Evidence Statement Tables
Grade 3 Mathematics

Evidence Statement Keys

Evidence statements describe the knowledge and skills that an assessment item/task elicits from students. These are derived directly from the Common Core State Standards for Mathematics (the standards), and they highlight the advances of the standards, especially around their focused coherent nature. The evidence statement keys for grades 3 through 8 will begin with the grade number. High school evidence statement keys will begin with "HS" or with the label for a conceptual category.

An Evidence Statement might:

1. **Use exact standard language** – For example:

   - 8.EE.1 - Know and apply the properties of integer exponents to generate equivalent numerical expressions*. For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$. This example uses the exact language as standard 8.EE.1

2. **Be derived by focusing on specific parts of a standard** – For example: 8.F.5-1 and 8.F.5-2 were derived from splitting standard 8.F.5:

   - 8.F.5-1 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear).
   - 8.F.5-2 Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

   Together these two evidence statements are standard 8.F.5:

   Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or 2 decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

3. **Be integrative (Int) –** Integrative evidence statements allow for the testing of more than one of the standards on a single item/task without going beyond the standards to create new requirements. An integrative evidence statement might be integrated across all content within a grade/course, all standards in a high school conceptual category, all standards in a domain, or all standards in a cluster. For example:

   - **Grade/Course – 4.Int.2[1]** (Integrated across Grade 4)
   - **Conceptual Category – F.Int.1[1]** (Integrated across the Functions Conceptual Category)
   - **Domain – 4.NBT.Int.1[1]** (Integrated across the Number and Operations in Base Ten Domain)
   - **Cluster – 3.NF.A.Int.1[1]** (Integrated across the Number and Operations – Fractions Domain, Cluster A)

4. **Focus on mathematical reasoning–** A reasoning evidence statement (keyed with C) will state the type of reasoning that an item/task will require and the content scope from the standard that the item/task will require the student to reason about. For example:

   - 3.C.2[1] -- Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division.
     - Content Scope: Knowledge and skills are articulated in 3.OA.6
   - 7.C.6.1[1] – Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures.
     - Content Scope: Knowledge and skills are articulated in 7.RP.2

   Note: When the focus of the evidence statement is on reasoning, the evidence statement may also require the student to reason about securely held knowledge from a previous grade.

5. **Focus on mathematical modeling –** A modeling evidence statement (keyed with D) will state the type of modeling that an item/task will require and the content scope from the standard that the item/task will require the student to model about. For example:

   - 4.D.2[1] – Solve multi-step contextual problems with degree of difficulty appropriate to Grade 4 requiring application of knowledge and skills articulated in 3.OA.A, 3.OA.8,3.NBT, and/or 3.MD.

     Note: The example 4.D.2 is of an evidence statement in which an item/task aligned to the evidence statement will require the student to model on grade level, using securely held knowledge from a previous grade.

   - HS.D.5[1] - Given an equation or system of equations, reason about the number or nature of the solutions.
     - Content scope: A-REI.11, involving any of the function types measured in the standards.

[1] The numbers at the end of the integrated, modeling and reasoning Evidence Statement keys are added for assessment clarification and tracking purposes. For example, 4.Int.2 is the second integrated Evidence Statement in Grade 4.

Grade 3 Evidence Statements
Listing by Type I, Type II, and Type III

The Evidence Statements for Grade 3 Mathematics are provided starting on the next page. The list has been organized to indicate whether items designed are aligned to an Evidence Statement used for Type I items (sub-claims A and B), Type II items (reasoning/sub-claim C), or Type III items (modeling/sub-claim D).

Evidence Statements are presented in the order shown below and are color coded:

Peach – Evidence Statement is applicable to Type I items.

Lavender – Evidence Statement is applicable to the Type II items.

Aqua – Evidence Statement is applicable to the Type III items.

Grade 3 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
Sub-claim A (20 of 52 points) & Sub-claim B (10 of 52 points)				
A	3.OA.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*	i) Tasks involve interpreting rather than calculating products in terms of equal groups, arrays, area, and/or measurement quantities. (See CCSSM, Table 2, Common multiplication and division situations, p. 89.) For example, "the total number of books if 5 shelves each have 7 books" can be represented by the expression 5x7 rather than "Marcie placed 7 books on each of 5 shelves. How many books does she have?" ii) Tasks do not require students to interpret products in terms of repeated addition, skip-counting, or jumps on the number line. iii) The italicized example refers to describing a real-world context, but describing a context is not the only way to meet the standard. For example, another way to meet the standard would be to identify contexts in which a total can be expressed as a specified product.	MP.2, MP.4
A	3.OA.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*	i) Tasks involve interpreting rather than calculating quotients in terms of equal groups, arrays, area, and/or measurement quantities. (See CCSSM, Table 2, Common multiplication and division situations, p. 89.) For example, "35 books are placed equally on 7 shelves" can be represented by the expression $35 \div 7$ rather than "Marcie has 35 books. She placed the same number on each of 7 shelves. How many books did she place on each shelf?" ii) Tasks do not require students to interpret quotients in terms of repeated subtraction, skip-counting, or jumps on the number line. iii) The italicized example refers to describing a real-world context, but describing a context is not the only way to meet the standard. For example, another way to meet the standard would be to identify contexts in which a number of objects can be expressed as a specified quotient. iv) Half the tasks require interpreting quotients as a number of objects in each share and half require interpreting quotients as a number of equal shares.	MP.2, MP.4
A	3.OA.3-1	Use multiplication within 100 (both factors less than or equal to 10) to solve word problems in situations involving equal groups, arrays, or area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All products come from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) 75% of tasks involve multiplying to find the total number (equal groups, arrays); 25% involve multiplying to find the area. iii) For more information see CCSSM Table 2, Common multiplication and division situations, p. 89 and the OA Progression.	MP.1, MP.4

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Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	3.OA.3-2	Use multiplication within 100 (both factors less than or equal to 10) to solve word problems in situations involving measurement quantities other than area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All products come from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) Tasks involve multiplying to find a total measure (other than area). iii) For more information see CCSSM Table 2, Common multiplication and division situations, p. 89 and the OA Progression.	MP.1, MP.4
A	3.OA.3-3	Use division within 100 (quotients related to products having both factors less than or equal to 10) to solve word problems in situations involving equal groups, arrays, or area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All quotients are related to products from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) Tasks using this Evidence Statement will be created equally among the following: • dividing to find the number in each equal group or in each equal row/column of an array; • dividing to find the number of equal groups or the number of equal rows/columns of an array; and • dividing an area by a side length to find an unknown side length. iii) For more information see CCSSM Table 2, Common multiplication and division situations, p. 89 and the OA Progression.	MP.1, MP.4
A	3.OA.3-4	Use division within 100 (quotients related to products having both factors less than or equal to 10) to solve word problems in situations involving measurement quantities other than area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All quotients are related to products from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) Half the tasks involve finding the number of equal pieces and half involve finding the measure of each piece. iii) For more information see CCSSM Table 2, Common multiplication and division situations, p. 89 and the OA Progression.	MP.1, MP.4
A	3.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations* $8 \times ? = 48$, $5 = \square \div 3$, $6 \times 6 = ?$.	i) Tasks do not have a context. ii) Only the answer is required. iii) All products and related quotients are from the harder three quadrants of the times table	-
A	3.OA.6	Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*	i) All products and related quotients are from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$).	-

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Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	3.OA.7-1	Fluently multiply and divide within 25. By end of Grade 3, know from	i) Tasks do not have a context. ii) Only the answer is required. iii) Tasks require finding products and related quotients accurately. For example, each 1-point task might require four or more computations, two or more multiplication and two or more division. iv) Tasks are not timed.	-
A	3.OA.7-2	Fluently multiply and divide within 100. By the end of Grade 3, know from memory all products of two one-digit numbers.	i) Tasks do not have a context. ii) Only the answer is required. iii) Tasks require finding products and related quotients accurately. For example, each 1-point task might require four or more computations, two or more multiplication and two or more division. iv) 75% of tasks are from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). v) Tasks are not timed.	-
A	3.OA.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	i) Tasks do not require a student to write a single equation with a letter standing for the unknown quantity in a two-step problem, and then solve that equation. ii) Tasks may require students to write an equation as part of their work to find a solution, but students are not required to use a letter for the unknown. iii) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, Common addition and subtraction situations, p. 88; CCSSM, Table 2, Common multiplication and division situations, p. 89; and the OA Progression).	MP.1, MP.4
B	3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	i) Tasks have no context. ii) Tasks are not timed.	-
B	3.NBT.3	Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations.	i) Tasks have no context.	MP.7
A	3.NF.1	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.	i) Tasks do not involve the number line. ii) Fractions equivalent to whole numbers are limited to 0 through 5. iii) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8.	MP.2

