

Glow Your Own

Worksheet for using Duino App to upload to Arduino

Building and coding your circuit

You can build, test and code your circuits virtually on Tinkercad: www.tinkercad.com

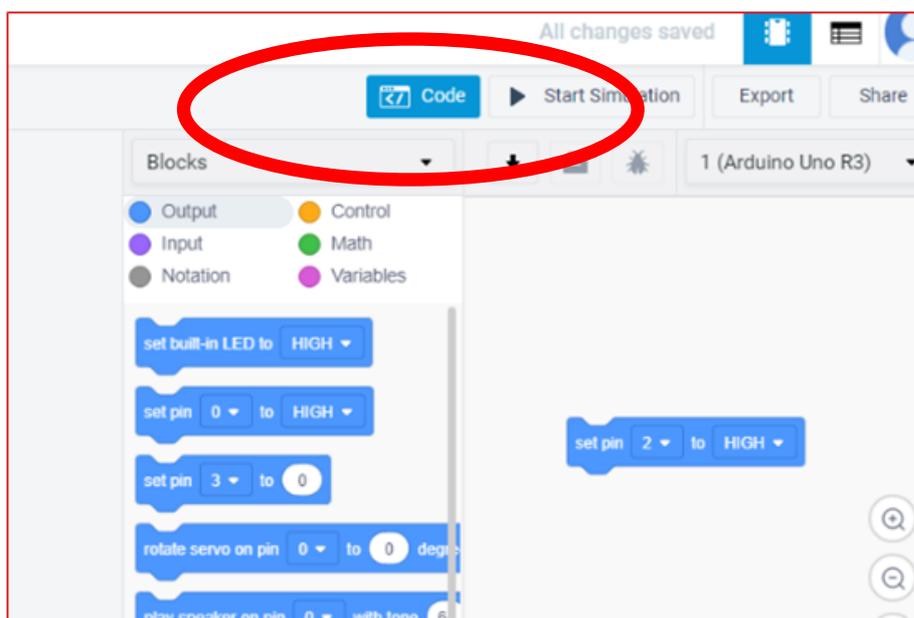
If you would like to join the Glow Your Own class on Tinkercad, please log on to <https://www.tinkercad.com/joinclass/TQ4WP2KL8Z91> and enter your nickname. If you need a reminder of your nickname, or a new nickname, please email visitral@stfc.ac.uk

Remember, if you're using building physical circuits with your real Arduino:

- Always remember to unplug your Arduino when you're changing components.
- Make sure all of the small components are kept out of reach of young children.
- Make sure that all components are tidied up at the end of the session, and none are left on the floor or table.

Sending your code to the physical Arduino with the Duino App

To send (or "upload") your code to your physical Arduino, the best option if you are using the Chrome browser or a Chromebook is to use the **Duino App**: <https://duino.app/#/>. This will also work from a Chrome browser.

