

Claim 1: Concepts and Procedures. Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.

Focus	Target	Standards	Goal DOK	Relative Emphasis/ Comments	%
Not used in this grade.	<p>A. Use the four operations with whole numbers to solve problems.</p> <p>Evidence Required:</p> <ol style="list-style-type: none"> The student solves contextual problems involving multiplicative comparisons, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. The student solves straightforward, contextual problems using the four operations. 	4.OA.1, 4.OA.2, 4.OA.3	2	High	60-65%
	<p>B. Gain familiarity with factors and multiples.</p> <p>Evidence Required:</p> <ol style="list-style-type: none"> The student determines one or more factors or factor pairs for a given whole number (from 1 to 100). The student recognizes that a whole number (from 1 to 100) is a multiple of each of its factors. The student determines if a whole number (from 1 to 100) is a multiple of a given one-digit number. The student determines if a whole number (from 1 to 100) is prime or composite. 	4.OA.4	1	Medium	
	<p>C. Generate and analyze patterns.</p> <p>Evidence Required:</p> <ol style="list-style-type: none"> The student generates number patterns. The student generates shape patterns. The student analyzes a number pattern or shape pattern, showing understanding of the pattern rule and features other than the pattern rule. 	4.OA.5, 4.OA.6	3	Low	

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Not used in this grade	<p>D. Generalize place value understanding for multi-digit whole numbers.</p> <p>Evidence Required:</p> <ol style="list-style-type: none"> 1. The student compares two multi-digit whole numbers in the same form using $>$, $<$, and $=$ symbols. 2. The student rounds multi-digit whole numbers to any place. 3. The student identifies multi-digit whole numbers that, when rounded to a given place value, will be closest to a given number. 4. The student compares two multi-digit whole numbers in different forms. 5. The student explains the difference between the values of a numeral in the tens and the ones place, the hundreds place and the tens place, or the thousands place and the hundreds place in mathematical situations. 	4.NBT.1, 4.NBT.2, 4.NBT.3			
	<p>E. Use place value understanding and properties of operations to perform multi-digit arithmetic.</p> <p>Evidence Required:</p> <ol style="list-style-type: none"> 1. The student adds or subtracts multi-digit whole numbers in non-contextual mathematics problems. 2. The student multiplies whole numbers (up to four digits by one digit or two digits by two digits) using strategies based on place value and the properties of operations. 3. The student finds whole numbers quotients and remainders (up to four-digit dividends and one-digit divisors) using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. 	4.NBT.4, 4.NBT.5, 4.NBT.6	2	High	Claim 1 cont. 60-65%

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Not used in this grade	<p>F. Extend understanding of fraction equivalence and ordering.</p> <p>Evidence Required:</p> <ol style="list-style-type: none"> 1. The student recognizes when two or more fractions are equivalent. 2. The student generates equivalent fractions given an initial fraction or fraction model. 3. The student uses the symbols $<$, $>$, and $-$ to compare fractions with different numerators and different denominators. 	4.NF.1, 4.NF.2	2	High	Claim 1 cont. 60-65%
	<p>G. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.</p> <p>Evidence Required:</p> <ol style="list-style-type: none"> 1. The student adds and subtracts fractions with like denominators by joining and separating parts referring to the same whole. 2. The student expresses an equivalent form of a fraction or mixed number by considering each as a sum of fractions with the same denominator. 3. The student solves contextual problems involving addition and subtraction of fractions referring to the same whole and having like denominators by using visual fraction models and equations to represent the problem. 4. The student represents a fraction a/b as a multiple of $1/b$. 5. The student multiplies a fraction by a whole number. 6. The student solves contextual problems involving the multiplication of a fraction by a whole number by using visual fraction models and equations to represent the problem. 	4.NF.3, 4.NF.4			

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Not used in this grade	<p>H. Understand decimal notation for fractions, and compare decimal fractions.</p> <p>Evidence Required:</p> <ol style="list-style-type: none"> 1. The student expresses a fraction with denominator 10 as an equivalent fraction with denominator 100. 2. The student adds two fractions with respective denominators 10 and 100. 3. The student uses decimal notation to represent fractions with denominators 10 or 100. 4. The student locates decimal numbers to the hundredths place on a number line. 5. The student compares two decimals to the hundredths place by reasoning about their size, using the symbols $<$, $>$, or $=$. 	4.NF.5, 4.NF.6, 4.NF.7	2	High	Claim 1 cont. 60-65%
	<p>I. Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit, and involving time.</p> <p>Evidence Required:</p> <ol style="list-style-type: none"> 1. The student converts measurements from larger units to smaller units within a single system of units. 2. The student records measurement equivalents in a two-column table. 3. The student identifies measurement quantities from diagrams, such as number line diagrams that feature a measurement scale, and uses the information to solve word problems. 4. The student applies the area and perimeter formulas for rectangles to solve mathematical and real-world problems. 	4.MD.1, 4.MD.2, 4.MD.3, 4.MD.4	2	Medium	

