

Playdough Circuits

Electricity is the movement of *electrons*.

Electrons are extremely small and are a quantum of electricity.

A battery is a store of electrons and has two terminals.

The two terminals are called **Positive (+)** and **Negative (-)**.

The negative side of a battery stores the electrons and the positive side collects the electrons.

An **electrical circuit** is a path for electrons to move from the negative to the positive terminal.

Electrons lose energy as they move through a circuit.

If the circuit contains a Light Emitting Diode (LED), then the energy lost by the electrons is seen as light.

LEDs only allow electrons to pass through in one direction.

YOU WILL NEED:

- circuit board and battery,
- Play-dough (different colours),
- Light Emitting Diodes (LEDs) (different colours),

SAFETY:

DO NOT connect LEDs directly to the battery - they will break.

WASH your hands well after using the Play-dough

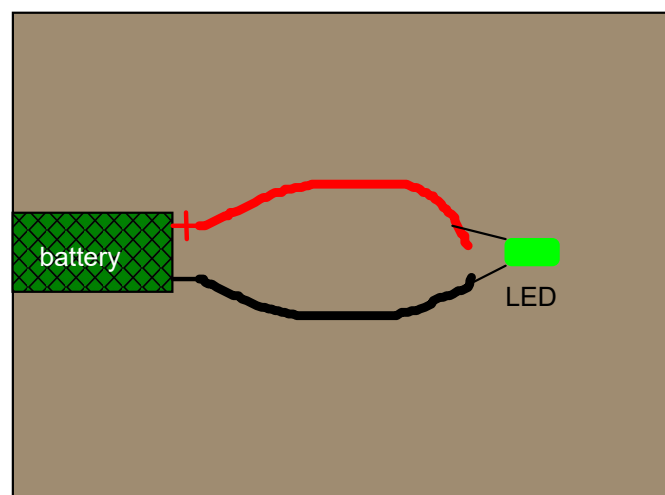
MAKING CIRCUITS

Make a 'worm' of Red playdough and put it onto the circuit board as below.

Push the one end into the **positive (+)** side of the battery.

Make a 'worm' of Black playdough and put it onto the circuit board as below.

Push the one end into the **negative (-)** side of the battery.



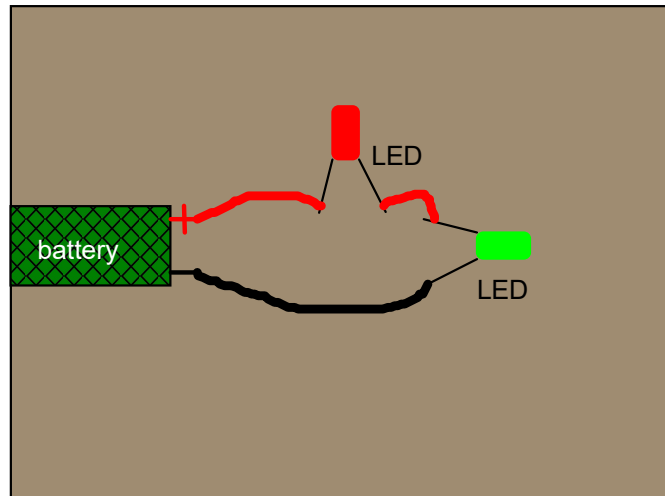
Connect an LED across the gap in the circuit. Does it light?

If it does not light, turn the LED round.

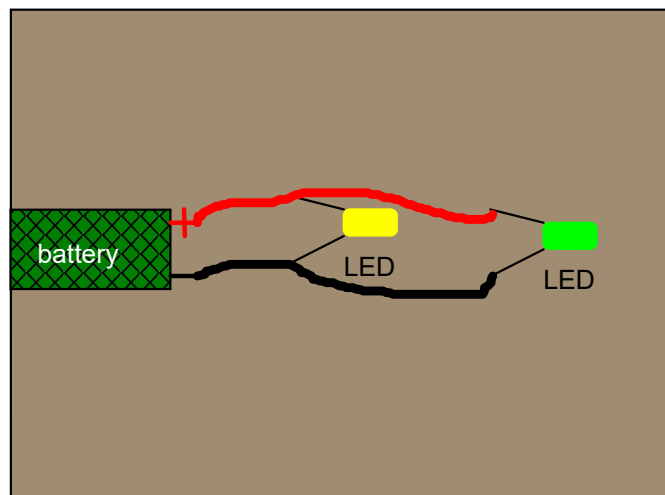
MORE CIRCUITS.

Try and make the following circuits.

Series Circuit



Parallel Circuit



Try and make a mixture of a series and parallel circuit.

Experiment and make your own circuits.

Use different colour LEDs, including 'flashing' LEDs.

Keep a record of the different circuits that you build.