GRADE 6: MATH CURRICULUM FRAMEWORKS

NUMBER AND OPERATION (encompasses 14–19 MCA test items)

Standard 1: Read, write, represent and compare positive rational numbers expressed as fractions, decimals, percents and ratios; write positive integers as products of factors; use these representations in real-world and mathematical situations. (encompasses 5-7 MCA test items)

Curriculum Benchmark	MCA III Test Item Specifications	Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition	Notes/Activities
Locate positive rational numbers on a number line and plot pairs of positive rational numbers on a coordinate grid. (M) (6.1.1.1)	• Both axes must have the same scale • Items may require locating points on either axis • Vocabulary allowed in items: integer, *x*-axis, *y*-axis, horizontal axis, vertical axis, rational number, coordinate grid, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 602-603, 604-605, 606-607, 612, 641, 643	
Compare positive rational numbers represented in various forms. Use the symbols $<$, $=$ and $>$. (M) (6.1.1.2) For example: $\frac{1}{2} > 0.36$.	• Vocabulary allowed in items: is greater than, is less than, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 100-101, 102-103, 114, 144, 147, 204, 210, 211, 375-376, 377-378, 390, 396, 397, 602-603	
Understand that percent represents parts out of 100 and ratios to 100. (M) (6.1.1.3) For example: 75% corresponds to the ratio 75 to 100, which is equivalent to the ratio 3 to 4.	• Allowable notation: 25%, ¼, 1:4 • Percents must be between 1 and 100, inclusive • Vocabulary allowed in items: percent, ratio, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 370, 371-372, 373-374, 390, 396, 397	
Determine equivalences among fractions, decimals and percents; select among these representations to solve problems. (M) (6.1.1.4) For example: If a woman making $25 an hour gets a 10% raise, she will make an additional $2.50 an hour, because $2.50 is $\frac{1}{10}$ or 10% of $25.	• Allowable notation: 50%, ¼ , 0.95, $0.\overline{25}$ • Percents must be between 1 and 100, inclusive • Vocabulary allowed in items: vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 175-176, 177-178, 190, 209, 211, 375-376, 377-378, 379, 390, 396, 397	
Factor whole numbers; express a whole number as a product of prime factors with exponents. (M) (6.1.1.5) For example: $24 = 2^3 \times 3$	• Prime factors are not greater than 13 • Numbers being factored are less than 1,000 • Vocabulary allowed in items: prime factor, prime factorization, exponent, power, base, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 160, 161-162, 163-164, 172, 209, 211	

GRADE 6: MATH CURRICULUM FRAMEWORKS

NUMBER AND OPERATION (encompasses 14–19 MCA test items) (continued)			
Curriculum Benchmark	**MCA III Test Item Specifications**	**Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition**	**Notes/Activities**
Determine greatest common factors and least common multiples. Use common factors and common multiples to calculate with fractions and find equivalent fractions. (M) (6.1.1.6) For example: Factor the numerator and denominator of a fraction to determine an equivalent fraction.	• Vocabulary allowed in items: greatest common factor, least common multiple, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 165-166, 167-168, 169, 172, 209, 211	
Convert between equivalent representations of positive rational numbers. (M) (6.1.1.7) For example: Express $\frac{10}{7}$ as $\frac{7+3}{7}=\frac{7}{7}+\frac{3}{7}=1\frac{3}{7}$	• Conversions are limited to within a representation (e.g., 7/4=1¾ and 32=3·3, not 0.5=1/2) • Vocabulary allowed in items: exponent, integer, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 175-176, 178-179, 190, 375-376, 377-378, 379, 390, 396, 397	
District Benchmark: Read and write numbers from millionths to trillions. (M)	(None)	(Not yet identified)	
District Benchmark: Recognize a pattern for adding and subtracting positive and negative integers. (M)	(None)	(Not yet identified)	
District Benchmark: Recognize a pattern for adding and subtracting positive and negative integers. (I/P)	(None)	(Not yet identified)	

GRADE 6: MATH CURRICULUM FRAMEWORKS

NUMBER AND OPERATION (encompasses 14–19 MCA test items) (continued)

