| **DOMAIN** | **Standard Statements Level A** | **Standard Statements Level B** | **Standard Statements Level C** | **Standard Statements Level D** |
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| Number and Operations: Base Ten and The Number System  (Levels C & D) | **Understand place value.**  Only to two-digit positive whole numbers | **Understand place value.**  Three-digit whole numbers  Counts by hundreds  Skip count by 5, 10, 100’s | **Generate place value understanding for multi-digit whole numbers.**  Multi-digit whole numbers  Recognize ten times a number  Expanded form with numbers and exponents |  |
| **Use place value understanding and the properties of operations to add and subtract.**  Use properties of numbers and concrete models and drawings | **Use place value understanding and properties of operations to add and subtract.**  Up to four two-digit numbers  Mentally add 10 or 100 to numbers | **Use place value understanding and properties of operations to perform multi-digit arithmetic.**  Multiply a 4-digit whole number by a 1-digit whole number, using properties of operation  Use arrays, equations, area models  Divide 4-digit dividends and 1-digit divisors, using various strategies |  |
|  | **Use place value understanding and properties of operations to perform multi-digit arithmetic.**  Fluency of addition and subtraction within 1000  Multiply one digit numbers by multiples of 10  Round to nearest 10 or 100 | **Understand the place value system.**  Digits represent 10 times or 1/10 of place next door  Explain patterns of 0 in multiplying and dividing powers of 10  Compare and expand decimals to thousandths |  |
|  |  | **Perform operations with multi-digit whole numbers and with decimals to hundredths.**  Use decimals to hundredths, using concrete models or drawings | **Apply and extend previous understandings of numbers to the system of rational numbers.**  Includes positive and negative numbers  Use absolute value |
|  |  | **Compute fluently with multi-digit numbers and find common factors and multiples.**  Find greatest common factor of 2 whole numbers less than 100  Find least common multiple of 2 whole numbers less than 13  Use distributive property | **Know that there are numbers that are not rational, and approximate them by rational numbers.**  Estimate √2 |
| Number and Operations: Fractions and Number Systems  (Level D)  Number and Operations: Fractions and Number Systems  (Level D) - *Continued from p.1* |  | **Develop understanding of fractions as numbers.**  Limited to fractions with denominators 2, 3, 4, 6, 8  Simple equivalent fractions  Fraction on a number line  Whole numbers as fractions  Comparing fractions with like denominators | **Extend understanding of fraction equivalence and ordering.**  Equivalent fractions – explain  Compare different denominators and numerators, by comparing to benchmark ½ | **Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.**  Properties! |
|  |  | **Build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers.**  Decompose into sum of fraction  Add and subtract mixed numbers with like denominators  Multiples of unit fractions  Multiply fractions by whole numbers |  |
|  |  | **Understand decimal notation for fractions, and compare decimal fractions.**  **Use equivalent fractions as strategy to add and subtract fractions.**  Decimal notations for fractions – 10ths and 100ths  Unlike denominators (and mixed numbers) |  |
|  |  | **Apply and extend previous understanding of multiplication and division to multiply and divide fractions.**  Multiply fraction by a fraction  Multiplication as scaling  Divide unit fractions by whole numbers |  |
|  |  | **Apply and extend previous understanding of multiplication and division to divide fractions by fractions.**  Visual models |  |
| Ratios and Proportional Relationships |  |  | **Understand ratio concepts and use ratio reasoning to solve problems.**  Unit rate | **Understand ratio concepts and use ratio reasoning to solve problems.**  Tables of equivalent ratios |
|  |  |  | **Analyze proportional relationships and use them to solve real-world and mathematical problems.**  Graphing proportions |
| Operations and Algebraic Thinking  Operations and Algebraic Thinking -  *Continued from p.2* | **Represent and solve problems involving addition and subtraction.**  Word problems, and symbol for unknown | **Represent and solve problems involving addition and subtraction.**  Within 100  One- and two-step word problems | **Use the four operations with whole numbers to solve problems.**  Use variable representation in word problem equations |  |
| **Understand and apply properties of operations and the relationship between addition and subtraction.**  Commutative property; subtraction as an unknown-addend problem | **Add and subtract within 20.**  Mental strategies | **Gain Familiarity with factors and multiples.**  Determine primes & composites from 1 - 100 |  |
| **Add and subtract with 20.**  Fluently – use mental math by decomposing, relationship between addition and subtraction | **Represent and solve problems involving multiplication and division.**  Within 100  Understand an array  Find unknown in multiplication and division equations |  |  |
