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| Grade | Topic | Skill | Understanding |
| K | Count to tell “how many” | * 1 to 1 correspondence * Subitize (recognize spot and other visualizations to 10) * Compare the number of objects in one group to another | * Our numbers can be used to tell “how many.” * Our numbers can be shown in many different ways. |
| K | Number Sense | * Orally count to 100 by ones and tens * Place value recognition (tens and ones) for the teen numbers * Compare numbers using various representations (models, hundreds chart, etc.) * Write numbers to 20 | * Our numbers follow a pattern that remains the same. * Our numbers are based on groups of ten. * Our numbers can be shown in many different ways. |
| K | Addition and Subtraction | * Add and subtract within 5 * Recognize when to add and when to subtract in word problems | * Our numbers can be shown in many different ways. * Only things that are alike can be added or subtracted. |
| 1 | Number Sense | * Give ten more and ten less than any number given without counting * Build understanding of place value and connect to place value notation | * Our numbers follow a pattern that remains the same. * Our numbers are based on groups of ten. |
| 1 | Addition and Subtraction | * Fluently add and subtract within 20 * Develop multiple mental strategies for adding numbers, such as “counting on” and “making ten.” * Determine an unknown value in any position in an addition and subtraction equation * Add two 2-digit numbers including regrouping within 100 * Explore properties of addition and subtraction (commutative and associative) by concept but not by name | * Our numbers can be shown in many different ways. * Only things that are alike can be added or subtracted. * Addition and subtraction relate to each other and allow us to make fact families. |
| 1 | Measurement | * Compare lengths to develop a sense of size * Tell time to the hour and half hour * Compose shapes to make a new shape | * Measurement lets us describe and compare objects. * Time is a unit of measurement that helps us describe and schedule a day. * Shapes are defined, categorized and classified by their characteristics. * Putting together or taking apart shapes can make new shapes. |
| 2 | Number Sense | * Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. * Use place value understanding to add and subtract two 3-digit numbers within 1000 * Mentally add or subtract 10 or 100 to any number based on place value * Connect dollars, dimes and pennies to place value | * Our numbers follow a pattern that remains the same. * Our numbers are based on groups of ten. |
| 2 | Addition and Subtraction | * Know all single digit sums by heart * Fluently add and subtract within 100 using strategies * Add and subtract in real-world contexts within 1000, with both one- and two-step problems. | * Our numbers can be shown in many different ways. * Only things that are alike can be added or subtracted. * Addition and subtraction relate to each other and allow us to make fact families. * There are many different strategies that can be used to add and subtract numbers such as drawings, mental strategies, using number lines and objects and equations with symbols. |
| 2 | Measurement | * Use standard units of measure and standard measurement tools * Use a number line to connect numbers, lengths and units. Connect number lines to rulers and bar graph scales | * Measurement lets us describe and compare objects. * What we measure determines the units used to measure, and the units of measure describe the attribute being measured. * The same representation of our numbers can be used in multiple situations. |
| 3 | Number Sense | * Use place value and properties of operations to reason about number and operations | * Our numbers follow a pattern that remains the same. * Our numbers are based on groups of ten. |
| 3 | Operations | * Add and subtract fluently within 1000 * Build foundations of multiplication and division including area models * Multiply and divide within 100 | * There are many strategies that can be used to perform any operation, including mental strategies and paper and pencil strategies. * Only things that are alike can be added or subtracted. * Addition and subtraction relate to each other and allow us to make fact families. * Multiplication can represent repeated addition, a number of groups with equal elements, and the creation of area. * Division can represent repeated subtraction, putting a total number of items into equal groups, and the partitioning (division) of area. * Multiplication and division relate to each other and allow us to make fact families. |
| 3 | Foundations of Fractions | * Divide models to model fractions * Develop fractions as number * Equivalent fractions | * A fraction shows the relationship between parts and a whole. * Fractions are a way to represent division. * Our numbers follow a pattern that remains the same. * Our numbers can be shown in many different ways. * The same fraction can be represented in many equivalent ways. |
