

NORTH BRANFORD PUBLIC SCHOOLS

Essential Curriculum

Mathematics

Grade 8

Upon completion of Grade 8, students will be able to:

- Find the prime factorization of a number using exponents.
- Determine multiples, LCM, and GCF.
- Use rounding and estimating when solving real world problems.
- Compare and order real numbers.
- Represent numbers in various forms including scientific notation with positive and negative exponents.
- Write percents, decimals, and fractions in equivalent forms.
- Use order of operations rules to solve arithmetic problems using real numbers, absolute values, powers and exponents.
- Select and execute an appropriate method of computation, such as mental math, estimation, paper and pencil, and calculator.
- Recognize and use field properties.
- Apply estimation strategies.
- Use ratios and proportions to solve problems including similar figure problems.
- Solve percent problems including percent increase and percent decrease.
- Use dimensional analysis to identify and find equal rates.
- Use dimensional analysis and conversion factors to convert units between systems of measure and within systems of measure.
- Use formulas to solve real world problems involving perimeter, area, volume, surface area, angle measurement, weight, and mass.
- Identify transformations of figures.
- Compute experimental and theoretical probability.
- Use listing and counting strategies including simple combinations and permutations to solve problems and make predictions.
- Collect, organize, and analyze data both numerically and graphically.
- Construct and analyze tables and graphs to identify and extend patterns and relationships.
- Represent and describe mathematical relationships using tables, rules, simple equations, and graphs.
- Solve and check simple one step and two step equations and inequalities.
- Represent situations through the use of variables, expressions, and equations.
- Evaluate expressions involving variables.
- Identify the parts of a Cartesian plane and plot points accordingly.
- Use calculators and computer software to enhance understanding.