

Froebel's Gifts for the 21st Century



What does this Teach?

Froebel's Gifts provide students and teachers a variety of simple methods of entering the larger world of maker education, simple circuits, and kinetic sculpture.

- *Students engage in collaborative exploration of new materials, that present new challenges to solve.

- *Students engage with new levels of interactivity as their work can be perceived in different states of being.

- *Froebel's Gifts lead to lessons that allow students to question narratives, parallels of on and off, and understand the dynamic relationship between an artwork and viewer.

- *The integration of circuitry allows students to question and explore the lengths of traditional media and means of expression.

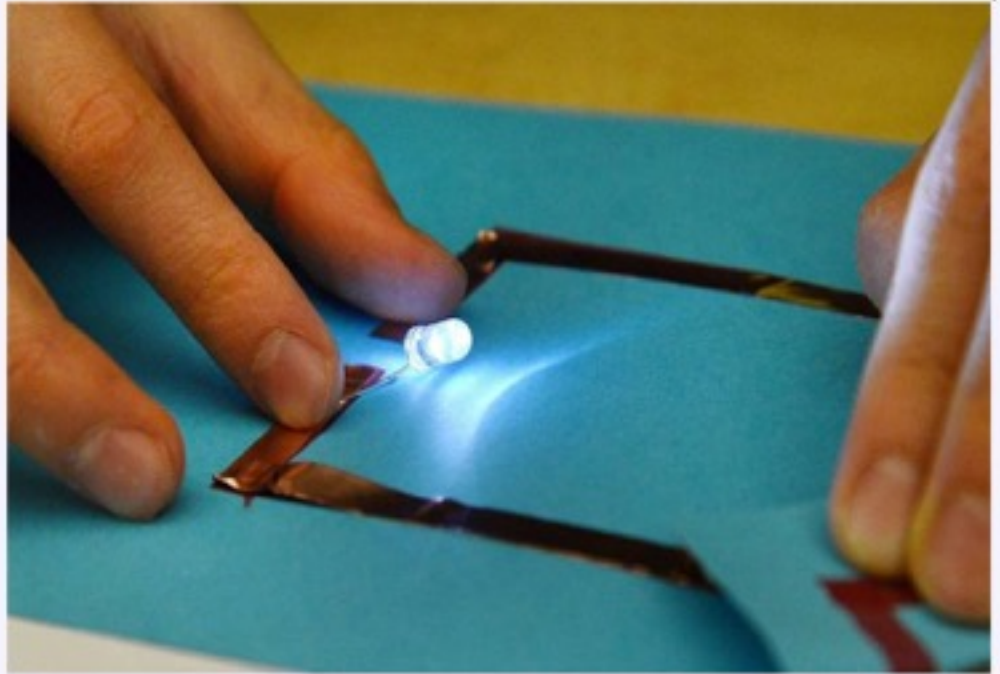
- *Students explore the parallels between two-dimensional images and film on a small scale.

- *Kinetics and moving parts are seen as means of expression in the same manner as color, form, texture, etc...

- *Students infer connections between both media (electronics and found material) and dimensions (2D, 3D, 4D).

- *Students are introduced to working iteratively in attempts to problem solve and explore new outcomes.

- *Froebel's Gifts fosters the process of ideation, within the world design theory.



Helpful Resources

- *amazon.com
- *sparkfun.com
- *adafruit.com
- *servocity.com
- *esssales.com
- *grainger.com
- *lowes.com

- *fablearn.org
- *makerspaceforeducation.com
- *padlet.com
- *gigaparts.com
- *makerspaces.com
- *makered.org
- *edutopia.org

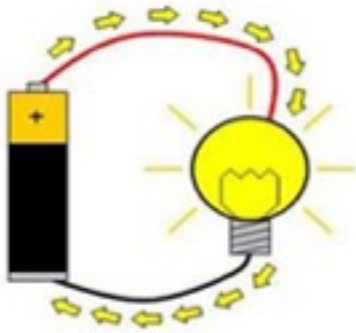
*Make sure to check your local recycling centers!

Materials

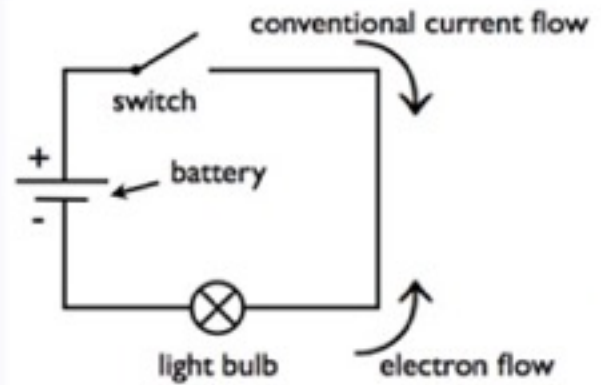
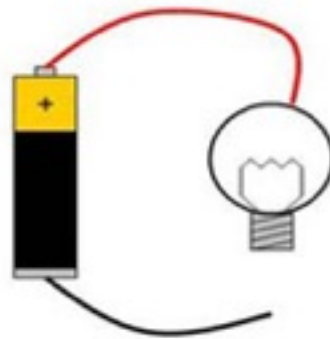
*DC Motors	*Magazines
*Copper Tape	*Popsicle Sticks
*LED	*Paper
*Copper Tape	*Duct Tape/Hot Glue
*Batteres	*Pencils
*Markers	*Crayons
*Paint	*Cardboard

Helpful Diagrams

Closed circuit



Open circuit



Component	Circuit Diagram Symbol
Wire	—
Resistor	⚡
Light bulb	⊗
Cell	⎓
Battery	⎓⎓
Switch	⏏