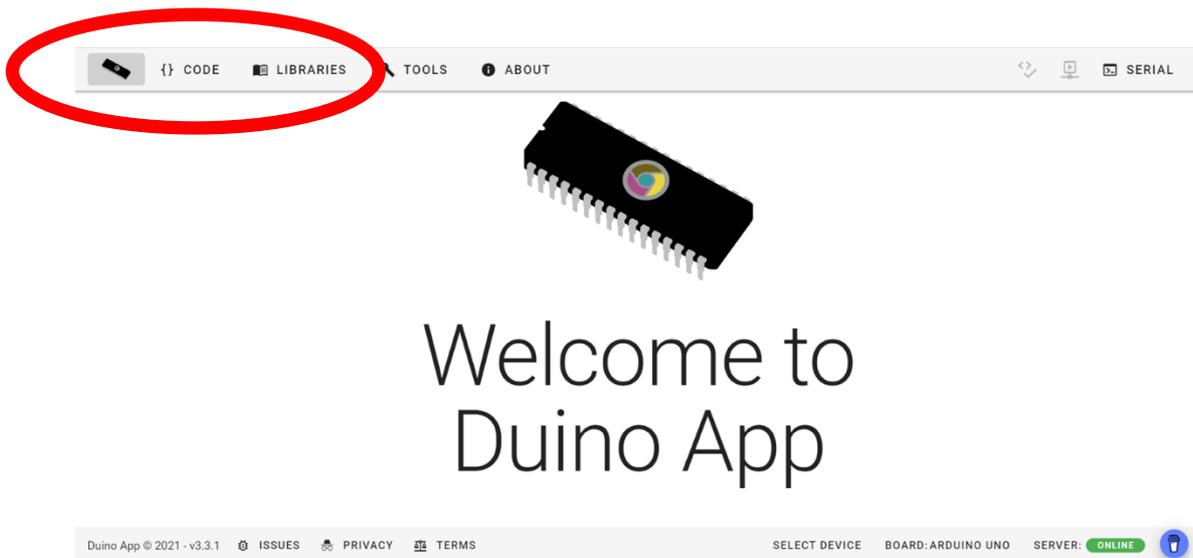


Once you've built your circuit, use the USB cable to connect your Arduino to your computer. If you need to change your electrical components, always remember to unplug your Arduino from your computer first! Then in Tinkercad,

in the Code section,
change “Blocks” to
“Blocks + Text”

Using the Duino App

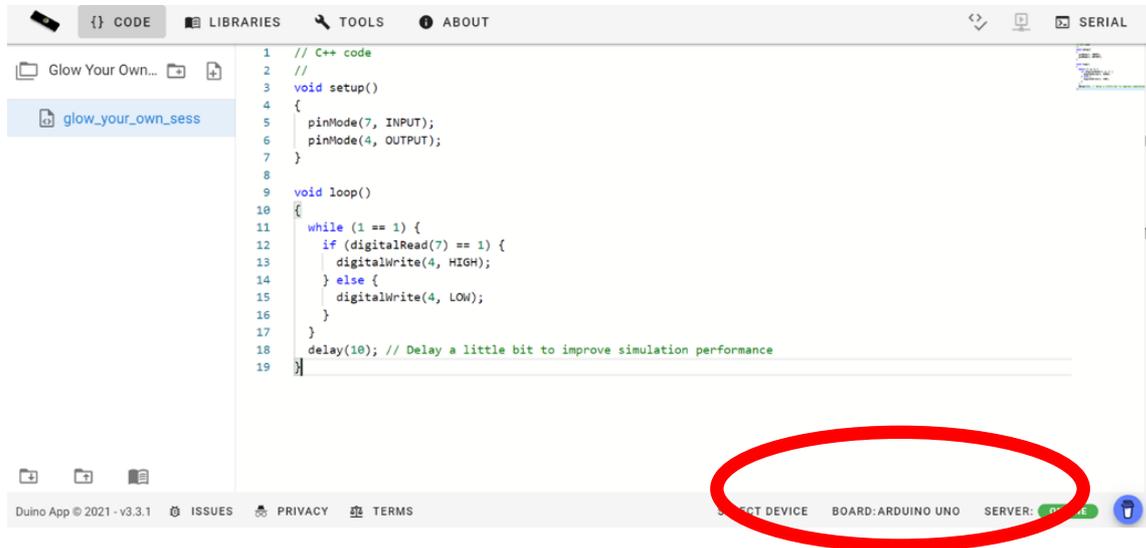
In the Duino App, click “Code”, in the top left corner of your screen, then “Create new project”



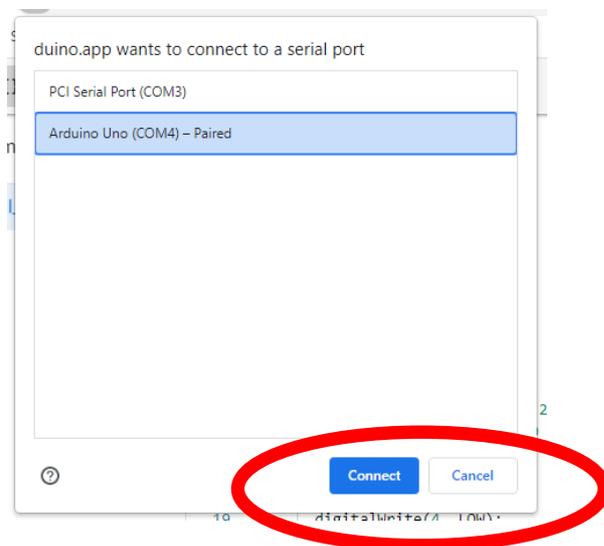
Name your code and write a short description (we’ve named ours “Glow Your Own – Session 3”), then click “Create”.

