



RENEWABLE ENERGY

Renewable Energy Eco-Energy Champs

Inspiring the Future of STEM

Renewable Energy: Eco-Energy Champs

Our “Eco-Energy Champs” program introduces students to basic concepts of energy conversion, measurement, and optimization. They explore different forms of energy and build to a final project.

Program Description

- Introduction to the laws of conservation of energy.
- Describes how potential energy is converted to kinetic and back through work.
- Explains how energy conversion happens with different forms of energy, electrical, mechanical etc.
- Includes lessons on measurement of energy and optimization.
- Concludes with a capstone project – a solar car.

Program Structure

- After-school Club (1.5-2 hrs)
- Women in STEM
- Self-paced Module
- Competitions and Hackathons
- Capstone Project
- Field Trip
- Guest Speaker(s)

New Jersey Science Standards

- **PS3.A:** Definitions of Energy
- **PS3.B:** Conservation of Energy and Energy Transfer
- **PS3.C:** Relationship Between Energy and Forces
- **PS3.D:** Energy in Chemical Processes Everyday
- **LS1.C:** Organisms for Matter and Energy Flow in Organisms
- **LS2.B:** Cycles of Matter Energy Transfer in Ecosystems



JerseySTEM | Bridging Gender, Innovation, and Opportunity Gaps for Middle School Girls in New Jersey

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