

KEY

Domain - Reporting Category
Benchmarks & Standard

WYOMING
DEPARTMENT OF EDUCATION



DOK	Min. - Max.	%
1	6-10	15%-25%
2	20-26	50%-65%
3	6-10	15%-25%

DOK = Depth of Knowledge

3rd Grade Mathematics Summative Assessment Blueprint		# of Items Per Domain	Max # of Items Per Standard	% of Items Per Domain
Operations and Algebraic Thinking		15-17		
3.OA.1	A. Represent and solve problems involving multiplication and division.	8	38-43%	
3.OA.2				
3.OA.3				
3.OA.4				
3.OA.5	B. Understand properties of multiplication and the relationship between multiplication and division.	4		
3.OA.6				
3.OA.7	C. Multiply and divide within 100.	2		
3.OA.8	D. Solve problems involving the four operations, and identify and explain patterns in arithmetic.	4		
3.OA.9				
Number and Operations - Fractions		7-9		
3.NF.1	F. Develop understanding of fractions as numbers.	9	18-23%	
3.NF.2				
3.NF.3				
Measurement and Data		8-10		
3.MD.3	H. Represent and interpret data.	6		
3.MD.4				
3.MD.5	I. Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	6	20-25%	
3.MD.6				
3.MD.7				
3.MD.8	J. Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	3		
Geometry		6-8		
3.G.1	K. Reason with shapes and their attributes.	8	15-20%	
3.G.2				
		40	TOTAL	100%

WY-TOPP 2017 to Present
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3	7-11	15%-25%

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4th Grade Mathematics Summative Assessment Blueprint		# of Items Per Domain	Max # of Items Per Standard	% of Items Per Domain
Operations and Algebraic Thinking		8-10		
4.OA.1	A. Use the four operations with whole numbers to solve problems.	7	18-22%	
4.OA.2				
4.OA.3				
4.OA.4	B. Gain familiarity with factors and multiples.	4		
Number and Operations - Base Ten		8-10		
4.NBT.1	D. Generalize place value understanding for multi-digit whole numbers.	7	18-22%	
4.NBT.2				
4.NBT.3				
4.NBT.4	E. Use place value understanding and properties of operations to perform multi-digit arithmetic.	5		
4.NBT.5				
4.NBT.6				
Number and Operations - Fractions		13-14		
4.NF.1	F. Extend understanding of fraction equivalence and ordering.	6	29-31%	
4.NF.2				
4.NF.3	G. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.	6		
4.NF.4				
4.NF.5	H. Understand decimal notation for fractions, and compare decimal fractions.	9		
4.NF.6				
4.NF.7				
Measurement and Data		8-10		
4.MD.1	I. Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	6	18-22%	
4.MD.2				
4.MD.3				
4.MD.4	J. Represent and interpret data.	2		
4.MD.5	K. Geometric measurement: understand concepts of angle and measure angles.	6		
4.MD.6				
4.MD.7				
Geometry		6-8		
4.G.1	L. Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	8	13-18%	
4.G.2				
4.G.3				
		45	TOTAL	100%

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3	7-11	15%-25%

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5th Grade Mathematics Summative Assessment Blueprint		# of Items Per Domain	Max # of Items Per Standard	% of Items Per Domain
Operations and Algebraic Thinking		6-8		
5.OA.1	A. Write and interpret numerical expressions.		8	13-18%
5.OA.2				
Number and Operations - Base Ten		11-13		
5.NBT.1	C. Understand the place value system.		9	24-29%
5.NBT.2				
5.NBT.3				
5.NBT.4				
5.NBT.5	D. Perform operations with multi-digit whole numbers and with decimals to hundredths.		9	
5.NBT.6				
5.NBT.7				
Number and Operations - Fractions		11-13		
5.NF.1	E. Use equivalent fractions as a strategy to add and subtract fractions.		6	
5.NF.2				
5.NF.3	F. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.		10	24-29%
5.NF.4				
5.NF.5				
5.NF.6				
5.NF.7				
Measurement and Data		7-9		
5.MD.1	G. Convert like measurement units within a given measurement system.		3	16-20%
5.MD.2	H. Represent and interpret data.		3	
5.MD.3	I. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.		5	
5.MD.4				
5.MD.5				
Geometry		6-8		
5.G.1	J. Graph points on the coordinate plane to solve real-world and mathematical problems.		5	13-18%
5.G.2				
5.G.3	K. Classify two-dimensional figures into categories based on their properties.		4	
5.G.4				
		45	TOTAL	100%

