

LEARNING PLAN

<p>Exploratory Activities Tower of Hanoi</p>	<p>CONCEPT Exponential Functions</p>
<p>Concept Development Activities Powers of 2, Powers of 3, Powers of 4 (to develop the laws of exponents)</p> <p>Exploration of very large and very small numbers using scientific notation (adapted from examples in <i>Innumeracy</i>)</p> <p>Function Games: Shuttle Game & Tower of Hanoi (to compare and contrast quadratic and exponential functions)</p> <p>M&M Growth, <i>TEXTEAMS Mathematical Modeling Institute</i></p> <p>Situation 1.3 pp. 241-243 in <i>Concepts in Algebra: A Technological Approach</i> (bacteria growth)</p>	<p>Materials and Resources Tower of Hanoi game Shuttle Puzzle color tiles Algebra OnLine Video: "Is there Life after Linear Functions?" M&M's (or dried beans with one side painted) Graphing calculator Powers of 2, Powers of 3, Powers of 4 (David Grai activity) <i>TEXTEAMS Mathematical Modeling Institute</i> <i>Innumeracy</i> <i>Concepts in Algebra: A Technological Approach</i> <i>Algebra TEKS Assessment Supplement</i></p>
<p>Basic Facts and Standard Algorithms Formalized Assign problems from the adopted textbook (McDougal Littell's <i>Algebra I Explorations and Applications</i>) from Sections 9.1 - 9.7 to provide practice for students with the laws of exponents, scientific notation, and analyzing data and representing situations involving exponential growth and decay using concrete models, tables, graphs, or algebraic methods.</p> <p>Questions 1 and 2 on p. 45 in <i>the Algebra TEKS Assessment Supplement</i></p> <hr/> <p>Assessment Do you believe that the world population will grow as large as 100 billion? Support your answer. (p. 273 #4a in <i>Concepts in Algebra: A Technological Approach</i>)</p> <p>Situation 1 (bacteria growth) and Situation 2 (car depreciation) on pp. 249-250 in <i>Concepts in Algebra: A Technological Approach</i></p> <hr/> <p>TEKS:d.3.A, d.3.C Test Items from Algebra I EOC Spring 2000: 7, 32 Spring 2001: 24 Spring 2002: 8,29</p>	<p>Originality and Creativity Student Products</p> <p>Written Determine how banks pay interest on savings accounts. Write a report on the process and why this can be modeled with an exponential function.</p> <p>Verbal Prepare a presentation demonstrating the use of technology in situations requiring exponents.</p> <p>Kinesthetic Create and demonstrate a pattern using rainbow cubes that can be modeled by an exponential function.</p> <p>Visual Find examples of how very large and very small numbers are represented around the world. Create an illustrated book with your examples.</p>