HPISD CURRICULUM
(MATH, GRADE 8)

EST. NUMBER OF DAYS: 13

UNIT NAME	UNIT 2: ALGEBRAIC REASONING	
Unit Overview	Algebraic reasoning and solving equations	
Generalizations/Enduring Understandings	• Operations can be used efficiently and flexibly to solve meaningful problems. • Relationships among elements in a problem situation can be expressed in an equation or an inequality and that equation or inequality can be used to solve the problem.	
Concepts	Mathematical situations and structures can be translated and represented abstractly using variables, expressions, and equations.	
Guiding/Essential Questions	Rules of arithmetic and algebra can be used together with notions of equivalence to transform equations so solutions can be found.	
	Performance Levels	*Learning Progression* (*** Decision Point)
Learning Targets	LEVEL 4: *LEVEL 3:* LEVEL 2:	• Use algebraic notation and the rational number system to represent and solve problems in a variety of contexts. • Select and use expressions, equations and inequalities used to represent and solve problems involving rational numbers.
	LEVEL 4: *LEVEL 3:* LEVEL 2:	• Use words, numbers, tables and graphs to justify symbolic representations and solution strategies.
Formative Assessments	*Title*	
Summative Assessments	*Title*	
	TEKS	*Specifications*
TEKS *(Grade Level)* **/ Specifications**	8.1(A) apply mathematics to problems arising in everyday life, society, and the workplace 8.1(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution 8.1(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems 8.1(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate	

	8.1(E) create and use representations to organize, record, and communicate mathematical ideas 8.1(F) analyze mathematical relationships to connect and communicate mathematical ideas 8.1(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication
Processes and Skills	**What students should be able to DO** • Translate a written statement into the equivalent algebraic expression, equation or inequality. • Translate an algebraic expression, equation or inequality into an equivalent written statement. • Combine like terms to simplify expressions and when solving equations or inequalities. • Evaluate an expression for a given number. • Solve equations or inequalities (one and two-step) with rational numbers. • Recognize how properties of operations are applied to solve algebraic equations and inequalities. **What students should KNOW** • Algebraic expressions involve a variable that can represent any value. • Algebraic equations and inequalities involve an unknown and can be solved to determine the value of the unknown.
Topics	Combining Like Terms Solving (one-step and two-step) equations and inequalities with rational numbers Writing equations, inequalities and expressions
Language of Instruction	equation evaluate expression inequalities like terms solve unknown variable
State Assessment Connections	
National Assessment Connections	
Resources	