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Not used in this grade	<p>J. Represent and interpret data. Evidence Required:</p> <ol style="list-style-type: none"> The student completes a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). The student solves problems involving addition and subtraction of fractions with like denominators by using information presented in line plots. 	4.MD.5, 4.MD.6	2	Medium	Claim 1 cont. 60-65%
	<p>K. Geometric measurement: understand concepts of angle and measure angles. Evidence Required:</p> <ol style="list-style-type: none"> The student relates the concept of an angle to the fraction of a circular arc between two points on a circle. The student uses a protractor to measure angles (composed of one-degree angles) and construct angles to whole-number degrees. The student decomposes an angle into smaller non-overlapping parts and adds the measures of these smaller parts to find the measure of the whole angle. The student solves addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems. 	4.MD.7, 4.MD.8, 4.MD.9	2	Low	
	<p>L. Draw and identify lines and angles, and classify shapes by properties of their lines and angles. Evidence Required:</p> <ol style="list-style-type: none"> The student draws points, lines, line segments, rays, and angles and identifies these in two-dimensional figures. The student classifies two-dimensional figures based on the presence or absence of parallel/perpendicular line segments and angles of a specified size, including identifying right triangles. The student identifies and draws lines of symmetry in line-symmetric figures, and distinguishes line-symmetric figures from line-asymmetric figures. 	4.G.1, 4.G.2, 4.G.3			

Claim 2: Problem Solving. Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problems solving strategies.

Focus	Target	Standard	Goal DOK	Relative Emphasis/ Comments	%
Not used in this grade.	<p>A-D</p> <p>A. Apply mathematics to solve well-posed problems in pure mathematics and arising in everyday life, society, and the workplace.</p> <p>B. Select and use appropriate tools strategically.</p> <p>C. Interpret results in the context of a situation.</p> <p>D. Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).</p>	<p>Focus Clusters: 4.OA.A, 4.NBT.B, 4.NF.A, 4.NF.B, 4.NF.C, 4.MD.A*, 4.MD.C* *denotes minor clusters</p>	3	Tasks limited to machine-scorable responses, so not all Targets may be addressed.	8-12%

Claim 3: Communicating Reason. Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of other.

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Not used in this grade.	<p>A-F</p> <p>A. Test propositions or conjectures with specific examples.</p> <p>B. Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures.</p> <p>C. State logical assumptions being used.</p> <p>D. Use the technique of breaking an argument into cases.</p> <p>E. Distinguish correct logic or reasoning from that which is flawed and—if there is a flaw in the argument— explain what it is.</p> <p>F. Base arguments on concrete referents such as objects, drawings, diagrams, and actions.</p>	<p>Focus Clusters/Standards: 4.OA.3, 4.NBT.A, 4.NBT.5, 4.NBT.6, 4.NF.A, 4.NF.1, 4.NF.2, 4.NF.3a, 4.NF.3b, 4.NF.3c, 4.NF.4a, 4.NF.4b, 4.NF.C, 4.NF.7</p>	3	Tasks limited to machine-scorable responses, so not all Targets may be addressed.	8-12%

Claim 4: Modeling and Data Analysis. Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.

Focus	Target	Standards	Goal DOK	Relative Emphasis/ Comments	%
Not used in this grade.	<p>A-G</p> <p>A. Apply mathematics to solve problems arising in everyday life, society, and the workplace.</p> <p>B. Construct, autonomously, chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for a complex problem.</p> <p>C. State logical assumptions being used.</p> <p>D. Interpret results in the context of a situation.</p> <p>E. Analyze the adequacy of and make improvements to an existing model or develop a mathematical model of a real phenomenon.</p> <p>F. Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).</p> <p>G. Identify, analyze, and synthesize relevant external resources to pose or solve problems. (performance tasks only)</p>	<p>Focus Clusters: 4.OA.A 4.NF.B 4.MD.A* 4.MD.B* 4.MD.C* *denotes minor clusters</p>	3	Tasks limited to machine-scorable responses, so not all Targets may be addressed.	8-12%