SOLAR SCIENCE STATION LAB

Elementary Student Page

1. RESEARCH QUESTION.

Which angle will produce the highest voltage during a set time period?

2. BACKGROUND KNOWLEDGE.

How does a solar panel work?		

Draw a sketch of a solar panel's main parts.

3. HYPOTHESIS.

If (Cause), then (Effect).

e.g. If the panel angle changes, then the voltage will stay the same.

4. MATERIALS.

- Science stations
- Sunny location
- A protractor
- pen / pencil
- Timer/Stopwatch

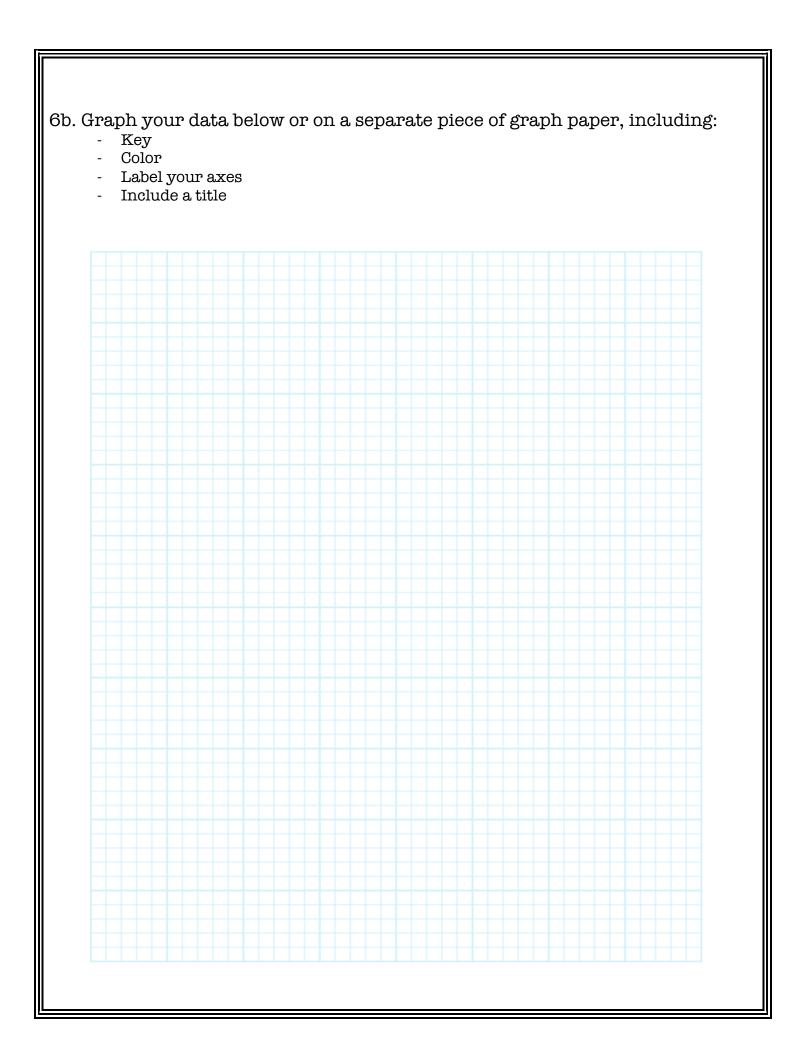
5. PROCEDURE.

- a. Read through all of the instructions before you begin.
- b. **Gather** all materials.
- c. **Assign** the roles of timekeeper, a reader for each station, a writer, and everyone else are recorders.
- d. **Set** the angles of the Solar Science Stations to 0°, 22.5°, 45°, 67.5°, and 90°
- e. **Find** a sunny place to set up your stations, keeping them covered from sunlight.
- f. **Record** the Volts for each angle at 0 minutes.
- g. **Uncover** the Science Station and begin timing.
- h. **Read** the volt number every two minutes (or any other increment). **Remember** it and then say it out loud so that everyone can hear. Start with the reader for 0°, then 22.5°, and keep going.
- i. **Record** the data for each angle. Be sure to get the right data in the right column.
- j. **Continue** recording data until you have gotten to minute 12.

6. RESULTS.

6a. Data Table

	Volts produced at various angles					
Time (minutes)	O°	22.5°	45°	67.5°	90°	
0						
2						
4						
6						
8						
10						
12						



CC	ONCLUSION/DISCUSSION.
	Look at your graph. Which line had the highest voltage at the end?
	Why do you think that this angle was the highest?
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	Was your hypothesis correct? How do you know?
	What are some possible improvements we could make to the lab?
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	What is something slightly different that could be tested next time?