

Operations and Algebraic Thinking

Topic: Operations and Algebraic Thinking	
Score	Description: Multiplication -Representation and word problems. (3.OA.1&3)
4	<p>In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as:</p> <ul style="list-style-type: none"> • Represent and interpret products within 100 using a two digit factor times a single digit factor (ex: 12×5) • Solve multiplication one-step word problems that include products within 100 using a two-digit factor
3	<p>The student will:</p> <ul style="list-style-type: none"> • Use multiplication within the 10x10 multiplication table to solve one-step word problems in situations involving equal groups, arrays and measurement quantities (Ex. By using drawings, equations with a symbol for the unknown number to represent the problem)
2	<p>The student will recognize or recall specific vocabulary, such as:</p> <ul style="list-style-type: none"> • multiply, factor, product, equal groups, number of groups, size of groups, array <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none"> • Create equal groups • Represent and Interpret products of whole numbers within a 10 x10 multiplication table
1	No understanding of the standard is demonstrated

Operations and Algebraic Thinking

Topic: Operations and Algebraic Thinking	
Score	Description: Division -Representation and word problems. (3.OA.2&3)
4	<p>In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as:</p> <ul style="list-style-type: none"> • Represent and interpret quotients within 100 using a two-digit divisor (ex: $88 \div 11$, $100 \div 20$) or single digit divisor with a two-digit quotient (ex: $99 \div 9$, $100 \div 5$) • Solve division one-step word problems that include quotients within 100 using a two-digit factor
3	<p>The student will:</p> <ul style="list-style-type: none"> • Use division within the 10x10 multiplication table to solve one-step word problems in situations involving equal groups, arrays and measurement quantities (Ex. By using drawings, equations with a symbol for the unknown number to represent the problem)
2	<p>The student will recognize or recall specific vocabulary, such as:</p> <ul style="list-style-type: none"> • divide/division, equal groups, partition, quotient, <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none"> • Partition models or groups • Represent and Interpret whole-number quotients of whole numbers within a 10 x 10 multiplication table
1	No understanding of the standard is demonstrated

Operations and Algebraic Thinking

Topic: Operations and Algebraic Thinking	
Score	Description: Finds the missing number in a multiplication or division equation (3.OA.4 & 6)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> Determine the unknown whole number in a multiplication or division equation by using related equations or fact families where the product or quotient is within 100 using a two-digit factor (ex. $12 \times n = 60$)
3	The student will: <ul style="list-style-type: none"> Determine the unknown whole number in a multiplication or division equation by using related equations or fact families ($4 \times n = 40$) ($40/4 = n$) (3.OA.4) Solve division problems with an unknown-factor using the relationship between multiplication and division (3.OA.6) (product or quotient is within 100 using factors in a 10 x10 grid)
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> unknown/known, variable, missing number, related facts, fact families, quotient, dividend, divisor, factor, product The student will perform basic processes: <ul style="list-style-type: none"> Determine the unknown whole number in a multiplication or division solution equation (ex: $4 \times 6 = n$ or $24/6 = n$)
1	No understanding of the standard is demonstrated.

Operations and Algebraic Thinking

Topic: Operations and Algebraic Thinking	
Score	Description: Applies properties of multiplication and division (3.OA.5)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> Identify properties by name and explain how they are used to solve problems Apply properties of operations as strategies to solve multiplication and division problems within 100 using a two-digit factor.
3	The student will: <ul style="list-style-type: none"> Apply properties of operations as strategies to solve multiplication and division problems within the 10x10 multiplication table. (commutative, associative, distributive, identity, and zero: students need not use formal terms for these properties)
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> commutative property, distributive property, associative property, zero property, identity property, decomposing, parentheses, partition, partial (<i>students need not use formal terms for these properties</i>) The student will perform basic processes: <ul style="list-style-type: none"> Apply the commutative property of multiplication within 10 x 10 multiplication table
1	No understanding of the standard is demonstrated

Operations and Algebraic Thinking

Topic: Operations and Algebraic Thinking	
Score	Description: Fluently multiply and divide within 100 (3.OA.7)
4	<p>In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as:</p> <ul style="list-style-type: none"> • Explain thinking using mathematical vocabulary while explaining multiple ways to get to the answer • Fluently multiply by the 11s or 12s
3	<p>The student will:</p> <ul style="list-style-type: none"> • Fluently (efficiently, accurately, flexibly) multiply and divide with single-digit multiplications and related divisions using strategies (ex: relationship between multiplication and division, doubles, double and double again, half and then double, etc.) or properties of operations for all facts within 10 x 10 multiplication table.
2	<p>The student will recognize or recall specific vocabulary, such as:</p> <ul style="list-style-type: none"> • double, half, divide, multiply, the properties of operations, <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none"> • Fluently multiply by 0, 1, 2, 5, 10 • Recall all products within 10x10 table (not fluently) using manipulatives or hundreds chart
1	No understanding of the standard is demonstrated

