Topic A

Foundations for Understanding Area

3.MD.5, 3.MD.6, 3.MD.7

Focus Standard:	3.MD.5	Recognize area as an attribute of plane figures and understand concepts of area measurement: 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. 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.
Instructional Days:	4	
Coherence -Links from:	G2–M2	Addition and Subtraction of Length Units
	G3–M1	Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10
	G3–M3	Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10
-Links to:	G4–M3	Multi-Digit Multiplication and Division
	G4–M7	Exploring Multiplication

In Lesson 1, students come to understand area as an attribute of plane figures that is defined by the amount of two-dimensional space within a bounded region. Students use pattern blocks to tile given polygons without gaps or overlaps and without exceeding the boundaries of the shape.

Lesson 2 takes students into an exploration in which they cut apart paper rectangles into same-size squares to concretely define a square unit, specifically square inches and centimeters. They use these units to make rectangular arrays that have the same area but different side lengths.

Lessons 3 and 4 introduce students to the strategy of using centimeter and inch tiles to find area. Students use tiles to determine the area of a rectangle by tiling the region without gaps or overlaps. They then bring the ruler (with corresponding units) alongside the array to discover that the side length is equal to the number of tiles required to cover one side of the rectangle. From this experience, students begin relating total area with multiplication of side lengths.

A Teaching Sequence Toward Mastery of Foundations for Understanding Area
Objective 1: Understand area as an attribute of plane figures. (Lesson 1)
Objective 2: Decompose and recompose shapes to compare areas. (Lesson 2)
Objective 3: Model tiling with centimeter and inch unit squares as a strategy to measure area. (Lesson 3)
Objective 4: Relate side lengths with the number of tiles on a side. (Lesson 4)