

Reporting Categories	Needs Support	Close	Ready	Exceeding
<b>Ratios and Proportional Relationships</b> Focus is on the concept of ratio and rate and the beginnings of developing proportional reasoning.	<i>A student performing at the Needs Support level:</i> <ul style="list-style-type: none"> <li>uses a ratio of the form <math>a:b</math> to describe relationships between quantities.</li> <li>makes sense of ratios in order to describe relationships.</li> </ul>	<i>A student performing at the Close level:</i> <ul style="list-style-type: none"> <li>determines unit rates to solve problems.</li> <li>makes sense of a given problem to determine the unit rate.</li> </ul>	<i>A student performing at the Ready level:</i> <ul style="list-style-type: none"> <li>rewrites ratios representing rates in equivalent forms in order to understand a real-world problem, including converting rates to unit rates or converting the units of measure for a given rate.</li> <li>makes sense of a real-world problems using ratios and unit rates.</li> </ul>	<i>A student performing at the Exceeding level:</i> <ul style="list-style-type: none"> <li>solves problems involving percentages.</li> <li>determines a rate relationship in a real-world problem and uses it to compare rates and to solve rate problems.</li> <li>makes sense and determines a rate relationship to solve a problem.</li> </ul>
<b>The Number System</b> Focus is on seeing the rational numbers as a coherent number system. Students increase their fluency with calculations.	<i>A student performing at the Needs Support level:</i> <ul style="list-style-type: none"> <li>recognizes when a given number is a factor or multiple of another number.</li> <li>makes sense of problems in order to recognize a number as a factor or multiply by using knowledge of multiplication and division.</li> </ul>	<i>A student performing at the Close level:</i> <ul style="list-style-type: none"> <li>adds, subtracts and multiplies multi-digit decimals in order to solve problems.</li> <li>determines absolute value when given a number line.</li> <li>graphs points in the third quadrant of the coordinate plane.</li> </ul>	<i>A student performing at the Ready level:</i> <ul style="list-style-type: none"> <li>divides multi-digit decimals as well as non-unit fractions in order to solve problems.</li> <li>recognizes common factors of numbers and uses them to determine when expressions are equivalent.</li> <li>explains how the properties of numbers extend to negative whole numbers.</li> <li>determines the absolute value of an integer.</li> <li>graphs points in all four quadrants of the coordinate plane.</li> <li>uses negative numbers to describe quantities.</li> <li>recognizes integers to represent real life situations.</li> <li>uses a number line to model positive and negative numbers and absolute value.</li> </ul>	<i>A student performing at the Exceeding level:</i> <ul style="list-style-type: none"> <li>compares absolute values of rational numbers.</li> <li>determines the common factors or multiples of two whole numbers.</li> <li>graphs points in all four quadrants of the coordinate plane and uses the relationship between points with the same first or second coordinate to draw conclusions.</li> <li>reasons abstractly using positive and negative numbers to solve a problem.</li> </ul>
<b>Expressions and Equations</b> Focus is on understanding algebraic expressions as analogous to numeric expressions. Students continue to develop function ideas by analyzing pairs of independent and dependent variables.	<i>A student performing at the Needs Support level:</i> <ul style="list-style-type: none"> <li>writes and evaluates numerical expressions involving whole number exponents.</li> <li>uses repeated reasoning to solve expressions using whole number exponents.</li> </ul>	<i>A student performing at the Close level:</i> <ul style="list-style-type: none"> <li>identifies when two expressions are equivalent.</li> <li>makes sense of equivalent expressions.</li> </ul>	<i>A student performing at the Ready level:</i> <ul style="list-style-type: none"> <li>applies the distributive property to create equivalent expressions involving whole number coefficients.</li> <li>recognizes independent and dependent variables in an equation that represents a real-life situation.</li> <li>makes use of structure by using the distributive property to make equivalent expressions.</li> </ul>	<i>A student performing at the Exceeding level:</i> <ul style="list-style-type: none"> <li>represents linear relationships between two quantities with equations or inequalities, evaluates linear expressions, and solves problems involving one-variable linear equations of the form <math>x + p = q</math>.</li> <li>graphs the solution set to inequalities of the form <math>x &gt; c</math> or <math>x &lt; c</math> on a number line and determines if a given value is a solution of the inequality.</li> <li>uses the language of operations to describe the structure of expressions.</li> <li>describes the structure of expressions using operational language.</li> </ul>
