

# All Students Can Master The Power of Algebra

*The pressure is on to teach algebra to  
ALL of our students, but how?*

*A 2-day workshop for middle school and high school  
mathematics teachers of grades 6 through 10  
who need rich problems and activities  
that reach today's students*

Today's students demand meaningful mathematical experiences which have relevance to their lives. This demand can be met if teachers **discover a fresh approach to the teaching of algebraic ideas**. In this workshop, you will explore traditional algebraic topics through a practical and meaningful exploration of patterns and functions. Learn how physical models of concepts, formerly taught only in the abstract, allow students to "see" the meaning behind the mathematics and the ways in which algebra relates to their world.

The students who are preparing for and taking algebra today have difficulty relating to some of the traditional approaches we have successfully used in the past. Often just a different way of looking at a concept or a relevant application problem can open a student's understanding and allow the transfer of that idea to an even more abstract concept. Engage in activities that **span the ages and experience levels of students** in grades six through ten. These activities enrich not only students, but also the teachers who attend the workshop.

## Workshop Highlights\*

### Conceptual models using manipulatives:

- Properties of real numbers
- Equation solving
- Multiplying binomials
- Difference of two squares
- Perfect square trinomials
- Problem-solving applications

### Basic concepts of algebra taught through enrichment topics for all:

- Triangular numbers
- Square numbers
- Pentagonal numbers
- Sum of the consecutive even numbers
- Rich problems to connect these special numbers
- Integration of algebraic and geometric concepts

### Demonstration lessons:

- Lesson simulation
- Participants as students
- Hands-on activities
- Activities appropriate for block scheduling

### An in-depth study of functions:

- Introductory explorations
- Linear functions
- A complete analysis of slope
- Quadratic functions
- Analysis of graphs and tables
- Systems of equations
- Functions of best fit
- Choosing appropriate functions to use, given specific problem situations
- Questioning techniques to enhance understanding

### Relevant applications using technology:

- A "no experience necessary" approach
- Problems that help students connect school mathematics to their world
- Mathematical modeling from real data
- Analyzing multiple representations of data
- Graph exploration
- Curves of best fit
- Statistics



Carol McGehe

**New,  
effective  
activities &  
strategies  
to teach  
algebra  
to all!**

\*As one inspects the topics above, the typical reaction is to think of them as topics exclusively for formal algebra. Although that is true, today's frameworks and standards are requiring us to inspect these topics at a wide range of grade levels and with students who have a wide range of experiences and abilities, from low functioning to gifted and talented. One of the most frequent remarks we receive on our evaluations is that we succeed in addressing such topics in a manner that is applicable to serve this wide range of students in grades six through ten.

**Prime Presentations  
(888) 917-3950**

**Mathematics  
Grades 6-10  
2 Days**