

## GRADE 3 MATHEMATICS

### Performance Level Descriptors

#### Grade 3 Math: Content (Sub-Claim A)

The student solves problems involving the Major Content for the grade/course with connections to the Standards for Mathematical Practice.

Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
Products and Quotients: 3.OA.1, 3.OA .2, 3.OA .4, 3.OA .6, 3.OA.7-1, 3.OA.7-2			
Understands and interprets products and quotients of whole numbers.	Interprets products and quotients of whole numbers.	Interprets products and quotients of whole numbers.	Determines products and quotients of whole numbers within 100.
Determines the unknown whole number in a multiplication or division problem by relating multiplication and division. Both factors are greater than 5 and less than or equal 10.	Determines the unknown whole number in a multiplication or division problem by relating multiplication and division. One factor is greater than or equal to 5.	Determines the unknown whole number in a multiplication or division problem by relating multiplication and division, with both factors less than or equal to 5, or with one factor of 10.	Determines the unknown whole number in a multiplication or division problem by relating multiplication and division, with both factors less than or equal to 5, or with one factor of 10.
Represents a multiplication or division situation as an equation.			
Accurately multiplies and divides within 100, using strategies relating multiplication and division or properties of operations.	Accurately multiplies and divides within 100, using strategies relating multiplication and division or properties of operations.	Multiplies and divides within 100, using strategies relating multiplication and division or properties of operations.	
Multiplication and Division: 3.OA.3-1, 3.OA.3-2, 3.OA.3-3, 3.OA.3-4			
Uses multiplication and division within 100 to solve word problems involving equal groups, arrays, area, and measurement quantities other than area. Both factors are greater than 5 and less than or equal to 10.	Uses multiplication and division within 100 to solve word problems involving equal groups and arrays. One factor is greater than or equal to 5.	Given a visual aid, uses multiplication and division within 100 to solve word problems involving equal groups and arrays, with both factors less than or equal to 5, or with one factor of 10.	Given a visual aid, uses multiplication and division within 100 to solve word problems involving equal groups. Both factors are less than or equal to 5, with both factors less than or equal to 5, or with one factor of 10.
Identifies multiple contexts given a numerical expression involving multiplication and division.			

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Two-Step Problems: 3.OA.8, 3.Int.1, 3.Int.2			
Solves two-step unscaffolded word problems using the four operations, including rounding where appropriate, in which the unknown is in a variety of positions. Both values for each operation performed is substantial (towards the upper limits as defined by the standard assessed).	Solves two-step scaffolded word problems using the four operations in which the unknown is in a variety of positions. One of the values for each operation performed is substantial (towards the upper limits as defined by the standard assessed).	Solves two-step scaffolded word problems using the four operations and in which the sum, difference, product or quotient is always the unknown. One of the values for each operation performed is substantial (towards the upper limits as defined by the standard assessed).	Solves two-step scaffolded word problems using the four operations and in which the sum, difference, product or quotient is always the unknown.
Fraction Equivalence: 3.NF.3a-1, 3.NF.3a-2, 3.NF.3b-1, 3.NF-3c, 3.NF-3d, 3.NF.A.Int.1			
Understands, recognizes and generates equivalent fractions with denominators of 2, 3, 4, 6 and 8.	Understands, recognizes and generates equivalent fractions using denominators of 2, 4, and 8.	Given a visual model, understands, recognizes and generates equivalent fractions with denominators of 2, 4 and 8.	Given a visual model recognizes equivalent fractions with denominators of 2, 4 and 8.
Expresses whole numbers as fractions and recognize fractions that are equivalent to whole numbers.	Expresses whole numbers as fractions.	Expresses whole numbers as fractions.	Expresses the number 1 as a fraction.
Compares two fractions that have the same numerator or same denominator using symbols to justify conclusions. Plots the location of equivalent fractions on a number line. The student must recognize that two fractions must refer to the same whole in order to compare.	Compares two fractions that have the same numerator or same denominator using symbols and justifies conclusions by using a visual model. The student must recognize that two fractions must refer to the same whole in order to compare.	Compares two fractions that have the same numerator or same denominator using symbols. The student must recognize that two fractions must refer to the same whole in order to compare.	
Given a whole number and two fractions in a real-world situation,			