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Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	3.NF.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.	i) Fractions may be greater than 1. ii) Fractions equivalent to whole numbers are limited to 0 through 5. iii) Fractions equal whole numbers in 20% of these tasks. iv) Tasks have "thin context"[2] or no context. v) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8.	MP.5
A	3.NF.3a-1	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size.	i) Tasks do not involve the number line. ii) Fractions equivalent to whole numbers are limited to 0 through 5. iii) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. iv) The explanation aspect of 3.NF.3 is not assessed here.	MP.5
A	3.NF.3a-2	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same point on a number line.	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. ii) Fractions equivalent to whole numbers are limited to 0 through 5. iii) The explanation aspect of 3.NF.3 is not assessed here.	MP.5
A	3.NF.3b-1	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3).	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. ii) Fractions equivalent to whole numbers are limited to 0 through 5. iii) The explanation aspect of 3.NF.3 is not assessed here.	MP.7
A	3.NF.3c	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. ii) Fractions equivalent to whole numbers are limited to 0 through 5. iii) The explanation aspect of 3.NF.3 is not assessed here.	MP.3, MP.5,
A	3.NF.3d	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. ii) Fractions equivalent to whole numbers are limited to 0 through 5. iii) Justifying is not assessed here. For this aspect of 3.NF.3d, see 3.C.3-1 and 3.C.4-4. iv) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.7

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Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	3.NF.A.Int.1	In a contextual situation involving a whole number and two fractions not equal to a whole number, represent all three numbers on a number line diagram, then choose the fraction closest in value to the whole number.	i) Fractions equivalent to whole numbers are limited to 0 through 5. ii) Fraction denominators are limited to 2, 3, 4, 6 and 8.	MP.2, MP.4,
A	3.MD.1-1	Tell and write time to the nearest minute and measure time intervals in minutes.	i) Time intervals are limited to 60 minutes. ii) No more than 20% of items require determining a time interval from clock readings having different hour values. iii) Acceptable interval: Start time 1:20, end time 2:10 – time interval is 50 minutes. Unacceptable interval: Start time 1:20, end time 2:30 – time interval exceeds 60 minutes.	-
A	3.MD.1-2	Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	i) Only the answer is required. ii) Tasks do not involve reading start/stop times from a clock nor calculating elapsed time.	MP.1, MP 2,
A	3.MD.2-1	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).	i) Estimates are the result of reading a scale.	-
A	3.MD.2-2	Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	i) Only the answer is required (methods, representations, etc. are not assessed here). ii) Units of grams (g), kilograms (kg), and liters (l).	MP.1, MP.2,
A	3.MD.2-3	Measure or estimate liquid volumes or masses of objects using standard units of grams (g), kilograms (kg), and liters (l), then use the estimated value(s) to estimate the answer to a one-step word problem by using addition, subtraction, multiplication, or division. Content Scope: 3.MD.2	-	MP.5, MP.6 (in
B	3.MD.3-1	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*	i) Tasks involve no more than 10 items in 2-5 categories. ii) Categorical data should not take the form of a category that could be represented numerically (e.g. ages of students). iii) Tasks do not require students to create the entire graph, but might ask students to complete a graph or otherwise demonstrate knowledge of its creation.	MP.2

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B	3.MD.3-3	Solve a put-together problem using information presented in a scaled bar graph, then use the result to answer a "how many more" or "how many less" problem using information presented in the scaled bar graph. Content Scope: 3.MD.3	i) Tasks do not require computations beyond the Grade 3 expectations.	MP.4
B	3.MD.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	-	MP.2, MP.5
A	3.MD.5	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.	-	MP.7
A	3.MD.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	-	MP.7
A	3.MD.7b-1	Relate area to the operations of multiplication and addition. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems.	i) Products are limited to the 10x10 multiplication table. ii) This ES is different from 3.OA.3-1 in the following ways: • 3.MD.7b-1 emphasizes application/skill while the emphasis of 3.OA.3-1 is on demonstration of understanding of multiplication using not only area but also equal groups and arrays by modeling. • 3.MD.7b-1 permits mathematical problems while 3.OA.3-1 is restricted to word problems. • 3.MD.7b-1 allows for factors less than or equal to 5 while the factors used in 3.OA.3-1 are restricted to the harder three quadrants.	MP.4, MP.5

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Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	3.MD.7d	Relate area to the operations of multiplication and addition. d. Recognize area as additive. Find areas of rectilinear[3] figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	-	MP.7
B	3.MD.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	-	MP.2, MP.4,
B	3.G.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	-	-
B	3.G.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*	-	-
A	3.Int.1	Given a two-step problem situation with the four operations, round the values in the problem, then use the rounded values to produce an approximate solution. Content Scope: 3.OA.8, 3.NBT.1, 3.NBT.2, 3.NBT.3	i) Tasks must be aligned to the first standard and 1 or more of the subsequent standards listed in the content scope. ii) Tasks do not require computations beyond the Grade 3 expectations. iii) Tasks do not require a student to write a single equation with a letter standing for the unknown quantity in a two-step problem, and then solve that equation. iv) Tasks may require students to write an equation as part of their work to find a solution, but students are not required to use a letter for the unknown. v) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, Common addition and subtraction situations, p. 88; CCSSM, Table 2, Common multiplication and division situations, p. 89; and the OA Progression).	MP.4, MP.6

Grade 3 Evidence Statements

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Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	3.Int.2	Solve two-step word problems using the four operations requiring a substantial addition, subtraction, or multiplication step, drawing on knowledge and skills articulated in 3.NBT. Content Scope: 3.OA.8, 3.NBT.2, and 3.NBT.3	i) Tasks must be aligned to the first standard and 1 or more of the subsequent standards listed in the content scope. ii) Tasks do not require a student to write a single equation with a letter standing for the unknown quantity in a two-step problem, and then solve that equation. iii) Tasks may require students to write an equation as part of their work to find a solution, but students are not required to use a letter for the unknown. iv) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, Common addition and subtraction situations, p. 88; CCSSM, Table 2, Common multiplication and division situations, p. 89; and the OA Progression). Substantial (def.) – Values should be towards the higher end of the numbers identified in the standards.	MP.1, MP.4
B	3.Int.3	Solve real world and mathematical problems involving perimeters of polygons requiring a substantial addition, subtraction, or multiplication step, drawing on knowledge and skills articulated in 3.NBT. Content Scope: 3.MD.8, 3.NBT.2, and 3.NBT.3	i) Tasks must be aligned to the first standard and 1 or more of the subsequent standards listed in the content scope. Substantial (def.) – Values should be towards the higher end of the numbers identified in the standards.	MP.1 (if the problem has a real world context), MP.4
B	3.Int.4	Use information presented in a scaled bar graph to solve a two-step "how many more" or "how many less" problem requiring a substantial addition, subtraction, or multiplication step, drawing on knowledge and skills articulated in 3.NBT. Content Scope: 3.MD.3, 3.NBT.2, and 3.NBT.3	i) Tasks must be aligned to the first standard and 1 or more of the subsequent standards listed in the content scope. Substantial (def.) – Values should be towards the higher end of the numbers identified in the standards.	MP.1, MP.2, MP.4
A	3.Int.5	Add, subtract, or multiply to solve a one-step word problem involving masses or volumes that are given in the same units, where a substantial addition, subtraction, or multiplication step is required drawing on knowledge and skills articulated in 3.NBT, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. Content Scope: 3.MD.2, 3.NBT.2, and 3.NBT.3	i) Tasks must be aligned to the first standard and 1 or more of the subsequent standards listed in the content scope. Substantial (def.) – Values should be towards the higher end of the numbers identified in the standards.	MP.1, MP.2, MP.4

