

# Arduino Troubleshooting

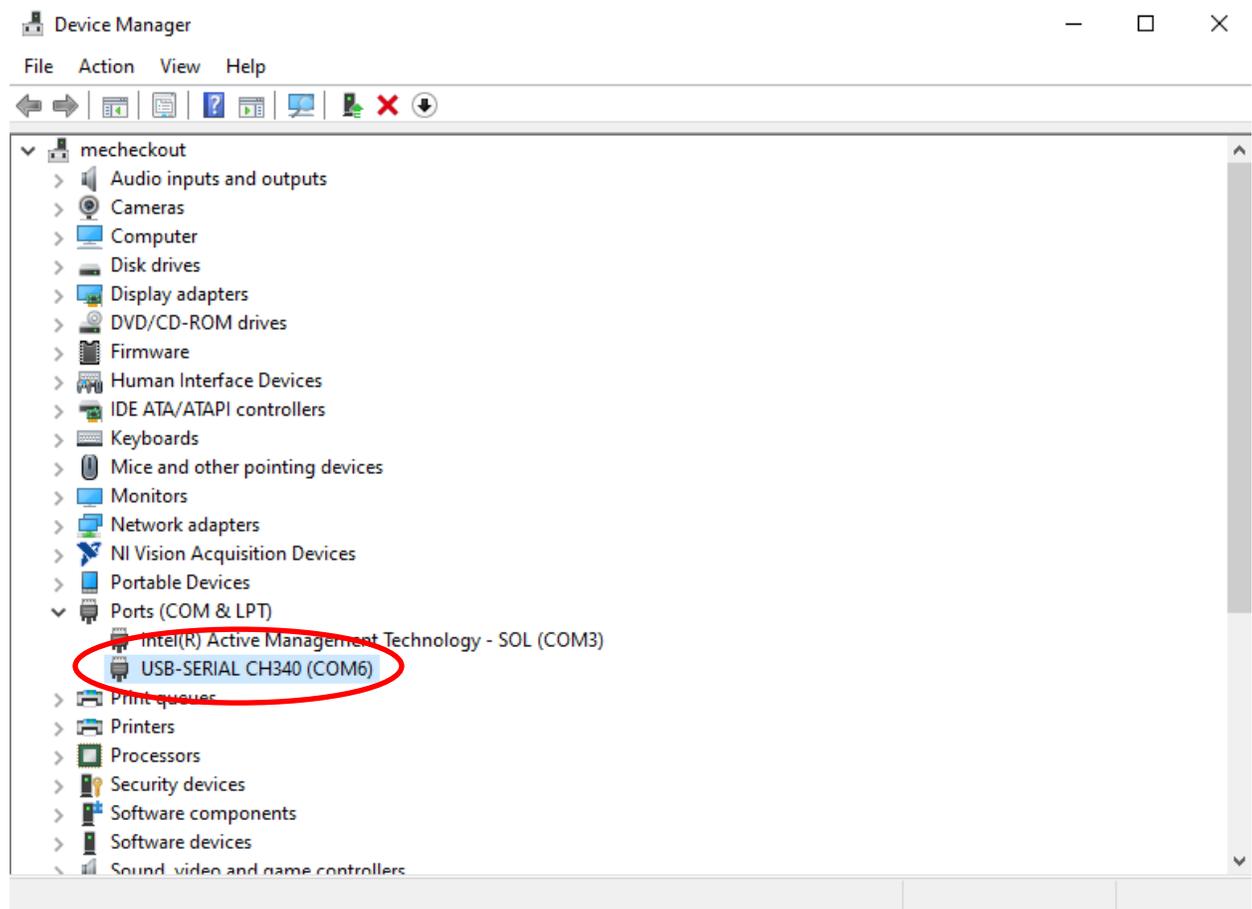
## How to connect an Arduino to the IDE

Step 0: Download and install the Arduino IDE from Arduino's website

Step 1: Plug in the Arduino to PC (red "ON" LED should light up)