Standard 2: Understand the concept of ratio and its relationship to fractions and to the multiplication and division of whole numbers. Use ratios to solve real-world and mathematical problems. (encompasses 2-6 MCA test items)

Curriculum Benchmark	MCA III Test Item Specifications	Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition	Notes/Activities
Identify and use ratios to compare quantities; understand that comparing quantities using ratios is not the same as comparing quantities using subtraction. (M) (6.1.2.1) For example: In a classroom with 15 boys and 10 girls, compare the numbers by subtracting (there are 5 more boys than girls) or by dividing (there are 1.5 times as many boys as girls). The comparison using division may be expressed as a ratio of boys to girls (3 to 2 or 3:2 or 1.5 to 1).	• Allowable ratio notation: ¼, 1 to 4, 1:4, 1 out of 4 • Vocabulary allowed in items: ratio, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 342-343, 344-345, 346-347, 348-349, 368, 394-395, 397	
Apply the relationship between ratios, equivalent fractions and percents to solve problems in various contexts, including those involving mixtures and concentrations. (M) (6.1.2.2) For example: If 5 cups of trail mix contains 2 cups of raisins, the ratio of raisins to trail mix is 2 to 5. This ratio corresponds to the fact that the raisins are $\frac{2}{5}$ of the total, or 40% of the total. And if one trail mix consists of 2 parts peanuts to 3 parts raisins, and another consists of 4 parts peanuts to 8 parts raisins, then the first mixture has a higher concentration of peanuts.	• Allowable ratio notation: ¼, 1 to 4, 1:4, 1 out of 4, 25% • Rates may be expressed using the word "per" • Vocabulary allowed in items: ratio, percent, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 180-181, 182-183, 190, 342-343, 344-345, 375-376, 377-378, 379, 390, 394, 396, 397	
Determine the rate for ratios of quantities with different units. (M) (6.1.2.3) For example: 60 miles for every 3 hours is equivalent to 20 miles for every one hour (20 mph).	• Allowable ratio notation: ¼, 1 to 4, 1:4, 1 out of 4 • Rates may be expressed using the word "per" • Vocabulary allowed in items: rate, ratio, unit rate, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 342-343, 344-345, 346-347, 348-349, 368, 394-395, 397	
Use reasoning about multiplication and division to solve ratio and rate problems. (M) (6.1.2.4) For example: If 5 items cost $3.75, and all items are the same price, then 1 item costs 75 cents, so 12 items cost $9.00.	• Allowable ratio notation: ¼, 1 to 4, 1:4, 1 out of 4 • Rates may be expressed using the word "per" • Vocabulary allowed in items: rate, ratio, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 342-343, 344-345, 346-347, 348-349, 368, 394-395, 397	

GRADE 6: MATH CURRICULUM FRAMEWORKS

NUMBER AND OPERATION (encompasses 14–19 MCA test items) (continued)			
Standard 3: Multiply and divide decimals, fractions and mixed numbers; solve real-world and mathematical problems using arithmetic with positive rational numbers. (encompasses 5-7 MCA test items)			
Curriculum Benchmark	**MCA III Test Item Specifications**	**Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition**	**Notes/Activities**
Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. (M) (6.1.3.1)	• Items must not have context • Vocabulary allowed in items: reciprocal, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 120-121, 122-125, 126-128, 129-132, 244-247, 248-249, 250-253, 254-256, 257, 258-259, 260-263	
Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. (M) (6.1.3.2) For example: Just as $\frac{12}{4}=3$ means $12=3\times 4$, $\frac{2}{3}\div\frac{4}{5}=\frac{5}{6}$ means $\frac{5}{6}\times\frac{4}{5}=\frac{2}{3}$.	• Assessed within 6.1.3.1	Holt "Course 1" 2010 SE pages: 248-249, 250-253, 254-256, 257, 258-259, 260-264, 265-267	
Calculate the percent of a number and determine what percent one number is of another number to solve problems in various contexts. (M) (6.1.3.3) For example: If John has $45 and spends $15, what percent of his money did he keep?	• Percents are not less than 1 • Percents over 100 are 110, 125, 150 and 200 • Vocabulary allowed in items: percent, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 384-385, 386-387, 390, 396, 397	
Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers. (M) (6.1.3.4)	• Items are limited to no more than two operations • Vocabulary allowed in items: reciprocal, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 108-109, 110-113, 120-121, 122-125, 126-128, 129-132, 133-135, 136-139, 196-199, 200-203, 222-223, 224-227, 228-231, 232-233, 234-237	
Estimate solutions to problems with whole numbers, fractions and decimals and use the estimates to assess the reasonableness of results in the context of the problem. (M) (6.1.3.5) For example: The sum $\frac{1}{3}+0.25$ can be estimated to be between $\frac{1}{2}$ and 1, and this estimate can be used to check the result of a more detailed calculation.	• Assessed within 6.1.3.	Holt "Course 1" 2010 SE pages: 6-7, 8-9, 14, 38, 41, 104-105m 106-107, 114, 144, 147, 200-201, 202-203, 204, 210, 211	

