

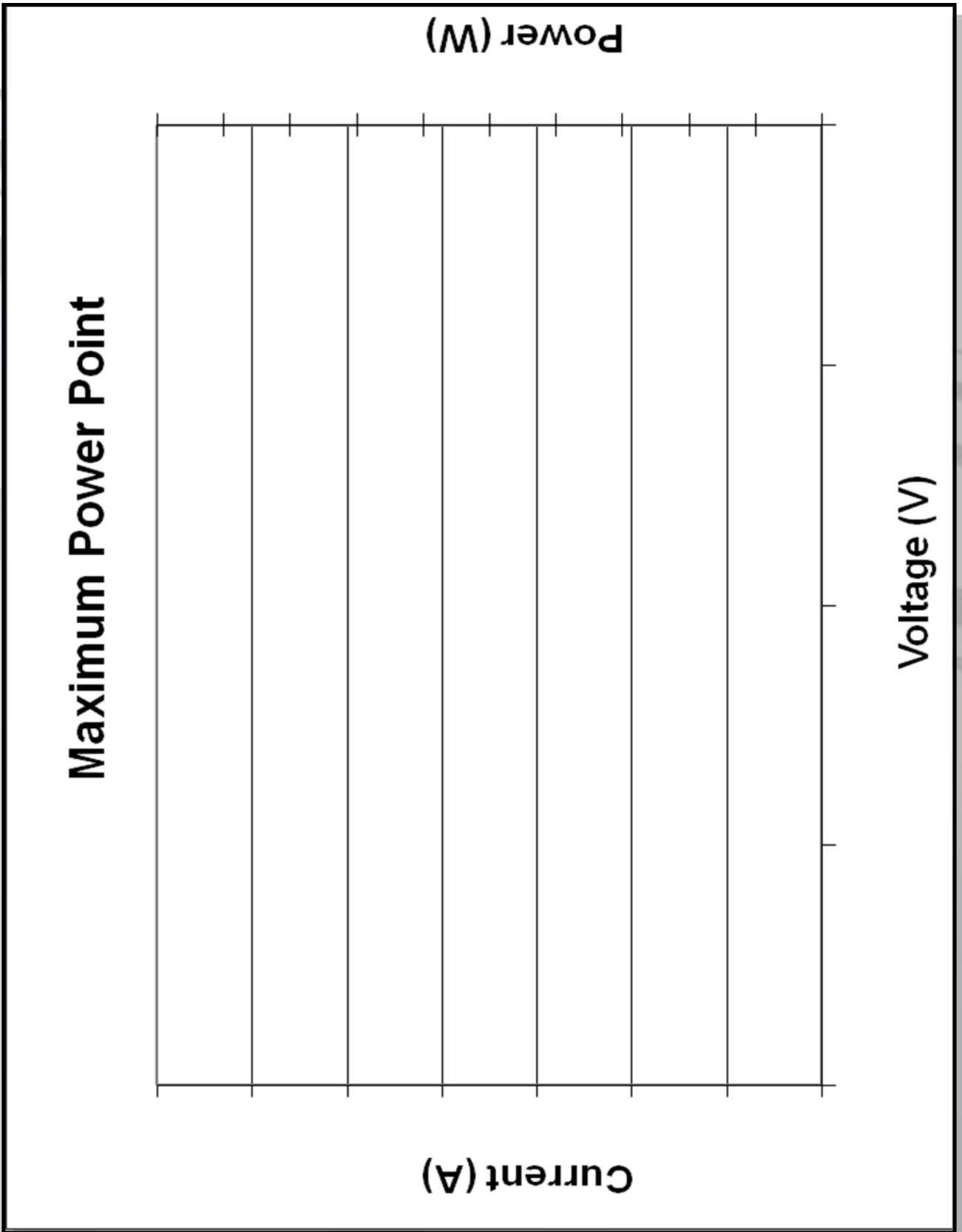
Pointing at Maximum Power for PV! *Investigation Worksheet*

Data Collection

Follow instructions in the Student Investigation Guide and record your data in the table, below.

Table 1: PV Panel Data Collection

Trial #	Collected Data		Calculated
	Voltage (V)	Current (A)	Power (W)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
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21			
22			



Post-Experiment Assignment

1. Calculate power (voltage * current) for each reading and record it in the table.
2. Graph current and power vs. voltage on the graph provided. Voltage is on the x-axis, current is on the left y-axis. Power is on the right y-axis. For each variable, create a range on the axis that fits all of the data points. (Note: This looks similar to the Fundamentals Article graph.)
3. On the graph, identify the maximum power point, short circuit current (I_{sc}), and open circuit voltage (V_{oc}).

Investigation Questions

1. What was the maximum power produced by your panel?
2. What is the short circuit current (I_{sc} , or current when $V=0$), and open circuit voltage (V_{oc} , or voltage when $I=0$) of your PV circuit?
3. Do you think a PV panel produces the same amount of power in different weather conditions? Why or why not?
4. Would it be more efficient for a large field of PV panels (like the one in the photo on page 1 of the guide) to have one MPP tracker for the entire field, or to use many MPPTs for smaller areas of the field? Why or why not?
5. If a cloud covered your panel and lowered the current in the circuit, what would happen to the maximum power point? Would it be necessary to adjust the resistance to find a new MPP?