



Newburyport Math Curriculum Framework Guide

Grade 2 Focus Areas

In grade 2, the focus of student learning is on four areas:

1. Extending understanding of base-ten notation
2. Building fluency with addition and subtraction
3. Using standard units of measure
4. Describing and analyzing shapes.

Mathematical Practice Standards

These 8 practice standards describe ways in which students do or approach math. They are the foundation for mathematical thinking and help to develop a more advanced understanding. These standards are the habits & strategies mathematically proficient students have and can be applied in everyday life.

1. Makes sense of problems and persevere in solving them.
2. Reasons abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

Grade 2 Overview

Operations & Algebraic Thinking

- Represent and solve problems involving addition and subtraction.
- Add and subtract within 20.
- Work with equal groups of objects to gain foundations for multiplication.

Number & Operations in Base Ten

- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

Measurement & Data

- Measure lengths indirectly and by iterating length units.
- Relate addition and subtraction to length.
- Work with time and money.
- Represent and interpret data.

Geometry

- Reason with shapes and their attributes.

Operations & Algebraic Thinking

Represent and solve problems involving addition and subtraction.

- Use addition and subtraction within 100 to solve one- and two-step word problems.

Add and subtract within 20.

- Fluently add and subtract within 20 using mental strategies (counting on, making tens, decomposing numbers, etc.)
- Know all sums of two single-digit numbers and related differences from memory.

Work with equal groups of objects to gain foundations for multiplication.

- Determine whether a group of objects (up to 20) has an odd or even number of members by pairing objects or counting by 2s; write an equation to show that an even number is the sum of two equal addends.
- Use addition to find the total number of objects arranged in rectangular arrays with up to five rows and five columns; write an equation to express the total as a sum of equal addends.

Number & Operations in Base Ten

Understand place value.

- Understand that the three digits of a three digit number represent amounts of hundreds, tens, and ones.
- Count within 1,000; skip count by 5s, 10s, and 100s.
- Identify patterns in skip counting starting at any number.
- Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.
- Compare two three-digit numbers using $>$, $<$, and $=$ symbols.

Use place value understanding and properties of operations to add and subtract.

- Using strategies based on place value, properties of operations, and/or relationship between addition and subtraction students will be able to:
 - Fluently add and subtract within 100.
 - Add up to four two-digit numbers.
 - Add and subtract within 1,000
- Mentally add and subtract 10 or 100 to/from a given number (100-900)
- Explain why addition and subtraction strategies work, using place value and the properties of operations.

Measurement & Data

Measure lengths indirectly and by iterating length units.

- Measure the length of an object by selecting and using appropriate tools (yardstick, ruler, etc.)
- Estimate lengths using units of inches, feet, centimeters, and meters.
- Compare length of two or more objects

Relate addition and subtraction to length.

- Use addition and subtraction with 100 to solve word problems that involve lengths in the same unit.
- Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points.

Work with time and money.

- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies (up to \$10), using \$ and ¢ symbols.

Represent and interpret data.

- Generate measurement data by measuring lengths of several objects to the nearest whole unit. Organize and record the data on a line plot.
- Draw a picture graph and bar graph to represent a data set with up to four categories. Solve questions using information presented in a bar graph.

Geometry

Reason with shapes and their attributes.

- Recognize and draw shapes having specified attributes.
- Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
- Partition circles and rectangles into two, three, or four equal shares, describe shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three thirds, four fourths.
- Recognize that equal shares of identical wholes need not have the same shape.