

NORTH BRANFORD PUBLIC SCHOOLS

Essential Curriculum

Mathematics

Grade 5

The K-5 math curriculum includes number sense, operations, estimation, ratio, proportion, percent, measurement, spatial relationships, geometry, probability, statistics, patterns, algebra, functions and discrete mathematics. Students develop understanding of these concepts through inquiry, exploration, observation, prediction, analysis, problem solving, communicating ideas and making connections between concepts and to the real world.

Upon completion of Grade 5, students will be able to:

- Identify, round, order and compare numbers beyond 1,000,000.
- Use models to explore the properties of numbers.
- Use set, array, models, diagrams, and number lines to identify, estimate and compare fractions and fractional sets; find and describe equivalent fractions, decimals, mixed numbers and improper fractions.
- Relate fractions to decimals through symbolic representations.
- Use a variety of computational strategies (estimation, mental computation, place value, number patterns and calculators) for addition and subtraction with 3- and 4-digit whole numbers and money amounts less than \$100.
- Use a variety of estimation and computation strategies to solve problems.
- Use calculators to multiply 3- and 4-digit whole numbers by 2- and 3-digit whole numbers.
- Add and subtract fractions, mixed numbers, decimals and parts of a set through models and diagrams.
- Estimate quantities, measurements, multiples of 10, 100 and 1,000, length, area, perimeter, volume and angles.
- Compare, calculate and find equivalent rates.
- Understand, select, and apply attributes (length, area, weight, volume, time, temperature, angle size) and select the appropriate unit for measuring each attribute.
- Determine area and perimeter of rectangles, triangles, and parallelograms.
- Build, classify, and describe the properties of polygons and solids.
- Make and test geometric hypotheses involving shape, position, movement, subdivision, tessellation and transformation.
- Build, draw, describe and classify 2- and 3-dimensional shapes.
- Make and test geometric hypotheses involving congruence, translations, reflections, rotation, and transformation.
- Explain the likelihood of events in the real world and express the likelihood as a fraction.
- Design experiments and use games and problems involving probability and fairness to make and test predictions.
- Design and implement investigations to address a question; collect, represent and analyze the data.
- Construct, interpret and evaluate graphs (bar, picto-, line, double bar, double line, circle, Venn diagrams, line plots, tables, charts, stem and leaf plots and spreadsheets).
- Represent and analyze geometric and numerical patterns.
- State the rule for a given pattern; investigate, describe and write the rule for variables.
- Identify the commutative, associative, and distributive properties and use the order of operations to write equations with two or more operations.
- Write and solve simple equations and inequalities.
- Sort and classify data based on multiple attributes.
- Devise, describe and test strategies for solving problems.

- Solve problems by organizing data into different permutations and combinations.
- Demonstrate the ability to solve problems in a variety of ways.