

**Project FOCUS
Best Lessons
SECOND GRADE**

Title of Lesson:

Energy: Making a Solar Oven

Theme: Physical Science

Unit Number: 3 Unit Title: energy/ Pushes and Pulls

Performance Standard(s) Covered (enter codes):

S2P2

S2P2.a

S2P2.b

Enduring Standards (objectives of activity):

Habits of Mind

- Asks questions
- Uses numbers to quantify
- Works in a group
- Uses tools to measure and view
- Looks at how parts of things are needed
- Describes and compares using physical attributes
- Observes using senses
- Draws and describes observations

Content (key terms and topics covered):

Solar Energy, Changes in Matter

Learning Activity (Description in Steps)

Abstract (limit 100 characters): By making s'mores, students will observe how solar energy can be used to change matter.

Details:

Background

There are five forms of energy that the students are learning about: solar, heat, motion, sound, and light. Specifically this activity deals with solar energy, which is the energy from the sun. Energy by definition is something that can cause matter to move or change and this activity calls for the changing of cooking smores by melting chocolate and smores in a pizza box solar oven. Solar energy is needed by most living things to sustain life. Living things need solar energy to stay warm and plants use the sun's light to make their food. People then eat plants to get energy and this shows some of the importance of solar energy.

Preparation

Making the solar ovens takes a lot of preparation. The students are able to start the process of making the solar ovens but need help placing the saran wrap over the hole and the aluminum foil over the flap. There also needs to be plenty of sunlight the day of the activity. This

activity will take two days to be completed because one day is spent creating the ovens and a second day is need in order to cook the smores.

Activity Outline

- 1. First start by place the students in pair and is best if the teacher divides them based on those who work well together.**
- 2. Then start by preparing the pizza boxes by tracing a piece of notebook paper on top of the pizza box and then cut three sides of the rectangle to create a flap. After creating the flap you place a black piece of construction paper on the bottom of the box and insulate the inside of the box with newspaper.**
- 3. Next the students will go outside and place their ovens on the sidewalk. If it is cooler outside a towel should be placed under the ovens so that the oven doesn't accept the cool air from the ground.**
- 4. Students will then create their smores and place them in the oven to cook for about thirty minutes. While the students are waiting for their smores to cook they are going to receive a word search to do finding words related to uses of energy.**
- 5. After thirty minutes the smores should be done and all that is left to do is enjoy! ☺ Also we will go over what the students have learned and go over the following questions.**

Evaluation

- What of the five forms of energy discussed was used to cook the smores?**
- How is solar energy used?**
- What is the definition of solar energy?**

Materials Needed (Type and Quantity):

Materials:

- Pizza Box**
- Aluminum foil**
- Syran wrap**
- Newspaper**
- Black construction paper**
- Graham crackers**
- Chocolate pieces**
- Marshmallows**
- Ruler**

Prep Time: 40 minutes Cook Time: 30 minutes

Notes and Tips (suggested changes, alternative methods, cautions):

Safety

Depending on the age of the group you work with be careful when allowing them to use

scissors. I traced the piece of paper and cut out the flap myself before I went to class as to prevent potential problems with the use of scissors.

See Worksheet (also saved as a best lesson) to use while the kids are cooking the s'mores.

Sources/References:

- 1)
- 2)
- 3)

