

Hawaii 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.

The Hawaii State Assessment

The Hawaii State Assessment (HSA) annual testing program includes a combination of criterion-reference and norm reference tests. These tests not only measure students' progress in mastering the Hawaii Content and Performance Standards III (HCPS III), but they also provide a means to recognize how Hawaii students' progress compares to students across the nation.

Curriculum Matrix Priority Designations

English Language Arts

The Hawaii English language arts curriculum includes standards and benchmarks assessed by the HCPS III in grades 3-10.

Testing Priority Designation

Information necessary to make priority designations relative to assessments was obtained from the Hawaii Department of Education website. Assessment priorities were determined by examining the data from the HCPS III database. Data from this resource was used to determine priority designations. The HSA is designed to measure proficiency of the benchmarks in the HCPS III. Therefore, to determine priority designations, the number of language arts benchmarks per standard at each grade level 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 HCPS III benchmarks are eligible for assessment, there were no Low (L) priority designations. The HSA language arts priority designation results can be found in Table 1.

Table 1. Language Arts Priority Designation Data

Grade	Mean	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
3	4.86	1.69	3.17	0	1-3	>3
4	5.29	1.92	3.37	0	1-3	>3
5	5.14	2.09	3.05	0	1-3	>3

6	4.86	2.20	2.66	0	1-3	>3
7	4.57	1.49	3.08	0	1-3	>3
8	4.71	1.71	3.00	0	1-3	>3
9	4.14	1.62	2.52	0	1-3	>3
10	3.43	1.93	1.50	0	1-2	>2

Language arts summary data is presented in Table 2.

Table 2. Hawaii English Language Arts HSA/HCPS III Data Summary

English Language Arts			HSA/HCPS III			National Essential Skills Study (NESS)*		
Grade	Standards	Benchmarks	H	M	L	H 1-19	M 20-38	L 39-50
3	7	34	29	5	0	25	7	2
4	7	37	35	2	0	24	10	3
5	7	36	28	8	0	25	11	0
6	7	34	30	4	0	20	14	0
7	7	32	27	5	0	24	8	0
8	7	33	28	5	0	23	10	0
9	7	29	25	4	0	20	8	1
10	7	24	21	3	0	18	6	0
Totals	56	259	223	36	0	179	74	6

Mathematics

The Hawaii mathematics curriculum includes standards and benchmarks assessed by the HCPS III in grades 3-8, algebra I, and geometry.

Testing Priority Designation

Information necessary to make priority designations relative to assessments was obtained from the Hawaii Department of Education website. Assessment priorities were determined by examining the data from the HCPS III database. Data from this resource was used to determine priority designations. The HSA is designed to measure proficiency of the benchmarks in the HCPS III. Therefore, to determine priority designations, the number of mathematics benchmarks per standard at each grade level 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 HCPS III benchmarks are eligible for assessment, there were no Low (L) priority designations. The HSA 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	2.43	1.40	1.03	0	1	>1
4	2.50	1.30	1.20	0	1	>1
5	2.29	1.18	1.10	0	1	>1
6	1.86	0.62	1.24	0	1	>1
7	1.78	0.98	0.80	0	1	>1
8	2.07	1.00	1.07	0	1	>1
Algebra I	2.07	2.05	0.02	0	1	>1
Geometry	1.64	1.30	0.34	0	1	>1

Mathematics summary data is presented in Table 4.

Table 4. Hawaii Mathematics HSA/HCPS III Data Summary

Mathematics			HSA/HCPS III			National Essential Skills Study (NESS)*		
Grade	Standards	Benchmarks	H	M	L	H 1-16	M 17-42	L 43-70
3	14	33	29	4	0	19	10	4
4	14	35	31	4	0	22	10	3
5	14	32	29	3	0	19	12	1
6	14	26	22	4	0	14	12	0
7	14	24	17	7	0	16	5	3
8	14	29	24	5	0	11	12	6
Algebra I	14	22	20	2	0	7	7	8
Geometry	14	16	13	3	0	8	4	4
Totals	112	217	185	32	0	117	71	29

Science

The Hawaii science curriculum includes standards and benchmarks assessed by the HCPS III in grades 3-8, earth and space science, biological science, and physical science.

