

Operations and Algebraic Thinking

Grade 3

Vocabulary Words Your Student Will Learn

Division: to make equal groups

Dividend: a number that is divided by another number

Array: an arrangement that shows objects in columns and rows

Equation: a mathematical statement containing an equal sign, to show that two expressions are equal

unknown

Product: the result of multiplication

Grouping: dividing things into equal groups (sets)

Quotient: the number, not including the remainder, that results from dividing

Partition: to divide into parts

Multiplication: an operation on two numbers to find their product. It can be thought of as repeated addition.

Multiple: a product of two whole numbers

Remainder: the amount left over when a whole number cannot be divided into equal whole numbers

Factor: a number that is multiplied by another number to get a product

Subtraction: To find the difference when two groups are compared or to find out how many are left when items are taken away from a group.

Addition: To join two or more groups. $2 + 3 = 5$

Addend: A number that is added to another in an addition problem. In $2 + 3 = 5$, 2 and 3 are addends.

Sum: The answer to an addition problem. In $2 + 3 = 5$, 5 is the sum.

Difference: The answer to a subtraction problem. In $8 - 3 = 5$, 5 is the difference.

Estimation: a number close to an exact amount

Mental Computation: the calculation of something mentally

What Your Student Will Learn:

- ◆ Understand the meaning of multiplication
- ◆ Understand the meaning of division
- ◆ Solve word problems using multiplication and division
- ◆ Determine the unknown whole number in a multiplication or division problem ($? \times 8 = 24$)
- ◆ Understand the properties of multiplication
- ◆ Understand division as an unknown factor problem
- ◆ Fluently multiply and divide within 100
- ◆ Solve word problems using addition, subtraction, multiplication and/or division
- ◆ Identify and explain arithmetic patterns

Everyday Activities You Can Do At 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 ($\times 1$), nickels ($\times 5$), dimes ($\times 10$) and quarters ($\times 25$).
- ◆ Roll 2 number cubes. Find the products of the factors.
- ◆ 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.
- ◆ Use a calculator to solve word problems using multiplication and division. For example, Callie wants to buy 20 apples that cost \$.19 each. What is the total cost of her purchase? Michael has 332 quarters. He wants to put them into groups of 4. How many groups will he make?
- ◆ 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: $4 \times 6 = 24$, $6 \times 4 = 24$, $24 \div 6 = 4$, $24 \div 4 = 6$.
- ◆ Ask your student to find the missing factor. For example, $5 \times \text{what number?} = 75$?