A screenshot of the 'Create New Project' dialog box. The dialog has a title bar that says 'Projects' and a main title 'Create New Project'. It contains two text input fields. The first field is labeled 'Project Name' and contains the text 'Glow Your Own - Session 3'. The second field is labeled 'Project Description (optional)' and contains the text 'Using a button to control LEDs'. At the bottom right of the dialog, there are two buttons: a 'CANCEL' button and a blue 'CREATE' button.

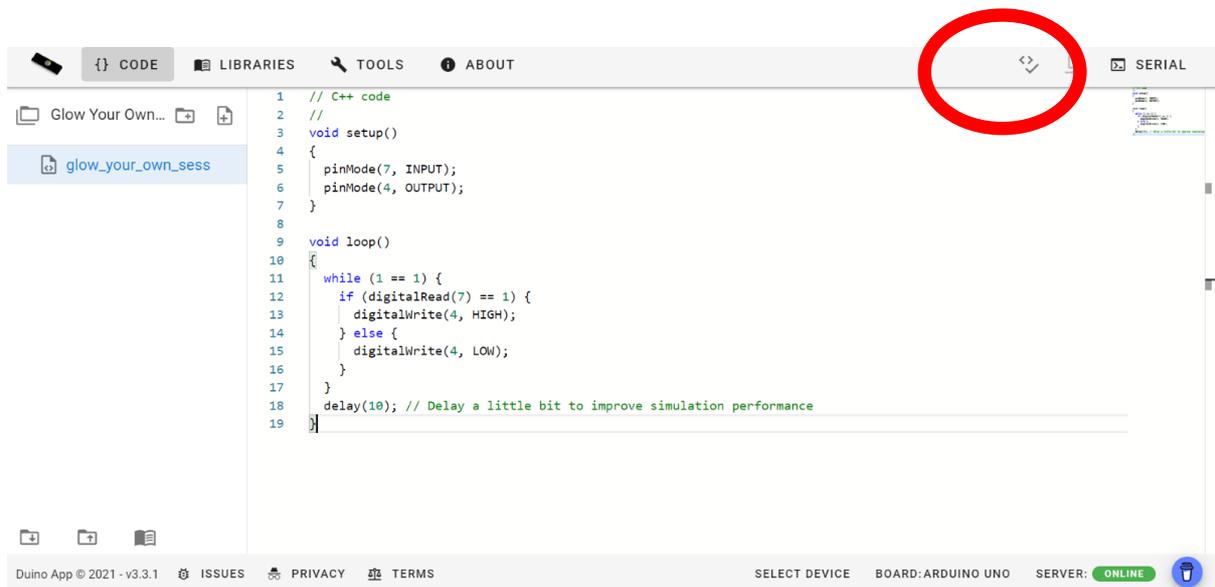
Delete the standard code that appears, and copy and paste from the Text section of Tinkercad into the Duino App, then check that the Device, in the bottom right corner, is “Arduino Uno”. You can change the device by clicking “Select Device”.



Once you’ve clicked “Select Device”, choose the Arduino Uno and then click “Connect”.



Send your code to your physical Arduino by clicking “Compile and upload”, in the top right corner.

