

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Content (Operations and Algebraic Thinking) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations Level 4 – A student who performs at Level 4 exceeds expectations for the assessed standards.	Meets Expectations Level 3 – A student who performs at Level 3 meets expectations for the assessed standards.	Partially Meets Expectations Level 2 – A student who performs at Level 2 partially meets expectations for the assessed standards.	Does Not Yet Meet Expectations Level 1 – A student who performs at Level 1 does not yet meet expectations for the assessed standards.
Represent and solve problems involving multiplication and division: 3.OA.A.1, 3.OA.A.2, 3.OA.A.3, 3.OA.A.4			
Consistently demonstrates and interprets products and quotients of whole numbers.	Interprets products and quotients of whole numbers with accuracy.	Interprets products and quotients of whole numbers with partial accuracy.	Determines products and quotients of whole numbers within 100.
Uses multiplication and division within 100 to solve problems involving equal groups, arrays, equations, 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 problems involving equal groups and arrays or equations. One factor is greater than or equal to 5.	Given a visual representation, uses multiplication and division within 100 to solve problems involving equal groups and arrays, with both factors less than or equal to 5, or with one factor of 10.	Given a visual representation, uses multiplication and division within 100 to solve problems involving equal groups, 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.			
Consistently and accurately determines and represents the unknown whole number in a multiplication or division problem by relating multiplication and division.	Determines the unknown whole number in a multiplication or division problem by relating multiplication and division, with accuracy.	Determines the unknown whole number in a multiplication or division problem by relating multiplication and division, with partial accuracy.	Determines the unknown whole number in a multiplication or division problem by relating multiplication and division, with limited accuracy.
Understand properties of multiplication and the relationship between multiplication and division: 3.OA.B.6			
Represents a multiplication or division situation as an equation.			
Multiply and divide within 100: 3.OA.B.7			
Highly proficient at multiplying and dividing 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, with accuracy.	Multiplies and divides within 100, using strategies relating multiplication and division or properties of operations, with partial accuracy.	

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Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Solve problems involving the four operations, and identify and explain patterns in arithmetic: 3.OA.D.8			
Consistently solves two-step unscaffolded problems correctly using the four operations, including rounding where appropriate, in which the unknown is in a variety of positions. Both values for each operation performed are substantial (towards the upper limits as defined by the standard assessed).	Correctly solves two-step scaffolded 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).	Partially solves two-step scaffolded 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).	Attempts to solve two-step scaffolded problems using the four operations and in which the sum, difference, product, or quotient is always the unknown.

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Content (Number & Operations – Base Ten) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Use place value understanding and properties of operations to perform multi-digit arithmetic: 3.NBT.A.2, 3.NBT.A.3			
Fluently 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 with accuracy, using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Adds and subtracts within 1000 with partial accuracy, 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 with limited accuracy, using strategies and algorithms based on place value, properties of operations with scaffolding, and/or the relationship between addition and subtraction.
Fluently multiplies one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value.	Mostly accurately 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.	Partially 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.	

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Content (Number & Operations – Fractions) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Develop understanding of fractions as numbers: 3.NF.A.1, 3.NF.A.2, 3.NF.A.3			
Demonstrates that $1/b$ is equal to one whole that is partitioned into b equal parts – limiting the denominators to 2, 3, 4, 6, and 8.	Understands that $1/b$ is equal to one whole that is partitioned into b equal parts – limiting the denominators to 2, 4, and 8.	Partially understands $1/b$ is equal to one whole that is partitioned into b equal parts – limiting the denominators to 2 and 4.	Demonstrates limited understanding that $1/b$ is equal to one whole that is partitioned into b equal parts – limiting the denominators to 2 and 4.
Consistently 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.	Accurately 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.	Partially 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 0-1 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 .	Represents the quantity a/b by marking off a parts of $1/b$ from 0 on the number line.	Understands 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.			
Without a visual model, understands, recognizes, and generates equivalent fractions with denominators of 2, 3, 4, 6, and 8.	Without a visual model, 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.
Consistently expresses whole numbers as fractions and recognizes fractions that are equivalent to whole numbers.	Expresses whole numbers as fractions with accuracy.	Expresses whole numbers as fractions with partial accuracy.	Expresses the number 1 as a fraction.

