

Solar Energy

With a Custom Solar-powered light-box



Audience

- 3-5th grade
- Renewable Energy Curriculum

Objective

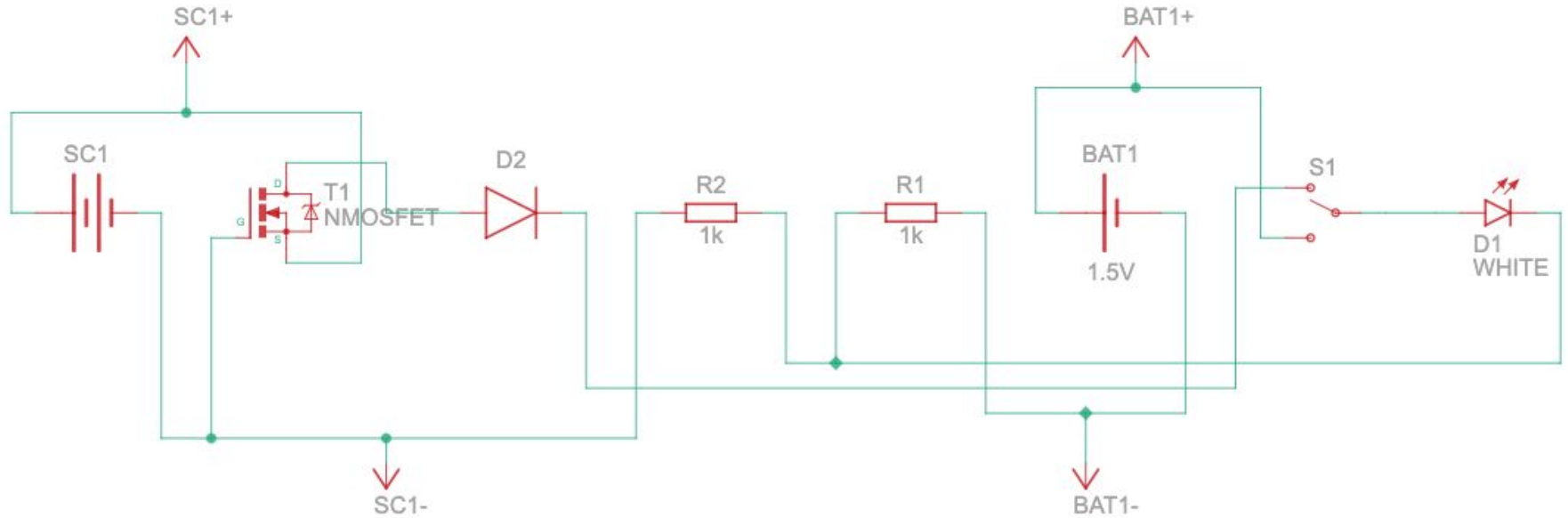
In this project, you'll design a light-box enclosure and add a solar (photovoltaic) cell with battery storage to power a small LED to light up the design.

Materials

- Cardboard pieces
- Lite-brite lights
- Solar lawn light top
- Tape
- Markers

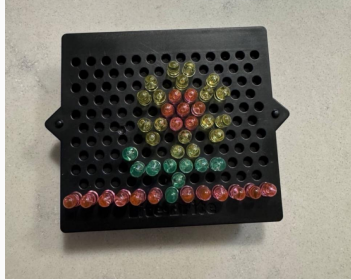
How it works

Energy Flow - Circuit Diagram



Assembly Steps

Assemble light display



Assemble cardboard
or 3d printed holder



10 mins

10 mins

10 mins

10 mins

Design light pattern



Insert both modules
into holder



Homework

Put your lightbox with the solar cell facing the sun. Try placing it in a sunny window.

1. How long does the LED stay on for?
2. If you leave the lightbox in a dark room, how long does it stay lit?
3. Now, if you charge it overnight, does it remain lit?

That's it, enjoy your new light display - it can be used as a window decoration or as a night light or any other way you want.