



Maryland Comprehensive
Assessment Program

Grade 4

Performance Level Descriptors

Maryland State Department of Education

August 2021



MCAP Grade 4 Performance Level Descriptors (PLDs)

Content Subclaim

Domain: Operations and Algebraic Thinking

- 4.OA.A: Use the four operations with whole numbers to solve problems.
- 4.OA.C: Generalize and analyze patterns.

Evidence Statements:

- **4.OA.A.1** - Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
- **4.OA.A.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.
- **4.OA.A.3** - Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders are interpreted or not interpreted. 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.
- **4.OA.C.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.

Evidence Statement Code	Level 4 <i>A student performing at this level should be able to:</i>	Level 3 <i>A student performing at this level should be able to:</i>	Level 2 <i>A student performing at this level should be able to:</i>	Level 1 <i>A student performing at this level should be able to:</i>
4.OA.A.1 4.OA.A.2	apply an understanding of multiplicative comparison equations and statements to solve problems that may require connecting multiple grade-level concepts.	interpret and solve mathematical (little to no context) and word problems that involve multiplicative comparison when the group size is unknown. Represent multiplicative comparison as a multiplication equation with a symbol for the unknown.	interpret and solve mathematical (little to no context) and word problems that involve multiplicative comparison with the language “times as many” or “product unknown”. Represent multiplicative comparison as a multiplication equation.	interpret and solve mathematical (little to no context) and word problems that involve multiplicative comparison problems with product unknown. Represent multiplicative comparison as a multiplication equation.
4.OA.A.3	apply an understanding of the four operations, including interpreting remainders and the properties of operations to solve problems that require connecting multiple grade-level concepts.	solve multi-step word problems using the four operations; decide if and how a remainder is interpreted when appropriate. Represent these problems using equations with a letter standing for the unknown quantity.	solve multi-step word problems using the four operations involving numbers within one thousand. (Division problems should have a remainder.) Represent these problems using equations with a letter standing for the unknown quantity.	solve multi-step word problems using the four operations involving numbers within one hundred. (Division problems do not have remainders.) Represent these problems using equations with a letter for the unknown quantity.
4.OA.C.5		create or explain a number or shape pattern when given a rule and identify apparent features of the pattern that are not explicit in the rule itself.	create, identify or explain a number or shape pattern when given a rule.	extend a number or shape pattern when given a rule.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Domain: Numbers and Operations in Base Ten

4.NBT.A: Generalize place value understanding for multi-digit whole numbers.

Evidence Statements:

- **4.NBT.A.1** - Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represent in the place to its right.
- **4.NBT.A.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.
- **4.NBT.A.3** - Use place value understanding to round multi-digit whole numbers to any place.

Evidence Statement Code	Level 4 <i>A student performing at this level should be able to:</i>	Level 3 <i>A student performing at this level should be able to:</i>	Level 2 <i>A student performing at this level should be able to:</i>	Level 1 <i>A student performing at this level should be able to:</i>
4.NBT.A.1	apply an understanding of place value to solve problems that require connecting multiple grade-level concepts.	determine that in any multi-digit whole number, a digit in one place represents 10 times as much as the digit to its right. Explain the relationship using words or equations with numbers between 1,000 and 1,000,000.	determine that in any multi-digit whole number, a digit in one place represents 10 times as much as the digit to its right using numbers between 1,000 and 1,000,000.	identify the value of a digit based on its place value using numbers between 1,000 and 1,000,000.
4.NBT.A.2		read and write multi-digit whole numbers using any of the representations given in the standard. Compare two multi-digit numbers based on the meanings of the digits in each place using comparison symbols with numbers between 100,000 and 1,000,000.	read and write multi-digit whole numbers using any of the representations given in the standard. Compare two multi-digit numbers based on the meanings of the digits in each place using comparison symbols with numbers between 10,000 and 100,000.	read and write multi-digit whole numbers using any of the representations given in the standard. Compare two multi-digit numbers based on the meanings of the digits in each place using comparison symbols with numbers between 1,000 and 10,000.
4.NBT.A.3		use place value understanding to round multi-digit whole numbers to any place using numbers to 1,000,000.	use place value understanding to round multi-digit whole numbers in any place using numbers to 10,000 to 100,000.	use place value understanding to round multi-digit whole numbers in any place using numbers to 1,000 to 10,000.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Domain: Numbers and Operations in Base Ten

4.NBT.B: Use place value understanding and properties of operations to perform multi-digit arithmetic.

