



## Virginia Region II Annual Teacher Night at Jefferson Lab 2025

**Activity Title:** **Paper Circuits**

**Type:** Student Activity

**Grade Level:** Grade 5

**Time Allotment:** 30 minutes

### Objectives with Correlated SOLs:

SOL: 5.4 The student will investigate and understand that electricity is transmitted and used in daily life.

Key ideas include:

- a) electricity flows easily through conductors but not insulators;
  - provide examples of materials that are good electrical conductors and insulators (5.4 a)
- b) electricity flows through closed circuits;
  - differentiate between open and closed electric circuits (5.4 b)
    - create a model of a simple circuit and explain how it works (5.4 b)
    - create a functioning simple circuit and explain how the circuit works, using appropriate scientific terms (5.4 b)
- c) static electricity can be generated by rubbing certain materials together;
  - provide examples of static electricity (5.4 c)
    - identify ways to generate static electricity (5.4 c)
- d) electrical energy can be transformed into radiant, mechanical, and thermal energy; and
  - illustrate simple energy transformations (electrical to thermal, electrical to radiant, and electrical to mechanical) (5.4 d)
- e) a current flowing through a wire creates a magnetic field.
  - construct a simple electromagnet using a dry cell, wire, nail, or other object containing iron (5.4 e)
  - plan and conduct an investigation to determine the strength of an electromagnet (5.4 e)
  - define a problem and design a solution that uses an electromagnet; demonstrate and explain how the electromagnet works (5.4 e).

### Materials List (including equipment):

- Copper Tape w/ Conductive Adhesive
- CR2032 Coin Cell Battery
- LED – Any size or color
- Paper Clip

### Teacher Contact Information:

Jennifer Grimm

*Jennifer.grimm@cpschools.com*