

Kentucky Curriculum Matrix Summary

Introduction

The Curriculum Matrix data in this resource kit is provided as a guide to help educators in planning curriculum and instruction. All interpretations of state standards, Common Core Standards, and state assessment program data that were needed to construct the correlations in this Matrix were conducted by content area specialists in each discipline and reviewed by research managers. Where and if necessary, interpretations of the learning statements used in the correlations were verified by third-party reviewers and/or officials of the state's department of education. Every effort has been made to ensure the accuracy of the crosswalk and summary data. However, some learning outcome statements are, by their nature, subject to interpretation and determination of intent by content area specialists. Educators should always exercise their own best judgment in determining how to apply the data.

Care was taken to ensure that all data used in the analyses was current at the time of publication, but all standards and assessment data remain subject to updates as states revise or update their state standards or assessment programs. The International Center welcomes your feedback, advice, and suggestions about the data provided. The Center also eagerly encourages users to help us keep the data current for all educators in their state by advising us of any such updates. Please address all comments to: International Center for Leadership in Education, 1587 Route 146, Rexford, NY 12148 or info@LeaderEd.com.

Kentucky Core Content Assessment

The Kentucky *Core Content for Assessment 4.1* (reading, writing, mathematics, and science at elementary, middle, and high school levels) represents the content that has been identified as essential for all students to know and will be included on the state assessment. This content is designed for use with, not instead of, Kentucky's Academic Expectations and *Program of Studies* to provide the focus for the development of the Kentucky Core Content Test (KCCT).

Curriculum Matrix Priority Designations

Reading and Writing

The Kentucky English reading and writing curriculum includes Core Content Standards assessed by the KCCT in reading for grades 3-10 and in writing for grades 4, 8, and 12.

Testing Priority Designation

Information necessary to make priority designations relative to assessments was obtained from the Kentucky Department of Education website. Assessment priorities were determined by examining the data from the *Core Content for Reading Assessment* and *Core Content for Writing Assessment* (elementary, middle, and high school 4.1 versions). Data from these resources was used to determine priority designations. The KCCT is designed to measure proficiency of the Core Content Standards in the KCCT. Therefore, to determine priority designations, the number of reading and writing Core Content Standards at each grade level subdomain was averaged. Standard deviations (STD) were calculated for each grade level and subtracted from the mean. This number established the cut-off point between Medium (M) priority designations and High (H) priority designations. Because all KCCT Core Content Standards are eligible for assessment, there were no Low (L) priority designations. The KCCT reading and writing priority designation results can be found in Table 1.

Table 1. Reading and Writing Priority Designation Data

Grade	Mean ^H	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
End of Primary	6.00	2.45	3.55	0	1-4	>4
4	6.25	2.54	3.71	0	1-4	>4
5	6.25	2.54	3.71	0	1-4	>4
6	6.38	2.45	3.93	0	1-4	>4
7	6.88	2.15	4.73	0	1-5	>5
8	6.88	2.15	4.73	0	1-5	>5
9-10	6.50	2.40	4.10	0	1-4	>4
11-12	6.50	2.40	4.10	0	1-4	>4

^H Outliers were not averaged.

Reading and writing summary data is presented in Table 2.

Table 2. Kentucky Reading and Writing Data Summary

Reading and Writing			KCCT			National Essential Skills Study (NESS)*		
Grade	Subdomains	Core Content Standards	H	M	L	H 1-19	M 20-38	L 39-50
3	9	63	58	5	0	46	14	3
4	9	66	61	5	0	48	15	3
5	9	67	62	5	0	49	15	3
6	9	66	66	0	0	49	15	3
7	9	71	64	7	0	50	18	3
8	9	70	63	7	0	48	19	3
9-10	9	67	61	7	0	48	17	2
11-12	9	67	61	6	0	48	16	3
Totals	72	537	496	42	0	386	129	23

Mathematics

The Kentucky mathematics curriculum includes Core Content Standards assessed by the KCCT in grades 3-8 and 11.

