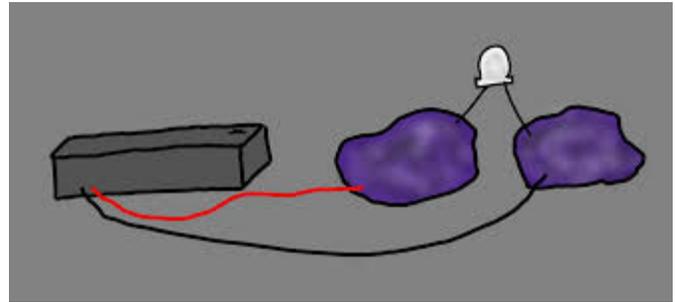


# Squishy Circuits—every Playdough-lover’s dream

<http://courseweb.stthomas.edu/apthomas/SquishyCircuits/index.htm>



Created by Dr. AnnMarie Thomas, Mechanical Engineer and Director of the Playful Learning Lab at St. Thomas University in Minnesota.

**Costs:** Make the dough and buy the supplies online—I would not pay for the kits.

**Supplies needed for each circuit builder:** With Radio Shack gone, I buy it all online from Amazon. Make friends with your local electronics store and see if they can help you get good deals.

- Batteries and holders—Use either 9 volt with a snap clip, or a 2 or 4 AA holder with wires.
- LEDs—if you get the huge ones, which the kids love, be sure to use 9 volt batteries. If you get the tiny ones, AA batteries work fine.
- Motors—all-purpose DC motor—don’t over buy
- Buzzers—electronic buzzer—again, keep it small

## **General Supplies:**

- Wire Stripper—you will learn how to do this quickly.
- Lots and lots of sandwich bags
- Disposable tablecloths from the dollar store
- Multimeter—optional but fun—great for older kids who want to run experiments

**Learning:** Go straight to the source:

<http://courseweb.stthomas.edu/apthomas/SquishyCircuits/howTo.htm> There are other sites but this one has the most reliable recipes. She also has a downloadable classroom guide which is great. Her site also has detailed information on the conductivity of the dough suitable for high school electronics.

### Pros:

- Very engaging—who would not like to play with this?
- Easy to troubleshoot—add more flour, switch the LEDs around....
- Adaptable for many age ranges
- Many lesson plans available on our favorite Google

### Cons:

- Some people just don't like to mess with playdough.
- LEDs and battery wires corrode over time. Clean your wires after each use, but they will eventually have to be replaced, as will the batteries.
- Store those 9 volts batteries carefully.
- Making the dough for a large group is very time-consuming.

### Lessons learned:

- Clean off the LEDs and wires.
- This activity works best in teams of two. Sometimes extra hands are needed to keep the wires in the dough.
- Buy the best quality wires you can afford. They will last longer and make the experience more fun.
- Use the lightest color oil you can or your insulating dough will be yellow. And it is cheap!
- Buy a lot of food coloring to get a deep color for the conductive dough. **Kids, C is for color dough and conductive!**
- Buy cream of tartar in bulk if you can find it.