

## **Kenken and the Problem Solving Classroom, 2009**

*Rosemary Klein*

### **Synopsis**

In 2003, a Japanese mathematics educator, Tetsuya Miyamoto, created a puzzle which he calls Kenken (“cleverness squared” in Japanese), which he claims “transforms the brain into a vigorous, problem solving engine.” His puzzles are based on a relatively simple premise that at first look demands only the simplest of mathematics. However, these puzzles have great potential for developing the logical thinking of children, encouraging them to justify their thinking, and supplementing the standard elementary and middle school curriculum.

This unit explores the place of Kenken in the mathematics classroom. The unit begins with a description of the problem solving classroom, where students communicate with one another, take risks, listen to one another and develop into confident problem solvers. As students are taught to solve and create Kenken puzzles, they are challenged to justify their thinking every step of the way, using their knowledge of factors and multiples as well as how numbers are combined to make other numbers..

. This unit is designed for sixth graders, and their development as problem solvers who always know and expect that mathematics makes sense. The study of factors and multiples is one of the emphases in sixth grade math, and the focus in this unit is the correlation of Kenken with that study.