

**Talcott Mountain Science Center**

**Topic** Solar Thermal Energy

**Home School Science**

**Instructor** Mrs. Roberts

**Home Links**

**Date** Oct. 20, 2023

**Here's some information about the activities your student did with us. Links at the bottom will help you explore further. Enjoy!**

### **What did we do (content, skills, data collection)?**

We learned about solar energy and how different objects or colors absorb and release different amounts of energy. We collected data in multiple trials to determine results.

We also continued with solar cell circuits.

### **How did we do it (materials & methods)?**

Each student had a black plastic container with a clear lid. They rotated through 6 colors of styrofoam (black, blue, green, grey, red, white) and put the containers beneath a lamp to simulate the sun (as it was raining outside). We recorded the temperature inside the container at the start of the trial, after 5 minutes, and after 10 minutes. We discussed which color absorbed the most energy and therefore had the largest temperature increase. We also discussed why some trials may have had falling temperatures.

Students also built their own custom solar circuits, which we will test next week to see if they can power a lightbulb.

### **Where can we find out more?**

EIA.gov - Solar Energy: <https://www.eia.gov/kids/energy-sources/solar/>

NASA - Solar Radiation: <https://sos.noaa.gov/catalog/datasets/climatebits-solar-radiation/>

USCB- Colors and Light Absorption: <http://scienceline.ucsb.edu/getkey.php?key=1464>