

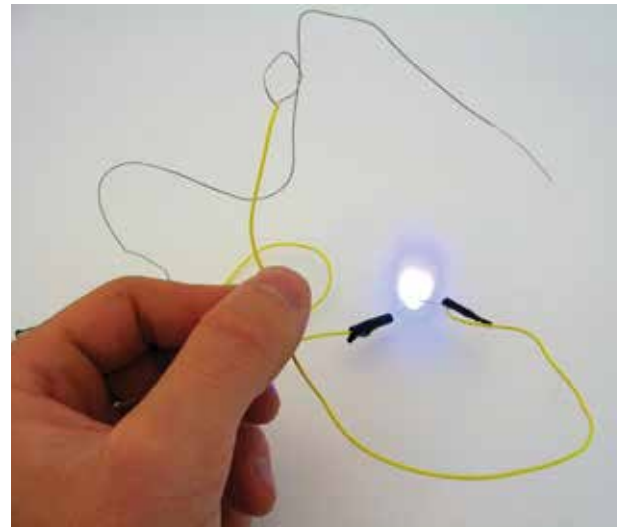
Circuit STEAM

Pre-field trip preparation suggestions

In this STEAM (science, technology, engineering, art and math) inspired Discovery Lab students use scientific design to test and refine a device that converts energy from one form to another. Then they apply this understanding to create small light up wire sculptures to take home.

During your Discovery Lab students will be expected to:

- Sit in groups of four and work cooperatively with others at the table.
- Students should be prepared to give their full attention to the Lab instructors when given the quiet signal.
- Follow the hands-on procedures just as the Lab teacher or assistant explains them and handle materials and equipment carefully.



It is important that teachers and chaperones:

- Help focus the students' attention.
- Assist students with lab activities through questioning allowing the student to do the actual building and decision making. For example a parent might ask, "I see your base is shaky, what could you do to strengthen it?"
- Engage students at a higher level by asking open-ended questions throughout the class. For example: why did you choose _____?
- Turn off cell phones and other electronic devices during the class.

Literary connection:

To get students excited about the upcoming Discovery lesson we suggest reading the following story with your students: *The Magic School Bus And The Electric Field Trip* by Joanna Cole. Small enough to squeeze through power lines, Ms. Frizzle's class learns how electric current travels through the town, lights up a light bulb, heats up a toaster, and runs an electric motor.

Nevada Academic Content Standards in Science (NGSS):

- 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
- 4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.*