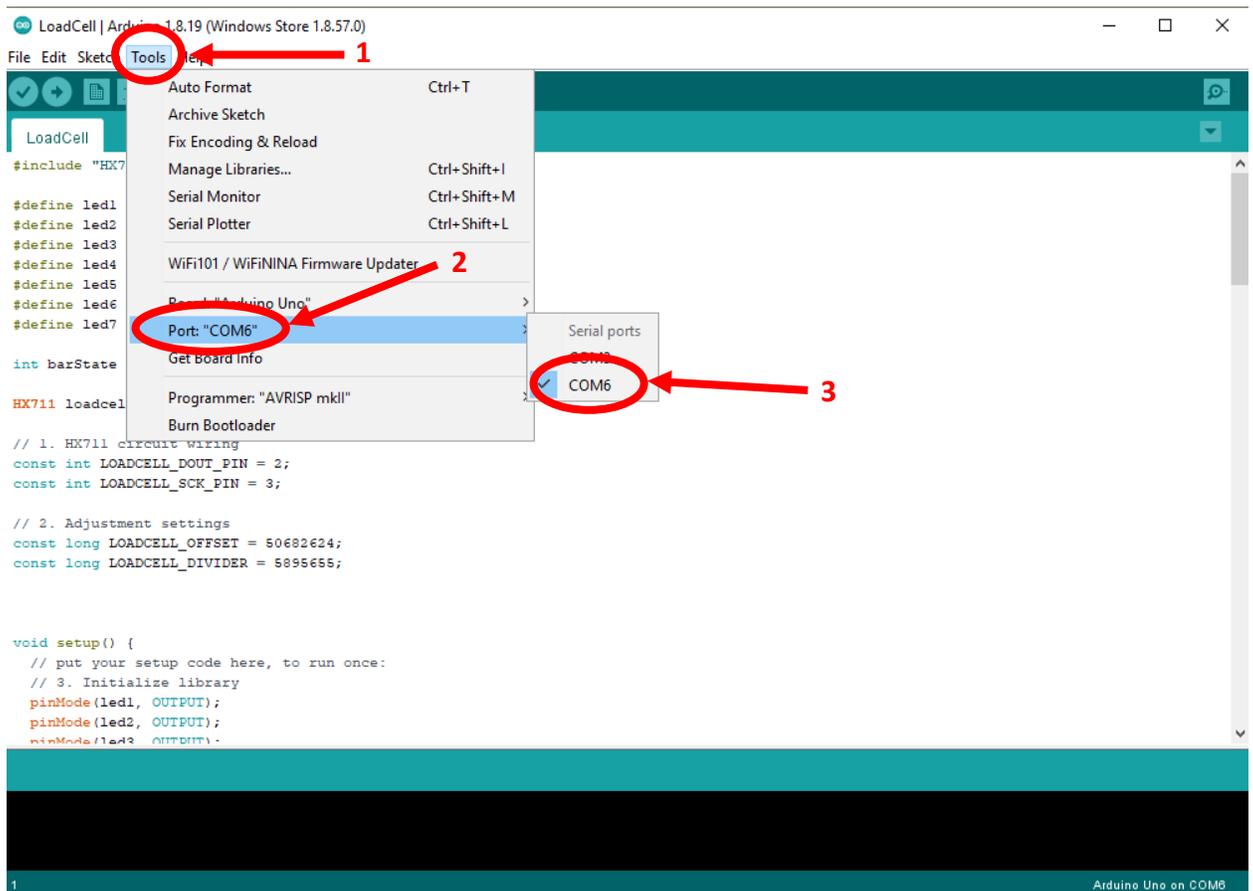
Step 2: Verify that you can find the Arduino in the Ports (COM&LPT) Section of the Device Manager

To open the Device Manager, you can use the taskbar search bar, or you can right click on the windows symbol at the edge of the taskbar.



You should see the USB-SERIAL CH340 (or something similar). Note the COM Port number that shows up in parentheses. We will need that in the next step.

