


Math Out of the Box[®] Correlation to



Kentucky **Standards for Mathematics** **Grade 5**

Math Out of the Box® Correlation to Kentucky Standards for Mathematics Grade 5

The following pages pertain to Math Out of the Box® 5th Grade modules that have been aligned with the Kentucky Standards for Mathematics, using Kentucky's Combined Curriculum Documents, for Fifth grade. For your reference, under each standard are the aligned strands, module titles, and lessons within that module with corresponding page numbers.

Math Out of the Box® Integrated Curriculum Matrix				
 <small>outofthebox</small>	<i>Developing Algebraic Thinking</i>	<i>Developing Geometric Logic</i>	<i>Developing Measurement Benchmarks</i>	<i>Developing Number Concepts</i>
K	<i>Rhythm and Design</i>	<i>Towers and Trails</i>	<i>Over and Under</i>	<i>Like and Unlike</i>
1	<i>Together and Apart</i>	<i>Symmetry and Shapes</i>	<i>Up and Down</i>	<i>Families and Facts</i>
2	<i>Collecting and Sorting</i>	<i>Rows and Columns</i>	<i>Large and Small</i>	<i>More and Less</i>
3	<i>Plotting and Growing</i>	<i>Shapes and Paths</i>	<i>Scales and Balances</i>	<i>Ordering and Arranging</i>
4	<i>Signs and Symbols</i>	<i>Corners and Containers</i>	<i>Inside and Outside</i>	<i>Stories and Statements</i>
5	<i>Steps and Distance</i>	<i>Conjectures and Transformations</i>	<i>Tools and Time</i>	<i>Values and Variables</i>

Math Out of the Box® is a K–5, inquiry-based math curriculum developed by Clemson University's College of Engineering and Science. Based on the NCTM Principles and Standards for School Mathematics, Math Out of the Box® is filled with engaging, hands-on activities.

**Correlation of Math Out of Box® to
Kentucky's Program of Studies and Core Content for Assessment
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Big Idea: Number Properties and Operations

Whole number sense and addition and subtraction are key concepts and skills developed in early childhood. Students build on their number sense and counting sense to develop multiplication and division. They move flexibly and fluently through basic number facts, operations and representations. Their understanding of the base-10 number system expands to include decimals. They examine various meanings and models of fractions. They explore data, perform measurements and examine patterns as part of the development process for number and operations, using other mathematics strands to enrich number. Elementary number encompasses computational fluency with whole numbers, relationships between decimals and fractions and techniques for reasonable estimations.

Academic Expectations

2.7 Students understand number concepts and use numbers appropriately and accurately.

2.8 Students understand various mathematical procedures and use them appropriately and accurately.

Program of Studies: Understandings	Program of Studies: Skills and Concepts	Related Core Content for Assessment
<p>MA-5-NPO-U-1 Students will understand that numbers, ways of representing numbers, relationships between numbers and number systems are means of representing real-world quantities.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L09-14 (pp 85-132) • TG: L16 (pp 149-158) • TG: L19 (pp 175-180) • TG: L21-23 (pp 195-220) • TG: L26-29 (pp 241-280) • TG: Post Assessment L09-14 (pp 133-134) • TG: Post Assessment L28-30 (p 288) • DNC-B: Values and Variables • TG: L01-04 (pp 5-40) • TG: L08 (pp 73 - 80) • TG: Post Assessment L01-4 (pp 41) 	<p>MA-5-NPO-S-NS1 Students will read, write, model, order, compare (using relative magnitude) and apply multiple representations of whole numbers.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L09-14 (pp 85-132) • DNC-B: Values and Variables • TG: L13 (pp 117 - 122) <p>MA-5-NPO-S-NS2 Students will compare and apply the relative sizes of common and mixed fractions.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L01-16 (pp 5-144) • TG: Post Assessment L05-12 (pp 110 - 111) 	<p>MA-05-1.1.1 Students will:</p> <ul style="list-style-type: none"> • apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to represent whole numbers (0 to 99,999,999); • apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, symbols) to describe commonly-used fractions, mixed numbers and decimals through thousandths; • apply these numbers to represent real-world problems and • explain how the base-10 number system relates to place value. <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L09-14 (pp 85-132)

