

School District of Loyal
Math
Grade: 6
Student Learning Targets



Class: Math 6

Students who demonstrate understanding can:

WI State Standard	Standard Description:	Student Learning Targets:
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.	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Divide fractions by fractions. • Use models (number lines, area models, or tape diagrams) to show how fraction division works. • Solve real-world word problems that involve dividing fractions. • Explain why dividing by a fraction is the same as multiplying by its reciprocal.
M.6.RP.A.1	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Define a ratio. • Identify the two quantities being compared in a ratio. • Explain what the numbers in a ratio represent. • Write a ratio comparing two quantities in multiple forms (a:b, a to b, a/b). • Describe a ratio relationship using “for every” language. • Represent a ratio relationship using words, numbers, and models (tables, diagrams, or tape diagrams). • Explain what a ratio means in context. • Determine whether two quantities form a meaningful ratio relationship. • Interpret a ratio statement and describe what it tells us about the quantities.
M.6.RP.A.2	Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. Expectations for unit rates in this grade are limited to non-complex fractions.	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Define a unit rate. • Explain the difference between a ratio and a unit rate. • Explain why the denominator in a unit rate cannot be zero.

		<ul style="list-style-type: none"> ● Identify when a ratio represents a rate. ● Write a ratio in the form $a:b$ and as a fraction $\frac{a}{b}$. ● Find a unit rate by dividing $a \div b$ (when $b \neq 0$). ● Express a unit rate using “per 1” language. ● Convert a ratio into a unit rate in context. ● Write rates using proper units. ● Explain what a unit rate means in a real-world situation. ● Determine whether a situation describes a ratio or a rate. ● Justify how I calculated a unit rate. ● Interpret a unit rate and explain what it tells us about the relationship between quantities
M.6.RP.A.3	<p>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. c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $\frac{30}{100}$ 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.</p>	<p>Students will be able to”</p> <ul style="list-style-type: none"> ● Explain what makes two ratios equivalent. ● Describe the relationship shown in a ratio table. ● Create a table of equivalent ratios using whole numbers. ● Find missing values in a ratio table. ● Plot ordered pairs from a ratio table on a coordinate plane. ● Use tables and graphs to compare two ratio relationships. ● Explain how I know two ratios are equivalent. ● Determine which of two ratios represents a greater relationship using tables or graphs. ● Interpret points on a graph in context.
M.6.EE.A.2	<p>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. For example, express the calculation "Subtract y from 5" as $5 - y$.</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> ● Write algebraic expressions using numbers and letters. ● Read and understand expressions with variables. ● Write expressions to represent real-world situations. ● Explain what a variable represents in an expression.
M.6.EE.A.2	<p>Write, read, and evaluate expressions in which letters stand for numbers.</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> ● Evaluate algebraic expressions by replacing variables with numbers.

	<p>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). For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.</p>	<ul style="list-style-type: none"> ● Use formulas to solve real-world problems. ● Follow the order of operations when evaluating expressions. ● Work with exponents when evaluating expressions.
M.6.EE.A.3	<p>Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> ● Use the properties of operations to rewrite expressions in different but equal ways. ● Use the distributive property to expand expressions. ● Factor expressions using the distributive property. ● Combine like terms to make expressions simpler.
M.6.EE.B.6	<p>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.</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> ● Use variables to stand for numbers. ● Write expressions to represent real-world and math problems. ● Explain what a variable means in a given situation. ● Tell when a variable represents one unknown value or many possible values.
M.6.G.A.1	<p>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.</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> ● Find the area of triangles. ● Find the area of quadrilaterals and other polygons. ● Break shapes apart or put shapes together to help find an area. ● Use these strategies to solve real-world and math problems.
M.6.SP.B.3	<p>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.</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> ● Explain what a measure of center tells about a data set. ● Explain what a measure of variation tells about a data set. ● Describe a data set using one number for center and one number for spread. ● Explain how measures of center and variation help summarize data.
M.6.SP.B.5	<p>Summarize numerical data sets in relation to their context, such as by: a. Reporting</p>	<p>Students will be able to:</p>

	<p>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.</p>	<ul style="list-style-type: none">● Tell how many data values are in a data set.● Describe what is being measured and the units used.● Describe the overall pattern of the data and point out any unusual values.● Use the mean or median to describe the center of the data.● Use measures like interquartile range or mean absolute deviation to describe how spread out the data are.● Explain why certain measures of center and spread make sense for the data and its shape.
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