



California State University of Bakersfield, Department of Chemistry

Penny and Nickel Battery



Standards:

MS-PS2-5 Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though objects are not in contact.

Introduction:

Is it possible to create your own battery? Well yes it is possible and quite simple to create your own battery. For this experiment you will make a battery out of pennies and nickels. When done, you will be able to create about 1 volt.

Materials:

- 6 pennies
- 6 nickels
- 6 pieces of paper towel cut slightly smaller than the nickel
- 40 ml of water with 2 tablespoons of salt
- Optional: Multimeter

Safety:

- Always have an adult with you to help you during your experiment.
- Always wear your eye safety and gloves.

Procedure:

1. Soak the pieces of paper towel in the glass of salt water.
2. Place each piece of moistened paper towel on a nickel.
3. Stack a penny on top of the paper towel.
4. The stack will be repeated until all materials are used (Ex: nickel, paper, penny, nickel paper, penny etc.).
5. You can now test your penny/nickel battery with a multimeter (turn the multimeter to 20 for volts to get an accurate reading).
6. Troubleshooting: If your battery does not make any voltage, check the following
 - a. Make sure the coins are stacked in an orderly fashion and as upright as possible.
 - b. Try switching the multimeter leads around.
 - c. Taste the paper to make sure the paper is salty enough.
 - d. Make sure that the piece of paper are not touching each other.
 - e. Add more pennies and nickels to increase the voltage.

Data and Observations:

What did you see? Anything you were not expecting?

Questions:

How does this work?

Could enough voltage be produced to power a light?

References:

1. Instructables. Penny Nickel Battery. <http://www.instructables.com/id/penny-and-nickel-battery/?ALLSTEPS> (accessed Jul 16, 2013).