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	<p>MA-5-NPO-S-NS3 Students will investigate multiple representations of equivalent fractions (e.g., $\frac{1}{2} = \frac{3}{6}$, $1\frac{1}{2} = \frac{3}{2}$) with manipulatives, drawings and fractional notation.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L01-16 (pp 5-144) <p>MA-5-NPO-S-NS4 Students will explore the use of simple ratios to describe problem situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L20-22 (pp 179-199) <p>MA-5-NPO-S-PNO1 Students will use factors to determine prime and composite numbers.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L28-30 (pp 265-287) • TG: Post Assessment L28-30 (p 288) • DNC-B: Values and Variables • TG: L01 (pp 5-14) • TG: L02 (pp 15-24) 	<ul style="list-style-type: none"> • TG: L16-17 (pp 149-166) • TG: L19-23 (pp 175-220) • TG: Post Assessment L09-14 (pp 133-134) • TG: Post Assessment L15-20 (pp 189-190) • DNC-B: Values and Variables • TG: L05-07 (pp 47 - 72) • TG: L10-13 (pp 87 - 122) • TG: Post Assessment L05-12 (pp 110 - 111) <p>MA-05-1.1.2 <i>Students will read, write and rename whole numbers, fractions and decimals, and apply to real-world and mathematical problems.</i></p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-30 (pp 5-287) • TG: Post Assessment L01-08 (pp 79-80) • TG: Post Assessment L15-20 (pp 189-190) • TG: Post Assessment L21-27 (pp 258-260) • DNC-B: Values and Variables • TG: L01-24 (pp 5-213) • TG: Post Assessment L17-19 (pp 172 - 173) <p>MA-05-1.1.3 Students will compare (<, >, =) and order whole numbers), fractions and decimals, and explain the relationships (equivalence, order) between and among them.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L10-14 (pp 93-132)
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	<p>MA-5-NPO-S-PNO2 Students will determine least common multiples.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L03 (pp 25-32) • TG: L04 (pp 33-40) • TG: Post Assessment L01-4 (pp 41) <p>MA-5-NPO-S-PNO3 Students will skip-count forwards and backwards with fluency.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L24 (pp 221-228) • TG: L25 (pp 229-240) 	<ul style="list-style-type: none"> • TG: Post Assessment L09-14 (pp 133-134) • DNC-B: Values and Variables • TG: L01-16 (pp 5-144) • TG: Post Assessment L05-12 (pp 110 - 111) <p>MA-05-1.3.2 <i>Students will skip-count forward and backward.</i></p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L24 (pp 221-228) • TG: L25 (pp 229-240) <p>MA-05-1.5.1 Students will identify and determine composite numbers, prime numbers, multiples of a number, factors of a number and least common multiples (LCM), and will apply these numbers to solve real-world problems.</p> <p align="right">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L24-25 (pp 221-240) • TG: L28-30 (pp 265-287) • TG: Post Assessment L28-30 (p 288) • DNC-B: Values and Variables • TG: L01-04 (pp 5-40) • TG: Post Assessment L01-4 (pp 41)
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<p>MA-5-NPO-U-2 Students will understand that meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-08 (pp 5-78) • TG: L19 (pp 175-180) • TG: Post Assessment L01-08 (pp 79-80) 	<p>MA-5-NPO-S-NS4 Students will explore the use of simple ratios to describe problem situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L20-22 (pp 179-199) <p>MA-5-NPO-S-NS5 Students will explore, investigate, compare, relate and apply relationships among whole numbers, fractions, decimals and percents.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L10-14 (pp 93-132) • TG: Post Assessment L09-14 (pp 133-134) • DNC-B: Values and Variables • TG: L01-16 (pp 5-144) • TG: Post Assessment L05-12 (pp 110 - 111) • TG: Post Assessment L13-16 (pp 145 - 146) <p>MA-5-NPO-S-NS6 Students will read, write, identify and compare decimals through ten-thousandths.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L12-14 (pp 111-132) • TG: Post Assessment L09-14 (pp 133-134) 	<p>MA-05-1.3.1 Students will analyze real-world problems to identify appropriate representations using mathematical operations, and will apply operations to solve real-world problems with the following constraints:</p> <ul style="list-style-type: none"> • add, subtract, multiply, and divide whole numbers (less than 100,000,000), using technology where appropriate; • add and subtract fractions with like denominators through 16, with sums less than or equal to one and • add and subtract decimals through hundredths. <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-05 (pp 5-52) • TG: L07-08 (pp 63-78) • TG: L16 -17(pp 149-166) • TG: L19-20 (pp 175-188) • TG: L23-27 (pp 215-257) • TG: Post Assessment L15-20 (pp 189-190) • TG: Post Assessment L21-27 (pp 258-260) • DNC-B: Values and Variables • TG: L10-12 (pp 87 - 109) • TG: Post Assessment L05-12 (pp 110 - 111) <p>MA-05-1.3.3 <i>Students will multiply decimals through tenths.</i></p> <p><u>5th Grade Set</u></p>
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	<p>MA-5-NPO-S-NO1 Students will develop and apply computational procedures to add, subtract, multiply and divide whole numbers using basic facts and technology as appropriate.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-30 (pp 5-287) • TG: Post Assessment L01-08 (pp 79-80) • TG: Post Assessment L15-20 (pp 189-190) • TG: Post Assessment L21-27 (pp 258-260) • DNC-B: Values and Variables • TG: L01-24 (pp 5-213) <p>MA-5-NPO-S-NO2 Students will add and subtract fractions with common denominators using manipulatives or symbolic notation.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L09-12 (pp 81 -109) • TG: Post Assessment L05-12 (pp 110 - 111) <p>MA-5-NPO-S-NO3 Students will add and subtract decimals through one-thousandths using manipulatives or symbolic notation.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L16-20 (pp 149-188) 	<ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L16 (pp 137-144) <p>MA-05-1.5.1 Students will identify and determine composite numbers, prime numbers, multiples of a number, factors of a number and least common multiples (LCM), and will apply these numbers to solve real-world problems.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L24-25 (pp 221-240) • TG: L28-30 (pp 265-287) • TG: Post Assessment L28-30 (p 288) • DNC-B: Values and Variables • TG: L01-04 (pp 5-40) • TG: Post Assessment L01-4 (pp 41) <p>MA-05-1.5.2 Students will use the commutative properties of addition and multiplication, the associative properties of addition and multiplication, the identity properties of addition and multiplication and the zero property of multiplication in written and mental computation.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-08 (pp 5-78) • TG: Post Assessment L01-08 (pp 79-80)
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	<ul style="list-style-type: none"> • TG: Post Assessment L15-20 (pp 189-190) • DNC-B: Values and Variables • TG: L09-15 (pp 81 -135) • TG: Post Assessment L17-19 (pp 172 - 173) <p>MA-5-NPO-S-NO4 Students will extend multiplication to include one decimal place.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L16 (pp 137-144) <p>MA-5-NPO-S-NO5 Students will explore the effects of operations on numbers.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L03-08 (pp 25-78) • TG: L21-27 (pp 195-257) <p>MA-5-NPO-S-PNO4 Students will use properties of numbers for written and mental computation (e.g., combine commutative and associative properties to rearrange multiplication exercises such as $4 \times (7 \times 5)$ which can be rearranged as $(4 \times 5) \times 7$ to simplify the multiplication).</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-05 (pp 5-52) 	
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	<ul style="list-style-type: none"> • TG: L07 (pp 63-72) • TG: L08 (pp 73-78) • TG: Post Assessment L01-08 (pp 79-80) 	
<p>MA-5-NPO-U-3 Students will understand that computing fluently and making reasonable estimates increases the ability to solve realistic problems encountered in everyday life.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L15-18 (pp 139-174) • TG: L27 (pp 251-257) • DNC-B: Values and Variables • TG: L09 (pp 81 -86) 	<p>MA-5-NPO-S-E1 Students will explore appropriate estimation procedures for different situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-30 (pp 5-287) • DNC-B: Values and Variables • TG: L01-23 (pp 5-213) <p>MA-5-NPO-S-E2 Students will apply and explain appropriate strategies for estimating quantities of objects and computational results.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-30 (pp 5-287) • DNC-B: Values and Variables • TG: L01-23 (pp 5-213) 	<p>MA-05-1.2.1 Students will apply and describe appropriate strategies for estimating quantities of objects and computational results in real-world problems.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-30 (pp 5-287) • TG: Post Assessment L01-08 (pp 79-80) • TG: Post Assessment L15-20 (pp 189-190) • TG: Post Assessment L21-27 (pp 258-260) • DNC-B: Values and Variables • TG: L01-24 (pp 5-213) • TG: Post Assessment L17-19 (pp 172 - 173)