### Step 3: Select the COM port in the IDE that matches the Arduino



### Step 4: Upload your program to the Arduino!

## My Arduino did not show up in the COM Port

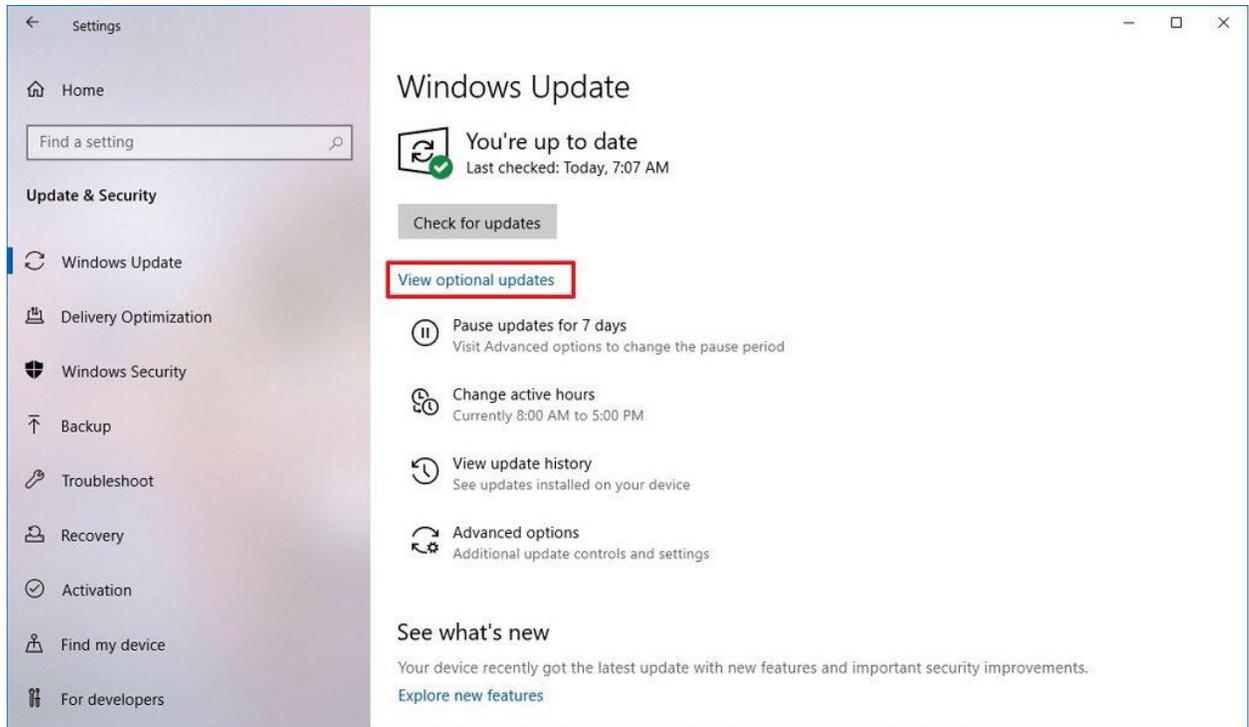
When an Arduino fails to show up in the COM Port it is often fixed by trying a new USB port. If this fails, it typically means that there is a problem with the Arduino or the driver. Follow the steps below to fix the problem.

#### Option 1: Windows Optional Updates

Often Windows knows a device is connected but hasn't automatically downloaded the driver for it. Use the following steps to find the driver in the Windows Update Settings

Step 1: Search for "Windows Update" in the windows taskbar and select "Check for Updates"

Step 2: Click on "View optional updates"



Step 3: Look for the CH340 Driver Update – this is the driver for the Arduino. Download and install this update and verify if you can see the Arduino in windows device manager or the Arduino IDE. If you do not see this update, try Option 2 below.