Operations and Algebraic Thinking

Topic: Operations and Algebraic Thinking	
Score	Description: Solve two step word problems using the four operations. Represent these problems using equations with a letter standing for unknown quantity. (3.OA.8)
4	<p>In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as:</p> <ul style="list-style-type: none"> • Explain reasoning and show multiple strategies to solve problems • Create a two-step word problem, then solve using equations with a variable.
3	<p>The student will:</p> <ul style="list-style-type: none"> • Use the four operations and equations with a letter or symbol standing for an unknown quantity to solve and represent two-step word problems. (this standard focuses only on whole numbers in the problem and answer) • Assess the reasonableness of answers using estimation
2	<p>The student will recognize or recall specific vocabulary, such as:</p> <ul style="list-style-type: none"> • unknown/known, the four operations, patterns, variable <p>The student will perform basic processes:</p> <ul style="list-style-type: none"> • Use the four operations to solve one and two step word problems
1	No understanding of the standard is demonstrated

Operations and Algebraic Thinking

Topic: Operations and Algebraic Thinking	
Score	Description: Identify arithmetic patterns and explain them using properties of operations (3.OA.9)
4	<p>In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as:</p> <ul style="list-style-type: none"> • Explain how the pattern found on the table will continue outside of the table • Explain 2 different multiplication patterns and how they relate
3	<p>The student will:</p> <ul style="list-style-type: none"> • Identify arithmetic patterns (including patterns in the addition table or multiplication table) • Explain multiplication and addition patterns using properties of operations.
2	<p>The student will recognize or recall specific vocabulary, such as:</p> <ul style="list-style-type: none"> • patterns, even, odd, the properties of operations, <p>The student will perform basic processes:</p> <ul style="list-style-type: none"> • Identify addition patterns
1	No understanding of the standard is demonstrated

Number and Operations in Base Ten

Topic: Number and Operations in Base Ten	
Score	Description: Round numbers to the nearest 10 or 100 (3.NBT.1)
4	<p>In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as:</p> <ul style="list-style-type: none"> • Round with digits in the thousands place • Given a number with 4 or more digits, students can round to the nearest 10 or 100 • Use rounding to check the reasonableness of answers and estimate in word problems
3	<p>The student will:</p> <ul style="list-style-type: none"> • Given a number with 3 digits or less, students can use place value understanding to round whole numbers to the nearest 10 or 100
2	<p>The student will recognize or recall specific vocabulary, such as:</p> <ul style="list-style-type: none"> • about, halfway, reasonable, estimate, round, place value, ones, tens, hundreds, thousands, number lines, endpoints, point, plot, \approx (symbol for approximate) <p>The student will perform basic processes:</p> <ul style="list-style-type: none"> • Given a two digit number, can only round to the nearest 10
1	No understanding of the standard is demonstrated

Number and Operations in Base Ten

Topic: Number and Operations in Base Ten	
Score	Description: Add and subtract numbers within 1000 (3.NBT.2)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> • Explain thinking using mathematical vocabulary as to why multiple strategies work to get the correct answer
3	The student will: <ul style="list-style-type: none"> • Fluently (efficiently, accurately, and flexibly) add and subtract within 1000 using any strategy or algorithms based on place value understanding, properties of operations, and/or the relationship between addition and subtraction
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> • vertical, horizontal, sum, difference, whole, part, The student will perform basic processes: <ul style="list-style-type: none"> • Add and subtract within 1000 using limited strategies (not fluently)
1	No understanding of the standard is demonstrated

Number and Operations in Base Ten

Topic: Number and Operations in Base Ten	
Score	Description: Multiply a one-digit whole number by multiples of 10 (3.NBT.3)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> • Multiply one-digit whole numbers by multiples of 10 larger than 90.
3	The student will: <ul style="list-style-type: none"> • Multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> • multiply, place value, properties of operations, factor, product The student will perform basic processes: <ul style="list-style-type: none"> • Multiply one-digit whole numbers by 10, 20 or 50
1	No understanding of the standard is demonstrated

Number and Operations -Fractions

Topic: Number and Operations- Fractions	
Score	Description: Show and understand that fractions are equal parts of a whole (3.NF.1)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> • Show level 3 using more than one model (Ex. Number line, shape, number bond) and explain thinking using mathematical vocabulary
3	The student will: <ul style="list-style-type: none"> • Demonstrate understanding of a fraction a/b as the quantity formed by a parts of size $1/b$
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> • equal parts, partition, unit fraction, whole, denominator, numerator The student will perform basic processes: <ul style="list-style-type: none"> • Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts
1	No understanding of the standard is demonstrated

