CoderDojo

1 Here are some common circuit symbols

open switch   closed switch   lamp

cell   battery   voltmeter

resistor   fuse   ammeter

variable resistor   thermistor   light dependent resistor (LDR)

Diode   And gate

Capacitor   Nand gate

Inductor   Or gate

Resistor   Nor gate

DC voltage source   Xor gate

AC voltage source   Inverter (Not gate)
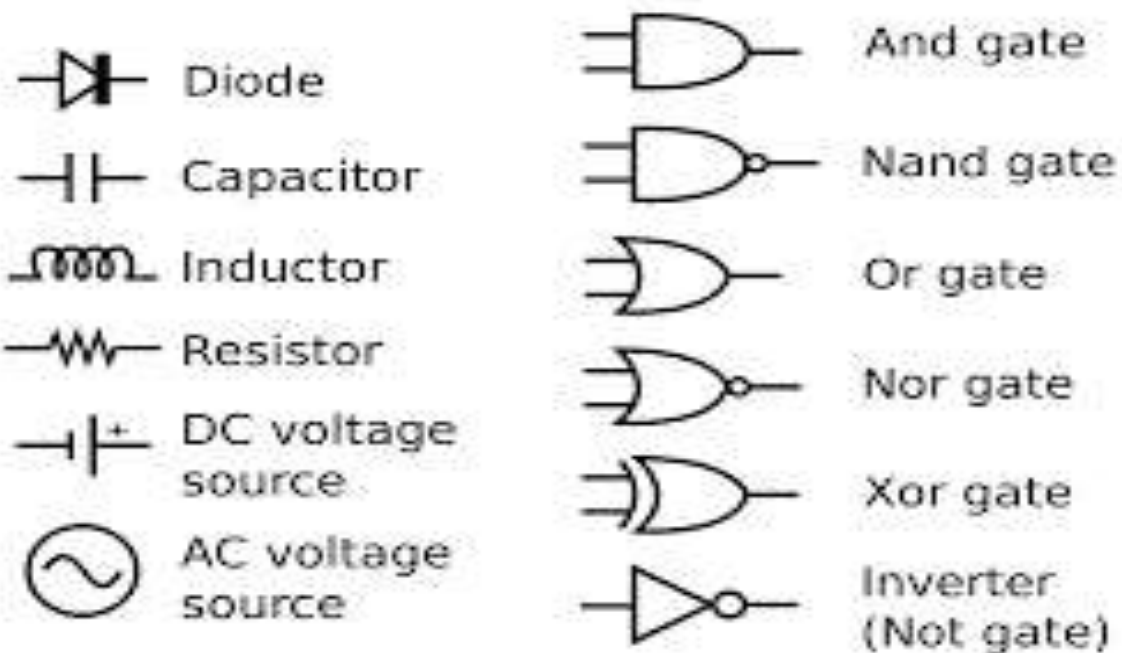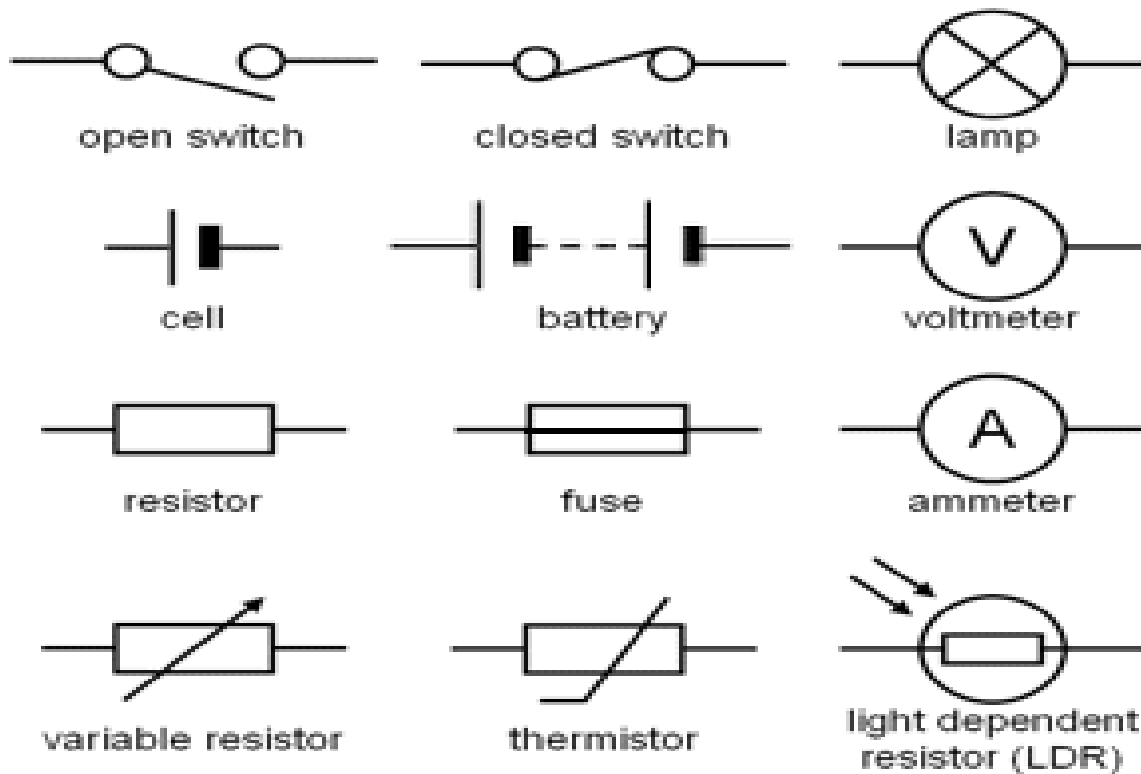
http://www.talkingelectronics.com/CctSymbols/Circuit_Symbols.html

