

REcharge Labs Solar (and wind) Town

Objectives: As a result of this lesson, students will understand basic circuitry and how energy flows through a system.

Students will work to build their own Solar (and wind) Houses, then join together to connect them into a Solar Town. Students will also engage in the Solar Scavenger Hunt to understand how solar panels work and how to make them operate most efficiently. Students will apply this knowledge and use basic electrical engineering skills to design and build an electrical system that is powered by their solar panel or wind turbine.

This kit includes enough materials for 6 solar houses and/or 6 wind houses:

Solar panels	Buzzer	Motor wheels
Mini wind turbines and/or	Motor	Acetate
Fireflies	AA battery pack	Foam sheets (or other supplies for decorating houses)
AA batteries	Uncoated wire	Multimeter
Supercapacitor	Alligator clips	Wire stripper
On/Off switch	Aluminum tape	
LEDs (various colors)	Diode	
Incandescent lights (various colors)	Boxes	Additional Equipment Needed:
	Tags	Lights (or sun)

NOT included:

Scissors
 Scotch tape
 Protractors
 Rulers
 Box fan (or 2 – if using wind turbines)
 1-3 lamps
 High wattage incandescent bulb (100 watts or higher)
 Compact fluorescent bulb (optional)
 LED bulb (optional)
 Hot glue guns
 Markers/crayons
 Alternative building materials such as craft moss, colorful paper, paint, cardboard, anything that students can use to decorate their houses!



EXTENSION ACTIVITY: Head out on a **Solar Scavenger Hunt** to find which light sources and conditions generate the most solar power. Gather data, record changes in variables, and measure solar power output. This kit includes everything for a successful Solar Scavenger Hunt, but parts may also be used to supplement solar circuits in our kits like the Solar Town Class Pack.



*Any materials that are used, lost or broken during classrooms use, must be replaced before returning the kit. Replacement parts can be bought from REcharge Labs.