MATH - GRADE 6
CURRICULUM MAP

INSTRUCTIONAL TIME PERIOD	SKILLS/OUTCOMES	ASSESSMENT
Unit 1	***Ratios and Proportional Reasoning*** **The students will be able to:** ● Understand the concept of a ratio as a way of expressing relationships between quantities ● Write a ratio to describe the relationship between two quantities ● Write a ratio using different formats ● Use a table to find, compare, and reason about equivalent ratios ● Find missing values in ratio tables ● Plot pairs of values from a ratio table on a coordinate plane **Standards:** **Ratios and Proportional Relationships:** M.6.RP.A.1, M.6.RP.A.2, M.6.RP.A.3	● Think/Pair/ Share ● Daily practice ● Lesson and Unit assessments ● i-Ready Pathway lessons ● Formative assessments ● Practice worksheets ● Group activities ● Partner activities ● Quizzes ● Preteaching/reteaching
Unit 2	***The Number System*** **The students will be able to:** ● Understand the meaning of division ● Use a model to show division of fractions ● Use multiplication of fractions to explain division of fractions ● Solve word problems using division of fractions ● Write equations and story problems that use division of fractions ● Write, interpret and explain statements about the order of rational numbers ● Understand absolute value as a distance from zero on a number line ● Identify the origin and four quadrants of the coordinate plane ● Plot ordered pairs in all four quadrants of the coordinate plane ● Use coordinates and absolute values to find distances between points **Standards:**	● Think/Pair/ Share ● Daily practice ● Lesson and Unit assessments ● i-Ready Pathway lessons ● Formative assessments ● Practice worksheets ● Group activities ● Partner activities ● Quizzes ● Preteaching/reteaching

	The Number System: M.6.NS.A.1, M.6.NS.B.2, M.6.NS.B.3, M.6.NS.B.4, M.6.NS.C.5, M.6.NS.C.6, M.6.NS.C.7, M.6.NS.C.8	
Unit 3	***Expressions and Equations*** **The students will be able to:** ● Use models to write and solve equations ● Use substitution to determine whether a given number makes an equation true ● Recognize that real-world problems can be expressed using a variable to represent an unknown ● Recognize that both sides of an equation are equal ● Write and solve equations that use variables and positive numbers ● Write an inequality that represents a real world situation ● Recognize that a variable in an inequality can stand for an infinite number of solutions ● Use substitution for determine when a given number makes an inequality true ● Represent inequalities on a number line **Standards:** **Expressions and Equations:** M.6.EE.A.1, M.6.EE.A.2, M.6.EE.A.3, M.6.EE.A.4, M.6.EE.B.5, M.6.EE.B.6, M.6.EE.B.7, M.6.EE.B.8, M.6.EE.C.9	● Think/Pair/ Share ● Daily practice ● Lesson and Unit assessments ● i-Ready Pathway lessons ● Formative assessments ● Practice worksheets ● Group activities ● Partner activities ● Quizzes ● Preteaching/reteaching
Unit 4	***Geometry*** **The students will be able to:** ● Identify squares, rhombi, trapezoids, parallelograms, rectangles, and kites ● Relate the area of triangles to the area of parallelograms ● Identify the relationship between bases and heights in polygons ● Break apart polygons into rectangles and triangles to find the total area ● Use the formulas $V = lwh$ and $V = Bh$ to find the volume of a rectangular prism **Standards:** **Geometry:** M.6.G.A.1, M.6.G.A.2, M.6.G.A.3, M.6.G.A.4	● Think/Pair/ Share ● Daily practice ● Lesson and Unit assessments ● i-Ready Pathway lessons ● Formative assessments ● Practice worksheets ● Group activities ● Partner activities ● Quizzes ● Preteaching/reteaching
Unit 5	***Statistics and Probability*** **The students will be able to:**	● Think/Pair/ Share ● Daily practice

	• Identify and construct a statistical question • Create models that represent data using bar graphs, box and whisker plots and line plots • Find the mean, median, mode, range and outliers of a data set • Graph numerical data with dot plots, histograms and box plots **Standards:** **Statistics and Probability:** M.6.SP.A.1, M.6.SP.A.2, M.6.SP.A.3, M.6.SP.B.4, M.6.SP.B.5	• Lesson and Unit assessments • i-Ready Pathway lessons • Formative assessments • Practice worksheets • Group activities • Partner activities • Quizzes • Preteaching/retea ching

Revised: February 2023

Wisconsin Academic Standards for Math in Sixth Grade- Essential Standards are in RED

Expressions and Equations

M.6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.

M.6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers. a. Write expressions that record operations with numbers and with letters standing for numbers. b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

M.6.EE.A.3 Apply the properties of operations to generate equivalent expressions.

M.6.EE.A.4 Identify when two expressions are equivalent (e.g., when the two expressions name the same number regardless of which value is substituted into them).

M.6.EE.B.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

M.6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

M.6.EE.B.7 Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.

M.6.EE.B.8 Write an inequality of the form x > c or x < c to represent a constraint or condition in a realworld or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

M.6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.

The Number System

M.6.NS.A.1 Interpret, represent and compute division of fractions by fractions; and solve word problems by using visual fraction models (e.g., tape diagrams, area models, or number lines), equations, and the relationship between multiplication and division. For example, create a story context for (2/3) ÷ (3/4) such as “How many 3/4 -cup servings are in 2/3 of a cup of yogurt” or “How wide is a rectangular strip of land with length 3/4 mile and area 2/3 square mile?” Explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3.

M.6.NS.B.2 Flexibly and efficiently divide multi-digit whole numbers using strategies or algorithms based on place value, area models, and the properties of operations.

M.6.NS.B.3 Flexibly and efficiently add, subtract, multiply, and divide multi-digit decimals using strategies or algorithms based on place value, visual models, the relationship between operations and the properties of operations.

M.6.NS.B.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

M.6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

M.6.NS.C.6 Understand a rational number as a point on the number line. Extend number lines and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., -(-3) = 3, and that 0 is its own opposite. b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. c. Find and position integers and other rational numbers on a horizontal or vertical number line; find and position pairs of integers and other rational numbers on a coordinate plane.

M.6.NS.C.7 Understand ordering and absolute value of rational numbers. a. Interpret statements of inequality as statements about the relative position of two numbers on a number line. b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. c.

Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. d. Distinguish comparisons of absolute value from statements about order.

M.6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

RATIOS AND PROPORTIONAL RELATIONSHIPS

M.6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.

M.6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.

M.6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number lines, or equations. a. Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. b. Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed? c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

Statistics and Probability

M.6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.

M.6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

M.6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number

M.6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

M.6.SP.B.5 Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered and the quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation) were given. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Geometry

M.6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

M.6.G.A.2 Find volumes of right rectangular prisms with fractional edge lengths by using physical or virtual unit cubes. Develop (construct) and apply the formulas V = l w h and V = B h to find volumes of right rectangular prisms in the context of solving real-world and mathematical problems.

M.6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

M.6.G.A.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.