Number and Operations -Fractions

Topic: Number and Operations- Fractions	
Score	Description: Label fractions on a number line (3.NF.2)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> • Create a number line to extend to fractions greater than 1 and plot specific fractions.
3	The student will: <ul style="list-style-type: none"> • Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its end point locates the number a/b on the number line. (a is the countable units of $1/b$ that determines the place on the number line) (3.NF.2b)
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> • equal parts, partition, unit fraction, interval, endpoint, fractional unit The student will perform basic processes, such as: <ul style="list-style-type: none"> • Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line (3.NF.2a)
1	No understanding of the standard is demonstrated

Number and Operations -Fractions

Topic: Number and Operations- Fractions	
Score	Description: Recognize and generate equivalent fractions (3.NF.3a&b)
4	<p>In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as:</p> <ul style="list-style-type: none"> • Explain why the fractions are equivalent (on a number line or fraction model) and justify
3	<p>The student will:</p> <ul style="list-style-type: none"> • Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line (3.NF.3a) • Recognize and generate simple equivalent fractions(3.NF.3b)
2	<p>The student will recognize or recall specific vocabulary, such as:</p> <ul style="list-style-type: none"> • fractional unit, unit fraction, equivalent/equal, number line, fraction model, <p>The student will perform basic processes:</p> <ul style="list-style-type: none"> • Recognize simple equivalent fractions involving unit fractions.
1	No understanding of the standard is demonstrated

Number and Operations -Fractions

Topic: Number and Operations- Fractions	
Score	Description: Recognize and show fractions that are equal to one whole (3.NF.3c)
4	<p>In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as:</p> <ul style="list-style-type: none"> • Identify multiplication and division relationships between whole numbers as fractions <p>ex: students see $16/4$ is 4 by seeing 16 divided by 4 is 4, 3 is $6/2$ because $3 \times 2 = 6$</p>
3	<p>The student will:</p> <ul style="list-style-type: none"> • Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers (3.NF.3c)
2	<p>The student will recognize or recall specific vocabulary, such as:</p> <ul style="list-style-type: none"> • numerator, denominator, equivalent/equal, endpoints, whole numbers <p>The student will perform basic processes:</p> <ul style="list-style-type: none"> • Identify one whole is when the numerator and denominator are the same <p>ex: $4/4 = 1$</p>
1	No understanding of the standard is demonstrated

Number and Operations -Fractions

Topic: Number and Operations- Fractions	
Score	Description: Compares fractions with the same numerator OR the same denominator (3.NF.3d)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> Record the results of comparisons with the relational symbols $>$, $<$, $=$, \neq with justification
3	The student will: <ul style="list-style-type: none"> Compare two fractions with the same numerator or the same denominator by reasoning about their size Recognize that comparisons are valid only when the two fractions refer to the same whole Record the results of comparisons with the relational symbols $>$, $<$, $=$, \neq
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> numerator, denominator, equal/equivalent, compare, relational symbols The student will perform basic processes: <ul style="list-style-type: none"> Compare two fractions with the same denominator by reasoning about their size, with or without mathematical symbols
1	No understanding of the standard is demonstrated

Measurement and Data

Topic: Measurement and Data	
Score	Description: Tell and write time to the nearest minute and solve telling time word problems (3.MD.1)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> Solve one-step addition and subtraction word problems involving time intervals of hours and minutes. Solve two-step addition and subtraction problems involving time intervals in minutes
3	The student will: <ul style="list-style-type: none"> Tell and write time to the nearest minute using a.m. and p.m. Solve one-step addition and subtraction word problems involving time intervals in minutes.
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> minute, hour, a.m., p.m., elapsed time, intervals The student will perform basic processes, such as: <ul style="list-style-type: none"> Tell and write time to the nearest minute Solve one-step addition and subtraction word problems involving five-minute time intervals
1	No understanding of the standard is demonstrated

Measurement and Data

Topic: Measurement & Data	
Score	Description: Measure liquids and solids with liters, grams, and kilograms (3.MD.2) Solve one-step word problems involving masses or volumes (3.MD.3)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> • Add, subtract, multiply or divide to solve two-step word problems involving masses or volumes that are given in the same units.
3	The student will: <ul style="list-style-type: none"> • Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units (3.MD.3)
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> • mass, volume, measure, estimate, grams, kilograms, liters, milliliters, The student will perform basic processes, such as: <ul style="list-style-type: none"> • Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (L) (3.MD.2)
1	No understanding of the standard is demonstrated

