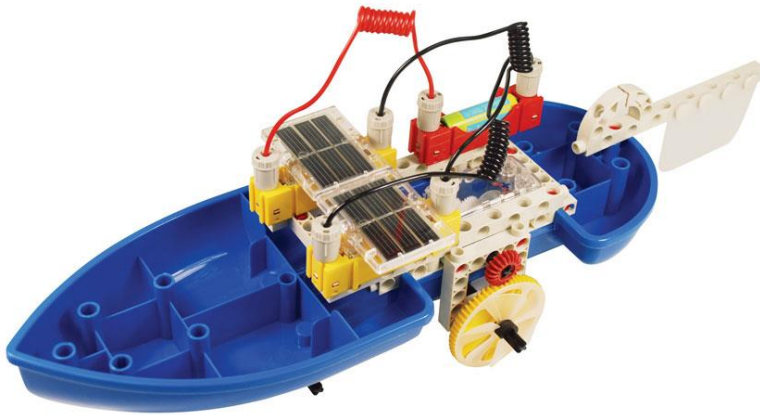


Solar Boat Exercise



You will build a boat that will be powered by the sun. You will learn how to calculate the energy going into the boat through the solar panel and the efficiency of the system.

Remember to answer all the questions.

- ❖ What type of energy goes into the Boat?

- ❖ What is the energy entering the boat converted to?

- ❖ What is the area of each solar panel? Remember the area is Length x Width. Convert your answer to m^2 (100 cm = 1 m and 2.54 cm = 1 inch):

- ❖ If the energy from the sun is 1350 W/m^2 , calculate the energy going into the system. Use this formula: $\text{Power In} = 1350 \times \text{Area of Solar Panels in m}^2$

- ❖ Measure the current and voltage produced by the solar panel using the voltmeter.

- ❖ Calculate the power output using our values from the voltmeter. Remember $\text{Power} = \text{Voltage} \times \text{Current}$.

- ❖ Find the efficiency of the system ($\text{power output/power input}$)