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Mathematical Automaticity by Andrea K. McClain, Principal

When children are learning to read, we track their reading fluency (how many words per minute they can read without errors). Without reading fluency, it is difficult to build the other skills associated with literacy, such as comprehension. Simply put, when students struggle to read each word, they often forget what they have just read, making it difficult to retain this new information. Just being able to read each word aloud (decoding) is the most basic building block of literacy. Once students can decode with ease, they can retain the information they have read and use it to process and comprehend the information held in a written passage.

Similar to reading fluency, automaticity is a key skill in mathematics. Automaticity is a more formal way to refer to knowing math facts by heart and being able to produce them quickly. When primary students know their addition and subtraction facts up to 20 quickly and by heart, their minds are free to concentrate on new concepts, such as borrowing in double digit subtraction. If students don't know their math facts and are struggling to remember a subtraction answer, then they are really trying to do two things at once: master a mathematical concept **and** figure out what 12 minus 7 should be. Knowing their age-appropriate math facts is key; it allows students to concentrate on new concepts being learned, rather than the computation behind it.

Nationwide test data reveals a startling trend: many third grade students are not fully mastering their multiplication tables with true automaticity. The multiplication tables are, without a doubt, one of the most essential resources a third grade student can master. The math standards for 4th grade and beyond include division (inverse multiplication), converting fractions, algebra, multi-step word problems, and many more. These issues can be conceptually challenging for students. When students know their multiplication tables automatically, their minds are free to focus on the actual concepts they are learning, rather than try to remember the multiplication to do each necessary step.

Beyond flash cards, families can support students' learning in a variety of ways. Skip counting (6, 12, 18, 24, 30, etc. for the sixes) is one way to reinforce that multiplication is a shortcut for repeated addition. Playing concentration-style games (turning over cards to reveal the answers) helps turn a rote task into a multi-modality experience. There are also many online resource for students to practice at home on the computer.

Here at Kingsolver, we will be celebrating multiplication on Groundhog Day, 2010 (February 2nd) with our first annual Multiplication Bee. All students who score 90% or above on their times table test will receive the coveted Golden Groundhog Award. Students scoring below 90% will receive a certificate of participation. Our hope is to motivate and encourage students to master their times tables while enjoying the process! Your assistance at home is greatly appreciated.