Testing Priority Designation

Information necessary to make priority designations relative to assessments was obtained from the Hawaii Department of Education website. Assessment priorities were determined by examining the data from the HCPS III database. Data from this resource was used to determine priority designations. The HSA is designed to measure proficiency of the benchmarks in the HCPS III. Therefore, to determine priority designations, the number of science benchmarks per standard at each grade level 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 HCPS III benchmarks are eligible for assessment, there were no Low (L) priority designations. The HSA 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
3	1.75	1.03	0.72	0	1	>1
4	1.88	0.74	1.14	0	1	>1
5	1.88	1.00	0.88	0	1	>1
6	3.40 ^H	3.03	0.37	0	1	>1
7	3.40 ^H	1.48	1.92	0	1-2	>2
8	1.80 ^H	0.68	1.12	0	1	>1
Earth & Space Science	7.67 ^H	2.27	5.40	0	1-5	>5
Biological Science	5.20 ^H	2.11	3.09	0	1-3	>3
Physical Science	5.40 ^H	4.07	1.33	0	1	>1

^H Outliers were not averaged.

Science summary data is presented in Table 6.

Table 6. Hawaii Science HSA/HCPS III Data Summary

Science			HSA/HCPS III			National Essential Skills Study (NESS)*		
Grade	Standards	Benchmarks	H	M	L	H 1-32	M 33-50	L 51-85
3	8	14	9	5	0	9	3	2
4	8	15	12	3	0	10	3	2
5	8	15	11	4	0	8	1	6
6	8	17	16	1	0	13	3	1
7	8	17	16	1	0	13	3	1
8	8	21	19	2	0	7	5	9
Earth & Space Science	8	23	23	0	0	13	5	4
Biological Science	8	26	24	2	0	19	5	2
Physical Science	8	27	27	0	0	14	4	9
Totals	72	175	157	18	0	106	32	36

**Total Percentages for HSA/HCPS III Tested
English Language Arts, Mathematics, and Science**

Table 7 presents the number of benchmarks compared to the number of benchmarks tested.

Table 7. Total Percentages for all HSA Tested Grade Levels in English Language Arts, Mathematics, and Science

	Number of Benchmarks	Number of Benchmarks Tested	Percent of GPS Tested Standards
ELA	259	259	100%
Mathematics	217	217	100%
Science	175	175	100%
TOTAL	651	651	100%

Common Core Standards (CCS) to HCPS III Alignment Data

International Center content area specialists crosswalked language arts and mathematics CCS to the Hawaii language arts and mathematics benchmarks. The purpose of this study was to determine the number and percent of the CCS that are aligned/non-aligned to the benchmarks. The same process was also used to determine the number and percent of the benchmarks that are aligned/non-aligned to the CCS.

The results that follow provide Hawaii teachers, curriculum planners, and administrators with information relevant to the status of the Hawaii standards and benchmarks compared to the CCS. Considerations the Hawaii Department of Education will make include whether to adjust the current curriculum to align with the CCS or to abandon the current curriculum and replace it with the CCS. The information in the following alignment tables may assist Hawaii education stakeholders during this time of decision making.

The following scale served as a guide to determine the Benchmarks 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 English Language Arts Benchmark Alignment Data

Table 8 reveals the relevant data for the number and percent of ELA CCS that do not align to Hawaii ELA benchmarks. Data on non-aligned benchmarks to CCS can be found in Table 9.

Table 8. ELA Common Core Standards Not Aligned to Hawaii Benchmarks

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	0	10	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			
Reading Foundational Skills				
Phonics and Word Recognition	3.a-c	4	9	44.45
Fluency	4			
Writing				
Text Types and Purposes	None	0	20	0.00
Production and Distribution of Writing	None			
Research to Build Knowledge	None			
Range of Writing	None			
Speaking and Listening				
Comprehension and Collaboration	None	0	10	0.00
Presentation of Knowledge and Ideas	None			
Language				
Conventions in Writing and Speaking	None	0	31	0.00
Knowledge of Language	None			
Vocabulary Acquisition and Use	None			
Totals for Grade 3		4	90	4.45
Grade 4				
Reading for Literature				
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			

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	0	10	0.00
Craft and Structure	None			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	None			
Reading Foundational Skills				
Phonics and Word Recognition	None	0	6	0.00
Fluency	None			
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	None	0	10	0.00
Presentation of Knowledge and Ideas	None			
Language				
Conventions of Standard English	None	0	26	0.00
Knowledge of Language	None			
Vocabulary Acquisition and Use	None			
Totals for Grade 4		0	88	0.00
Grade 5				
Reading for Literature				
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			
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			
Reading Foundational Skills				
Phonics and Word Recognition	None	0	6	0.00
Fluency	None			
Writing				
Text Types and Purposes	None	0	24	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	None	0	10	0.00
Presentation of Knowledge and Ideas	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)
Language				
Conventions of Standard English	1.b-d 2.a 2.c 2.d	6	24	25.00
Knowledge of Language	None			
Vocabulary Acquisition and Use	None			
Totals for Grade 5		6	84	7.15
Grade 6				
Reading for Literature				
Key Ideas and Details	None	1	10	1.00
Craft and Structure	6			
Integration of Knowledge and Ideas	None			
Range and Level of Text Complexity	None			
Reading for Information				
Key Ideas and Details	None	1	10	1.00
Craft and Structure	6			
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	None	0	10	0.00
Presentation of Knowledge and Ideas	None			
Language				
Conventions of Standard English	None	0	22	0.00
Knowledge of Language	None			
Vocabulary Acquisition and Use	None			
Totals for Grade 6		2	80	2.50
Grade 7				
Reading for Literature				
Key Ideas and Details	None	1	10	1.00
Craft and Structure	6			
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			

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)
Research to Build and Present Knowledge	None			
Range of Writing	None			
Speaking and Listening				
Comprehension and Collaboration	None	0	10	0.00
Presentation of Knowledge and Ideas	None			
Language				
Conventions of Standard English	1.c	1	19	5.27
Knowledge of Language	None			
Vocabulary Acquisition and Use	None			
Totals for Grade 7		2	77	2.60
Grade 8				
Reading for Literature				
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			
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	None	0	10	0.00
Presentation of Knowledge and Ideas	None			
Language				
Conventions of Standard English	1.a 1.c 1.d 2.b	4	21	19.05
Knowledge of Language	None			
Vocabulary Acquisition and Use	None			
Totals for Grade 8		4	79	5.07
Grades 9				
Reading for Literature				
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			
Reading for Information				
Key Ideas and Details	None	0	10	0.00
Craft and Structure	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)
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	None	0	10	0.00
Presentation of Knowledge and Ideas	None			
Language				
Conventions of Standard English	2.a 2.b	2	18	0.00
Knowledge of Language	None			
Vocabulary Acquisition and Use	None			
Totals for Grade 9		2	76	2.64
Grade 10				
Reading for Literature				
Key Ideas and Details	None	0	10	10.00
Craft and Structure	None	0		
Integration of Knowledge and Ideas	8	1		
Range and Level of Text Complexity	None	None		
Reading for Information				
Key Ideas and Details	None	0	10	10.00
Craft and Structure	None	0		
Integration of Knowledge and Ideas	8	1		
Range and Level of Text Complexity	None	0		
Writing		2		
Text Types and Purposes	None	0	28	0.00
Production and Distribution of Writing	None	0		
Research to Build and Present Knowledge	None	0		
Range of Writing	None	0		
Speaking and Listening				
Comprehension and Collaboration	None	0	10	0.00
Presentation of Knowledge and Ideas	None	0		
Language				
Conventions of Standard English	None	0	18	0.00
Knowledge of Language	None	0		
Vocabulary Acquisition and Use	None	0		
Totals for Grade 10		2	76	2.64
Grand Total for All Grades		22	647	3.40

Table 9. Hawaii ELA Benchmarks Not Aligned to ELA Common Core Standards

Grade Level	Benchmark(s)	# of Non-Aligned Benchmarks	# of Benchmarks	% of Non-Aligned Benchmarks- CCS
3	LA.3.4.6 LA 3.5.3 LA 3.6.6	3	34	8.83
4	LA 4.4.6	1	37	2.71
5	LA5.4.5	1	36	2.78
6	LA6.3.2	1	34	2.95
7		0	32	0.00
8	LA8.2.3	1	33	3.03
9	0	0	29	0.00
10	0	0	24	0.00
Totals		7	259	2.71

CCS to Mathematics Benchmark Alignment Data

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

Table 10. Mathematics Common Core Standards Not Aligned to Hawaii Benchmarks

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	3	67.00

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)
Measurement and Data				
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	None	0	8	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	25	12.00
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	7	29.00
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	7	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	33.00
Totals for Grade 4		4	28	14.00
Grade 5				
Operations and Algebraic Thinking				
Write and interpret numerical expressions.	2	1	3	33.00
Analyze patterns and relationships.	None			
Number and Operations in Base Ten				
Understand the place value system.	1 4	3	7	43.00
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	7	14.00
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	5	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	26	23.00
Grade 6				
Ratios and Proportional Relationships				
Understand ratio concepts and use ratio reasoning to solve problems.	None	0	3	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	8	13.00
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	9	11.00
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	5	20.00
Summarize and describe distributions.	None			
Totals for Grade 6		4	29	14.00
Grade 7				
Ratios and Proportional Relationships				
Analyze proportional relationships and use them to solve real-world and mathematical problems.	None	0	3	0.00
The Number System				
Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	None	0	3	0.00
Expressions and Equations				
Use properties of operations to generate equivalent expressions.	None	0	4	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	8	13.00
Draw informal comparative inferences about two populations.	None			
Investigate chance processes and develop, use, and evaluate probability models.	8			
Totals for Grade 7		4	24	17.00
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	8	25.00
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	9	33.00
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	28	21.00

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)
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.	All	3	3	100.00
Number and Quantity: The Complex Number System				
Perform arithmetic operations with complex numbers.	All	9	9	100.00
Represent complex numbers and their operations on the complex plane.	All			
Use complex numbers in polynomial identities and equations.	All			
Number and Quantity: Vector and Matrix Quantities				
Represent and model with vector quantities.	None	2	12	17.00
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	4	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	57.00
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	12	33.00
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	9	44.00
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	5	80.00
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	5	40.00
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.	All	9	9	100.00
Model periodic phenomena with trigonometric functions.	All			
Prove and apply trigonometric identities.	All			
Geometry: Congruence				
Experiment with transformations in the plane.	None	1	13	8.00
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	11	18.00
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	43.00
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	33.00
Statistics and Probability: Interpreting Categorical and Quantitative Data				
Summarize, represent, and interpret data on a single count or measurement variable.	1	5	9	56.00
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.	All	6	6	100.00
Make inferences and justify conclusions from sample surveys, experiments and observational studies.	All			
Statistics and Probability: Conditional Probability and the Rules of Probability				
Understand independence and conditional probability and use them to interpret data.	All	9	9	100.00
Use the rules of probability to compute probabilities of compound events in a uniform probability model.	All			
Statistics and Probability: Using Probability to Make Decisions				
Calculate expected values and use them to solve problems.	All	7	7	100.00
Use probability to evaluate outcomes of decisions.	All			
Totals for 9-10		78	156	50.00
Grand Total for All Grades		104	316	33.00

Table 11. Hawaii Mathematics Benchmarks Not Aligned to Mathematics Common Core Standards

Grade Level	Benchmark(s)	# of Non-Aligned Benchmarks	# of Benchmarks	% of Non-Aligned Benchmarks- 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	33	24.00

Grade Level	Benchmark(s)	# of Non-Aligned Benchmarks	# of Benchmarks	% of Non-Aligned Benchmarks- 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	35	40.00
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	32	56.00
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	26	23.00
7	MA.7.1.2 MA.7.1.4 MA.7.9.1 MA.7.10.1 MA.7.10.2	5	24	21.00
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	29	21.00

Grade Level	Benchmark(s)	# of Non-Aligned Benchmarks	# of Benchmarks	% of Non-Aligned Benchmarks- CCS
9-12	MA.AI.9.2	1	38	3.00
Totals		58	217	23.00

References

Hawaii Department of Education
<http://doe.k12.hi.us/>

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

Hawaii Accountability Resource Center
<http://arch.k12.hi.us/index.html>

***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.

