

Inquiry/driving Questions:

What is the power output (Watts) of a solar panel?

Predictions/hypothesis:

One solar cell would produce .5 a amp and 12.5 watts and 25 volts

Experimental design:

First we set up two solar cells in parallel directly in the sun
We will first test one LED light
Then we will test 2 LED lights
We are going to connect an amp meter and a volt meter to the circuit without LED lights to get the most energy
We will then multiply the volts and amps together to get the watts

We will use this equation and the output to find the energy

We will write down our observation then use our information to make a graph

$$P_{(w)} = \frac{E_{(j)}}{t_{(s)}}$$

Observations:

We measured volts: 2 panels= 11.65 1 panel= 5.825
amps: per 2=.02 per 1= .01
Watts: per 2= .233 per 1= .1165

$$5.825 \times .1165$$

$$.678$$

Conclusion: (confirm or deny your predictions with supporting evidence, explain possible errors, ask more questions)

Can a small solar panel light up an LED? How about 2 LEDs?

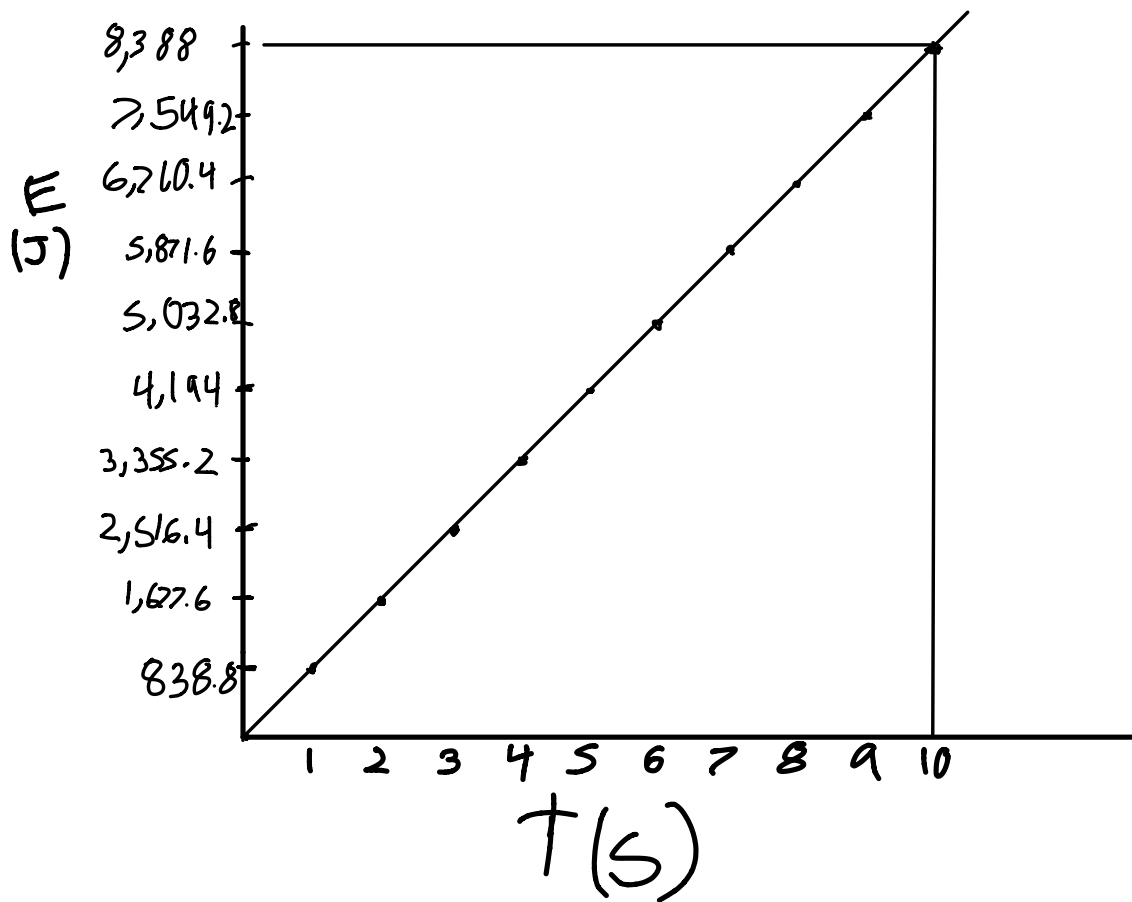
What is the power output of a solar panel in watts?

Graph the energy production of the solar panel over time.

$$y = mz + b \rightarrow E = _ t$$

How long would it take to charge and iPhone with this solar panel?

Energy production V.S time



$$P = \frac{E}{t}$$

$$.233 = \frac{E}{3600s}$$

$$P_{\text{phone}} = 18,000 \text{ joules}$$