

Ray's for Today Scope & Sequence:

Level 5 - Ages 10 and 11

Number Concepts

- Types of numbers: whole numbers, zero, rational numbers (fractions/decimals), percents, ratios
- Commutative, Identity, and Associative Properties for Addition and Multiplication, Transitive
- Review multiples of base ten system
- Powers of ten
- Naming and writing numbers to hundred billion
- Place values to hundred billion
- Comparing & ordering types of numbers covered; greater than, less than, equal to, not equal to
- Roman numerals
- Rounding/estimating types of numbers
- Decimal place values to thousandths
- Multiples, factors, factor trees
- Prime & composite numbers
- Function tables
- Ordered pairs & coordinate plane (positive numbers only)

Arithmetic Operations

- Signs of operations & comparison
- Adding, subtracting, multiplying, & dividing numbers to the billions
- Multiplying and dividing by powers of 10 and multiples of 10
- Multiplying by a multi-digit number
- Long division, with and without a remainder
- Greatest common factor (GCF)
- Lowest common multiple (LCM)

Money

- Arithmetic operations with money
- Money story problems
- Profit/loss problems
- Using a savings account register

Time

- Review elapsed time
- Time zones
- Using schedules
- Converting hours and minutes

Measurement

- Review of customary measurements, abbreviations, and equivalencies
- Review of metric measurements, abbreviations, and equivalencies
- Temperature comparisons: Fahrenheit and Centigrade
- Unit conversions within customary measures
- Unit conversions within metric measures
- Adding & subtracting compound measures

Geometric Constructions

- Review difference between plane and solid figures
- Review components of plane geometry: point, line, segment, ray
- Define a plane
- Review plane geometry figures: rectangle, square, triangle, circle, polygons, rhombus, parallelogram, quadrilateral, closed & open figures
- Review linear & curved figures
- Intersecting and parallel lines
- Diagonals
- Review solid geometry figures: cube, triangular prism, rectangular solid, sphere
- Types of triangles: equilateral, right, acute, obtuse, scalene; base of a triangle
- Sum of the angles of triangle & quadrilateral
- Circle: center point, radius, diameter, chord, central angle, circumference
- Review perimeter & area of a rectangle/square
- Types of angles: right, straight, acute, obtuse
- Protractor and measuring degrees of angles
- Mechanical compass & drawing and bisecting lines and angles
- Area of a triangle
- Area of parallelogram & rhombus
- Review transformations: slides, flips, turns
- Review symmetry
- Similarity
- Congruence & corresponding parts
- Review volume of cuboid and cube
- Surface area and nets introduced

Fractions

- Review fraction and mixed numbers concepts
- Review of fractions as division
- Review fractional wholes
- Review equivalent fractions and reducing fractions
- Review adding and subtracting fractions and mixed numbers, including regrouping
- Introduce multiplying fraction by whole number
- Introduce multiplying two fractions
- Introduce multiplying mixed numbers
- Introduce dividing fractions

- Introduce dividing whole number by a fraction
- Reciprocals
- Introduce dividing two fractions
- Introduce dividing mixed numbers
- Fraction story problems

Decimals

- Decimal place values through thousandths
- Review expanding place values by powers of 10 in both directions
- Review decimal concepts
- Review ordering and comparing fractions
- Review adding & subtracting decimals
- Regrouping decimals
- Introduce multiplication of decimals
- Multiplying by powers of 10 and multiples of 10
- Introduce dividing decimals
- Dividing decimals by powers of 10 and multiples of 10
- Decimal story problems

Percents

- Defining percent of a number
- Comparing fractions, decimals, and percents
- Writing a percent as a fraction and decimal
- Writing fractions and decimals as a percent
- Percents in money transactions: list price, discounts, sale price, sales tax
- Percents in other applications
- Finding the percent of a number (three types of problems)

Ratios

- Definition of ratio
- Writing and reading ratios
- Identifying terms and whole
- Ratios and fractions
- Equivalent ratios
- Using ratios
- Scale drawings
- Rates and unit rate
- Ratio story problems

Graphing & Statistics

- Review of data collection
- Frequency, range, mode, median, mean
- Review types of graphs: line, double-line, bar, double-bar, circle/pie graphs
- Introduce histogram

- Comparing types of graphs
- Interpreting/reading graphs

Problem-Solving

- Translating words into numbers and operation signs
- Terms and expressions
- Review problem-solving strategies
- Fraction & decimal word problems
- Money transactions
- Work problems
- Distance problems
- Number puzzles
- Equivalent values
- Age problems
- Profit/loss problems
- Combining drawings to solve more complex problems
- Math reasoning skills
- Order of operations, including parentheses, fractions, and decimals