

MP2b-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

How does area connect to multiplication and addition?

Big Ideas

- 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.

Technology Connection

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

Enduring Understandings

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

7. Look for and make use of structure.