

# recycle-more schools activities

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## how to make a potato battery

I know that it sounds ridiculous but you really can make a battery out of a few spuds, and here's a quirky project to show you how.

It takes an ordinary household potato and turns it into a voltage source, powerful enough to drive an LED.

### What you need

3 large potatoes, a shiny coin, a galvanized steel nail, a multimeter for testing

To view the video that accompanies this article please go to:

[www.monkeysee.com/play/6354-how-to-make-a-potato-battery](http://www.monkeysee.com/play/6354-how-to-make-a-potato-battery) It will talk you through the steps listed below:

### What to do

1. Firstly, cut one of the potatoes in half. You will notice that they are relatively juicy. Potatoes are not known for the juices, but that is exactly what is going to act as the electrolyte you need in order to produce that electron flow between our anode and our cathode. With a potato, the electrolyte consists of phosphoric acid.
2. To produce the anode you will need a nice shiny penny. Take the knife that you used to cut the potato in half and make an incision in one side of the potato. Gently insert the penny into the potato so that just a little bit is poking out.



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3. Take the galvanized steel nail and drive it into the other side of the potato. It is very important that the cathode (steel nail) does not touch the anode (penny). If the two touch they will produce an electric circuit and the potato battery will not work.
4. Next, take your multimeter and move your range selector to 2 volts range. The multimeter has a red lead and a black lead which indicates which goes to the anode and the cathode.
5. Attach the black lead to the cathode (steel nail) and the red lead to the anode (penny).
6. You will see that you are producing a good bit of voltage (about 0.58 volts).
7. You should be able to get more voltage out of the potato if you drive the nail into the potato a little further.

