



MAS Online: **Mathematical Thinking**

Facilitator: Norma Morris, MAS curriculum developer
Audience: K-8th grade teachers
Dates: March 22, 2010 – April 25, 2010
Cost: FREE to participating MAS sites

Are you just a little bit "afraid" of math? Do you have students who just can't seem to see mathematical relationships? Would you like to sharpen your math skills or learn new ways to present algebraic concepts? Would you like to see how what is taught in elementary scaffolds to middle school learning? "Mathematical Thinking" is designed for you! Through this online series, you will experience activities on a variety of math topics to help you view math in a slightly different manner. Just as with the MAS curriculum, these brief sessions will be centered on hands-on activities which broaden the learner's understanding of the concepts addressed. And we'll have lots of questions to answer.

Ideally, it would be best to experience these lessons with at least one other person with whom you could discuss the activities, and most importantly, your strategies for solving the problem. As with your students, it is in these discussions that the greatest learning occurs. If you are by yourself, please take time to conscientiously reflect on each question. It is in reflection that we translate a "good" activity into a true learning experience. Of course, all participants will have plenty of opportunities to collaborate and reflect as part of this professional learning community in cyberspace!

Objectives:

As a result of participating in "Mathematical Thinking" teachers will:

- Recognize the importance of helping students view digits as representations of tangible quantities
- Explore algebraic notation through geometric patterns
- Experience questioning as learners

Modules:

- Module 1: "QUANTITY or DIGIT - What's the big deal?"
- Module 2: "What is Algebraic Reasoning, Anyway?"
- Module 3: "Questions! Questions! Questions!"
- Module 4: "How Many Ways Can You Represent It?"
- Module 5: "What do you Mean I Teach Algebra?"

The time commitment is approximately 1.5 hours per week. All participants will receive a copy of the book *50 Pre-Algebra Activities* by Mary Lou Witherspoon and Ernest Woodward.