Sub-Claim	Evidence Statement Key	Evidence Statement (ES) Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
Sub-claim C (10 of 52 points)				
C	3.C.1-1	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 3.OA.5	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*. ii) Products and related quotients are limited to the 10x10 multiplication table. iii) These tasks may not exceed the content limits of Grade 3. For example, 2 x 4 x 5, would be acceptable as students can use the associative property to rewrite the expression as 8 x 5 which falls within the content limits of Grade 3. The problem 7 x 4 x 5 would exceed the content limits of Grade 3 because any use of the associative property would result in a 2-digit multiplier.	MP.3, MP.6, MP.7
C	3.C.1-2	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 3.OA.9	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*.	MP.3, MP.6, MP.7, MP.8
C	3.C.1-3	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 3.MD.7	i) Tasks may include those with and without real-world contexts. ii) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*.	MP.3, MP.5, MP.6, MP.7
C	3.C.2	Base explanations/reasoning on the relationship between multiplication and division. Content Scope: Knowledge and skills articulated in 3.OA.6	i) Products and related quotients are limited to the 10 x 10 multiplication table.	MP.3, MP.6, MP.7
C	3.C.3-1	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 3.NF.3b, 3.NF.3d	i) Tasks may present realistic or quasi-realistic images of a contextual situation (e.g., a drawing of a partially filled graduated cylinder). However, tasks do not provide the sort of abstract drawings that help the student to represent the situation mathematically (e.g., a number line diagram or other visual fraction model). ii) Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8. iii) For fractions equal to a whole number, values are limited to 0 through 5.	MP.3 MP.5 MP.6

Sub-Claim	Evidence Statement Key	Evidence Statement (ES) Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	3.C.3-2	Base explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response). Content Scope: Knowledge and skills articulated in 3.MD.5, 3.MD.6, 3.MD.7	i) Tasks may include those with and without real-world contexts. ii) Tasks with a context may present realistic or quasi-realistic images of a contextual situation (e.g., a drawing of a meadow). However, tasks do not provide the sort of abstract drawings that help the student to represent the situation mathematically (e.g., a tiling of the meadow).	MP.3, MP.5, MP.6
C	3.C.4-1	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.OA.5	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*. ii) Products and related quotients are limited to the 10x10 multiplication table.	MP.3, MP.6, MP.7
C	3.C.4-2	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.OA.6	i) Products and related quotients are limited to the 10x10 multiplication table.	MP.3, MP.6
C	3.C.4-3	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.OA.8	i) Tasks do not require a student to write a single equation with a letter standing for the unknown quantity in a two-step problem, and then solve that equation. ii) Tasks may require students to write an equation as part of their work to find a solution, but students are not required to use a letter for the unknown. iii) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, Common addition and subtraction situations, p. 88; CCSSM, Table 2, Common multiplication and division situations, p. 89; and the OA Progression).	MP.3, MP.5, MP.6
C	3.C.4-4	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.NF.3b, 3.NF.3d	i) Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8. ii) For fractions equal to a whole number, values are limited to 0 through 5.	MP.3, MP.5, MP.6
C	3.C.4-5	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.MD.7	i) Tasks may include those with and without real-world contexts.	MP.3, MP.5, MP.6

Sub-Claim	Evidence Statement Key	Evidence Statement (ES) Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	3.C.4-6	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.OA.9	-	MP.3, MP.6, MP.8
C	3.C.4-7	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 2.NBT	i) Tasks may have scaffolding[1], if necessary, in order to yield a degree of difficulty appropriate to Grade 3.	MP.3, MP.6
C	3.C.5-1	Present solutions to two-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to two-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 3.OA.8	i) Tasks do not require a student to write a single equation with a letter standing for the unknown quantity in a two-step problem, and then solve that equation. ii) Tasks may require students to write an equation as part of their work to find a solution, but students are not required to use a letter for the unknown. iii) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, Common addition and subtraction situations, p. 88; CCSSM, Table 2, Common multiplication and division situations, p. 89; and the OA Progression).	MP.2, MP.3, MP.5, MP.6
C	3.C.5-2	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 3.MD.7b, 3.MD.7d	i) Tasks may include those with and without real-world contexts. ii) Multi-step problems have at least 3 steps.	MP.2, MP.3, MP.5, MP.6
C	3.C.6-1	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response). Content scope: Knowledge and skills articulated in 3.NF.2	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. ii) Fractions equivalent to whole numbers are limited to 0 through 5.	MP.3, MP.5, MP.6

Sub-Claim	Evidence Statement Key	Evidence Statement (ES) Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	3.C.6-2	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response). Content scope: Knowledge and skills articulated in 3.MD.1	-	MP.3, MP.5, MP.6
Sub-claim D (12 of 52 points)				
D	3.D.1	Solve multi-step contextual word problems with degree of difficulty appropriate to Grade 3, requiring application of knowledge and skills articulated in Type I, Sub-Claim A Evidence Statements.	i) Tasks may have scaffolding[1]. ii) Multi-step problems must have at least 3 steps.	MP.4
D	3.D.2	Solve multi-step contextual problems with degree of difficulty appropriate to Grade 3, requiring application of knowledge and skills articulated in 2.OA.A, 2.OA.B, 2.NBT, and/or 2.MD.B.	i) Tasks may have scaffolding[1], if necessary, in order to yield a degree of difficulty appropriate to Grade 3. ii) Multi-step problems must have at least 3 steps.	MP.4

[1] Scaffolding in a task provides the student with an entry point into a pathway for solving a problem. In unscaffolded tasks, the student determines his/her own pathway and process. Both scaffolded and unscaffolded tasks will be included in reasoning and modeling items.

[2] "Thin context" is a sentence or phrase that establishes a concrete referent for the quantity/quantities in the problem, in such a way as to provide meaningful avenues for mathematical intuition to operate, yet without requiring any sort of further analysis of the context. For example, a task could provide a reason for being given a set of fractional measurements such as, "The fractions represent lengths of ribbon."

[3] A rectilinear figure is a polygon in which all angles measure 90 or 270 degrees.

Evidence Statement Tables
Grade 4 Mathematics

Evidence Statement Keys

Evidence statements describe the knowledge and skills that an assessment item/task elicits from students. These are derived directly from the Common Core State Standards for Mathematics (the standards), and they highlight the advances of the standards, especially around their focused coherent nature. The evidence statement keys for grades 3 through 8 will begin with the grade number. High school evidence statement keys will begin with "HS" or with the label for a conceptual category

An Evidence Statement might:

1. **Use exact standard language** – For example:

   - 8.EE.1 - Know and apply the properties of integer exponents to generate equivalent numerical expressions*. For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$. This example uses the exact language as standard 8.EE.1

2. **Be derived by focusing on specific parts of a standard** – For example: 8.F.5-1 and 8.F.5-2 were derived from splitting standard 8.F.5:

   - 8.F.5-1 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear).
   - 8.F.5-2 Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

   Together these two evidence statements are standard 8.F.5:

   Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or 2 decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

3. **Be integrative (Int) –** Integrative evidence statements allow for the testing of more than one of the standards on a single item/task without going beyond the standards to create new requirements. An integrative evidence statement might be integrated across all content within a grade/course, all standards in a high school conceptual category, all standards in a domain, or all standards in a cluster. For example:

   - **Grade/Course – 4.Int.2[1]** (Integrated across Grade 4)
   - **Conceptual Category – F.Int.1[1]** (Integrated across the Functions Conceptual Category)
   - **Domain – 4.NBT.Int.1[1]** (Integrated across the Number and Operations in Base Ten Domain)
   - **Cluster – 3.NF.A.Int.1[1]** (Integrated across the Number and Operations – Fractions Domain, Cluster A)

4. **Focus on mathematical reasoning–** A reasoning evidence statement (keyed with C) will state the type of reasoning that an item/task will require and the content scope from the standard that the item/task will require the student to reason about. For example:

   - 3.C.2[1] -- Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division.
     - Content Scope: Knowledge and skills are articulated in 3.OA.6
   - 7.C.6.1[1] – Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures.
     - Content Scope: Knowledge and skills are articulated in 7.RP.2

   Note: When the focus of the evidence statement is on reasoning, the evidence statement may also require the student to reason about securely held knowledge from a previous grade.

5. **Focus on mathematical modeling –** A modeling evidence statement (keyed with D) will state the type of modeling that an item/task will require and the content scope from the standard that the item/task will require the student to model about. For example:

   - 4.D.2[1] – Solve multi-step contextual problems with degree of difficulty appropriate to Grade 4 requiring application of knowledge and skills articulated in 3.OA.A, 3.OA.8,3.NBT, and/or 3.MD.

     Note: The example 4.D.2 is of an evidence statement in which an item/task aligned to the evidence statement will require the student to model on grade level, using securely held knowledge from a previous grade.

   - HS.D.5[1] - Given an equation or system of equations, reason about the number or nature of the solutions.
     - Content scope: A-REI.11, involving any of the function types measured in the standards.

[1] The numbers at the end of the integrated, modeling and reasoning Evidence Statement keys are added for assessment clarification and tracking purposes. For example, 4.Int.2 is the second integrated Evidence Statement in Grade 4.

