Third Grade Unit 2 – Multiplication and Division

Focus for Unit 2 - Develop an understanding of multiplication and division of whole numbers

- Interpret products of whole numbers
- Interpret whole number quotients of whole numbers
- Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities by using drawings and equations with a symbol for the unknown number to represent the problem
- Determine the unknown whole number in a multiplication or division equation relating three whole numbers
- Apply properties of operations as strategies to multiply and divide
- Understand division as an unknown factor problem
- Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations
- Know from memory all products of two, 1-digit numbers
- Solve two-step word problems using the four operations (the size of the numbers with addition and subtraction should be limited to within 1000, multiplying and dividing numbers should include single-digit factors and products less than 100)
- Represent these problems using equations with a letter standing for the unknown quantity
- Assess the reasonableness of answers using mental computation and estimation strategies including rounding
- Identify arithmetic patterns and explain them using properties of operations
- Multiply 1-digit whole numbers by multiples of 10 in the range of 10-90 using strategies based on place value and properties of operations

Activities for home

- Make arrays out of household items (e.g., pennies, beans, blocks).
- Select multiplication or division facts to illustrate or write a word problem.
- Hunt for multiple sets of objects in the home. Use repeated addition and multiplication to find the totals.
- Sort coins according to type, count the number of coins and then multiply to find the total value of pennies (x 1), nickels (x 5), dimes (x 10) and quarters (x 25).
- Count quantities of items by 2's, 3's, 5's, and 10's.
- Roll 2 number cubes to determine the factors. Make an array to find the product.
- Act out division problems with counters. For example, Brad has 12 rabbits. He puts the same number of rabbits into each of 4 cages. How many rabbits does Brad put in each cage?
- Roll 2 number cubes and write the fact families. For example, for rolls of 4 and 6, write: 4 X 6 = 24, 6 X 4 = 24, 24 ÷ 6 = 4, 24 ÷ 4 = 6.
- Ask your child to find the missing factor. For example, 5 X what number = 35?

Vocabulary

Rounding: making a number more simple but keeping its value close to what it was
Place Value: the location of a digit in a number
Whole Number: a number with no fractional or decimal part and no negatives
Algorithm: a step by step solution with clear instructions like a recipe
Reasonableness: logical, sound judgment, makes sense
Mental Math: figuring out a math calculation in the mind instead of on paper or with a calculator
Estimation: finding a value that is close enough to the right answer, usually with some thought or calculation involved
Multiplication: an operation on two numbers to find their product (It can be thought of as repeated addition.)
Factor: a number that is multiplied by another number to get a product
Product: the result of multiplication
Multiple: a product of two whole numbers
Array: an arrangement that shows objects in columns and rows
Division: to make equal groups
Dividend: a number that is divided by another number
Quotient: the number, not including the remainder, that results from dividing
Grouping: dividing things into equal groups (sets)
Partition: to divide into parts
Remainder: the amount left over when a whole number cannot be divided into equal whole numbers
Equation: a mathematical statement containing an equal sign, to show that two expressions are equal
Operation: a mathematical process
Quantity: how much there is of something