Second Grade Mathematics

Dear Second Grade Families;

Welcome to the Ann Arbor Public Schools Family Pages. We hope the information you find here assists you in supporting your child while s/he is learning important skills and concepts throughout the second grade year.

Everyday Mathematics provides the core learning resource for Mathematics in the Ann Arbor Public Schools elementary grades. *Everyday Mathematics* (EDM) supports teachers in providing students with the mathematical instruction and experiences they need to ensure that their learning focuses on the major work of each grade. Units of study are based on grade level goals for mathematical content and mathematical practice supported by aligned instruction and assessment. Information below is from *Everyday Mathematics, Goals for Mathematical Practice*, McGraw Hill Education.

Operations and Algebraic Thinking

Represent and solve problems involving addition and subtraction	Model 1-step problems involving addition and subtraction. Use addition and subtraction to solve 1-step number stories. Model 2-step problems involving addition and subtraction. Use addition and subtraction to solve 2-step number stories.
Add and subtract within 20	Add within 20 fluently. Subtract within 20 fluently. Know all sums of two 1-digit numbers automatically.
Work with equal groups of objects to gain foundations for multiplication	Determine whether the number of objects in a group is odd or even. Express an even number as a sum of two equal addends. Find the total number of objects in a rectangular array. Express the number of objects in an array as a sum of equal addends.

Number and Operations in Base Ten

Understand place value	Understand 3-digit place value. Represent whole numbers as hundreds, tens, and ones. Understand exchanging tens and hundreds. Understand 100, 200, … 900 as some hundreds, no tens, and no ones. Count by 1s, 5s, 10s, and 100s. Read and write numbers. Read and write number names. Read and write numbers in expanded form.
Use place value understanding and properties of operations to add and subtract	Compare and order numbers. Record comparisons using >, =, or <. Add within 100 fluently. Add up to four 2-digit numbers. Add multi-digit numbers using models or strategies. Subtract multi-digit numbers using models or strategies. Mentally add 10 to and subtract 10 from a given number. Mentally add 100 to and subtract 100 from a given number. Explain why addition and subtraction strategies work.

Measurement and Data

Measure and estimate lengths in standard units.	Measure the length of an object. Select appropriate tools to measure length. Measure an object using 2 different units of length Describe how length measurements relate to the size of the unit. Estimate lengths.

	Measure to determine how much longer on object si than another.
Relate addition and subtraction to length.	Solve number stories involving length by adding or subtracting. Model number stories involving length. Represent whole numbers as lengths from 0 on a number-line diagram. Represent sums and differences on a number-line diagram.
Work with time and money	Tell and write time using analog and digital clocks. Use A.M. and P.M. Solve problems involving coins and bills. Read and write monetary amounts.
Represent and interpret data	Generate measurement data. Represent measurement data on a line plot. Organize and represent data on a bar and picture graphs. Answer questions using information in graphs.

Geometry

Reason with shapes and their attributes	Recognize and draw shapes with specified attributes. Identify 2-and 3-dimensional shapes. Partition a rectangle into rows and columns of same-size squares and count to find the total number of squares. Partition shapes into equal shares. Describe equal shares using fraction words. Describe the whole as a number of shares. Recognize that equal shares of a shape need not have the same shape.

Mathematical Practice

Make sense of problems and persevere in solving them	Make sense of your problem. Reflect on your thinking as you solve your problem. Keep trying when your problem is hard. Check whether your answer makes sense. Solve problems in more than one way. Compare the strategies you and others use.
Reason abstractly and quantitatively	Create mathematical representations using numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects. Make sense of the representations you and others use. Make connections between representations.

The Council of Great City Schools provides information on such topics as: 1) the progression of student learning across grade levels; 2) suggestions for helping your child at home; 3) questions to ask your child's teacher for a better understanding of your child's growth; and 4) parents may find ways to enrich a child's work at home by understanding the learning that will happen in the following year.
Great City Schools Parent Roadmap - 2nd Grade
Great City Schools Parent Roadmap in Spanish - 2nd Grade

Suggestions from *Great City Schools:*
Partnering with Teachers
Don't be afraid to reach out to your child's teacher—you are an important part of your child's education. Ask to see a sample of your child's work or bring a sample with you. Ask the teacher questions like:

- Is my child at the level where he/she should be at this point of the school year?
- Where is my child excelling?
- What do you think is giving my child the most trouble?

- How can I help my child improve in this area?
- What can I do to help my child with upcoming work?

Helping Your Child Learn Outside of School

1. Use everyday objects to allow your child to count and group a collection of objects.
2. Encourage your child to construct numbers in multiple ways. For example, what are some ways that you can make 10? Answers might include 5+5, 6+4, 8+2, etc. Have your child explain his or her thinking.
3. Have your child create story problems to represent addition and subtraction of small numbers. For example, “Ann had eight balloons. Then she gave three away, so she only had five left.”