Testing Priority Designation

Information necessary to make mathematics priority designations relative to assessments was obtained from the Kentucky Department of Education website. Assessment priorities were determined by examining the data from the *Core Content for Mathematics Assessment* (elementary, middle, and high school 4.1 versions). Data from these resources was used to determine priority designations. The KCCT is designed to measure proficiency of the Core Content Standards in the KCCT. Therefore, to determine priority designations, the number of mathematics Core Content Standards at each grade level organizer was averaged. Standard deviations (STD) were calculated for each grade level and subtracted from the mean. This number established the cut-off point between Medium (M) priority designations and High (H) priority designations. Because all KCCT Core Content Standards are eligible for assessment, there were no Low (L) priority designations. The KCCT mathematics priority designation results can be found in Table 3.

Table 3. Mathematics Priority Designation Data

Grade	Mean	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
3	2.27	1.44	1.43	0	1	>1
4	2.47	1.31	1.09	0	1	>1
5	2.40	1.31	1.09	0	1	>1
6	2.31	1.31	1.00	0	1	>1
7	2.44	1.27	1.16	0	1	>1
8	2.44	1.46	0.98	0	1	>1
High School	4.06	2.93	1.13	0	1	>1

Mathematics summary data is presented in Table 4.

Table 4. Kentucky Mathematics KCCT Data Summary

Mathematics			KCCT			National Essential Skills Study (NESS)*		
Grade	Subdomains	Core Content Standards	H	M	L	H 1-16	M 17-42	L 43-70
3	5	34	29	5	0	19	13	2
4	5	37	32	5	0	19	15	3
5	5	35	30	5	0	18	14	3
6	5	37	33	4	0	21	12	4
7	5	38	33	5	0	27	8	3
8	5	39	32	7	0	22	15	2
High School	5	67	63	4	0	33	25	9
Totals	35	287	252	35	0	159	102	26

Science

The Kentucky science curriculum includes Core Content Standards assessed by the KCCT in grades 4, 7, and 11.

Testing Priority Designation

Information necessary to make science priority designations relative to assessments was obtained from the Kentucky Department of Education website. Assessment priorities were determined by examining the data from the *Core Content for Science Assessment* (elementary, middle, and high school 4.1 versions). Data from these resources was used to determine priority designations. The KCCT is designed to measure proficiency of the Core Content Standards in the KCCT. Therefore, to determine priority designations, the number of science Core Content Standards at each grade level organizer was averaged. Standard deviations (STD) were calculated for each grade level and subtracted from the mean. This number established the cut-off point between Medium (M) priority designations and High (H) priority designations. Because all KCCT Core Content Standards are eligible for assessment, there were no Low (L) priority designations. The KCCT science priority designation results can be found in Table 5.

Table 5. Science Priority Designation Data

Grade	Mean	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
4	3.00	1.60	1.40	0	1	>1
7	2.00	1.07	0.93	0	1	>1
High School	6.57	3.20	3.37	0	1-3	>33.37

Science summary data is presented in Table 6.

Table 6. Kentucky Science KCCT Data Summary

Science			KCCT			National Essential Skills Study (NESS)*		
Grade	Subdomains	Core Content Standards	H	M	L	H 1-32	M 33-50	L 51-85
4	4	21	19	2	0	18	12	1
7	4	14	11	3	0	10	1	3
High School	4	46	41	5	0	29	9	8
Totals	72	175	157	18	0	106	32	36

**Total Percentage for KCCT Tested
Reading, Writing, Mathematics, and Science**

Table 7. Total Percentage for all KCCT Tested Grade Levels in Reading, Writing, Mathematics, and Science

	Number of Core Content Standards	Number of Core Content Standards Tested	Percent of Core Content Standards Tested
Reading, Writing	538	538	100%
Mathematics	287	287	100%
Science	72	72	100%
TOTAL	897	897	100%

Common Core Standards (CCS) to Kentucky Core Content Standards Alignment Data

International Center content area specialists crosswalked English language arts and mathematics CCS to the Kentucky reading, writing, and mathematics Core Content Standards. The purpose of this study was to determine the number and percent of the CCS that are aligned/non-aligned to the Core Content Standards. The same process was also used to determine the number and percent of the Core Content Standards that are aligned/non-aligned to the CCS.

The results that follow provide Kentucky teachers, curriculum planners, and administrators with information relevant to the status of the Kentucky Content Core Standards compared to the CCS. Considerations the Kentucky Department of Education will make are whether to adjust the current KCCT to more closely align with the CCS or to abandon the current curriculum and replace it with the totally new CCS. The information in the following alignment tables may assist Kentucky education stakeholders during this time of decision making.

