

Simple Circuits

4th Grade

The four things a circuit needs, and the commonest reason one fails.

Electricity needs a complete loop. Break the loop anywhere and everything stops.

A SOURCE

1

A battery or a plug — something pushing the charge along.

A COMPLETE PATH

2

Wires making an unbroken loop from one end of the source back to the other.

A COMPONENT

3

A bulb, buzzer or motor — something to use the energy.

A SWITCH

4

A deliberate gap you can open and close.

WHEN IT DOES NOT WORK

A gap somewhere in the loop

The battery is flat or in backwards

A loose connection at the bulb

Conductors let charge through (metals). Insulators do not (plastic, rubber, wood).