Math 8 PRE-ALGEBRA

Text:	Larson, Boswell, Kanold & Stiff (1999): *Passport to Algebra and Geometry*, McDougal Littell: Boston, MA.

Supplemental Materials:	McDougal-Littell,s *Teacher,s Resource Package – Passport to Algebra and Geometry* Teacher-made worksheets, quizzes, and tests Stein's *Practical Applications in Mathematics*

Course Description:	Pre-algebra is designed to be a bridge between the Saxon incremental developmental program and the structure of Algebra I and Geometry. Students will: learn the language, principles and symbols of algebra, translate and evaluate expressions and linear equations, compute integers with and without variables, solve word problems using equations and proportions, review number theory including: divisibility rules, factors and primes, GCF and LCM. powers and square roots, scientific notation, proportions and basic computation with integers, fractions and decimals. Also students will be able to: use formulas, use the Pythagorean Theorem, review points, lines, planes, angles, polygons and basic solids, find area, perimeter, volume and surface area, use graphs, charts and spread sheets.

Methods of Evaluation:	Students can be evaluated through tests, quizzes, daily practice sets, homework problem sets, lab grades quarterly exams, and/or any other form of evaluation instrument the instructor finds applicable to the course.

Pace of Instruction:	First Semester: Chapters 1 - 5 Second Semester: Chapters 6 – 12 Omit chapter 9

Course Objectives:	During the year students will: 1. Discover number patterns. 2. Apply the Order of Operations with or without grouping symbols. 3. Evaluate powers and use square roots. 4. Translate and evaluate expressions and equations. 5. Use formulas. 6. Use data to form and use graphs. 7. Know and use the Associative, Commutative and Distributive properties. 8. Simplify by adding like terms. 9. Transform linear equations, including 2 or more steps. 10. Use a 5-step plan for word problems. 11. Know and use absolute value and integers with and without variables. 12. Plot points on a coordinate plane. 13. Solve equations with the variables on both sides.

	14. Apply divisibility rules. 15. Use prime factors to determine GCF and LCM and to also simplify fractions. 16. Distinguish between rational and irrational numbers. 17. Evaluate powers and square roots, including negative exponents. 18. Use the Pythagorean Theorem. 19. Use scientific notation. 20. Review computation with fractions and decimals including integers. 21. Work with variables and negative integers. 22. Solve equations with rational coefficients. 23. Use percents and solve using proportions. 24. Use rates and ratios. 25. Explore points, lines, planes and angles. 26. Name, measure and draw angles. 27. Classify triangles and quadrilaterals. 28. Compare side lengths and angle measures of triangles and quadrilaterals. 29. Find area and perimeter of triangles, parallelograms and trapezoids. 30. Find circumference and area of circles. 31. Identify polyhedrons and other solids. 32. Find surface area of prisms and cylinders. 33. Find the volume of prisms and cylinders. 34. Find volume of pyramids, cones and spheres.