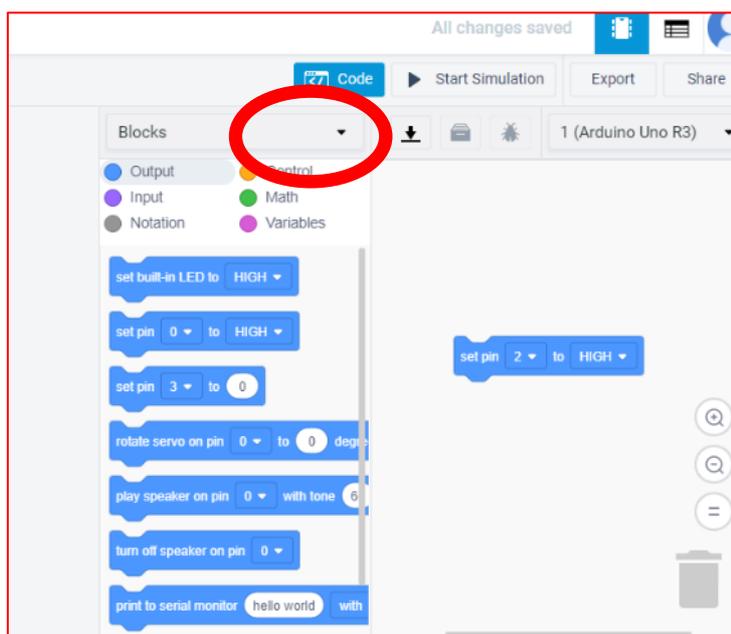


Sending your code to the physical Arduino with the Arduino IDE

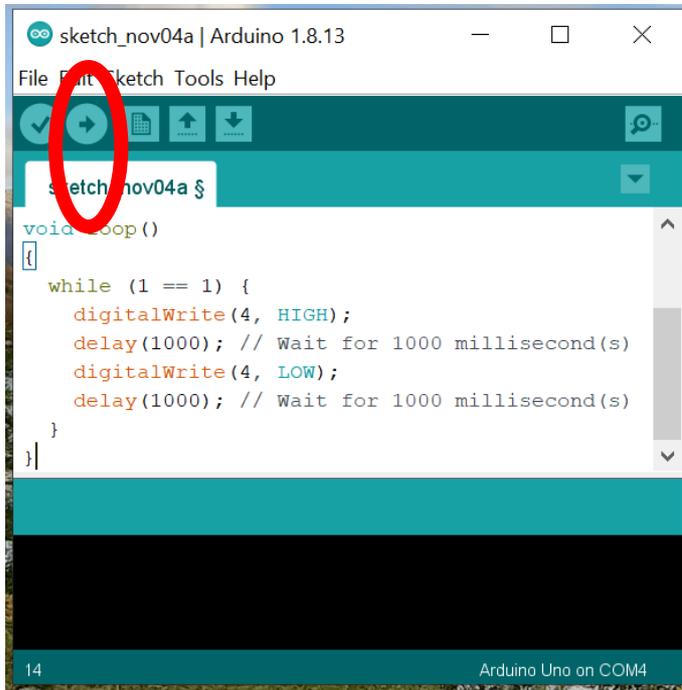
To send (or “upload”) your code to your physical Arduino, an alternative option is to install the Arduino program on your computer. You can install it from here:

