

Unit Guide

Foundations for Modeling Functions: A Problem Solving Approach

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This curriculum unit focuses on developing a clear understanding of the characteristics of functions through twelve problem solving activities. The unit focuses on linear, exponential and logarithmic models. The linear section begins with an activity of stacking cups to match the height of the teacher to examining the concept of a flat tax rate endorsed by presidential candidate Steve Forbes in 1996. Once the students have developed a strong sense of linearity they move into such problems as examining pay scale based upon exponential growth. In this section students get a closer look at how an exponential function will eventually overpower a linear and a quadratic function. The final section introduces logarithms as the magnitude of a number, allowing students to better grasp the idea of the pH scale and the Richter scale. By the completion of this unit, students will have been exposed to an in depth look at the characteristics that are employed to differentiate between types of functions.