

# West Wetlands Solar Garden Information

## QUESTIONS

1. What is the best month of the year for solar energy?
2. How many pounds of  $CO_2$  emissions from conventional power plants could be avoided if you put a 1 kW solar system on your rooftop?
3. Calculate the  $CO_2$  emissions avoided by this solar garden.
4. What is the basic building block of a solar power plant?
5. As of 2005, how many large Solar Power Plants does APS have in Arizona?
6. What converts the DC energy from a solar array into 60 Hz AC energy?
7. What is the best time of day for maximum solar generation?
8. How much more energy can you get from a single-axis tracking system compared to a fixed system of the same size?
9. How much MORE energy can you get if you tilt the system?
10. When did APS build its first Solar Power Plant?
11. Where did APS build its first Solar Power Plant?
12. What is a typical PV made cell of?
13. What is the average distance of the sun from the earth? (The correct answer to this question won the first ever \$ 1 million prize on "Who Wants to be a Millionaire" on TV!!)
14. How many degrees per minute does the sun appear to track across the sky?
15. How many homes in Yuma can the electrical energy from this APS Solar Garden power?
16. What are the different fuels that APS uses to provide electricity to the residents of Arizona?
17. What time is solar noon in Yuma?
18. If the sun radiates 4 million tons worth of energy into space and assuming the earth is 93 million miles from the sun and that the earth's average diameter is 8,000 miles, can you show that the earth only receives 4 Lb. worth of that energy?  
YES\_\_\_ NO \_\_\_\_
19. Prove it!!
20. Using the Energy Use Worksheet, calculate how many kWh of electrical energy you use in your home.