

squishycircuits

Circuits Explained

What is a circuit?

- A circuit is the flow of electricity that travels in a loop.
- Electricity flows from the batteries, into the dough, through the component(s), back into the dough, and finally, back into the batteries.
- When electricity flows through a component, it causes the component to operate.



Conductors vs. Insulators

- A conductor allows electricity to pass through it.
- An insulator does not let electricity pass through it.
- Squishy Circuits uses colored conductive dough and white insulating dough in all of our projects.

Common Insulators:

- Sharpie/marker
- Plastic fork
- Toothbrush
- Plastic toy

Common Conductors:

- Scissors
- Metal fork
- Quarter
- Paper clip



Polarity

- Some components, like LEDs and buzzers, only allow the electric current to flow in one direction. This is called polarity.

LEDs

- LEDs have a long terminal and a short terminal.
- The longer terminal goes to the red battery pack and the shorter terminal goes to the black battery pack.
- If the LED doesn't light up, try switching the dough each terminal is inserted into. The terminals can look the same length when spread apart.

Buzzers

- To make the buzzer sound, match up the wire colors.



Short Circuits:

- Electricity takes the path of least resistance. If we create a path of only conductive dough, electricity will bypass our components since it can go around them instead of through them.
- We can use the insulating dough to prevent short circuits.

