

Mathematics Grade 5  
Year at a Glance 2017-2018

Units	Duration	Assessed Standards	Big Ideas	Essential Questions	End of Unit Assessment
<b>Unit 1:</b> Decimal Place Value, Addition, and Subtraction	<b>26 days</b>	5.NBT.A.1 5.NBT.A.2 5.NBT.A.3 a 5.NBT.A.3 b 5.NBT.A.4 5.NBT.B.7	<ul style="list-style-type: none"> <li>• Use exponents to write powers of ten and apply this understanding to write multi-digit whole numbers in expanded form with exponents. Writing decimals in expanded form is an extension of writing whole numbers in expanded form.</li> <li>• Apply understanding of the structure of the base ten number system to use place value concepts to compare, order, round, and estimate decimal numbers.</li> <li>• Calculate sums and differences of decimals by using models, properties of operations, and place value understanding.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>How does understanding the structure of the number system help you solve problems?</i></li> <li>• <i>How are decimals related to fractions?</i></li> <li>• <i>How does the base ten system apply to representing numbers using exponents?</i></li> <li>• <i>How are exponents connected to multiplication?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Part I-Periodic/Unit Assessment (multiple choice and multi-select items)</li> <li>• Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)</li> </ul>
<b>Unit 2:</b> Multiplying Whole Numbers and Decimals	<b>31 days</b>	5.NBT.A.2 5.NBT.A.4 5.NBT.B.5 5.NBT.B.7	<ul style="list-style-type: none"> <li>• Use the relationships between decimals and whole numbers can be used to understand and explain why the procedures for multiplying decimals make sense.</li> <li>• Using multiple representations can facilitate making sense of problems and communication of mathematical ideas.</li> <li>• Rounding can be used as an estimation tool for judging reasonableness of computations.</li> <li>• Computational fluency requires efficient, accurate, and flexible methods for computing.</li> <li>• Use algebraic expressions and equations to symbolically represent real life situations.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>How does understanding the relationship between decimals and whole numbers help you solve problems?</i></li> <li>• <i>How does understanding the relationship between decimals and whole numbers help you solve problems?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Part I-Periodic/Unit Assessment (multiple choice and multi-select items)</li> <li>• Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)</li> </ul>

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<b>Unit 3:</b> Dividing Whole Numbers and Decimals	<b>29 days</b>	5.NBT.A.2 5.NBT.A.4 5.NBT.B.6 5.NBT.B.7	<ul style="list-style-type: none"> <li>• Rounding can be used as an estimation tool for judging reasonableness of computations.</li> <li>• Using multiple representations can facilitate making sense of problems and communication of mathematical ideas.</li> <li>• Computational fluency requires efficient, accurate, and flexible methods for computing.</li> <li>• Place value concepts for whole number operations can be applied to decimal operations.</li> <li>• Division procedures are based on the meanings of base-ten numerals and properties of operations.</li> <li>• Use the relationship between division and multiplication allows for multiple strategic approaches for solving a division problem.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>How does rounding help determine the reasonableness of a solution?</i></li> <li>• <i>How does representing mathematical ideas using models facilitate understanding and communication of those ideas?</i></li> <li>• <i>How can multiplication be used to solve a division problem?</i></li> <li>• <i>How does the base-ten system apply to decimal operations?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Part I-Periodic/Unit Assessment (multiple choice and multi-select items)</li> <li>• Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)</li> </ul>
<b>Unit 4:</b> Fraction Operations	<b>39 days</b>	5.NF.A.1 5.NF.A.2 5.NF.B.3 5.NF.B.4a 5.NF.B.4b 5.NF.B.5a 5.NF.B.5b 5.NF.B.6 5.NF.B.7a 5.NF.B.7b 5.NF.B.7c	<ul style="list-style-type: none"> <li>• Fractions and mixed numbers can be represented in multiple ways.</li> <li>• Fractions are numbers.</li> <li>• Using models to represent story problems with fractions facilitates understanding the problem and the meanings of the numbers in the problem.</li> <li>• Estimating fractional quantities facilitates keeping track of the meaning of quantities and whether solutions make sense.</li> <li>• Common denominators and fraction models can be used to find sums and differences of fractions and mixed numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>How can I reason about fractions to know if my solution is reasonable?</i></li> <li>• <i>How can the number and size of the parts of equivalent fractions differ even though the fractions themselves represent the same quantity?</i></li> <li>• <i>How is multiplying whole numbers similar to multiplying fractions?</i></li> <li>• <i>Why does multiplication of a number by a fraction less than one, result in a product that is less than that number?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Part I-Periodic/Unit Assessment (multiple choice and multi-select items)</li> <li>• Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)</li> </ul>