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Content (Number & Operations – Fractions) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
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, 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.			

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Content (Measurement & Data) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Solve problems involving measurement and estimation: 3.MD.A.1, 3.MD.A.2			
Consistently tells, writes, and measures time to the nearest minute.	Tells, writes, and measures time to the nearest minute, with accuracy.	Tells, writes, and measures time to the nearest minute, with partial accuracy.	Tells, writes, and measures time to the nearest minute, with limited accuracy.
Consistently solves two-step problems involving addition and subtraction of time intervals in minutes.	Solves one-step problems involving addition or subtraction of time intervals in minutes with accuracy.	Solves one-step problems involving addition or subtraction of time intervals in minutes, with scaffolding, such as a number line diagram.	
Consistently uses grams, kilograms, or liters; measures and estimates to solve multi-step 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.	Accurately uses grams, kilograms, or liters; measures and estimates liquid volumes and masses of objects using any of the four basic operations.	Uses grams, kilograms, or liters; measures and estimates liquid volumes and masses of objects using concrete objects (beakers, measuring cups, scales) to develop estimates.	Uses 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 problems.	Uses estimated measurements, when indicated, to answer one-step problems.		
Evaluates usefulness and accuracy of estimations.			

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Content (Measurement & Data) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Represent and interpret data: 3.MD.B.3, 3.MD.B.4			
Accurately 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.
Consistently solves one-step 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.	Accurately solves one-step 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, with partial accuracy.	Solves one-step “how many more” and “how many less” problems using information presented in scaled bar graphs, with limited accuracy.
Generates measurement data by measuring lengths to the nearest half- and fourth-inch, with consistent accuracy.	Generates measurement data by measuring lengths to the nearest half-inch, with accuracy.	Generates measurement data by measuring lengths to the nearest half inch, with partial accuracy.	Identifies correct measurement from figures, with appropriate scale provided.
Consistently shows data by making a line plot, where the horizontal scale is marked in appropriate units of whole numbers, halves, or quarters.	Shows data by making a line plot, where the horizontal scale is marked in appropriate units of whole numbers or halves, with accuracy.	Shows 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.			

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Content (Measurement & Data) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Geometric measurement: understand concepts of area and relate area to multiplication and to addition: 3.MD.C.5, 3.MD.C.6, 3.MD.C.7			
Consistently recognizes area as an attribute of plane figures.	Recognizes area as an attribute of plane figures, with accuracy.	Recognizes area as an attribute of plane figures, with partial accuracy.	Recognizes area as an attribute of plane figures, with limited accuracy.
Understands area is measured using square units.	With a visual model, understands area is measured using square units.	With a visual model, partially understands area is measured using square units.	With a visual model, understands area is measured using square units with limited accuracy.
Describes a visual model to show understanding that area can be found by covering a plane figure without gaps or overlaps with unit squares and counting them.	Accurately determines area by covering a plane figure without gaps or overlaps with unit squares and counting them.	Partially determines area by covering a plane figure without gaps or overlaps with unit squares and counting them.	Determines area by counting unit squares.
Connects counting squares to multiplication when finding area.			
Represents the area of a plane figure as n square units with consistent accuracy.	Represents the area of a plane figure as n square units with accuracy.		

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Performance Level Descriptors

Grade 3 Math: Content (Measurement & Data) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Geometric measurement: recognize perimeter: 3.MD.D.8			
Solves real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths and 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 substantial addition, subtraction, or multiplication step with number values towards the higher end of the acceptable values for each operation.	Accurately solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths and 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, with partial accuracy.	Solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, with limited accuracy.