GRADE 6: MATH CURRICULUM FRAMEWORKS

READING IN THE CONTENT AREA FOR NUMBER AND OPERATION (Taken from "Standards for Literacy in Science/Technical Subjects")			
Benchmark	**Unit/Quarter**	**How Assessed**	**Notes/Activities**
Cite specific textual evidence to support analysis of technical texts. (6.13.1.1)	All Units involve analyzing word problems/Ongoing	Through application of standard in the problems assigned-Formative	Analyze the usefulness or effectiveness of a word problem.
Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. (6.13.2.2)	All units involve analyzing word problems/Ongoing	Through application of standard in the problems assigned-Formative	Solving word problems. Being able to pick key words in order to determine the mathematical structure of the problem.
Determine the meaning of symbols, equations, graphical representations, tabular representations, key terms, and other domain-specific words and phrases as they are used in a specific technical context relevant to grades 6-8 texts and topics. (6.13.4.4)	All Units/Ongoing	Through application of standard in the problems assigned-Formative	Variables, =, <, > and geometry symbols
Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic. (6.13.5.5)	Beginning of book , table of contents for each unit/Ongoing	Through application of standard in the problems assigned-Formative	We introduce students to the book by having activities such as Scavenger Hunt
Compare and integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, table, map). (6.13.7.7)	Functions, etc./Ongoing	Through application of standard in the problems assigned-Formative	We use diagrams, tables and graphs in almost every unit
By the end of grade 8, read and comprehend technical texts in the grades 6-8 text complexity band independently and proficiently. (6.13.10.10)	All Units/Ongoing	Through application of standard in the problems assigned-Formative	Having students read their text

GRADE 6: MATH CURRICULUM FRAMEWORKS

ALGEBRA (encompasses 12-16 MCA test items)

Standard 1: Recognize and represent relationships between varying quantities; translate from one representation to another; use patterns, tables, graphs and rules to solve real-world and mathematical problems. (encompasses 4-5 MCA test items)

Curriculum Benchmark	MCA III Test Item Specifications	Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition	Notes
Understand that a variable can be used to represent a quantity that can change, often in relationship to another changing quantity. Use variables in various contexts. (M) (6.2.1.1) For example: If a student earns $7 an hour in a job, the amount of money earned can be represented by a variable and is related to the number of hours worked, which also can be represented by a variable.	• Allowable multiplication notation: 3*x*, *xy*, 3·4, 3(4) • Equations will not contain exponents • Vocabulary allowed in items: evaluate, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 50-51, 52-53, 54-55, 56-57, 58-59, 60-61, 64, 66-67, 68-69, 84, 88-89, 91	
Represent the relationship between two varying quantities with function rules, graphs and tables; translate between any two of these representations. (M) (6.2.1.2) For example: Describe the terms in the sequence of perfect squares t = 1, 4, 9, 16, ... by using the rule $t = n^2$ for n = 1, 2, 3, 4, ...	• Allowable multiplication notation: 3*x*, *xy*, 3·4, 3(4) • Equations will not contain exponents • Vocabulary allowed in items: translate, function, coordinate grid, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 698-699, 700-701, 702-703, 704-705, 710-711, 712, 730, 733	

