Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
1. Concepts and Procedures	Priority Cluster	**E. Use equivalent fractions as a strategy to add and subtract fractions.** (Target Description) Tasks associated with this target ask students to add and subtract fractions with unlike denominators, including mixed numbers. Contextual word problems that ask students to apply these operations should be included (often paired with one or more targets from Claim 2). Other tasks should focus on the reasonableness of answers to addition and subtraction problems involving fractions, often by presenting "flawed reasoning" (paired with one or more targets from Claim 3). (Evidence Required) 1. The student adds or subtracts fractions with unlike denominators (including mixed numbers) by using visual fraction models or equations to represent the problem. 2. The student identifies and explains the use of equivalent fractions when adding or subtracting fractions with unlike denominators (including mixed numbers). (Range ALDs) **Level 1** Students should be able to add two fractions and mixed numbers with unlike denominators and subtract two fractions with unlike denominators when one denominator is a factor of the other in mathematical problems (denominators < 12). They should be able to use benchmark fractions (1/4s and 1/2s) and number sense with fractions to estimate mentally and assess the reasonableness of answers. **Level 2** Students should be able to add fractions and mixed numbers with unlike denominators (denominators ≤12) in mathematical problems, subtract a mixed number from a whole number (denominators up to 4), and use benchmark fractions to estimate mentally and assess the reasonableness of answers (denominators ≤12). **Level 3** Students should be able to add and subtract fractions and mixed numbers with unlike denominators in word problems and use number sense of fractions to estimate mentally and assess the reasonableness of answers. **Level 4** No Descriptor	1, 2	5-6	0	17-20
		I. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition (Target Description) Tasks for this target will ask students to find the volume of right rectangular prisms with whole-number edge lengths using unit cubes and formulas. Some	1,2			

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		tasks should ask students to consider the effect of changing the size of the unit cube (e.g., doubling the edge length of a unit cube) using values that do not cause gaps or overlaps when packed into the solid. Other tasks will ask students to find the volume of two non-overlapping right rectangular prisms, often together with targets from Claim 2 or Claim 4. (Evidence Required) 1. The student determines the volume of a right rectangular prism with whole-number side lengths by counting or packing unit cubes. 2. The student applies the formulas $V = l \times w \times h$ and $V = b \times h$ to solve real-world and mathematical problems involving volumes of right rectangular prisms. (Range ALDs) **Level 1** Students should be able to use unit cubes to find the volume of rectangular prisms with whole-number edge lengths. **Level 2** Students should be able to understand the concept that the volume of a rectangular prism packed with unit cubes is related to the edge lengths. **Level 3** Students should be able to use the formulas $V = l \times w \times h$ and $V = b \times h$ to find the volume of rectangular prisms. They should be able to find the volume of two non-overlapping right rectangular prisms. **Level 4** Students should be able to find the volume of a right rectangular prism after doubling the edge length of a side and compare it to the original.				
		F. Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (Target Description) Tasks for this target will ask students to multiply and divide fractions, including division of whole numbers where the answer is expressed by a fraction or mixed number. Division tasks should be limited to those that focus on dividing a unit fraction by a whole number or whole number by a unit fraction. Extended tasks posed as real-world problems related to this target will be assessed with targets from Claim 2 and Claim 4. Other tasks will ask students to find the area of a rectangle with fractional side lengths or use technology-enhanced items to build visual models of multiplication and/or division of fractions, where the student is able to partition and shade circles or rectangles as part of an explanation. Students' ability to interpret multiplication as scaling will be assessed with the targets for Claim 3.	1, 2	4-5		

