

Computer-type Circuits

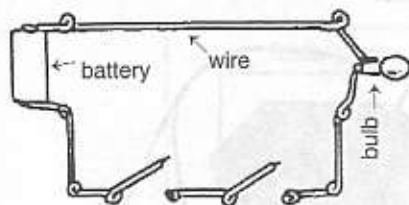


Circuits in computers are on very small chips about the size of your fingernail. In fact, there can be many circuits on one chip. This project will help you understand what a circuit or a chip does. They make either "And" or "Or" types of choices. Try building your own circuits to see how this works.

"AND" and "OR" Circuits

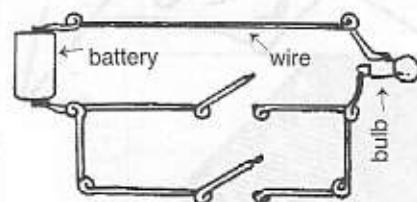
"AND" Condition

To light the bulb
Switch 1 AND
Switch 2 must
be closed.



"OR" Condition

To light the bulb,
Switch 1 OR Switch
2 must be closed.



You need:

1. Two dozen clean finishing nails (used as switches)
2. One piece 30.5 cm x 30.5 cm plywood
3. 1.2 m light wire (wire must be bare wherever it makes contact with battery, bulb or other pieces of wire)
4. Masking or electrician's tape (to hold wire in contact with battery and bulb)
5. One size "D" battery
6. One flashlight bulb

"AND" and "OR" Conditions

For a bigger challenge, try making a circuit that combines "AND" and "OR" decisions. When all switches are closed, the bulb lights up to show the circuit is successfully completed.

