**Sliders**

|  |  |
| --- | --- |
| http://dlnmh9ip6v2uc.cloudfront.net/images/products/08680-03-L.jpg | http://dlnmh9ip6v2uc.cloudfront.net/images/products/08678-03-L.jpg |

**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.

E:\My Dropbox\PhD\IDSA Workshop\Images\valueOfBlock.png

Figure 1: Read Data from Analog Input 0

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

E:\My Dropbox\PhD\IDSA Workshop\Images\ReadInSlide.png

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.

E:\My Dropbox\PhD\IDSA Workshop\Images\ConvertSlide.png

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.

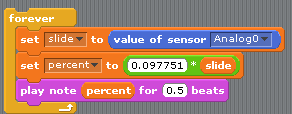


Figure 4: Using the Slider to Play Different Notes