GRADE 6: MATH CURRICULUM FRAMEWORKS

ALGEBRA (encompasses 12-16 MCA test items) (continued)			
Standard 2: Use properties of arithmetic to generate equivalent numerical expressions and evaluate expressions involving positive rational numbers. (encompasses 2-3 MCA test items)			
Curriculum Benchmark	**MCA III Test Item Specifications**	**Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition**	**Notes**
Apply the associative, commutative and distributive properties and order of operations to generate equivalent expressions and to solve problems involving positive rational numbers. (M) (6.2.2.1) For example: $\frac{32}{15}\times\frac{5}{6}=\frac{32\times5}{15\times6}=\frac{2\times16\times5}{3\times5\times3\times2}=\frac{16}{9}\times\frac{2}{2}\times\frac{5}{5}=\frac{16}{9}$.	• Allowable multiplication notation: 3*x*, *xy*, 3·4, 3(4) • Items must not have context • Vocabulary allowed in items: order of operations, simplify, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 16-17, 18-19, 20-21, 22-23, 24-25, 34, 39, 41	

GRADE 6: MATH CURRICULUM FRAMEWORKS

ALGEBRA (encompasses 12-16 MCA test items) (continued)			
Standard 3: Understand and interpret equations and inequalities involving variables and positive rational numbers. Use equations and inequalities to represent real-world and mathematical problems; use the idea of maintaining equality to solve equations. Interpret solutions in the original context. (encompasses 6-8 MCA test items)			
Curriculum Benchmark	**MCA III Test Item Specifications**	**Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition**	**Notes**
Represent real-world or mathematical situations using equations and inequalities involving variables and positive rational numbers. (M) (6.2.3.1) For example: The number of miles m in a k kilometer race is represented by the equation m = 0.62 k.	• Allowable multiplication notation: 3x, xy, 3·4, 3(4), x^2 • <, > and = symbols are allowed • Vocabulary allowed in items: vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 66-69, 70-73, 74-76, 77-80, 81-83, 85, 136-139, 141, 238-241, 264-267, 269	
Solve equations involving positive rational numbers using number sense, properties of arithmetic and the idea of maintaining equality on both sides of the equation. Interpret a solution in the original context and assess the reasonableness of results. (M) (6.2.3.2) For example: A cellular phone company charges $0.12 per minute. If the bill was $11.40 in April, how many minutes were used?	• Allowable multiplication notation: 3x, xy, 3·4, 3(4), x^2 • Vocabulary allowed in items: reasonable, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 66-69, 70-73, 74-76, 77-80, 81-83, 136-139, 238-241, 264-267	

GRADE 6: MATH CURRICULUM FRAMEWORKS

READING IN THE CONTENT AREA FOR ALGEBRA (Taken from "Standards for Literacy in Science/Technical Subjects")			
Benchmark	**Unit/Quarter**	**How Assessed**	**Notes/Activities**
Cite specific textual evidence to support analysis of technical texts. (6.13.1.1)	All Units involve analyzing word problems/Ongoing	Through application of standard in the problems assigned-Formative	Analyze the usefulness or effectiveness of a word problem.
Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. (6.13.2.2)	All units involve analyzing word problems/Ongoing	Through application of standard in the problems assigned-Formative	Solving word problems. Being able to pick key words in order to determine the mathematical structure of the problem.
Determine the meaning of symbols, equations, graphical representations, tabular representations, key terms, and other domain-specific words and phrases as they are used in a specific technical context relevant to grades 6-8 texts and topics. (6.13.4.4)	All Units/Ongoing	Through application of standard in the problems assigned-Formative	Variables, =, <, > and geometry symbols
Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic. (6.13.5.5)	Beginning of book , table of contents for each unit/Ongoing	Through application of standard in the problems assigned-Formative	We introduce students to the book by having activities such as Scavenger Hunt
Compare and integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, table, map). (6.13.7.7)	Functions, etc./Ongoing	Through application of standard in the problems assigned-Formative	We use diagrams, tables and graphs in almost every unit
By the end of grade 8, read and comprehend technical texts in the grades 6-8 text complexity band independently and proficiently. (6.13.10.10)	All Units/Ongoing	Through application of standard in the problems assigned-Formative	Having students read their text

GRADE 6: MATH CURRICULUM FRAMEWORKS

GEOMETRY AND MEASUREMENT (encompasses 10-12 MCA test items)

