# CAR Unit Template

## Unit Title: Mathematics – Relating Area to Multiplication and Addition – Unit 2 – Module A

**Grade level: Grade 3**

**Timeframe:**

## Essential Questions

## Standards

### Standards (Taught and Assessed):

**3.MD.C.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.

**3.MD.C.6** Measure areas by counting unit squares (square cm, square m, square in, square ft, and nonstandard units).

**3.MD.C.7** Relate area to the operations of multiplication and addition.

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.

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.OA.C.7** Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

**3.MD.C.7** Relate area to the operations of multiplication and addition.

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* × *b* and *a* × *c*. Use area models to represent the distributive property in mathematical reasoning.

**3.OA.B.5** Apply properties of operations as strategies to multiply and divide. *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known.*  *(Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16= 56. (Distributive property.)*

**Key**: Major Cluster Supporting Cluster Additional Cluster

### Highlighted Career Ready Practices and 21st Century Themes/Skills

### Social-Emotional Learning Competencies

## Instructional Plan

Pre-Assessment and Reflection

| **Pre-Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
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Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)

| **SLO – WALT**  **We are learning to/that** | **Student Strategies** | **Formative Assessment** | **Activities and Resources** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
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| **3.MD.C.5 – WALT** a square with side length 1 unit, called “a unit square,” is said to have ‘one square unit of area |  |  |  |  |
| **3.MD.C.5 – WALT** a unit square can be used to measure area |  |  |  |  |
| **3.MD.C.5 – WALT** area is an attribute of a plane figure |  |  |  |  |
| **3.MD.C.5 – WALT** the number of *n* square units covering a plane figure without gaps or overlaps, determines its area |  |  |  |  |
| **3.MD.C.6 – WALT** measure area by counting unit squares including square cm, square m, square in, square ft, and nonstandard units |  |  |  |  |
| **3.MD.C.7.a – WALT** find the area of a rectangle with whole-number side lengths by tiling it |  |  |  |  |
| **3.MD.C.7.a – WALT** show that a tiled area is the same as can be found by multiplying the side lengths |  |  |  |  |
| **3.MD.C.7.b – WALT** multiply side lengths of rectangles to find areas in the context of real world and mathematical problems |  |  |  |  |
| **3.MD.C.7.c – WALT** represent whole-number products and rectangular areas |  |  |  |  |
| **3.OA.C.7 – WALT** multiply and divide within 100 using strategies such as the relationship between multiplication and division or properties of operations (working towards accuracy and efficiency) |  |  |  |  |
| **3.MD.C.7.c – WALT** use tiling to show the area of a rectangle with whole-number side lengths, *a* and *b* + *c*, is composed of two additive areas, *a* × *b* and *a* × *c* |  |  |  |  |
| **3.MD.C.7.c – WALT** use area models to represent and explain the distribution property by using mathematical reasoning |  |  |  |  |
| **3.OA.B.5 – WALT** apply properties of operations (distributive property) as strategies to multiply |  |  |  |  |

Benchmark Assessment 1

| **Benchmark Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
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Benchmark Assessment 2

| **Benchmark Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
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Summative Assessments (add rows as needed)

| **Summative Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
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Interdisciplinary Connections

| **Interdisciplinary Connections** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
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