Make: Sculpted Circuits

1. Build your first circuit

Connect an alligator clip wire to each battery terminal. The positive (+) is called the anode, and the negative (-) is called the cathode.

Roll two pieces of dough. The dough is conductive, meaning electricity flows through it. Press one alligator clip into each piece. Air between insulates, or keeps currents apart.

Spread the light-emitting diode (LED) leads apart. Press the long lead into the + charged conductive dough and the short one into the - charged conductive dough. Light? A complete circuit!

2. Discover parallel and series circuits

Adding two or more LEDs to the conductive dough like this is called a parallel circuit. The + leads are in one piece of conductive dough, and the - leads are in the other.

Adding two or more LEDs to the conductive dough like this is called a series circuit. The + lead of one LED and the - lead of the other LED are sharing the center piece of conductive dough.

Never touch alligator clips directly to LED leads. The battery has too much current and will break or pop the LED. Also, never touch the + and - clips together. It will cause a short circuit and possibly hurt the battery.

3. Sculpt with insulating dough

To keep electrical current from moving between conductive dough pieces, use the special insulating dough.

As long as one lead is connected to only the + charged dough and one to only the - dough, the LED should light up.

Make sculptures of animals, plants, monsters, robots, spaceships, or anything you like!