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Reasoning (may cross multiple reporting categories) 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	Partially Meets Expectations	Does Not Yet Meet Expectations
Properties of Operations: 3.OA.B.5, 3.OA.B.6, 3.OA.D.9, 3.MD.C.7			
In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a complete written response based on explanations / reasoning using the: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • relationship between area and the properties of addition and multiplication • identification of arithmetic patterns. Response may include: • a logical/defensible approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • an efficient and logical progression of steps with appropriate justification • precision of calculation • correct use of grade-level vocabulary, symbols, and labels • logical justification of a conclusion	In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a complete written response based on explanations / reasoning using the: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • relationship between area and the properties of addition and multiplication • identification of arithmetic patterns. Response may include: • a logical/defensible approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • a logical progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols, and labels • justification of a conclusion	In connection with the content knowledge, skills, and abilities, the student constructs and communicates a written response based on explanations / reasoning using the: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • relationship between area and the properties of addition and multiplication • identification of arithmetic patterns. Response may include: • a logical approach based on a conjecture and/or stated assumptions • a logical, but incomplete, progression of steps • minor calculation errors • some use of grade-level vocabulary, symbols, and labels • partial justification of a conclusion based on own calculations	In connection with the content knowledge, skills, and abilities, the student constructs and communicates an incomplete written response based on explanations / reasoning using the: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • relationship between area and the properties of addition and multiplication • identification of arithmetic patterns. Response may include: • an approach based on a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols, and labels • limited justification of a conclusion based on own calculations.

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Reasoning (may cross multiple reporting categories) 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	Partially Meets Expectations	Does Not Yet Meet Expectations
- evaluating, interpreting, and critiquing the validity of others' responses, reasoning, and approaches, utilizing mathematical connections (when appropriate). Provides a counter-example where applicable - determination of whether an argument or conclusion is generalizable.	evaluating, interpreting, and critiquing the validity of others' responses, reasoning, and approaches, utilizing mathematical connections (when appropriate).	evaluating the validity of others' responses, approaches, and conclusions.	

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Performance Level Descriptors

Grade 3 Math: Reasoning (may cross multiple reporting categories) 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	Partially Meets Expectations	Does Not Yet Meet Expectations
Concrete Referents and Diagrams: 3.NF.A.2, 3.NF.A.3, 3.MD.A.1, 3.MD.C.5, 3.MD.C.7			
In connection with the content knowledge, skills, and abilities, 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: • a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • an efficient and logical progression of steps with appropriate justification • precision of calculation • accurate use of grade-level vocabulary, symbols, and labels • logical justification of a conclusion • evaluating, interpreting, and critiquing the validity of others’ responses, approaches, and reasoning, and providing a counter-example where applicable • determination of whether an argument or conclusion is generalizable.	In connection with the content knowledge, skills, and abilities, 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: • a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • a logical progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols, and labels • justification of a conclusion • evaluating, interpreting, and critiquing the validity of others’ responses, approaches, and reasoning.	In connection with the content knowledge, skills, and abilities, 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: • a logical approach based on a conjecture and/or stated assumptions • a logical, but incomplete, progression of steps • minor calculation errors • some use of grade-level vocabulary, symbols, and labels • partial justification of a conclusion based on own calculations • evaluating the validity of others’ responses, approaches, and conclusions.	In connection with the content knowledge, skills, and abilities, 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: • a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols, and labels • limited justification of a conclusion based on own calculations • accepting the validity of others’ responses.

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Performance Level Descriptors

