



Curriculum Units by Fellows of the National Initiative

2017 Volume V: From Arithmetic to Algebra: Variables, Word Problems, Fractions and the Rules

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## **Math Word Problems and the Diné Hooghan**

Guide for Curriculum Unit 17.05.04, published September 2017

by Jolene Smith

Math word problems are a common source of difficulties in mathematics classes. Many students' struggle with word problem solving because understanding them involves a complex process, and word problems come in many forms. Students need to comprehend the problem, and then figure how to solve the problem. This is when rigor of math becomes challenging. Teaching math word problems needs to be explicit and progress in careful steps. Of course, students must also practice correctly, apply the skills and make connections with home and school. The problem solving process has been examined by G. Polya, who has proposed a four stage schema for finding solution to math problem. His method has students questioning their thinking while solving math problems.

The unit will cover math concepts of geometry; base ten addition/subtraction, and multiplication/division skills within the word problems. I will introduce my unit to my studying unit chart papers explaining the legend and history of the Diné *Hooghan*. This unit will help students in measuring their understanding of the Diné *hooghan*, in connection with math word problems. This unit incorporates the Diné culture and language. The classroom activity of constructing a model Diné *hooghan* is an ideal learning tool for students, parents, and educators who want their students to be engaged in learning math word problems while learning about the Diné culture.

(Developed for Social Studies, Navajo Culture and Language, and Mathematics, grade 5; recommended for Mathematics, grades 4-5)

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