

## **Mathematical Modeling and Weather**

*Gretchen Wolfe*

This unit is designed for first grade students and can be adapted for students in second and third grades. The lessons are designed to incorporate the mathematical modeling cycle into a unit of study of the weather. Students will observe and measure weather features then, using the mathematical modeling cycle, conduct experiments and design weather measurement devices. First the children will conduct an experiment to measure the evaporation rates of puddles of different sizes. The children will graph and analyze the data collected in order to make predictions. From their conclusions the children will make predictions about evaporation rates of puddles with a variety of surface area sizes. Using the mathematical modeling cycle, students will design a tool to measure wind speed and a scale to record the speed. The children will use their designs to create devices to measure wind speed. The children will test and analyze their devices to determine which design and wind scale is most effective. Through the testing of the devices students will be able to make predictions about designs that will effectively measure winds in extreme weather situations.