The following scale served as a guide to determine the Common Core Standards to CCS alignment:

- **1** = A word-for-word alignment (rarely possible)
- **2** = Not a word-for-word alignment, but the Depth of Knowledge (DOK) and skills described in each standard have *the same meaning* (used most often)
- **3** = Not a word-for-word alignment, but the DOK and skills described have *essentially the same meaning* (somewhat a stretch for an alignment; justification may be arguable)
- **4** = Not a word-for-word alignment, but the DOK and/or skills described have *some similarity* (considered non-alignment)
- **5** = No alignment

CCS to Reading and Writing Core Content Standards Alignment Data

Table 8 reveals the relevant data for the number and percent of ELA CCS that do not align to Kentucky reading and writing Core Content Standards. Non-alignment data of non-aligned Core Content Standards to CCS can be found in Table 9.

Table 8. ELA CCS Not Aligned to Kentucky Reading and Writing Core Content Standards

Strand/ CCRS (College and Career Readiness Standards)	Non- Aligned CCS	# of Non- Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non- Aligned Standard(s) and Subpart(s)
Grade 3				
Reading for Literature				
Key Ideas and Details	None	1	9	11.12
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Reading for Information				
Key Ideas and Details	None	2	10	20.00
Craft and Structure	5			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Reading Foundational Skills				
Phonics and Word Recognition	None	3	11	27.28
Fluency	4b			
	5 6			
Writing				
Text Types and Purposes	None	0	20	0.00
Production and Distribution of Writing	None			
Research to Build Knowledge	None			
Range of Writing				
Speaking and Listening				
Comprehension and Collaboration	1a-d	8	10	80.00
Presentation of Knowledge and Ideas	2			
	4-6			
Language				
Conventions in Writing and Speaking	None	1	31	3.23
Knowledge of Language	None			
Vocabulary Acquisition and Use	4d			
Totals for Grade 3		15	92	16.13
Grade 4				
Reading for Literature				
Key Ideas and Details	None	1	9	11.12
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			

Strand/ CCRS (College and Career Readiness Standards)	Non- Aligned CCS	# of Non- Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non- Aligned Standard(s) and Subpart(s)
Reading for Information				
Key Ideas and Details	None	1	10	10.00
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Reading Foundational Skills				
Phonics and Word Recognition	None	3	6	50.00
Fluency	4a-c			
Writing				
Text Types and Purposes	None	0	26	0.00
Production and Distribution of Writing	None			
Research to Build and Present Knowledge	None			
Range of Writing	None			
Speaking and Listening				
Comprehension and Collaboration	1a-d 2 3	9	10	90.00
Presentation of Knowledge and Ideas	4-6			
Language				
Conventions of Standard English	None	3	26	11.54
Knowledge of Language	3c			
Vocabulary Acquisition and Use	5a 5b			
Totals for Grade 4		17	87	19.54
Grade 5				
Reading for Literature				
Key Ideas and Details	None	1	9	11.12
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Reading for Information				
Key Ideas and Details	None	1	10	10.00
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Reading Foundational Skills				
Phonics and Word Recognition	None	3	6	50
Fluency	4a-c			
Writing				
Text Types and Purposes	None	0	26	0.00
Production and Distribution of Writing	None			
Research to Build and Present Knowledge	None			
Range of Writing	None			

Strand/ CCRS (College and Career Readiness Standards)	Non- Aligned CCS	# of Non- Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non- Aligned Standard(s) and Subpart(s)
Speaking and Listening				
Comprehension and Collaboration	1a-d 2 3	9	10	9
Presentation of Knowledge and Ideas	4-6			
Language				
Conventions of Standard English	None	2	24	8.34
Knowledge of Language	None			
Vocabulary Acquisition and Use	5a 5b			
Totals for Grade 5		16	85	18.83
Grade 6				
Reading for Literature				
Key Ideas and Details	None	1	9	11.12
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Reading for Information				
Key Ideas and Details	None	1	10	10.00
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Writing				
Text Types and Purposes	1a-e 2a-f 3a-e	20	27	74.08
Production and Distribution of Writing	4 5			
Research to Build and Present Knowledge	8			
Range of Writing	10			
Speaking and Listening				
Comprehension and Collaboration	1a-d 2 3	9	10	90.00
Presentation of Knowledge and Ideas	4 5 6			
Language				
Conventions of Standard English	1a-e 2a 2b	12	22	54.55
Knowledge of Language	3a 3b			
Vocabulary Acquisition and Use	4c 4d 5a			
Totals for Grade 6		43	78	55.13