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<p>Big Idea: Measurement Students translate from measuring using nonstandard units to using standard units of measurement. They identify measurable attributes of objects, estimate and measure weight, length, perimeter, area, angles, temperature, time and money. They convert units within the same measurement system.</p> <p>Academic Expectations 2.10 Students understand measurement concepts and use measurements appropriately and accurately. 2.11 Students understand mathematical change concepts and use them appropriately and accurately.</p>		
Program of Studies: Understandings	Program of Studies: Skills and Concepts	Related Core Content for Assessment
<p>MA-5-M-U-1 Students will understand that there are two major measurement systems (U.S. Customary and metric) and either may be used to solve problems.</p> <p>5th Grade Set</p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L05-06 (pp 45-60) 	<p>MA-5-M-S-MPA3 Students will apply standard units of measure to length, weight, temperature and liquid capacity.</p> <p>5th Grade Set</p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L01-03 (pp 7-30) • TG: L14 (pp 115-122) • TG: Post Assessment L011-04 (pp 4-5) • TG: Unit Pre Assessment (pp xxii-xxix) • DNC-B: Values and Variables • TG: L17 (pp 151 - 156) <p>MA-5-M-S-MPA8 Students will solve problems involving money.</p> <p>5th Grade Set</p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L26 (pp 241-250) • TG: L27 (pp 251-257) • TG: Post Assessment L15-20 (pp 189-190) • TG: L18 (pp 157 - 163) 	<p>MA-05-2.1.1 Students will apply standard units to measure length (to the nearest eighth-inch or the nearest centimeter) and to determine:</p> <ul style="list-style-type: none"> • weight (ounce, pound; gram, kilogram); • perimeter; • area (figures that can be divided into rectangular shapes); • time (nearest minute); • temperature (Fahrenheit and Celsius) and • angle measures (nearest degree). <p style="text-align: right;">DOK 2</p> <p>5th Grade Set</p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L12 (pp 115-122) • TG: Post Assessment L11-13 (p 106) • TG: Unit Pre Assessment (pp xxii-xxx) • DMB: Tools and Time • TG: L01-07 (pp 7-68) • TG: L11-14 (pp 95-122) • TG: L19 (pp 153-158)

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	<ul style="list-style-type: none"> • TG: Post Assessment L17-19 (pp 172 - 173) <p>MA-5-M-S-SM1 Students will relate and convert units (e.g., linear, volume, weight) within a measurement system (e.g., 125 cm = 1m 25 cm).</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L01 (pp 7-14) • TG: L04 (pp 31-38) • TG: L16-19 (pp 135-158) • TG: Post Assessment L011-04 (pp 4-5) • TG: Post Assessment L16-20 (pp 133-134) • TG: Unit Pre Assessment (pp xxii-xxix) <p>MA-5-M-S-SM2 Students will convert units within the U.S. monetary system.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L16 (pp 137-144) <p>MA-5-M-S-SM3 Students will convert units of time and determine elapsed time.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L11-13 (pp 95-114) • TG: Post Assessment L11-15 (pp 93-94) 	<ul style="list-style-type: none"> • TG: Post Assessment L05-10 (pp 43-44) • TG: Post Assessment L11-15 (pp 93-94) • TG: Unit Pre Assessment (pp xxii-xxix) • DNC-B: Values and Variables • TG: L17 (pp 151 - 156) <p>MA-05-2.2.2 <i>Students will describe, define, give examples of and use to solve real-world and mathematical problems nonstandard and standard (U.S. Customary, metric) units of measurement.</i></p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L01-05 (pp 7-54) • TG: L18-20 (pp 147-166)
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	<ul style="list-style-type: none"> • TG: Unit Pre Assessment (pp xxii-xxix) <p>MA-5-M-S-SM4 Students will describe, define, give examples of and use to solve real-world and/or mathematical problems both nonstandard and standard (U.S. Customary, metric) units of measurement to include length, time, money, temperature (°F and °C) and weight.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L01-05 (pp 7-54) • TG: L14 (pp 115-122) • TG: L18 (pp 147-152) • TG: L19 (pp 153-158) • DNC-B: Values and Variables • TG: L17 (pp 151 - 156) 	
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<p>MA-5-M-U-2 Students will understand that measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them. <u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L12 (pp 115-122) • TG: Post Assessment L11-13 (p 106) • DMB: Tools and Time • TG: L01-03 (pp 7-30) • TG: L07 (pp 61-68) • TG: L16-20 (pp 135-166) • TG: Post Assessment L011-04 (pp 4-5) • TG: Post Assessment L05-10 (pp 43-44) • TG: Unit Pre Assessment (pp xxii-xxix) <p>MA-5-M-U-3 Students will understand that appropriate techniques, tools and formulas are used to determine measurements. <u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L12 (pp 115-122) • TG: L13 (pp 123-129) • TG: Post Assessment L11-13 (p 106) • DMB: Tools and Time • TG: L05-08 (pp 45-74) • TG: L16-20 (pp 135-166) • TG: Post Assessment L05-10 (pp 43-44) • TG: Unit Pre Assessment (pp xxii-xxix) 	<p>MA-5-M-S-MPA1 Students will measure and construct angles to the nearest degree. <u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L09 (pp 85-93) • DNC-A: Values and Variables • TG: Post Assessment L28-30 (p 288) <p>MA-5-M-S-MPA2 Students will use charts and tables to determine time schedules, work with time zones and estimate time.</p> <p>MA-5-M-S-MPA4 Students will choose and use appropriate tools (e.g., protractor, angle ruler, meter stick, ruler) for measurement tasks. <u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L01-05 (pp 7-54) • TG: L14 (pp 115-122) • TG: L18-20 (pp 147-166) • DNC-B: Values and Variables • TG: L17 (pp 151 - 156) <p>MA-5-M-S-MPA5 Students will use measures to identify, describe, sort and compare attributes of objects. <u>5th Grade Set</u></p>	<p>MA-05-2.1.1 Students will apply standard units to measure length (to the nearest eighth-inch or the nearest centimeter) and to determine:</p> <ul style="list-style-type: none"> • weight (ounce, pound; gram, kilogram); • perimeter; • area (figures that can be divided into rectangular shapes); • time (nearest minute); • temperature (Fahrenheit and Celsius) and • angle measures (nearest degree). <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L12 (pp 115-122) • TG: Post Assessment L11-13 (p 106) • TG: Unit Pre Assessment (pp xxii-xxx) • DMB: Tools and Time • TG: L01-07 (pp 7-68) • TG: L11-14 (pp 95-122) • TG: L19 (pp 153-158) • TG: Post Assessment L05-10 (pp 43-44) • TG: Post Assessment L11-15 (pp 93-94) • TG: Unit Pre Assessment (pp xxii-xxix) • DNC-B: Values and Variables • TG: L17 (pp 151 - 156) <p><i>MA-05-2.1.2</i> <i>Students will choose and use appropriate tools (e.g., protractor, meter stick, ruler) for specific tasks and apply skills to solve real-world and mathematical problems.</i></p>
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DAT=Developing Algebraic Thinking
DGL=Developing Geometric Logic

DMB=Developing Measurement Benchmarks
DNC-A=Developing Number Concepts Module A, DNC-B=Module B

