

# Lemon Battery

Here's how to make electricity from a lemon! This experiment is safe, **but electricity can be dangerous.**  
**Never play with electricity!**

You will need:

Copper wire (18-gauge is best)  
Wire clippers  
steel paper clip  
Sheet of coarse sandpaper  
A Lemon

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## How to Make the Lemon Battery

Strip five centimetres of insulation off the copper wire. Clip the five centimetres of bare wire with the clippers.

Straighten out the paper clip and cut about five centimetres of it.

You should now have a piece of copper wire and a piece of steel wire (from your paper clip).

Use the sandpaper to smooth any rough spots on the ends of the wire and paper clip.

Squeeze the lemon gently with your hands. But don't break the lemon's skin. Rolling it on a table with a little pressure works fine.

Push the pieces of the paper clip and the wire into the lemon so they are as close together as you can get them without touching.

Moisten your tongue with spit. Touch the tip of your wet tongue to the free ends of the two wires.

You should be able to feel a slight tingle on the tip of your

tongue and taste something like metal.

The lemon battery is a type of battery that changes the chemical energy in the lemon into electrical energy.

Touching the two different wires (the steel paper clip and the copper wire) to your tongue makes a circuit and allows a small electric current to flow.

### Conclusion

One lemon produces about 0.7 volts of electricity. At that voltage the effect is totally harmless. The tingle felt in your tongue and the taste of metal is due to the movement of electrons through the saliva on your tongue.

Do NOT try this with any other kind of battery.  
Electricity can give you a shock or even kill