Evidence Statements:

- **4.NBT.B.4** - Fluently add and subtract multi-digit whole numbers using the standard algorithm.
- **4.NBT.B.5** - Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
- **4.NBT.B.6** - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Evidence Statement Code	Level 4 <i>A student performing at this level should be able to:</i>	Level 3 <i>A student performing at this level should be able to:</i>	Level 2 <i>A student performing at this level should be able to:</i>	Level 1 <i>A student performing at this level should be able to:</i>
4.NBT.B.4	accurately add and subtract multi-digit numbers. Use place value strategies, properties of operations, and the relationship between multiplication and division to multiply and divide whole numbers to solve problems that require connecting multiple grade-level concepts.	accurately add and subtract multi-digit whole numbers using the standard algorithm.	accurately add and subtract multi-digit numbers using place value strategies (addends in the task could suggest an ad hoc or mental strategy).	accurately add and subtract multi-digit numbers without regrouping using place value strategies (addends in the task could suggest an ad hoc or mental strategy).
4.NBT.B.5 4.NBT.B.6		multiply up to four-digit by and one-digit whole numbers and two 2-digit whole numbers. Divide multi-digit whole number quotients, with and without remainders, using up to four-digit dividends and one-digit divisors using strategies based on place value, properties of operations, and/or the relationship between multiplication and division.	multiply up to four-digit by one-digit whole numbers. Divide whole number quotients without a remainder with up to three-digit dividends and one-digit divisors using strategies based on place value, properties of operations, and/or the relationship between multiplication and division.	multiply up to two-digit by one-digit whole numbers. Divide up to two-digit numbers by one-digit numbers with and without a remainder, using strategies based on place value, properties of operations and/or the relationship between multiplication and division.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Domain: Number and Operations-Fractions

4.NF.A: Extend understanding of fraction equivalence and ordering.

Evidence Statements: Grade 4 is limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.

- **4.NF.A.1** - Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
- **4.NF.A.2** - Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, $<$, and justify the conclusions, e.g., by using a visual fraction model.

Evidence Statement Code	Level 4 <i>A student performing at this level should be able to:</i>	Level 3 <i>A student performing at this level should be able to:</i>	Level 2 <i>A student performing at this level should be able to:</i>	Level 1 <i>A student performing at this level should be able to:</i>
4.NF.A.1	apply an understanding of equivalent fractions and comparison of fractions to solve problems that require connecting multiple grade-level concepts.	use $(n \times a)/(n \times b)$ to identify, generate, and explain equivalent fractions using visual fraction models.	use $(n \times a)/(n \times b)$ to identify and generate equivalent fractions using visual fraction models.	use $(n \times a)/(n \times b)$ to identify equivalent fractions using visual fraction models.
4.NF.A.2		compare two fractions with different denominators and different numerators by creating common numerators or denominators or comparing to a benchmark fraction. Record comparisons using symbols $<$, $>$, $=$.	compare two fractions (not larger than 2) with different denominators (5, 10, 12, and 100) and different numerators by creating common numerators or denominators or comparing to a benchmark fraction. Record comparisons using symbols $<$, $>$, $=$.	compare two fractions (less than 1) with different numerators and/or different denominators of 2, 3, 4, 6, and 8 using visual fraction models and comparison symbols $<$, $>$, $=$.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Domain: Number and Operations-Fractions

4.NF.B: Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Evidence Statements: Grade 4 is limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.

- **4.NF.B.3b** - Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition as an equation.
- **4.NF.B.3c** - 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.
- **4.NF.B.3d** - 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.
- **4.NF.B.4a** - Understand a fraction a/b as a multiple of $1/b$.
- **4.NF.B.4b** - Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number.
- **4.NF.B.4c** - 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.

