TEACHER PAGE
Lesson: Hurray for Arrays and Multiplication
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New Arizona Math Strand 1 Number Sense and Operations Grade 3
Articulated 1M32-O7 This PO moved from geometry to number operations. Demonstrate the process of multiplication as repeatedly adding the same number, counting by multiples, combining equal sets, and making arrays.
Old Arizona Math Standard 4 Geometry, Foundations 1 Grades 1-3
4MF1-PO 6 Use a rectangular array to represent a multiplication fact.

Learning Objectives:
1.observe arrays to determine multiplications facts
2.build arrays from multiplication facts
3.organize squares into arrays to state a multiplication fact

Content:
This is a beginning lesson for learning multiplication through visual arrays. The standard has changed from Geometry to Number Sense and Operations. This lesson has English, Navajo and Spanish narration.

Engage Students:
After the teacher places some tiles on an overhead, students are asked to try their hand at arranging them into rectangles. The whole class helps to count the number and note the arrangement. The teacher distinguishes between columns and rows and demonstrates writing multiplication sentences with the "column" number first and the "row" number second. The demonstration should expand up to 12 tiles in different arrays.

Follow-up:
Search the Web for resources - computer activities and provide time for students to practice arrays at centers. Students invent methods of demonstrating arrays at the room centers. This lesson is easily expandable to grades 4 and 5.

Assessment:
Direct students to configure geoboards for given arrays. Or, from previously configured geoboards, students will call out, or write the corresponding multiplication sentence.

Teacher Note:
There are scripts for the English, Navajo and Spanish narrations. This lesson encompasses the numbers 2X3, 3X2, 6X1, 2X4, and 4X2. The concept of arrays is presented for students in a very consistent method of developing multiplication sentences from arrays by identifying columns first, then rows. We know that multiplication sentences may use rows first, then columns. When students demonstrate ease with columns and rows, first, teachers may then wish to reverse this concept to row first, then column. There is a more difficult lesson developed on this concept using more difficult numbers, called Rikki Arrays. Spanish/English math dictionary at: www.math2.org/math/spanish/eng-spa.htm