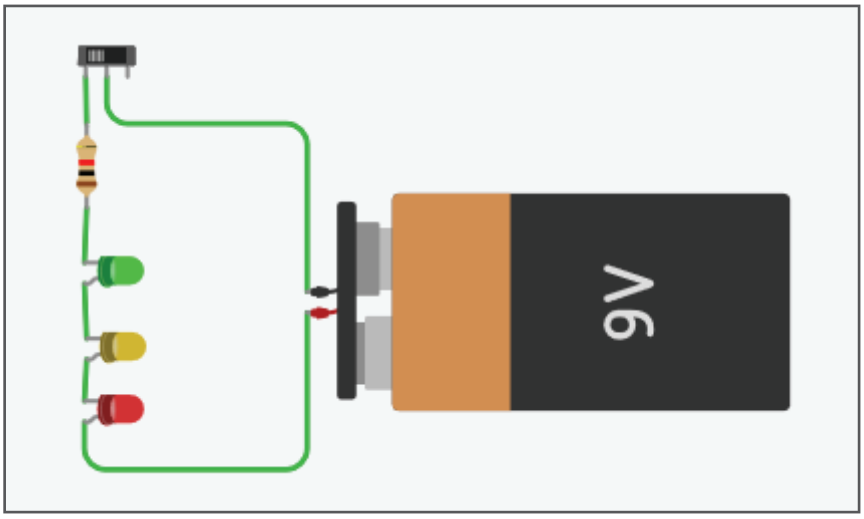
Circuit Puzzles

For electricity to provide power it must run in a circuit.

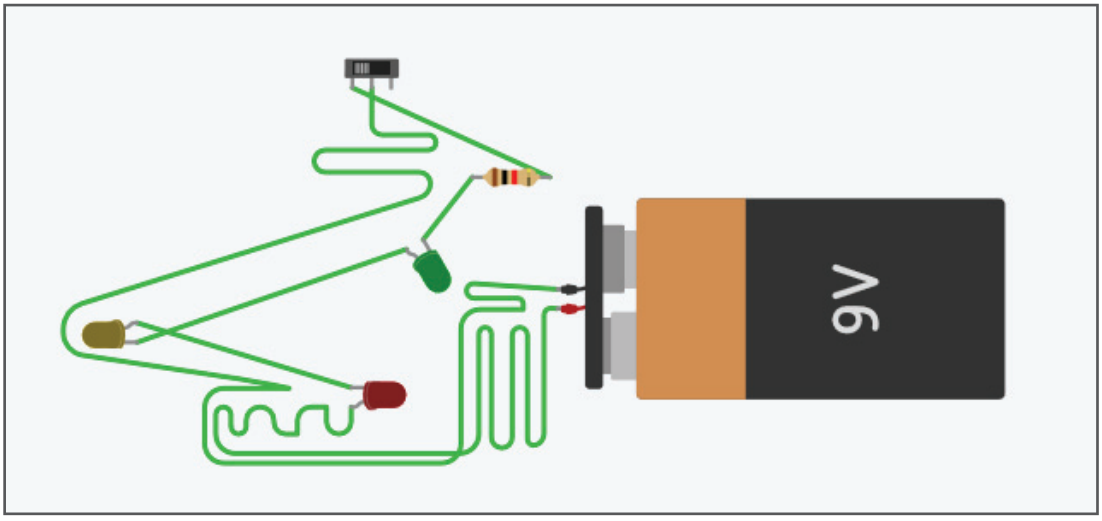
This circuit below (circuit A) has three LED lights in series connected to a switch, a resistor and a 9V battery – is the second circuit (circuit B) the same circuit?

Is the third circuit (circuit C) the same circuit as circuit A?

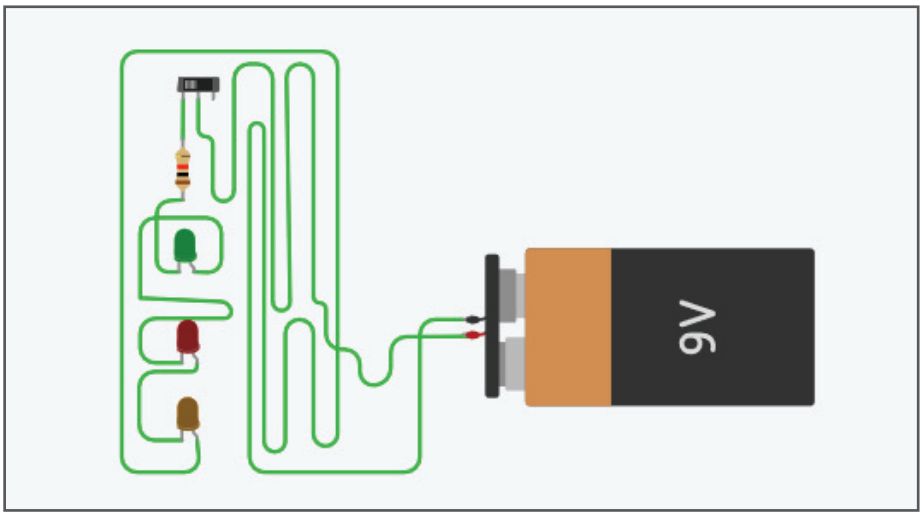
Circuit A



Circuit B

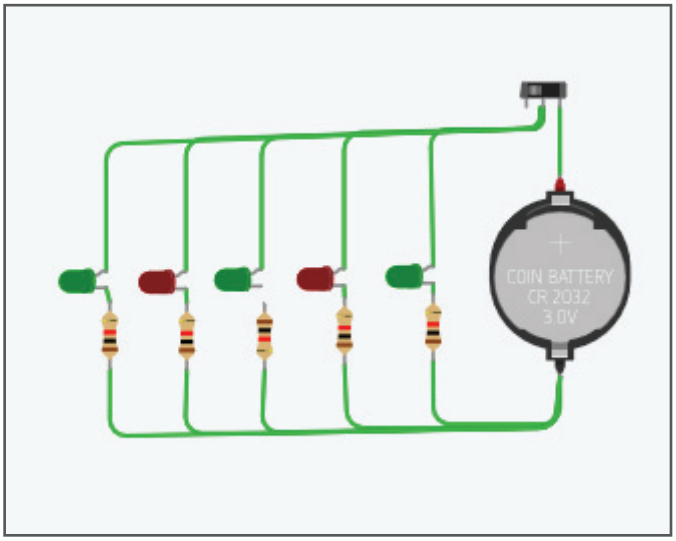


Circuit C



Circuit D is an example of LED lights each with its own resistor in a parallel circuit which includes a switch. Find the break in the circuit and which LED will not light up as a result of the break.

Circuit D



These diagrams were drawn in a free online program called Tinkercad®. You might want to go to tinkercad.com and make your own circuits and test them with the simulator to see if they work. The website has step by step tutorials to help you use it and learn about circuits. Challenge yourself to discover the difference between in series circuits and in parallel circuits.

Answers:
Circuit B is the same as circuit A
Circuit C is not the same as circuit A – there are 2 differences; the red and orange LEDs are reversed and the wires are connected up the opposite way (which means the LEDs would not light up.)
In Circuit D the middle green LED would not work because there is a break in the circuit going to it.