**Correlation of Math Out of Box® to
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	<ul style="list-style-type: none"> • DMB: Tools and Time • TG: L04 (pp 31-38) • TG: L14-15 (pp 115-128) • TG: L19 (pp 153-158) • TG: Post Assessment L011-04 (pp 4-5) • TG: Unit Pre Assessment (pp xxii-xxix) • DNC-B: Values and Variables • TG: L17 (pp 151 - 156) <p>MA-5-M-S-MPA6 Students will use standard units to determine area and perimeter of triangles and rectangles and volume of rectangular prisms and apply these skills to solve real-world and mathematical problems.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L12 (pp 115-122) • TG: Post Assessment L11-13 (p 106) • TG: Unit Pre Assessment (pp xxii-xxx) • DMB: Tools and Time • TG: L05-08 (pp 45-74) • TG: L10 (pp 81-88) • TG: Post Assessment L05-10 (pp 43-44) • TG: Unit Pre Assessment (pp xxii-xxix) <p>MA-5-M-S-SM4 Students will describe, define, give examples of and use to solve real-world and/or mathematical problems both nonstandard and standard (U.S. Customary, metric) units of measurement to include length, time, money, temperature (°F and °C) and weight.</p>	<p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L09 (pp 85-93) • DMB: Tools and Time • TG: L01 (pp 7-14) • TG: L03-05 (pp 21-54) • TG: L14 (pp 115-122) • TG: L18-20 (pp 147-166) • DNC-A: Values and Variables • TG: Post Assessment L28-30 (p 288) • DNC-B: Values and Variables • TG: L17 (pp 151 - 156) <p><i>MA-05-2.1.3</i> <i>Students will use measurements to identify, describe, sort and compare attributes of objects and apply these to solve real-world and mathematical problems.</i></p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L04 (pp 31-38) • TG: L14 (pp 115-122) • TG: L15 (pp 123-128) • TG: L19 (pp 153-158) • TG: Post Assessment L011-04 (pp 4-5) • TG: Post Assessment L16-20 (pp 133-134) • TG: Unit Pre Assessment (pp xxii-xxix) • DNC-B: Values and Variables • TG: L17 (pp 151 - 156) <p><i>MA-05-2.1.4</i> <i>Students will measure volume of rectangular</i></p>
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	<p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L01-05 (pp 7-54) • TG: L14 (pp 115-122) • TG: L18 (pp 147-152) • TG: L19 (pp 153-158) • DNC-B: Values and Variables • TG: L17 (pp 151 - 156) 	<p><i>prisms, liquid capacity, and money using standard units and apply these skills to solve real-world and mathematical problems.</i></p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L10 (pp 81-88) • TG: L16 (pp 135-140) • TG: L17 (pp 141-146) <p>MA-05-2.1.6 Students will estimate weight, length, perimeter, area, angle measures and time using appropriate units of measurement. DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L11 (pp 95-100) • TG: Post Assessment L16-20 (pp 133-134) • TG: Unit Pre Assessment (pp xxii-xxix)
		<p>MA-05-2.2.1 Students will determine elapsed time. DOK 3</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L11-13 (pp 95-114) • TG: Post Assessment L11-15 (pp 93-94) • TG: Unit Pre Assessment (pp xxii-xxix)

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		<p>MA-05-2.2.3 Students will convert units within the same measurement system [U.S. customary (inches, feet, yards, miles; ounces, pounds, tons), metric (millimeters, centimeters, meters, kilometers; grams, kilograms), money, or time] and use the units to solve problems.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L01 (pp 7-14) • TG: L04 (pp 31-38) • TG: L18 (pp 147-152) • TG: L19 (pp 153-158) • TG: Post Assessment L011-04 (pp 4-5) • TG: Post Assessment L16-20 (pp 133-134) • TG: Unit Pre Assessment (pp xxii-xxix)
<p>MA-5-M-U-4 Students will understand that for each situation, there is an appropriate degree of accuracy in measurement.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: L02 (pp 15-20) 	<p>MA-5-M-S-MPA7 Students will estimate weight, length, perimeter, area and angles using appropriate units of measurement.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DMB: Tools and Time • TG: Post Assessment L16-20 (pp 133-134) • TG: Unit Pre Assessment (pp xxii-xxix) 	

**Correlation of Math Out of Box[®] to
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<p>Big Idea: Geometry Students explore and find basic geometric elements and terms, two-dimensional shapes and three-dimensional objects. They find and use symmetry. They move two-dimensional figures in a plane and explore congruent and similar figures.</p> <p>Academic Expectation 2.8 Students understand various mathematical procedures and use them appropriately and accurately. 2.9 Students understand space and dimensionality concepts and use them appropriately and accurately.</p>		
Program of Studies: Understandings	Program of Studies: Skills and Concepts	Related Core Content for Assessment
<p>MA-5-G-U-1 Students will understand that characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L02-03 (pp 17-33) • TG: L05 (pp 45-50) • TG: L07-11 (pp 71-114) 	<p>MA-5-G-S-SR1 Students will identify and model basic two-dimensional figures and three-dimensional objects by appearance and in different orientations (e.g., representations of different views of figures and objects).</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L01 (pp 7-15) • TG: L04 (pp 35-43) • TG: Post Assessment L01-05 (pp 5-6) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-5-G-S-SR2 Students will classify angles as acute, right, or obtuse.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L08 (pp 79-84) • TG: L09 (pp 85-93) • TG: Post Assessment L06-10 (pp 55-57) 	<p>MA-05-3.1.1 Students will describe and provide examples of basic geometric elements and terms [points, segments, lines (perpendicular, parallel, intersecting), rays, angles (acute, right, obtuse), sides, edges, faces, bases, vertices, radius, diameter] and will apply these elements to solve real-world and mathematical problems.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L06 (pp 59-69) • TG: L08 (pp 79-84) • TG: L09 (pp 85-93) • TG: Post Assessment L06-10 (pp 55-57) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-05-3.1.2 Students will describe and provide examples of basic two-dimensional shapes [circles, triangles (right, equilateral), all quadrilaterals, pentagons, hexagons, octagons] and will apply these shapes to</p>

