ARD1-Develop
Requires: ARD1-Intro

Arduino IDE (Integrated Development Environment)

Discover
Making the Arduino useful requires you to first write what you want it to do, then send this logic to it.
The Arduino IDE is an environment that integrates the writing and uploading of logic to the Arduino.

Learn
Download and install the Arduino IDE (http://arduino.cc/en/Main/Software#toc1). Then run it.
You have to tell the IDE what board you'll be uploading to, choose it from the menu Tools -> Board.

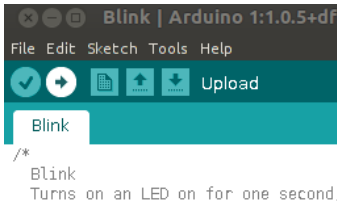
Now the IDE is ready to open/edit programs and upload them to the Arduino.

Apply
Example program
Open the example called Blink, File -> Example -> 01.Basics -> Blink.
Looking broadly at the code, there are

- Comments for humans to read, they are /* block comments */ or //line comments
- "`int led = 13;`", declares an integer called "`led`" that is set to equal the value 13
- two functions "`void setup() { … }`", and "`void loop() { … }`"

The setup function happens only once to set things up, then the loop function is run repeatedly.

Upload!
To see what the example sketch does on the Arduino.



The setup function only has one line that tells the arduino that the pin value "led" (13) is an output. On the Arduino, pin 13 is not only connected to the header, but also the LED, "L", on the board.

The loop function writes the led pin to digital-high, waits 1000ms (1 second).
Then writes the led pin to digital-low, again waiting 1000ms. The function then repeats.

Teach
Experiment with changing the values in the "delay" function, or copy/paste the write and delay lines to set the led high/low with different delays (eg, like morse code). Share your creation with others.

Discover
Now that you can edit and upload different sketches you can try different outputs and inputs, eg ARD2-LED_Out or ARD2-LDR_In (after doing their requirements).
Or a more interesting sketch ARD1-Count.

ARD1-Develop
Unlocks: ARD2-LED_Out, ARD2-LDR-In