

2022 MSAA Math Blueprint

- * Standards with operational CR items in 2019
- ** Standards with operational CR items beginning in 2020 and 2021

Grade 3 Targets by Standard

Content Category	Weight	Core Content Connector	Item Type	2021 Item Range
Operations and Algebraic Thinking	28-32%	3.NO.2d3 Solve multiplication problems with neither number greater than 5	SR	10 -11
		3.NO.2e1 Solve or solve and check one- or two-step word problems requiring addition, subtraction, or multiplication with answers up to 100		
		3.PRF.2d1 Identify multiplication patterns in a real-world setting		
Number and Operations Base Ten	17-23%	3.NO.1j3 Use place value to round to the nearest 10 or 100	SR CR	7
		3.NO.2c1** Solve multi-step addition and subtraction problems up to 100		
Number and Operations Fractions	17-23%	3.NO.1i3 Identify the fraction that matches the representation (rectangles and circles; halves, fourths, thirds, and eighths)	SR	7
		3.SE.1g1 Use =, <, or > to compare 2 fractions with the same numerator or denominator		
Measurement and Data	17-23%	3.DPS.1g1* Collect data; organize into picture or bar graph	SR CR	7
		3.ME.1d2 Measure area of rectilinear figures by counting squares		
Geometry	9-11%	3.GM.1i1 Partition rectangles into equal parts with equal area	SR	3 -4
Total	100%			35

Grade 4 Targets by Standard

Content Category	Weight	Core Content Connector	Item Type	2021 Item Range
Operations and Algebraic Thinking	28-32%	4.NO.2d7 Determine how many objects go into each group when given the total number of objects and groups where the number in each group or number of groups	SR	10-11
		4.PRF.1e3 Solve multiplicative comparisons with an unknown using up to 2-digit numbers with information presented in a graph or word problem (e.g., an orange hat cost \$3. A purple hat cost 2 times as much. How much does the		
		4.NO.2e2 Solve or solve and check one or two step word problems requiring addition, subtraction, or multiplication with answers up to 100		
Number and Operations Base Ten	9-11%	4.NO.1j5 Use place value to round to any place (i.e., ones, tens, hundreds, thousands)	SR	3-4
Number and Operations Fractions	28-32%	4.NO.1m1 Determine equivalent fractions	SR	10-11
		4.NO.1n2 Compare up to 2 given fractions that have different		
		4.SE.1g2 Use =, <, or > to compare 2 fractions (fractions with		
Measurement and Data	17-23%	4.ME.1g2 Solve word problems using perimeter and area where changes occur to the dimensions of a rectilinear figure	SR CR	7
		4.DPS.1g3* Collect data; organize in graph (e.g. picture graph, line plot, bar graph)		
Geometry	9-11%	4.GM.1h2* Classify two-dimensional shapes based on attributes (# of angles)	SR CR	3-4
Total	100%			35

Grade 5 Targets by Standard

Content Category	Weight	Core Content Connector	Item Type	2021 Item Range
Operations and Algebraic Thinking	9-11%	5.PRF.2b1 Generate or select a comparison between two graphs from a similar situation	SR	3-4
Number and Operations Base Ten	34-40%	5.NO.1b1 Read, write, or select a decimal to the hundredths place	SR	14
		5.NO.1b4 Round decimals to the next whole number	CR	
		5.NO.2c1 Solve one-step problems using decimals		
		5.NO.2a5** Solve word problems that require multiplication or division		
Number and Operations Fractions	17-23%	5.NO.2c2 Solve word problems involving the addition, subtraction, multiplication, or division of fractions	SR	7
		5.PRF.1a1 Determine whether the product will increase or decrease based on the multiplier		
Measurement and Data	17-23%	5.ME.1b2 Convert standard measurements of length	SR	7
		5.ME.2a1 Use a calculator to solve one-step problems involving conversions of standard measurement units of area, volume, time, mass in the same system		
Geometry	9-11%	5.GM.1c3* Use order pairs to graph given points	SR	3-4
			CR	
Total	100%			35

