



STEM Activity Idea:

SOLAR S'MORES

Suggested Program Level: Junior

Use the energy from the sun to make s'mores instead of roasting marshmallows over a fire.

Supplies (1 set for each group):

- foil
- black construction paper
- scissors
- napkins
- tape
- cardboard pizza box (or shirt box)
- ruler
- s'more ingredients (graham crackers, chocolate and marshmallows)
- sunny spot outside

Instructions:

1. Show the girls how to line the inside of the box (top and bottom) with foil. The girls may need scissors to trim the foil, or tape to attach the foil to the inside of the box.
2. Explain to the girls that the black paper will help attract energy from the sun, and let the girls cover the outside of their box with black paper. Again, scissors and tape will be useful.
3. The girls will need to tape a ruler to the top and bottom corner of the box to prop it open.
4. Let the girls find a sunny spot to set up their oven with the black paper facing the sun, and then have them place a graham cracker and marshmallow inside the oven. Depending on the size of the box, 3-5 s'mores can be made in one oven.
5. The girls will need to watch the marshmallows, being careful not to block the sun's rays. This process could take 10 minutes or longer.
6. Once the marshmallow melts, add the chocolate and another graham cracker to make the s'more.

Why?

Solar energy can be harnessed in many different ways and provides an alternative source of power for homes, businesses and machines. The girls may find ways to make changes to the oven design to make it work faster by using different materials. The girls may also want to test a marshmallow in plain sunlight without an oven to compare the difference in the "cooking" times.