Standard 1: Calculate perimeter, area, surface area and volume of two- and three-dimensional figures to solve real-world and mathematical problems. (encompasses 3-5 MCA test items)

Curriculum Benchmark	MCA III Test Item Specifications	Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition	Notes
Calculate the surface area and volume of prisms and use appropriate units, such as cm^2 and cm^3. Justify the formulas used. Justification may involve decomposition, nets or other models. (M) (6.3.1.1) For example: The surface area of a triangular prism can be found by decomposing the surface into two triangles and three rectangles.	• Allowable notation: 3 square centimeters, 3 cm sq, 3 cm^2 • Vocabulary allowed in items: vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 566-567, 568-569, 576-577, 578-579, 580, 581, 586, 587	
Calculate the area of quadrilaterals. Quadrilaterals include squares, rectangles, rhombuses, parallelograms, trapezoids and kites. When formulas are used, be able to explain why they are valid. (M) (6.3.1.2) For example: The area of a kite is one-half the product of the lengths of the diagonals, and this can be justified by decomposing the kite into two triangles.	• Congruent side marks (hash marks) may be used • Allowable notation: 3 square centimeters, 3 cm sq, 3 cm^2 • Vocabulary allowed in items: vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 62-63, 534-535, 536-537, 540-541, 542-543, 556, 584-585, 587	
Estimate the perimeter and area of irregular figures on a grid when they cannot be decomposed into common figures and use correct units, such as cm and cm^2. (M) (6.3.1.3)	• Allowable notation: 3 square centimeters, 3 cm sq, 3 cm^2 • Vocabulary allowed in items: vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 534-535, 536-537, 556, 587	
District Benchmark: Use a scale to calculate the actual size from a scale drawing. (P)	(none)	(Not yet identified)	

GRADE 6: MATH CURRICULUM FRAMEWORKS

GEOMETRY AND MEASUREMENT (encompasses 10-12 MCA test items) (continued)			
Standard 2: Understand and use relationships between angles in geometric figures. (encompasses 3-5 MCA test items)			
Curriculum Benchmark	**MCA III Test Item Specifications**	**Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition**	**Notes**
Solve problems using the relationships between the angles formed by intersecting lines. (M) (6.3.2.1) For example: If two streets cross, forming four corners such that one of the corners forms an angle of 120°, determine the measures of the remaining three angles. Another example: Recognize that pairs of interior and exterior angles in polygons have measures that sum to 180°.	• Allowable notation: ∠A, ∠mA , ΔABC • Vocabulary allowed in items: intersecting, vertical, adjacent, complementary, supplementary, straight, hypotenuse, leg, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 416-419, 424-425	
Determine missing angle measures in a triangle using the fact that the sum of the interior angles of a triangle is 180°. Use models of triangles to illustrate this fact. (M) (6.3.2.2) For example: Cut a triangle out of paper, tear off the corners and rearrange these corners to form a straight line. Another example: Recognize that the measures of the two acute angles in a right triangle sum to 90°.	• Allowable notation: ∠A, ∠mA , ΔABC • Vocabulary allowed in items: adjacent, complementary, supplementary, interior, exterior, hypotenuse, leg, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 429-430, 431-432, 433, 448, 468, 471	
Develop and use formulas for the sums of the interior angles of polygons by decomposing them into triangles. (M) (6.3.2.3)	• Allowable notation: ∠A, ∠mA , ΔABC • Vocabulary allowed in items: interior, diagonal, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 439	

