# Bibliotech

## Arduino Resource Guide

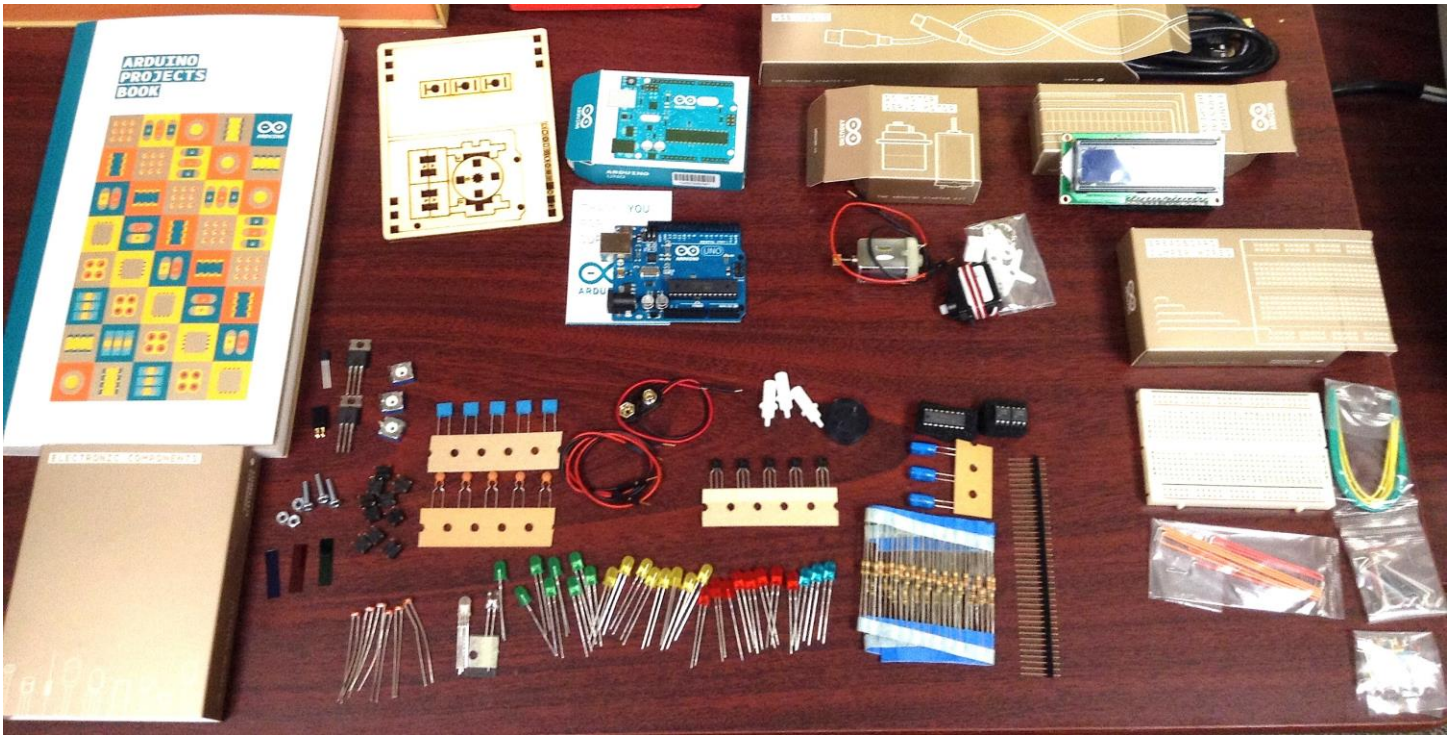
# Arduino Guide

**Difficulty Level: Moderate**


Arduino is a tool for making computers. It can sense and control more of the physical world than your desktop computer. It's an open-source physical computing platform based on a simple microcontroller board, and a development environment for writing software.
Arduino can be used to develop interactive objects, taking inputs from a variety of switches or sensors, and controlling a variety of lights, motors, and other physical outputs. Arduino projects can be stand-alone, or they can communicate with software running on your computer (e.g. Flash, Processing, MaxMSP). The boards can be assembled by hand or purchased preassembled; the open-source IDE can be downloaded for free.
Arduino is compatible with Windows, OSX, or Linux operating systems.

**Be careful of voltage!**

Resistors and capacitors regulate voltage and are used to avoid overvoltage. Refer to Arduino Projects book (p. 30) for more information on making sure you are using the correct resistor.



## Inventory:

- 1 Projects Book
- 10 Pushbuttons
- 2 Optocouplers
- 1 Arduino Uno board
- 1 temperature sensor
- 5 Transistors
- 1 USB Cable
- 1 tilt sensor
- 2 Mosfet Transistors
- 1 Breadboard
- 1 LCD display
- 13 Capacitors
- 1 Arduino Base
- 29 LED's
- 5 Diodes
- 1 9v battery snap
- 1 DC Motor 6/9v
- 3 Transparent Gels
- 70 Solid core jumper wires
- 1 Servo Motor
- 1 Male Pinstrip

**Pro Tip:**
Find a full list of contents and photo gallery online

## Creating:

- How-to guide
- Introduction
- Troubleshooting
- Everything you need to know about Arduino
- Getting to know Arduino
- How Diodes work

## FAQ

What's the difference between Raspberry Pi and Arduino?

