

**RIDGECROFT SCHOOL
PREALGEBRA
PACING GUIDE**

Prealgebra is an accelerated 7th grade math course that addresses all the NC SCOS objectives for 7th grade and selected objectives for 8th grade. The focus of the course is the development of concepts in all math strands including numbers, geometry, data analysis, measurement, algebra, and probability that will be the foundation for algebraic understanding and problem solving. Students should solve relevant and authentic problems using appropriate technology and apply these concepts as well as those developed in earlier years. (GR 7: 1.03, GR 8: 1.02)

TOPICS/CONCEPTS	TIME	CURRICULUM OBJECTIVES	RESOURCE(S) : PREALGEBRA (Glencoe)
FIRST GRADING PERIOD	30 Days		
TOOLS FOR ALGEBRA AND GEOMETRY	10	GR 7: 4.01, 4.02, 4.04, 5.02 GR 8: 3.01, 4.01, 4.02, 5.04, SUPPLEMENT 4.03, 5.01	TEXTBOOK Chapter 1
EXPLORING INTEGERS	10	GR 7: 1.01, 4.02 GR 8: 1.02, 4.01	TEXTBOOK Chapter 2
SOLVING ONE-STEP EQUATIONS / INEQUALITIES	10	GR 7: 5.02, 5.03, 5.04, SUPPLEMENT 5.02 GR 8: 5.04	TEXTBOOK Chapter 3
SECOND GRADING PERIOD	30 Days		
SOLVING ONE-STEP EQUATIONS / INEQUALITIES	10	GR 7: 5.02, 5.03, 5.04, SUPPLEMENT 5.02 FLUENCY: Formulas (5.04) GR 8: 5.03, 5.04	TEXTBOOK Chapter 3
EXPLORING FACTORS AND FRACTIONS	10	GR 7: 1.02, 5.02, 5.03, 5.04 GR 8: 5.01, 5.02, 5.03, 5.04	TEXTBOOK Chapter 4
RATIONALS: PATTERNS IN ADDITION / SUBTRACTION	10	GR 7: 1.02, 5.03 GR 8: 5.01	TEXTBOOK Chapter 5
THIRD GRADING PERIOD	30 Days		
RATIONALS: PATTERNS IN MULTIPLICATION / DIVISION	10	GR 7: 1.02, 4.02, 4.03, 4.04 FLUENCY: Operational with rational numbers (1.02) GR 8: 3.01, 5.01, 5.03, 5.04	TEXTBOOK Chapter 6
SOLVING EQUATIONS/ INEQUALITIES	15	GR 7: 5.01, 5.02, 5.03 GR 8: 5.01, 5.03, 5.04	TEXTBOOK Chapter 7
REVIEW AND ASSESSMENT	5		
FOURTH GRADING PERIOD	30 Days		
FUNCTIONS AND GRAPHING	15	GR 7: 5.01, 5.02, 5.03, 5.04 GR 8: 4.01, 4.02, 5.01, 5.03, 5.04, SUPPLEMENT 3.01	TEXTBOOK Chapter 8
RATIO, PROPORTION, AND PERCENT	15	GR 7: 1.01, 3.03 GR 8: 1.02, 5.01	TEXTBOOK Chapter 9 AIMS: Proportional Reasoning
FIFTH GRADING PERIOD	30 Days		

MORE STATISTICS AND PROBABILITY	15	GR 7: 4.01, 4.02, 4.03 GR 8: 4.01, 4.02, 4.03	TEXTBOOK Chapter 10
APPLYING ALGEBRA TO GEOMETRY	15	GR 7: 1.01, 2.01, 2.02, 3.01, 3.02, 3.03, 5.04, SUPPLEMENT 3.01 GR 8: 2.01, 3.01, SUPPLEMENT 3.01	TEXTBOOK Chapter 11
SIXTH GRADING PERIOD	30 Days		
MEASURING AREA AND VOLUME	10	GR 7: 2.01, 3.01, 3.02, 3.03, 5.04 GR 8: 3.01, SUPPLEMENT 2.01	TEXTBOOK Chapter 12
APPLYING ALGEBRA TO RIGHT TRIANGLES	15	GR 7: 2.01, 3.03 GR 8: Goal 1, 3.01, 5.04	TEXTBOOK Chapter 13
REVIEW AND ASSESSMENT	5		

