

# Teacher Resource Guide

A curriculum designed for Ohio's solar schools



## Introduction

- **Ohio's Solar School Program and the Ohio Energy Project**
- **Purpose of the Teacher Resource Guide**
- **Curriculum Overview**



## Lesson 1

### Learning the Tools of the Trade

- **Introduction to Photovoltaic (PV)**
- **Get to Know YOUR PV System** – Collecting information and creating blueprints of the school's PV System
- **Data Handling**
  1. **Watt's It All About?** – Understanding vocabulary and units of power and energy



## Lesson 2

### Designing and Conducting Experiments

- **Includes an experimental design template and suggested and sample explorations for weather and seasons**



### **Lesson 3**

#### **Making Use of Models**

- **The PV Applet** – A web-based simulation of a solar panel and activities to explore the effect of geography and seasons on a solar panel’s power output
- **Miniature Solar Panels** – Hands-on explorations to increase understanding of panel behavior under different conditions
  1. Varying wiring configurations
  2. Varying light levels and angles of incidence
  3. Varying temperatures of the panel



### **Lesson 4**

#### **Connecting Science and Society**

- **How Much?** – Measuring contributions of the PV Array
- **A Community of Solar Schools** – Suggestions for ways to connect with other solar schools and solar projects around the state and country



### **Lesson 5**

#### **Additional Resources**

- **Taking It to the Next Level** – A list of suggested enrichment projects
- **Useful Solar Energy Websites**