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

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.