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		(Evidence Required) 1. The student interprets a fraction as division of the numerator by the denominator. 2. The student solves problems involving division of whole numbers leading to quotients in the form of fractions or mixed numbers, with or without fraction models. 3. The student multiplies a fraction or whole number by a fraction. 4. The student multiplies fractional side lengths to find areas of rectangles. 5. The student compares the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. 6. The student solves real-world problems involving multiplication of fractions and mixed numbers, with or without visual fraction models. 7. The student solves real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, with or without visual fraction models. (Range ALDs) **Level 1** Students should be able to apply their previous understandings of multiplication to multiply a fraction by a fraction; know the effect that whole number multiplication has on fractions; use or create visual models when multiplying a whole number by a fraction between 0 and 1; and interpret and perform division of a whole number by 1/2 or 1/3. **Level 2** Students should be able to multiply a whole number by a mixed number; know the effect that a fraction greater than or less than 1 has on a whole number when multiplied; use or create visual models when multiplying two fractions between 0 and 1; extend their previous understandings of division to divide a unit fraction by a whole number; and understand that division of whole numbers can result in fractions. **Level 3** Students should be able to multiply a mixed number by a mixed number; know the effect that a fraction has on another fraction when multiplied (proper and improper fractions); use or create visual models when multiplying two fractions, including when one fraction is larger than 1; and interpret and perform division of any unit fraction by a whole number. **Level 4** Students should be able to understand and use the fact that a fraction multiplied by 1 in the form of a/a is equivalent to the original fraction.				

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		D. Perform operations with multi-digit whole numbers and with decimals to hundredths. (Target Description) Some tasks associated with this target will be non-contextual computation problems that assess fluency in multiplication of multi-digit whole numbers. Other tasks will ask students to find quotients of whole numbers with up to four-digit dividends and two-digit divisors and to use the four operations on decimals to hundredths. These tasks may be presented in the context of measurement conversion (5.MD Target G). Other tasks should highlight students' understanding of the relationships between operations and use of place-value strategies, which may be done as part of tasks developed for Claim 3. (Evidence Required) 1. The student multiplies multi-digit whole numbers. 2. The student determines whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. 3. The student adds, subtracts, multiplies, and divides decimals to the hundredths using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. (Range ALDs) **Level 1** Students should be able to multiply one- and two-digit whole numbers and find whole-number quotients of whole numbers with up to three-digit dividends and one-digit divisors, using arrays or area models. They should be able to perform the four operations on decimals to the tenths and a whole number, e.g., 1.3 × 7. **Level 2** Students should be able to multiply three- and four-digit whole numbers; find whole-number quotients of whole numbers with up to three-digit dividends and two-digit divisors; and perform the four operations on decimals to the tenths or on decimals to the hundredths and a whole number, e.g., 3.42 × 12. **Level 3** Students should be able to fluently multiply multi-digit whole numbers using the standard algorithm, find whole-number quotients of whole numbers with up to four-digit dividends and two-digit	1, 2	3-4		

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		divisors, and perform the four operations on decimals to the hundredths. They should be able to relate the strategy to a written method and explain the reasoning used. **Level 4** No Descriptor				
		C. Understand the place value system (Target Description) Tasks for this target ask students to explain patterns in the number of zeroes for powers of 10, including simple calculations with a base of 10 and whole-number exponents, as well as tasks that demonstrate a generalization of the pattern for larger whole-number exponents (e.g., How many zeroes would there be in the answer for 10^{42}?). Other tasks for this target ask students to write, compare, and round decimals to thousandths. Some decimals should be written in expanded form. Comparing and rounding may be combined in some items to highlight essential understandings of connections (e.g., What happens if you compare 3.67 and 3.72 after rounding to the nearest tenth?). (Evidence Required) 1. The student represents powers of 10 by using whole-number exponents. 2. The student reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form. 3. The student compares two decimals to the thousandths by using >, =, and < symbols. 4. The student rounds decimals to the nearest whole number, tenth, or hundredth. (Range ALDs) **Level 1** Students should be able to read and write decimals to the thousandths using base-ten numerals, number names, and expanded form and round decimals to the hundredths. **Level 2** Students should be able to use repeated reasoning to understand that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. They should be able to explain patterns in numbers of zeroes and/or placement of a decimal point when a number is multiplied or divided by 10. **Level 3** Students should be able to use whole-number exponents to denote powers of 10; use repeated reasoning to understand and explain patterns in	1, 2			

