



Curriculum Units by Fellows of the National Initiative

2007 Volume VI: Keeping the Meaning in Mathematics: The Craft of Word Problems

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## **Applying System of Equations to Real-World Scenarios: A Practical Curriculum**

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Word problems are a problem. The objective for this curriculum unit is to show students the multiple ways that system of equations can be used to solve real-world problems. In order for students to be engaged and interested in learning, they need to see the real-world practicality behind the math concept being learned. Without a lot of practice, System of Equations can be difficult for students to compute correctly and efficiently. Therefore, in order to capture the attention and interest of our students, I will first identify a variety of system of equations and then explain how to solve each using three different methods. Utilizing the substitution method, addition/subtraction elimination and multiplication/elimination methods, we will review how to solve a system of equations.

Then I will combine the distance ( $d = rt$ ) and interest ( $I = prt$ ) formulas together with a system of equations and demonstrate how to solve real-world scenarios and exciting problems. I will also provide practical examples to problems involving wind and water currents, chemistry problems involving mixtures and solutions, more interest problems involving the time value of money, and other practical examples that involve systems of equations.

(Developed for Algebra, grade 8; recommended for Algebra, grades 8-10, and Algebra II, grades 10-12)

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