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plots all three numbers on a number line and determines which fraction is closest to the whole number. Justifies the comparison by plotting points on a number line.			
Fractions as Numbers: 3.NF.1, 3.NF.2, 3.NF.A.Int.1			
Understands $1/b$ is equal to one whole that is partitioned into $b$ equal parts – limiting the denominators to 2, 3, 4, 6 and 8	Understands $1/b$ is equal to one whole that is partitioned into $b$ equal parts – limiting the denominators to 2, 4 and 8.	Understands $1/b$ is equal to one whole that is partitioned into $b$ equal parts – limiting the denominators to 2 and 4.	Understands $1/b$ is equal to one whole that is partitioned into $b$ equal parts – limiting the denominators to 2 and 4.
Represents $1/b$ on a number line diagram by partitioning the number line between 0–1 into $b$ equal parts recognizing that $b$ is the total number of parts.	Represents $1/b$ on a number line diagram by partitioning the number line between 0–1 into $b$ equal parts recognizing that $b$ is the total number of parts.	Represents $1/b$ on a number line diagram by partitioning the number line between 0–1 into $b$ equal parts recognizing that $b$ is the total number of parts.	Identifies $1/b$ on a number line diagram when partitioned between 0 and 1 into $b$ equal parts.
Demonstrates the understanding of the quantity $a/b$ by marking off $a$ parts of $1/b$ from 0 on the number line and states that the endpoint locates the number $a/b$ .	Demonstrates the understanding of the quantity $a/b$ by marking off $a$ parts of $1/b$ from 0 on the number line.	Represents fractions in the form $a/b$ using a visual model.	
Applies the concepts of $1/b$ and $a/b$ in real-world situations.			
Describes the number line that best fits the context.			
Time: 3.MD.1–1, 3.MD.1–2			
Tells, writes and measures time to the nearest minute.	Tells, writes and measures time to the nearest minute.	Tells, writes and measures time to the nearest minute.	Tells, writes and measures time to the nearest minute.

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Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
Solves two-step word problems involving addition and subtraction of time intervals in minutes.	Solves one-step word problems involving addition or subtraction of time intervals in minutes.	Solves one-step word problems involving addition or subtraction of time intervals in minutes, with scaffolding, such as a number line diagram.	
Volumes and Masses: 3.MD.2-1, 3.MD.2-2, 3.MD.2-3, 3.Int.5			
Using grams, kilograms or liters, measures, estimates and solves multi-step word problems involving liquid volumes and masses of objects using any of the four basic operations. Number values should be towards the higher end of the acceptable values for each operation.	Using grams, kilograms or liters, measures and estimates liquid volumes and masses of objects using any of the four basic operations.	Using grams, kilograms or liters, measures and estimates liquid volumes and masses of objects using concrete objects (beakers, measuring cups, scales) to develop estimates.	Using grams, kilograms or liters, measures liquid volumes and masses of concrete objects (beakers, measuring cups, scales).
Uses estimated measurements to compare answers to one-step word problems.	Uses estimated measurements, when indicated, to answer one-step word problems.		
Evaluates usefulness and accuracy of estimations.			
Geometric Measurement: 3.MD.5, 3.MD.6, 3.MD.7b-1, 3.MD.7d			
Recognizes area as an attribute of plane figures.	Recognizes area as an attribute of plane figures.	Recognizes area as an attribute of plane figures.	Recognizes area as an attribute of plane figures.
Understands area is measured using square units. Describes a visual model to show understanding that area that can be found by covering a plane figure without gaps or	With a visual model, understands area is measured using square units. Determines area by covering a plane figure without gaps or overlaps with unit squares and counting them.	With a visual model, understands area is measured using square units. Determines area by covering a plane figure without gaps or overlaps with unit squares and counting them.	With a visual model, understands area is measured using square units. Determines area by counting unit squares.

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**Performance Level Descriptors**

Grade 3 Math: Content (Sub-Claim A)

The student solves problems involving the Major Content for the grade/course with connections to the Standards for Mathematical Practice.

Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
overlaps with unit squares and counting them.			
Connects counting squares to multiplication when finding area.			
Represents the area of a plane figure as “n” square units.	Represents the area of a plane figure as “n” square units.		