Grade 4 Evidence Statements
Listing by Type I, Type II, and Type III

The Evidence Statements for Grade 3 Mathematics are provided starting on the next page. The list has been organized to indicate whether items designed are aligned to an Evidence Statement used for Type I items (sub-claims A and B), Type II items (reasoning/sub-claim C), or Type III items (modeling/sub-claim D).

Evidence Statements are presented in the order shown below and are color coded:

Peach – Evidence Statement is applicable to Type I items.

Lavender – Evidence Statement is applicable to the Type II items.

Aqua – Evidence Statement is applicable to the Type III items.

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
Sub-claim A (21 of 52 points) & Sub-claim B (9 of 52 points)				
A	4.OA.1-1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.	i) Tasks have "thin context"[1] or no context.	MP.2, MP.4
A	4.OA.1-2	Represent verbal statements of multiplicative comparisons as multiplication equations.	i) Tasks have "thin context" or no context.	MP.2, MP.4
A	4.OA.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	i) See the OA Progression document, especially p. 29 and Table 2, Common Multiplication and Division situations on page 89 of CCSSM. ii) Tasks sample equally the situations in the **third row** of Table 2 on page 89 of CCSSM.	MP.1, MP.4, MP.5
A	4.OA.3-1	Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations.	i) Assessing reasonableness of answer is not assessed here. ii) Tasks do not involve interpreting remainders.	MP.1, MP.2, MP.7
A	4.OA.3-2	Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, in which remainders must be interpreted.	i) Assessing reasonableness of answer is not assessed here. ii) Tasks involve interpreting remainders. iii) See p. 30 of the OA Progression document. iv) Multi-step problems must have at least 3 steps.	MP.1, MP.2, MP.4, MP.7
B	4.OA.4-1	Find all factor pairs for a whole number in the range 1–100.	-	MP.7
B	4.OA.4-2	Recognize that a whole number is a multiple of each of its factors.	-	MP.2
B	4.OA.4-3	Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.	-	MP.8

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
B	4.OA.4-4	Determine whether a given whole number in the range 1–100 is prime or composite.	-	MP.7, MP.8
B	4.OA.5	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*	i) Tasks do not require students to determine a rule; the rule is given. ii) 75% of patterns should be number patterns.	MP.8
A	4.NBT.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*	-	MP.7
A	4.NBT.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	i) Tasks assess conceptual understanding, e.g. by including a mixture of expanded form, number names, and base ten numerals within items.	MP.7
A	4.NBT.3	Use place value understanding to round multi-digit whole numbers to any place.	i) Grade 4 expectations are limited to whole numbers less than or equal to 1,000,000.	MP.7
A	4.NBT.4-1	Fluently add multi-digit whole numbers using the standard algorithm.	i) The given addends are such as to require an efficient/standard algorithm (e.g., 7263 + 4875). Addends in the task do not suggest any obvious ad hoc or mental strategy (as would be present for example in a case such as 16,999 + 3,501). ii) Tasks do not have a context. iii) Grade 4 expectations in CCSSM are limited to whole numbers less than or equal to 1,000,000; for purposes of assessment, both of the given numbers should have 4 digits. iv) Tasks are not timed.	-

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	4.NBT.4-2	Fluently subtract multi-digit whole numbers using the standard algorithm.	i) The given subtrahend and minuend are such as to require an efficient/standard algorithm (e.g., 7263 – 4875 or 7406 – 4637). The subtrahend and minuend do not suggest any obvious ad hoc or mental strategy (as would be present for example in a case such as 7300 – 6301). ii) Tasks do not have a context. iii) Grade 4 expectations in CCSSM are limited to whole numbers less than or equal to 1,000,000; for purposes of assessment, both of the given numbers should have 4 digits. iv) Tasks are not timed.	-
A	4.NBT.5-1	Multiply a whole number of up to four digits by a one-digit whole number using strategies based on place value and the properties of operations.	i) Tasks do not have a context. ii) For the illustrate/explain aspect of 4.NBT.5, see 4.C.1-1.	MP.7
A	4.NBT.5-2	Multiply two two-digit numbers, using strategies based on place value and the properties of operations.	i) Tasks do not have a context. ii) For the illustrate/explain aspect of 4.NBT.5, see 4.C.1.1.	MP.7
A	4.NBT.6-1	Find whole-number quotients and remainders with three-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.	i) Tasks do not have a context. ii) Tasks may include remainders of 0 in no more than 20% of the tasks. iii) For the illustrate/explain aspect of 4.NBT.6, see 4.C.1-2 and 4.C.2.	MP.7, MP.8
A	4.NBT.6-2	Find whole-number quotients and remainders with 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.	i) Tasks do not have a context. ii) Tasks may include remainders of 0 in no more than 20% of the tasks. iii) For the illustrate/explain aspect of 4.NBT.6, see 4.C.1-2 and 4.C.2.	MP.7, MP.8
A	4.NBT.Int.1	Perform computations by applying conceptual understanding of place value, rather than by applying multi-digit algorithms.	i) Tasks do not have a context.	MP.1, MP.7
A	4.NF.1-2	Use the principle a/b = (nxa)/(nxb) to recognize and generate equivalent fractions.	i) The explanation aspect of 4.NF.1 is not assessed here. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. iii) Tasks may include fractions that equal whole numbers. Whole numbers are limited to 0 through 5.	MP.7

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	4.NF.2-1	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or by comparing to a benchmark fraction such as 1/2. Record the results of comparisons with symbols >, =, or <.	i) Only the answer is required. ii) Tasks require the student to choose the comparison strategy autonomously. iii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. iv) Tasks may include fractions that equal whole numbers. Whole numbers are limited to 0 through 5.	MP.6, MP.7
A	4.NF.A.Int.1	Apply conceptual understanding of fraction equivalence and ordering to solve simple word problems requiring fraction comparison. Content Scope: 4.NF.A	i) Tasks have "thin context." ii) Tasks do not require adding, subtracting, multiplying, or dividing fractions. iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iv) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. v) Tasks may include fractions that equal whole numbers. Whole numbers are limited to 0 through 5.	MP.1, MP.4, MP.5
A	4.NF.3a	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.2, MP.7, MP.8
A	4.NF.3b-1	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. *Examples: 3/8 = 1/8 + 1/8 + 1/8; 3/8 = 1/8 + 2/8; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*	i) Only the answer is required. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. iii) Tasks may include fractions that equal whole numbers. Whole numbers are limited to 0 through 5.	MP.7, MP.8
A	4.NF.3c	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition **and** subtraction.	i) Tasks do not have a context. ii) Denominators are limited to Grade 3 possibilities (2, 3, 4, 6, 8) so as to keep computational difficulty lower.	MP.7
A	4.NF.3d	Understand a fraction a/b with a>1 as a sum of fractions 1/b. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. ii) Addition and subtraction situations are limited to the dark- or medium-shaded types in Table 2, p. 9 of the OA Progression document; these situations are sampled equally. iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.1, MP.4, MP.5

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	4.NF.4a	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction a/b as a multiple of 1/b. *For example, use a visual fraction model to represent 5/4 as the product 5 x (1/4), recording the conclusion by the equation 5/4 = 5 x (1/4).*	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.5, MP.7
A	4.NF.4b-1	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. b. Understand a multiple of a/b as a multiple of 1/b. *For example, use a visual fraction model to express 3 x (2/5) as 6 x (1/5).*	i) Tasks do not have a context. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) Results may equal fractions greater than 1 (including fractions equal to whole numbers limited to 0 through 5). iv) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.5, MP.7
A	4.NF.4b-2	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. b. Use the understanding that a multiple of a/b is a multiple of 1/b to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 x (2/5) as 6/5. (In general, n x (a/b) = (nxa)/b.)*	i) Tasks do not have a context. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) Tasks involve expressing a/b as a multiple of a/b as a fraction. iv) Results may equal fractions greater than 1 (including fractions equal to whole numbers limited to 0 through 5). v) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.5, MP.7
A	4.NF.4c	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*	i) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. ii) Situations are limited to those in which the product is unknown (situations do not include unknown factors). iii) Situations involve a whole number of fractional quantities—not a fraction of a whole-number quantity. iv) Results may equal fractions greater than 1 (including fractions equal to whole numbers limited to 0 through 5). v) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.1, MP.4, MP.5

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	4.NF.5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*	i) Tasks do not have a context.	MP.7
A	4.NF.6	Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*	i) Measuring to the nearest mm or cm is equivalent to measuring on the number line.	MP.7
A	4.NF.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.	i) Tasks have "thin context" or no context. ii) Justifying conclusions is not assessed here. iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.5, MP.7
A	4.NF.Int.1	Solve one-step word problems requiring integration of knowledge and skills articulated in 4.NF. Content Scope: 4.NF	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.1, MP.4
A	4.NF.Int.2	Solve one-step addition word problems. Content Scope: 4.NF.5, 4.NF.6	i) Tasks are one of two kinds: Add To with result unknown, or Put Together with result unknown. ii) See Table 2, p. 9 of the OA Progression document; these situations are sampled equally.	MP.1
B	4.MD.1	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two- column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*	-	MP.5, MP.8

