

Build a Chemical Battery

You will use household materials to make a **chemical reaction** that generates electricity. This electricity will help us light up a small lightbulb. This chemical reaction is similar to ones used in everyday batteries.

Materials (Provided in Teacher Kit):

Vinegar

Small Bowl (not provided)

Copper Washers

Zinc Washers

Felt Washers

Dowel

Light

Wires

Instructions:

1. Put felt washers and vinegar in a bowl. Allow felt washers to soak while preparing the rest of the experiment.
2. Pick out one copper washer and wrap wire around it, then thread the washer onto the dowel.
3. Take out one of the felt washers from the bowl and put it on the dowel, stacking it on top of the first copper washer.
4. Add a zinc (silver) washer to the dowel after the felt washer.
5. Repeat the pattern of copper, felt, and then zinc washer until you have all the washers on the dowels. You should end with a zinc washer. Before putting the last zinc washer on, wrap a wire around it just as you did with the first copper washer. *Why do you think we have to put them on in a certain order?*
6. Connect the longer leg of the LED light to the wire from the first copper washer you put on the dowel. Then, connect the shorter leg of the light to the wire from the last zinc washer. The light should light up.
7. What happens when you squeeze the washers closer together? Why do you think that happens?

The copper and the zinc are able to exchange **electrons**, or small negatively charged particles, through the vinegar. This creates an electrical charge strong enough to light up the light. In order to do so, we created a simple **circuit** by using the wires to connect each side of our battery to the light.