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	<ul style="list-style-type: none"> • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-5-G-S-SR3 Students will describe and provide examples of basic geometric elements and terms and apply these elements to solve real-world problems.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L01-04 (pp 7-43) • TG: L06 (pp 59-69) • TG: L10 (pp 95-101) • TG: L13 (pp 123-129) • TG: Post Assessment L01-05 (pp 5-6) • TG: Post Assessment L17-20 (pp 162-163) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-5-G-S-SR4 Students will describe and provide examples of basic two-dimensional figures and three-dimensional objects and apply these to solve real-world problems.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L01-04 (pp 7-43) • TG: L06 (pp 59-69) • TG: L10 (pp 95-101) • TG: L13 (pp 123-129) • TG: Post Assessment L01-05 (pp 5-6) • TG: Post Assessment L17-20 (pp 162-163) <p>TG: Unit Pre Assessment (pp xxii-xxx)</p>	<p>solve real-world and mathematical problems.</p> <p align="right">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L06-10 (pp 59-101) • TG: Post Assessment L06-10 (pp 55-57) • TG: Post Assessment L17-20 (pp 162-163) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-05-3.1.3 Students will describe and provide examples of basic three-dimensional objects (spheres, cones, cylinders, pyramids, cubes, triangular and rectangular prisms), will identify three-dimensional objects from two-dimensional representations (nets) and will apply the attributes to solve real-world and mathematical problems.</p> <p align="right">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L01 (pp 7-15) • TG: L03 (pp 27-33) • TG: L05 (pp 45-50) • TG: Post Assessment L01-05 (pp 5-6) • TG: Unit Pre Assessment (pp xxii-xxx)
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	<p>MA-5-G-S-SR5 Students will identify and describe congruent and similar figures in real-world or mathematical situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L17 (pp 165-171) • TG: Post Assessment (p 134) • TG: Unit Pre Assessment (pp xxii-xxx) 	<p>MA-05-3.1.5 Students will identify and describe congruent and similar figures in real-world and mathematical problems.</p> <p align="right">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L06 (pp 59-69) • TG: L10 (pp 95-101) • TG: Post Assessment (p 134) • TG: Post Assessment L06-10 (pp 55-57) • TG: Unit Pre Assessment (pp xxii-xxx)
<p>MA-5-G-U-2 Students will understand that representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L19 (pp 181-187) 	<p>MA-5-G-S-CG1 Students will identify and graph ordered pairs on a positive coordinate system.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L18 (pp 173-179) • TG: L19 (pp 181-187) • TG: Post Assessment L17-20 (pp 162-163) • TG: Unit Pre Assessment (pp xxii-xxx) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171) <p>MA-5-G-S-CG2 Students will locate points on a grid.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations 	<p>MA-05-3.3.1 Students will identify and graph ordered pairs on a positive coordinate system scaled by ones, twos, threes, fives or tens; locate points on a grid; and apply graphing in the coordinate system to solve real-world problems.</p> <p align="right">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L18 (pp 173-179) • TG: L19 (pp 181-187) • TG: Post Assessment L17-20 (pp 162-163) • TG: Unit Pre Assessment (pp xxii-xxx) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171)

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	<ul style="list-style-type: none"> • TG: L18 (pp 173-179) • TG: L19 (pp 181-187) • TG: Post Assessment L17-20 (pp 162-163) • TG: Unit Pre Assessment (pp xxii-xxx) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171) <p>MA-5-G-S-CG3 Students will apply graphing in the coordinate system to solve real-world problems.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L19 (pp 181-187) 	
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**Correlation of Math Out of Box[®] to
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<p>MA-5-G-U-3 Students will understand that transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L14-16 (pp 135-157) <p>MA-5-G-U-4 Students will understand shape and area are conserved during mathematical transformations (flips, slides and turns).</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L14 (pp 135-141) 	<p>MA-5-G-S-TS1 Students will describe and provide examples of line symmetry in real-world situations and apply line symmetry to construct simple geometric designs.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L15 (pp 143-149) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-5-G-S-TS2 Students will identify and draw basic two-dimensional shapes in different orientations using 90° rotations (turns) around a point of rotation, reflections (flips) and translations (slides) within a plane.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L14 (pp 135-141) 	<p>MA-05-3.2.1 Students will describe and provide examples of line symmetry in real-world and mathematical problems or will apply line symmetry to construct a geometric design.</p> <p style="text-align: right;">DOK 3</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L15 (pp 143-149) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-05-3.2.2 Students will identify 90° rotations, reflections or translations of basic shapes within a plane.</p> <p style="text-align: right;">DOK 1</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L14 (pp 135-141)
<p>MA-5-G-U-5 Students will understand that visualization, spatial reasoning and geometric relationships model real-world situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L04 (pp 35-43) 	<p>MA-5-G-S-SR3 Students will describe and provide examples of basic geometric elements and terms and apply these elements to solve real-world problems.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L01-04 (pp 7-43) 	<p>MA-05-3.1.1 Students will describe and provide examples of basic geometric elements and terms [points, segments, lines (perpendicular, parallel, intersecting), rays, angles (acute, right, obtuse), sides, edges, faces, bases, vertices, radius, diameter] and will apply these elements to solve real-world and mathematical problems.</p> <p style="text-align: right;">DOK 2</p>

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	<ul style="list-style-type: none"> • TG: L06 (pp 59-69) • TG: L10 (pp 95-101) • TG: L13 (pp 123-129) • TG: Post Assessment L01-05 (pp 5-6) • TG: Post Assessment L17-20 (pp 162-163) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-5-G-S-SR4 Students will describe and provide examples of basic two-dimensional figures and three-dimensional objects and apply these to solve real-world problems.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L01-04 (pp 7-43) • TG: L06 (pp 59-69) • TG: L10 (pp 95-101) • TG: L13 (pp 123-129) • TG: Post Assessment L01-05 (pp 5-6) • TG: Post Assessment L17-20 (pp 162-163) <p>MA-5-G-S-SR5 Students will identify and describe congruent and similar figures in real-world or mathematical situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L17 (pp 165-171) • TG: Post Assessment (p 134) • TG: Unit Pre Assessment (pp xxii-xxx) 	<p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L06 (pp 59-69) • TG: L08 (pp 79-84) • TG: L09 (pp 85-93) • TG: Post Assessment L06-10 (pp 55-57) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-05-3.1.3 Students will describe and provide examples of basic three-dimensional objects (spheres, cones, cylinders, pyramids, cubes, triangular and rectangular prisms), will identify three-dimensional objects from two-dimensional representations (nets) and will apply the attributes to solve real-world and mathematical problems.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L01 (pp 7-15) • TG: L03 (pp 27-33) • TG: L05 (pp 45-50) • TG: Post Assessment L01-05 (pp 5-6) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-05-3.2.1 Students will describe and provide examples of line symmetry in real-world and mathematical problems or will apply</p>
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	<p>MA-5-G-S-TS1 Students will describe and provide examples of line symmetry in real-world situations and apply line symmetry to construct simple geometric designs.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L15 (pp 143-149) • TG: Unit Pre Assessment (pp xxii-xxx) <p>MA-5-G-S-TS2 Students will identify and draw basic two-dimensional shapes in different orientations using 90° rotations (turns) around a point of rotation, reflections (flips) and translations (slides) within a plane.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L14 (pp 135-141) 	<p>line symmetry to construct a geometric design.</p> <p align="right">DOK 3</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L15 (pp 143-149) • TG: Unit Pre Assessment (pp xxii-xxx)
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<p>Big Idea: Data Analysis and Probability Students pose questions, plan and collect data, organize and display data and interpret displays of data. They generate outcomes for simple probability activities, determine fairness of probability games and explore likely and unlikely events.</p> <p>Academic Expectations 2.7 Students understand number concepts and use numbers appropriately and accurately. 2.8 Students understand various mathematical procedures and use them appropriately and accurately. 2.13 Students understand and appropriately use statistics and probability.</p>		
Program of Studies: Understandings	Program of Studies: Skills and Concepts	Related Core Content for Assessment
<p>MA-5-DAP-U-1 Students will understand that quantitative literacy is a necessary tool to be an intelligent consumer and citizen.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L11-12 (pp 105-120) • TG: L14-16 (137-158) • TG: L18 (pp 175-182) • TG: L20 (pp 191-198) • DNC-B: Values and Variables • TG: L16 (pp 137-144) • TG: L18 (pp 157-163) 	<p>MA-5-DAP-S-DR4 Students will analyze and make inferences from data displays (e.g., drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs).</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L16-18 (pp 151-182) • TG: Post Assessment L14-16 (pp 134-135) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DMB: Tools and Time • TG: L15 (pp 123-128) • DNC-B: Values and Variables • TG: L15 (pp 129 - 135) • TG: Post Assessment L13-16 (pp 145 - 146) 	