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
B	4.MD.2-1	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, in problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	i) Situations involve whole number measurements and require expressing measurements given in a larger unit in terms of a smaller unit. ii) Tasks may present number line diagrams featuring a measurement scale. iii) Tasks may include measuring distances to the nearest cm or mm. iv) Units of mass are limited to grams and kilograms.	MP.4, MP.5
B	4.MD.2-2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, in problems involving simple fractions. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	i) Situations involve two measurements given in the same units, one a whole-number measurement and the other a non-whole-number measurement (given as a fraction). ii) Tasks may present number line diagrams featuring a measurement scale. iii) Tasks may include measuring distances to the nearest cm or mm. iv) Units of mass are limited to grams and kilograms. v) Tasks will not include division of fractions.	MP.4, MP.5
B	4.MD.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring* and *the length, by viewing the area formula as a multiplication equation with an unknown factor.*	-	MP.2, MP.5
B	4.MD.4-1	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8).	i) Tasks may include mixed numbers with stated denominators. ii) Fractions equivalent to whole numbers are limited to 0 through 5.	MP.5
B	4.MD.4-2	Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*	-	MP.4, MP.5

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
B	4.MD.5	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of n degrees.	-	MP.2
B	4.MD.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	-	MP.2, MP.5
B	4.MD.7	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	-	MP.1, MP.7
B	4.G.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	-	MP.5
B	4.G.2	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	i) A trapezoid is defined as "A quadrilateral with at least one pair of parallel sides." ii) Tasks may include terminology: *equilateral*, *isosceles*, *scalene*, *acute*, *right*, and *obtuse*.	MP.7
B	4.G.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	-	-
A	4.Int.2	Solve one-step word problems involving multiplying two two-digit numbers.	i) The given numbers are such as to require a general strategy based on place value and the properties of operations (e.g., 63 x 44).	MP.1, MP.7

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
			ii) Word problems shall include a variety of grade-level appropriate applications and contexts.	
A	4.Int.3	Solve one-step word problems involving multiplying a four-digit number by a one-digit number.	i) The given numbers are such as to require a general strategy based on place value and the properties of operations (e.g., 2392 x 8). ii) Word problems shall include a variety of grade-level appropriate applications and contexts.	MP.1, MP.7
A	4.Int.4	Solve one-step word problems involving dividing a four-digit number by a one-digit number.	i) The given numbers are such as to require a general strategy based on place value and the properties of operations (e.g., 2328 ÷ 8). ii) Quotients are whole numbers (i.e., there are no remainders). iii) Word problems shall include a variety of grade-level appropriate applications and contexts.	MP.1, MP.7
A	4.Int.5	Solve multi-step word problems posed with whole numbers and involving computations best performed by applying conceptual understanding of place value, perhaps involving rounding. Content Scope: 4.OA.3, 4.NBT	i) Multi-step problems must have at least 3 steps. ii) Tasks must be aligned to the first standard and 1 or more of the subsequent standards listed in the content scope.	MP.1, MP.2, MP.7
A	4.Int.6	Solve real-world and mathematical problems about perimeter involving grade-level addition and subtraction of fractions, such as finding an unknown side of a rectangle. Content Scope: 4.NF.3, 4.MD.3	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. ii) Tasks must be aligned to both standards listed in the content scope.	MP.1, MP.2, MP.5
A	4.Int.7	Solve one-step word problems involving adding or subtracting two four-digit numbers.	i) The given numbers are such as to require an efficient/standard algorithm (e.g., 7263 + 4875, 7263 – 4875, 7406 – 4637). The given numbers do not suggest any obvious ad hoc or mental strategy (as would be present, for example, in a case such as 6999 + 3501 or 7300 – 6301). ii) Word problems shall include a variety of grade-level appropriate applications and contexts.	-

Grade 4 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	4.Int.8	Solve addition and subtraction word problems involving three four-digit addends, or two four-digit addends and a four-digit subtrahend.	i) The given numbers are such as to require an efficient/standard algorithm (e.g., 7263 + 4875 + 6901). The given numbers do not suggest any obvious ad hoc or mental strategy (as would be present, for example, in a case such as 6999 + 3501 - 5000).	-

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
Sub-claim C (10 of 52 points)				
C	4.C.1-1	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 4.NBT.5	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*. ii) Tasks do not have a context. iii) Unneeded parentheses should not be used. For example, use 4 + 3 x 2 rather than 4 + (3 x 2).	MP.3, MP.6, MP.7
C	4.C.1-2	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 4.NBT.6	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*. ii) Tasks do not have a context. iii) Unneeded parentheses should not be used. For example, use 4 + 3 x 2 rather than 4 + (3 x 2).	MP.3, MP.6, MP.7, MP.8
C	4.C.2	Base explanations/reasoning on the relationship between multiplication and division. Content Scope: Knowledge and skills articulated in 4.NBT.6	i) Tasks do not have a context.	MP.3, MP.6, MP.7
C	4.C.3	Reason about the place value system itself. Content Scope: Knowledge and skills articulated in 4.NBT.A	i) Tasks have "thin context"[1] or no context.	MP.3, MP.6, MP.7
C	4.C.4-1	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.A	i) Tasks have "thin context" or no context. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.3, MP.5, MP.6

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	4.C.4-2	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.3a, 4.NF.3b	i) Tasks have "thin context" or no context. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. iii) Tasks may include fractions that equal whole numbers. Whole numbers are limited to 0 through 5.	MP.3, MP.5, MP.6
C	4.C.4-3	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.4a	i) Tasks have "thin context" or no context. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. iii) Tasks may include whole numbers. Whole numbers are limited to 0 through 5.	MP.3, MP.5, MP.6
C	4.C.4-4	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.4b	i) Tasks have "thin context" or no context. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.2, MP.3, MP.5, MP.6
C	4.C.4-5	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.C	i) Tasks have "thin context" or no context. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.2, MP.3, MP.5, MP.6
C	4.C.5-1	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.OA.3	i) Reasoning in these tasks centers on interpretation of remainders.	MP.1, MP.2, MP.3, MP.6, MP.7
C	4.C.5-2	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.NF.1	i) Tasks have "thin context" or no context. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. iii) Tasks may include fractions that equal whole numbers. Whole numbers are limited to 0 through 5.	MP.3, MP.6, MP.7

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	4.C.5-3	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.NF.2	i) Tasks have "thin context" or no context. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. iii) Tasks may include fractions that equal whole numbers. Whole numbers are limited to 0 through 5.	MP.3, MP.6, MP.7
C	4.C.5-4	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.NF.B	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. ii) Results may equal fractions greater than 1 (including fractions equal to whole numbers limited to 0 through 5).	MP.3, MP.5, MP.6
C	4.C.5-5	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.NF.C	i) Tasks have "thin context" or no context. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.	MP.3, MP.5, MP.6
C	4.C.5-6	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.OA.B, 3.NF, 3.MD.C	i) Tasks may have scaffolding[2], if necessary, in order to yield a degree of difficulty appropriate to Grade 4.	MP.3, MP.6
C	4.C.6-1	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 4.OA.3	i) Tasks may involve interpreting remainders. ii) Multi-step problems must have at least 3 steps.	MP.1,MP.2, MP.3, MP.5, MP.6, MP.7

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	4.C.6-2	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 4.NF.3c	i) Tasks have "thin context" or no context. ii) Denominators are limited to Grade 3 possibilities (2, 3, 4, 6, 8) so as to keep computational difficulty lower. iii) Multi-step problems must have at least 3 steps.	MP.2, MP.3, MP.6, MP.7
C	4.C.6-3	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 4.NF.3d,4.NF.4c	i) Denominators are limited to Grade 3 possibilities (2, 3, 4, 6, 8) so as to keep computational difficulty lower. ii) Multi-step problems must have at least 3 steps.	MP.2, MP.3, MP.5, MP.6
C	4.C.7-1	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content Scope: Knowledge and skills articulated in 4.NF.1	i) Fractions equivalent to whole numbers are limited to 0 through 5.	MP.3, MP.5, MP.6
C	4.C.7-2	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content Scope: Knowledge and skills articulated in 4.NF.2	i) Fractions equivalent to whole numbers are limited to 0 through 5.	MP.3, MP.5, MP.6
C	4.C.7-3	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content Scope: Knowledge and skills articulated in 4.NF.3a	-	MP.3, MP.5, MP.6

