

# **Monarch Monitoring, Student Research and Field Biology Summer Program**

**Cindy Petersen, Middle School Science Teacher**

In order to really understand science, you need to learn to do what scientists do and practice “real” science. Each summer, for approximately 2-3 hours on a weekday morning, I conduct a summer enrichment program for 7<sup>th</sup> and 6<sup>th</sup> grade students. As citizen scientists, students become part of a national Monarch Larva Monitoring Project and collect data on monarch butterfly populations at Spring Peeper meadow in Chaska. They also develop and carry out research projects that become their science fair project during the upcoming school year, using many of the field techniques and ecological concepts they have learned over the course of the summer.

Since 1999 I have worked with student scientists on this project, in hopes of inspiring them to learn more biology through field studies and seeing nature in action, first hand. I have had the privilege of working with a professor at the University of Minnesota, a nationally recognized monarch ecologist, since 1999, participating in a sabbatical in the monarch lab, teaching summer insect ecology classes to teachers and presenting workshops around the country at various conferences and nature centers on themes surrounding insect/monarch biology. The relationships with students and monarch experts over the years have solidified my commitment to providing exciting science-based experiences to St. Hubert’s middle school students.

Throughout the school year, students participating in this program have many opportunities to take part in a variety of related activities. They go on to present their work at a state-wide Insect Fair at the U of M in December, the Regional Science Fair, and possible the State Fair. Every few years, students also are invited to attend a national monarch ecology symposium sponsored by the University, and every other year, I lead a student trip to the monarch overwintering sites in Mexico, or a biology trip to Costa Rica.

Students may apply to participate in this program in the spring and are chosen based on their personal commitment to the project, ability to self-start and carry out a research project, their ability to work well with others and show leadership skills, a high GPA and a passion to learn more about science and nature. It is a program that continues to evolve each year and provide student new opportunities to learn.