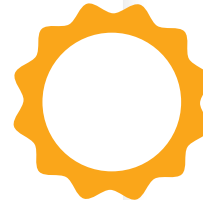


Solar Cooking

In this Remarkable Idea, students will learn about the power of the sun and use a scientific method to conduct an experiment.

This activity addresses:

- ✓ Science
- ✓ Choice making
- ✓ Cause and effect
- ✓ Alternative methods of access



What you need:

- ✓ BIG TalkingBrix or TalkingBrix2
- ✓ BIG Step-by-Step or LITTLE Step-by-Step
- ✓ Something to cook in your oven (nachos with shredded cheese, smores, toast, Pop-tarts, etc.) Be cautious when using meat or eggs as they may not cook at a high enough temperature to be safe for consumption.
- ✓ Black construction paper
- ✓ Aluminum foil
- ✓ Clear packing tape
- ✓ Old newspaper
- ✓ Plastic wrap
- ✓ Pizza box



Optional:

- ✓ Timer
- ✓ Thermometer

Preparation:

1. Write your vocabulary words in a place where all students can see them.
2. Record definitions of “Hypothesis” and “Conclusion” to BIG TalkingBrix or TalkingBrix2.
3. Write the steps of the scientific method onto the board, and record them to a BIG Step-by-Step or LITTLE Step-by-Step.
 - ✓ Ask a question
 - ✓ Construct a hypothesis
 - ✓ Test with an experiment
 - ✓ Analyze Data and draw a conclusion
 - ✓ Communicate the Results
4. After the vocabulary definitions are no longer needed, record “Correct” and “Incorrect” to the BIG TalkingBrix or TalkingBrix 2 so students can share their results.
5. Create overlays using the AbleNet Symbol Overlay Maker app.



What To Do

Test with an experiment

- 1.** Cut a flap out of the top of the pizza box, leave a “hinge” for the flap. Bend the flap back and cover the inside of the flap with aluminum foil.
- 2.** Place plastic-wrap across the hole left by the flap on the outside of the box and tape the edges down. You want to make this as airtight as possible.
- 3.** Place some sheets of newspaper in the bottom of a pizza box and around roll up sheets along the sides for insulation. Cover the newspaper with black construction paper, this will help to absorb heat.

Cook

- 1.** Place your chosen food on the black construction paper in the center of the box. (Optional: Place your thermometer in the solar oven).
Close the lid (Optional: Start the timer)
- 2.** Place the solar oven outside in the sun. Use tape to keep the flap open. Position the solar oven so that the aluminum foil can catch the sunlight and reflect it onto the marshmallow.
- 3.** Place a control food near the solar oven.
- 4.** Wait. (Optional: Record the temperature at set time intervals.)

Analyze the data

- 1.** Compare the control food and the variable food (you can also take pictures to share later).
- 2.** Allow the scientists to further analyze the results by eating the food.

Communicate the results

1. Each scientist should review the data collected to determine if their hypothesis was correct or incorrect. Students can use the BIG TalkingBrix or TalkingBrix 2 to communicate their results. (Remind students that having a correct or incorrect hypothesis is neither good nor bad, but part of the scientific process.)
2. **Optional:** Chart the progress using the temperature and time data collected.

Vocabulary

Hypothesis

Conclusion

Control

Variable

Script

“The sun’s energy can be converted into heat and electricity. Today, we are going to use the energy from the sun to cook some food.”

“A hypothesis is an idea that has not been proven but leads to further study.”

“A conclusion is a decision reached by reason.”

Additional Suggestions

This experiment will work better on a day with a high UV index. If you live in the United States, the UV index can be found by using the tool here: <http://www2.epa.gov/sunwise/uv-index>