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<p>MA-5-DAP-U-2 Students will understand that the collection, organization, interpretation and display of data can be used to answer questions.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L20 (pp 191-198) 	<p>MA-5-DAP-S-DR1 Students will choose and use appropriate means to collect and represent data.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L11 (pp 105-112) • TG: L12 (pp 113-120) • TG: L15 (pp 143-150) • TG: L20 (pp 191-198) • DGL: Conjectures and Transformations • TG: L02 (pp (17-25) • TG: L12 (pp 115-122) • TG: L15 (pp 143-149) • TG: L16 (pp 151-157) • DMB: Tools and Time • TG: L07 (pp 61-68) • TG: L15 (pp 123-128) • TG: Post Assessment L11-15 (pp 93-94) • TG: Unit Pre Assessment (pp xxii-xxix) • DNC-B: Values and Variables • TG: L15 (pp 129 - 135) • TG: L21 (pp 187 - 192) • TG: L22 (pp 193 - 199) <p>MA-5-DAP-S-DR2 Students will explore line graphs to show change over time.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L16 (pp 151-158) • TG: Post Assessment L14-16 (pp 134-135) • TG: Unit Pre Assessment (pp xxiii-xxxiii) 	<p>MA-05-4.1.1 Students will analyze and make inferences from data displays (drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs).</p> <p style="text-align: right;">DOK 3</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L16-18 (pp 151-182) • TG: Post Assessment L14-16 (pp 134-135) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DGL: Conjectures and Transformations • TG: L02 (pp (17-25) • TG: L11 (pp 107-114) • TG: L12 (pp 115-122) • TG: L15 (pp 143-149) • TG: L16 (pp 151-157) • DMB: Tools and Time • TG: L07 (pp 61-68) • TG: L15 (pp 123-128) • DNC-B: Values and Variables • TG: L15 (pp 129 - 135) • TG: L18 (pp 157 - 163) • TG: L23 (pp 201 - 207) • TG: Post Assessment L13-16 (pp 145 - 146) <p>MA-05-4.1.2 <i>Students will collect data (e.g., tallies, surveys) and explain how the skills apply in real-world and mathematical problems.</i></p> <p><u>5th Grade Set</u></p>
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	<ul style="list-style-type: none"> • DMB: Tools and Time • TG: L15 (pp 123-128) <p>MA-5-DAP-S-DR3 Students will pose questions and choose an appropriate method to collect, organize and display student-collected data to answer the questions.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L11 (pp 105-112) • TG: L20 (pp 191-198) <p>MA-5-DAP-S-ES1 Students will pose questions and collect, organize, display and interpret data to answer the questions.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L11 (pp 105-112) • TG: L20 (pp 191-198) 	<ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L11 (pp 105-112) • TG: L13-15 (pp 121-150) • TG: L17 (pp 165-174) • TG: L20 (pp 191-198) • DGL: Conjectures and Transformations • TG: L02 (pp (17-25) • TG: L12 (pp 115-122) • TG: L15 (pp 143-149) • TG: L16 (pp 151-157) • DMB: Tools and Time • TG: L07 (pp 61-68) • DNC-B: Values and Variables • TG: L15 (pp 129 - 135) • TG: L21 (pp 187 - 192) • TG: L22 (pp 193 - 199) <p>MA-05-4.1.3 Students will construct data displays (pictographs, bar graphs, line plots, line graphs, Venn diagrams, tables).</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L02 (pp (17-25) • TG: L11-12 (pp 107-122) • TG: L15-16 (pp 143-157) • DMB: Tools and Time • TG: L07 (pp 61-68) • TG: L15 (pp 123-128) • DNC-B: Values and Variables • TG: L18 (pp 157 - 163) • TG: L23 (pp 201 - 207)
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<p>MA-5-DAP-U-3 Students will understand that the choice of data display can affect the visual message communicated.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L12 (pp 113-120) • TG: L15 (pp 143-150) • TG: L20 (pp 191-198) 	<p>MA-5-DAP-S-DR5 Students will use a variety of tools (e.g., graph paper, manipulatives, models, computer) to construct data displays (e.g., pictographs, bar graphs, line plots, line graphs, Venn diagrams, tables).</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DGL: Conjectures and Transformations • TG: L02 (pp 17-25) • TG: L11-12 (pp 107-122) • TG: L15-16 (pp 143-157) • DMB: Tools and Time • TG: L07 (pp 61-68) • TG: L15 (pp 123-128) • DNC-B: Values and Variables • TG: L18 (pp 157 - 163) • TG: L23 (pp 201 - 207) 	<p>MA-05-4.2.1 Students will determine and apply the mean, median, mode and range of a set of data.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L12 (pp 113-120) • TG: L13 (pp 121-130) • TG: L15-17 (pp 143-174) • TG: L19 (pp 183-190) • TG: Post Assessment L11-13 (pp 102-103) • TG: Post Assessment L17-20 (pp 162-163) • TG: Unit Pre Assessment (pp xxiii-xxxiii)
<p>MA-5-DAP-U-4 Students will understand that inferences and predictions from data are used to make critical and informed decisions.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L11-12 (pp 105-120) • TG: L14-16 (137-158) • TG: L18 (pp 175-182) • TG: L20 (pp 191-198) • DNC-B: Values and Variables • TG: L16 (pp 137-144) 	<p>MA-5-DAP-S-DR4 Students will analyze and make inferences from data displays (e.g., drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs).</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L16-18 (pp 151-182) • TG: Post Assessment L14-16 (pp 134-135) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DMB: Tools and Time • TG: L15 (pp 123-128) 	<p>MA-05-4.3.1 <i>Students will describe and give examples of the process of using data to answer questions (e.g., pose a question, plan, collect data, organize and display data, interpret data to answer questions).</i></p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L20 (pp 191-198)