Strand/ CCRS (College and Career Readiness Standards)	Non- Aligned CCS	# of Non- Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non- Aligned Standard(s) and Subpart(s)
Grade 7				
Reading for Literature				
Key Ideas and Details	None	1	9	11.12
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Reading for Information				
Key Ideas and Details	None	1	10	10.00
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Writing				
Text Types and Purposes	None	0	28	0.00
Production and Distribution of Writing	None			
Research to Build and Present Knowledge	None			
Range of Writing	None			
Speaking and Listening				
Comprehension and Collaboration	1a-d 2 3	9	10	90.00
Presentation of Knowledge and Ideas	4-6			
Language				
Conventions of Standard English	None	2	19	10.53
Knowledge of Language	None			
Vocabulary Acquisition and Use	4c 4d			
Totals for Grade 7		13	76	17.11
Grade 8				
Reading for Literature				
Key Ideas and Details	None	1	9	11.12
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Reading for Information				
Key Ideas and Details	None	1	10	10.00
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	10			
Writing				
Text Types and Purposes	1a-e 2a-f 3a-e	21	28	75.00
Production and Distribution of Writing	4-6			
Research to Build and Present Knowledge	8			
Range of Writing	10			

Strand/ CCRS (College and Career Readiness Standards)	Non- Aligned CCS	# of Non- Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non- Aligned Standard(s) and Subpart(s)
Speaking and Listening				
Comprehension and Collaboration	1a-d 2 3	9	10	90.00
Presentation of Knowledge and Ideas	4-6			
Language				
Conventions of Standard English	1a-d 2a-c	10	21	47.62
Knowledge of Language	3a			
Vocabulary Acquisition and Use	4c 4d			
Totals for Grade 8		42	78	53.85
Grades 9-10				
Reading for Literature				
Key Ideas and Details	None	0	9	0.00
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	None			
Reading for Information				
Key Ideas and Details	None	0	10	0.00
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	None			
Writing				
Text Types and Purposes	None	0	28	0.00
Production and Distribution of Writing	None			
Research to Build and Present Knowledge	None			
Range of Writing	None			
Speaking and Listening				
Comprehension and Collaboration	1a-d 2 3	9	10	90.00
Presentation of Knowledge and Ideas	4-6			
Language				
Conventions of Standard English	None	2	18	11.12
Knowledge of Language	None			
Vocabulary Acquisition and Use	4b 4d			
Totals for 9-10		11	75	14.67
Grand Total for All Grades		157	571	27.50

Table 9. Kentucky Reading and Writing Core Content Standards Not Aligned to ELA CCS

Grade Level	Core Content Standards)	# of Non-Aligned Core Content Standards	# Core Content Standards	% of Non-Aligned Core Content Standards-CCS
3	None	0	63	0.00
4	None	0	66	0.00
5	None	0	67	0.00
6	None	0	66	0.00
7	None	0	71	0.00
8	None	0	70	0.00
9-10	None	0	67	0.00
11-12	None	0	67	0.00
Totals		0	537	0.00

CCS to Mathematics Core Content Standards Alignment Data

Table 10 reveals the relevant data for the number and percent of mathematics CCS that do not align to Kentucky mathematics Content Core Standards. Data on non-aligned Content Core Standards to CCS can be found in Table 11.

Table 10. Mathematics CCS Not Aligned to Kentucky Mathematics Core Content Standards

Domain	Non-Aligned CCS	# of Non-Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non-Aligned Standard(s) and Subpart(s)
Grade 3				
Operations and Algebraic Thinking				
Represent and solve problems involving multiplication and division.	None	0	9	0.00
Understand properties of multiplication and the relationship between multiplication and division.	None			
Multiply and divide within 100.	None			
Solve problems involving the four operations, and identify and explain patterns in arithmetic.	None			
Number and Operations in Base Ten				
Use place value understanding and properties of operations to perform multi-digit arithmetic.	None	0	3	0.00
Number and Operations - Fractions				
Develop understanding of fractions as numbers.	1 2	2	9	22.23