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3	7-11	15%-25%

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6th Grade Mathematics Summative Assessment Blueprint		# of Items Per Domain	Max # of Items Per Standard	% of Items Per Domain
Ratios and Proportional Relationships		7-9		
6.RP.1	A. Understand ratio concepts and use ratio reasoning to solve problems.	9	16-20%	
6.RP.2				
6.RP.3				
The Number System		8-10		
6.NS.1	B. Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	3	18-22%	
6.NS.2	C. Compute fluently with multi-digit numbers and find common factors.	6		
6.NS.3				
6.NS.4				
6.NS.8	D. Apply and extend previous understandings of numbers to the system of rational numbers.	3		
Expressions and Equations		11-14		
6.EE.1	E. Apply and extend previous understandings of arithmetic to algebraic expressions.	7	24-31%	
6.EE.2				
6.EE.3				
6.EE.4				
6.EE.5	F. Reason about and solve one-variable equations and inequalities.	8		
6.EE.6				
6.EE.7				
6.EE.8				
6.EE.9	G. Represent and analyze quantitative relationships between dependent and independent variables.	2		
Geometry		7-9		
6.G.1	H. Solve real-world and mathematical problems involving area, surface area, and volume.	9	16-20%	
6.G.2				
6.G.3				
6.G.4				
Statistics and Probability		7-8		
6.SP.1	I. Develop understanding of statistical variability.	5	16-18%	
6.SP.2				
6.SP.3				
6.SP.4	J. Summarize and describe distributions.	4		
6.SP.5				
		45	TOTAL	100%

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7th Grade Mathematics Summative Assessment Blueprint		# of Items Per Domain	Max # of Items Per Standard	% of Items Per Domain
Ratios and Proportional Relationships		8-10		
7.RP.1	A. Analyze proportional relationships and use them to solve real-world and mathematical problems.	10	18-22%	
7.RP.2				
7.RP.3				
The Number System		7-8		
7.NS.1	B. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	8	16-18%	
7.NS.2				
7.NS.3				
Expressions and Equations		9-11		
7.EE.1	C. Use properties of operations to generate equivalent expressions.	8	20-24%	
7.EE.2				
7.EE.3	D. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	8		
7.EE.4				
Geometry		8-10		
7.G.1	E. Draw, construct, and describe geometrical figures and describe the relationships between them.	7	18-22%	
7.G.2				
7.G.3				
7.G.4	F. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	9		
7.G.5				
7.G.6				
Statistics and Probability		7-9		
7.SP.1	G. Use random sampling to draw inferences about a population.	6	16-20%	
7.SP.2				
7.SP.3	H. Draw informal comparative inferences about two populations.	6		
7.SP.4				
		45	TOTAL	100%

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8th Grade Mathematics Summative Assessment Blueprint		# of Items Per Domain	Max # of Items Per Standard	% of Items Per Domain
Expressions and Equations		12-15		
8.EE.5	C. Understand the connections between proportional relationships, lines, and linear equations.		10	27-33%
8.EE.6				
8.EE.7	D. Analyze and solve linear equations and pairs of simultaneous linear equations.		10	
8.EE.8				
Functions		10-12		
8.F.1	E. Define, evaluate, and compare functions.		9	22-27%
8.F.2				
8.F.3				
8.F.4	F. Use functions to model relationships between quantities.		6	
8.F.5				
Geometry		10-13		
8.G.1	G. Understand congruence and similarity using physical models, transparencies, or geometry software.		8	22-29%
8.G.2				
8.G.3				
8.G.4				
8.G.5				
8.G.6	H. Understand and apply the Pythagorean Theorem.		6	
8.G.7				
8.G.8				
8.G.9	I. Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.		2	
Statistics and Probability		7-8		
8.SP.1	J. Investigate patterns of association in bivariate data.		8	16-18%
8.SP.2				
8.SP.3				
8.SP.4				
		45	TOTAL	100%

