

Homework 2: Materials and Devices

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Due October 11th at 3 PM, 2012

1 Resistor Color Codes

A resistor has the color stripes of red black red gold. What range of resistances could this represent?

Modify this line to represent the correct equation for changing the color code to resistance:

Equation: $color * 10 + color * 10^{color} = resistance$

Modified Equation: $(color * 10 + color) * 10^{color} = resistance$

2 OSU Solar Vehicle Team

Research the OSU Solar Vehicle Team.

Group Website: <http://people.oregonstate.edu/groups/solar/>

Video: <http://www.youtube.com/watch?v=8jwVyBbDfjY>

Summarize your research and list 2 questions that you would like answered.

The OSU Solar Vehicle Team is comprised of five different groups, each focusing on a particular aspect of the vehicle. The mechanical group is in charge of creating the framework for the vehicle, while the body group works on the outer shell of the car. The other three groups are solar cell, electrical, and business. The solar cell group is in charge of cutting, soldering, and laminating the solar panels, while the electrical group designs and builds the computer systems for the vehicle. Lastly is the business team which is in charge of raising money through advertising. The car itself utilizes 576 solar cells which are each 17.4% efficient. The frame of the vehicle is made from titanium tubing in an effort to keep the weight down while supporting the suspension.

1. Is it possible to make the solar cells more efficient so the car could store more energy and be able to harvest and utilize the energy to its full potential?
2. Is there another design for the car which could utilize the technology of the solar cells while being a car that has the potential for everyday useage?