



# Power It Up

## An Exploration of Electrical & Renewable Energy

**Power It Up uses model wind turbines to engage students in an investigation of electrical energy and magnetic forces. Students work in collaborative groups to construct, test, and re-design model turbines. Data collection and observations aid students in thinking critically to improve their model's output.**

**In addition to supporting students' understanding of the scientific process & STEM concepts, this lesson is also designed around the following NGS Standards\*:**

- 4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy.
- 3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled.
- MS-PS2-3. Determine the factors that affect the strength of electric and magnetic forces.
- MS-ETS1-3. Analyze data from tests to determine similarities and differences.

**This lesson provides students the opportunity to step into the role of citizen scientists and engineers as they explore the potential power of wind. Power It Up encourages students to be critical thinkers and innovators in a growing STEM field.**

*\*This lesson is also aligned with MCPS and FCPS curriculum standards.*

**Cost per student for Power It Up is \$10**

To learn more, please contact: **Alyssa Wiens**

Executive Director

[awiens@bar-t.com](mailto:awiens@bar-t.com)

[www.meegreen.org](http://www.meegreen.org)

2914 Roderick Rd., Frederick, MD 21704

