

**Mathematics Essential Learning Outcomes
Hope -Appleton-Lincolnvile Schools**

Pre-Algebra	
Number and Quantity:	
THE REAL NUMBER SYSTEM	<ol style="list-style-type: none"> 1. Performs all operations with positive and negative rational numbers 2. Applies the properties of real numbers to solve problems 3. Classifies and identifies rational and irrational numbers 4. Expresses numbers in scientific notation 5. Performs operations with numbers in scientific notation 6. Simplifies square roots
QUANTITIES	<ol style="list-style-type: none"> 1. Solves proportions 2. Finds simple interest using a formula
Algebra:	
SEEING STRUCTURE in EXPRESSIONS	<ol style="list-style-type: none"> 1. Applies properties of operations to solve problems 2. Writes and solves multi-step equations with one variable 3. Writes and solves algebraic inequalities with one variable
REASONING with EQUATIONS and INEQUALITIES	<ol style="list-style-type: none"> 1. Writes and solves multi-step equations with one variable and rational coefficients
Geometry:	
CONGRUENCE	<ol style="list-style-type: none"> 1. Uses proportions to solve problems involving indirect measure 2. Describes transformations in the coordinate plane
SIMILARITY, RIGHT TRIANGLES and TRIGONOMETRY	<ol style="list-style-type: none"> 1. Uses properties of angle relationships to find unknown angle measures 2. Describes angle relationships when parallel lines are cut by a transversal
GEOMETRIC MEASUREMENT and DIMENSION	<ol style="list-style-type: none"> 1. Develops and uses the Pythagorean Theorem 2. Describes 2-D parts of a 3-D figure 3. Finds the surface area and volume of complex 3-D geometric shapes using formulas 4. Applies formulas for cones, cylinders and spheres
Statistics and Probability:	
INTERPRETING CATEGORICAL and QUANTITATIVE DATA	<ol style="list-style-type: none"> 1. Constructs and interprets data and organizes it into a scatter plot
MAKING INFERENCES and JUSTIFYING CONCLUSIONS	<ol style="list-style-type: none"> 1. Interprets and analyzes data from different sources to draw conclusions and to make predictions 2. Uses measures of central tendency to compare data
CONDITIONAL PROBABILITY and the RULES OF PROBABILITY	<ol style="list-style-type: none"> 1. Calculates simple combinations to solve probability problems 2. Calculates and compares theoretical and experimental probabilities 3. Describes dependent and independent events