



In this new series from PBS North Carolina, Ava and friends explore the world of science through hands-on experiments. In the episode “Lemon Power,” Ava and Brooke discover how different energy sources power our world by turning lemons into batteries.

To learn more, visit pbsnc.org/MiniFab.

Lemon Power Experiment

Materials

- 1 zinc strip (or a galvanized nail, which is coated with zinc)
- 2 copper wire leads (each about 20 cm long) with alligator clips on both ends
- LED bulb, 2 volts or less (the smaller the voltage, the better)
- 3–4 lemons
- 1 copper strip
- Knife
- Wire cutters & wire strippers

Instructions

1. Roll a lemon firmly on a surface to loosen its juice.
2. Insert copper strip and zinc strip vertically into the lemon, with one end sticking out.
3. Connect one wire lead to each metal strip (electrode).
4. Connect one of the free ends of the wire leads to one of the wires attached to the LED.
5. Connect the remaining free end of the wire lead to the remaining free wire on the bulb.
6. If the bulb doesn't light, try connecting up to 3 or 4 lemons. How many lemons does it take to light up the bulb?

Activity courtesy of Science World



PBS NORTH CAROLINA
POWERED BY THE UNC SYSTEM



NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Child Development and Early Education

Mini Fab Science Lab is made possible with support from the North Carolina Department of Health and Human Services (NC DHHS) Division of Child Development and Early Education.