

4th: Unit 5- Comparison and Operations with Fractions

Math Investigations: Fraction Cards & Decimal Squares Standards for Grade 4

Unit	<p><u>UNIT 1</u>= Addition and Subtraction of Large Numbers <u>UNIT 2</u>= Facts, Factors, and Multiples <u>UNIT 3</u>= Measurement, and Relationships in Geometry <u>UNIT 4</u>= Multiplication & Division Properties and Strategies <u>UNIT 5</u>= Comparison and Operations with Fractions <u>UNIT 6</u>= Decimals <u>UNIT 7</u>= Multiplication and Division with Large Numbers <u>UNIT 8</u>= Units of Measurement <u>UNIT 9</u>= Shape and Number Patterns</p>
5	4.NF.1 Explain why a fraction a/b is equivalent to a fraction $(n \times a) / (n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
5	4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.
5	4.NF.3.a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
5	4.NF.3.b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. <i>Examples:</i> $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 \ 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.
5	4.NF.3.c Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
5	4.NF.3.d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
5	4.NF.4.a Understand a fraction a/b as a multiple of $1/b$. <i>For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.</i>
5	4.NF.4.b Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)</i>
5	4.NF.4.c Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <i>For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</i>
5,6,7,8,1,3	4.MD.2 Use the four operations to solve word problems involving distances, interval of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
5,9	4.MD.4 Make a line plot to display a data set of measurements in fractions of a unit ($1/2$, $1/4$, $1/8$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. <i>For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.</i>