CoderDojoSushi

2 Here are some things we can use to make a circuit.

BreadBoard
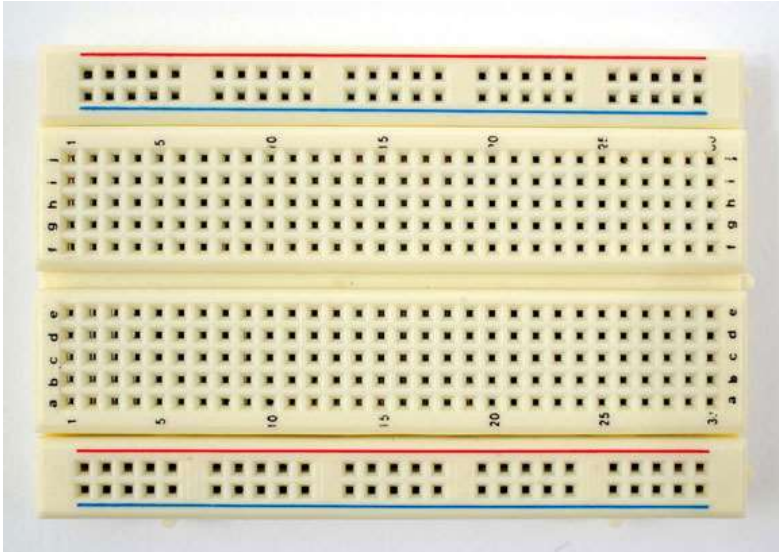
A breadboard is a re-useable platform for mounting components. Consisting of a number of small holes that are actually connected underneath in various lines, they create the circuit connections when you push components into them, thereby avoiding the need for soldering and allowing you to experiment with ease

This breadboard has two areas, the central parts and a outer parts. The two rows in the Outer parts are connected *horizontally*, and is usually used a common connection for +VCC or GND.

In the Central parts the connections are *vertical.* This is where you usually make your circuits. To make a circuit you will normally connect to another hole in a **different** row.

Jumperwires

Arduino

For making connections within your breadboard (to a different physical area) and to the Arduino itself, jumper wires are used. These are just bits of wire with fixed ends that can be stuck into the Arduino and plugs on the breadboard.

Resistors

Resistors limit the flow of current to other components. The main reason for doing this is to protect other components from damage.

LED's

Light Emitting Diodes emit light when you supply them with power! Just make sure you use a resistor with them in your circuit.LEDs have both a positive and a negative leg. The negative must be connected to the ground (GND), the shorter of the two legs, or by a flat indentation in the head of the LED.

3 Lets make our first circuit with some of these components