

# MP1c-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

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

## Big Ideas

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- **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.

## Enduring Understandings

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### 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  $8 \times 7$  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  $8 \times 5 = 40$ , 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.

**Technology Connection**

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

**Mathematical Practices Focus**

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8. Look for and express regularity in repeated reasoning.