



'Sweet' Power of the Sun

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Overview: This lesson provides an overview of solar energy and the power of the sun. Students will learn about changing consistency of solids through the use of solar power. Solar energy is easily available, free, and does not pollute.

Objectives: Students will discover that they can use the sun to change the consistency of matter.

Subjects: Science

Suggested Grade Level: K-2

California Standards Addressed:

1st Grade

Physical Sciences

- 1.b Students know the properties of substances can change when the substances are mixed, cooled or heated.

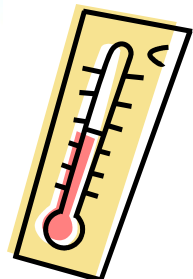
Earth Sciences

- 3.c Students know the sun warms the air, land and water
- 3.a Students know how to use a thermometer

Time: 1-2 hours, depending on weather conditions

Materials: Every two people will need:

- Four graham crackers
- Sixteen mini marshmallows
- Two plain mild chocolate candy bars
- One 8 x 11 inch glass baking pan
- A clear glass lid for the pan
- A thermometer to measure outside air temperature



Preparation and Background: This needs to be conducted outside in direct sunlight in temperatures of at least 85 degrees F. A table needs to be set up where animals and insects cannot eat the ingredients

Procedure:

1. Teacher will talk about the sun and solar power
2. Put 4 graham crackers in the bottom of the glass baking pan
3. Place a chocolate bar on top of two graham crackers
4. Put 8 mini marshmallows on top of the other crackers
5. Cover the baking pan with the clear glass lid
6. Put the pan in full sunlight in warm weather, away from insects and animals
7. Let the pan sit until chocolate and marshmallows melt
8. Assemble by putting one chocolate cracker and one marshmallow cracker together

For Discussion: What makes melting, warming and cooking happen? (Heat)
What is the difference between sunlight and shade? What would happen if it was not a sunny day? What else can we heat or power with sunlight?
(Water, lights, cars, homes)

Extensions: Aluminum foil can be used to cover baking pan instead of glass.