# CAR Unit Template

## Unit Title: Mathematics – Fractions – Unit 3 – Module B

**Grade level: Grade 5**

**Timeframe:**

## Essential Questions

## Standards

### Standards (Taught and Assessed):

**5.NF.B.4** Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

a. Interpret the product (*a*/*b*) × *q* as a part of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a* × *q* ÷ *b*. *For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)*

b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

**5.NF.B.5** Interpret multiplication as scaling (resizing), by:

a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence *a/b* = (*n* × *a*)/(*n* × *b*) to the effect of multiplying *a*/*b* by 1.

**5.NF.B.6** Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

**5.NF.B.3** Interpret a fraction as division of the numerator by the denominator (*a*/*b* = *a* ÷ *b*). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.  *For example, interpret* ¾ *as the result of dividing 3 by 4, noting that* ¾ *multiplied by 4 equals 3, and that when 3 wholes are shared equally among* *4 people each person has a share of size* ¾*. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should* *each person get? Between what two whole numbers does your answer lie?*

**5.NF.B.7** Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3)* ÷ *4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3)* ÷ *4 = 1/12 because (1/12)* × *4 = 1/3.*

b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20* × *(1/5) = 4.*

**5.NF.B.7** Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share ½ lb. of chocolate equally? How many* ⅓*-cup servings are in 2 cups of raisins?*

**5.MD.B.2** Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the* *amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

**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** |
| --- | --- | --- | --- | --- |
| **5.NF.B.4 – WALT** apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction |  |  |  |  |
| **5.NF.B.4a. – WALT** interpret the product (*a*/*b*) × *q* as a part of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a* × *q* ÷ *b* \*\* |  |  |  |  |
| **5.NF.B.4a. – WALT** interpret the product of a fraction and a fraction as (*a*/*b*) × (*c*/*d*) = *ac*/*bd* \*\* |  |  |  |  |
| **5.NF.B.4b. – WALT** tile a rectangle using the appropriate fractional unit square in order to find the area of a rectangle that has fractional side lengths |  |  |  |  |
| **5.NF.B.4b. – WALT** show that the area found by tiling would be that same as multiplying the side lengths |  |  |  |  |
| **5.NF.B.4b. – WALT** multiply fractional side lengths to find areas of rectangles |  |  |  |  |
| **5.NF.B.4b. – WALT** represent fraction products as rectangular areas |  |  |  |  |
| **5.NF.B.5a. – WALT** interpret multiplication as scaling (resizing) by comparing the size of a product to the size of one factor without performing the multiplication |  |  |  |  |
| **5.NF.B.5b. – WALT** explain why multiplying a given number by a fraction greater than one results in a product greater than one and why multiplying a given number by a fraction less than one results in a product smaller than the given number |  |  |  |  |
| **5.NF.B.5b. – WALT** multiplying a fraction *a*/*b* by *n*/*n* (*a/b* = (*n* × *a*)/(*n* × *b*)) has the same effect as multiplying *a*/*b* by 1 and creates an equivalent fraction |  |  |  |  |
| **5.NF.B.6 – WALT solve** real world problems involving multiplication of fractions and mixed numbers |  |  |  |  |
| **5.NF.B.3 – WALT** interpret a fraction as division of the numerator by the denominator using visual fraction models or equations |  |  |  |  |
| **5.NF.B.3 – WALT** solve word problems involving division of whole numbers resulting in a fraction or mixed number quotient |  |  |  |  |
| **5.NF.B.7a. – WALT** compute and interpret the quotients of a unit fraction by a non-zero whole number \*\* |  |  |  |  |
| **5.NF.B.7b – WALT** compute and interpret the quotients of a non-zero whole number by a unit fraction \*\* |  |  |  |  |
| **5.NF.B.7 – WALT** solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions\*\* |  |  |  |  |
| **5.MD.B.2 – WALT** make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8) |  |  |  |  |
| **5.MD.B.2 – WALT** use operations with fractions to solve problems involving information presented in line plots |  |  |  |  |

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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