Domain	Non-Aligned CCS	# of Non-Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non-Aligned Standard(s) and Subpart(s)
Measurement and Data				
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	None	0	14	0.00
Represent and interpret data.	None			
Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	None			
Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	None			
Geometry				
Reason with shapes and their attributes.	2	1	2	50.00
Totals for Grade 3		3	36	11.3
Grade 4				
Operations and Algebraic Thinking				
Use the four operations with whole numbers to solve problems.	1	1	5	20.00
Gain familiarity with factors and multiples.	None			
Generate and analyze patterns.	None			
Number and Operations in Base Ten				
Generalize place value understanding for multi-digit whole numbers.	None	0	6	0.00
Use place value understanding and properties of operations to perform multi-digit arithmetic.	None			
Number and Operations - Fractions				
Extend understanding of fraction equivalence and ordering.	2	2	14	14.29
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.	None			
Understand decimal notation for fractions, and compare decimal fractions.	7			
Measurement and Data				
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	None	0	9	0.00
Represent and interpret data.	None			
Geometric measurement: understand concepts of angle and measure angles.	None			

Domain	Non-Aligned CCS	# of Non-Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non-Aligned Standard(s) and Subpart(s)
Geometry				
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	3	1	3	33.33
Totals for Grade 4		4	37	10.81
Grade 5				
Operations and Algebraic Thinking				
Write and interpret numerical expressions.	2	1	3	33.33
Analyze patterns and relationships.	None			
Number and Operations in Base Ten				
Understand the place value system.	1 4	3	9	33.33
Perform operations with multi-digit whole numbers and with decimals to hundredths.	5			
Number and Operations - Fractions				
Use equivalent fractions as a strategy to add and subtract fractions.	None	1	14	7.15
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	3			
Measurement and Data				
Convert like measurement units within a given measurement system.	None	0	10	0.00
Represent and interpret data.	None			
Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.	None			
Geometry				
Graph points on the coordinate plane to solve real-world and mathematical problems.	None	1	4	25.00
Classify two-dimensional figures into categories based on their properties.	4			
Totals for Grade 5		6	40	15.00
Grade 6				
Ratios and Proportional Relationships				
Understand ratio concepts and use ratio reasoning to solve problems.	None	0	7	0.00

Domain	Non-Aligned CCS	# of Non-Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non-Aligned Standard(s) and Subpart(s)
The Number System				
Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	2	1	15	6.67
Apply and extend previous understandings of numbers to the system of rational numbers.	None			
Expressions and Equations				
Apply and extend previous understandings of arithmetic to algebraic expressions.	4	1	12	8.34
Reason about and solve one-variable equations and inequalities.	None			
Represent and analyze quantitative relationships between dependent and independent variables.	None			
Geometry				
Solve real-world and mathematical problems involving area, surface area, and volume.	2	1	4	25.00
Statistics and Probability				
Develop understanding of statistical variability.	1	1	9	5.00
Summarize and describe distributions.	None			
Totals for Grade 6		4	47	8.51
Grade 7				
Ratios and Proportional Relationships				
Analyze proportional relationships and use them to solve real-world and mathematical problems.	None	0	7	0.00
The Number System				
Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	None	0	11	0.00
Expressions and Equations				
Use properties of operations to generate equivalent expressions.	None	0	6	0.00
Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	None			

Domain	Non-Aligned CCS	# of Non-Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non-Aligned Standard(s) and Subpart(s)
Geometry				
Draw, construct and describe geometrical figures and describe the relationships between them.	2 3	3	6	50.00
Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	5			
Statistics and Probability				
Use random sampling to draw inferences about a population.	None	1	13	7.70
Draw informal comparative inferences about two populations.	None			
Investigate chance processes and develop, use, and evaluate probability models.	8			
Totals for Grade 7		4	43	9.31
Grade 8				
The Number System				
Know that there are numbers that are not rational, and approximate them by rational numbers.	None	0	2	0.00
Expressions and Equations				
Work with radicals and integer exponents.	3 4	2	13	15.39
Understand the connections between proportional relationships, lines, and linear equations.	None			
Analyze and solve linear equations and pairs of simultaneous linear equations.	None			
Functions				
Define, evaluate, and compare functions.	1	1	5	20.00
Use functions to model relationships between quantities.	None			
Geometry				
Understand congruence and similarity using physical models, transparencies, or geometry software.	5	3	12	25.00
Understand and apply the Pythagorean Theorem.	6 8			
Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.	None			
Statistics and Probability				
Investigate patterns of association in bivariate data.	None	0	4	0.00
Totals for Grade 8		6	36	16.67