- Arduino has more advanced GPIO pins, so it works better with projects with more outputs (motors, sensors). Raspberry Pi works better with more complex programming and images (cameras, graphic interfaces). Therefore, deciding which one to use depends what type of project you're working on, or what skill you want to learn.
- Click here to learn more about the differences between them.

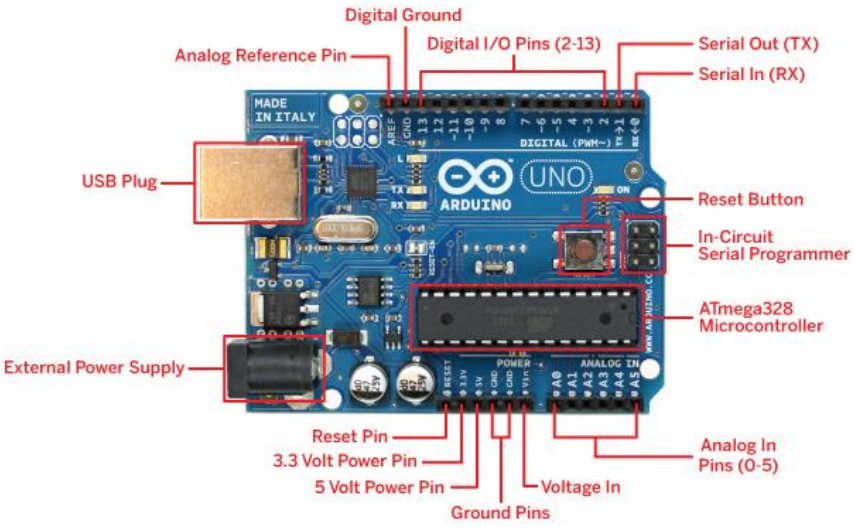
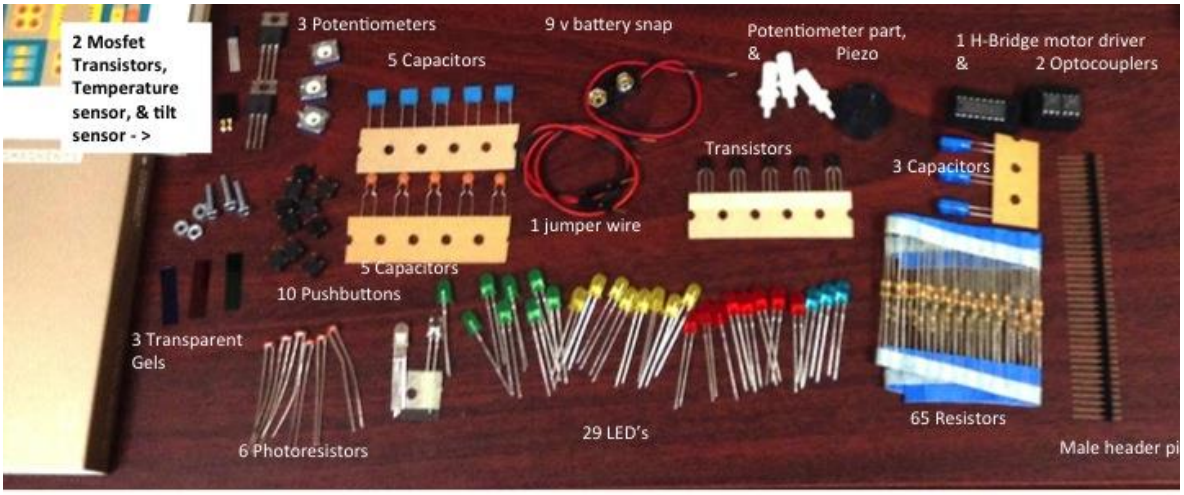
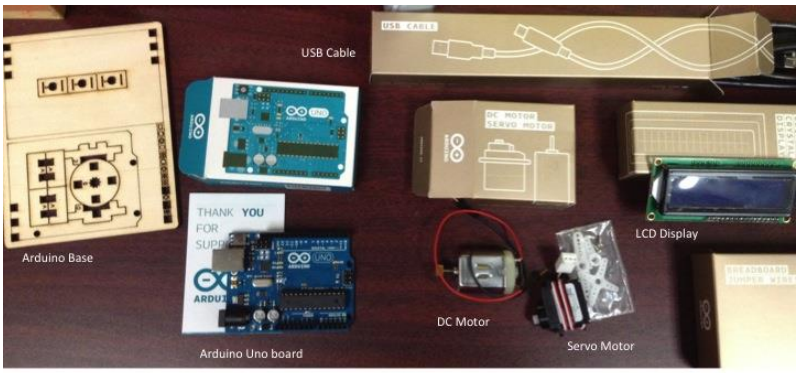



Photo from http://www.zenbike.co.uk/ardu




Contents:
10 Pushbuttons
2 Optocouplers
1 temperature sensor
5 Transistors
1 tilt sensor
2 Mosfet Transistors
13 Capacitors (5 blue + 5 organge+ 3 blue)
29 LED's
1 jumper wire
5 Diodes
1 9v battery snap
3 Transparent Gels
1 Male Pinstrip
6 Photoresistors
1 piezo capsule
65 Resistors
3 Potentiometer
1 H-Bridge motor driver




Contents:
1 Arduino Uno board
1 Arduino Base
1 USB Cable
1 LCD display
1 DC Motor 6/9v
1 Servo Motor

Contents:

1 Breadboard

70 Solid core jumper wires