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		numbers of zeroes and/or placement of a decimal point when a number is multiplied or divided by powers of 10; read, write, and compare two decimals to the thousandths using base-ten numerals, number names, and expanded form, using the symbols >, =, and < to record the results of the comparison; and round decimals to any place. **Level 4** Students should be able to combine multiplying by powers of 10, comparing, and rounding to highlight essential understandings.				
	Supporting Cluster	**J. Graph points on the coordinate plane to solve real-world and mathematical problems.** (Target Description) Tasks for this target ask students to plot coordinate pairs in the first quadrant. Some of these tasks will be created by pairing this target with 5.OA Target B, which would raise the DOK level. (Evidence Required) 1. The student interprets coordinate values of points graphed on a coordinate plane, or in the context of a given situation. 2. The student graphs points on the coordinate plane representing real-world or mathematical problems. (Range ALDs) **Level 1** Students should be able to graph whole-number coordinate pairs in the first quadrant of a coordinate plane with unit axis increments. **Level 2** Students should be able to graph whole-number coordinate pairs on a coordinate plane with whole-number axis increments to solve problems. **Level 3** Students should be able to graph coordinate pairs where one term is a whole number and one is a fraction on a coordinate plane with whole-number axis increments. **Level 4** Students should be able to graph coordinate pairs where both terms are fractions on a coordinate plane with fractional axis increments.	1	2-3		
		K. Classify two-dimensional figures into categories based on their properties. (Target Description) Tasks for this target ask students to classify two-dimensional figures based on a hierarchy. Technology-enhanced items may be used to construct a hierarchy, or tasks may ask the student to select all classifications that apply to a figure based on given information. (Evidence Required)	2			

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		1. The student classifies two-dimensional figures into categories and/or subcategories based on their properties. (Range ALDs) **Level 1** No Descriptor **Level 2** Students should be able to classify two-dimensional figures into categories by their attributes or properties. **Level 3** Students should be able to classify two-dimensional figures into subcategories by their attributes or properties. **Level 4** No Descriptor				
		A. Write and interpret numerical expressions. (Target Description) Tasks for this target will require students to write expressions to express a calculation and evaluate and interpret expressions. Some of these tasks should incorporate the work of using the associative and distributive properties in writing and evaluating expressions, but expressions will not contain nested grouping symbols. (Evidence Required) 1. The student writes or identifies a numerical expression that records a calculation represented with words. 2. The student interprets numerical expressions in words without evaluating them. 3. The student evaluates numerical expressions with grouping symbols. (Range ALDs) **Level 1** Students should be able to evaluate numerical expressions that have either parentheses, brackets, or braces. **Level 2** Students should be able to write and evaluate numerical expressions having two non-nested sets of parentheses, brackets, or braces. **Level 3** Students should be able to write, evaluate, and interpret numerical expressions having any number of non-nested sets of parentheses, brackets, or braces. **Level 4** No Descriptor	1	2		
		B. Analyze patterns and relationships. (Target Description) Tasks for this target will ask students to compare two related numerical patterns and explain the relationships within sequences of ordered pairs. Tasks for this target may incorporate the work of 5.G Target J.	2			

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		(Evidence Required) 1. Given two rules, the student identifies and explains apparent relationships between corresponding terms of two related numerical patterns. 2. Given two rules, the student represents corresponding terms from two related numerical patterns as ordered pairs and plots them on a coordinate plane. (Range ALDs) **Level 1** Students should be able to generate two numerical patterns using two given rules involving addition, subtraction, or multiplication. **Level 2** Students should be able to generate two numerical patterns using two given rules involving all operations. When working with two whole number numerical patterns, they should be able to graph the corresponding whole number ordered pairs on the coordinate plane. **Level 3** Students should be able to compare and analyze two related numerical patterns and explain the relationship within sequences of ordered pairs, and they should be able to graph the ordered pairs on the coordinate plane. **Level 4** Students should be able to compare two related numerical patterns and explain the relationship within sequences of ordered pairs that are rational numbers.				
		G. Convert like measurement units within a given measurement system. (Target Description) Tasks for this target ask students to convert measurements and should be used to provide context for the assessment of 5.NBT Target D. Some tasks will involve contextual problems and will contribute evidence for Claim 2 or Claim 4. (Evidence Required) 1. The student converts units of linear measure within a single measurement system. 2. The student converts units of weight/mass measure within a single measurement system. 3. The student converts units of liquid volume measure within a single measurement system. 4. The student converts units of time measure within a single measurement system.	1			