<b>Geometry</b> Focus is on composing and decomposing shapes, and working with shapes in 3 dimensions.	<i>A student performing at the Needs Support level:</i> <ul style="list-style-type: none"> <li>finds the area of a right triangle when the lengths of the legs are given.</li> <li>makes sense of a problem involving right triangles when given the lengths of the legs by using the area formula.</li> </ul>	<i>A student performing at the Close level:</i> <ul style="list-style-type: none"> <li>finds the volume of a right rectangular prism that is packed with unit cubes.</li> <li>models using unit cubes to find the volume of right rectangular prisms.</li> </ul>	<i>A student performing at the Ready level:</i> <ul style="list-style-type: none"> <li>solves real-world problems involving the area of triangles and quadrilaterals, including simple figures that are compositions of both.</li> <li>calculates surface area if given a net.</li> <li>reasons abstractly to decompose the given figure in order to find total area.</li> </ul>	<i>A student performing at the Exceeding level:</i> <ul style="list-style-type: none"> <li>determines the area of trapezoids by composition of rectangles and triangles in order to solve problems.</li> <li>determines the volume of rectangular prisms in order to solve problems.</li> <li>makes sense of a 3-dimensional figure in order to find the surface area of that figure.</li> </ul>
<b>Statistics and Probability</b> Focus is on the concept of statistical variability and the notion that there is some order in the apparent chaos, seen through distributions. Students develop more ways of representing data.	<i>A student performing at the Needs Support level:</i> <ul style="list-style-type: none"> <li>finds the range of a univariate data set.</li> <li>makes sense of a data set by finding the mean.</li> </ul>	<i>A student performing at the Close level:</i> <ul style="list-style-type: none"> <li>recognizes histograms and box plots that represent distributions.</li> <li>makes sense of a model, such as histogram or box plot, that represents a set of data.</li> </ul>	<i>A student performing at the Ready level:</i> <ul style="list-style-type: none"> <li>determines the mean, median, and mode of a set of data.</li> <li>constructs histograms to represent distributions.</li> <li>creates a model of a histogram using a set of data.</li> </ul>	<i>A student performing at the Exceeding level:</i> <ul style="list-style-type: none"> <li>interprets and compares the mean and media of a univariate distribution.</li> <li>explains how additional data points would affect the center and spread of a distribution.</li> <li>analyzes and creates box plots to represent a univariate data set.</li> <li>represents and analyzes sets of data using various model representations.</li> </ul>
<b>Modeling</b> Producing, interpreting, understanding, evaluating, and improving mathematical models.	<i>A student performing at the Needs Support level:</i> <ul style="list-style-type: none"> <li>uses manipulatives to represent a problem or concept.</li> </ul>	<i>A student performing at the Close level:</i> <ul style="list-style-type: none"> <li>uses manipulatives to interpret a problem or concept.</li> </ul>	<i>A student performing at the Ready level:</i> <ul style="list-style-type: none"> <li>evaluates a manipulative model to solve a problem or concept.</li> </ul>	<i>A student performing at the Exceeding level:</i> <ul style="list-style-type: none"> <li>uses a manipulative to improve a model of a problem or concept.</li> </ul>
<b>Justification and Explanation</b> Giving reasons, explaining “Why?”	<i>A student performing at the Needs Support level:</i> <ul style="list-style-type: none"> <li>explains a pattern using words, algebraic expressions, number operations.</li> <li>generates a sequence from a rule.</li> <li>identifies an error in reasoning.</li> <li>uses two or more specific statements to draw a conclusion.</li> </ul>	<i>A student performing at the Close level:</i> <ul style="list-style-type: none"> <li>uses conditional statements.</li> <li>draws and labels relevant visual representations.</li> <li>explains steps of a procedure.</li> <li>provides a counterexample.</li> <li>uses a pattern or sequence to draw a conclusion.</li> <li>draws conclusions using both a specific and general evidentiary statement.</li> <li>provides general support for a claim in order to reach a conclusion.</li> </ul>	<i>A student performing at the Ready level:</i> <ul style="list-style-type: none"> <li>uses and cites conditional statements, specific aspects of created visual representations, and/or computations or procedures to clarify an argument or draw a conclusion.</li> <li>justifies and defends conclusions by explaining errors in reasoning or calculations, providing counterexamples, applying relevant classification schemes, and/or verifying statements or claims used to draw a conclusion.</li> </ul>	<i>A student performing at the Exceeding level:</i> <ul style="list-style-type: none"> <li>provides a coherent, logical argument or solution pathway by providing evidence to support claims.</li> <li>provides thorough justification and defends conclusions by using multiple, connected statements and incorporating justification techniques such as explaining errors in reasoning or calculations, providing counterexamples, applying relevant classification schemes, and/or verifying statements or claims used to draw a conclusion.</li> </ul>

