

Introduction

Developing Highly
Qualified
Paraprofessionals in
Mathematics



Objectives

The intern will:

- use various materials and techniques to teach mathematical skills and concepts
- recognize the importance of having the students explain skills and concepts, and link literature and language to math instruction
- participate in concrete, representational, and abstract activities
- teach mathematical skills and concepts within a problem-solving context.



We Learn

- ✓ 10% of what we read
- ✓ 20% of what we hear
- ✓ 30% of what we see
- ✓ 50% of what we both see and hear
- ✓ 70% of what is discussed with others
- ✓ 80% of what we experience personally
- ✓ 95% of what we TEACH to someone else



Math Word Wall

add

fact family

odd

greater than

subtract

sum

even

less than

one

difference

just after

one less

hundred

regroup

just before

one more



Words for Addition

- and
- in all
- all
- both
- altogether
- sum
- how many



Words for Subtraction

- Left
- difference
- fewer than
- were still
- have left
- not
- less than
- how many less than
- still there
- take away



Special How To's

Order of Operations

Rules describing what sequence to use in evaluating expressions:

- Evaluate within grouping symbols
- Do powers or roots
- Multiply or divide left to right
- Add or subtract left to right



Special How-To's

➤ Do you know how to round a whole number?

If the ones digit is 5 or more, round to the next highest tens (46 rounds to 50)

If the ones digit is less than 5, round to the lowest tens (43 rounds to 40)



Words for Fractions

➤ Numerator

➤ Denominator

EXAMPLE: In the fraction $\frac{1}{2}$, 1 is the numerator and 2 is the denominator



Special How-To's

➤ Do you know how to add or subtract fractions?

If the fractions have like denominators, just add or subtract the numerators (denominators stay the same).

If the fractions have unlike denominators, find a common denominator then add or subtract.



Standard/Nonstandard Units of Measurement

- **Standard unit of measurement** – a unit of measurement that is always the same.
- **Nonstandard unit of measurement** – a unit of measurement from the everyday environment that differs.



Other Vocabulary

- Graph-A drawing that shows a relationship between sets of data.
- X-axis – On a coordinate grid, the horizontal axis.
- Y-axis – On a coordinate grid, the vertical axis.
- Mean – (average) add up all of the numbers then divide by two
- Mode – (most) the number that appears the most
- Median – Middle) When the numbers are arranged in order from least to greatest, the middle number of a set of numbers is the median. When the set has two middle numbers, add the two numbers and divide by 2



Activity

Ice Cream Lesson – Mean, Median, Mode

What is your favorite Ice Cream flavor?

Vanilla? Chocolate? Mint? Butter Pecan? Strawberry?



A little more Math practice...

A survey was taken. Please look at the following data:

7, 7, 4, 3, 12, 3, 7, 11, 8, 7, 6, 4, 3, 1

- What is the most frequent number?
- What is the highest number?
- What is the lowest number?
- What is the average of all the numbers?



Mathematical Learning & Instruction

When teaching mathematics to any age group, we should remember to...

- Build links from prior knowledge
- Encourage our students to communicate their mathematical reasoning
- Motivate students and actively engage them in individual, small-groups, and large-group settings



Ancient Chinese Proverb

- I hear and I forget.
- I **see** and I **remember**.
- I do and I understand.



Math Words to Know

Concepts

Numerators

Survey

Mean

Equation

Graphs

Denominators

Standard

Non-standard Median

4 Operations

Measurement

Manipulatives

Rounding

Place Value

Digit

Assist

Mode

