

Ray's for Today Scope & Sequence:

Level 4 - Ages 9 and 10

Number Concepts

- Types of numbers: counting, whole, rational numbers, fractions, mixed numbers, decimals, zero
- Commutative, Identity, and Associative Properties for Addition and Multiplication
- Review multiples of base ten system
- Powers of ten
- Naming and writing numbers to hundred million
- Place values to hundred million
- Comparing & ordering whole numbers
- Greater than, less than, equal to, not equal to
- Roman numerals
- Common multiples
- Math vocabulary
- Rounding
- Estimating
- Decimal place values to thousandths
- Sets – definition, elements/members
- Subsets
- Union and intersection of sets
- Pascal's Triangle
- Number sequences
- Figural sequences
- Patterned squares

Arithmetic Operations

- Review math facts through story problems
- Addition, subtraction, multiplication, division vocabulary
- Subtraction as reverse of addition
- Division as reverse of subtraction
- Multiplication and division as short-cuts to addition and subtraction, respectively
- Using addition to check subtraction
- Signs of operations & comparison
- Mental math
- Adding, subtracting, multiplying, & dividing numbers to the millions
- Multiplying by 10
- Multiplying by a 2-digit number
- Long division, with and without a remainder
- Dividing by 10
- Dividing by a 2-digit number

Money

- Review of counting bills and coins
- Review of making change
- Review of money as decimals
- Arithmetic operations with money
- Money story problems

Time

- Review calendar
- Review clocks and telling time to the minute
- BC/AD
- Review vocabulary, decade, century, leap year
- Time zones
- Review elapsed time
- Duration calculations in hours and minutes

Measurement

- Review of customary measurements, abbreviations, and equivalencies of length: inch, feet, yard, mile
- Review of customary measurements, abbreviations, and equivalencies of weight: ounces, pounds, ton
- Review of customary measurements, abbreviations, and equivalencies of liquid capacity: cups, pint, quart, gallon
- Introduction to fluid ounces, teaspoons, tablespoons
- Review of metric measurements, abbreviations, and equivalencies of length: millimeter, centimeter, decimeter, meter, kilometer
- Review of metric measurements, abbreviations, and equivalencies of liquid capacity: liter, kiloliter, milliliter
- Review of metric measurements, abbreviations, and equivalencies of mass: gram, kilogram, milligram, centigram
- Temperature comparisons: Fahrenheit and Centigrade

Geometric Constructions

- Review difference between plane and solid figures
- Review plane geometry figures: rectangle, square, triangle, circle, polygons
- Introduction of plane geometry figures: rhombus, parallelogram, quadrilateral, oval
- Review solid geometry figures: cube, triangular prism, rectangular solid, sphere
- Regular and irregular figures
- Open and closed figures
- Types of triangles: equilateral, right, acute, obtuse, scalene; base of a triangle
- Circle: center point, radius, diameter, chord
- Perimeter of a rectangle
- Area of a rectangle and formula

- Perimeter and area of irregular rectangles
- Review of point, line segment, line, and ray
- Types of angles: right, straight, acute, obtuse
- Protractor and measuring degrees of angles
- Horizontal/vertical lines, intersecting and parallel lines
- Diagonals introduced
- Tangrams

Fractions

- Review fractional parts as equal parts
- Review of fractions as rational numbers that show a ratio
- Review of numerator and denominator
- Review writing a fraction
- Review of fractions as division
- Fractional wholes
- Proper and improper fractions, changing to each
- Mixed numbers
- Adding and subtracting mixed numbers, without and with regrouping
- Review adding and subtracting fractions with like denominators
- Introduction of addition and subtraction of fractions with unlike denominators (one fraction multiple of the other)
- Equivalent fractions
- Comparing and ordering fractions
- Simplest form (reducing a fraction)
- Fraction problems

Decimals

- Decimals as rational numbers
- Money as decimals
- Decimal place values through thousandths
- Decimal fractions
- Pure and mixed decimals
- Equivalent decimals
- Writing and naming decimals
- Comparing and ordering decimals
- Place value to thousandths
- Place value orders – whole numbers & decimals in powers of 10
- Adding/subtracting decimals with regrouping
- Decimal story problems

Graphing & Statistics

- Averages
- Median and mode

Problem-Solving

- Translating words into numbers and operation signs
- Arithmetic operations clue words
- Problem-solving strategies
- Multi-step problems
- Multi-operation problems
- Fraction and decimal word problems
- Work problems
- Distance, rate, time problems
- Number puzzles
- Equivalent values and money transactions
- Age problems
- Venn Diagram