



RANDOM ACTS OF SCIENCENESS

Lesson: Solar Oven

CURRICULUM REFERENCE: Properties of and Changes in Matter
Conservation of Energy and Resources

LESSON OBJECTIVE

Create an “oven” out of household materials to harness the sun’s energy to make the chocolate melt.

VIDEO: <https://youtu.be/l-bsyizAuew>

THE SCIENCE BEHIND

The sun constantly provides energy to the earth in the form of its rays. Plants harvest this energy in their leaves, while people can harness this energy by using solar panels to convert it into electricity. However, we can also use the heat from the sun and try to concentrate it enough to cook our food!

VIDEO: <https://youtu.be/KvymYghXuk0>



FOLLOW-UP QUESTIONS

1. Do the changes of state you are observing take place because of a release of heat or an absorption of heat? Explain.
2. What conclusions did you make about changes in matter?

LEARNING OUTCOMES

- Use scientific inquiry/experimentation skills to investigate changes of state and changes in matter.
- Explain how changes of state involve the release of heat (e.g., when water freezes it releases heat) or the absorption of heat.



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MATERIALS (PER PERSON)

- Aluminum foil
- Tape
- Dixie cups
- Scissors
- Elastic bands
- Chocolate
- Construction paper
- Pipe cleaners
- String
- Markers
- Cotton balls
- Clothespins
- Sandwich bags
- Cardboard

INSTRUCTIONS

1. Using the household items in the materials list, design and create an oven-like container where your chocolate sits in the middle. The aim is to have the chocolate melt from the heat of the sun.
2. TIP: Using aluminium foil will help focus the sun's warm rays.

VIDEO: https://youtu.be/f_rb8onumw4

