

Fifth Grade Unit 5 – Fraction Multiplication and Division

Focus for Unit 5 - Use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions makes sense

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| <ul style="list-style-type: none"> Interpret a fraction as division of the numerator by the denominator ($a/b = a \text{ divided by } b$) 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 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 part of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q$ divided by 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 | <ul style="list-style-type: none"> 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 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 results in a product smaller than the given number; and relating the principle of fraction equivalence Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using fraction models or equations to represent the problem Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions |
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Activities for home

- Find examples of fractions around the house or neighborhood. Multiply or simplify the fractions that you find.
- Use measuring cups when baking or cooking. Discuss the amount of $\frac{1}{2}$, $\frac{1}{3}$, or $\frac{1}{4}$ cups to complete a recipe that calls for whole cups.
- Pick or create numbers to make fractions and mixed numbers. Multiply or simplify using the fractions you created.
- Create or pick numbers to make fractions. Multiply or divide the fractions then write a matching story problem.
- Practice multiplication and division facts.
- Practice finding ratios and equal ratios by finding equivalent fractions.
- Create ratios for objects around the house. For example, the ratio of male shoes to female shoes.
- Create fractions. Find fractions that are equivalent to the original fraction.

Vocabulary

Fraction: a number that names part of a whole or part of a group
Whole Number: a number with no fractional parts, no decimal parts and no negatives
Numerator: the top number in a fraction, which shows how many of the equal parts of the whole or group are being considered
Denominator: the bottom number in a fraction, which shows how many equal parts the set or whole has been divided into
Equivalent Fractions: two or more fractions that name the same amount
Equal: exactly the same amount or value
Quantity: how much there is of something
Simple Fraction: a fraction where the numerator and the denominator cannot be any smaller
Equation: a number sentence that says two things are equal
Multiplication: repeated addition
Product: the answer when two or more numbers are multiplied together
Division: splitting into equal parts or groups, fair sharing
Quotient: the answer after you divide one number by another
Visual Fraction Model: representing fractions by dividing objects, shapes, divided bars or number lines
Mixed Number: a whole number and a fraction combined into one mixed number
Unit Fraction: a fraction where the numerator is always 1