## GRADE 3 MATHEMATICS

### Performance Level Descriptors

Grade 3 Math: Content (Sub-Claim B)			
The student solves problems involving the Additional and Supporting Content for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
Multi-Digit Arithmetic: 3.NBT.2, 3.NBT.3			
Accurately adds and subtracts within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Accurately adds and subtracts within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Adds and subtracts within 1000, using strategies and algorithms based on place value, properties of operations with scaffolding, and/or the relationship between addition and subtraction.	Adds and subtracts within 1000, using strategies and algorithms based on place value, properties of operations with scaffolding, and/or the relationship between addition and subtraction.
Multiplies one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value	Uses repeated addition to multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.	Uses repeated addition to multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.	
Scaled Graphs: 3.MD.3-1, 3.MD.3-3, 3.Int.4			
Completes a scaled picture graph and a scaled bar graph to represent a data set.	Completes a scaled picture graph and a scaled bar graph to represent a data set.	Completes a scaled picture graph and a scaled bar graph to represent a data set, with scaffolding, such as using a model as a guide.	Identifies a correctly scaled picture graph and a correctly scaled bar graph to represent a data set.
Solves one- and two-step “how many more” and “how many less” problems, requiring a substantial addition, subtraction or multiplication step, using information presented in scaled bar graphs.	Solves one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.	Solves one-step “how many more” and “how many less” problems using information presented in scaled bar graphs.	Solves one-step “how many more” and “how many less” problems using information presented in scaled bar graphs.
Measurement Data: 3.MD.4			
Generates measurement data by measuring lengths to the nearest half and fourth inch.	Generates measurement data by measuring lengths to the nearest half inch.	Generates measurement data by measuring lengths to the nearest half inch.	Identifies correct measurement from figures with appropriate scale provided.

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### Performance Level Descriptors

#### Grade 3 Math: Content (Sub-Claim B)

The student solves problems involving the Additional and Supporting Content for the grade/course with connections to the Standards for Mathematical Practice.

Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
Shows the data by making a line plot, where the horizontal scale is marked in appropriate units of whole numbers, halves or quarters.	Shows the data by making a line plot, where the horizontal scale is marked in appropriate units of whole numbers or halves.	Shows the data by making a line plot, where the horizontal scale is marked in appropriate units of whole numbers or halves, with scaffolding.	
Uses the line plot to answer questions or solve problems.			
Understanding Shapes: 3.G.1			
Understands the properties of quadrilaterals and the subcategories of quadrilaterals.	Understands the properties of quadrilaterals and the subcategories of quadrilaterals.	Identifies examples of quadrilaterals and the subcategories of quadrilaterals.	Identifies examples of quadrilaterals and the subcategories of quadrilaterals.
Recognizes and sorts examples of quadrilaterals that have shared attributes and shows that the shared attributes can define a larger category.	Recognizes examples of quadrilaterals that have shared attributes and that the shared attributes can define a larger category.	Recognizes examples of quadrilaterals that have shared attributes and that the shared attributes can define a larger category.	
Draws examples and non-examples of quadrilaterals with specific attributes.	Draws examples of quadrilaterals with specific attributes.		
Perimeter and Area: 3.G.2, 3.MD.8, 3.Int.3			
Solves real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and provides examples of rectangles with the same perimeter and different areas or with the same area and different perimeters. A	Solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and provides examples of rectangles with the same area and different perimeters.	Solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, and identifying rectangles with the same area and different perimeters.	Solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths.

## GRADE 3 MATHEMATICS Performance Level Descriptors

### Grade 3 Math: Content (Sub-Claim B)

The student solves problems involving the Additional and Supporting Content for the grade/course with connections to the Standards for Mathematical Practice.

Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
substantial addition, subtraction, or multiplication step with number values towards the higher end of the acceptable values for each operation			
Partitions shapes into parts with equal areas and expresses the area as a unit fraction of the whole.			



# GRADE 3 MATHEMATICS

## Performance Level Descriptors

### Grade 3 Math: Reasoning (Sub-Claim C)

In connection with content, the student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.

Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
Properties of Operations: 3.C.1-1, 3.C.1-2, 3.C.1-3, 3.C.2			
<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student clearly constructs and communicates a complete written response based on explanations/reasoning using the:</p> <ul style="list-style-type: none"> <li>• properties of operations</li> <li>• relationship between addition and subtraction</li> <li>• relationship between multiplication and division</li> <li>• identification of arithmetic patterns</li> </ul> <p>Response may include:</p> <ul style="list-style-type: none"> <li>• a logical/defensible approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate)</li> <li>• an efficient and logical progression of steps with appropriate justification</li> <li>• precision of calculation</li> <li>• correct use of grade-level vocabulary, symbols and labels</li> <li>• justification of a conclusion</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student clearly constructs and communicates a complete written response based on explanations/reasoning using the:</p> <ul style="list-style-type: none"> <li>• properties of operations</li> <li>• relationship between addition and subtraction</li> <li>• relationship between multiplication and division</li> <li>• identification of arithmetic patterns</li> </ul> <p>Response may include:</p> <ul style="list-style-type: none"> <li>• a logical/defensible approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate)</li> <li>• a logical progression of steps</li> <li>• precision of calculation</li> <li>• correct use of grade-level vocabulary, symbols and labels</li> <li>• justification of a conclusion</li> <li>• evaluating, interpreting and critiquing the validity of other’s responses, reasonings, and</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student constructs and communicates a written response based on explanations/reasoning using the:</p> <ul style="list-style-type: none"> <li>• properties of operations</li> <li>• relationship between addition and subtraction</li> <li>• relationship between multiplication and division</li> <li>• identification of arithmetic patterns</li> </ul> <p>Response may include:</p> <ul style="list-style-type: none"> <li>• a logical approach based on a conjecture and/or stated assumptions</li> <li>• a logical, but incomplete, progression of steps</li> <li>• minor calculation errors</li> <li>• limited use of grade-level vocabulary, symbols and labels</li> <li>• partial justification of a conclusion based on own calculations</li> <li>• evaluating the validity of other’s responses, approaches and conclusions.</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student constructs and communicates an incomplete written response based on explanations/reasoning using the:</p> <ul style="list-style-type: none"> <li>• properties of operations</li> <li>• relationship between addition and subtraction</li> <li>• relationship between multiplication and division</li> <li>• identification of arithmetic patterns</li> </ul> <p>Response may include:</p> <ul style="list-style-type: none"> <li>• an approach based on a conjecture and/or stated or faulty assumptions</li> <li>• an incomplete or illogical progression of steps</li> <li>• an intrusive calculation error</li> <li>• limited use of grade-level vocabulary, symbols and labels</li> <li>• partial justification of a conclusion based on own calculations</li> </ul>

## GRADE 3 MATHEMATICS

### Performance Level Descriptors

Grade 3 Math: Reasoning (Sub-Claim C)			
In connection with content, the student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
<ul style="list-style-type: none"> <li>determination of whether an argument or conclusion is generalizable</li> <li>evaluating, interpreting and critiquing the validity of other’s responses, reasonings, and approaches, utilizing mathematical connections (when appropriate). Provides a counter-example where applicable.</li> </ul>	<p>approaches, utilizing mathematical connections (when appropriate).</p>		
Concrete Referents and Diagrams: 3.C.3-1, 3.C.3-2, 3.C.6-1, 3.C.6-2			
<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student clearly constructs and communicates a well-organized and complete response based on operations using concrete referents such as diagrams--including number lines (whether provided in the prompt or constructed by the student) and connecting the diagrams to a written (symbolic) method, which may include:</p> <ul style="list-style-type: none"> <li>a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate)</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student clearly constructs and communicates a well-organized and complete response based on operations using concrete referents such as diagrams--including number lines (whether provided in the prompt or constructed by the student) and connecting the diagrams to a written (symbolic) method, which may include:</p> <ul style="list-style-type: none"> <li>a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate)</li> <li>a logical progression of steps</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student constructs and communicates a response based on operations using concrete referents such as diagrams – including number lines (provided in the prompt) – connecting the diagrams to a written (symbolic) method, which may include:</p> <ul style="list-style-type: none"> <li>a logical approach based on a conjecture and/or stated assumptions</li> <li>a logical, but incomplete, progression of steps</li> <li>minor calculation errors</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student constructs and communicates an incomplete response based on operations using concrete referents such as diagrams – including number lines (provided in the prompt) – connecting the diagrams to a written (symbolic) method, which may include:</p> <ul style="list-style-type: none"> <li>a conjecture and/or stated or faulty assumptions</li> <li>an incomplete or illogical progression of steps</li> <li>an intrusive calculation error</li> </ul>

