

Mathematics Grade 5 Advanced
Year at a Glance

Unit	Duration	Assessed Standards	Big Ideas	Essential Questions	End of Unit Assessment
Unit 1: Whole Number and Decimal Operations	34 days	5.NBT.2 5.NBT.5 5.NBT.6 5.NBT.7 6.EE.B.7 6.NS.B.2 6.NS.B.3 6.NS.B.4	<ul style="list-style-type: none"> • Whole number operations are similar to operations with decimals. • There are algorithms for performing each of the operations with whole numbers and decimals. Strategies and algorithms involving both mental math and paper and pencil use equivalence to transform calculations into simpler ones. • Calculations can be estimated by replacing numbers with those that are close and easy to compute with mentally. 	<ul style="list-style-type: none"> • <i>In what different ways can parts and wholes be multiplied and divided? Which ways are most efficient and why?</i> • <i>In what different ways can parts and wholes be combined? Which ways are the most efficient and why?</i> 	<ul style="list-style-type: none"> • Part I-Periodic/Unit Assessment (multiple choice and multi-select items) • Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)
Unit 2: Algebra: Expressions, Equations, and Inequalities	30 days	6.EE.A.1 6.EE.A.2 6.EE.A.3 6.EE.A.4 6.EE.B.5 6.EE.B.6 6.EE.B.7 6.EE.B.8	<ul style="list-style-type: none"> • Variables can be used to stand for a number. • Mathematical and real-world situations can be represented using variables, operations, and numbers in expressions and equations. • Properties of operations are equally true for algebraic expressions as for numerical expressions. 	<ul style="list-style-type: none"> • <i>What are expressions and how can they be written and evaluated?</i> • <i>What properties of operations can be used to solve equations and inequalities?</i> 	<ul style="list-style-type: none"> • Part I-Periodic/Unit Assessment (multiple choice and multi-select items) • Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)

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Unit 3: Rational Numbers and Algebra	25 days	6.NS.C.5 6.NS.C.6 6.NS.C.7 6.NS.8 6.EE.C.9 6.G.A.3	<ul style="list-style-type: none"> • The set of real numbers is infinite and ordered. Counting numbers, whole numbers, integers, and rational numbers are real numbers. Each real number can be associated with a unique point on the number line. • The coordinate plane is an extension of the number line to two dimensions. So, any point with real-number coordinates can be graphed in a coordinate plane. • Relationships sometimes exist where the members of one set change in a predictable way in relationship to the members of a second set. • Relationships in which the value of the variable representing one set depends on the value of the variable representing the other set can be represented with equations, tables of ordered pairs, and graphs. One variable is called independent and the other is called dependent. 	<ul style="list-style-type: none"> • <i>What are integers? What are rational numbers?</i> • <i>How can a number line and coordinate plane be extended to represent integers and rational numbers?</i> • <i>How are equations that relate real-world quantities represented?</i> 	<ul style="list-style-type: none"> • Part I-Periodic/Unit Assessment (multiple choice and multi-select items) • Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)

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Unit 4: Ratios and Fractions	41 days	6.NS.A.1 6.RP.A.1 6.RP.A.2 6.RP.A.3	<ul style="list-style-type: none"> • Reasoning with ratios involves attending to and coordinating two quantities. • A ratio is a multiplicative comparison of two quantities, or it is a joining of two quantities in a composed unit. • A variety of models, including tables, bar diagrams, double number lines, and graphs, can be used to represent and solve ratio problems. • Equivalent ratios can be created by iterating and/or partitioning a composed unit. • Ratio reasoning may be used to solve rate and percent problems. • Division using fractions can be represented using visual models that make a connection between multiplication and division as inverse operations. 	<ul style="list-style-type: none"> • <i>What is a ratio? What is a rate? How can they be used in solving real-world problems?</i> • <i>What is the meaning of percent, and how can percent be estimated and determined to solve real-world problems?</i> • <i>How can the inverse relationship between multiplication and division be used to estimate and determine quotients of fractions?</i> 	<ul style="list-style-type: none"> • Part I-Periodic/Unit Assessment (multiple choice and multi-select items) • Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)

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Unit 5: Area and Volume	24 days	5.MD.C.3 5.MD.C.4 5.MD.C.5 6.G.A.1 6.G.A.2 6.G.A.3 6.G.A.4 5.G.B.3 5.G.B.4	<ul style="list-style-type: none"> • The formula for the area of parallelograms, $A = bh$, can be derived from the formula for the area of a rectangle. • The formula for the area of a triangle, $A = \frac{1}{2}bh$, can be derived from the formula for the area of a parallelogram. • The areas of a polygon on the coordinate plane can be found by decomposing the polygon into shapes for which the area formulas are known. • A net can be used to represent a polyhedron. A net represents the faces of a polyhedron. • The surface area of a prism is the sum of the areas of its faces. • The surface area of a pyramid is the sum of the areas of its faces. 	<ul style="list-style-type: none"> • <i>How can the area of polygons be found?</i> • <i>What is surface area? How is surface area determined?</i> • <i>What is volume? How is volume determined?</i> 	<ul style="list-style-type: none"> • Part I-Periodic/Unit Assessment (multiple choice and multi-select items) • Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)

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Unit 6: Understanding Data	26 days	6.SP.A.1 6.SP.A.2 6.SP.B.4 6.SP.B.5	<ul style="list-style-type: none"> • Statistical questions anticipate variability in responses and can be answered by collecting and analyzing data. • Different measures of center can be used to describe a set of data. • Data can be organized into equal ranges using a frequency table or a histogram. • A box plot shows a distribution of numerical data values on a number line. • Measures of variability describe the spread and clustering of data in a set. • Measures of center and variability can be used to describe and summarize a data set. • A set of data collected to answer a statistical question has a distribution that can be described by its center, spread, and overall shape. 	<ul style="list-style-type: none"> • <i>How can you describe a data distribution?</i> • <i>How can data be described using a single number?</i> • <i>How can graphs be used to represent data and answer questions?</i> 	<ul style="list-style-type: none"> • Part I-Periodic/Unit Assessment (multiple choice and multi-select items) • Part II-Reasoning and Application/Modeling Items (open-ended items and short answer items)