Arduino Explore IoT Kit Rev2

SKU AKX00044 / Barcode: 7630049204003

Overview

Advanced high school and college students can now create their own connected devices - known as the Internet of Things - quickly and easily. They'll learn how to build Internet-connected objects with easy-access getting started activities and 10 sustainability projects, supported by technical and theoretical lessons. Each of these projects allows students to investigate and solve a real-world challenge linked to one of the UN's Sustainable Development Goals. Students learn design thinking methods that help them develop their own unique solutions to challenges such as urban farming, health monitoring, and water and waste conservation.

Empower your students with future technologies, design methodologies, and an in-depth understanding of real-world issues to build a sustainable future with the Arduino Explore IoT Kit Rev2.

Learning outcomes

The Arduino Explore IoT Kit Rev2 has been created to provide a comprehensive understanding of the Internet of Things, as well as to encourage students to think about solving global sustainability challenges, according to the UN's Sustainable Development Goals.

After looking into current academic and industrial standards, we have identified important concepts this kit should touch upon for students to learn how devices communicate and the tools used to facilitate communication, data management, analysis, and computational thinking by using real-world sensors to capture meaningful data from the environment and modify it by remotely controlling actuators such as LEDs, buzzers, displays, through the Cloud.

Tech specs

The kit includes:

- Arduino MKR WiFi 1010
- Arduino MKR IoT Carrier Rev2 designed for this kit, includes:
  - Two 24V relays
  - SD card holder
  - Five Tactile buttons
  - Plug and play Grove connectors for different external sensors
  - Temperature sensor
  - Humidity sensor
  - Pressure sensor
  - Gas sensor (VOC)
  - Ambient light sensor
  - RGB color sensor
  - Gesture sensor
  - Accelerometer
  - RGB 1.20" rounded display
  - 18650 Li-Ion rechargeable battery holder
  - Five RGB LEDs
  - Buzzer
- Micro USB cable
- Moisture sensor
- PIR sensor
- Plug-and-play cables for the external sensors
- Plastic enclosure to attach and protect the hardware

- Access to the demo version of Arduino Cloud for Education, which includes a complete IoT getting started experience and three introductory activities and lessons.
- For a more comprehensive educational journey into the Internet of Things, access to 10 more step-by-step, hands-on projects, each linked to the UN's Sustainable Development Goals and covering the fundamentals of IoT, and to connect with Google Classroom, educators can subscribe to the Arduino Cloud for Education School Plan.
    - Each of the 10 projects takes between 15-25 hours to complete, and can be completed over the course of a couple of weeks or a whole term or year.
    - Each project contains five modules which can be completed in an order that makes sense for your classroom.
    - To complete a project, students ideally need good programming skills and to have worked with sensor technologies.
    - However, if your students are at more of a basic level, the kit also includes additional technical activities and les
    - sons for beginners.