# GRADE 3 MATHEMATICS

## Performance Level Descriptors

### Grade 3 Math: Reasoning (Sub-Claim C)

In connection with content, the student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.

Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
<ul style="list-style-type: none"> <li>• an efficient and logical progression of steps with appropriate justification</li> <li>• precision of calculation</li> <li>• correct use of grade-level vocabulary, symbols and labels</li> <li>• justification of a conclusion</li> <li>• determination of whether an argument or conclusion is generalizable</li> <li>• evaluating, interpreting, and critiquing the validity of other's responses, approaches, and reasoning, and providing a counter- example where applicable</li> </ul>	<ul style="list-style-type: none"> <li>• precision of calculation</li> <li>• correct use of grade-level vocabulary, symbols and labels</li> <li>• justification of a conclusion</li> <li>• evaluating, interpreting, and critiquing the validity of other's responses, approaches, and reasoning.</li> </ul>	<ul style="list-style-type: none"> <li>• some use of grade-level vocabulary, symbols and labels</li> <li>• partial justification of a conclusion based on own calculations.</li> <li>• evaluating the validity of other's responses, approaches and conclusions</li> </ul>	<ul style="list-style-type: none"> <li>• limited use of grade-level vocabulary, symbols and labels</li> <li>• partial justification of a conclusion based on own calculations</li> <li>• accepting the validity of other's responses</li> </ul>
Distinguish Correct Explanation/ Reasoning from that which is Flawed: 3.C.4-1, 3.C.4-2, 3.C.4-3, 3.C.4-4, 3.C.4-5, 3.C.4-6, 3.C.5-1, 3.C.5-2, 3.C.4-7			
<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student clearly constructs and communicates a well-organized and complete response by:</p> <ul style="list-style-type: none"> <li>• presenting and defending solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student clearly constructs and communicates a well-organized and complete response by:</p> <ul style="list-style-type: none"> <li>• presenting and defending solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student constructs and communicates a complete response by:</p> <ul style="list-style-type: none"> <li>• presenting solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student constructs and communicates an incomplete response by:</p> <ul style="list-style-type: none"> <li>• presenting solutions to scaffolded two-step problems in the form of valid chains of reasoning, sometimes using symbols such as equal signs appropriately</li> </ul>

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### Performance Level Descriptors

#### Grade 3 Math: Reasoning (Sub-Claim C)

In connection with content, the student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.

Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
<ul style="list-style-type: none"> <li>• evaluating explanation/reasoning; if there is a flaw in the argument</li> <li>• presenting and defending corrected reasoning</li> </ul> <p>Response may include:</p> <ul style="list-style-type: none"> <li>• a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate)</li> <li>• an efficient and logical progression of steps with appropriate justification</li> <li>• precision of calculation</li> <li>• correct use of grade-level vocabulary, symbols and labels</li> <li>• justification of a conclusion</li> <li>• evaluation of whether an argument or conclusion is generalizable</li> <li>• evaluating, interpreting, and critiquing the validity of other's responses, approaches and reasoning, and providing a counter-example where applicable.</li> </ul>	<ul style="list-style-type: none"> <li>• distinguishing correct explanation/reasoning from that which is flawed</li> <li>• identifying and describing the flaw in reasoning or describing errors in solutions to multi-step problems</li> <li>• presenting corrected reasoning</li> </ul> <p>Response may include:</p> <ul style="list-style-type: none"> <li>• a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate)</li> <li>• a logical progression of steps</li> <li>• precision of calculation</li> <li>• correct use of grade-level vocabulary, symbols and labels</li> <li>• justification of a conclusion</li> <li>• evaluating, interpreting and critiquing the validity of other's responses, approaches and reasoning.</li> </ul>	<ul style="list-style-type: none"> <li>• distinguishing correct explanation/reasoning from that which is flawed</li> <li>• identifying and describing the flaw in reasoning or describing errors in solutions to multi-step problems</li> <li>• presenting corrected reasoning</li> </ul> <p>Response may include:</p> <ul style="list-style-type: none"> <li>• a logical approach based on a conjecture and/or stated assumptions</li> <li>• a logical, but incomplete, progression of steps</li> <li>• minor calculation errors</li> <li>• some use of grade-level vocabulary, symbols and labels</li> <li>• partial justification of a conclusion based on own calculations</li> <li>• evaluating the validity of other's responses, approaches and conclusions.</li> </ul>	<ul style="list-style-type: none"> <li>• distinguishing correct explanation/reasoning from that which is flawed</li> <li>• identifying an error in reasoning</li> </ul> <p>Response may include:</p> <ul style="list-style-type: none"> <li>• a conjecture based on faulty assumptions</li> <li>• an incomplete or illogical progression of steps</li> <li>• an intrusive calculation error</li> <li>• limited use of grade-level vocabulary, symbols and labels</li> <li>• partial justification of a conclusion based on own calculations</li> <li>• accepting the validity of other's responses</li> </ul>

