

3rd Grade Math

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| Content Area | Math |
| Unit Title/Topic | Operations & Algebraic Thinking |
| Course/Grade Level | 3 rd Grade |
| Unit Summary | Students focus on Representing and solving problems involving multiplication and division, Understanding properties of multiplication and the relationship between multiplication and division, Multiplying and dividing within 100, and Solving problems involving the four operations, and identifying and explaining patterns in arithmetic. |
| Time Frame | <i>weeks</i> |

Desired Results

Priority Standards:

- **CCSS.Math.Content.3.OA.A.1** Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5×7 .*
- **CCSS.Math.Content.3.OA.A.3** Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.¹

Supporting Standards:

- **CCSS.Math.Content.3.OA.A.2** Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.*
- **CCSS.Math.Content.3.OA.A.4** Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = _ \div 3$, $6 \times 6 = ?$*
- **CCSS.Math.Content.3.OA.B.5** Apply properties of operations as strategies to multiply and divide.² Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)
- **CCSS.Math.Content.3.OA.B.6** Understand division as an unknown-factor problem. For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.
- **CCSS.Math.Content.3.OA.C.7** Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

- CCSS.Math.Content.3.OA.D.8 Solve two-step word problems using the four operations. 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.3
- CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.

Continuous Foundational Standards:

Nebraska State Standard

- **MA 3.1.2.a Represent multiplication as repeated addition using objects, drawings, words, and symbols (e.g., $3 \times 4 = 4 + 4 + 4$) Multiplication: Multiplication - facts to 12 (Third grade - E.2)**
- **Properties: Relate addition and multiplication (Third grade - J.7)**
- **MA 3.1.2.d Use drawings, words, and symbols to explain the meaning of multiplication using an array (e.g., an array with 3 rows and 4 columns represents the multiplication sentences $3 \times 4 = 12$)**