Arduino Scavenger Hunt
Teacher Version

Corresponding Material

Intro to Arduino, Lesson 1: Welcome to Arduino

Discussion

In this course, we'll be running programs on an Arduino device. Before we dive into building circuits and writing programs, let's take a minute to explore our device and a sample program.

Teacher Notes

Before students begin this exercise, you'll need to download an example program to each device. First, open the Arduino program on your computer. Follow the drop down chain shown below to open the example program *Blink*.
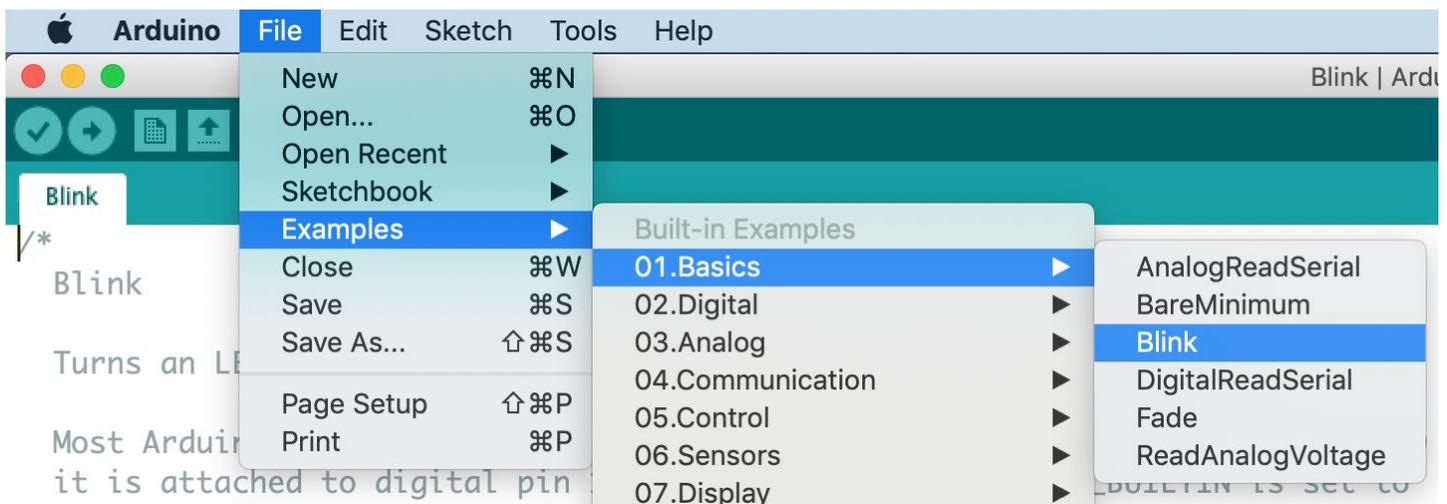
If you don't have access to the Arduino example programs, you can also copy and paste the commands given below:

```
void setup() {
  pinMode(LED_BUILTIN, OUTPUT);
}

void loop() {
  digitalWrite(LED_BUILTIN, HIGH);
  delay(1000);
  digitalWrite(LED_BUILTIN, LOW);
  delay(1000);
}
```

To download the program to your device, plug the Arduino in using the USB cord and click the arrow button shown on the top left of the screen.

Once the program has been downloaded on each device, the USB can be unplugged. As soon as a battery pack is connected to the device or the device is plugged into any computer, the program will run. This will allow students to explore the program without seeing any of the code.

Class Exercise

A program has been downloaded to your device by your teacher. Once you plug the battery pack into the device, the program will run automatically. Answer the following questions about the program that is running as the device itself.

1. What happens on your Arduino when the board is plugged into the computer? (Give as much detail as possible!)

   The light labeled 'ON' on the board is on constantly. The light labeled 'L' blinks on and off about every second.

2. What happens when you click the only button on the device?

   The lights turn off for a second, then the 'ON' light comes back on steadily and the 'L' light starts blinking again.

3. In general, what do you think this button does?

   The button resets the program and starts it from the beginning.

4. What are the 5 ports, or pins, that are grouped in the **POWER** section of the board? What are they labeled?

   Vin, GND, GND, 5v, 3.3V

5. How many ports are grouped in the **ANALOG IN** section of the board? What are they labeled?

   6 (A0-A5)

6. How many pins are grouped in the **DIGITAL (PWM~)** section of the board? What are they labeled?

   14 (0-13)

7. How many of these **DIGITAL** pins have **PWM** capability? (How many have a ~ symbol?) What are they labeled?

   6 (3, 5, 6, 9, 10, 11)