

Plugging Into the Sun

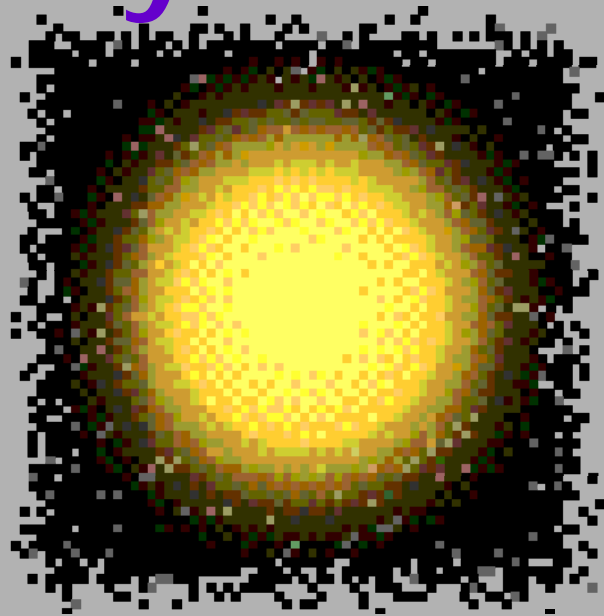
by Ms. Stembel

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Questions that you have already answered.

These are the enduring questions we've been exploring as we study the sun.



- What would Earth be without the sun?
- How does the sun heat the Earth through millions of miles of cold space?



Here Is the CHALLENGE!

You are an engineer for Survivor International. Your task is to build a device that will utilize the sun's energy for people who find themselves in a survival situation. Your prototype could be the start of a new revolution in tapping the sun's power to replace fossil fuels.

To begin this endeavor, we have to ask other questions.

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What are the factors that limit solar heat transfer?



What effect does solar energy have on light and dark materials, and how can we make use of this effect?



What effect does solar energy have on different materials, such as glass, plastic, and metal?



How does the Earth's rotation and the sun's position affect heat and temperature on Earth?

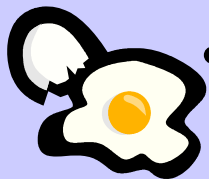
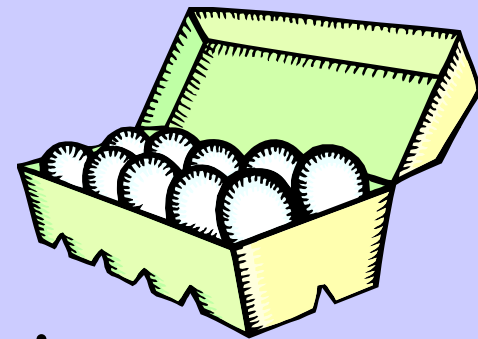


Design Challenge!

Build a solar cooker that will cook an egg!

Work Ahead:

- **Investigate solar energy.**
- **Evaluate and choose a solar cooker design.**
- **Work as a team to construct a solar cooker.**
- **Think deeply to answer journal questions.**
- **Present your project using computer media.**



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Your Presentation Includes:

- Explanation of your design; its parts and how they function
- Digital or scanned photos
- Graph showing oven temperature over time, plus a caption interpreting the graph
- Discussion—introduction, design process, troubleshooting, challenge results, and final thoughts
- Reasons for using solar energy in place of fossil fuels
- Citations for design and other research