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<ul style="list-style-type: none"> • TG: L18 (pp 157-163) 	<ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L15 (pp 129 - 135) • TG: Post Assessment L13-16 (pp 145 - 146) <p>MA-5-DAP-S-CD1 Students will draw conclusions and make predictions based on data.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L12 (pp 113-120) • DMB: Tools and Time • TG: L15 (pp 123-128) 	
<p>MA-5-DAP-U-5 Students will understand that for a given set of data, the measures of central tendency (mean and median) can be different.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L12 (pp 113-120) • TG: L15 (pp 143-150) • TG: L19-20 (pp 183-198) 	<p>MA-5-DAP-S-CD2 Students will develop the meaning and interpretation of the arithmetic mean (average) for numerical data.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: Post Assessment L11-13 (pp 102-103) • TG: Post Assessment L17-20 (pp 162-163) <p>MA-5-DAP-S-CD3 Students will determine the mean, median, mode and range of a set of data and use the results to answer questions about the set of data.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance 	

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	<ul style="list-style-type: none"> • TG: L12-13 (pp 113-130) • TG: L15-17 (pp 143-174) • TG: L19 (pp 183-190) • TG: Post Assessment L11-13 (pp 102-103) • TG: Unit Pre Assessment (pp xxiii-xxxiii) 	
<p>MA-5-DAP-U-6 Students will understand that probability can be used to make decisions or predictions or to draw conclusions.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L20-22 (pp 179-199) 	<p>MA-5-DAP-S-P1 Students will determine the possible outcomes of simple probability experiments that are conducted by using manipulatives.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L20-24 (pp 179 - 213) <p>MA-5-DAP-S-P2 Students will determine the likelihood of an event and represent that likelihood in numerical terms.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L20-24 (pp 179 - 213) <p>MA-5-DAP-S-P3 Students will examine events and describe their probability as likely or unlikely.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables 	<p>MA-05-4.4.1 Students will determine all possible outcomes of an activity/event with up to 12 possible outcomes.</p> <p align="right">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L20 (pp 179 - 185) • TG: L22 (pp 193 - 199) • TG: Post Assessment L20-24 (pp 214) <p>MA-05-4.4.2 Students will determine the likelihood of an event and the probability of an event (expressed as a fraction).</p> <p align="right">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L20-24 (pp 179 - 213)

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	<ul style="list-style-type: none"> • TG: L20-24 (pp 179 - 213) <p>MA-5-DAP-S-P4 Students will use counting techniques, tree diagrams and tables to explore probability experiments.</p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L20-23 (pp 179-207) <p>MA-5-DAP-S-P5 Students will determine all possible outcomes of an activity/event with up to 20 possible outcomes.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-B: Values and Variables • TG: L20 (pp 179 - 185) • TG: L22 (pp 193 - 199) • TG: Post Assessment L20-24 (pp 214) 	
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**Correlation of Math Out of Box® to
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<p>Big Idea: Algebraic Thinking Students explore and examine patterns and develop rules to go with patterns. They generate input-output for functions and create tables to analyze functions. Students use number sentences with missing values.</p> <p>Academic Expectations 2.8 Students understand various mathematical procedures and use them appropriately and accurately. 2.11 Students understand mathematical change concepts and use them appropriately and accurately. 2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.</p>		
Program of Studies: Understandings	Program of Studies: Skills and Concepts	Related Core Content for Assessment
<p>MA-5-AT-U-1 Students will understand that patterns, relations and functions are tools that help explain or predict real-world phenomena.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-30 (pp 5-287) • DNC-B: Values and Variables • TG: L01-24 (pp 5-213) 	<p>MA-5-AT-S-PRF1 Students will create, recognize, extend, find and write rules for patterns.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L02-06 (pp 19-60) • TG: Post Assessment L01-03 (pp 4-5) • TG: Post Assessment L04-06 (p 38) • TG: Post Assessment L07-10 (pp 64-65) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DNC-A: Values and Variables • TG: L09 (pp 85-92) • TG: L24-25 (pp 221-240) • TG: L28-29 (pp 265-280) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171) 	<p>MA-05-5.1.1 Students will extend patterns, find the missing term(s) in a pattern or describe rules for patterns (numbers, pictures, tables, words) from real-world and mathematical problems.</p> <p style="text-align: right;">DOK 3</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L02-06 (pp 19-60) • TG: Post Assessment L01-03 (pp 4-5) • TG: Post Assessment L04-06 (p 38) • TG: Post Assessment L07-10 (pp 64-65) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DNC-A: Values and Variables • TG: L09 (pp 85-92) • TG: L24-25 (pp 221-240) • TG: L28-29 (pp 265-280) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171)

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<p>MA-5-AT-U-2 Students will understand that numerical patterns can be written as rules that generate the pattern.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> DAT: Steps and Distance TG: Post Assessment L01-03 (pp 4-5) TG: Post Assessment L04-06 (p 38) TG: Post Assessment L07-10 (pp 64-65) TG: Unit Pre Assessment (pp xxiii-xxxiii) DNC-B: Values and Variables TG: L19 (pp 165 - 171) 	<p>MA-5-AT-S-PRF2 Students will generalize a rule for sets of ordered pairs.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> DAT: Steps and Distance TG: Post Assessment L01-03 (pp 4-5) TG: Post Assessment L04-06 (p 38) TG: Post Assessment L07-10 (pp 64-65) TG: Unit Pre Assessment (pp xxiii-xxxiii) DNC-B: Values and Variables TG: L19 (pp 165 - 171) 	<p>MA-05-5.1.1 Students will extend patterns, find the missing term(s) in a pattern or describe rules for patterns (numbers, pictures, tables, words) from real-world and mathematical problems.</p> <p align="right">DOK 3</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> DAT: Steps and Distance TG: L02-06 (pp 19-60) TG: Post Assessment L01-03 (pp 4-5) TG: Post Assessment L04-06 (p 38) TG: Post Assessment L07-10 (pp 64-65) TG: Unit Pre Assessment (pp xxiii-xxxiii) DNC-A: Values and Variables TG: L09 (pp 85-92) TG: L24-25 (pp 221-240) TG: L28-29 (pp 265-280) DNC-B: Values and Variables TG: L19 (pp 165 - 171)
<p>MA-5-AT-U-3 Students will understand that algebra represents mathematical situations and structures for analysis and problem solving.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> DNC-A: Values and Variables TG: L01-03 (pp 5-34) TG: L07 (pp 63-72) 	<p>MA-5-AT-S-VEO1 Students will explore unknowns and open sentences to express relationships.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> DAT: Steps and Distance TG: L04-10 (pp 39-98) DMB: Tools and Time TG: L05 (pp 45-54) DNC-A: Values and Variables TG: L01-08 (pp 5-78) 	<p>MA-05-5.3.1 Students will model real-world and mathematical problems with simple number sentences (equations and inequalities) with a variable or missing value (e.g., $4 = 2 \times N$, $___ + 5 > 14$) and apply simple number sentences to solve mathematical and real-world problems.</p> <p align="right">DOK 2</p> <p><u>5th Grade Set</u></p>

