



Journeys School of Teton Science Schools

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May 13, 2011

Dear Journeys Elementary School Parents,

In 2003, the elementary school adopted Everyday Mathematics as our primary math curriculum. At the beginning of this year the elementary faculty began a comprehensive review of this program. Our goal was to review the best available research and practices in elementary math education and determine the best fit for our mission and students. The research supports a few main concepts. First, there is no perfect curriculum. All great schools supplement their curriculum with other components. Second, as a school we believe that both conceptual understanding and computational/procedural mastery are critical to long term success in mathematics. Third, all students deserve to be given problems that are rich in mathematical thinking and the time to solve these problems. Fourth, more important than any curriculum is the quality of instruction and the underlying mathematical knowledge of the teacher. Fifth, we believe that all students should and can enjoy learning mathematics. With these conclusions in mind, as well as communication with other independent schools and our extensive review of the mathematics literature, we determined that the following changes will occur within our elementary school math program for the start of the 2011-12 academic year.

1. **Adoption of Math in Focus: The Singapore Approach by Marshall-Cavendish Publishers:** Of the publications currently available, we are confident that Math In Focus provides the highest quality math experiences for our students. This curriculum is the U.S. version of the most widely used and highly rated textbook series in Singapore. The program employs the same curriculum syllabus and pedagogy as the Singapore program, but includes additional resources and technology for U.S. classrooms. There are three main areas of emphasis in Singapore Math instruction: strong number sense, solid understanding of place value, and superior mental math skills. Another unique aspect of the Singapore Math curriculum is the use of bar modeling, a powerful step-by-step visual approach used to solve word problems. Singapore's math curriculum is said to be an inch wide and a mile deep referring to the depth at which students learn and deeply understand key mathematical concepts within the Singapore Math framework. See the end of this letter for more detail about the program.
2. **Redesign of Mathematics Lessons:** While the new curriculum will provide an excellent core framework, we also are thinking deeply about the progression of the elementary school mathematics lesson. First, we are committed to beginning each lesson with an opening problem that stimulates deeper thinking about mathematics. Second, we will continue to use the Rocket Math program to build better math facts fluency. Third, we will take advantage of more discrete learning units to look for areas of integration both with our community and between classes. Our mission is to create a mathematical culture at Journeys School that reflects the importance of inquiry and conceptual understanding and simultaneously encourages students to take on challenging mathematical projects and problems.
3. **Time for Teacher Collaboration:** Research repeatedly demonstrates that both collaboration (Stigler and Heibert, *The Teaching Gap*) and content knowledge (Liping Ma, *Knowing and Teaching Elementary School Mathematics*) have the most significant impact on mathematical understanding. In the schedule next year, we will designate a collaborative block within the school day each week for elementary teachers to discuss instructional practices and mathematical understanding.
4. **Professional Development:** During August faculty training and the four new in-service days scheduled for 2011-12, math will be one focus. In August, faculty will be trained in the new curriculum. The mid-year days will be reserved for ongoing content development and instructional practice enhancement.



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5. **Curriculum Clarity and Alignment:** As part of a larger school-wide effort, a review of the links between our assessments and the new curriculum will be completed this summer. Additional goals relevant to the math program include implementing an online curriculum mapping and planning system, and creating a curriculum review policy.

We are very excited about these changes and know that they will directly benefit your child. As the next school year begins we will hold information sessions so that you as parents can understand the philosophical underpinnings of our math program.

Our goal is to purchase new materials before the end of the school year. In advance, thank you for your support through this process and please let me know if you have any questions.

Sincerely,

Betsy Trowbridge and the Elementary School Team

Further information regarding Singapore Math:

Singapore Math is more than a curriculum; it is an approach to teaching mathematics that produces strong problem solvers and logical thinkers. Singapore Math uses a progression of lessons within each concept that moves from a concrete experience (such as using manipulatives), to a pictorial representation, to the abstract concept (or algorithm). This type of sequencing allows students to gain a solid foundation in the conceptual understanding before they are introduced to the abstract concepts.

The Singapore Math Approach is designed to meet the full spectrum of abilities within a classroom. Advanced materials are readily available to teachers, in addition to materials that provide extra practice and extension activities. A comprehensive assessment program enables instructors to collect real-time progress as well as cumulative progress in both written and oral forms. As we have always done, all students will be assessed at the beginning of each year for placement in a math group and then reassessed continually for mastery of key concepts. In addition, this program supports parental involvement with clear, concise homework assignments and assessment results that are easy to interpret.

We are confident that this new opportunity will further enhance our students' mathematics education. Please see below for links related to the Singapore Math curriculum.

<http://nces.ed.gov/timss/index.asp> (link to TIMSS report)

<http://nychohold.org/art-hoven-el-0711.pdf> (Educational Leadership article about Singapore Math)

<http://www.greatsource.com/singaporemath/research.html> (publisher's information about Math in Focus: The Singapore Approach)