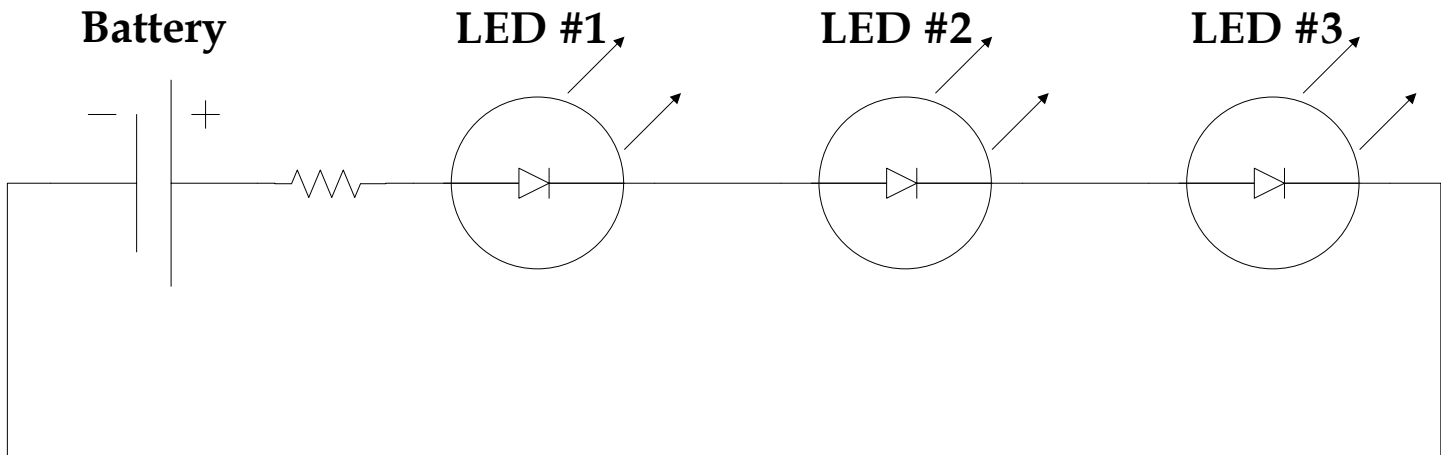




Series Circuits

- A series circuit only allows one path for the electricity to flow through.
- Note that the dough acts as a resistor and a wire, therefore the resistor as show in the schematic are not needed.
- **A LED only works in one direction. Make sure the longer wire or lead is towards the positive (red) side. Also, never directly connect and LED to a voltage source (battery) because it will burn out.**

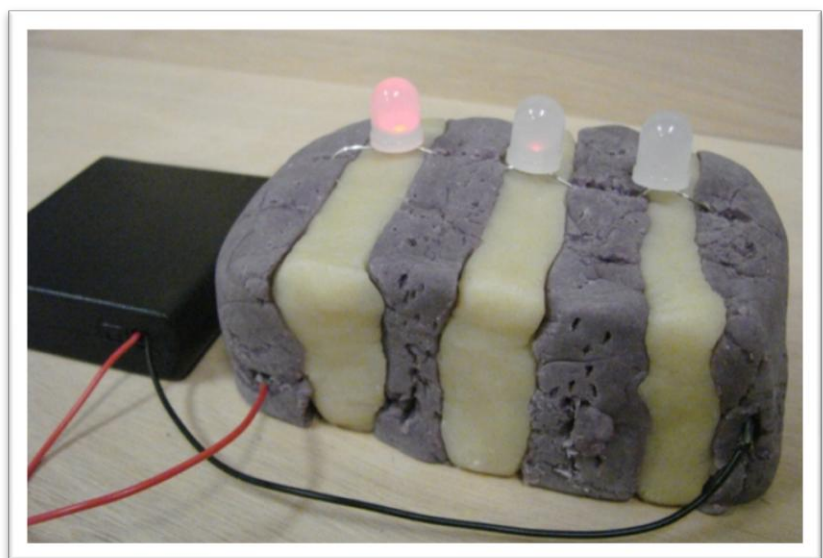
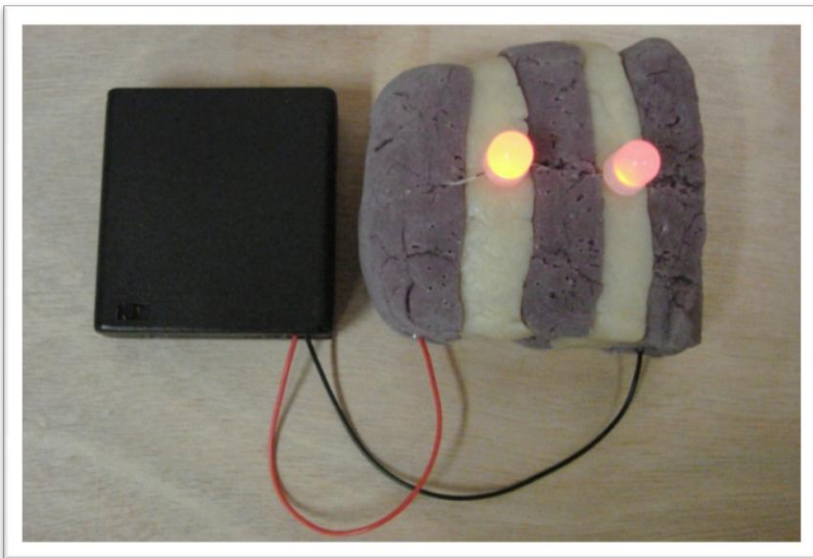




