

TAC Lesson Plan Template

Name: J.Minton	School/Grade/Subject: RES/8th grade/Science	Date: June 2015
Lesson Title: Solar Cells and electrical output		
Standards & Objectives: GLE 0807.Inq.2 Use appropriate tools and techniques to gather, organize, analyze, and interpret data. CLE 3202.T/E.3 Explain the relationship between the properties of a material and the use of the material in the application of a technology. CLE 3202.2.3 Examine the applications and effects of heat energy. CLE 3202.2.4 Probe the fundamental principles and applications of electricity.		
Tools/Resources Needed For Lesson: Multimeter Hot plate Copper Sheets (2 per group) Sand paper Scissors Clothes Pins (4 per group) Alligator Clips (2 per group) Round container (approx. 5 in diameter) Salt water Sun (outdoors)/ Heat Lamp (indoors) Diagram paper Several size solar panels for examples		
Lesson Summary: Students will be working making a solar cell. Solar cells are added together to make a solar panel. Each cell has an electrical output. Students will be working with multimeters to find the output of their solar cell. Each group will add their cells together to wire them up together and measure the total output. They will be looking at the arrangement of the example panels and the shape of the cells they put together, then students will have to diagram what they believe is the best configuration for a solar panel and justify their arrangement. Digital: http://www.wikihow.com/Make-a-Solar-Panel-(Copper-Sheet-Method) Instructions for the solar cells Non-Digital: Lab materials and example solar panels Collaboration: Students will add all solar cells together to arrange a solar panel and measure electrical output. They will discuss the configuration and how to wire up the cells to produce the highest electrical output.		

Back-Up Plan:

If the technology is not available, paper copies of the solar cell lab will be printed out for student use.

Assessment/Outcome:

One assessment will be creating a solar cell that will generate an electrical output. The other assessments will come from successfully wiring up all the cells to create a solar panel and diagramming a set up for a solar panel (with the justification) for efficiency.

Reflection: