Math - Common Core Snapshot

	K	1	2		3	4	5		6	7	8
CCSS-MATH DOMAIN	Counting & Cardinality				Number and Operations - Fractions	Number and Operations - Fractions	Number and Operations - Fractions		Ratios & Proportional Relationships	Ratios & Proportional Relationships	Functions
	Operations & Algebraic Thinking	Operations & Algebraic Thinking	Operations & Algebraic Thinking		Operations & Algebraic Thinking	Operations & Algebraic Thinking	Operations & Algebraic Thinking		Expressions & Equations	Expressions & Equations	Expressions & Equations
	Number and Operations in Base Ten	Number and Operations in Base Ten	Number and Operations in Base Ten		Number and Operations in Base Ten	Number and Operations in Base Ten	Number and Operations in Base Ten		The Number System	The Number System	The Number System
	Measurement and Data	Measurement and Data	Measurement and Data		Measurement and Data	Measurement and Data	Measurement and Data		Statistics & Probability	Statistics & Probability	Statistics & Probability
	Geometry	Geometry	Geometry		Geometry	Geometry	Geometry		Geometry	Geometry	Geometry

H.S. - Headings and Domains for Common Core State Standards

Number & Quantity Overview	The Real Number System		Functions	Interpreting Functions
	Quantities			Building Functions
	The Complex Number System			Linear, Quadratic, & Exponential Models
	Vector & Matrix Quantities			Trigonometric Functions
Algebra Overview	Seeing Structure in Expressions		Statistics & Probability	Interpreting Categorical & Quantitative Data
	Arithmetic with Polynomials & Rational Expression			Making Inferences & Justifying Conlcusions
	Creating Equations			Conditional Probability & The Rules of Probability
	Reasoning with Equations & Inequalities			Using Probability to Make Decisions
Geometry	Congruence			
	Similarity, Right Triangles, & Trigonometry			
	Circles			
	Expressing geometric Properties with Equations			
	Geometric Measurement & Dimension			
	Modeling with Geometry			

Math - Common Core Standards Overview - Grades K - 2

Prepared by Laurie Hernandez - WDE

K	Domain	Cluster Heading	# of Standards
K.CC	Counting & Cardinality	Know number names and count sequence	3
		Count to tell the number	2
		Compare numbers	2
K.OA	Operations & Algebraic Thinking	Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from	5
K.NBT	Number and Operations in Base Ten	Work with number 11-19 to gain foundations for place value	1
K.MD	Measurement and Data	Describe and compare measureable attributes	2
		Classify objects and count the number of objects in categories	1
K.G	Geometry	Identify and describe shapes	3
		Analyze, compare, create, and compose shapes	3

1st Grade	Domain	Cluster Heading	# of Standards
1.OA	Operations & Algebraic Thinking	*Represent and solve problems involving addition and subtraction	2
		Understand and apply properties of operations and the relationship between addition and subtraction	2
		*Add and subtract within 20	2
		Work with addition and subtraction equations	2
1.NBT	Number and Operations in Base Ten	Extend the counting sequence	1
		*Understand place value	2
		*Use place value understanding and properties of operations to add and subtract	3
1.MD	Measurement and Data	Measure lengths indirectly and by iterating length units	2
		Tell and write time	1
		*Represent and interpret data	1
1.G	Geometry	*Reason with shapes and their attributes	3

2nd Grade	Domain	Cluster Heading	# of Standards
2.OA	Operations & Algebraic Thinking	*Represent and solve problems involving addition and subtraction	1
		Work with equal groups of objects to gain foundations for multiplication	2
		*Add and subtract within 20	2
2.NBT	Number and Operations in Base Ten	*Understand place value	4
		*Use place value understanding and properties of operations to add and subtract	5
2.MD	Measurement and Data	Measure and estimate lengths in standard units	4
		Relate addition and subtraction to length	2
		Work with time and money	2
		*Represent and interpret data	2
2.G	Geometry	*Reason with shapes and their attributes	3

* standards are duplicated in next grade

* standards are duplicated from previous grade

Math - Common Core Standards Overview - Grades 3 - 5

3rd Grade	Domain	Cluster Heading	# of Standards	4th Grade	Domain	Cluster Heading	# of Standards	5th Grade	Domain	Cluster Heading	# of Standards
3.OA	Operations & Algebraic Thinking	Represent and solve problems involving multiplication and division	4	4.OA	Operations & Algebraic Thinking	Use the four operations with whole numbers to solve problems	3	5.OA	Operations & Algebraic Thinking	Write and interpret numerical expressions	2
		Understand properties of multiplication and the relationship between multiplication and division	2			Gain familiarity with factors and multiples	1			Analyze patterns and relationships	1
		Multiply and divide w/in 100	1			Generate and analyze patterns	1	5.NBT	Number and Operations in Base Ten	Understand the place value system	4
		Solve problems involving the four operations, and identify and explain patterns in arithmetic	2	4.NBT	Number and Operations in Base Ten	Generalize place value understanding for multi-digit whole numbers	3			Perform operations with multi-digit whole numbers and with decimals to hundredths	3
3.NBT	Number and Operations in Base Ten	*Use place value understanding and properties of operations to perform multi-digit arithmetic	3			*Use place value understanding and properties of operations to perform multi-digit arithmetic	3	5.NF	Number and Operations - Fractions	Use equivalent fractions as a strategy to add and subtract fractions	2
3.NF	Number and Operations - Fractions	Develop understanding of fractions as numbers	3	4.NF	Number and Operations - Fractions	Extend understanding of fraction equivalence and ordering	2			Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5
3.MD	Measurement and Data	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects	2			Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers	2				
		*Represent and interpret data	2			Understand decimal notation for fractions, and compare decimal fractions	3	5.MD	Measurement and Data	Convert like measurement units within a given measurement system	1
		Geometric measurement: understand concepts of area and relate area to multiplication and to addition	3	4.MD	Measurement and Data	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit	3			*Represent and interpret data	1
		Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures	1			*Represent and interpret data	1			Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	3
						Geometric measurement: understand concepts of angle and measure angles	3	5.G	Geometry	Graph points on the coordinate plane to solve real-world and mathematical problems	2
3.G	Geometry	Reason with shapes and their attributes	2	4.G	Geometry	Draw and identify lines and angles, and classify shapes by properties of their lines and angles	3			Classify two-dimensional figures into categories based on their properties	2

* standard duplicated in this grade band

Math - Common Core Standards Overview - Grades 6 - 8

6th Grade	Domain	Cluster Heading	# of Standards	7th Grade	Domain	Cluster Heading	# of Standards	8th Grade	Domain	Cluster Heading	# of Standards
6.RP	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems	3	7.RP	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems	3	8.NS	The Number System	Know that there are numbers that are not rational, and approximate them by rational numbers	2
6.NS	The Number System	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	1	7.NS	The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers	3	8.EE	Expressions and Equations	Work with radicals and integer exponents	4
		Compute fluently with multi-digit numbers and find common factors and multiples	3	7.EE	Expressions and Equations	Use properties of operations to generate equivalent expressions	2			Understand the connections between proportional relationships, lines, and linear equations	2
		Apply and extend previous understanding of numbers to the system of rational numbers	4			Solve real-life and mathematical problems using numerical and algebraic expressions and equations	2			Analyze and solve linear equations and pairs of simultaneous linear equations	2
6.EE	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions	4	7.G	Geometry	Draw, construct and describe geometrical figures and describe the relationships between them	3	8.F	Functions	Define, evaluate, and compare functions	3
		Reason about and solve one-variable equations and inequalities	4			Solve real-life and mathematical problems involving angle measure, area, surface area, and volume	3			Use functions to model relationships between quantities	2
		Represent and analyze quantitative relationships between dependent and independent variables	1	7.SP	Statistics and Probability	Use random sampling to draw inferences about a population	2	8.G	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software	5
6.G	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume	4			Draw informal comparative inferences about two populations	2			Understand and apply the Pythagorean Theorem	3
6.SP	Statistics and Probability	Develop understanding of statistical variability	3			Investigate chance processes and develop, use, and evaluate probability models	4			Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres	1
		Summarize and describe distributions	2					8.SP	Statistics and Probability	Investigate patterns of association in bivariate data	4

Math - Common Core Standards Overview - H.S.

Prepared by Laurie Hernandez - WDE

H.S.	Domain	Cluster Heading	# of Standards
Number and Quantity	**(N-RN) The Real Number System**	Extend the properties of exponents to rational exponents	2
		Use properties of rational and irrational numbers	1
	(N-Q) Quantities	*Reason quantitatively and use units to solve problems	3
	(N-CN) The Complex Number System	(+)Perform arithmetic operations with complex numbers	3
		(+)Represent complex numbers and their operations on the complex plane	3
		(+)Use complex numbers in polynomial identities and equations	3
	(N-VM) Vector and Matrix Quantities	(+)Represent and model with vector quantities	3
		(+)Perform operations on vectors	2
		(+)Perform operations on matrices and use matrices in applications	7

H.S.	Domain	Cluster Heading	# of Standards
Algebra	**(A-SSE) Seeing Structure in Expressions**	*Interpret the structure of expressions	2
		*Write expressions in equivalent forms to solve problems	2
	(A-APR) Arithmetic with Polynomials and Rational Expressions	Perform arithmetic operations on polynomials	1
		Understand the relationship between zeros and factors of polynomials	2
		Use polynomial identities to solve problems	2
		(+)Rewrite rational expressions	2
	(A-CED) Creating Equations	*Create equations that describe numbers or relationships	4
	(A-REI) Reasoning with Equations and Inequalities	Understand solving equations as a process of reasoning and explain the reasoning	2
		Solve equations and inequalities in one variable	2
		Solve systems of equations	5
		*Represent and solve equations and inequalities graphically	3

H.S.	Domain	Cluster Heading	# of Standards
Functions	**(F-IF) Interpreting Functions**	Understand the concept of a function and use function notation	3
		*Interpret functions that arise in applications in terms of the context	3
		(+)*Analyze functions using different representations	3
	(F-BF) Building Functions	(+)*Build a function that models a relationship between two quantities	2
		(+)Build new functions from existing functions	3
	(F-LE) Linear, Quadratic, and Exponential Models	*Construct and compare linear, quadratic, and exponential models and solve problems	4
		*Interpret expressions for functions in terms of the situation they model	1
	(F-TF) Trigonometric Functions	Extend the domain of trigonometric functions using the unit circle	4
		*Model periodic phenomena with trigonometric functions	3
		(+)Prove and apply trigonometric identities	2

*Modeling Standards

Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (*).

(+) Knowledge, skills, and practices important for college and career readiness

Math - Common Core Standards Overview - H.S. (continued)

H.S.	Domain	Cluster Heading	# of Standards
Geometry	(G-CO) Congruence	Experiment with transformation in the plane	5
		Understand congruence in terms of rigid motions	3
		Prove geometric theorems	3
		Make geometric constructions	2
	(G-SRT) Similarity, Right Triangles, and Trigonometry	Understand similarity in terms of similarity transformations	3
		Prove theorems involving similarity	2
		*Define trigonometric rations and solve problems involving right triangles	3
		(+)Apply trigonometry to general triangles	3
	(G-C) Circles	(+)Understand and apply theorems about circles	4
		Find arc lengths and areas of sectors of circles	1
	(G-GPE) Expressing Geometric Properties with Equations	(+)Translate between the geometric description and the equation for a conic section	3
		*Use coordinates to prove simple geometric theorems algebraically	4
	(G-GMD) Geometric Measurement and Dimension	(+)*Explain volume formulas and use them to solve problems	3
		Visualize relationships between two- dimensional and three-dimensional objects	1
	(G-MG) Modeling w/ Geometry	*Apply geometric concepts in modeling situations	3

H.S.	Domain	Cluster Heading	# of Standards
Statistics and Probability	(S-ID) Interpreting Categorical and Quantitative Data	Summarize, represent, and interpret data on a single count or measurement variable	4
		Summarize, represent, and interpret data on two categorical and quantitative variables	2
		Interpret linear models	3
	(S-IC) Making Inferences and Justifying Conclusions	Understand and evaluate random processes underlying statistical experiments	2
		Make inferences and justify conclusions form sample surveys, experiments and observational studies	4
	(S-CP) Conditional Probability and the Rules of Probability	Understand independence and conditional probability and use them to interpret data	5
		(+)Use the rules of probability to compute probabilities of compound events in a uniform probability model	4
	(S-MD) Using Probability to Make Decisions	(+)Calculate expected values and use them to solve problems	4
		(+)Use probability to evaluate outcomes of decisions	3

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