GRADE 6: MATH CURRICULUM FRAMEWORKS

GEOMETRY AND MEASUREMENT (encompasses 10-12 MCA test items) (continued)			
Standard 3: Choose appropriate units of measurement and use ratios to convert within measurement systems to solve real-world and mathematical problems. (encompasses 2-3 MCA test items)			
Curriculum Benchmark	**MCA III Test Item Specifications**	**Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition**	**Notes**
Solve problems in various contexts involving conversion of weights, capacities, geometric measurements and times within measurement systems using appropriate units. (M) (6.3.3.1)	• Vocabulary allowed in items: customary, metric, capacity, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 488-489, 490-491, 492-493, 494-495, 500, 523, 525	
Estimate weights, capacities and geometric measurements using benchmarks in measurement systems with appropriate units. (M) (6.3.3.2) For example: Estimate the height of a house by comparing to a 6-foot man standing nearby.	• Vocabulary allowed in items: customary, metric, capacity, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 480-481, 482-482, 485-486, 487-489, 500, 522-523, 525	
District Benchmark: Predict the position and orientation of shapes under a reflection, rotation, or translation. (P)	(none)	(Not yet identified)	
District Benchmark: Create congruent figures using a ruler or protractor. (P)	(none)	(Not yet identified)	

GRADE 6: MATH CURRICULUM FRAMEWORKS

READING IN THE CONTENT AREA FOR GEOMETRY (Taken from "Standards for Literacy in Science/Technical Subjects")			
Benchmark	**Unit/Quarter**	**How Assessed**	**Notes/Activities**
Cite specific textual evidence to support analysis of technical texts. (6.13.1.1)	All Units involve analyzing word problems/Ongoing	Through application of standard in the problems assigned-Formative	Analyze the usefulness or effectiveness of a word problem.
Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. (6.13.2.2)	All units involve analyzing word problems/Ongoing	Through application of standard in the problems assigned-Formative	Solving word problems. Being able to pick key words in order to determine the mathematical structure of the problem.
Follow precisely a multistep procedure when carrying out experiments, designing solutions, taking measurements, or performing technical tasks. (6.13.3.3)	Geometry and Rational Numbers Units/Ongoing	Through application of standard in the problems assigned-Formative	Our students have to follow multi-step procedures in many applications including Order of Operations, Volume, and Surface Area
Determine the meaning of symbols, equations, graphical representations, tabular representations, key terms, and other domain-specific words and phrases as they are used in a specific technical context relevant to grades 6-8 texts and topics. (6.13.4.4)	All Units/Ongoing	Through application of standard in the problems assigned-Formative	Variables, =, <, > and geometry symbols
Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic. (6.13.5.5)	Beginning of book , table of contents for each unit/Ongoing	Through application of standard in the problems assigned-Formative	We introduce students to the book by having activities such as Scavenger Hunt
Compare and integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, table, map). (6.13.7.7)	Functions, etc./Ongoing	Through application of standard in the problems assigned-Formative	We use diagrams, tables and graphs in almost every unit
By the end of grade 8, read and comprehend technical texts in the grades 6-8 text complexity band independently and proficiently. (6.13.10.10)	All Units/Ongoing	Through application of standard in the problems assigned-Formative	Having students read their text

GRADE 6: MATH CURRICULUM FRAMEWORKS

DATA ANALYSIS AND PROBABILITY (encompasses 6-8 MCA test items)

Standard 1: Use probabilities to solve real-world and mathematical problems; represent probabilities using fractions, decimals and percents. (encompasses 6-8 MCA test items)

Curriculum Benchmark	MCA III Test Item Specifications	Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition	Notes
Determine the sample space (set of possible outcomes) for a given experiment and determine which members of the sample space are related to certain events. Sample space may be determined by the use of tree diagrams, tables or pictorial representations. (M) (6.4.1.1) For example: A 6×6 table with entries such as (1,1), (1,2), (1,3), …, (6,6) can be used to represent the sample space for the experiment of simultaneously rolling two number cubes.	• Size of the sample space will not exceed 36 • Vocabulary allowed in items: probability, outcome, tree diagram, event, random, sample space, combinations, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 656-657, 658-659, 662-663, 664-665, 670, 689, 691	
Determine the probability of an event using the ratio between the size of the event and the size of the sample space; represent probabilities as percents, fractions and decimals between 0 and 1 inclusive. Understand that probabilities measure likelihood. (M) (6.4.1.2) For example: Each outcome for a balanced number cube has probability $\frac{1}{6}$, and the probability of rolling an even number is $\frac{1}{2}$.	• Size of the sample space is no more than 100 • Vocabulary allowed in items: probability, outcome, event, likely, unlikely, certain, impossible, ratio, random, sample space, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 652-653, 654-655, 656-657, 658-659, 666-667, 668-669, 670, 688-689, 691	
Perform experiments for situations in which the probabilities are known, compare the resulting relative frequencies with the known probabilities; know that there may be differences. (M) (6.4.1.3) For example: Heads and tails are equally likely when flipping a fair coin, but if several different students flipped fair coins 10 times, it is likely that they will find a variety of relative frequencies of heads and tails.	• Vocabulary allowed in items: probability, outcome, event, theoretical, frequency, relative frequency, random, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 656-657, 658-659, 670, 689, 691	

