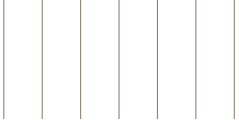


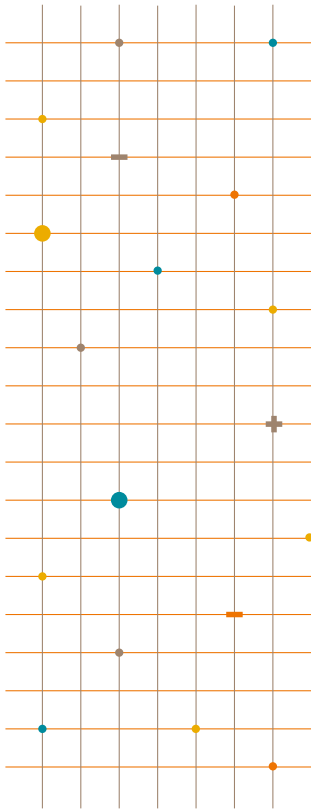


**ARDUINO
FUNDAMENTALS
EXAM GUIDE**





BEFORE THE EXAM



WHAT IS ARDUINO FUNDAMENTALS?

Arduino Fundamentals is part of the official Arduino Certification Program, designed to test your knowledge in Arduino related electronics, programming and physical computing, and based on the concepts introduced in the Arduino Starter Kit.

WHO IS IT FOR?

The exam provides an entry level assessment, and is available for everyone interested in officially certifying their skills and knowledge.

EXAM PREPARATION

Currently, Arduino does not offer any set training courses that prepare for the Arduino Fundamentals exam. However, the knowledge level and concepts tested in the exam closely match the content of the Arduino Starter Kit. We can therefore recommend going through the content of the Arduino Starter Kit Projects book, and building the projects introduced in it. You can also purchase the Arduino Fundamentals and Starter Kit bundle on the Arduino Store (currently available in the US only).

HOW TO KNOW IF YOU ARE PREPARED

The more practical experience you have, the better your chances are to earn the Fundamentals Certificate.

Take a look at the descriptions of the 8 main categories on the EXAM QUESTIONS section below; these should help you to evaluate whether you lack any particular knowledge or skill.

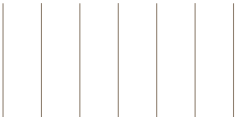
You can also try the Arduino Fundamentals 5 question demo. Please note that your performance in the demo does not indicate how you will do on the actual exam, but it will give you a good idea of what to expect.

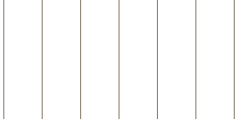
HOW TO ACCESS THE EXAM

It is possible to access the exam in two ways: by purchasing the **Arduino Fundamentals and Starter Kit bundle** on the [Arduino Store](#), or by purchasing the **exam access** on the [Arduino Fundamentals landing page](#). You will need an Arduino account in order to complete the purchase.

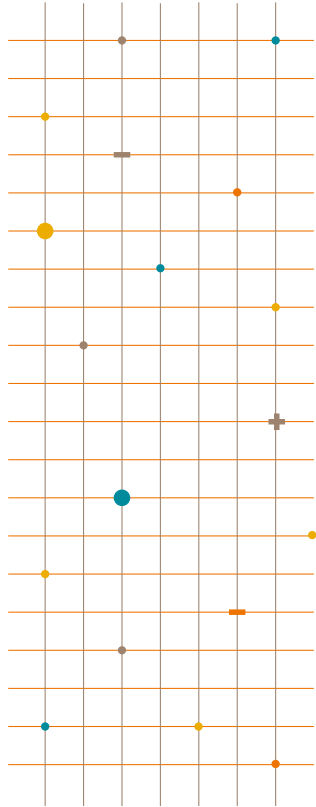
Purchasing the bundle (currently available in the US only) for **\$109.90**, will grant you the Arduino Starter Kit and an activation code for **1 attempt** at the Fundamentals exam. The code will be sent to you by email immediately after the purchase, and can be used to access the exam right away. The activation code is valid for 6 months. Once the code has been redeemed, you have 1 year to activate the exam; after that period, the code will become invalid. You will receive reminder emails prior to code and exam attempt expiration.