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	4.C.7-4	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content Scope: Knowledge and skills articulated in 4.NF.4a, 4.NF.4b	-	MP.3, MP.5, MP.6
Sub-claim D (12 of 52 points)				
D	4.D.1	Solve multi-step contextual word problems with degree of difficulty appropriate to Grade 4, requiring application of knowledge and skills articulated in Type I, Sub-Claim A Evidence Statements.	i) Tasks may have scaffolding. ii) Multi-step problems must have at least 3 steps.	MP.4
D	4.D.2	Solve multi-step contextual problems with degree of difficulty appropriate to Grade 4, requiring application of knowledge and skills articulated in 3.OA.A, 3.OA.8, 3.NBT, and/or 3.MD.	i) Tasks may have scaffolding, if necessary, in order to yield a degree of difficulty appropriate to Grade 4. ii) Multi-step problems must have at least 3 steps. iii) Tasks do not require a student to write a single equation with a letter standing for the unknown quantity in a two-step problem, and then solve that equation. iv) Tasks may require students to write an equation as part of their work to find a solution, but students are not required to use a letter for the unknown. v) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, Common addition and subtraction situations, p. 88; CCSSM, Table 2, Common multiplication and division situations, p. 89; and the OA Progression document.	MP.4

[1] "Thin context" is a sentence or phrase that establishes a concrete referent for the quantity/quantities in the problem, in such a way as to provide meaningful avenues for mathematical intuition to operate, yet without requiring any sort of further analysis of the context. For example, a task could provide a reason for being given a set of fractional measurements such as, "The fractions represent lengths of ribbon."

[2] Scaffolding in a task provides the student with an entry point into a pathway for solving a problem. In unscaffolded tasks, the student determines his/her own pathway and process. Both scaffolded and unscaffolded tasks will be included in reasoning and modeling items.

Evidence Statement Tables
Grade 5 Mathematics

Evidence Statement Keys

Evidence statements describe the knowledge and skills that an assessment item/task elicits from students. These are derived directly from the Common Core State Standards for Mathematics (the standards), and they highlight the advances of the standards, especially around their focused coherent nature. The evidence statement keys for grades 3 through 8 will begin with the grade number. High school evidence statement keys will begin with "HS" or with the label for a conceptual category.

An Evidence Statement might:

1. **Use exact standard language** – For example:

   - 8.EE.1 - Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$*. This example uses the exact language as standard 8.EE.1

2. **Be derived by focusing on specific parts of a standard** – For example: 8.F.5-1 and 8.F.5-2 were derived from splitting standard 8.F.5:

   - 8.F.5-1 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear).
   - 8.F.5-2 Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

   Together these two evidence statements are standard 8.F.5:

   Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or 2 decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

3. **Be integrative (Int) –** Integrative evidence statements allow for the testing of more than one of the standards on a single item/task without going beyond the standards to create new requirements. An integrative evidence statement might be integrated across all content within a grade/course, all standards in a high school conceptual category, all standards in a domain, or all standards in a cluster. For example:

   - **Grade/Course – 4.Int.2[1]** (Integrated across Grade 4)
   - **Conceptual Category – F.Int.1[1]** (Integrated across the Functions Conceptual Category)
   - **Domain – 4.NBT.Int.1[1]** (Integrated across the Number and Operations in Base Ten Domain)
   - **Cluster** – **3.NF.A.Int.1[1]** (Integrated across the Number and Operations – Fractions Domain, Cluster A)

4. **Focus on mathematical reasoning–** A reasoning evidence statement (keyed with C) will state the type of reasoning that an item/task will require and the content scope from the standard that the item/task will require the student to reason about. For example:

   - 3.C.2[1] -- Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division.
     - Content Scope: Knowledge and skills are articulated in 3.OA.6
   - 7.C.6.1[1] – Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures.
     - Content Scope: Knowledge and skills are articulated in 7.RP.2

   Note: When the focus of the evidence statement is on reasoning, the evidence statement may also require the student to reason about securely held knowledge from a previous grade.

5. **Focus on mathematical modeling –** A modeling evidence statement (keyed with D) will state the type of modeling that an item/task will require and the content scope from the standard that the item/task will require the student to model about. For example:

   - 4.D.2[1] – Solve multi-step contextual problems with degree of difficulty appropriate to Grade 4 requiring application of knowledge and skills articulated in 3.OA.A, 3.OA.8,3.NBT, and/or 3.MD.

     Note: The example 4.D.2 is of an evidence statement in which an item/task aligned to the evidence statement will require the student to model on grade level, using securely held knowledge from a previous grade.

   - HS.D.5[1] - Given an equation or system of equations, reason about the number or nature of the solutions.
     - Content scope: A-REI.11, involving any of the function types measured in the standards.

[1] The numbers at the end of the integrated, modeling and reasoning Evidence Statement keys are added for assessment clarification and tracking purposes. For example, 4.Int.2 is the second integrated Evidence Statement in Grade 4.

Grade 5 Evidence Statements
Listing by Type I, Type II, and Type III

The Evidence Statements for Grade 3 Mathematics are provided starting on the next page. The list has been organized to indicate whether items designed are aligned to an Evidence Statement used for Type I items (sub-claims A and B), Type II items (reasoning/sub-claim C), or Type III items (modeling/sub-claim D).

Evidence Statements are presented in the order shown below and are color coded:

Peach – Evidence Statement is applicable to the Type I items.

Lavender – Evidence Statement is applicable to the Type II items.

Aqua – Evidence Statement is applicable to the Type III items.

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
Sub-claim A (20 of 52 points) & Sub-claim B (10 of 52 points)				
B	5.OA.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	i) Expressions have depth no greater than two, e.g., 3×[5 + (8 ÷ 2)] is acceptable but 3×[5 + (8 ÷ {4—2})] is not.	MP.7
B	5.OA.2-1	Write simple expressions that record calculations with numbers. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7).*	-	MP.7
B	5.OA.2-2	Interpret numerical expressions without evaluating them. *For example, recognize that 3 x (18932 + 921) is three times as large as 18932 + 921 without having to calculate the indicated sum or product.*	-	MP.7
B	5.OA.3	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*	-	MP.3, MP.8
A	5.NBT.1	Recognize 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.	i) Tasks have "thin context" [2] or no context. ii) Tasks involve the decimal point in a substantial way (e.g., by involving a comparison of a tenths digit to a thousandths digit or a tenths digit to a tens digit).	MP.2, MP.7
A	5.NBT.2-2	Use whole-number exponents to denote powers of 10.	i) For the explain aspect of 5.NBT.2, see 5.C.3.	MP.7
A	5.NBT.3a	Read, write and compare decimals to the thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000).	i) Tasks have "thin context" or no context. ii) Tasks assess conceptual understanding, e.g., by including a mixture (both within and between items) of expanded form, number names, and base ten numerals.	MP.7

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.NBT.3b	Read, write and compare decimals to the thousandths. b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	i) Tasks have "thin context" or no context. ii) Tasks assess conceptual understanding, e.g., by including a mixture (both within and between items) of expanded form, number names, and base ten numerals.	MP.7
A	5.NBT.4	Use place value understanding to round decimals to any place.	i) Tasks have "thin context" or no context.	MP.2
A	5.NBT.5	Fluently multiply multi-digit whole numbers using the standard algorithm.	i) Tasks assess accuracy. The given factors are such as to require an efficient/standard algorithm (e.g., 26 × 4871). ii) Factors in the task do not suggest any obvious ad hoc or mental strategy (as would be present for example in a case such as 7250 × 40). iii) Tasks do not have a context. iv) For purposes of assessment, the possibilities are 1-digit x 2-digit, 1-digit x 3-digit, 2-digit x 3-digit, or 2-digit x 4-digit v) Tasks are not timed.	-
A	5.NBT.6	Find 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. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	i) For the illustrate/explain aspect of 5.NBT.6, see 5.C.1-1, 5.C.2-1, and 5.C.4-3. ii) Tasks involve 3- or 4-digit dividends and one- or two-digit divisors.	MP.1, MP.5
A	5.NBT.7-1	Add two decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	i) Tasks do not have a context. ii) Only the sum is required. For the explain aspect of 5.NBT.7-1, see 5.C.1-2, 5.C.2-2, and 5.C.4-4. iii) Prompts may include visual models, but prompts must also present the addends as numbers, and the answer sought is a number, not a picture. iv) Each addend is greater than or equal to 0.01 and less than or equal to 99.99. v) 20% of cases involve a whole number—either the sum is a whole number, or else one of the addends is a whole number presented without a decimal point. (The addends cannot both be whole numbers.)	MP.5