GRADE 6: MATH CURRICULUM FRAMEWORKS

DATA ANALYSIS AND PROBABILITY (encompasses 6-8 MCA test items) (continued)			
Curriculum Benchmark	**MCA III Test Item Specifications**	**Where Benchmark is Taught/Assessed in Holt "Course 1" Student Edition**	**Notes**
Calculate experimental probabilities from experiments; represent them as percents, fractions and decimals between 0 and 1 inclusive. Use experimental probabilities to make predictions when actual probabilities are unknown. (M) (6.4.1.4) For example: Repeatedly draw colored chips with replacement from a bag with an unknown mixture of chips, record relative frequencies, and use the results to make predictions about the contents of the bag.	• Size of the sample space is no more than 100 • Vocabulary allowed in items: probability, outcome, event, experimental, frequency, predict, random, and vocabulary given at previous grades	Holt "Course 1" 2010 SE pages: 656-657, 658-659, 670, 689, 691	

GRADE 6: MATH CURRICULUM FRAMEWORKS

READING IN THE CONTENT AREA FOR DATA ANALYSIS (Taken from "Standards for Literacy in Science/Technical Subjects")			
Benchmark	**Unit/Quarter**	**How Assessed**	**Notes/Activities**
Cite specific textual evidence to support analysis of technical texts. (6.13.1.1)	All Units involve analyzing word problems/Ongoing	Through application of standard in the problems assigned-Formative	Analyze the usefulness or effectiveness of a word problem.
Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. (6.13.2.2)	All units involve analyzing word problems/Ongoing	Through application of standard in the problems assigned-Formative	Solving word problems. Being able to pick key words in order to determine the mathematical structure of the problem.
Determine the meaning of symbols, equations, graphical representations, tabular representations, key terms, and other domain-specific words and phrases as they are used in a specific technical context relevant to grades 6-8 texts and topics. (6.13.4.4)	All Units/Ongoing	Through application of standard in the problems assigned-Formative	Variables, =, <, > and geometry symbols
Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic. (6.13.5.5)	Beginning of book , table of contents for each unit/Ongoing	Through application of standard in the problems assigned-Formative	We introduce students to the book by having activities such as Scavenger Hunt
Analyze the author's purpose in describing phenomena, providing an explanation, describing a procedure, or discussing/reporting an experiment in a text. (6.13.6.6)	Data Analysis/Ongoing	Through application of standard in the problems assigned-Formative	Analyzing graphs and statistics for author's purpose
Compare and integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, table, map). (6.13.7.7)	Functions, etc./Ongoing	Through application of standard in the problems assigned-Formative	We use diagrams, tables and graphs in almost every unit
Distinguish among claims, evidence, reasoning, facts, and reasoned judgment based on research findings, and speculation in a text. (6.13.8.8)	Data Analysis/Ongoing	Through application of standard in the problems assigned-Formative	Using statistical measures to test the hypotheses using scatterplots, mean, median, and mode
Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with what has been gained from reading a text on the same topic. (6.13.9.9)	Data Analysis/Ongoing	Through application of standard in the problems assigned-Formative	Equation solving, flow chart, Venn Diagram (GCF, LCD, and LCM)

GRADE 6: MATH CURRICULUM FRAMEWORKS

READING IN THE CONTENT AREA FOR DATA ANALYSIS (Taken from "Standards for Literacy in Science/Technical Subjects")			
Benchmark	**Unit/Quarter**	**How Assessed**	**Notes/Activities**
By the end of grade 8, read and comprehend technical texts in the grades 6-8 text complexity band independently and proficiently. (6.13.10.10)	All Units/Ongoing	Through application of standard in the problems assigned-Formative	Having students read their text