

Science Education

A Family Affair

BY RAY PATACCA, INTERPRETATION AND EDUCATION MANAGER

As most school groups leave Farmpark early on a Wednesday afternoon, other families stream into the park anticipating the beginning of an enjoyable afternoon. These families are part of a growing number of home school families. They are participating in Farmpark's newest program, Home School Wednesdays. Home School Wednesdays are designed to bring parents and children together for a unique experience exploring science and social studies in a park and farm environment. You can call it a family affair.

With nearly 1.1 million or 2.2% of children home schooled in the United States, the education staff at Farmpark saw the need for a specific program to accommodate this new population of school children. We discovered that home schools prefer to experience the park as a family, so we created a program just for them. We launched Home School Wednesdays in October 2006 after researching a similar program at the Cleveland Natural History Museum. This unique program teaches science, math, and social studies based on agricultural themes. We included all of the features that made our school programs so successful, especially our hallmarks of hands-on experiences, inquiry science, and correlations to Ohio's State Academic Content Standards.

In the program's inaugural year, nearly 400 children and parents experienced Home School Wednesdays once a month. Each month had a different theme. In September, families participated in the fall harvest of potatoes, cider making, and building corn shocks. In January, they investigated renewable energy. In February, they made cheese, ice cream and tried their hands at quilt design during Farmpark's Quilt Show. We created separate activities and presentations to appeal to the curiosity and abilities of younger and older home school students. Families responded favorably to our attempts to fulfill their needs. One home school mom put it this way, "Our highest priority is educational value. We have been very pleased with your focus on education; our students (and parents) have learned much from these programs."

Home School Wednesdays truly are a family affair.



FOCUS ON ENERGY

TRACKING THE SUN AT FARMPARK

BY ANDY BAKER, FARMPARK ADMINISTRATOR

The new solar tracker exhibit, mentioned in last summer's Almanac, was designed to illustrate some of the science behind solar energy. The energy captured by the tracker's solar panels powers an arcing aeration fountain in the west pond. During the winter, when the fountains are not needed, the energy from the solar tracker will go into the general electrical grid.

The tracker follows the sun from the east to the west as the earth rotates each day. It moves slowly up and down as the tilt of the earth towards the sun changes seasonally. Consequently, the tracker is more effectively able to capture the solar energy on a daily basis than the stationary solar array on the hill at the Plant Science Center. Understanding the impact of changing the angle of declination (the angle of the sun to the earth) on the ability to capture solar energy is a key theme of the exhibit. A joystick in the center of the panel allows visitors to change the angle of the panels and observe the change in watts produced on the panel display and the falling or rising curve of the fountain in the pond behind the array.

The exhibit also explains the relationship between volts, amps and watts. It shows that energy is lost when the direct current produced by the solar array is converted to the alternating current used by the fountain's pump and by the electrical grid. The energy is lost in the form of heat. As a result of the tracker project, the output of the solar panels and wind turbines can also be found by connecting through the Lake Metroparks website. This way, you too can be on top of renewable energy production.