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4.NF.B.3b	apply the procedure for addition and subtraction of fractions with like denominators and multiply a fraction times a whole number to solve problems that require connecting multiple grade-level concepts.	decompose fractions into a sum of fractions with the same denominator in more than one way. Record each decomposition as an equation.	decompose fractions into a sum of fractions with the same denominator (using denominators of 2, 3, 4, 5, 6, 8, 12) at least two ways. Record each decomposition as an equation.	decompose fractions into a sum of fractions with the same denominator (using denominators of 2, 3, 4, 6, 8) in at least one way. Record each decomposition as an equation.
4.NF.B.3c		add and subtract fractions and mixed numbers with like denominators.	add and subtract mixed numbers with like denominators and the fractional part does not exceed one.	add and subtract fractions with like denominators with a sum less than one.
4.NF.B.3d		solve word problems involving addition and subtraction of fractions that may or may not be greater than 1, and referring to the same size whole with like denominators.	solve word problems involving addition and subtraction of fractions with like denominators with numerators and denominators limited to only 2, 3, 4, 5, 6, 8.	solve word problems involving addition and subtraction of fractions with like denominators with a sum less than one and, limit numerators and denominators to 2, 3, 4, 6, 8.
4.NF.B.4a 4.NF.B.4b		demonstrate that a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number.	use a visual fraction model to represent a/b as the product of a whole number times a unit fraction.	use repeated addition of unit fractions to represent as a/b as a multiple of $1/b$.
4.NF.B.4c		solve a variety of word problems involving multiplying a fraction by a whole number.	solve one-step word problems involving multiplying a non-unit fraction by a whole number.	solve one-step word problems involving multiplying a unit fraction by a whole number.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Domain: Number and Operations-Fractions

4.NF.C: Understand decimal notation for fractions, and compare decimal fractions.

Evidence Statements:

- **4.NF.C.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.
- **4.NF.C.6** - Use decimal notation for fractions with denominators 10 and 100.
- **4.NF.C.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 $>$, $=$, $<$, and justify the conclusions, e.g., by using a visual model.

Evidence Statement Code	Level 4 <i>A student performing at this level should be able to:</i>	Level 3 <i>A student performing at this level should be able to:</i>	Level 2 <i>A student performing at this level should be able to:</i>	Level 1 <i>A student performing at this level should be able to:</i>
4.NF.C.5	apply an understanding of decimal notation for fractions and compare decimals to solve problems that require connecting multiple grade-level concepts.	express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100 and use equivalent fractions to add two fractions with respective denominators of 10 and 100.	express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100 and add two fractions with like denominators of 10 or like denominators of 100.	express fractions with a denominator of 10 to an equivalent fraction with a denominator of 100.
4.NF.C.6		use decimal notation for fractions with denominators of 10 and 100.	use decimal notation for fractions with denominators of 10 and 100.	use decimal notation for fractions with denominators of 10.
4.NF.C.7		compare two decimals to hundredths and record the results of the comparisons with the correct comparison symbols $>$, $<$, $=$.	compare two decimals, tenths to tenths and hundredths to hundredths and record the results of the comparisons with the correct comparison symbols $>$, $<$, $=$.	compare two decimals in tenths, record the results of the comparisons with the correct comparison symbols $>$, $<$, $=$.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Domain: Measurement and Data

4.MD.A: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Evidence Statements:

- **4.MD.A.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.
- **4.MD.A.2** - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems that require simple fractions or decimals, and 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.
- **4.MD.A.3** - Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

Note: There is a MCAP Reference sheet with conversion of basic units. It will be available during the testing session.

Evidence Statement Code	Level 4 <i>A student performing at this level should be able to:</i>	Level 3 <i>A student performing at this level should be able to:</i>	Level 2 <i>A student performing at this level should be able to:</i>	Level 1 <i>A student performing at this level should be able to:</i>
4.MD.A.1	apply an understanding of measurement systems, conversion of measurement, area and perimeter to solve problems that require connecting multiple grade-level concepts.	express measurements in a larger unit in terms of a smaller unit within a single measurement system. Record measurement equivalents in a two-column table.	express measurements in a larger unit in terms of a smaller unit within a single measurement system. Record measurement equivalents by completing a partially filled two-column table.	identify which unit, within a measurement system, is larger or smaller than the other.
4.MD.A.2		use the four operations to solve problems involving one measurement system, fractions or decimals, and the conversion of measurements from a larger unit to a smaller unit.	use the four operations to solve problems involving one measurement system, simple fractions or decimals (tenths) and the conversion of measurements from a larger unit to a smaller unit.	use the four operations to solve word problems involving measurement within one system using only whole numbers and involving the conversion of measurements from a larger unit to a smaller unit.
4.MD.A.3		solve multi-step word and mathematical problems involving the formulas for both area and/or perimeter of rectangles.	solve mathematical and word problems involving the formulas to find area or perimeter of rectangles to find missing lengths.	solve area or perimeter mathematical and word problems with the length and width given using whole numbers within the grade NBT limits.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Domain: Measurement and Data

4.MD.B: Represent and interpret data.