Grade 6 Targets by Standard

Content Category	Weight	Core Content Connector	Item Type	2021 Item Range
Ratio and Proportions	28-32%	6.PRF.1c1 Describe the ratio relationship between two quantities for a given situation	SR	10-11
		6.ME.2a2 Solve one-step real world measurement problems involving unit rates with ratios of whole numbers when given the unit rate (3 inches of snow falls per hour, how much in 6 hours?)		
		6.NO.1f1 Find a percent of a quantity as rate per 100		
Expressions and Equations	17-23%	6.PRF.1d1 Solve real world single-step linear equations	SR	7
		6.NO.2a6 Solve problems or word problems using up to three-digit numbers and any of the four operations		
The Number System	28-32%	6.NO.2c3 Solve one-step, addition, subtraction, multiplication, or division problems with fractions or decimals	SR	10-11
		6.NO.1d4** Select the appropriate meaning of a negative number in a real-world situation	CR	
		6.NO.1d2* Locate positive and negative numbers on a number line		
Statistics and Probability	9-11%	6.DPS.1d3 Select the statement that matches mean, mode, and spread of data for 1 measure of central tendency for a given data set	SR	3-4
Geometry	9-11%	6.GM.1d1 Find area of quadrilaterals	SR	3-4
Total	100%			35

Grade 7 Targets by Standard

Content Category	Weight	Core Content Connector	Item Type	2021 Item Range
Ratio and Proportions	34-40%	7.NO.2f1** Identify the proportional relationship between two quantities (use rules or symbols to show quantitative relationships)	SR	14
		7.NO.2f2 Determine if two quantities are in a proportional relationship using a table of equivalent ratios or points graphed on a coordinate plane	CR	
		7.NO.2f6 Solve word problems involving ratios		
		7.PRF.1f1 Use proportional relationships to solve multistep percent problems in real world situations		
Expressions and Equations	9-11%	7.PRF.1g2 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities	SR	3-4
The Number System	17-23%	7.NO.2i1 Solve multiplication problems with positive/negative numbers	SR	7
		7.NO.2i2 Solve division problems with positive/negative numbers		
Statistics and Probability	9-11%	7.DPS.1k1* Analyze graphs to determine or select the appropriate comparative inferences about two samples or populations	SR CR	3-4
Geometry	17-23%	7.ME.2d1 Apply formula to measure area and circumference of circles	SR	7
		7.GM.1h2 Find the surface area of three-dimensional figures using nets of rectangles or triangles		
Total	100%			35

Grade 8 Targets by Standard

Content Category	Weight	Core Content Connector	Item Type	2021 Item Range
Functions	17-23%	8.PRF.2e2** Identify the rate of change (slope) and initial value (y-intercept) from graphs	SR	7
		8.PRF.1f2 Describe or select the relationship between the two quantities given a line graph of a situation		
Expressions and Equations	17-23%	8.PRF.1e2 Represent proportional relationships on a line graph	SR	7
		8.PRF.1g3 Solve linear equations with 1 variable		
The Number System	9-11%	8.NO.1k3* Use approximations of irrational numbers to locate them on a number line	SR CR	3-4
Statistics and Probability	17-23%	8.DPS.1h1* Graph bivariate data using scatter plots and identify possible associations between the variables	SR CR	7
		8.DPS.1k2 Analyze displays of bivariate data to develop or select appropriate claims about those data		
Geometry	28-32%	8.ME.1e1 Describe the changes in surface area, area, and volume when the figure is changed in some way (e.g., scale drawings)	SR	10-11
		8.GM.1g1 Recognize congruent and similar figures		
		8.ME.2d2 Apply the formula to find the volume of 3-dimensional shapes (i.e., cubes, spheres, and cylinders)		
Total	100%			35

Grade 11 Targets by Standard

Content Category	Weight	Core Content Connector	Item Type	2021 Item Range
Algebra And Functions	47-52%	H.PRF.2b1** Translate a real-world problem into a one-variable linear equation	SR	17-18
		H.PRF.2b2 Solve equations with one or two variables using equations or graphs		
		H.ME.1b2 Solve a linear equation to find a missing attribute given the area, surface area, or volume and the other attribute	CR	
		H.PRF.1c1 Select the appropriate graphical representation of a linear model based on real world events		
		H.PRF.2c1 Make predictions based on a given model (for example, a weather model, data for athletes over years)		
Number and Quantity	17-23%	H.ME.1a2 Solve real world problems involving units of measurement	SR	7
		H.NO.1a1 Simplify expressions that include exponents		
Statistics and Probability	17-23%	H.DPS.1b1* Complete a graph given the data, using dot plots, histograms, or box plots	SR	7
		H.DPS.1c1 Use descriptive stats, range, median, mode, mean, outliers/gaps, to describe data set	CR	
Geometry	9-11%	H.GM.1b1 Use definitions to demonstrate congruency and similarity in figures	SR	3-4
Total	100%			35