8/1/06

**NC STANDARD COURSE OF STUDY
FOR GRADE 7 MATHEMATICS AND GRADE 8 MATHEMATICS**

GRADE 7 MATHEMATICS	GRADE 8 MATHEMATICS
	NOTE: OBJECTIVES NOT INCLUDED IN PREALGEBRA: 1.01, 2.02, 3.02, 3.03, 5.02. These will be taught during the Algebra I course.
MAJOR CONCEPTS/SKILLS <ul style="list-style-type: none"> • Computation with rational numbers • Ratio and proportion • Factors and multiples • Volume and surface area • Measure of central tendency • Box plots and histograms • Students will solve relevant and authentic problems using appropriate technology and apply these concepts as well as those developed in earlier year. CONCEPTS/SKILLS TO MAINTAIN <ul style="list-style-type: none"> • Number properties • Percent • Transformations in the coordinate plane • Probability 	MAJOR CONCEPTS/SKILLS <ul style="list-style-type: none"> • Real numbers • Linear functions • Pythagorean theorem, indirect measurement (NOTE: Not included) • Scatter plots • Slope • Equations and inequalities • Students will solve relevant and authentic problems using appropriate technology and apply these concepts as well as those developed in earlier year. CONCEPTS/SKILLS TO MAINTAIN <ul style="list-style-type: none"> • Ratio, proportion, and percent • Factors and multiples • Box plots and histograms • Volume and surface area
GOAL 1: THE LEARNER WILL UNDERSTAND AND COMPUTE WITH RATIONAL NUMBERS.	GOAL 1: THE LEARNER WILL UNDERSTAND AND COMPUTE WITH REAL NUMBERS.
1.01 Develop and use ratios, proportions, and percents to solve problems. 1.02 Develop FLUENCY in addition, subtraction, multiplication, and division of rational numbers. (a) Analyze computational strategies. (b) Describe the effect of operations on size. (c) Estimate the results of computations. (d) Judge the reasonableness of solutions. 1.03 Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, paper and pencil.	1.02 Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators, or computers, and paper and pencil.
GOAL 2: THE LEARNER WILL UNDERSTAND AND	GOAL 2: THE LEARNER WILL UNDERSTAND AND

USE MEASUREMENT INVOLVING TWO- AND THREE-DIMENSIONAL FIGURES.	USE MEASUREMENT CONCEPTS.
2.01 Draw objects to scale and use scale drawings to solve problems. 2.02 Solve problems involving volume and surface area of cylinders, prisms, and composite shapes.	2.01 Determine the effect on perimeter, area or volume when one or more dimensions of two- and three-dimensional figures are changed.
GOAL 3: THE LEARNER WILL UNDERSTAND AND USE PROPERTIES AND RELATIONSHIPS IN GEOMETRY.	GOAL 3: THE LEARNER WILL UNDERSTAND AND USE PROPERTIES AND RELATIONSHIPS IN GEOMETRY.
3.01 Using three-dimensional figures: (a) Identify, describe, and draw views (top, side, front, corner) (b) Build from various views. (c) Describe cross-sectional views. 3.02 Identify, define, and describe similar and congruent polygons with respect to angle measure, length of sides and proportionality of sides. 3.03 Use scaling and proportional reasoning to solve problems related to similar and congruent polygons.	3.01 Represent problem situations with geometric models.
GRADE 7 MATHEMATICS	GRADE 8 MATHEMATICS
GOAL 4: THE LEARNER WILL UNDERSTAND AND USE GRAPHS AND DATA ANALYSIS.	GOAL 4: THE LEARNER WILL UNDERSTAND AND USE GRAPHS AND DATA ANALYSIS.
4.01 Collect, organize, and display data (including box plots and histograms) to solve problems. 4.02 Calculate, use and interpret the mean, median, mode, range, frequency distribution, and interquartile range for a set of data. 4.03 Describe how the mean, median, mode, range, frequency distribution and interquartile range of a set of data affect its graph. 4.04 Identify outliers and determine their effect on the mean, median, mode and range of a set of data. 4.05 Solve problems involving two or more sets of data using appropriate statistical measures.	4.01 Collect, organize, analyze, and display data (including scatterplots) to solve problems. 4.02 Approximate a line of best fit for a given scatterplot; explain the meaning of the line as it relates to the problem and make predictions. 4.03 Identify misuses of statistical and numerical data.
GRADE 7 MATHEMATICS	GRADE 8 MATHEMATICS
GOAL 5: THE LEARNER WILL DEMONSTRATE AN UNDERSTANDING OF LINEAR RELATIONS AND FUNDAMENTAL ALGEBRAIC CONCEPTS.	GOAL 5: THE LEARNER WILL UNDERSTAND AND USE LINEAR RELATIONS AND FUNCTIONS.
5.01 Identify, analyze, and create linear relations, sequences, and functions using symbols, graphs, tables, diagrams, and written descriptions. 5.02 Translate among different representations of algebraic expressions, equations, and inequalities. 5.03 Use and evaluate algebraic expressions, linear equations or inequalities to solve problems. 5.04 Develop FLUENCY in the use of formulas to solve problems.	5.01 Develop an understanding of function. (a) Translate among verbal, tabular, graphic, and algebraic representations of functions (b) Identify relations and functions as linear or nonlinear. (c) Find, identify and interpret the slope (rate of change) and intercepts of a linear relation. (d) Interpret and compare properties of linear functions from tables, graphs, or equations. 5.03 Solve problems using linear equations and inequalities; justify symbolically and graphically. 5.04 Solve equations using the inverse relationships of addition and subtraction, multiplication and division, squares and square roots, and cubes and cube roots.
GRADE 7 MATHEMATICS	GRADE 8 MATHEMATICS
	OBJECTIVES NOT INCLUDED IN PREALGEBRA: 1.01 Develop number sense for the real numbers. (a) Define and use irrational numbers. (b) Compare and order. (c) Use estimates of irrational numbers in appropriate situations.

	<p>2.02 Apply and use concepts of indirect measurement.</p> <p>3.02 Apply geometric properties and relationships, including the Pythagorean Theorem, to solve problems.</p> <p>3.03 Identify, predict, and describe dilations in the coordinate plane.</p> <p>5.02 Write an equation of a linear relationship given: two points, the slope and one point on the line, or the slope and y-intercept.</p>
GRADE 7 MATHEMATICS	GRADE 8 MATHEMATICS