Minnesota Mathematics

Grade 3

Adopted 2008

Number & Operation

1. **Compare and represent whole numbers up to 100,000 with an emphasis on place value and equality.** 3.1.1
    1. Read, write and represent whole numbers up to 100,000. Representations may include numerals, expressions with operations, words, pictures, number lines, and manipulatives such as bundles of sticks and base 10 blocks. 3.1.1.1
    2. Use place value to describe whole numbers between 1000 and 100,000 in terms of ten thousands, thousands, hundreds, tens and ones. 3.1.1.2
    3. Find 10,000 more or 10,000 less than a given five-digit number. Find 1000 more or 1000 less than a given four- or five-digit. Find 100 more or 100 less than a given four- or five-digit number. 3.1.1.3
    4. Round numbers to the nearest 10,000, 1000, 100 and 10. Round up and round down to estimate sums and differences. 3.1.1.4
    5. Compare and order whole numbers up to 100,000. 3.1.1.5

2. **Add and subtract multi-digit whole numbers; represent multiplication and division in various ways; solve real-world and mathematical problems using arithmetic.** 3.1.2
    1. Add and subtract multi-digit numbers, using efficient and generalizable procedures based on knowledge of place value, including standard algorithms. 3.1.2.1
    2. Use addition and subtraction to solve real-world and mathematical problems involving whole numbers. Use various strategies, including the relationship between addition and subtraction, the use of technology, and the context of the problem to assess the reasonableness of results. 3.1.2.2
    3. Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division. 3.1.2.3
    4. Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems. 3.1.2.4

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5. Use strategies and algorithms based on knowledge of place value, equality and properties of addition and multiplication to multiply a two- or three-digit number by a one-digit number. Strategies may include mental strategies, partial products, the standard algorithm, and the commutative, associative, and distributive properties. 3.1.2.5

3. **Understand meanings and uses of fractions in real-world and mathematical situations.** 3.1.3

    1. Read and write fractions with words and symbols. Recognize that fractions can be used to represent parts of a whole, parts of a set, points on a number line, or distances on a number line. 3.1.3.1
    2. Understand that the size of a fractional part is relative to the size of the whole. 3.1.3.2
    3. Order and compare unit fractions and fractions with like denominators by using models and an understanding of the concept of numerator and denominator. 3.1.3.3

Algebra

1. **Use single-operation input-output rules to represent patterns and relationships and to solve real-world and mathematical problems.** 3.2.1

    1. Create, describe, and apply single-operation input-output rules involving addition, subtraction and multiplication to solve problems in various contexts. 3.2.1.1

2. **Use number sentences involving multiplication and division basic facts and unknowns to represent and solve real-world and mathematical problems; create real-world situations corresponding to number sentences.** 3.2.2

    1. Understand how to interpret number sentences involving multiplication and division basic facts and unknowns. Create real-world situations to represent number sentences. 3.2.2.1
    2. Use multiplication and division basic facts to represent a given problem situation using a number sentence. Use number sense and multiplication and division basic facts to find values for the unknowns that make the number sentences true. 3.2.2.2

Geometry & Measurement

1. **Use geometric attributes to describe and create shapes in various contexts.** 3.3.1

    1. Identify parallel and perpendicular lines in various contexts, and use them to describe and create geometric shapes, such as right triangles, rectangles, parallelograms and trapezoids. 3.3.1.1
    2. Sketch polygons with a given number of sides or vertices (corners), such as pentagons, hexagons and octagons. 3.3.1.2

2. **Understand perimeter as a measurable attribute of real-world and mathematical objects. Use various tools to measure distances.** 3.3.2

    1. Use half units when measuring distances. 3.3.2.1
    2. Find the perimeter of a polygon by adding the lengths of the sides. 3.3.2.2

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3. Measure distances around objects. 3.3.2.3

3. Use time, money and temperature to solve real-world and mathematical problems. 3.3.3

1. Tell time to the minute, using digital and analog clocks. Determine elapsed time to the minute. 3.3.3.1
2. Know relationships among units of time. 3.3.3.2
3. Make change up to one dollar in several different ways, including with as few coins as possible. 3.3.3.3
4. Use an analog thermometer to determine temperature to the nearest degree in Fahrenheit and Celsius. 3.3.3.4

Data Analysis

1. Collect, organize, display, and interpret data. Use labels and a variety of scales and units in displays. 3.4.1

1. Collect, display and interpret data using frequency tables, bar graphs, picture graphs and number line plots having a variety of scales. Use appropriate titles, labels and units. 3.4.1.1