a part in your kit, please contact us through the contact form. You can find it by clicking the question mark on the lower right corner of the screen.

**If I have a suggestion for a product or product improvement, who should I contact?**

We are always grateful for your feedback! Please send your ideas through the contact form. You can find it by clicking the question mark on the lower right corner of the screen.

**I have trouble registering a kit, what should I do?**

If you have trouble registering your kit, please contact us through the contact form. You can find it by clicking the question mark on the lower right corner of the screen.

**The 220 Ohm resistors appear to be missing and cannot be found within the components of the kit.**

Look for 5 band-version of the 220 Ohm resistor in your kit. There are both 4 and 5 band resistors in the Arduino Education Starter kit, which means that the same resistor value of 220 Ohm can be found in two different looks. Below is the picture of 5 band 220 Ohm resistors.



**I can't locate the temperature sensor.**

The temperature sensor has three legs and looks similar to a transistor. If you look closely, you will see TMP written on the flat side.

**I have issues with the board.**

Make sure the board is being detected by the computer and the right board is selected under the tools section in the IDE, and that the driver for the board is properly installed.

**I cannot locate plastic holders.**

The plastic holders need to be removed from the base piece.

**I cannot find the screws.**

The screws are included in the electronics component box which comes along with the kit.