

# Unit 2b-Connect Area To Multiplication And Addition

Content Area: **Mathematics**  
Course(s): **Math 3**  
Time Period: **Marking Period 2**  
Length: **MP2 Topic 6 6-1 to 6-7**  
Status: **Published**

## Essential Questions

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How does area connect to multiplication and addition?

## Big Ideas

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- Area As Covering- Students will study the concept of area as the number of unit squares needed to cover a region
- Relate Area To Multiplication And Addition-Students can use counting, repeated addition, or multiplication to find or estimate the number of unit squares that cover a region
- Area Of Irregular Rectilinear Figures- Students develop understanding that the area of a larger figure is equal to the sum of the areas of all its parts.

## CSDT Technology Connection

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8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks

## Enduring Understandings

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Measurement & Data

[C3.MD.C.5.A](#) -A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.

[3.MD.C.5.B](#) -A plane figure which can be covered without gaps or overlaps by  $n$  unit squares is said to have an area of  $n$  square units.

[3.MD.C.6](#) -Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units)

[3.MD.C.7.A](#) -Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

[3.MD.C.7.B](#) -Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

[3.MD.C.7.C](#) -Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths  $a$  and  $b + c$  is the sum of  $a \times b$  and  $a \times c$ . Use area models to represent the distributive property in mathematical reasoning.

[3.MD.C.7.D](#) - Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

### **Operations and Algebraic Thinking**

**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.  $8 \times ? = 48$ ,  $5 = \text{length divided by } 3$ ,  $6 \times 6 = ?$

**3.OA.C.7** Fluently multiply and divide within 100 using strategies such as the relationship between multiplication and division (knowing that  $8 \times 4 = 40$ , one knows  $40 \text{ divided by } 5 = 8$ ) for properties of operation.

### **Mathematical Practices Practices**

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7. Look for and make use of structure.