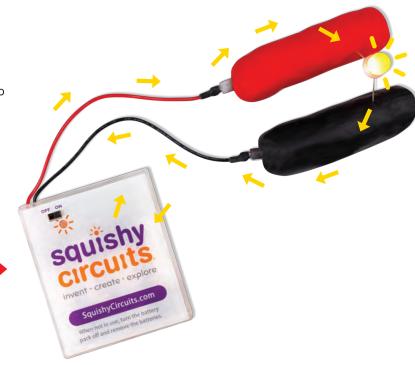


Circuits Explained

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.

Four AA batteries providing power are inside the battery case.



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



PolaritySome 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.