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			<ul style="list-style-type: none"> <li>• Multiplying with fractions has similarities to multiplying with whole numbers.</li> <li>• Multiplication of a number <math>n</math> by a fraction less than one results in a product less than <math>n</math>.</li> <li>• <math>n \times 1/x</math> means <math>n</math> copies of <math>1/x</math>.</li> <li>• <math>n \div 1/x</math> means the number of <math>1/x</math> in <math>n</math>.</li> </ul>		
<b>Unit 5:</b> Measurement, Data, and Geometry	<b>32 days</b>	5.G.A.1 5.G.A.2 5.MD.A.1 5.MD.B.2 5.MD.C.3a 5.MD.C.3b 5.MD.C.4 5.MD.C.5a 5.MD.C.5b 5.MD.C.5c	<ul style="list-style-type: none"> <li>• Volume can be measured by counting the number of cubic units needed to pack a three-dimensional figure.</li> <li>• Formulas can be used to find the volumes of right rectangular prisms.</li> <li>• The volume of a solid figure composed of right rectangular prisms can be found by adding the volumes of each right rectangular prism.</li> <li>• Multiplication and division can be used to convert among different units of measurement.</li> <li>• Line plots are one way to organize and represent numerical data, and line plots show how data are distributed.</li> <li>• The coordinate system uses two perpendicular number lines intersecting at 0 to name the location of points in the plane.</li> <li>• A coordinate grid has an x-axis and a y-axis that can be used to locate points in two dimensions.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>What is the meaning of volume of a solid?</i></li> <li>• <i>How can the volume of a right rectangular prism be found</i></li> <li>• <i>How are customary measurement units for length related?</i></li> <li>• <i>How are customary measurement units for capacity related?</i></li> <li>• <i>How are customary measurement units for weight related?</i></li> <li>• <i>What are metric measurement units for length, capacity, and mass? How are metric units related?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Part I-Periodic/Unit Assessment (multiple choice and multi-select items)</li> <li>• Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)</li> </ul>

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<b>Unit 6:</b> Algebraic Thinking and Relationships	<b>25 days</b>	5.G.B.3 5.G.B.4 5.OA.A.1 5.OA.A.2 5.OA.B.3	<ul style="list-style-type: none"> <li>• There is an agreed upon order in which operations are carried out in a numerical expression.</li> <li>• The value of a numerical expression can be found by using the Order of Operations.</li> <li>• Two patterns can be extended using the same rule and there will be a relationship between the patterns.</li> <li>• A graph can show the relationship between two number sequences.</li> <li>• Triangles are classified by their sides and by their angles.</li> <li>• Quadrilaterals are classified by their sides and by their angles.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>How is the value of a numerical expression found?</i></li> <li>• <i>How can number patterns be analyzed and graphed? How can number patterns and graphs be used to solve problems?</i></li> <li>• <i>How can triangles be described, classified, and named?</i></li> <li>• <i>How can quadrilaterals be described, classified, and named?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Part I-Periodic/Unit Assessment (multiple choice and multi-select items)</li> <li>• Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)</li> </ul>