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		(Range ALDs) **Level 1** Students should be able to convert a whole number metric measurement to a different metric measurement resulting in a whole number; and convert a whole number customary measurement to a different customary measurement resulting in a whole number. **Level 2** Students should be able to convert a metric measurement to the tenths place to a different metric measurement and convert a standard measurement given to the 1/4 unit (fractions/mixed numbers) from a larger measurement unit to a smaller one. **Level 3** Students should be able to convert like measurements within a system using whole numbers, fractions (standard system), and decimals (metric system). **Level 4** No Descriptor				
		H. Represent and interpret data. (Target Description) Tasks for this target ask students to make and interpret line plots with fractional units and should be used to provide context for the assessment of 5.NF Target E and 5.NF Target F. Some tasks will involve contextual problems and will contribute evidence for Claim 2 or Claim 4. (Evidence Required) 1. The student completes or identifies a line plot with fractional units to display a data set. 2. The student uses operations on fractions to solve problems involving information presented in line plots. (Range ALDs) **Level 1** Students should be able to make a line plot and represent data sets in whole units. **Level 2** Students should be able to make a line plot and display data sets in fractions of a unit (1/2, 1/4, 1/8). **Level 3** Students should be able to interpret a line plot to display data sets in fractions of a unit (1/2, 1/4, 1/8) and solve problems using information from line plots that require addition, subtraction, and multiplication of fractions. **Level 4** No Descriptor	1, 2			
2. Problem Solving 4. Modeling and Data Analysis	Problem Solving (drawn across content domains)	**A. Apply mathematics to solve well-posed problems arising in everyday life, society , and the workplace.** (General Task Model Expectations) 1. The student is asked to solve a well-posed problem arising in a	2, 3	2	1-2	8-10

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		mathematical context or everyday life, society, or the workplace. 2. Mathematical information from the context is presented in a table, graph, or diagram, or is extracted from a verbal description or pictorial representation of the context. 3. Solving the problem requires one or more steps consisting of one of the four operations with whole numbers or fractions (division of fractions is limited to division of a whole number by a unit fraction or a unit fraction by a whole number). 4. Understandings from geometry or measurement may be needed to determine the operations to be performed. 5. The task does not indicate by key words or other scaffolding which operations are to be performed or in what order. 6. Difficulty of the task may be adjusted by varying (a) the difficulty of extracting information from the context, (b) the number of steps, (c) the complexity of the numbers used, or (d) the complexity of the interpretation required.				
		B. Select and use appropriate tools strategically. (General Task Model Expectations) 1. Mathematical information from the context is presented in a table, graph, or diagram, or is extracted from a verbal description or pictorial representation of the context. 2. The student uses tools or makes strategic selection of tools. 3. Tasks may require the student to use a familiar tool in a non-standard way, for example using a ruler from a non-standard starting point or using a number line to represent time. 4. Difficulty of the task may be adjusted by varying (a) the difficulty of extracting information from the context (b) the number of steps (c) the complexity of the numbers used or (d) the complexity of the interpretation required. **C. Interpret results in the context of a situation.** (General Task Model Expectations) 1. The student provides a numeric answer to a problem where the context requires them to go beyond the result of a single computation. 2. The student may be asked to choose a value that falls into a range of acceptable values limited by information given in a real-world context. 3. The student may be asked to round up or round down based on the constraints of the context. 4. The student may be asked to interpret the meaning of mathematical	1, 2, 3	1		

