

FY 2009 QUESTION NUMBER: 22

QUESTION:

Provide data on the number of middle school math teachers that have content certification and those that do not. What training opportunities are available for math teachers who want to expand their content knowledge?

BUDGET PAGE REFERENCE: 6-11

ANSWER:

There are currently 318 middle school teachers who have been identified as teaching math. Of those, 177 are content certified in middle school math or secondary math. The remaining 141 do not have content certification, but are certified as elementary 1-6 and middle school teachers.

The following list represents math training opportunities that were offered during the summer of 2007 or during the 2007 – 2008 school year for teachers that wanted to expand their knowledge.

**Math A: Elementary Summer 2007**

This three hour session provides elementary teachers, new to teaching Math A (Math 6) and who have not previously attended Math A training, an overview of the Math A curriculum and strategies for implementation of Unit 1.

**Math B: Elementary Summer 2007**

These sessions, designed specifically for teachers new to teaching Math B, focus on algebraic thinking, concepts of ratio and proportion, and resources to plan Math B instruction. Participants also have opportunities to engage in peer reflective conversations.

**New Elementary Math Content Coaches**

This training is designed to build the preK-5 mathematics curricula capacity for new math content coaches.

**Elementary Math Content Coaches**

Monthly training sessions for ongoing professional development builds the capacity of mathematics teachers at the elementary level.

**Follow-up Session to Increasing Students' Mathematical Proficiency**

These two follow-up sessions focus on the effective implementation of mathematical discourse within instruction. Participants engage in collegial discussions about the topic of discourse and analyze where their students are within the components of a math talk learning community.

### **Lenses on Learning I**

This course is designed to build elementary principals' capacity as instructional leaders in mathematics. Through readings, problem solving, video clips, and additional resources to support MCPS connections, principals gain a deeper understanding of mathematics teaching and learning, including issues of equity and implications for instructional leadership

### **Lenses on Learning II**

Through this course, designed for elementary administrators who have completed Lenses on Learning I, administrators will develop skills to help them be more effective observers in standards-based mathematics classrooms. Participants learn to focus on the mathematics content of a lesson, provide feedback to teachers, and engage teachers in collaborative post-observation conferences. In each three-hour session, participants will engage in mathematics problem solving, view and analyze videotaped classroom clips, and participate in reflective discussions about the teaching and learning of mathematics.

### **Lenses on Learning for Staff Development Teachers**

This course is designed to build elementary Staff Development Teachers' capacity as instructional leaders in mathematics. Through readings, problem solving, video clips, and additional resources to support MCPS connections, participants gain a deeper understanding of mathematics teaching and learning.

### **Algebra: Concepts and Technology for Elementary Teachers**

This course is designed for Pre-k to Grade 5 teachers seeking to increase their knowledge of algebraic skills to support the concepts taught in their classrooms. This course will satisfy the algebra requirement of the 12/12 math and science mandate established by the Board of Education. In this course, teachers will become proficient in algebra concepts with an emphasis on real-world applications, the use of technology, and practical strategies using manipulatives. In addition to providing specific algebra course content, this course will help to increase teachers' capacity by modeling best practices and various teaching strategies. Teachers will need to develop an understanding of specific algebraic concepts that are addressed in the MCPS instructional guide, the Maryland Voluntary State Curriculum (VSC), the Maryland Core Learning Goals (CLG), and the Maryland algebra HSA. The content knowledge and instructional practices demonstrated in this course will provide the basis for implementation in individual classrooms.

### **Discovering Geometry**

This course is designed to develop logical reasoning using inductive and deductive thinking skills. The skills previously learned in algebra are integrated in the study and foundations are laid for future courses. Right triangle trigonometry is applied to problem situations and connections are made through modeling. Modeling emphasizes the connections between authentic events and mathematics. An engaging investigative, cooperative approach is facilitated by the use of available technology and geometric manipulatives.

**SDT: Deepening our Content Knowledge of Statistics - Elementary SDTs**

This course is designed to allow elementary SDTs to enhance their own understanding of the math content within Standard 4, Statistics, in order to better support their teachers' implementation of the math curriculum. This is a repeated module from 2005-2006 that was extremely well-received by elementary SDTs.

**SDT: Deepening our Content Knowledge of Number Relationships and Computations - Elementary SDTs**

This course is designed to allow elementary SDTs to enhance their own understanding of the math content within Standard 6, Number Relationships and Computation, in order to better support their teachers' implementation of the math curriculum. This is a repeated module from 2005-2006 that was extremely well-received by elementary SDTs.

**SDT: Deepening our Content Knowledge of Algebra, Patterns and Functions - Elementary SDTs**

Throughout this course, elementary SDTs will enhance their own understanding of the math content within Standard 1, Algebra, Patterns and Functions, in order to better support their teachers' implementation of the math curriculum. This is a repeated module from 2005-2006 that was extremely well-received by elementary SDTs.

**The list below represents some of the online resources available to support math instruction in MCPS:**

- An online module to support teachers changing grade levels, who are new to teaching Grade 1 math;
- Math - Using Grouping Symbols: The videos in this website show a Math Content Coach and a classroom teacher team teaching a lesson to 4th grade students on using grouping symbols;
- Math Labs Program: The videos on this website feature a first grade math lab lesson in which the teacher differentiates her instruction using centers;
- Online videos available to staff to support the math curriculum implementation; and
- Ask Dr. Math: A question and answer service for math students and their teachers. A searchable archive is available by level and topic, as well as summaries of Frequently Asked Questions.