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.NBT.7-2	Subtract two decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	i) Tasks do not have a context. ii) Only the difference is required. For the explain aspect of 5.NBT.7-2, see 5.C.1-2, 5.C.2-2, and 5.C.4-4. iii) Prompts may include visual models, but prompts must also present the subtrahend and minuend as numbers, and the answer sought is a number, not a picture. iv) The subtrahend and minuend are each greater than or equal to 0.01 and less than or equal to 99.99. Positive differences only. (Every included subtraction problem is an unknown-addend problem included in 5.NBT.7-1.) v) 20% of cases involve a whole number—either the difference is a whole number, or the subtrahend is a whole number presented without a decimal point, or the minuend is a whole number presented without a decimal point. (The subtrahend and minuend cannot both be whole numbers.)	MP.5, MP. 7
A	5.NBT.7-3	Multiply tenths with tenths or tenths with hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	i) Tasks do not have a context. ii) Only the product is required. For the explain aspect of 5.NBT.7-3, see 5.C.1-2, 5.C.2-2, and 5.C.4-4. iii) Prompts may include visual models, but prompts must also present the factors as numbers, and the answer sought is a number, not a picture. iv) Each factor is greater than or equal to 0.01 and less than or equal to 99.99.The product must not have any non-zero digits beyond the thousandths place. (For example, 1.67 x 0.34 = 0.5678 is excluded because the product has an 8 beyond the thousandths place; cf. 5.NBT.3, and see p. 17 of the Number and Operations in Base Ten Progression document.) v) Problems are 2-digit x 2-digit or 1-digit x 3- or 4-digit. (For example, 7.8 x 5.3 or 0.3 x 18.24.) vi) 20% of cases involve a whole number—either the product is a whole number, or else one factor is a whole number presented without a decimal point. (The factors cannot both be whole numbers.)	MP.5, MP.7

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.NBT.7-4	Divide in problems involving tenths and/or hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	i) Tasks do not have a context. ii) Only the quotient is required. For the explain aspect of 5.NBT.7-4, see 5.C.1-2, 5.C.2-2, and 5.C.4-4. iii) Prompts may include visual models, but prompts must also present the dividend and divisor as numbers, and the answer sought is a number, not a picture. iv) Divisors are of the form XY, X0, X, X.Y, 0.XY, 0.X, or 0.0X (cf. 5.NBT.6), where X and Y represent non-zero digits. Dividends are of the form XY, X0, X, XYZ.W, XY0.Z, X00.Y, XY.Z, X0.Y, X.YZ, X.Y, X.0Y, 0.XY, or 0.0X, where X, Y, Z, and W represent non-zero digits. v) Quotients are either whole numbers or else decimals terminating at the tenths or hundredths place. (Every included division problem is an unknown-factor problem included in 5.NBT.7-3.) vi) 20% of cases involve a whole number—either the quotient is a whole number, or the dividend is a whole number presented without a decimal point, or the divisor is a whole number presented without a decimal point. (If the quotient is a whole number, then neither the divisor nor the dividend can be a whole number.)	MP.5, MP.7
A	5.NBT.A.Int.1	Demonstrate understanding of the place value system by combining or synthesizing knowledge and skills articulated in 5.NBT.A.	-	MP.1, MP.7
A	5.NBT.Int.1	Perform exact or approximate multiplications and/or divisions that are best done mentally by applying concepts of place value, rather than by applying multi-digit algorithms or written strategies.	i) Tasks do not have a context.	MP.1, MP.7.
A	5.NF.1-1	Add two fractions with unlike denominators, or subtract two fractions with unlike denominators, by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example,* 2/3 + 5/4 = 8/12 + 15/12 = 23/12. *(In general, a/b + c/d = (ad+bc)/bd.)*	i) Tasks have no context. ii) Tasks ask for the answer or ask for an intermediate step that shows evidence of using equivalent fractions as a strategy. iii) Tasks do not include mixed numbers. iv) Tasks may involve fractions greater than 1 (including fractions equal to whole numbers). v) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.6, MP.7

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.NF.1-2	Add three fractions with no two denominators equal by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum of fractions with like denominators. *For example, 1/2 + 1/3 + 1/4 = (3/6 + 2/6) + 1/4 = 5/6 + 1/4 = 10/12 + 3/12 = 13/12 or alternatively 1/2 + 1/3 + 1/4 = 6/12 + 4/12 + 3/12 = 13/12.*	i) Tasks have no context. ii) Tasks ask for the answer or ask for an intermediate step that shows evidence of using equivalent fractions as a strategy. iii) Tasks do not include mixed numbers. iv) Tasks may involve fractions greater than 1. v) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.6, MP.7
A	5.NF.1-3	Compute the result of adding two fractions and subtracting a third, where no two denominators are equal, by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 1/2 + 1/3 – 1/4 or 7/8 – 1/3 + 1/2.*	i) Tasks have no context. ii) Tasks ask for the answer or ask for an intermediate step that shows evidence of using equivalent fractions as a strategy. iii) Subtraction may be either the first or second operation. The fraction being subtracted must be less than both the other two. iv) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.6, MP.7
A	5.NF.1-4	Add two mixed numbers with unlike denominators, expressing the result as a mixed number, by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum with like denominators. *For example, 3 1/2 + 2 2/3 = (3 + 2) + (1/2 + 2/3) = 5 + (3/6 + 4/6) = 5 + 7/6 = 5 + 1 + 1/6 = 6 1/6.*	i) Tasks have no context. ii) Tasks ask for the answer or ask for an intermediate step that shows evidence of using equivalent fractions as a strategy. iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.6, MP.7
A	5.NF.1-5	Subtract two mixed numbers with unlike denominators, expressing the result as a mixed number, by replacing given fractions with equivalent fractions in such a way as to produce an equivalent difference with like denominators.	i) Tasks have no context. ii) Tasks ask for the answer or ask for an intermediate step that shows evidence of using equivalent fractions as a strategy. iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.6, MP.7

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.NF.2-1	Solve word problems involving addition and subtraction of fractions referring to the same whole, in cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem.	i) The situation types are those shown in Table 2, Common multiplication and division situations, p. 9 of the OA Progression document, sampled equally. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) Tasks may involve fractions greater than one, including mixed numbers.	MP.1, MP.4, MP.5
A	5.NF.2-2	Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers to word problems involving addition and subtraction of fractions referring to the same whole in cases of unlike denominators. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.*	i) The situation types are those shown in Table 2, Common multiplication and division situations, p. 9 of the OA Progression document, sampled equally. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) Tasks may involve fractions greater than one, including mixed numbers.	MP.2, MP.5, MP.7
A	5.NF.A.Int.1	Solve word problems involving knowledge and skills articulated in 5.NF.A.	i) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.1, MP.4, MP.5
A	5.NF.3-1	Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$).	i) Tasks do not have a context.	MP.2
A	5.NF.3-2	Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*	i) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. ii) Note that one of the italicized examples in standard 5.NF.3 is a two-prompt problem.	MP.1, MP.4, MP.5

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.NF.4a-1	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. For a whole number q, interpret the product *(a/b) × q* as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations *a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)*	i) Tasks require finding a fractional part of a whole number quantity. ii) The result is equal to a whole number in 20% of tasks; these are practice-forward for MP.7. iii) Tasks have "thin context" or no context.	MP.7
A	5.NF.4a-2	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. For a fraction q, interpret the product *(a/b) × q* as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations *a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)*	i) Tasks have "thin context" or no context. ii) Tasks require finding a product of two fractions (neither of the factors equal to a whole number). iii) The result is equal to a whole number in 20% of tasks; these are practice-forward for MP.7.	MP.7
A	5.NF.4b-1	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. b. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	i) 50% of the tasks present students with the rectangle dimensions and ask students to find the area; 50% of the tasks give the factions and the product and ask students to show a rectangle to model the problem.	MP.2, MP.5
A	5.NF.5a	Interpret multiplication as scaling (resizing), by: a. Comparing 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.	i) Insofar as possible, tasks are designed to be completed without performing the indicated multiplication. ii) Products involve at least one factor that is a fraction or mixed number.	MP.7, MP.8