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		computations, for example, the different interpretations of arithmetic operations. 5. The student may be asked to interpret the meaning of points on the number line or in the coordinate plane in a real-world context. 6. The student may be asked to solve a problem that requires the integration of concepts and skills from multiple domains. 7. Difficulty of the task may be adjusted by varying (a) the difficulty of extracting information from the context (b) the number of steps (c) the complexity of the numbers used or (d) the complexity of the interpretation required. **D. Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flow charts, or formulas).** (General Task Model Expectations) 1. The student is presented with a mathematical problem in a real-world context where the quantities of interest are not named explicitly, are named but represented in different ways, or the relationship between the quantities is not immediately clear. 2. The student is asked to solve a problem that may require the integration of concepts and skills from multiple domains. 3. Target 2D identifies a key step in the modeling cycle, and is thus frequently present in problems with real-world contexts. Note that Target 2D is rarely the primary target for an item, but is frequently a Secondary or Tertiary Target for an item with primary alignment to 2A, 2B, or 2C; see example items for many of the task models in those Targets.				
	Modeling and Data Analysis (drawn across content domains)	**A. Apply mathematics to solve problems arising in everyday life, society, and the workplace.** (General Task Model Expectations) 1. The student is asked to solve a problem arising in everyday life, society, or the workplace. 2. Information needed to solve the problem has a level of complexity that is not present in items within Claim 2 Target A. For example, the student must • distinguish between relevant and irrelevant information, or • identify information that is not given in the problem and request it, or • make a reasonable estimate for one or more quantities and use that estimate to solve the problem. 3. The student must select a mathematical model independently and is not directly told what arithmetic operation or geometric structure to use to solve	2, 3	1	1–3	

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		the problem. 4. Tasks in this model often have secondary alignments to other Claim 4 targets, in particular Target 4B, constructing autonomous chains of reasoning, Target 4D, requiring the student to interpret results in the context of the problem, and Target 4F, requiring students to identify quantities and map relationships between them. 5. The student is often required to draw upon knowledge from different domains, including knowledge from earlier grade-levels. **D. Interpret results in the context of a situation.** (General Task Model Expectations) 1. The student must solve a problem that results in a numerical answer and interpret the number in the context of the problem.				
		B. Construct, autonomously, chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for a complex problem. (General Task Model Expectations) 1. The student is presented with a multi-step problem with little or no scaffolding, or 2. The student must make estimates or choose between different reasonable assumptions in order to solve the problem 3. 3. Note that Target 4B is never the primary target for an item, but is frequently a Tertiary or Quaternary Target for an item with primary alignment to other targets; see, for example, items in Task Models for 4A, 4C, and 4E. **E. Analyze the adequacy of and make improvements to an existing model or develop a mathematical model of a real phenomenon.** (General Task Model Expectations) 1. The student is presented with a problem arising in everyday life, society, or the workplace. The student either • chooses between competing mathematical models to solve the problem (which may depend on different interpretations of the problem), or • evaluates a partial or complete (possibly incorrect) solution to the problem, or • constructs a mathematical model to solve the problem It is not necessary that a student constructs a complete solution to the problem for this target. 2. Tasks in this model can also assess Target 4B (Construct, autonomously,	2, 3, 4	1		

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for a complex problem). Thus some tasks should plausibly entail a chain of reasoning to complete the task (not just a single step). For example, it might be necessary for the student to construct a two-step arithmetic expression to evaluate a model or solution, or to try out a geometric shape and then perform a calculation to see if it satisfies the requirements. 3. The student is often required to draw upon knowledge from different domains, including knowledge from earlier grade-levels.				
		C. State logical assumptions being used. (General Task Model Expectations) 1. The student is presented with a problem arising in everyday life, society, or the workplace. The student either • identifies information or assumptions needed to solve the problem or • provides a reasoned estimate of a quantity needed to solve the problem. It is not necessary that a student constructs a complete solution to the problem for this target. 2. Tasks in this model generally have either more information than is needed solve the problem (and students must choose) or not enough information (and students must make a reasoned estimate). 3. The student is often required to draw upon knowledge from different domains, including knowledge from earlier grade-levels. 4. Tasks for this target may also assess Target 4B or 4D. **F. Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flow charts, or formulas).** (General Task Model Expectations) 1. Students are presented with a mathematical problem in a real-world context where the quantities of interest are not named explicitly, are named but represented in different ways, or the relationship between the quantities is not immediately clear. 2. The student is asked to solve a problem that may require the integration of concepts and skills from multiple domains.	1, 2, 3	1		
		G. Identify, analyze, and synthesize relevant external resources to pose or solve problems. (General Task Model Expectations) Measured in performance tasks only, students should have access to external	3, 4	0		