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9th Grade Mathematics Summative Assessment Blueprint		# of Items Per Domain	Max # of Items Per Standard	% of Items / Domain
Numbers and Quantities		6-8		
The Real Number System				15-20%
N.RN.1-2	A. Extend the properties of exponents to rational exponents.		8	
N.RN.3	B. Use properties of rational and irrational numbers.			
Algebra		12-15		
Seeing Structure and Expressions				30-38%
A.SSE.1	A. Interpret the structure of expressions.		9	
A.SSE.3	B. Write expressions in equivalent forms to solve problems.			
Creating Equations				
A.CED.1	G. Create equations that describe numbers or relationships.		2	
Reasoning with Equations and Inequalities				
A.REI.1	H. Understand solving equations as a process of reasoning and explain the reasoning.		9	
A.REI.3	I. Solve equations and inequalities in one variable.			
A.REI.5-6	J. Solve systems of equations.			
Functions		13-16		
Interpreting Functions				33-40%
F.IF.1-3	A. Understand the concept of a function and use function notation.		12	
F.IF.4-6	B. Interpret functions that arise in applications in terms of the context.			
F.IF.7a	C. Analyze functions using different representations.			
Building Functions				
F.BF.1a	D. Build a function that models a relationship between two quantities.		3	
Linear, Quadratic, and Exponential				
F.LE.1c	F. Construct and compare linear, quadratic, and exponential models and solve problems.		3	
Statistics and Probability		6-7		
Interpreting Categorical and Quantitative Data				15-18%
S.ID.1-2	A. Summarize, represent, and interpret data on a single count or measurement variable.		7	
S.ID.9	C. Interpret linear models.			
		40	TOTAL	100%

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3	6-10	15%-25%

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10th Grade Mathematics Summative Assessment Blueprint Geometry		# of Items Per Domain	Max # of Items Per Standard	% of Items Per Domain
Congruence		13-15		
G.CO.1-5	A. Experiment with transformations in the plane.		8	33-38%
G.CO.6-8	B. Understand congruence in terms of rigid motions.		5	
G.CO.9-11	C. Prove geometric theorems.		5	
G.CO.12-13	D. Make geometric constructions.		3	
Similarity, Right Triangles, Trigonometry, and Circles		9-11		
G.SRT.1	E. Understand similarity in terms of similarity transformations.		6	23-28%
G.SRT.2				
G.SRT.3	F. Prove theorems involving similarity.		3	
G.SRT.4				
G.SRT.5				
G.SRT.6	G. Define trigonometric ratios and solve problems involving right triangles.		4	
G.SRT.8				
G.C.1	I. Understand and apply theorems about circles.		4	
G.C.2				
Expressing Geometric Properties with Equations		8-10		
G.GPE.1	K. Translate between the geometric description and the equation for a conic section.		3	20-25%
G.GPE.4	L. Use coordinates to prove simple geometric theorems algebraically.		8	
G.GPE.5				
G.GPE.6				
G.GPE.7				
Geometric Measurement and Dimension & Modeling		8-10		
G.GMD.1	M. Explain volume formulas and use them to solve problems.		4	20-25%
G.GMD.3				
G.GMD.4	N. Visualize relationships between two-dimensional and three-dimensional objects.		2	
G.MG.1	O. Apply geometric concepts in modeling situations.		6	
G.MG.2				
G.MG.3				
		40	TOTAL	100%

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