Series Circuits

As more (identical) LEDs are added in series the current through them decreases and so their brightness decreases.

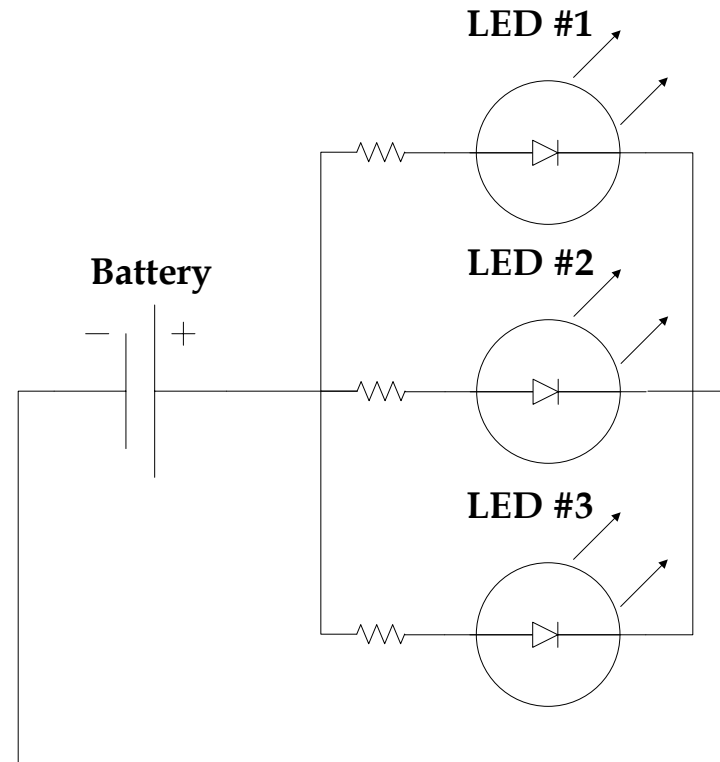
For any given arrangement they will all have the same current going through them and so they will have the same brightness. If one of the LEDs is taken out, the entire circuit is broken and all of the lights will go out.





Parallel Circuits

- A parallel circuit allows multiple paths for electricity to flow through.
- Also note that the dough acts as a resistor and a wire, therefore the resistors as show in the schematic are not needed.
- **A LED only works in one direction. Make sure the longer wire or lead is towards the positive (red) side. Also, never directly connect and LED to a voltage source (battery) because it will burn out.**





Parallel Circuits

LEDs or other electrical items are connected to the dough each in their own loop or circuit. Since electricity flows through each LED independently, if one is removed or burns out, the others will continue to shine brightly.