| **Work with addition and subtraction.**  Understand sign, vary place of unknown number | **Understand properties of multiplication and the relationship between multiplication and division.**  Commutative, associative, distributive properties  Division as unknown-factor problem | **Write and interpret numerical expressions.**  Interpret grouping brackets w/o calculating expression |  |
|  | **Multiply and divide within 100.**  Master multiplication of two one-digit numbers |  |  |
|  | **Solve problems using the four operations and identify and explain patterns in arithmetic.**  Two-step word problems | **Generate and analyze patterns.**  Verbalize patterns |  |
| Expressions and Equations |  |  | **Apply and extend previous understandings of arithmetic to algebraic expressions.**  Whole-number exponents  Solve one-step equations | **Use properties of operations to generate equivalent expressions.** |
|  |  | **Reason about and solve one-variable equations and inequalities.**  Inequalities have infinite solutions. Graph on number line | **Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**  Inequalities |
|  |  | **Represent and analyze quantitative relationships between dependent and independent variables.**  Graph relationship between dependent and independent variable | **Work with radicals and integer exponents.**  Scientific notation |
|  |  |  | **Understand the connections between proportional relationships, lines, and linear equations.** |
|  |  |  | **Analyze and solve linear equations and pairs of simultaneous linear equations.** |
| Functions |  |  |  | **Define, evaluate, and compare functions.** |
|  |  |  | **Use functions to model relationships between quantities.**  y = mx + b format |
| Geometry | **Analyze, compare, create, compose shapes.**  2- and 3-dimensional; informal language to describe | **Reason with shapes and their attributes.**  Identify triangles, quadrilaterals, pentagons, hexagons, and cubes Partition shapes into halves, thirds, quarters  (fractional parts)  Vocabulary of shapes and attributes | **Classify two-dimensional figures into categories based on their properties.** | **Draw, construct, and describe geometrical figures and describe the relationships between them.**  Scale drawings |
| **Reason with shapes and their attributes.**  Compose 2-D shapes (including trapezoids, half-circles) and 3-D shapes (cubes, cones, cylinders) to create composite shape | **Solve real-world and mathematical problems involving area, surface area, and volume.**  Use area formulas to find area of more complex shapes.  Draw polygons on coordinate graph and find lengths of horizontal or vertical sides  Use nets to find surface area | **Solve real-life and mathematical problems involving angle, measure, area, surface area, and volume.** |
|  |  | **Draw and identify lines and angles, and classify shapes by properties of their lines and angles.** | **Understand congruence and similarity using physical models, transparencies, or geometry software.** |
|  |  | **Graph points on the coordinate plane to solve real-world and mathematical problems.**  Introduce coordinate system | **Understand and apply the Pythagorean Theorem.** |
| Measurement  (could also be considered Geometry) | **Measure lengths indirectly and by iterating length units.**  Whole number lengths; many small make one large | **Measure and estimate lengths in standard units.**  Inches, feet, centimeters, meters | **Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.**  Given area, find length  Given area, find possible perimeters |  |
|  | **Relate addition and subtraction to length.**  Whole numbers on number line within 100 | **Convert like measurement units within given measurement system.**  Solve real-world problems |  |
|  | **Solve problems involving measurement and estimation of intervals of time, liquid, volumes, and masses of objects.**  Solve time word problems to nearest minute, gram, kilogram, liter  One-step word problems with masses or volumes in same unit | **Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.**  Unit cube and concept of volume as area of the base times the height |  |
|  | **Geometric measurement: understand concepts of area and relate to area of multiplication and addition.**  Area by counting unit squares, addition, and multiplication  Area model to show distributive property  Recognize area as additive |  |  |
|  | **Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.**  Real world perimeter problems  Find unknown side length  Understand differences between perimeter and area |  |  |
| Data and Statistics and Probability (Level D) | **Represent and interpret data.**  Up to 3 categories | **Represent and interpret data.**  Picture graph, bar graph  Halves and fourths of inch on ruler | **Represent and interpret data.**  Line plot; simple fractional increments | **Summarize and describe distributions.** |
|  |  | **Develop understanding of statistical variability.**  Measure of central tendency and variability from that center | **Use random sampling to draw inferences about a population.** |
|  |  | **Summarize and describe distribution.**  Dot plots, histograms and box plots | **Draw informal comparative inferences about two populations.** |
|  |  |  | **Investigate chance processes and develop, use, and evaluate probability models.** |
|  |  |  | **Investigate patterns of association in bivariate data.** |