

Mathematics (3-5)

Five Town Graduation Standards and Essential Outcomes

Mathematics Graduation Standard 1

NUMBER AND QUANTITY: Reason and model quantitatively, using units and number systems to solve problems.

Common Core State Standards – Key

G - Geometry

MD - Measurement & Data

NBT - Number & Operations in Base 10

NF - Number & Operations - Fractions

OA - Operations & Algebraic Thinking

3rd Essential Outcomes

- A. Read, write and recognize, in numerals and words, the place values of numbers up to 10,000. (NBT.2)
- B. Round to 100s place. (NBT.2)
- C. Use procedures to add whole numbers with up to 4 digits. (NBT.2)
- D. Use procedures to subtract whole numbers with up to 4 digits. (NBT.2)
- E. Read and write 2 digit decimals. (NBT.3)
- F. Read, write, illustrate, and compare simple fractions (denominators of 2, 3, 4, 6, 8). (NF.3.d)
- G. Recognize and generate simple equivalent fractions. (NF.3d.)
- H. Know multiplication facts through 10X10 fluently. (OA.7)

4th Essential Outcomes

- A. Read, write and use, in numerals and words, place value to 1,000,000. (NBT.2)
- B. Compare and order numbers using $<$, $>$ and $=$. (NBT.2)
- C. Round to 1,000,000s place. (NBT.3)
- D. Use standard algorithm to add whole numbers fluently. (NBT.4)
- E. Use standard algorithm to subtract whole numbers fluently. (NBT.4)
- F. Use procedures to multiply 2 digit numbers by 2 digit numbers and 1 digit by up to 4 digit whole numbers. (NBT.5)
- G. Use procedures to divide by a 1 digit divisor with up to 4 digits in the dividend. (NBT.6)
- H. Read, write, and illustrate simple fractions (denominators of 2, 3, 4, 5, 6, 8, 10, 12, 100). (Local)

5th Essential Outcomes

- A. Read, write and use, in numerals and in words, decimals to the 1,000ths place (NBT.1)
- B. Compare and order decimals up to the 1,000ths using $<$, $>$ and $=$. (NBT.3.b)
- C. Round decimals up to the 1,000ths. (NBT.4)
- D. Use the standard algorithm to multiply multi-digit whole numbers fluently. (NBT.5)
- E. Use the standard algorithm to divide whole numbers by 2 digit divisor. (NBT.6)
- F. Add decimals up to the 100ths. (NBT.7)
- G. Subtract decimals up to the 100ths. (NBT.7)
- H. Multiply decimals up to the 100ths. (NBT.7)
- I. Divide decimals up to the 100ths. (NBT.7)

- I. Compare simple fractions with like denominators. (NF.2)
- J. Compare simple fractions with unlike denominators. (NF.2)
- K. Write equivalent fractions ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$). (NF.1)
- L. Combine (+/-) simple fractions with like denominators. (NF.3.a, 3.b)
- M. Multiply a simple fraction by a whole number. (NF.4)
- N. Write equivalent decimals and fractions ($\frac{1}{10}$, $\frac{1}{100}$). (NF.5, 6)
- O. Demonstrate an understanding of and use the concepts of factors and multiples. (OA.4)
- P. Know the related division facts for multiplication facts through 10X10 fluently. (Local)
- Q. Know the multiplication facts through 12X12 fluently. (Local)
- R. Identify prime and composite numbers. (OA.4)
- J. Add and subtract fractions and mixed numbers with unlike denominators. (NF.1)
- K. Multiply fractions. (NF.4)
- L. Divide whole numbers by fractions. (NF.3)
- M. Understand and apply the concepts of prime and composite numbers. (Local)

Mathematics Graduation Standard 2

ALGEBRA: Interpret, represent, create, and solve algebraic expressions.

3rd Essential Outcomes

- A. Find the unknown in equations or open sentences in the context of numbers and operations. (OA.4)
- B. Identify and extend a variety of arithmetic patterns. (OA.9)

4th Essential Outcomes

- A. Create and solve equations with one variable. (OA.2)
- B. Create and evaluate a number or shape pattern following a given rule. (OA.5)

5th Essential Outcomes

- A. Use parentheses and brackets and implement the order of operations. (OA.1)
- B. Solve simple algebraic equations with one or more variables. (OA.2)
- C. Use numerical rules and patterns to form

ordered pairs. Graph the ordered pairs on a coordinate plane. (OA.3)

FUNCTIONS: Interpret, analyze, construct, and solve linear, quadratic, and trigonometric functions.

N/A

N/A

N/A

GEOMETRY: Prove, understand, and model geometric concepts, theorems, and constructions to solve problems.

- A. Use properties of angles or sides to distinguish among triangles, squares, rectangles, rhombi, trapezoids, hexagons, and circles. (G.1)
- B. Identify edges, vertices, and right angles in 2-D shapes. (G.1)
- C. Know the difference between area and perimeter and find it using appropriate units. (MD.8)

- A. Draw and identify lines, rays, points, line segments, and angles. (G.1)
- B. Classify 2-D figures based on their properties. (G.2)
- C. Recognize congruent figures and line symmetry. (G.3)
- D. Measure and draw an angle to the nearest degree. (MD.6)
- E. Demonstrate an understanding of perimeter and area of squares and rectangles using

- A. Identify and graph ordered pairs of numbers (coordinate graphs). (G.2)
- B. Categorize 2-D figures based on properties. (G.4)
- C. Measure and identify angles (obtuse, right, and acute). (MD.1)
- D. Find the volume of a rectangular prism using formulas. (MD.5)
- E. Calculate perimeter and area of 2-D polygons using formulas. (MD.6)

appropriate units. (MD.3)

STATISTICS AND PROBABILITY: Interpret, infer and apply statistics and probability to analyze data and reach and justify conclusions.

- A. Read and interpret pictographs and bar graphs, lists, and tables. (MD.3)
- B. Construct pictographs and bar graphs, lists, and tables. (MD.3)
- C. Tell time to 1 minute intervals, including elapsed time. (MD.1)
- D. Measure to the nearest $\frac{1}{2}$ inch. (MD.4)
- E. Measure volume to nearest whole quart or liter. (MD.2)
- F. Measure mass to nearest kilogram, gram, or pound. (MD.2)
- G. Solve money problems, read and write decimal notation correctly. (Local)

- A. Read, construct and interpret tables, line plots involving fractions, and bar graphs. (MD.4)
- B. Measure to the nearest $\frac{1}{4}$ inch and nearest $\frac{1}{2}$ centimeter. (Local)
- C. Know relative sizes of customary and metric units (km and m, mi and ft, kg and g, lb and oz, L and mL). (MD.1)

- A. Read, construct and interpret circle graphs and line graphs. (Local)
- B. Convert measurements within the same system of measurement. (MD.2)