



# Solar Cells

**STEM Sims****Lesson 2: Finding the Area of a Solar Panel**

Now that you've found an equation that finds the amount of power given a certain number of layers, it's time to use it for practice. Are you ready to do some math?

**Doing the Science**

1. Start the Solar Cells Simulation by clicking on the "Sim" tab.
2. Click on the yellow "Practice" button on top of the solar power.
3. Read the instructions provided.
4. The total amount of power is given and you must find the number of solar cells, the number of layers, and the area of the panel. Use the equation that you created to help solve the problems. (Hint: The area of the one solar cell is  $75 \text{ cm}^2$ , so the total area of panel needed is the area of one solar cell  $\times$  the total number of solar cells.)
5. Input the answers into the text boxes and click on the "Check Answers" button. If you got the answers correct, there will be green checkmarks. If the answers were incorrect there will be red "X" marks.
6. Practice until you have mastered solving the equations. Record the correct answers into Table 1 below.

**Table 1.**

Customer Energy Needs in Watts	Number of Solar Cells	Number of Layers	Area of Panels

**Do You Understand?**

1. How is the number of layers related to the number of solar cells? For example, if there are eight layers, how many solar cells are there?
2. If there are five layers of solar cells, what is the total area of the solar panel?