

Grand Island Public Schools **6th GRADE MATHEMATICS**

As a result of their participation in this course, students will:

Strand 1: Communicating Mathematical Thinking

- Build new mathematical knowledge through problem solving. (Problem Solving).
- Apply and adapt a variety of appropriate strategies to solve problems. (Problem Solving)
- Recognize and use connections among mathematical ideas and/or apply in contexts outside of mathematics. (Connections)
- Investigate, develop, and evaluate mathematical arguments and proofs. (Reasoning and Proof)
- Select, apply, and move fluently among mathematical representations to solve problems. (Representation)

Strand 2: Number and Operations

- Find factors or multiples using a variety of methods.
- Recognize equivalency of and work flexibly with fractions, decimals, and percents.
- Identify prime, composite, square, even or odd and square nonsquare numbers to 100.
- Perform all operations with fractions and mixed numbers without technology.
- Identify the appropriate operation and correctly calculate when solving problems involving fractions, mixed numbers, and decimals with or without technology.
- Use strategies of estimation when solving problems involving fractions, mixed numbers, and decimals.
- Use percents to find unknown quantities.

Strand 3: Algebraic Concepts

- Identify and find the prime factorization of a whole number (with and without exponent).
- Locate rational numbers on a number line.

Strand 4: Geometry, Spatial Concepts, and Measurement

- Apply the patterns relating the number of sides to the angle sum to find the measure of an unknown interior angle of a triangle or quadrilateral.
- Identify and describe the type of geometric figure that can be determined given the lengths of its sides.
- Determine shapes that tile and create a tiling.
- Know the concepts of linear measure (perimeter) and square measure (area) and recognize situations in which each apply.
- Draw an angle with a given measure less than 180.
- Apply appropriate formulas or procedures to determine the area of triangles and the area and perimeter of parallelograms.
- Estimate the area and circumference of a circle.

Strand 5: Data Analysis, Probability, and Statistics

- Organize and display data in an appropriate format (line plots, stem-and-leaf plots, and back-to-back stem-and leaf plot).
- Given data in various formats find measures of central tendency.
- Select and use appropriate measures of central tendency to describe data.
- Analyze data using line plots, stem-and-leaf plots, and back-to-back stem-and-leaf plots to make predictions.