Domain	Non- Aligned CCS	# of Non- Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non- Aligned Standard(s) and Subpart(s)
Grades 9-12				
Number and Quantity: The Real Number System				
Extend the properties of exponents to rational exponents	None	0	3	0.0
Use properties of rational and irrational numbers.	None			
Number and Quantity: Quantities				
Reason quantitatively and use units to solve problems	1-3	3	3	100.00
Number and Quantity: The Complex Number System				
Perform arithmetic operations with complex numbers	1-3	9	9	100.00
Represent complex numbers and their operations on the complex plane	4-6			
Use complex numbers in polynomial identities and equations	7-9			
Number and Quantity: Vector and Matrix Quantities				
Represent and model with vector quantities.	None	2	17	11.77
Perform operations on vectors.	None			
Perform operations on matrices and use matrices in applications.	9 10			
Algebra: Seeing Structure in Expressions				
Interpret the structure of expressions	None	0	9	0.00
Write expressions in equivalent forms to solve problems	None			
Algebra: Arithmetic with Polynomials and Rational Expressions				
Perform arithmetic operations on polynomials	None	4	7	57.15
Understand the relationship between zeros and factors of polynomials	None			
Use polynomial identities to solve problems	4 5			
Rewrite rational expressions	6 7			
Algebra: Creating Equations				
Create equations that describe numbers or relationships	None	0	4	0.00

Domain	Non-Aligned CCS	# of Non-Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non-Aligned Standard(s) and Subpart(s)
Algebra: Reasoning with Equations and Inequalities				
Understand solving equations as a process of reasoning and explain the reasoning	None	4	14	28.58
Solve equations and inequalities in one variable	None			
Solve systems of equations	7			
Represent and solve equations and inequalities graphically	10 11 12			
Functions: Interpreting Functions				
Understand the concept of a function and use function notation	1 2 3	4	16	25.00
Interpret functions that arise in applications in terms of the context	5			
Analyze functions using different representations	None			
Functions: Building Functions				
Build a function that models a relationship between two quantities	1 2	4	12	33.33
Build new functions from existing functions	4 5			
Functions: Linear, Quadratic, and Exponential Models				
Construct and compare linear, quadratic, and exponential models and solve problems	4	2	8	25.00
Interpret expressions for functions in terms of the situation they model	5			
Functions: Trigonometric Functions				
Extend the domain of trigonometric functions using the unit circle	1-4	9	9	100.00
Model periodic phenomena with trigonometric functions	5-7			
Prove and apply trigonometric identities	8 9			
Geometry: Congruence				
Experiment with transformations in the plane	None	1	13	7.70
Understand congruence in terms of rigid motions	None			
Prove geometric theorems	None			
Make geometric constructions	13			

Domain	Non-Aligned CCS	# of Non-Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non-Aligned Standard(s) and Subpart(s)
Geometry: Similarity, Right Triangles, and Trigonometry				
Understand similarity in terms of similarity transformations	None	2	13	15.39
Prove theorems involving similarity	5			
Define trigonometric ratios and solve problems involving right triangles	None			
Apply trigonometry to general triangles	9			
Geometry: Circles				
Understand and apply theorems about circles	1 4	3	5	60.00
Find arc lengths and areas of sectors of circles	5			
Geometry: Expressing Geometric Properties with Equations				
Translate between the geometric description and the equation for a conic section	2 3	3	7	42.86
Use coordinates to prove simple geometric theorems algebraically	6			
Geometry: Geometric Measurement and Dimension				
Explain volume formulas and use them to solve problems	None	0	4	0.00
Visualize relationships between two-dimensional and three-dimensional objects	None			
Geometry: Modeling with Geometry				
Apply geometric concepts in modeling situations	2	1	3	33.33
Statistics and Probability: Interpreting Categorical and Quantitative Data				
Summarize, represent, and interpret data on a single count or measurement variable	1	5	12	41.67
Summarize, represent, and interpret data on two categorical and quantitative variables	5			
Interpret linear models	7 8 9			

