617 N. Santa Rita Ave., Tucson, AZ 85721 (520) 621-6887
http://mapps.math.arizona.edu/

Workshops for parents of children in grades K-4

This section is a summary of each workshop including the national math standard(s) that are addressed.

1. **What is Multiplication? (Groups, Rows, and Columns)**

    Reasoning and Proof (Multiplication, arrays, patterns, generalizations)

What is Multiplication? is about situations in which whole number multiplication arises. In this workshop participants explore multiplication by looking at grouping, repeated addition, and arrays.

2. **Number Sense (Using Games to Develop Number Sense)**

    Number & Operations (Mental addition computation)

In **Number Sense,** facilitators give parents a problem to do in their head. Participants share their strategies for solving the problem. Through the discussion of a variety of strategies, participants gain a better understanding of what it means to have number sense.

3. **Step by Step (Exploring Alternative Algorithms)**

    Numbers & Operations (Various methods for multiplying whole numbers)

Step by Step is about "alternative" algorithms for multiplication and subtraction and their value in learning mathematics.

4. **Problem Solving (Logic and Reasoning)**

    • *Problem Solving (Adapt and apply a variety of appropriate strategies to*

      solving an open-ended problem)

    • *Reasoning and Proof (Make assumptions and develop a convincing*

      argument about their solution to the problem)

In **Problem Solving,** participants rate the qualities Fortune 500 companies look for in an employee. Participants then have the opportunity to solve an open-ended problem.

5.   **What is Geometry? (Exploring 2-Dimensional Shapes)**

   Geometry (Attributes of 2-dimensional objects)

In **What is Geometry?** participants informally sort geometric shapes and identify the attributes they used in sorting them.

6.   **Raggedy Anne's Party (Equity Activity)**

   • *Equity Principle (Mathematics can and must be learned by all students)*

   • *Communication Principle (Use the language of mathematics to communicate)*

In **Raggedy Anne's Party,** participants use the story, "*Raggedy Anne's Party,*" to explore equity issues in learning mathematics. Participants then solve a problem in cooperative groups.

7.   **Understanding Data (Collecting and Analyzing Data)**

   Data Analysis & Probability (Collect data, graph the data, analyze the data)

In **Understanding Data,** participants collect data, build bar graphs, and analyze important features of the data: mean, median, mode.

8.   **Patterns (Exploring Patterns and Repeating Units)**

   • *Algebra (Represent and analyze patterns and functions, using words, tables, and graphs)*

   • *Connections (Build on participants current mathematical ideas about patterns to develop new ideas)*

In **Patterns,** participants explore patterns and make predictions based on their understanding of the pattern.

9.   **Equal or Not? (= : What Does it Mean?)**

   Algebra (Meaning of the equals sign)

Equal or Not? deals with misconceptions children have about the equals sign. Participants discuss the meaning of the sign and its importance to algebraic understanding.