

LEARNING PLAN

<p>Exploratory Activities Guess My Rule</p>	<p>Concept Patterns and Functions (Formally)</p>
<p>Concept Development Activities</p> <ul style="list-style-type: none"> • Dependent Relationships (TEXTTEAMS1-109) • Function Junction (TEXTTEAMS 2-160) • Sorting Activity (multiple representations) • Examples and non-examples (sorting 32 examples and non-examples) • Revisit some of the <i>TEXTTEAMS ALGEBRA I INSTITUTE</i> activities to introduce finite differences (linear and quadratic) as another method for determining functional relationships • Real-World Examples of Functions - Turkey Bucks, Cat Claws, Wall Paper • Function Experiments (using the graphing calculator – regression) The Wave (whole group) Lickety-Split Jalopies (in centers) Have You Lost Your Marbles?(in centers) Breaking Point (in centers) • Guess and Check Patterns: 1A and 1B • As an extension to cubic functions: Pyramid Functions (concrete pattern, number pattern, finite differences) Paper Folding and a Triangle’s Maximum Area (regression) 	<p>Materials and Resources</p> <p>Graphing Calculator <i>TEXTTEAMS ALGEBRA I INSTITUTE</i> <i>Concepts in Algebra: A Technological Approach</i> <i>Algebra: Themes, Tools, Concepts</i> <i>Algebra in a Technological World</i> Neufeld & Associates: <i>Understanding Math</i> Ramps, Cars, Stop watches, meter sticks, PVC pipes, marbles, spaghetti, string, weights, canisters, tape <i>Algebra OnLine</i> Video: “Exploring Linear Patterns” Rainbow Cubes 8.5” x 11” paper, ruler Function Lab Recording Paper <i>Balanced Assessment: Advanced High School Assessment</i></p>
<p>Basic Skills and Standard Algorithms Look for patterns and represent generalizations algebraically. Investigate the equation of a line from a function perspective. Continuous vs. discrete domains: From Neufeld & Associates: <i>Understanding Math: Graphing</i> Interpret and make inferences from functional relationships. Gather and record data to determine functional relationships. Assign problems from Algebra I: Explorations and Applications (Sec. 1.6, 2.3, 2.6, 3.4, 3.6, 11.1) and from Concepts in Algebra: A Technological Approach p. 25-27 #4-8</p>	<p>Originality and Creativity <i>Student Products</i></p> <p>Written Find an example of a function in a newspaper. Represent the functional relationship depicted as a set of ordered pairs, a graph, and an equation. Justify why it is a function.</p> <p>Verbal Design a 10-minute talk on “Functions in the Real World.”</p> <p>Kinesthetic Design a function experiment that shows the relationship between two variables.</p> <p>Visual Create a mural depicting the many representations of functions.</p>
<p>Assessment Written: <i>Algebra: Themes, Tools, Concepts</i> - Lesson 4.9 Written: <i>Algebra in a Technological World</i></p> <ul style="list-style-type: none"> • Activity 6: Exploring Linearity (p. 73-74) • Activity 5: Fuel Bills (p. 71-72) <p>Performance Task: Bathtub Graph (p. 174) from <i>Balanced Assessment: Advanced High School Assessment</i></p>	
<p>TEKS b.3.B, c.2.C, c.2.D, c.3.A, b.1.E, b.2.B, b.2.C, b.1.B, b.1.E, b.2.B, b.2.C, b.2.D, b.3.B Test Items from Algebra I EOC Spring 2000: 7, 8,11,17,19,20,23,25,31 Spring 2001: 11,13,15,34 Spring 2002: 3,7,32,34,40</p>	