

## Electrifying Energy (4-5)

Hello, and thank you for having Geering Up visit your classroom! This document includes a brief outline of the workshop that you have registered for.

### Before our workshop:

In preparation of our workshop, please ensure that there is a way for our instructors to project slides if possible. For tech-based workshops, your students may need a computer/device with internet connections

### On the day of our workshop:

On the day of your workshop, our instructors will arrive a few minutes before the workshop begins to set up as well as go over any considerations for your class. Workshops typically are 1~1.5 hours in length and consist of a quick introduction to a STEM topic and hands-on, inquiry-based activities.

### After our workshop:

After our workshop, we will debrief your students and provide you with a feedback survey. We are constantly looking to improve our workshops to better suit your classroom's needs, so please provide any suggestions or feedback using the following link.

[Survey Link](#)

If you are looking for ways to continue integrating STEM into your classroom, check out the Pro-D events and development courses that we offer for teachers below. These are a great way to discover new ideas, resources, and activities related to the ADST and science curriculum that will enhance your students' experiences!

[Geering Up Teacher Pro-D Link](#) & [Geering Up Curriculum Resource Hub Link](#)

## Workshop Outline

<p><b>BC Curriculum Ties</b> (In addition to satisfying multiple core competencies)</p>	<p><u>BC Science Links 4-5:</u></p> <p>Content</p> <ul style="list-style-type: none"> <li>• <b>Energy:</b> <ul style="list-style-type: none"> <li>○ <i>Has various forms</i> <ul style="list-style-type: none"> <li>○ <i>energy can be described in these ways: the energy of motion (kinetic), light, sound, thermal, elastic, nuclear, chemical, magnetic, gravitational, and electrical</i></li> </ul> </li> <li>○ <i>Is conserved</i> <ul style="list-style-type: none"> <li>○ <i>the law of conservation of energy – energy cannot be created or destroyed but can be changed</i></li> </ul> </li> </ul> </li> <li>• <b>Devices that transform energy:</b> <ul style="list-style-type: none"> <li>○ <i>devices that transform energy change input energy into a different output energy (e.g., glow stick [chemical to light], wind-up toy [elastic to mechanical], flashlight [electrical to light]).</i></li> </ul> </li> </ul> <p>Questioning and predicting</p> <ul style="list-style-type: none"> <li>• <i>Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest</i></li> <li>• <i>Make observations aimed at identifying their own questions about the natural world</i></li> </ul>
<p><b>Grade Levels</b></p>	<p>4-5</p>
<p><b>Time</b></p>	<p>1~1.5 Hours</p>
<p><b>Goals of the Workshop</b></p>	<ol style="list-style-type: none"> <li>1. Understand how energy can be transformed and how this is used in our lives every day.</li> <li>2. Know the basic components of a circuit and how to build one</li> </ol>

## Activity Descriptions

### Popsicle Stick Flashlight

Objective: To teach students about the flow of electricity and how to convert electrical energy to light energy by making a flashlight.

Participants will:

- Learn about batteries and conductors to make their own popsicle stick flashlight that they are able to take home!

### Floating Plates

Objective: To teach students about charges and how static electricity is created.

Participants will:

- Learn how to create an imbalance of protons and electrons.
- See how static electricity can be used to make a plate float!

### Snap Circuits

Objective: To teach students how to draw and interpret a circuit diagram by creating their own snap circuits!

Participants will:

- Learn how to annotate wires, a power source, loads, and switches on a circuit diagram.
- Learn the difference between series and parallel circuits.
- Be given the opportunity to experiment and create their own circuits using snap circuits!

**We can't wait to connect with your school & expose your students to the STEM field with our exciting, hands-on STEM activities!**