Measurement and Data

Topic: Measurement & Data	
Score	Description: Create a picture graph or bar graph to show data and solve problems using the information from the graphs (3.MD.4)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> • Generate questions with answers from a data display (bar or picture graph) • Create a survey, collect data, and design an accurately scaled graph.
3	The student will: <ul style="list-style-type: none"> • Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. • Solve two-step “how many more” and “how many less” problems using information presented in scaled bar graphs
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> • key, represent, scale, measurement data, scaled graphs, pictograph, axis, interval, label, title, bar The student will perform basic processes, such as: <ul style="list-style-type: none"> • Draw picture graphs and bar graphs to represent data sets with up to 4 categories (not necessarily scaled) • Solve one- step “how many more” and “how many less” problems using information presented in scaled bar graphs
1	No understanding of the standard is demonstrated

Measurement and Data

Topic: Measurement & Data	
Score	Description: Create a line plot from measurement data (3.MD.5)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> Analyze appropriate questions related to the student-generated line plot Generate data by measuring lengths to the $\frac{1}{8}$ inch and create line plot.
3	The student will: <ul style="list-style-type: none"> Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units – wholes, halves, or quarters.
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> halves, quarters, wholes, fourths, equivalent fractions, inches, centimeters, meters, scale, key, title, symbols, line plot The student will perform basic processes, such as: <ul style="list-style-type: none"> Generate measurement data by measuring lengths using rulers marked with half-inch intervals. Show the data by making a line plot, where the horizontal scale is marked off in half unit intervals.
1	No understanding of the standard is demonstrated

Measurement and Data

Topic: Measurement & Data	
Score	Description: Measure area by using multiplication and addition (3.MD.6,7 & 8)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> Determine the area of rectilinear figures in real world problems.
3	The student will: <ul style="list-style-type: none"> Find area of rectangles by multiplying whole number side lengths to solve real-world problems (3.MD.8b) Use area models to represent the distributive property in mathematical reasoning (3.MD.8c) Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts (3.MD.8d)
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> unit square, area, plane figure, units, gaps, overlaps, attribute/characteristic, rectangle The student will perform basic processes, such as: <ul style="list-style-type: none"> Recognize that a plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units (does not require standard square units) (3.MD.6b) Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard square units) (3.MD.7) Find the area of a rectangle with whole number side lengths by tiling it, and show that the area is the same as would be found by multiplying side lengths (3.MD.8a)
1	No understanding of the standard is demonstrated

Measurement and Data

Topic: Measurement & Data	
Score	Description: Solve real world math problems using the perimeter of shapes (3.MD.9)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> • Solve real world problems involving rectangles with the same perimeter and different areas or with the same area and different perimeters.
3	The student will: <ul style="list-style-type: none"> • Identify rectangles with the same perimeter and different areas or with the same area and different perimeters.
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> • polygon, perimeter, side lengths, unknown/known, area The student will perform basic processes, such as: <ul style="list-style-type: none"> • Find the perimeter of polygons, given the side lengths. • Determine an unknown side length of a polygon, given the perimeter.
1	No understanding of the standard is demonstrated

Geometry

Topic: Geometry	
Score	Description: Place shapes into categories according to their attributes (3.G.1a) Recognize and draw quadrilaterals (3.G.1b)
4	In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as: <ul style="list-style-type: none"> • Draw polygons based on attributes given • Create examples and non-examples of shapes in categories
3	The student will: <ul style="list-style-type: none"> • Understand that shapes in different categories (e.g. rhombuses, rectangles, trapezoids, kites and others) may share attributes (e.g. having four sides), and that the shared attributes can define a larger category (e.g. quadrilaterals).
2	The student will recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> • polygons, regular polygons, parallel, right angle (90 degrees), less than right angle, more than right angle, diagonal, trapezoid, properties, rectangles, rhombuses, kites, squares, quadrilaterals, attribute/characteristic The student will perform basic processes, such as: <ul style="list-style-type: none"> • Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories
1	No understanding of the standard is demonstrated

Geometry

Topic: Geometry	
Score	Description: Divide shapes into parts with equal areas and show those parts as fractions (3.G.2)
4	<p>In addition to a level 3 score, the student exceeds an in-depth understanding of the material and demonstrates advanced applications such as:</p> <ul style="list-style-type: none"> • Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole when there is more than one whole •
3	<p>The student will:</p> <ul style="list-style-type: none"> • Partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole
2	<p>The student will recognize or recall specific vocabulary, such as:</p> <ul style="list-style-type: none"> • halves, quarters, wholes, partition, equal parts, unit fraction <p>The student will perform basic processes, such as:</p> <ul style="list-style-type: none"> • Can partition a shape into parts with equal areas
1	No understanding of the standard is demonstrated