Grade 3 Math: Reasoning (may cross multiple reporting categories) 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	Partially Meets Expectations	Does Not Yet Meet Expectations
Distinguish Correct Explanation/ Reasoning from that which is Flawed: 3.OA.B.5, 3.OA.B.6, 3.OA.D.8, 3.OA.D.9, 3.NF.A.3, 3.MD.C.7			
In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a well-organized and complete response by: - consistently presenting and defending solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately - evaluating explanation / reasoning; if there is a flaw in the argument, presenting and defending corrected reasoning. Response may include: - a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) - an efficient and logical progression of steps with appropriate justification - precision of calculation - accurate use of grade-level vocabulary, symbols, and labels	In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a well-organized and complete response by: - presenting and defending solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately - distinguishing correct explanation / reasoning from that which is flawed - identifying and describing the flaw in reasoning or describing errors in solutions to multi-step problems - presenting corrected reasoning. Response may include: - a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) - a logical progression of steps - precision of calculation - correct use of grade-level vocabulary, symbols, and labels	In connection with the content knowledge, skills, and abilities, the student constructs and communicates a complete response by: - presenting solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately - distinguishing correct explanation / reasoning from that which is flawed - identifying and describing the flaw in reasoning or describing errors in solutions to multi-step problems - presenting corrected reasoning. Response may include: - a logical approach based on a conjecture and/or stated assumptions - a logical, but incomplete, progression of steps - minor calculation errors - some use of grade-level vocabulary, symbols, and labels	In connection with the content knowledge, skills, and abilities, the student constructs and communicates an incomplete response by: - presenting solutions to scaffolded two-step problems in the form of valid chains of reasoning, sometimes using symbols such as equal signs appropriately - distinguishing correct explanation / reasoning from that which is flawed - identifying an error in reasoning. Response may include: - a conjecture based on faulty assumptions - an incomplete or illogical progression of steps - an intrusive calculation error - limited use of grade-level vocabulary, symbols, and labels

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Performance Level Descriptors

Grade 3 Math: Reasoning (may cross multiple reporting categories) 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	Partially Meets Expectations	Does Not Yet Meet Expectations
- logical justification of a conclusion - evaluating, interpreting, and critiquing the validity of others' responses, approaches, and reasoning, and providing a counter-example where applicable - evaluation of whether an argument or conclusion is generalizable.	- justification of a conclusion - evaluating, interpreting, and critiquing the validity of others' responses, approaches, and reasoning.	- partial justification of a conclusion based on own calculations - evaluating the validity of others' responses, approaches, and conclusions.	- limited justification of a conclusion based on own calculations - accepting the validity of others' responses.

GRADE 3 MATHEMATICS

Performance Level Descriptors

Grade 3 Math: Modeling (may cross multiple reporting categories)

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, 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 and making use of structure, and/or looking for and expressing regularity in repeated reasoning.

Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Modeling: 3.MD.A.1, 3.MD.A.2, 3.MD.C.5, 3.MD.C.6, 3.MD.C.7, 3.NBT.A.1, 3.NF.A.1, 3.NF.A.2, 3.NF.A.3, 3.OA.A.1, 3.OA.A.2, 3.OA.A.3, 3.OA.A.4, 3.OA.B.6, 3.OA.C.7, 3.OA.D.8			
In connection with the content knowledge, skills, and abilities, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions or making assumptions and using approximations to simplify a real-world situation • analyzing and/or creating constraints, relationships, and goals • mapping relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • justifying and defending models which lead to a conclusion • reflecting on whether the results make sense • improving the model if it has not served its purpose • writing a concise arithmetic expression or equation to describe a situation • interpreting mathematical results in the context of the situation.	In connection with the content knowledge, skills, and abilities, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions or making assumptions and using approximations to simplify a real-world situation • mapping relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • reflecting on whether the results make sense • modifying and/or improving the model if it has not served its purpose • writing an arithmetic expression or equation to describe a situation • interpreting mathematical results in the context of the situation.	In connection with the content knowledge, skills, and abilities, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions and approximations to simplify a real-world situation • illustrating relationships between important quantities by using provided tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • reflecting on whether the results make sense • modifying the model if it has not served its purpose • writing an arithmetic expression or equation to describe a situation • interpreting mathematical results in a simplified context.	In connection with the content knowledge, skills, and abilities, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions and approximations to simplify a real-world situation • identifying important quantities by using provided tools to create models • analyzing relationships mathematically to draw conclusions • writing an arithmetic expression or equation to describe a situation.