

Fact Fluency in Central Bucks Mathematics Classrooms

“Automatically knowing basic number facts is as important to learning mathematics as knowing words by sight is to reading. Educational researchers understand this, and *Everyday Mathematics* co-creator Max Bell has long emphasized the importance of number-fact reflexes. Children are often told that habits, good and bad, come from doing something over and over until they do it without thinking. Developing good number-fact reflexes can be likened to developing good habits” (Everyday Math).

In Central Bucks School District, students are developing their fact fluency daily. This occurs through the activities and questions teachers use during their daily lessons including work with: fact families and fact triangles, choral drills, double-9 dominoes, fact extensions, games, and the mental math and reflexes routine. These are valuable parts of our daily lessons and will continue to be the foundation for learning facts in our Common Core elementary math curriculum.

In our elementary mathematics program we are introducing a new routine for practicing math facts. All students in grades 1 – 4 will practice and maintain their quick retrieval of basic math facts through the online web-based program **XtraMath**. Many teachers across the district have been using **XtraMath** with their students since 2010 to provide ongoing practice of their basic math facts. The feedback has been very positive with teachers stating their students enjoy using the program and are excited to earn the certificate the program provides when they master an operation. Most importantly, the teachers report it is making a difference in the students’ knowledge of the facts they are practicing. The use of **XtraMath** will be incorporated into all 1st – 4th grade classrooms starting in the fall of 2013 according to the following table. (Students should complete this practice from home on their computer. Students who cannot access the program from home should complete it as part of their morning work. Once the students have started the program and taken the placement tests, it takes approximately 3 – 5 minutes per session. If possible, it is suggested that at least one of the practice sessions occurs during the normal weekly computer lab time. Some of the skills students apply while working on this program are on the Elementary Technology Scope and Sequence.)

Gr.	Program	Introduce	Frequency	Expectation
1	Addition Only	Unit 6	2 times per week	Students reach mastery score of 100 in addition program by the end of the year.
2	Addition, Subtraction	Unit 1	3 times per week	Students reach mastery score of 100 in addition and subtraction program by the end of the year.
3	Addition, Subtraction, Multiplication, Division	Unit 1	4 times per week	Students reach mastery score of 100 in addition, subtraction, multiplication, and division program by the end of the year. *NOTE: Students who do not meet mastery of addition and subtraction by the time you start multiplication facts in class should be promoted to multiplication in XtraMath program so they can practice their facts.
4	Addition, Subtraction, Multiplication, Division	Unit 1	2 times per week 5 minutes per session	Fourth grade should be a year to maintain their basic facts. The program automatically promotes students when they show mastery of the facts. Therefore, some students may be finished with XtraMath in the first few weeks of school. The program can be used as needed to show they are retaining their basic facts throughout the rest of the school year.
5	Addition, Subtraction, Multiplication, Division	As Needed	As Needed	Students who have not mastered one of the operations by 5 th grade should continue using the program until they reach mastery in their basic facts.
6	Addition, Subtraction, Multiplication, Division	As Needed	As Needed	Students who have not mastered one of the operations by 6 th grade should continue using the program until they reach mastery in their basic facts.

When students reach mastery in an operation, they should move to the next operation in the sequence. The program will automatically promote the students to the next operation when they reach a mastery score of 100. When they reach mastery in one operation, teachers will administer a paper-pencil test in school to verify they have mastered the operation. They have officially reached mastery when they can answer 47 out 50 facts correctly in 3 minutes or less, two times in a row (50 facts in 3 minutes is actually an average of 3.6 seconds per fact so students have more time then when they are working on the computer). Fact-mastery will be recorded on the end of year data sheet. At the end of the year, teachers will provide their principal with their final class summary sheet from **XtraMath** showing the students’ progress in the program.

Thank you for your hard work with your students throughout the year! Any teacher who needs help setting up a www.XtraMath.org account can find tutorials on the Elementary Math intranet site or can work with one of the staff developers or math supervisor to get started.

Everyday Math. (n.d.). *Everyday Math Success*. Retrieved February 15, 2013, from Everyday Mathematics: www.everydaymathsuccess.com