

**Student experiment
(1st - 4th grade)**

A lemon battery

 **Time:** max. 15 min.

Safety:

Instruments:

- a flashlight bulb
- wires
- paperclips
- two screws
- two copper rods

Chemicals:

- two lemons

Experiment:

- Push one copper rod and one screw into each lemon. Make sure that the light bulb is attached to one of the copper rods by a wire. Connect the free screw from this lemon to the copper rod of the second lemon. Then connect the screw in the second lemon back to the light bulb with another piece of wire in order to complete a circuit.
- What happens? Draw a diagram of the experiment!

Advice for the teacher:

The pupils should learn that two different metals in an acid-containing fruit create an electrical potential. This voltage can weakly light a light bulb, but is nowhere near strong enough to drive a mechanical motor, etc. The fruit are also poisonous after the experiment, since metal ions have been released into them during the reaction, thus making them unfit for human consumption.