

**IKM-Manning Curriculum**  
**Mathematics Standards / Benchmarks / Indicators**  
**January 2004**

**Standards:**

The students will demonstrate understanding of number and operations

The students will demonstrate understanding of algebra

The students will demonstrate understanding of geometry and measurement

The students will demonstrate understanding of data analysis and probability

**Course Benchmarks:**

6.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems

6.1.2 Compute with positive rational numbers (whole numbers, fractions, decimals)

6.1.3 Understand and apply estimation strategies

6.1.4 Apply appropriate computational techniques in a problem solving situation

6.2.1 Write, solve, and evaluate simple algebraic expressions

6.2.2 Represent and generalize patterns

6.2.3 Apply concepts of algebra in a problem solving situation

6.3.1 Understands characteristics and properties of plane and spatial shapes

6.3.2 Demonstrate appropriate techniques, tools, and formulas to determine measurements

6.3.3 Apply the concepts of geometry and measurement in a problem solving situation

6.4.1 Apply basic statistical concepts

6.4.2 Apply basic probability concepts

6.4.3 Apply concepts of data analysis and probability in a problem solving situation

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**6th Grade**

**6.1 Numbers and Operations**

*6.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems*

6.1.1.A Compare and order rational numbers

6.1.1.B Use and interpret ratios (a/b, a to b, a:b) in different contexts

6.1.1.C Use proportions to solve problems (find the length of a side of a polygon similar to a known polygon)

6.1.1.D Determine the prime factors

*6.1.2 Compute with positive rational numbers (whole numbers, fractions, decimals)*

6.1.2.A Understand the process of multiplication and division of fractions

6.1.2.B Solve problems involving addition, subtraction, multiplication and division of fractions

6.1.2.C Determine the least common multiple and greatest common factor when solving problems with fractions

6.1.2.D Calculate given percentages of quantities and solve problems with percentages (discounts at sales, construct circle graphs with data)

*6.1.3 Understand and apply estimation strategies*

**6.1.3.A Uses estimation strategies to approximate area, square roots, and sums**

*6.1.4 Apply appropriate computational techniques in a problem solving situation*

6.1.4.A Solve and evaluate problems using correct order of operations

6.1.4.B Select and use appropriate method for computing from among mental arithmetic, paper and pencil, calculator, computer methods

6.1.4.C Identify commutative, associative, distributive, and identity properties

**6.2 Algebra**

*6.2.1 Write, solve, and evaluate simple algebraic expressions*

6.2.1.A Write and solve one-step linear equations

*6.2.2 Represent and generalize patterns*

6.2.2.A Write a proportion with a variable

6.2.2.B Solves one-step whole number equations using all four operations

6.2.2.C Identifies simple patterns using variables

6.2.2.D Identifies key words for algebraic expressions (i.e. product, quotient, sum, difference, etc.)

*6.2.3 Apply concepts of algebra in a problem solving situation*

6.2.3.A Use cross products to solve proportions

**6.3 Geometry and Measurement**

*6.3.1 Understands characteristics and properties of plane and spatial shapes*

6.3.1.A Draw quadrilaterals and triangles given specific information

6.3.1.B Uses geomtric methods to complete basic geometric constructions (perpendicular and angular bisector)

6.3.1.C Understands geometric transformations of figures ( rotations, slides, flips, and tesselations)

*6.3.2 Demonstrate appropriate techniques, tools, and formulas to determine measurements*

6.3.2.A Convert from one unit of measurement to another (feet to miles, meters to centimeters)

6.3.2.B Demonstrate understanding of rate (unit cost, interest, mph)

*6.3.3 Apply the concepts of geometry and measurement in a problem solving situation*

6.3.3.A Apply the formula for perimeter, area, volume, circumference to solve problems

## **6.4 Data Analysis and Probability**

### *6.4.1 Apply basic statistical concepts*

6.4.1.A Understand and compare range, mean, median and mode of data sets

6.4.1.B Use outliers to analyze data sets

### *6.4.2 Apply basic probability concepts*

**6.4.2.A Uses strategies to determine the probability of various outcomes**

### *6.4.3 Apply concepts of data analysis and probability in a problem solving situation*

**6.4.3.A Analyzes data and uses probability to solve problems**

\*Coding for Infusion Topics covered in curriculum:

Higher Order Thinking Skills (H), Vocational/Career Education (V), Global Education (G), Multi-Cultural/Gender Fair (MCGF), Learning Skills (L), Communication Skills (C), Technology (T)