#### Option 2: Online Driver Download

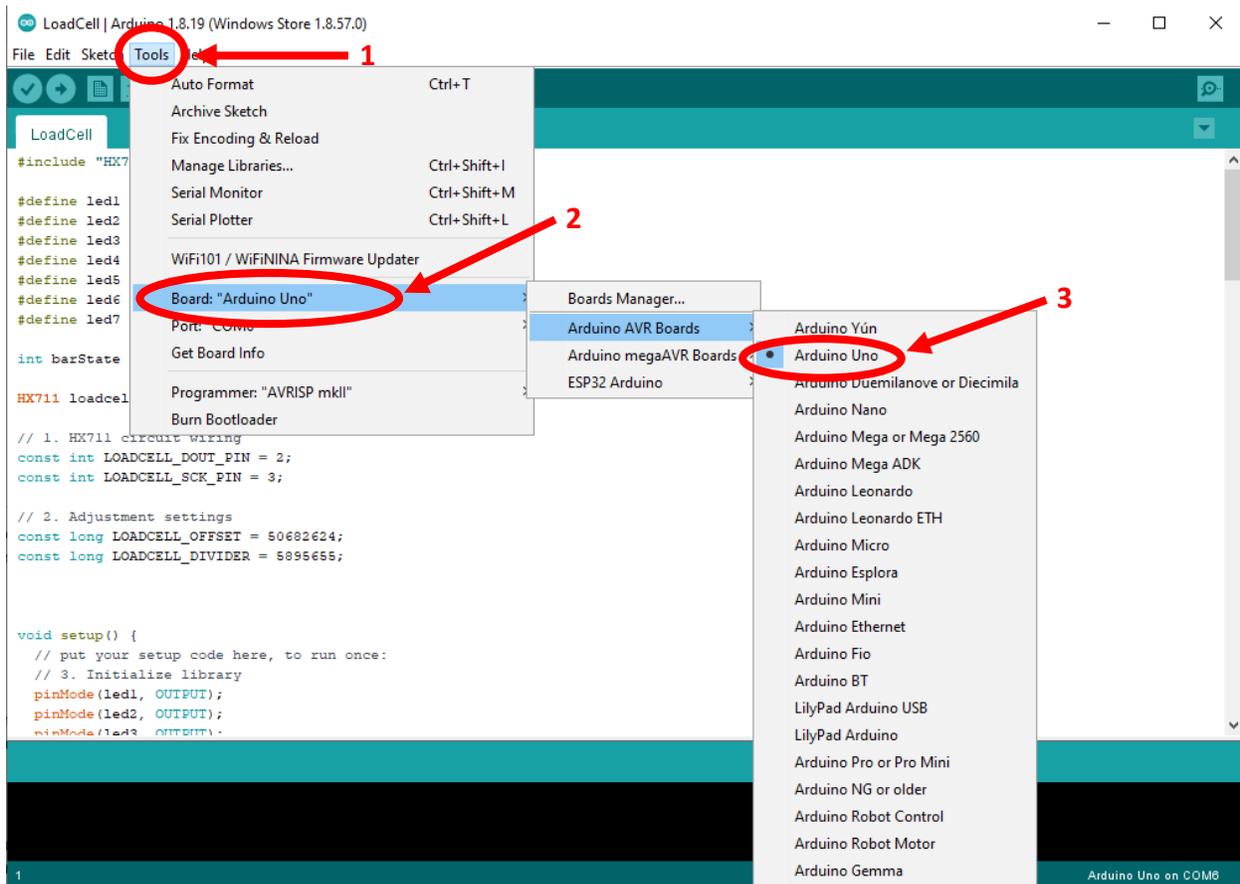
WCH provides the CH340 Driver. This is the link to their website .EXE download.

[http://www.wch-ic.com/downloads/CH341SER\\_EXE.html](http://www.wch-ic.com/downloads/CH341SER_EXE.html)

Download and run that file then verify if the Arduino is visible. If not, your board is most likely malfunctioning in a different way. Try a different USB cable or Arduino to verify what part is not working and then replace it.

## My Arduino is stuck on uploading my code and won't finish.

Make sure you have the correct board type selected in the IDE. To select the proper board type, navigate to the tools tab and follow the following guide:



## My Arduino is all wired up but it's having programming errors.

Arduino has digital pins 0 and 1 reserved for serial communication when uploading code. You are still able to use them as digital pins but when uploading you should not have anything plugged into those pins to avoid inadvertently pulling them low or high. Do not try to use those pins for regular digital I/O if you intend to use serial communications on the Arduino or else those pins will be reserved for that and you won't be able to read or write with them.

If you are receiving sync errors, this usually can be fixed by either waiting a minute after plugging in the Arduino before downloading your code or attempting the download a second time.

Additionally, pressing the red reset button will reset the Arduino and attempt to resync the board.

## **Digital pins 0 and 1 won't read or write for me**

Arduino has digital pins 0 and 1 reserved for serial communication. If you have told the Arduino to use that capability those pins will not be able to act as IO pins in your code and you'll need to switch what pins you are using.

## **I want to verify that the computer can talk to the Arduino**

The most basic way to tell if your computer recognizes an Arduino is to hold it in reset mode and plug it into your PC. To do so place a jumper between the RESET and GND pins on the Arduino and plug it into your PC. If your PC can communicate with it you should hear the windows new device sound.