| 3 | Measurement | * Use continuous measurement (including liquid, volume, mass and time) to model fractions * Develop concept of area, connecting to multiplication * Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. | * Measurement lets us describe and compare objects according to their attributes and properties. * What we measure determines the units used to measure, and the units of measure describe the attribute being measured. * Number operations are often used to determine the measured attributes of a shape, such as area and perimeter. |
| 4 | Number Sense | * Use place value and properties of operations to reason about number and operations | * Our numbers follow a pattern that remains the same. * Our numbers are based on groups of ten. |
| 4 | Operations | * Use standard algorithm for addition and subtraction * Extend whole number addition and subtraction to fractions * Multiply and divide whole number multi-digit numbers using multiple strategies. * Extend whole number multiplication to multiplication of a whole number and a fraction | * There are many strategies that can be used to perform any operation, but it is helpful to have one method that we agree to call standard. * Only things that are alike can be added and subtracted, and in fractions the denominator determines what is alike. * Multiplication can represent repeated addition, a number of groups with equal elements, and the creation of area. |
| 4 | Fractions | * Use unit fractions to reason about equivalence, ordering, and operations * Use decimal notation to represent fractions | * Fractions are a way to represent division. * Equivalent fractions are found by multiplying by 1. * Our numbers follow a pattern that remains the same. * Our numbers are based on groups of ten. * Our numbers can be represented in many equivalent forms. |
| 5 | Number Sense | * Use place value and properties of operations to reason about number and operations * Extend place value understanding to decimal numbers | * Our numbers follow a pattern that remains the same. * Our numbers are based on groups of ten. * Our numbers can be represented in many equivalent forms. |
| 5 | Operations | * Multi-digit multiplication with standard algorithm. * Division with two-digit divisors * Multiplication of multi-digit whole numbers and decimals to the hundredths place * Multiplication of fractions * Divide unit fractions by whole numbers and whole numbers by unit fractions | * There are many strategies that can be used to perform any operation, but it is helpful to have one method that we agree to call standard. * Multiplication can represent repeated addition, a number of groups with equal elements, and the creation of area. * Division can represent repeated subtraction, putting a total number of items into equal groups, and the partitioning. |
| 5 | Geometry | * Volume | * Measurement lets us describe and compare objects according to their attributes and properties. * What we measure determines the units used to measure, and the units of measure describe the attribute being measured. * Number operations are often used to determine the measured attributes of a shape. |
| 6 | Number Sense | * Order and place rational numbers on number line * Analyze proportional relationships * Introduction to Integers | * Our numbers follow a pattern that remains the same. * Our numbers are based on groups of ten. * A negative sign in math means opposite. * The sign of a number represents different contexts in our world. * Our numbers can be represented in many equivalent forms. |
| 6 | Operations | * Fluently divide multi-digit numbers using the standard algorithm * Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation * Interpret and compute quotients of fractions and solve word problems involving division of fractions by fractions | * There are many strategies that can be used to perform any operation, but it is helpful to have one method that we agree to call standard. * The meaning of an operation determines which operation to use in a given situation. * Multiplication can represent repeated addition, a number of groups with equal elements, and the creation of area. * Division can represent repeated subtraction, putting a total number of items into equal groups, and the partitioning. |
| 6 | Algebra | * Develop understanding of variables * Write, read and evaluate algebraic expressions * Write and solve one-variable equations and inequalities * Graph points in four quadrants | * Algebra is sophisticated arithmetic. * A variable can represent an unknown value, or a range of unknown values. * The same quantity or expression can be represented in many equivalent ways. * We use algebra to model the real world. * Operations used with algebraic symbols follow the same patterns and meanings as using the operation in any number system. * Our operations come in inverse pairs, which allow us to solve algebraic equations. * A negative sign in math means opposite. * Number lines can be used to represent and graph regions or space. |
| 6 | Geometry | * Area, Volume and Surface Area * Apply Algebra to Geometry including graphing in coordinate plane and solving volume formulas | * Measurement lets us describe and compare objects according to their attributes and properties. * What we measure determines the units used to measure, and the units of measure describe the attribute being measured. * We use algebra to model the real world. * Number operations are often used to determine the measured attributes of a shape. |