HPISD Curriculum: Algebra II

Title	Estimated Duration	6 Weeks					
Unit 11: Exponential Functions	2 weeks	1	2	3	4	**5**	6

Unit Overview

Simplifying, solving, and graphing exponential functions

Enduring Understandings

The student will understand that:	• Rational exponents can be rewritten as radicals • Graphs of exponential functions have one horizontal asymptote • One technique for solving exponential functions is writing the exponentials with the same base

Concepts	Guiding/Essential Questions
Functions	• How can rational exponents be rewritten as radicals? • How are exponential functions graphed? • How are exponential functions written with the same base? • How are exponential functions transformed from the parent graph?

Learning Targets

- Students will graph and transform exponential functions.
- Students will simplify exponential expressions.
- Students will solve exponential functions.
- Students will transform expressions containing rational exponents to radical expressions.

Formative Assessments	Summative Assessments
Quizzes and assignments	test

TEKS: Readiness Standards	TEKS: Related Supporting Standards
	A2.11.B use the parent functions to investigate, describe, and predict the effects of parameter changes on the graphs of exponential and logarithmic functions, describe limitations on the domains and ranges, and examine asymptotic behavior **A2.11.C** determine the reasonable domain and range values of exponential and logarithmic functions, as well as interpret and determine the reasonableness of solutions to exponential and logarithmic equations and inequalities **A2.11.D** determine solutions of exponential and logarithmic equations using graphs, tables, and algebraic methods
Processes and Skills: **What students should be able to DO**	**Facts:** **What students should KNOW**
• Simplify exponential expressions • Solve exponential equations • Graph exponential functions • Transform rational exponents to radical expressions	• The numerator of the rational exponent is the degree of the base • The denominator of the rational exponent is the type of radical • The graph of an exponential function has one horizontal asymptote • Bases of exponential functions can be rewritten
Topics	
Exponential expressions and functions	
Language of Instruction	
Rational exponent	Base
State Assessment Connections	**National Assessment Connections**
Resources	
McDougal Littell – Algebra 2 Supplemental material	