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.NF.6-1	Solve real world problems involving multiplication of fractions, e.g., by using visual fraction models or equations to represent the problem.	i) Tasks do not involve mixed numbers. ii) Situations include area and comparison/times as much, with product unknown. (See Table 2, Common multiplication and division situations, p. 89 of CCSSM.) iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.1, MP.4, MP.5
A	5.NF.6-2	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	i) Tasks present one or both factors in the form of a mixed number. ii) Situations include area and comparison/times as much, with product unknown. iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.1, MP.2, MP.5
A	5.NF.7a	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.*	-	MP.5, MP.7
A	5.NF.7b	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.*	-	MP.5, MP.7

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	i) Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.NF.7c	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*	i) Tasks involve equal group (partition) situations with part size unknown and number of parts unknown. (See Table 2, Common multiplication and division situations, CCSSM p. 89.) ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.2, MP.5, MP.7
B	5.MD.1-1	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m).	-	MP.5, MP.6
B	5.MD.1-2	Solve multi-step, real world problems requiring conversion among different-sized standard measurement units within a given measurement system.	i) Multi-step problems must have at least 3 steps.	MP.1, MP.6
B	5.MD.2-2	Use operations on fractions for this grade (knowledge and skills articulated in 5.NF) to solve problems involving information in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.	i) Tasks requiring students to produce a line plot should only involve fractions 1/2, 1/4, or 1/8.	MP.5
A	5.MD.3	Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.	i) Measures may include those in whole cubic cm or cubic in.	MP.7
A	5.MD.4	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	i) Tasks assess conceptual understanding of volume (see 5.MD.3) as applied to a specific situation—not applying a volume formula.	MP.7

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	i) Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.MD.5b	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. b. Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.	i) Tasks are with and without contexts. ii) 50% of tasks involve use of $V = l \times w \times h$ and 50% of tasks involve use of $V = B \times h$. iii) Tasks may require students to measure to find edge lengths to the nearest cm, mm or in.	MP5, MP.7
A	5.MD.5c	Relate the operations of multiplication and addition and solve real world and mathematical problems involving volume. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.	i) Tasks require students to solve a contextual problem by applying the indicated concepts and skills.	MP.2, MP.5
B	5.G.1	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).	i) Tasks assess student understanding of the coordinate plane as a representation scheme, with essential features as articulated in standard 5.G.1. ii) It is appropriate for tasks involving only plotting of points to be aligned to this evidence statement. iii) Coordinates must be whole numbers only.	MP.2, MP.5
B	5.G.2	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	-	MP.1, MP.5
B	5.G.3	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*	i) A trapezoid is defined as "A quadrilateral with at least one pair of parallel sides."	MP.5, MP.7
B	5.G.4	Classify two-dimensional figures in a hierarchy based on properties.	i) A trapezoid is defined as "A quadrilateral with at least one pair of parallel sides."	MP.5, MP.7

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	iv) Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
A	5.Int.1	Solve one-step word problems involving multiplying multi-digit whole numbers.	i) The given factors are such as to require an efficient/standard algorithm (e.g., 726×4871). Factors in the task do not suggest any obvious ad hoc or mental strategy (as would be present for example in a case such as 7250×400). ii) For purposes of assessment, the possibilities for multiplication are 1-digit x 2-digit, 1-digit x 3-digit, 2-digit x 3-digit, 2-digit x 4-digit, or 3-digit x 3-digit. iii) Word problems shall include a variety of grade-level appropriate applications and contexts.	MP.1, MP.7
A	5.Int.2	Solve word problems involving multiplication of three two-digit numbers.	i) The given factors are such as to require an efficient/standard algorithm (e.g., $76 \times 48 \times 39$). Factors in the task do not suggest any obvious ad hoc or mental strategy (as would be present for example in a case such as $50 \times 20 \times 15$). ii) Word problems shall include a variety of grade-level appropriate applications and contexts.	MP 1, MP 7

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
Sub-claim C (10 of 52 points)				
C	5.C.1-1	Base explanations/reasoning on place value and/or understanding of operations. Content Scope: Knowledge and skills articulated in 5.NBT.6	i) Tasks do not have a context.	MP.3, MP.5, MP.6, MP.7
C	5.C.1-2	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 5.NBT.7	i) Tasks do not have a context. ii) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*. iii) Unneeded parentheses should not be used. For example, use 4 + 3 x 2 rather than 4 + (3 x 2).	MP.3, MP.6, MP.7, MP.8
C	5.C.1-3	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 5.MD.5a	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*.	MP.2, MP.3, MP.6, MP.7
C	5.C.2-1	Base explanations/reasoning on the relationship between multiplication and division. Content Scope: Knowledge and skills articulated in 5.NBT.6	-	MP.3, MP.5, MP.6, MP.7
C	5.C.2-2	Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division. Content Scope: Knowledge and skills articulated in 5.NBT.7	-	MP.3, MP.6, MP.7
C	5.C.2-3	Base explanations/reasoning on the relationship between multiplication and division. Content Scope: Knowledge and skills articulated in 5.NF.3, 5.NF.4a	-	MP.2, MP.3, MP.6, MP.7
C	5.C.2-4	Base explanations/reasoning on the relationship between multiplication and division. Content Scope: Knowledge and skills articulated in 5.NF.7	-	MP.3, MP.5, MP.6, MP.7

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	5.C.3	Reason about the place value system itself. Content Scope: Knowledge and skills articulated in 5.NBT.A	i) Tasks do not involve reasoning about place value in service of some other goal (e.g., to multiply multi-digit numbers). Rather, tasks involve reasoning directly about the place value system, in ways consistent with the indicated content scope.	MP.3, MP.6, MP.7
C	5.C.4-1	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 5.NF.2	-	MP.3, MP.5, MP.6
C	5.C.4-2	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 5.NF.4b	-	MP.2, MP.3, MP.5, MP.6
C	5.C.4-3	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 5.NBT.6	-	MP.3, MP.5, MP.6
C	5.C.4-4	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 5.NBT.7	-	MP.3, MP.5, MP.6
C	5.C.5-1	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response). Content Scope: Knowledge and skills articulated in 5.NF.2	-	MP.2, MP.3, MP.5, MP.6, MP.7
C	5.C.5-2	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response). Content Scope: Knowledge and skills articulated in 5.NF.4a	-	MP.3, MP 6, MP.7

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Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	5.C.5-3	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response). Content Scope: Knowledge and skills articulated in 5.NF.7a, 5.NF.7b	-	MP.3, MP.5, MP.6, MP.7
C	5.C.6	Base explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response). Content Scope: Knowledge and skills articulated in 5.MD.C	-	MP.3, MP.5, MP.6
C	5.C.7-1	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 5.NF.5b	-	MP.3, MP.6, MP.7, MP.8
C	5.C.7-2	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 5.NF.2	-	MP.3, MP.6, MP.7
C	5.C.7-3	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 5.NF.1	-	MP.3, MP.6

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Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
C	5.C.7-4	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.NBT, 4.NF.A, 4.NF.B	i) Tasks may have scaffolding [1], if necessary, in order to yield a degree of difficulty appropriate to Grade 5.	MP.3, MP.6
C	5.C.8-2	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 5.MD.5c	i) Multi-step problems must have at least 3 steps.	MP.3, MP.5, MP.6

Grade 5 Evidence Statements

Type I **Type II** **Type III**

Sub-Claim	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices
Sub-claim D (12 of 52 points)				
D	5.D.1	Solve multi-step contextual word problems with degree of difficulty appropriate to Grade 5, requiring application of knowledge and skills articulated in Type I, Sub-Claim A Evidence Statements.	i) Tasks may have scaffolding. ii) Multi-step problems must have at least 3 steps. iii) For purposes of assessment, the possibilities for multiplication are 1-digit x 2-digit, 1-digit x 3-digit, 2-digit x 3-digit, 2-digit x 4-digit, or 3-digit x 3-digit.	MP.4
D	5.D.2	Solve multi-step contextual problems with degree of difficulty appropriate to Grade 5, requiring application of knowledge and skills articulated in 4.OA, 4.NBT, 4.NF, 4.MD	i) Tasks may have scaffolding, if necessary, in order to yield a degree of difficulty appropriate to Grade 5. ii) Multi-step problems must have at least 3 steps.	MP.4

[1] Scaffolding in a task provides the student with an entry point into a pathway for solving a problem. In unscaffolded tasks, the student determines his/her own pathway and process. Both scaffolded and unscaffolded tasks will be included in reasoning and modeling items.

[2] "Thin context" is a sentence or phrase that establishes a concrete referent for the quantity/quantities in the problem, in such a way as to provide meaningful avenues for mathematical intuition to operate, yet without requiring any sort of further analysis of the context. For example, a task could provide a reason for being given a set of fractional measurements such as, "The fractions represent lengths of ribbon."