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	<p>MA-5-AT-S-VEO2 Students will represent real-world situations with mathematical sentences containing missing values.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L05 (pp 47-54) • TG: L08-09 (pp 77-90) • DNC-B: Values and Variables • TG: L04-05 (pp 33-53) • TG: L07-12 (pp 65-109) • TG: L15-20 (pp 129-185) <p>MA-5-AT-S-VEO3 Students will use variables or missing values to model verbal descriptions of real-world situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-08 (pp 5-78) <p>MA-5-AT-S-EI1 Students will apply simple equations and simple inequalities to solve mathematical and/or real-world problems.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-03 (pp 5-34) • TG: L07-08 (pp 63-78) 	<ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-03 (pp 5-34) • TG: L07-08 (pp 63-78)
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<p>MA-5-AT-U-4 Students will understand that real-world situations can be represented using mathematical models to analyze quantitative relationships.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L05 (pp 47-54) • TG: L15 (pp 143-150) • TG: L17 (pp 165-174) • DMB: Tools and Time • TG: L03 (pp 21-30) • TG: L20 (pp 159-166) • DNC-A: Values and Variables • TG: L16-17 (pp 149-166) • TG: L19-20 (pp 175-188) • TG: L23 (pp 215-220) • TG: L26-27 (pp 241-257) • TG: Post Assessment L15-20 (pp 189-190) • DNC-B: Values and Variables • TG: L10-12 (pp 87 - 109) • TG: L18 (pp 157 - 163) • TG: Post Assessment L05-12 (pp 110 - 111) • TG: Post Assessment L17-19 (pp 172 - 173) 	<p>MA-5-AT-S-PRF4 Students will construct tables to analyze functions based on real-world or mathematical situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L04-10 (pp 39-98) • TG: Post Assessment L07-10 (pp 64-65) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171) <p>MA-5-AT-S-VEO3 Students will use variables or missing values to model verbal descriptions of real-world situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-08 (pp 5-78) <p>MA-5-AT-S-EI2 Students will model real-world situations with simple number sentences using manipulatives, numbers, variables and/or symbols.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01 -05(pp 5-52) • TG: L07-08 (pp 63-78) • TG: L16-17 (pp 149-166) • TG: L19-20 (pp 175-188) 	<p>MA-05-5.3.1 Students will model real-world and mathematical problems with simple number sentences (equations and inequalities) with a variable or missing value (e.g., $4 = 2 \times N$, $___ + 5 > 14$) and apply simple number sentences to solve mathematical and real-world problems.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L01-03 (pp 5-34) • TG: L07-08 (pp 63-78)
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	<ul style="list-style-type: none"> • TG: L23-27 (pp 215-257) • TG: Post Assessment L15-20 (pp 189-190) • TG: Post Assessment L21-27 (pp 258-260) • DNC-B: Values and Variables • TG: L10-12 (pp 87 - 109) • TG: Post Assessment L05-12 (pp 110 - 111) 	
<p>MA-5-AT-U-5 Students will understand that functions are used to analyze change in various contexts and model real-world phenomena.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L04-10 (pp 39-98) • TG: Post Assessment L07-10 (pp 64-65) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DNC-A: Values and Variables • TG: L01-05 (pp 5-14) • TG: L07-08 (pp 63-78) • TG: L16-17 (pp 149-166) • TG: L19-20 (pp 175-188) • TG: L23-27 (pp 215-257) • TG: Post Assessment L15-20 (pp 189-190) • TG: Post Assessment L21-27 (pp 258-260) • DNC-B: Values and Variables • TG: L10-12 (pp 87 - 109) • TG: L19 (pp 165 - 171) • TG: Post Assessment L05-12 (pp 110 - 111) 	<p>MA-5-AT-S-PRF3 Students will describe input-output functions through pictures, tables and/or words</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L04-10 (pp 39-98) • TG: Post Assessment L07-10 (pp 64-65) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171) <p>MA-5-AT-S-PRF4 Students will construct tables to analyze functions based on real-world or mathematical situations.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L04-10 (pp 39-98) • TG: Post Assessment L07-10 (pp 64-65) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171) 	<p>MA-05-5.1.2 Students will describe functions (input-output) through pictures, tables, or words and will construct tables to analyze functions based on real-world or mathematical problems.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: Post Assessment L01-03 (pp 4-5) • TG: Post Assessment L04-06 (p 38) • TG: Post Assessment L07-10 (pp 64-65) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171) <p>MA-05-5.1.3 Students will determine an output value or an input value for a function rule given the other value.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L04-10 (pp 39-98)

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Kentucky's Program of Studies and Core Content for Assessment
Combined Curriculum Document for 5th Grade Mathematics**

<p>MA-5-AT-U-6 Students will understand that functions can be written in words, as a symbolic sentence or in a table.</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DAT: Steps and Distance • TG: L01-20 (pp 7-198) • TG: Post Assessment L01-03 (pp 4-5) • TG: Post Assessment L04-06 (p 38) • TG: Post Assessment L07-10 (pp 64-65) • TG: Post Assessment L11-13 (pp 102-103) • TG: Post Assessment L14-16 (pp 134-135) • TG: Post Assessment L17-20 (pp 162-163) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DNC-A: Values and Variables • TG: L28-29 (pp 265-280) • DNC-B: Values and Variables • TG: L07 (pp 65 - 72) • TG: L19 (pp 165 - 171) • TG: Post Assessment L17-19 (pp 172 - 173) 		<ul style="list-style-type: none"> • TG: Post Assessment L07-10 (pp 64-65) • TG: Unit Pre Assessment (pp xxiii-xxxiii) • DNC-B: Values and Variables • TG: L19 (pp 165 - 171) <p>MA-05-5.2.1 Students will model verbal descriptions of real-world and mathematical problems using a variable or a missing value in an expression.</p> <p style="text-align: right;">DOK 2</p> <p><u>5th Grade Set</u></p> <ul style="list-style-type: none"> • DNC-A: Values and Variables • TG: L17 (pp 159-166) • TG: L20 (pp 181-188)
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