Standards	Explanations and Examples
Students are expected to:	**The Standards for Mathematical Practice describe ways in which students ought to engage with the subject matter as they grow in mathematical maturity and expertise.**
6.MP.1. Make sense of problems and persevere in solving them.	In grade 6, students solve problems involving ratios and rates and discuss how they solved them. Students solve real world problems through the application of algebraic and geometric concepts. Students seek the meaning of a problem and look for efficient ways to represent and solve it. They may check their thinking by asking themselves, "What is the most efficient way to solve the problem?", "Does this make sense?", and "Can I solve the problem in a different way?"
6.MP.2. Reason abstractly and quantitatively.	In grade 6, students represent a wide variety of real world contexts through the use of real numbers and variables in mathematical expressions, equations, and inequalities. Students contextualize to understand the meaning of the number or variable as related to the problem and decontextualize to manipulate symbolic representations by applying properties of operations.
6.MP.3. Construct viable arguments and critique the reasoning of others.	In grade 6, students construct arguments using verbal or written explanations accompanied by expressions, equations, inequalities, models, and graphs, tables, and other data displays (i.e. box plots, dot plots, histograms, etc.). They further refine their mathematical communication skills through mathematical discussions in which they critically evaluate their own thinking and the thinking of other students. They pose questions like "How did you get that?", "Why is that true?" "Does that always work?" They explain their thinking to others and respond to others' thinking.
6.MP.4. Model with mathematics.	In grade 6, students model problem situations symbolically, graphically, tabularly, and contextually. Students form expressions, equations, or inequalities from real world contexts and connect symbolic and graphical representations. Students begin to explore covariance and represent two quantities simultaneously. Students use number lines to compare numbers and represent inequalities. They use measures of center and variability and data displays (i.e. box plots and histograms) to draw inferences about and make comparisons between data sets. Students need many opportunities to connect and explain the connections between the different representations. They should be able to use all of these representations as appropriate to a problem context.
6.MP.5. Use appropriate tools strategically.	Students consider available tools (including estimation and technology) when solving a mathematical problem and decide when certain tools might be helpful. For instance, students in grade 6 may decide to represent similar data sets using dot plots with the same scale to visually compare the center and variability of the data. Additionally, students might use physical objects or applets to construct nets and calculate the surface area of three-dimensional figures.
6.MP.6. Attend to precision.	In grade 6, students continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students use appropriate terminology when referring to rates, ratios, geometric figures, data displays, and components of expressions, equations or inequalities.
6.MP.7. Look for and make use of structure.	Students routinely seek patterns or structures to model and solve problems. For instance, students recognize patterns that exist in ratio tables recognizing both the additive and multiplicative properties. Students apply properties to generate equivalent expressions (i.e. $6 + 2x = 2(3 + x)$ by distributive property) and solve equations (i.e. $2c + 3 = 15$, $2c = 12$ by subtraction property of equality; c=6 by division property of equality). Students compose and decompose two- and three-dimensional figures to solve real world problems involving area and volume.
6.MP.8. Look for and express regularity in repeated reasoning.	In grade 6, students use repeated reasoning to understand algorithms and make generalizations about patterns. During multiple opportunities to solve and model problems, they may notice that $a/b \div c/d = ad/bc$ and construct other examples and models that confirm their generalization. Students connect place value and their prior work with operations to understand algorithms to fluently divide multi-digit numbers and perform all operations with multi-digit decimals. Students informally begin to make connections between covariance, rates, and representations showing the relationships between quantities.

Standard	Grade 6 Montana Common Core Standards Vocabulary
6.RP.1	ratio
6.RP.2	ratio, rate, unit rate
6.RP.3	ratio, equivalent ratio, rate, unit rate, percent, coordinate plane
6.NS.1	quotient
6.NS.2	none
6.NS.3	none
6.NS.4	factor, multiple, GCF, LCM, distributive property
6.NS.5	positive, Negative, opposite
6.NS.6	rational number, integer, opposite, coordinate plane, ordered pair, quadrant, reflection
6.NS.7	absolute value, magnitude, rational number, positive, negative
6.NS.8	coordinate plane, quadrant, coordinates, x-coordinate, y-coordinate, absolute value
6.EE.1	base, exponent, evaluate
6.EE.2	sum, difference, term, product, factor, quotient, coefficient, arithmetic, expression, algebraic expression, substitute, evaluate
6.EE.3	equivalent expressions, commutative property, associative property, distributive property
6.EE.4	equivalent expression
6.EE.5	equation, inequality, substitute, solve, solution
6.EE.6	variable, constant, algebraic expression
6.EE.7	algebraic equation, solve
6.EE.8	inequality
6.EE.9	independent variable, dependent variable, coordinate plane
6.G.1	polygon, triangle, right triangle, quadrilateral, parallelogram, trapezoid, area, square unit
6.G.2	right rectangular prism, base, height, area, volume, cubic unit
6.G.3	vertex/vertices, coordinate, polygon
6.G.4	right rectangular prism, right triangular prism, right square pyramid, right tetrahedron, net, surface area
6.SP.1	variability
6.SP.2	distribution, center, spread, shape of data
6.SP.3	measure of center, mean, median (Q2), mode, measure of variation, range, interquartile range, extremes, lower quartile (Q1), upper quartile (Q3), outlier, mean absolute deviation
6.SP.4	line plot, dot plot, histogram, median (Q2), lower extreme, lower quartile (Q1), upper quartile (Q3), upper extreme, box plot, outlier
6.SP.5	measure of center, mean, median, mode, measure of variability, range, interquartile range, mean absolute deviation (Q2), mode, measure of variation, range, interquartile range, extremes, lower quartile (Q1), upper quartile (Q3), outlier, mean absolute deviation