ANDOVER PUBLIC SCHOOLS

4th Grade Math Concepts by Quarter

This serves as a general sequence of math concepts for the school year. The concepts within a quarter are grouped by domain and may not be listed in the order they are taught. There may be slight variability across the district in order to meet specific needs of students.

1st Quarter

Operations and Algebraic Thinking
- Interpret a multiplication equation as a comparison
- Multiply or divide to solve word problems involving multiplicative comparisons

Numbers in Base Ten
- General place value understanding
- Read and write multi-digit whole numbers in multiple forms
- Round numbers
- Fluently adding and subtracting multi-digit whole numbers

Geometry
- Draw and identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

2nd Quarter

Operations and Algebraic Thinking
- Use 4 operations (addition, subtraction, multiplication, division) to solve multi-step word problems
- Understand factors and multiples (within 1-100)
- Generate patterns that follow a rule (numbers or shapes)

Numbers in Base Ten
- Multiply whole numbers (4 digit multiplied by 1 digit or two digit multiplied by two digit) using place value strategies
- Divide whole numbers (up to four digit divided by 1 digit) with remainders, using place value strategies

Geometry
- Classify two-dimensional figures based on lines and angles; recognize and classify triangles based on angles and sides
- Recognize and draw lines of symmetry; identify line-symmetric figures

3rd Quarter

Operations and Algebraic Thinking
- Use 4 operations (addition, subtraction, multiplication, division) to solve multi-step word problems

Numbers and Operations - Fractions
- Understand, recognize, and generate equivalent fractions
- Compare fractions with different numerators and denominators; understand comparison must be looking at the same whole; use relational symbols (>, <, =)
- Understand joining and separating parts of a whole as adding/subtracting fractions
- Decompose fractions and justify answers
- Add and subtract mixed numbers with the same denominators
- Solve addition and subtraction word problems involving fractions of the same whole with the same denominator

Measurement and Data
- Know relative sizes of measurement units within one system of measurement (km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec)
- Use the four operations (addition, subtraction, multiplication, division) to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals
- Find area and perimeter of rectangles
- Create various graphs to show data of measurements using fractions of a unit; solve addition and subtraction problems using the data

4th Quarter

Operations and Algebraic Thinking
- Use 4 operations (addition, subtraction, multiplication, division) to solve multi-step word problems

Numbers and Operations - Fractions
- Multiply fractions by a whole number
- Understand fractions as multiples of smaller fractions
- Use understanding of multiples of fractions to multiply fractions by a whole number
- Solve word problems including multiplication of a fraction by a whole number
- Understand equivalent fractions with tenths and hundredths
- Use decimal notation for fractions with denominators of 10 and 100
- Compare decimals to the hundredths place by reasoning about size

Measurement and Data
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- Use the four operations (addition, subtraction, multiplication, division) to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals

Geometry
- Draw and identify points, lines, line segments, rays, angles, and perpendicular and parallel lines
- Classify two-dimensional figures based on lines and angles; recognize and classify triangles based on angles and sides
- Recognize and draw lines of symmetry; identify line-symmetric figures

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