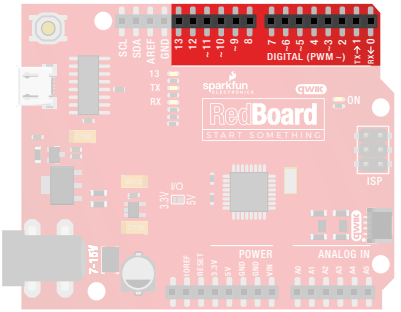
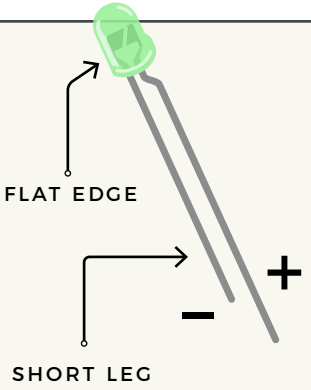


DIGITAL OUTPUT: When working with microcontrollers such as the RedBoard, there are a variety of pins to which you can connect electronic components. Knowing which pins perform which functions is important when building your circuit. In this circuit, we will be using what is known as a digital output. There are 14 of these pins found on the RedBoard. A digital output only has **two states: ON or OFF**. These two states can also be thought of as **HIGH or LOW, TRUE or FALSE**. When an LED is connected to one of these pins, the pin can only perform two jobs: turning on the LED and turning off the LED. We'll explore the other pins and their functions in later circuits.

NEW IDEAS

ELECTRICAL SAFETY: Never work on your circuits while the board is connected to a power source. The SparkFun RedBoard operates at 5 volts, which, while not enough to injure you, is enough to damage the components in your circuit.

COMPONENT ORIENTATION & POLARITY: Instructions on how to orient each of the new components will be given before each circuit diagram. Many components have polarity and have only one correct orientation, while others are nonpolarized.



POLARIZED COMPONENTS

Pay close attention to the LED. The negative side of the LED is the short leg, marked with a flat edge.

RESISTOR LEADS

Components like resistors need to have their legs bent into 90° angles in order to correctly fit in the breadboard sockets.