*Students will be able to:* *NUMBER SENSE*

- Demonstrate (represent) an understanding of powers of ten. ($10^2$, $10^5$, etc.).
- Demonstrate an understanding of place value through millions and thousandths.
- Represent and compare large numbers (millions) and small numbers (thousandths) in various forms, such as expanded notation. (638 = 600 + 30 + 8).
- Demonstrate an understanding of fractions as a ratio of whole numbers, as parts of unit wholes, as parts of a collection, and as locations on a number line.
- Identify and determine common equivalent fractions (with denominators 2, 4, 5, 10) and mixed numbers (with denominators 2, 4, 5, 10), decimals, and percents. (3/4 = 0.75 = 75%).
- Find and position whole numbers, positive fractions, positive mixed numbers and positive decimals on a number line.
- Compare and order whole numbers, positive fractions, positive mixed numbers, positive decimals, and percents.
- Apply common factor, common multiple, and divisibility rules for 2, 3, 5, and 10 to the solution of problems.
- Solve problems involving multiplication and division of whole numbers, and multiplication of positive fractions with whole numbers.
- Demonstrate an understanding of how parentheses affect expressions involving addition, subtraction, and multiplication, and use that understanding to solve problems. (3 × (4 + 2) = 3 × 6)
- Demonstrate an understanding of the inverse relationship of addition and subtraction, and use that understanding to simplify computation and solve problems.
- Add and subtract whole numbers and positive decimals.
- Multiply and divide whole numbers using double-digit divisors.
- Multiply positive decimals with whole numbers.
- Add and subtract fractions and mixed numbers with like denominators.
- Add and subtract fractions and mixed numbers with unlike denominators (2, 4, 5, and 10 only).
- Multiply fractions with whole numbers.
- Simplify fractions when the numerator and denominator have 2, 3, 4, 5, or 10 as a common factor.
- Estimate sums and differences of whole numbers, fractions, and decimals.
- Estimate products of whole numbers.
- Estimate products of decimals with whole numbers.

*Students will be able to:* *PATTERNS, RELATIONS, AND ALGEBRA*

- Analyze and determine the rules for extending symbolic, arithmetic, and geometric patterns and progressions. (1, 5, 9, …).
- Replace variables with given values and simplify. (2n + 5 = ? where n=4).
- Use the properties of equality to solve problems with whole numbers. (3n + 8 = 23; therefore n=5)
- Represent real situations and mathematical relationships with concrete models, tables, graphs, words, and symbols. (*input-output tables*)
- Solve problems involving proportional relationships using concrete models, tables, graphs, and paper-pencil methods.
- Interpret graphs that represent the relationship between two variables in everyday situations.

*Students will be able to:* *GEOMETRY*

- Identify, describe, and compare isosceles, equilateral, and right triangles.
- Identify, describe, and compare quadrilaterals. (*square, rectangle, parallelogram, rhombus and trapezoid*)
- Identify, describe, and compare cubes, prisms, spheres, and pyramids based on their properties, such as edges and faces.
- Identify relationships between points and lines. (*intersecting, parallel, and perpendicular*)
- Using ordered pairs of whole numbers, graph, locate, and identify points and describe paths. (*1st quadrant only*)
- Describe and perform transformations on two-dimensional shapes. (*translations, rotations, reflections*)
- Identify and describe line symmetry in two-dimensional shapes, including shapes that have multiple lines of symmetry.
- Determine if two triangles or two quadrilaterals are congruent by measuring sides (*or a combination of sides and angles*) or by motions (*translations, rotations, and reflections*).

*Students will be able to:* *MEASUREMENT*

- Solve area and perimeter problems for triangles and rectangles using formulas (*when appropriate*).
- Identify, measure, describe, classify, and draw various angles.
- Draw triangles given two sides and the angle between them.
- Draw triangles given two angles and the side between them.
- Solve problems involving simple unit conversions within a system of measurement.
- Find the volume and surface areas of a rectangle prism.
- Find the sum of the measures of the interior angles in triangles by measuring the angles.
- Find the sum of the measures of the interior angles in triangles without measuring the angles.

*Students will be able to:* *DATA ANALYSIS*

- Given a set of data, find the median, mean, mode, maximum, minimum, and range, and apply to solutions of problems.
- Construct and interpret line plots, line graphs, and bar graphs. Interpret and label circle graphs.
- Predict the probability of outcomes of simple experiments (*a coin flip*). Test the predictions.