Science

*Alternate Energy – Solar Power*

Grades 6-8

Duration: 2 Days

Objectives:

* Students will demonstrate an understanding of energy transfer by creating and using a solar oven
* Students will identify and explain renewable energy sources
* Students will explain, and demonstrate through modeling, solar energy

Materials:

* NASA Climate Kids Gallery of Images: Technology
* Independent reading material, “Meet the Sun Power People” (content pulled from NASA Climate Kids)
* Butcher paper and markers for each lab group
* Solar oven instructions
* Cardboard box
* Aluminum foil
* Plastic wrap
* Scissors
* Tape/glue stick
* Scissors
* Smores ingredients: Chocolate, marshmallows, and graham crackers

Procedure:

DAY 1

1. Introduction: Review previous lesson. What is energy? How is energy transferred?
2. Classroom activity: View Gallery of Images: Technology as a class. Discuss. Repeat question: What is this energy source? How is energy transferred? What do you suppose this energy is used for? Have you seen anything like this? If so, where? How is it used?
3. Handout reading sheet “Meet the Sun Power People.” Students read independently, then, break out into lab groups.
4. In lab groups: Create poster depicting an image of how solar energy can be transferred and transformed. Students should be prepared to discuss their example.

DAY 2

1. Review: What is solar energy? How is it transferred into useable energy?
2. Hand out instructions for solar powered oven. Discuss the procedure.
3. Students will create their solar powered ovens. Once completed, the entire class will go outside and cook Smores.
4. Question and Answer/Discussion: How did your solar power oven work? How was the sun’s energy transferred? Discuss how this technology is currently in use (example: Western Africa)

Evaluation:

* Discussion
* Lab poster activity
* Wrap up questions, following solar oven activity

References:

Energy Gallery <https://climatekids.nasa.gov/energy-gallery/>

“Meet the Sun People” reading materials: <https://climatekids.nasa.gov/sun-people/>

Make Sun Smores <https://climatekids.nasa.gov/smores/>