# GRADE 3 MATHEMATICS

## Performance Level Descriptors

### Grade 3 Math: Modeling (Sub-Claim D)

In connection with content, the student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly and quantitatively, using appropriate tools strategically, looking for the making use of structure, and/or looking for and expressing regularity in repeated reasoning.

Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
Modeling: 3.D.1, 3.D.2			
<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by:</p> <ul style="list-style-type: none"> <li>• using stated assumptions or making assumptions and using approximations to simplify a real-world situation</li> <li>• analyzing and/or creating constraints, relationships and goals</li> <li>• mapping relationships between important quantities by selecting appropriate tools to create models</li> <li>• analyzing relationships mathematically between important quantities to draw conclusions</li> <li>• justifying and defending models which lead to a conclusion</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by:</p> <ul style="list-style-type: none"> <li>• using stated assumptions or making assumptions and using approximations to simplify a real-world situation</li> <li>• mapping relationships between important quantities by selecting appropriate tools to create models</li> <li>• analyzing relationships mathematically between important quantities to draw conclusions</li> <li>• interpreting mathematical results in the context of the situation</li> <li>• reflecting on whether the results make sense</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by:</p> <ul style="list-style-type: none"> <li>• using stated assumptions and approximations to simplify a real-world situation</li> <li>• illustrating relationships between important quantities by using provided tools to create models</li> <li>• analyzing relationships mathematically between important quantities to draw conclusions</li> <li>• interpreting mathematical results in a simplified context</li> <li>• reflecting on whether the results make sense</li> <li>• modifying the model if it has not served its purpose</li> <li>• writing an arithmetic expression or equation to describe a situation</li> </ul>	<p>In connection with the content knowledge, skills, and abilities described in Sub-claim A, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by:</p> <ul style="list-style-type: none"> <li>• using stated assumptions and approximations to simplify a real-world situation</li> <li>• identifying important quantities by using provided tools to create models</li> <li>• analyzing relationships mathematically to draw conclusions</li> <li>• writing an arithmetic expression or equation to describe a situation</li> </ul>

## GRADE 3 MATHEMATICS

### Performance Level Descriptors

#### Grade 3 Math: Modeling (Sub-Claim D)

In connection with content, the student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly and quantitatively, using appropriate tools strategically, looking for the making use of structure, and/or looking for and expressing regularity in repeated reasoning.

Exceeds Expectations	Meets Expectations	Approaches Expectations	Partially or Does Not Yet Meet Expectations
<ul style="list-style-type: none"> <li>• interpreting mathematical results in the context of the situation</li> <li>• reflecting on whether the results make sense</li> <li>• improving the model if it has not served its purpose</li> <li>• writing a concise arithmetic expression or equation to describe a situation</li> </ul>	<ul style="list-style-type: none"> <li>• modifying and/or improving the model if it has not served its purpose</li> <li>• writing an arithmetic expression or equation to describe a situation</li> </ul>		