<https://www.arduino.cc/en/software>

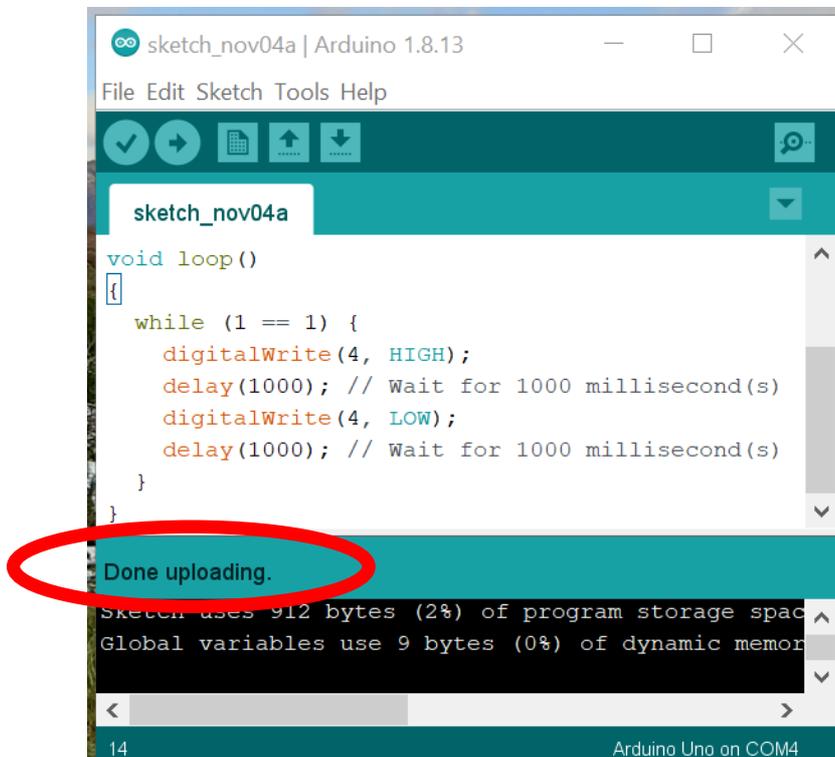
Once you’ve built your circuit, use the USB cable to connect your Arduino to your computer. If you need to change your electrical components, always remember to unplug your Arduino from your computer first! Then in Tinkercad, in the Code section, change “Blocks” to “Blocks + Text”



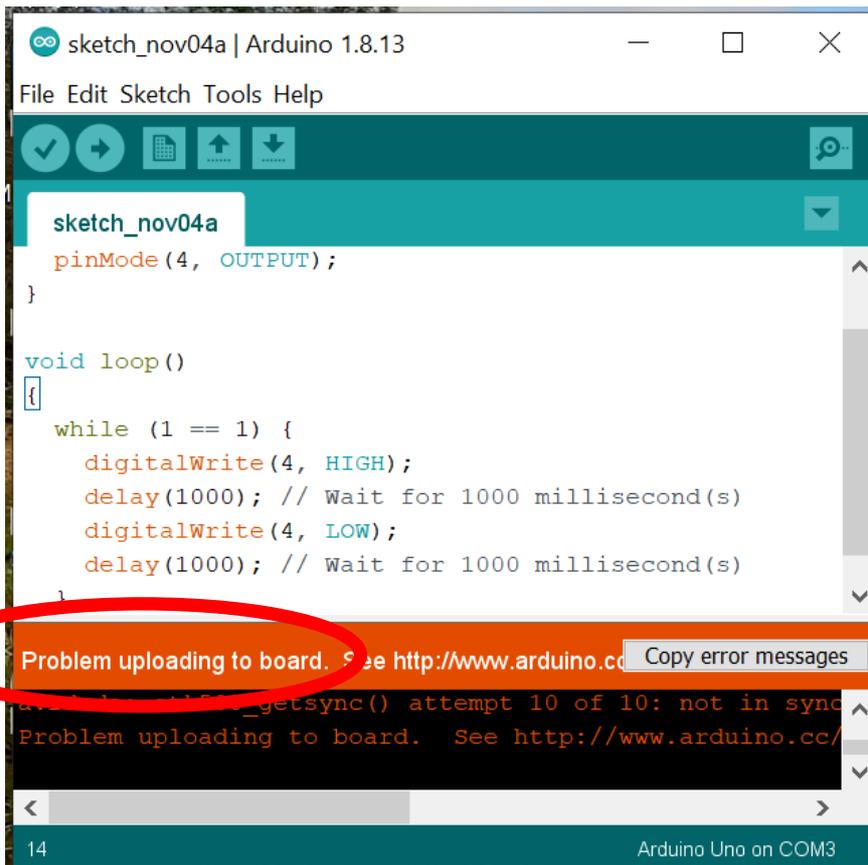
Copy and paste from the Text section of Tinkercad into the Arduino program, save your code and then click the right-pointing arrow to send (or “upload”) your code to your Arduino.



If the code uploads correctly, it should say “Done uploading” at the bottom of the screen:



One common error to watch out for is when the computer doesn't know which USB port the Arduino is connected to – if this happens you will see an error message at the bottom of the window:



To fix this problem, open the “Tools” menu, and check that the “Port” option has (Arduino Uno) in brackets, as below.

