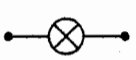
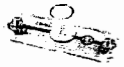
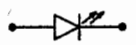
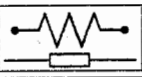
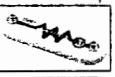
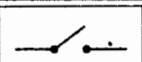
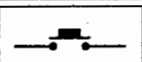
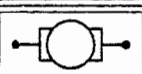
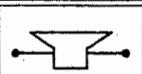
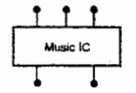
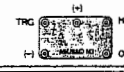
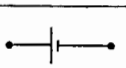
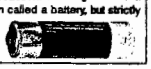
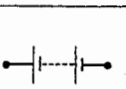
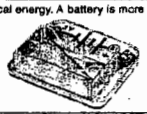
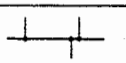
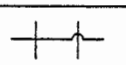
SNAP CIRCUITS

Electrical Symbols

for circuit diagrams and schematic diagrams

Fred 50

Summary of Parts & Circuit Diagram Symbols

Lamp (L1)		A transducer that converts electrical energy to light. It contains a special wire that glows bright when a large electric current passes through it. The upper symbol is used for a lamp providing illumination, for example a car headlamp or flashlight bulb. 
LED (D1) Light Emitting Diode		A transducer that converts electrical energy to light. 
Resistor (R1 100Ω and R5 100kΩ)		A resistor restricts the flow of current through a circuit. 
Photoresistor (RP)		A resistor whose value changes as light shines on it. 
On-Off Switch (S1)		A mechanical switch that allows current to flow only when it is in the closed (on) position. 
Press Switch (push-to-connect S2)		A push switch allows current to flow only when the button is pressed. 
Motor (M1)		A transducer that converts electrical energy to kinetic energy (motion). 
Speaker (SP)		A transducer that converts electrical energy to sound. An electrical signal creates mechanical vibrations, which create variations in air pressure, which travel across the room to your ears. 
Music Integrated Circuit (U1)		A module that converts electrical energy to Music. It contains a specialized sound-generation circuit with resistors, capacitors, and transistors. The descriptions for the music IC module is given here for those interested, see the projects for connection examples:  
Electromagnet (M3) with Iron Core Rod		A coil of wire, which acts like a magnet when an electric current flows through it. Placing an iron bar inside increases the magnetic effects. 
NPN Transistor (Q2)		A device that switches or amplifies electrical current. 
Dry Cell		Produces electrical energy using a chemical reaction. The larger terminal (on the left) is positive (+). A single cell is often called a battery, but strictly a battery is two or more cells joined together. 
2 Cell Battery (B1)		Batteries supply electrical energy. A battery is more than one cell. 
Wire (2, 3, 4, 5, & 6 snap wires, red and black jumper wires)		Used to pass current very easily from one part of a circuit to another. A 3-snap wire is shown here. 
Wires joined		A 'blob' should be drawn where wires are connected (joined), but it is sometimes omitted. Wires connected at 'crossroads' should be staggered slightly to form two T-junctions, as shown on the right.
Wires not joined		In complex diagrams it is often necessary to draw wires crossing even though they are not connected. Often the 'bridge' symbol shown on the right is used because the simple crossing on the left may be misread as a join where you have forgotten to add a 'blob'!