

## Made in the Shade

### The Effects of Agrivoltaics on Crops

### Transpiration Experiment

#### PREDICTION

1. I predict that the water loss of the \_\_\_\_\_ treatment will be **higher** (circle one).
- under the solar panels      in the sun      neither (they will be the same)

#### Data

Circle one	Starting Mass (g)	Ending Mass (g)	Change in Mass (g) Ending - Starting
Under the Solar Panels			
In the Sun			

2. Calculate the percentage change so that we can compare all groups. The value may be negative.

$$\frac{\text{Change in mass (g)}}{\text{Starting mass (g)}} \times 100 = \text{Change in mass (\%)}%$$

3. Fill out the data table with data from the rest of the class:

CLASS DATA – CHANGE IN MASS OF SPINACH		
	Under the Solar Panels %	In the Sun %
Group 1		
Group 2		
Group 3		
MEAN		

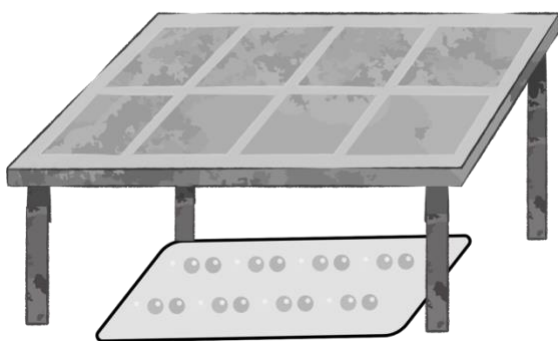
#### RESULTS

4. The class results showed that the leaves lost more water: Under the Solar Panels      In the Sun
5. Using what you know about transpiration, explain your results.

## Photosynthesis Experiment

### RESULTS

6. On the diagram below, draw an arrow showing where your flashlight was positioned when the maximum photosynthesis occurred (the most beads changed color). Label this arrow **MAX Photosynthesis**.
7. How many beads changed color? \_\_\_\_\_ beads
8. On the diagram below, draw an arrow showing where your flashlight was positioned when you generated the most energy from the solar panel. Label this arrow **MAX Energy**.
9. How much energy were you able to produce? \_\_\_\_\_ volts



### Engaging in Argument from Evidence

10. Based on your experiments, would solar panels be beneficial to farmers? Give evidence from the experiments to back up your claim and explain your reasoning.