Purchasing the exam alone (currently available in the US only) costs **\$30.00** and grants **1 attempt** at the Arduino Fundamentals exam. Once the exam access is unlocked, you have one year to complete your attempt; you will also receive reminder emails close to access expiration date.





DURING THE EXAM



EXAM FORMAT

The Arduino Fundamentals exam is web-based, and can be completed from your computer at any time. The exam consists of **36 questions** that cover a range of topics with **75 minutes** to complete them all. The passing grade for the exam is 70 points out of 100.

Please note that the exam is currently available in English only.

EXAM NAVIGATION

Throughout the exam, you will be able to freely navigate back and forth between the questions, and edit your answers as necessary. Once the timer starts, it is not possible to pause or restart it. If the time runs out before you have submitted the exam, your answers will be evaluated and graded in their current state.

To avoid a loss of your answers, use the exam arrow buttons, and / or the left navigation panel only. Do not use the browser back and forward buttons during the exam.

EXAM QUESTIONS

You will encounter questions that test your knowledge in relation to the following 8 main categories:

Electricity. Understanding the concepts such as resistance, voltage, power and capacitance, and 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, and 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.

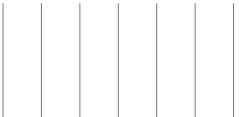
Programming syntax and semantics. Understanding the building blocks of the Arduino programming language such as functions, arguments, variables and loops.

Programming logic. Ability to program various electronic components, read, analyse and troubleshoot Arduino code.

NECESSARY MATERIALS

In order to take the exam you will need a computer with access to a stable internet connection. Please note that browsers on mobile devices (phones and tablets) are NOT supported.

Additionally, you may find it useful to have readily available: a pen, paper, a calculator, an Arduino board with USB cable and the Arduino Projects book (though these aren't compulsory).





AFTER THE EXAM

ASSESSMENT AND RESULT

Once you submit the exam, the answers will be evaluated automatically, and graded instantly. You will receive feedback about your performance in relation to the different topics covered in the exam. If you are successful in passing the exam, you will be granted a certificate that is available to download.

ARDUINO CERTIFICATE

Arduino Certificate is an official document granted to you upon successful completion of The Arduino Fundamentals exam. It serves as a guarantee of your skills and knowledge within Arduino physical computing and electronics.

If you lose your certificate, you can download it again any time from the Arduino Certification page. Please note that you need to log in to your Arduino account to download your certificate:

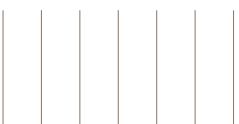
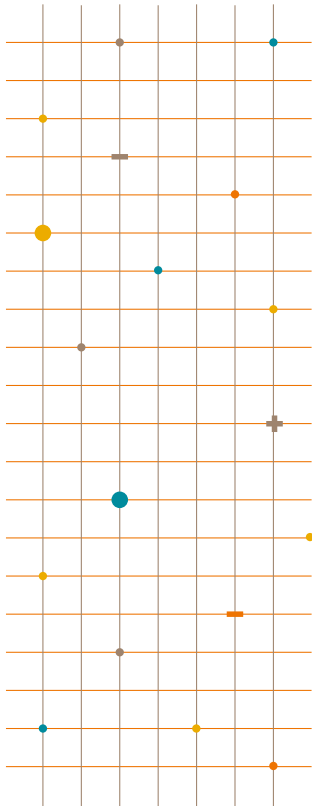
<https://create.arduino.cc/edu/courses/local/certification>

RETAKE THE EXAM

If you do not pass the Arduino Fundamentals, you can purchase another attempt and retake the exam. At the end of each exam you are presented with your performance in relation to the 8 categories of questions covered in the exam, enabling you to see what type of knowledge you are lacking.

Please note that the exams are randomized, and you will encounter a completely new set of questions every time you take it.

You can try [the demo](#) to see the types of questions you will encounter on the Fundamentals exam.





GET IN TOUCH

If you have any further questions, you can check the [FAQ](#). You can also contact our support team at acp@arduino.cc.

