Solar Panel Experiments

Objectives: As a result of these experiments, students will understand how to make electrical circuits and solar circuits, how to increase voltage and current, how to use solar power to produce energy and more. The experiments are designed to test the many factors that go into siting solar panels at homes – angle of the panel, shading, etc.

The Solar Panel Experiments kit allows students to conduct a series of controlled experiments where only one variable is changed to learn more about how solar panels are sited. The worksheet asks students to make a hypothesis about each experiment and then reflect on the results. Results can also be related back to seasons, geography, and solar system concepts.

This kit includes boxes with the equipment needed to perform 4 experiments:

1. Distance to the Sun
   - Solar panel-3 1.5V cells
   - Jumper wires
   - Angle stand and base
   - Alligator clips
   - Multimeter
   - Tape measure

2. Angle to the Sun
   - Solar panel-3 1.5V cells
   - Jumper wires
   - Angle stand and base
   - Alligator clips
   - Multimeter
   - Protractor

3. Percent Shading
   - Solar panel-3 1.5V cells
   - Jumper wires
   - Angle stand and base
   - Alligator clips
   - Multimeter
   - Cardboard or foam core

4. Series vs. Parallel
   - Solar panels-3 1.5V cells
   - Jumper wires
   - Angle stands and bases
   - Alligator clips
   - Multimeter
   - Series/parallel circuit pics

Each experiment box also contains a bag of accessories including:
- Motor
- Motor holder and base
- Plastic disks
- Fan
- Light bulb
- Music box
- Wrench
- Cardboard figures (birds, planes, pinwheels, and fans)

Additional Equipment Needed:
Lights (or sun)

*Any materials that are lost or broken during classroom use must be replenished before being returned.

To replenish any materials broken or misplaced, check the Elenco Website at: http://www.elenco.com/product/productdetails/solar=MzA=/deluxe_solar_educational_kit=Mzgz

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