



P.S. 103
Math in Action
Parent Guide

Grade 1 – Unit 1 Setting Expectations



We are excited to be using a math curriculum that reflects research-based teaching practices and the New York State Next Generation Mathematics Learning Standards (NGMLS). Education is always evolving to prepare our students for a future that will likely be quite different from today. As such, we strive to build a strong foundation in problem solving, conceptual understanding, and procedural fluency. Topics will be taught so that they build on previous understanding and prepare students for future math learning.

In Grade 1, we will focus on four critical content areas:

1. Operations and Algebraic Thinking – Students will:

1. Build a deeper understanding of addition and subtraction within 20
2. Represent and solve problems
3. Understand and apply properties of operations (commutative and associative)
4. Understand the relationship between addition and subtraction
5. Work with addition and subtraction equations

2. Measurement and Data – Students will:

1. Develop an understanding of measurement of time and length
2. Understand measurement by comparison
3. Measure lengths with repeating units
4. Tell and write time to the hour and half-hour (analog and digital)
5. Represent and interpret data

3. Geometry – Students will:

1. Reason with geometric shapes
2. Identify 2-Dimensional (2-D) and 3-Dimensional (3-D) shapes, sometimes called flats and solids
3. Pull apart and put together shapes
4. Describe shapes based on what defines them (e.g. A triangle has 3 sides, 3 corners, and is a closed shape.)

4. Number and Operations in Base Ten – Students will:

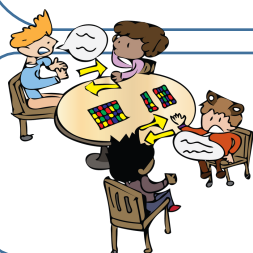
1. Understand that numbers 10 and greater are grouped by tens and ones
2. Extend the counting sequence to 120
3. Understand place value
4. Use place value understanding to add and subtract

First 15 Days of Math Instruction:

- Establish norms for a positive learning environment
- Identify, describe, and reason with 2-D and 3-D shapes
- Collect data and organize into categories
- Introduce number routines and expectations for transitions

Math Assessments:

- **Baseline** – 1st week of October
- **Middle of the Year Benchmark** – 1st week of February
- **End of the Year Benchmark** – 1st week of June
- **End of Unit Assessments** – end of each unit
- **Quizzes and Exit Tickets** – used throughout the year



Math Websites for Families:

<https://www.k5learning.com/>
<https://learnzillion.com/p/>
<https://www.khanacademy.org/signup?isparent=1>
<https://illuminations.nctm.org/Default.aspx>



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Math Norms

As a school, we have taken on building and supporting a positive attitude towards mathematics learning. We have adapted our own set of 'Math Norms' based on the research of Jo Boaler*.



Here are the norms your child will be expected to follow in math class this year:



- 1) Listen to and Ask questions of teachers and peers:
Does that make sense?
- 2) Keep trying
- 3) Share ideas
- 4) Respect others' ideas
- 5) Agree and Disagree on the math, not the person



What to Expect in Math Class:

Number Routines:

Number Routines are teacher-facilitated, student-centered techniques for building math thinking and the use of precise math vocabulary. They encourage students to value the thinking of others, so that they can build a better understanding of, and expand on, their own thinking. Number routines support students in developing their mental math skills, in gaining greater fluency in finding patterns, and in using those patterns to make connections and deepen understanding of concepts. Calendar routines (tracking days in a month, months in a year, as well as counting the number of days of school) are also used to investigate and reinforce our work with patterns.

Partner/Group Work:

Students will work a lot with partners and groups throughout the year. Students will be developing skills in effectively communicating their mathematical thinking to others and building on the thinking of others. They will also have opportunities to defend their ideas and critique the reasoning of others.

Math Journals/Notebooks:

Students will write notes to develop their understanding of concepts, and extend that understanding with multiple representations and precise mathematical vocabulary. Notes are also used for small group and independent review and study.



Centers/Games:

As students learn to cooperatively work with their peers, they engage in student-led centers and games that allow them to reinforce skills previously learned. Mathematics takes time to internalize and really understand, so we have dedicated time for centers to provide students fun and intellectually engaging work that corresponds to the concepts they need to practice.

Problem of the Week:

Meaningful problem solving takes time and requires consistent practice. Our 'Problem of the Week' has been structured to give students time to 'comprehend' the context of the story before they try to 'do' anything with the numbers. Each Friday they are given an assessment problem similar to what they have seen throughout the week. This structure starts in Unit 3 for first grade.