Unit 1c-Apply Properties: Multiplication Facts For 3,4,5,6,7 & 8

Content Area: **Mathematics**
Course(s): **Math 3**
Time Period: **Marking Period 1**
Length: **MP1 Topic 3 3-1 to 3-8**
Status: **Published**

Essential Questions

How can you use known multiplication facts to solve unknown facts?

Big Ideas

- **Break Apart Numbers to Multiply-** Students apply the Distributive Property to learn multiplication facts involving factors of 3, 4, 6, 7, and 8.
- **Properties**- Students use the Associative Property of Multiplication to multiply three numbers.
- **Patterns-** Students will use patterns in multiplication.

CSDT Technology Connection

8.1.5.CS.3: Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.

Enduring Understandings

Operations and Algebraic Thinking

3.OA.B [**M**] Understand properties of multiplication and the relationship between multiplication and division

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.

3.OA.B.5 Apply properties of operations as strategies to multiply and divide.

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.)

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.

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 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Mathematical Practices Focus

8. Look for and express regularity in repeated reasoning.