

## **K-6 Mathematics Curriculum—MSAD #54**

October, 2005

Following is the revised mathematics curriculum for grades K to 6 in MSAD #54. The document represents many hours of work completed by teachers district-wide, as well as by the chair of the curriculum committee and the K-6 math specialist. The revised document contains some changes from the draft document distributed last year, most notably in the right-hand column that lists instructional resources and activities. This preface includes notes about those resources as well as a bibliography. In addition, district objectives were pared down wherever possible. The state's Grade Level Expectations were used as a guide. Hopefully, the document contains objectives that can be achieved by all students. Beginning in 2006, all students in grades 3-8 will be assessed on the state's Grade Level Expectations as part of the NCLB Annual Assessment. It is important to note that district objectives address topics in the year before students are assessed by the NCLB AA.

The draft curriculum distributed last year included only the new *Scott Foresman Mathematics* text as an instructional resource that could be used to help students accomplish district objectives in math. In the revised document that follows, several additional resources are listed.

### **Additional Resources**

Additional resources are listed for several reasons. The curriculum team decided that teachers would be well served by having a variety of lesson suggestions that would address an objective. This allows teachers to choose lessons that match their students' learning styles, that might be more engaging, or that meet particular needs better than others. The team also felt that the resources that are suggested are compatible with the Scott Foresman resource, so that our students will continue to have a consistent program across the district. While children may have different experiences, they will all gain similar knowledge and skills.

The additional resources were chosen for another important reason. They include very good background for teachers. They discuss ways in which students learn topics, and they contain information about why certain aspects of the lessons are included. Many teachers have said that the resources engage students with important mathematics and take into account current theory about learning. Teachers have also said that the resources are both readable and interesting. These factors should help advance the professional development efforts in the district.

#### ***Teaching Arithmetic***

Two of the additional resources deserve special mention. The first is the *Teaching Arithmetic* series published by Math Solutions. Many will recognize Math Solutions as the publisher of Marilyn Burns materials. The *Teaching Arithmetic* series (noted in the curriculum as TA, followed by the individual title) includes a variety of titles from *Lessons for First Grade*, to *Introducing Multiplication for Grade 3*, to *Lessons for Decimals and Percents for Grades 5-6*. These titles contain many lesson suggestions, along with a narrative that details both the unfolding of the lessons in a typical classroom as well as the rationale for instructional decisions that the teacher makes.

### ***Navigations***

The second resource deserving note is the *Navigations* series, published by the National Council of Teachers of Mathematics. Titles in the series range from *Navigating through Number and Operation in Prekindergarten –Grade 2* to *Navigating through Algebra in Grades 6-8*. Like the *Teaching Arithmetic* series, the *Navigations* books include both lesson suggestions and a discussion for teachers. The discussion highlights the important mathematics contained in the lesson, the research findings about how students learn, and instructional methods that help students learn. The *Navigations* titles draw heavily from the recommendations contained in *NCTM's Principles and Standards for School Mathematics*. Like the *Teaching Arithmetic* materials, the *Navigations* series will support on-going professional development.

### ***Investigations***

One resource that is not included in the curriculum is *Investigations*. Lessons from *Investigations* are not detailed only because they are already connected to Scott Foresman lessons in the Joint Usage Plan, the red book that was included with your Scott Foresman materials.

Other resources included in the curriculum include lessons from Math Their Way, Box It or Bag It, and *About Teaching Mathematics*, by Marilyn Burns.

## **Literature Connections**

Some of the suggested lessons include a literature connection. In these lessons, the math objective is connected to a read aloud book. For example, in a lesson from *Teaching Arithmetic, Lessons for Introducing Division for Grades 3-4*, the book, *The Doorbell Rang* is used. The curriculum refers to these connections with the notation, **Literature Connection**, along with the book's title. The Scott Foresman resource also notes literature connections with a number of its suggested lessons. These books are being made available to teachers in the school libraries.

## **Process Standards**

Other changes in the curriculum document include the removal of reasoning and communication as separate content strands. The curriculum team felt that instead of listing objectives for these process skills separately and apart from content such as number, data, and geometry, for example, a better idea would be to include reasoning and communication with all content strands. Thus, the expectation is for students to explain their reasoning and communicate their understanding as a regular part of learning all content. The process standards reasoning, communication, representation, problem solving, and connections are discussed in a separate document, "MSAD #54 Mathematics Curriculum/Process Standards."

## **Bibliography**

### **of Suggested Resources**

Scott Foresman-Addison Wesley Mathematics, Pearson Education, Inc., 2005

Navigations Series, NCTM, 2004, 2005.

Teaching Arithmetic Series, Math Solutions Publications, 2001, 2002, 2003.

*About Teaching Mathematics*, 2<sup>nd</sup> Edition, Math Solutions Publications, 2000.

Math Their Way, Center for Innovation in Education, 1988

Box It or Bag It, The Math Learning Center, 1988