HPISD Curriculum: Algebra I

Title	Estimated Duration	6 Weeks					
Unit 9: Applications of Linear Systems	2 weeks	1	2	3	**4**	5	6

Unit Overview

The students will understand how to apply linear systems to solve and answer questions about real-world situations.

Enduring Understandings

The student will understand that:	• Systems of equations can be used to solve a variety of real-world problems. • Problem-solving, language and communication, and reasoning are used to make connections within and outside of mathematics.

Concepts	Guiding/Essential Questions
• Relationships • Problem solving	• How can systems of equations be assessed to determine which solution method to employ? • What kinds of real-world problems can be modeled and solved using systems of equations or inequalities?

Learning Targets

Students will write a system of equations to model real world situations.

Students will select and apply effective strategies to solve application problems modeled by systems of equations.

Formative Assessments	Summative Assessments
homework, quizzes	test

TEKS: Readiness Standards	TEKS: Supporting Standards
A.1D Represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities. **A.4A** Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. **A.8B** Solve systems of linear equations using concrete models, graphs, tables, and algebraic methods.	**A.1C** Describe functional relationships for given problem situations and write equations or inequalities to answer questions arising from the situations. **A.8A** Analyze situations and formulate systems of linear equations in two unknowns to solve problems. **A.8C** Interpret and determine the reasonableness of solutions to systems of linear equations.

Processes and Skills: What students should be able to DO	Facts: What students should KNOW
• Define variables to represent unknown quantities within real world problems. • Write equations to model situations regarding number, coins, mixture, wind/current, perimeter and distance. • Solve systems of equations to answer real world problems.	• distance = rate x time • P = 2L + 2W

Topics

solving linear systems	writing systems of equations	application of systems of equations

Language of Instruction

rate distance	time perimeter	solution

State Assessment Connections	National Assessment Connections

Resources

teacher-made supplemental materials