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<p><b>Integrating Essential Skills</b> Integrate and continue to grow with topics from prior grades.</p>	<p><i>A student performing at the Needs Support level:</i></p> <ul style="list-style-type: none"> <li>• multiplies whole numbers using a model.</li> <li>• adds and subtracts fractions and mixed numbers with like denominators.</li> <li>• multiplies fractions with whole numbers</li> <li>• understands the properties of geometric figures by using sides and angles.</li> <li>• finds areas of rectangles.</li> <li>• graphs ordered pairs in the first quadrant of the coordinate plane.</li> </ul>	<p><i>A student performing at the Close level:</i></p> <ul style="list-style-type: none"> <li>• multiplies multi-digit whole numbers fluently.</li> <li>• adds and subtracts fractions and mixed number with unlike denominators.</li> <li>• multiplies and divides fractions by whole numbers.</li> </ul>	<p><i>A student performing at the Ready level:</i></p> <ul style="list-style-type: none"> <li>• multiplies fractions and/or mixed numbers with unlike denominators.</li> <li>• classifies geometric figures by their properties.</li> <li>• writes and evaluates simple expressions without variables.</li> </ul>	<p><i>A student performing at the Exceeding level:</i></p> <ul style="list-style-type: none"> <li>• adds, subtracts, and multiplies fractions and/or mixed numbers with unlike denominators in multi-step problems.</li> <li>• explains classifications of geometric figures by using sides and angles.</li> <li>• writes and evaluates complex expressions without variables.</li> </ul>
<p><b>Mathematical Practices</b> Collected PLDs that focus on mathematical practices.</p>	<p><i>A student performing at the Needs Support level:</i></p> <ul style="list-style-type: none"> <li>• makes sense of ratios in order to describe relationships.</li> <li>• makes sense of problems in order to recognize a number as a factor or multiply by using knowledge of multiplication and division.</li> <li>• uses repeated reasoning to solve expressions using whole number exponents.</li> <li>• makes sense of a problem involving right triangles when given the lengths of the legs by using the area formula.</li> <li>• makes sense of a data set by finding the mean.</li> <li>• uses manipulatives to represent a problem or concept.</li> <li>• explains a pattern using words, algebraic expressions, number operations.</li> <li>• generates a sequence from a rule.</li> <li>• identifies an error in reasoning.</li> <li>• uses two or more specific statements to draw a conclusion.</li> </ul>	<p><i>A student performing at the Close level:</i></p> <ul style="list-style-type: none"> <li>• makes sense of a given problem to determine the unit rate.</li> <li>• makes sense of equivalent expressions.</li> <li>• models using unit cubes to find the volume of rectangular prisms.</li> <li>• makes sense of a model, such as histogram or box plot, that represents a set of data.</li> <li>• uses manipulatives to interpret a problem or concept.</li> <li>• uses conditional statements.</li> <li>• draws and labels relevant visual representations.</li> <li>• explains steps of a procedure.</li> <li>• provides a counterexample.</li> <li>• uses a pattern or sequence to draw a conclusion.</li> <li>• draws conclusions using both a specific and general evidentiary statement.</li> <li>• provides general support for a claim in order to reach a conclusion.</li> </ul>	<p><i>A student performing at the Ready level:</i></p> <ul style="list-style-type: none"> <li>• makes sense of a real-world problems using ratios and unit rates.</li> <li>• uses a number line to model positive and negative numbers and absolute value.</li> <li>• makes use of structure by using the distributive property to make equivalent expressions.</li> <li>• reasons abstractly to decompose the given figure in order to find total area.</li> <li>• creates a model of a histogram using a set of data.</li> <li>• evaluates a manipulative model to solve a problem or concept.</li> <li>• uses and cites conditional statements, specific aspects of created visual representations, and/or computations or procedures to clarify an argument or draw a conclusion.</li> <li>• justifies and defends conclusions by explaining errors in reasoning or calculations, providing counterexamples, applying relevant classification schemes, and/or verifying statements or claims used to draw a conclusion.</li> </ul>	<p><i>A student performing at the Exceeding level:</i></p> <ul style="list-style-type: none"> <li>• makes sense and determines a rate relationship to solve a problem.</li> <li>• reasons abstractly using positive and negative numbers to solve a problem.</li> <li>• describes the structure of expressions using operational language.</li> <li>• makes sense of a figure in order to find the surface area of that figure.</li> <li>• represents and analyzes sets of data using various model representations.</li> <li>• uses a manipulative to improve a model of a problem or concept.</li> <li>• provides a coherent, logical argument or solution pathway by providing evidence to support claims.</li> <li>• provides thorough justification and defends conclusions by using multiple, connected statements and incorporating justification techniques such as explaining errors in reasoning or calculations, providing counterexamples, applying relevant classification schemes, and/or verifying statements or claims used to draw a conclusion.</li> </ul>