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		resources to support their work in posing and solving problems (e.g., finding or constructing a set of data or information to answer a particular question or looking up measurements of a structure to increase precision in an estimate for a scale drawing). Constructed response items should incorporate "hyperlinked" information to provide additional detail (both relevant and extraneous).				
3. Communicating Reasoning	Communicating Reasoning (drawn across content domains)	**A. Test propositions or conjectures with specific examples.** (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around numbers and operations, with mathematical content from other domains playing a supporting role in setting up the reasoning contexts. 2. Items in this task model should probe the key mathematical structures that students at that grade-level are studying, such as the structure of base-ten numbers, fractions, or the four operations and their properties. 3. In response to a claim or conjecture, the student should: • Find a counterexample if the claim is false, • Find examples and non-examples if the claim is sometimes true, or • Provide supporting examples for a claim that is always true without concluding that the examples establish that truth, unless there are only a finite number of cases and all of them are established one-by-one. The main role for using specific examples in this case is for students to develop a hypothesis that the conjecture or claim is true, setting students up for work described in Claim 3B. 4. False or partially true claims that students are asked to find counterexamples for should frequently draw upon commonly held mathematical misconceptions. 5. Note: Use appropriate mathematical language in asking students for a single example. While a single example can be used to refute a conjecture, it cannot be used to prove one is always true unless that is the one and only case. **D. Use the technique of breaking an argument into cases.** (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around numbers and operations, with mathematical content from other domains playing a supporting role in setting up the reasoning contexts. 2. The student is given • A problem that has a finite number of possible solutions, some of	2, 3	3	0-2	8-10

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		which work and some of which don't, or • A proposition that is true in some cases but not others. 3. Items for Claim 3 Target D should either present an exhaustive set of cases to consider or expect students to consider all possible cases in turn in order to distinguish it from items in other targets. 4. In grades 3-5, the student will be given the cases to consider.				
		B. Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures. (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around numbers and operations, with mathematical content from other domains playing a supporting role in setting up the reasoning contexts. 2. Items for this target can probe a key mathematical structure such as the structure of base-ten numbers, fractions, or the four operations and their properties. 3. Items for this target can require students to solve a multi-step, well-posed problem involving the application of mathematics to a real-world context. The difference between items for Claim 2A and Claim 3B is that the focus in 3B is on communicating the reasoning process in addition to getting the correct answer. 4. Note that in grades 3–5, items can provide more structure than items for later grades to help them understand the expectations for justifying or refuting a proposition or conjecture. **E. Distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in the argument—explain what it is.** (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around numbers and operations, with mathematical content from other domains playing a supporting role in setting up the reasoning contexts. 2. The student is presented with valid or invalid reasoning and told it is flawed or asked to determine its validity. If the reasoning is flawed, the student identifies, explains, and/or corrects the error or flaw. 3. The error should be more than just a computational error or an error in counting, and should reflect an actual error in reasoning. 4. Analyzing faulty algorithms is acceptable so long as the algorithm is internally consistent and it isn't just a mechanical mistake executing a	2, 3, 4	3		

Target Sampling Mathematics Grade 5						
Claim	Content Category	Assessment Targets	DOK	Items		Total Items
				CAT	PT	
		standard algorithm.				
		C. State logical assumptions being used. (General Task Model Expectations) 1. Items for this target should focus on the core mathematical work that students are doing around numbers and operations, with mathematical content from other domains playing a supporting role in setting up the reasoning contexts. 2. For some items, the student must explicitly identify assumptions that • Make a problem well-posed, or • Make a particular solution method viable. 3. When possible, items in this target should focus on assumptions that are commonly made implicitly and can cause confusion when left implicit. 4. For some items, the student will be given a definition and be asked to reason from that definition. **F. Base arguments on concrete referents such as objects, drawings, diagrams, and actions.** (General Task Model Expectations) In earlier grades, the desired student response might be in the form of concrete referents. In later grades, concrete referents will often support generalizations as part of the justification rather than constituting the entire expected response. 1. The student uses concrete referents to help justify or refute an argument. 1. The student uses concrete referents to help justify or refute an argument. 2. Items in this task model should address content in standards that specifically call for number lines, diagrams, and contexts to be used as a basis for reasoning.	2, 3	2		