Evidence Statement:

- 4.MD.B.4** - Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots.

Evidence Statement Code	Level 4 <i>A student performing at this level should be able to:</i>	Level 3 <i>A student performing at this level should be able to:</i>	Level 2 <i>A student performing at this level should be able to:</i>	Level 1 <i>A student performing at this level should be able to:</i>
4.MD.B.4	apply an understanding of completing a line plot based on the information given on the line plot and to use the data to solve problems that require connecting multiple grade-level concepts.	complete and/or interpret a line plot with a given data set and use the data from the line plot to solve a variety of problems involving addition and subtraction of fractions.	use the data from the line plot to solve one- or two-step problems involving addition or subtraction of fractions.	complete and/or interpret a line plot given a data set of measurement in fractions where some of the tick marks are labeled. Answer questions specific to the data on the line plot.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Domain: Measurement and Data

4.MD.C: Geometric Measurement - Understand concepts of angle and measure angles.

Evidence Statements:

- **4.MD.C.5b** - An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
- **4.MD.C.6** - Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
- **4.MD.C.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.

Evidence Statement Code	Level 4 <i>A student performing at this level should be able to:</i>	Level 3 <i>A student performing at this level should be able to:</i>	Level 2 <i>A student performing at this level should be able to:</i>	Level 1 <i>A student performing at this level should be able to:</i>
4.MD.C.5b	use the relationships between a circle and an angle to identify the measure of the angle to solve problems that require connecting multiple grade-level concepts.	use the relationships between a circle and an angle to identify the measure of the angle.	use the relationships between a circle and an angle to identify the measure of the angle less than 180 degrees.	use the relationships between a circle and an angle to identify the measure of the angle less than 90 degrees.
4.MD.C.6	measure angles in whole number degrees to 360 using a protractor.	use a protractor to measure an identified angle in a polygon or other context using whole number degrees.	use a protractor to measure an angle with no horizontal or vertical arms using whole number degrees.	measure an angle with at least one horizontal or vertical arm with the protractor superimposed on the angle.
4.MD.C.7	apply an understanding of the concepts of angles and angle measurement to solve problems that require connecting multiple grade-level concepts.	solve addition and subtraction problems to find the unknown angles on a diagram in real-world and mathematical problems by using an equation with a symbol for the unknown angle measure.	solve one-step addition or subtraction problems to find the unknown angles on a diagram in real-world and mathematical problems using an equation with a symbol for the unknown angle measure.	use addition to solve one-step problems involving finding the measurement of an angle that has been decomposed into parts.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Domain: Geometry

4.G.A: Draw and identify lines and angles, and classify shape by properties of their lines and angles.

Evidence Statements:

- **4.G.A.1** - Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
- **4.G.A.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.
- **4.G.A.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.

Evidence Statement Code	Level 4 <i>A student performing at this level should be able to:</i>	Level 3 <i>A student performing at this level should be able to:</i>	Level 2 <i>A student performing at this level should be able to:</i>	Level 1 <i>A student performing at this level should be able to:</i>
4.G.A.1	apply an understanding of lines and angles that require the classification of shapes by properties of lines and angles or symmetry to solve problems that require connecting multiple grade-level concepts.	identify lines, line segments, rays, angles and perpendicular and parallel lines in two-dimensional figures.	identify lines, line segments, rays, angles in two-dimensional figures.	identify the three types of angles in two-dimensional figures.
4.G.A.2		classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or presence or absence of angles of a specific size, recognize right triangles as a category and identify right triangles.	classify two-dimensional figures based on presences of parallel or perpendicular lines or right angles, recognize right triangles.	classify two-dimensional figures based on the presence of parallel lines or right angles.
4.G.A.3		identify multiple lines of symmetry for two-dimensional figures.	identify two lines of symmetry for two-dimensional figures.	recognize one line of symmetry for two-dimensional figures.

MCAP Grade 4 Performance Level Descriptors (PLDs)

Reasoning Subclaim

All Reasoning assessment items connect to the content knowledge, skills, and abilities described in the Grade 4 Content Evidence Statements.

Students must provide evidence of their ability to reason mathematically by responding to:

- one-point items that require the application of reasoning skills aligned to the Content PLDs.
- three-point items that require communicating their reasoning via a written response.

