



Hattiesburg Public School District

Grade 5 Mathematics Units

2015 – 2016



| Unit 6: Multiplying with Fractions | Time Frame: 2 Weeks (Dec 1-11) |
|---|-------------------------------------|
| Content Standards | Standards for Mathematical Practice |
| Major Standards | |
| <p>5.NF.4a Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.</p> | |
| <p>5.NF.4b Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. 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 length to find areas of rectangles, and represent fraction products as rectangular areas.</p> | |
| <p>5.NF.5a Interpret multiplication as scaling (resizing), by: 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.</p> | |
| <p>5.NF.5b Interpret multiplication as scaling (resizing), by: 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</p> | |



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results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.

5.NF.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.

Supporting Standards

5.MD.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.

Additional Standards

Pre-requisite Standards

| Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 |
|---|---|--|--|--|
| Lesson Topic: Exploring and understanding product of fractions Standard Ref: 5.NF.4.a Resource/Strategy | Lesson Topic: Multiply a Fraction by a Fraction Standard Ref: 5.NF. 4.b Resource/Strategy | Lesson Topic: Model Fraction Multiplication using area models Standard Ref: 5.NF 4.b Resource/Strategy | Lesson Topic: Multiply unit fractions to find areas Standard Ref; 5.NF 4.b Resource/Strategy | Lesson Topic: Multiply fractions greater than one Standard Ref: 5.NF.4.b Resource/Strategy |
| Lesson 6 | Lesson 7 | Lesson 8 | Lesson 9 | Lesson 10 |



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| Lesson Topic: Multiply fractional side length to find areas of rectangles Standard Ref: 5.NF.4.b Resource/Strategy | Lesson Topic: Use area models to multiply fractions less than 1 and greater than 1 Standard Ref: 5.NF.5a/b Resource/Strategy | Lesson Topic: Compare factors and Products Standard Ref: 5.NF.5a/b Resource/Strategy | Lesson Topic: Multiply Fractions using number lines, area models and equations Standard Ref: 5.NF.6 Resource/Strategy | Lesson Topic: Solve Word Problems with multiplying Fractions (include mixed numbers) Standard Ref: 5.NF.6 Resource/Strategy |
| Lesson 11 | Performance Task | | | |
| Lesson Topic: Line Plots involving Multiplication of Fractions Standard Ref: 5.MD.2 Resource/Strategy | | | | |