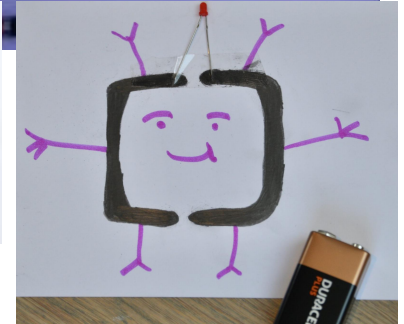




GRAPHITE CIRCUITS

- Graphite Art Pencils
- Paper Instructions & outlines
- Tape
- Mini LED Light Bulb
- 9V Battery

We rely on electric circuits every day, in our homes, schools and places of work, as well as in our portable gadgets and kitchens. In this activity, a circuit drawn by a pencil conducts electricity to light an LED.

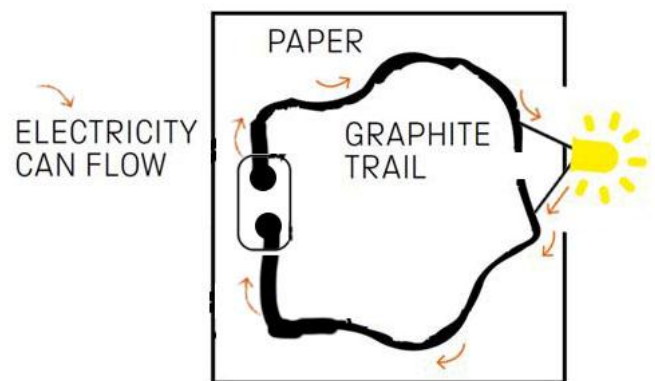


- 1) Using the GRAPHITE pencil, plan your graphite circuit design on a piece of paper. You can draw a shape to start, adding the graphite later. Be sure to create a shape outline with two openings at each end. This is going to be crucial in making our graphite circuit!
- 2) Press quite hard and create a thick line of graphite over your shape. Add positive and negative symbols to the two open areas as guides.
- 3) Tape the wires of your LED bulb to the graphite opening aligning the long wire. (The longer wire is the positive side and the shorter wire is the negative side). Tape the bulb in an upright position.
- 4) Place your 9v battery on the opposite opening of your drawing. The light bulb should light up! Ta-da! We have completed our graphite circuit and created an electrical current. Pretty dang awesome huh?

How does this Electrical Graphite Circuit Work?

Electricity has the ability to flow from one place to another along a path. A circuit is a closed path from one place to another like a loop. We're creating an electrical circuit with the graphite, light bulb, and battery.

Pencil 'lead' is made of graphite mixed with clay. Graphite is a form of carbon, and is a conductor of electricity: the carbon atoms' electrons can move within the material. The graphite pencil line acts as a path for the electrical energy. When the battery is placed on the graphite, energy flows from the battery, along the graphite path, through the wires on the light bulb, continuing back to the battery completing the circuit and lighting the LED. If the battery is removed, the circuit is broken. This is also true if you remove the light bulb. We use the light bulb to show us the electricity that is flowing along the path.



NAME _____

GRAPHITE CIRCUITS