Evidence Statements:

- **4.R.1** - Base reasoning or explanations on a given pictorial representation and explain how the pictorial model represents a mathematical concept, or how it can be used to justify or refute a statement (with or without flaws) or how it can be used to make a generalization.
- **4.R.2** - Identify flawed thinking/reasoning and explain how to correct the thinking or work.
- **4.R.3** - Prove or disprove a statement, conjecture, or generalization, using correct and precise mathematical examples (visual representations, words, symbols, equations or expressions).
- **4.R.4** - Reason mathematically to create or analyze a correct and precise solution to a real-world problem and be able to explain why the answer is mathematically correct.

Reasoning PLDs

The Reasoning PLDs describe a student's written response to a three-point reasoning item at each performance level.

Level 4 <i>A student performing at this level should be able to provide evidence of mathematical reasoning by communicating:</i>	Level 3 <i>A student performing at this level should be able to provide evidence of mathematical reasoning by communicating:</i>	Level 2 <i>A student performing at this level should be able to provide evidence of mathematical reasoning by communicating:</i>	Level 1 <i>A student performing at this level should be able to provide evidence of mathematical reasoning by communicating:</i>
a sophisticated chain of reasoning. a precise, logical solution pathway. an extensive command of mathematical representations and vocabulary.	a well-developed chain of reasoning. a logical solution pathway that may contain minor flaws. a proficient command of mathematical representations and vocabulary.	a partially developed, valid chain of reasoning. a solution pathway that contains some correct processes yielding an incorrect solution. an understanding of some mathematical representations and vocabulary.	the beginning of a chain of reasoning. an attempted solution pathway. a developing understanding of some mathematical representations and vocabulary.

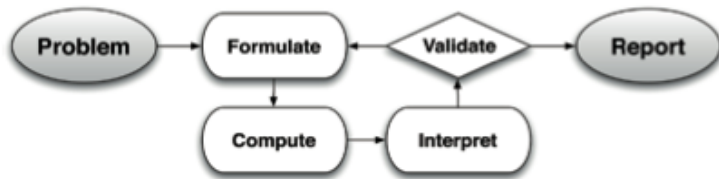
MCAP Grade 3 Performance Level Descriptors (PLDs)

Modeling Subclaim

All Modeling assessment items require a student to employ one or more steps of the modeling cycle when determining a response and are connected to the content knowledge, skills, and abilities described in the Grade 4 Content Evidence Statements.

Students must provide evidence of their ability to use the modeling cycle by responding to one-point machine scored items and three-point items that require communicating a written response.

Modeling Cycle



Evidence Statements:

- **4.M.1-1** Determine the problem that needs to be solved in a real-world situation.
- **4.M.1-2** Determine the information that is needed to solve a problem in a given real-world situation.
- **4.M.1-3** Identify the mathematics that is needed to create a solution path for a real-world situation.
- **4.M.1-4** Create a solution path that represents the mathematics needed to solve a real-world situation.
- **4.M.1-5** Evaluate a partial or complete solution path to a real-world situation.

MCAP Grade 3 Performance Level Descriptors (PLDs)

Modeling PLDs

The Modeling PLDs describe a student’s written response to a three-point modeling item at each performance level. For one-point modeling items, refer to the content PLD for the associated standard.

Level 4 <i>A student performing at this level should be able to provide evidence of the ability to use the modeling cycle by:</i>	Level 3 <i>A student performing at this level should be able to provide evidence of the ability to use the modeling cycle by:</i>	Level 2 <i>A student performing at this level should be able to provide evidence of the ability to use the modeling cycle by:</i>	Level 1 <i>A student performing at this level should be able to provide evidence of the ability to use the modeling cycle by:</i>
<p>determining the information or mathematics needed to solve a problem that requires connecting multiple grade-level concepts.</p> <p>communicating an accurate, organized solution path aligned to the problem using appropriate, effective, and precise representations.</p> <p>evaluating or validating a solution path or showing how to improve a model or correct a given solution.</p>	<p>determining needed information or mathematics.</p> <p>communicating an accurate, organized solution path aligned to the problem using appropriate, effective, and precise representations that may contain minor flaws.</p> <p>evaluating or validating a solution path or showing how to improve a model, but work may include minor flaws.</p>	<p>identifying needed information or mathematics.</p> <p>communicating a partial solution path that may contain mathematical errors.</p> <p>partially validating a solution path or incorrectly improving the model.</p>	<p>identifying some needed information or mathematics.</p> <p>communicating the beginning of a solution path, containing mathematical errors.</p> <p>attempting to validate a solution path.</p>