PROJECT HELP (8th PROJECT)

PHYSICS (INVENTIONS)

DUE DATE

May 15th 8th Project – PHOTOVOLTAIC SOLAR CAR – If you want to race other solar vehicles, bring your car to our class on the 15th. REMEMBER TO COLLECT SUNLIGHT WITH YOUR SOLAR PANEL AHEAD OF THE RACE! Cars can be modified as needed or desired.

FOLLOW the instructions (which are actually GOOD) to construct a photovoltaic/solar-cell car.

OBSERVE the conversion of potential energy (stored sunlight/electromagnetism) to kinetic energy (electric current), and then to **rotational motion of the motor shaft**.

The energy of "light" or sunlight in the photon (or ray/wave) is converted directly by the **PHOTOVOLTAIC** effect. The energized, moving electrons within the solar panel are channeled/conducted through n-type & p-type holes in silicon crystals, to wires (electricity). Motion is driven by a rotating shaft connected to gears. This principle is used in various applications like generators, motors, and electric devices.



INSTRUCTIONS TO ASSEMBLE YOUR CAR

IMPORTANT: CAREFULLY REMOVE THE WIRE LEADS, MOTOR, AND SOLAR PANEL – THESE NEED TO BE INSTALLED AS A UNIT. (WIRES ARE SOLDERED IN PLACE ON THE SOLAR PANEL and the lead wires from the motor are attached inside the motor casing. If pulled apart, these will be difficult to restore or fix!) Your motor and energy source are READY to be installed!



INSTRUCTIONS: Assemble using the STEAM Solar Vehicle Production Manual STEPS 1-8.

TIPS:

1. BE CAREFUL NOT TO BREAK THE WOODEN TABS that will hold your car together. If broken, IMPROVISE!

2. GLUE can be used to strengthen joints during assembly. to red, black to black).

REMEMBER: PROBLEM SOLVING IS ESSENTIAL FOR DESIGNING, INVENTING, OR ENGINEERING!!! EVEN MORE IMPORTANT, CAREFULLY HANDLING PARTS IS ESSENTIAL FOR SUCCESS!

CUSTOMIZE WITH PAINTS, MARKERS, STICKERS, OR EXTRA GADGETS AS DESIRED! ENJOY & KEEP! THIS IS YOUR CAR!