St. Thomas the Apostle School
265 King St. Crystal Lake, IL 60014
Ph: 815.459.0496 Fx: 815.459.0591
www.stthomascl.org

8th GRADE CURRICULUM MAP – MATHEMATICS – Algebra

Curriculum Maps are used as guidelines for instruction. As such, they are considered to be working documents rather then a static formula for teachers and students to follow. What this means is that there is flexibility to this map which allows for the instructor to respond to several factors: the particular needs of the current group of students, the incorporation of new material, and/or the subtraction of material. With this in mind, curriculum maps are analyzed by faculty and administration on a yearly basis for revisions. Articulation meetings also take place with the grade levels above and below to check for continuity of the curriculum.

Quarter	Content and Skills
Quarter 1	Chapter 1 Connections to Algebra -Variables in Algebra -Exponents and Powers -Order of Operations -Equations and Inequalities -Tables and Graphs -An Introduction to Functions Chapter 2 Solving Equations -The Real Number Line -Addition of Real Numbers -Subtraction of Real Numbers -Adding and Subtracting Matrices -Multiplication of Real Numbers -The Distributive Property -Division of Real Numbers -Probability and Odds Chapter 3 Solving Linear Equations -Solving Equations Using Addition and Subtraction -Solving Equations Using Multiplication and Division -Solving Multi-Step Equations -Solving Equations with Variables on Both Sides -Linear Equations and Problem Solving -Solving Decimal Equations -Formulas and Functions -Rates, Ratios, and Percents
Quarter 2	Chapter 4 Graphing Linear Equations and Functions -Coordinates and Scatter Plots -Graphing Linear Equations -Quick Graphs Using Intercepts -The Slope of a Line -Direct Variation -Quick Graphs Using Slope-Intercept Form -Solving Linear Equations Using Graphs -Functions and Relations Chapter 5 Writing Linear Equations -Writing Linear Equations in Slope-Intercept Form -Writing Linear Equations Given the Slope and a Point -Writing Linear Equations Given Two Points -Fitting a Line to Data -Point-Slope Form of a Linear Equation -The Standard Form of a Linear Equation -Predicting with Linear Models
Quarter 3	Chapter 6 Solving and Graphing Linear Inequalities -Solving One-Step Linear Inequalities -Solving Multi-Step Linear Inequalities -Solving Compound Inequalities -Solving Absolute-Value Equations and Inequalities -Graphing Linear Inequalities in Two Variables -Stem-and-Leaf Plots and Mean, Median, and Mode -Box-and-Whisker Plots Chapter 7 Systems of Linear Equations and Inequalities -Solving Linear Systems by Graphing -Solving Linear Systems by Substitution -Solving Linear Systems by Linear Combinations -Applications of Linear Systems -Special Types of Linear Systems -Solving Systems of Linear Inequalities Chapter 8 Exponents and Exponential Functions -Multiplication Properties of Exponents -Zero and Negative Exponents -Division Properties of Exponents -Scientific Notation: *Exploring Data and Statistics* -Exponential Growth Functions -Exponential Decay Functions
Quarter 4	Chapter 9 Quadratic Equations and Functions -Solving Quadratic Equations by Finding Square Roots -Simplifying Radicals -Graphing Quadratic Functions -Solving Quadratic Equations by Graphing -Solving Quadratic Equations by the Quadratic Formula -Applications of the Discriminate -Graphing Quadratic Inequalities -Comparing Linear, Exponential, and Quadratic Models Chapter 10 Polynomials and Factoring -Adding and Subtracting Polynomials -Multiplying Polynomials -Special Products of Polynomials -Solving Polynomial Equations in Factored Form -Factoring $x^2 + bx + c$ -Factoring $ax^2 + bx + c$ -Factoring Special Products -Factoring Using the Distributive Property Chapter 11 Rational Equations and Functions -Ratio and Proportion -Percents -Direct and Inverse Variation -Simplifying Rational Equations -Multiplying and Dividing Rational Expressions -Adding and Subtracting Rational Expressions -Dividing Polynomials -Rational Equations and Functions Chapter 12 Radicals and Connections to Geometry -Functions Involving Square Roots -Operations with Radical Expressions -Solving Radical Equations -Completing the Square -The Pythagorean Theorem and Its Converse -The distance and Midpoint Formulas -Trigonometric Ratios -Logical Reasoning