Sliders

What It Does: Each slider is a variable resistor that changes its value when touched. The resistance changes linearly over the length of the sensor, so we can determine exactly where it's being touched.

Required Connections: Each slider should already be wired for the workshop. There should be three wires, Red for power, black for ground, and another color for the sensor readings.

Red: this connection powers the slider and should be connected to **5V**.
Black: this connection is for ground and should be connected to **GND/Ground**.
Blue/Green/Yellow: this final wire reports the value from the sensor, and should be connected to an **Analog Input**.

Using the Sliders in Scratch:

Use a *value of sensor* block to read in from the selected Analog Input. You will need on block for each axis. Adjust the pull down menu in the block to select the proper pin.
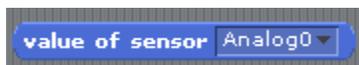
Figure 1: Read Data from Analog Input 0

Also, it will be helpful to store the reading into an appropriately named variable.

Figure 2: Read Sensor Measurement into a Variable

Slide is a raw sensor reading and does not tell us exactly where the sensor has been touched. We can convert this measurement to a percentage through multiplication as shown below. This new value is stored in percent and reports a value from 0 to 100 depending on where the slider is touched.

Figure 3: Converting a Raw Value into a Percent

In the example below, we use the variable percentage along with the *play* block to create musical notes. The *play* block will create a sound based upon the value of *percentage*. If percentage is low, around 0, then a very low note will be heard. If percentage is near 100, then a high note will be played. Variations in between will be heard as well.
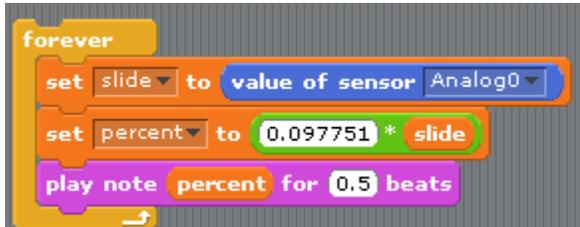
Figure 4: Using the Slider to Play Different Notes