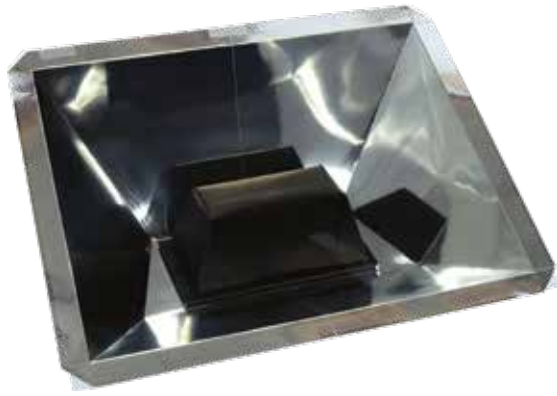


## Solar Oven

Grades 6+ | Students Served: 30

MIDDLE LEVEL

HIGH SCHOOL



### Essential Questions

How can you design something that will transfer the sun's energy for a useful purpose?

What factors limit the use of solar heat?

How do different materials react to solar energy, and how can those materials be used for solar energy?

### Career Connections:

- Physicist
- Materials Scientist
- Chemical Engineer
- Semiconductor Processor

### STEM Connections

#### Science

- Heat transfer
- Alternative energy

#### Technology

- Social impacts
- Technological design

#### Engineering

- Problem solving
- Prototyping

#### Math

- Angles
- Solving equations



## Sample Activity

### What's Cooking?

#### Challenge

Students roast a marshmallow using a solar oven.

- Students construct the solar oven and set it in the sun, positioning it carefully for maximum exposure to direct sunlight.
- They measure the temperature inside the oven with a classroom thermometer every 15 minutes for 60 minutes and record the findings of the temperature increase.
- Students place a marshmallow inside the oven and record how long it takes to fully cook the marshmallow. Record the temperature.

#### Discussion

How long did it take for the oven to cook the marshmallow? Would the time of day affect the cook time of the marshmallow? Why?