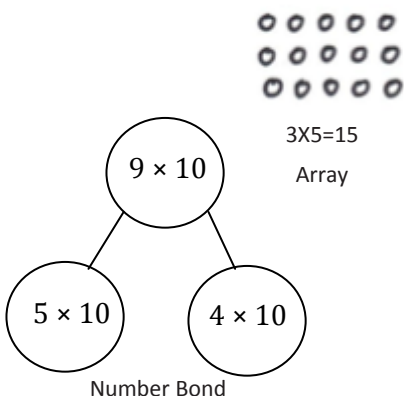


# Math Module 1: Properties of Multiplication and Division and Solving Problems with Units of 2-5 and 10

## VOCABULARY

- Array (arrangement of objects in rows and columns)
- Commutative property/commutative (e.g., rotate a rectangular array 90 degrees to demonstrate that factors in a multiplication sentence can switch places)
- Equal groups (with reference to multiplication and division; one factor is the number of objects in a group and the other is a multiplier that indicates the number of groups)
- Distribute (with reference to the distributive property, e.g., in  $12 \times 3 = (10 \times 3) + (2 \times 3)$  the 3 is the multiplier for each part of the decomposition)
- Divide/division (partitioning a total into equal groups to show how many equal groups add up to a specific number, e.g.,  $15 \div 5 = 3$ )
- Factors (numbers that are multiplied to obtain a product)
- Multiplication/multiply (an operation showing how many times a number is added to itself, e.g.,  $5 \times 3 = 15$ )
- Number of groups (factor in a multiplication problem that refers to the total equal groups)
- Parentheses (symbols ( ) used around an expression or numbers within an equation)
- Quotient (the answer when one number is divided by another)
- Rotate (turn, used with reference to turning arrays 90 degrees)
- Row/column<sup>7</sup> (in reference to rectangular arrays)
- Size of groups (factor in a multiplication problem that refers to how many in a group)
- Unit (one segment of a partitioned tape diagram)
- Unknown (the missing factor or quantity in multiplication or division)

## VISUALS



**The Commutative Property**

3 rows of 5      5 rows of 3

$3 \times 5 = 5 \times 3$

**RDW**

Read – read the problem  
 Draw – draw and label a picture  
 Write – write a number sentence and a word sentence

**The Distributive Property**

$6 \times 4 =$

$(5 \times 4) = 20$

$(1 \times 4) = 4$

$(6 \times 4) = (5 \times 4) + (1 \times 4)$