

Math Background & CPM Overview for Parents of Middle School Students

A middle school parent meeting was held on Wednesday, December 8th to provide an update on the changes that have occurred in the mathematics sequence and the implementation of CPM as a core resource in the Accelerated Math 5, Math 6, Pre-Algebra, and Introduction to Algebra courses. The meeting was well attended and several of the parents expressed their concerns in particular with the use of CPM as a core resource. We are enclosing the math folder that was provided to the parents at the meeting which includes the presentation, new math sequence, guiding principles, website resources for parents to use with their children, and a few handouts highlighting best practices in using CPM as a core resource. There were several teachers in attendance to help with the presentation along with building administration from both Welsh Valley and Bala Cynwyd. A CPM teacher from Twin Valley Middle School who is a regional trainer for CPM also participated in the presentation and she shared her successful experiences of using CPM with her students.

In follow-up, Nancy Acconciamesa along with the Math Specialists and building administration will be working with the teachers to help them become more fluent and comfortable with these changes. In addition to giving teachers the opportunity to observe each other and work collaboratively, we are also providing ongoing professional development to further develop their skills and implementation of this program. We will be posting the presentation along with a 'FAQ' on our website next week to allow all of the parents to review the information. There will be a follow-up parent workshop that will highlight the uses of CPM in the classroom as well as other useful resources in January.

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Introduction:

Purpose of parent meeting: To provide information to middle school parents about the revised math sequence being implemented in the middle school grades and an overview of the CPM approach we are using as a core resource. The following items were used as focus areas presented at the parent meeting:

- The math initiatives in the district, in particular the alignment of the curriculum being done to ensure that the state standards are being met and unnecessary repetition across courses eliminated; the development of unit concept maps that identify not only the essential skills and understandings for each unit but also the primary and suggested supplemental resources that assist students in attaining the course objectives.
- The recently revised math sequence and the opportunity for current grade 6 and 7 pre-algebra students to be assessed in the Spring of 2011 for possible placement into a one year algebra 1 course next year.

- The CPM math program as the primary resource that supports the math curriculum in accelerated math 5, grade 6, pre-algebra and intro to algebra courses.

Meeting Summary

Below are a few of the main issues addressed and questions raised by parents at the meeting:

1. What were the processes and reasons for making the revisions to the Mathematics program and sequence?
 - The K-12 Mathematics scope and sequence was reviewed and refined with a focus on alignment to the Pennsylvania anchors and standards. These anchors and standards address the core content and the mathematical process and manner in which these skills should be taught.
 - It was identified that as a district, we could improve upon our delivery of content incorporating the process skills of problem solving, reasoning, application, & mathematical communication.
 - In addition, our review process indicated that there was a lack of consistent use of resources from teacher to teacher. We reviewed the resources being used and found that CPM aligned closely with our District curriculum as well as incorporating the necessary process standards in which mathematics should be taught.
 - We also identified that there needed to be a sequence that allowed more students to successfully complete Algebra 1 by the end of grade 8. In addition, teachers of the higher level courses in High School articulated that the double acceleration sequence could be a factor in why they were seeing gaps in foundational skills. These were primary reasons driving the development of the new math sequence that allows Algebra 1 to be taken as a one year course. This new sequence allows students who used to be in a double accelerated class to still complete geometry in grade 8 while having additional time for building essential foundational skills such as fractions, decimals, percents, integers, etc.
2. What is the history/background of CPM?
 - College Preparatory Mathematics (CPM) is a middle grades and secondary mathematics program that integrates basic skills and topics with conceptual understanding and problem solving strategies to achieve a complete and balanced mathematics curriculum. Basic skills and procedures are practiced over several weeks as well as integrated into challenging application problems. CPM materials develop the basics while encouraging students to understand ideas, see relationships between them, and apply mathematical principles to complex problems and real world models..
 - CPM Algebra 1, Geometry, and Algebra 2 were written in 1989-95 by 70 highly qualified high school math teachers under the direction of college professors at the University of California, Davis and California State University, Sacramento who were disappointed seeing high school students gain only a shallow, one-dimensional understanding of the mathematics they studied. Mathematical Analysis was developed in 1996-98. The middle grades program was written by

highly qualified teacher leaders in CPM in 1999-2001. AP Calculus was written in CPM in 2000-02. The CPM curriculum is based on the National Council of Teachers of Mathematics (NCTM) Curriculum and Evaluation Standards.

- The CPM courses for our Math 6 and Pre-Algebra courses were updated in 2009 and we are actively implementing these new materials into our classrooms.
3. What are the teaching strategies being used in teaching CPM?
 - The CPM curriculum uses a variety of teaching methodologies, including lecture, class discussions, use of manipulatives, and structured study teams. During class, students are often actively working on guided investigations to develop mathematical concepts and problem solving skills. Teachers lecture regularly and summarize lessons based on observed needs of the students. CPM teachers provide direct instruction (lectures and class explanations) based on their observations of students' questions and difficulties during the guided investigations. They provide guidance for students while they are working and answer students' questions, but do so in a manner that challenges and motivates students to develop and test solutions themselves.
 4. What are the various types of assessment that will be given to my child?
 - Your child will continue to take individualized assessments such as teacher made tests and quizzes that reflect the expectations outlined in the curriculum and aligned with the Pennsylvania anchors and standards. District made curriculum based assessments will also be administered to monitor your child's academic progress in each course. Your child may also engage in partner/group quizzes that will help prepare him/her for the individualized assessments.