Domain	Non-Aligned CCS	# of Non-Aligned Standard(s) or Subpart(s)	# of Standards and Subpart(s)	% of Non-Aligned Standard(s) and Subpart(s)
Statistics and Probability: Making Inferences and Justifying Conclusions				
Understand and evaluate random processes underlying statistical experiments	1 2	6	6	100.00
Make inferences and justify conclusions from sample surveys, experiments and observational studies	3-6			
Statistics and Probability: Conditional Probability and the Rules of Probability				
Understand independence and conditional probability and use them to interpret data	1-5	9	9	100.00
Use the rules of probability to compute probabilities of compound events in a uniform probability model	6-9			
Statistics and Probability: Using Probability to Make Decisions				
Calculate expected values and use them to solve problems	1-4	7	9	77.78
Use probability to evaluate outcomes of decisions	5-7			
Totals for 9-10		78	192	40.63
Grand Total for All Grades		105	431	24.37

Table 11. Kentucky Mathematics Core Content Standards Not Aligned to Mathematics CCS

Grade Level	Core Content Standards	# of Non-Aligned Core Content Standards	# of Core Content Standards	% of Non-Aligned Core Content Standards-CCS
3	MA.3.1.4 MA.3.5.2 MA.3.6.1 MA.3.6.2 MA.3.6.3 MA.3.8.1 MA.3.10.2 MA.3.14.1	8	34	23.53

Grade Level	Core Content Standards	# of Non-Aligned Core Content Standards	# of Core Content Standards	% of Non-Aligned Core Content Standards-CCS
4	MA.4.2.2 MA.4.2.3 MA.4.3.1 MA.4.5.4 MA.4.6.1 MA.4.6.2 MA.4.7.1 MA.4.8.1 MA.4.10.2 MA.4.10.3 MA.4.11.2 MA.4.12.1 MA.4.12.2 MA.4.14.1	14	37	37.84
5	MA.5.1.1 MA.5.3.1 MA.5.4.2 MA.5.4.4 MA.5.5.1 MA.5.5.3 MA.5.6.1 MA.5.6.2 MA.5.7.1 MA.5.9.2 MA.5.10.3 MA.5.11.1 MA.5.11.2 MA.5.12.1 MA.5.12.2 MA.5.13.1 MA.5.14.1 MA.5.14.2	18	35	51.43
6	MA.6.3.2 MA.6.4.1 MA.6.4.2 MA.6.5.2 MA.6.6.1 MA.6.14.1	6	37	16.22
7	MA.7.1.2 MA.7.1.4 MA.7.9.1 MA.7.10.1 MA.7.10.2	5	38	13.16
8	MA.8.2.1 MA.8.3.2 MA.8.4.3 MA.8.7.1 MA.8.11.2 MA.8.14.1	6	39	15.39

Grade Level	Core Content Standards	# of Non-Aligned Core Content Standards	# of Core Content Standards	% of Non-Aligned Core Content Standards-CCS
9-12	MA.AI.9.2	1	67	1.50
Totals		58	287	20.21

References

Kentucky Department of Education
<http://doe.k12.ky.us/>

Kentucky Content and Performance Standards III Database
<http://standardstoolkit.k12.ky.us/index.html>

Kentucky Testing and Reporting
<http://www.education.ky.gov/KDE/Administrative+Resources/Testing+and+Reporting+/default.htm>

***NESS (National Essential Skills Study)** in the preceding subject summary charts refers to the International Center for Leadership in Education's 2007-08 national survey, a forced-ranking by approximately 13,000 adults of the proficiencies deemed most important for high school graduates in each of English Language Arts, Math, and Science.

- English Language Arts proficiencies ranked 1-19 were assigned a High (H) rating; items ranked 20-38 were assigned a Medium (M) rating; and items ranked 39-50 were assigned a Low (L) rating.
- Math proficiencies ranked 1-16 were assigned a High (H) rating; items ranked 17-42 were assigned a Medium (M) rating; and items ranked 43-70 were assigned a Low (L) rating.
- Science proficiencies ranked 1-32 were assigned a High (H) rating; items marked 33-50 were assigned a Medium (M) rating; and items ranked 51-85 were assigned a Low (L) rating.

Where English Language Arts, Math, and Science proficiencies overlapped across indicators in other subjects (for example an English Language Arts proficiency within a Science indicator), the rating of H, M, or L was designated to the proficiency in the subject of focus. A complete description of the **National Essential Skills Study** is provided elsewhere in this resource kit

