

## UNIT D Use unit fractions to name and count fractional amounts

Grade	Curriculum Expectations
1	<ul style="list-style-type: none"> <li>divide whole objects into parts and identify and describe, through investigation, equal-sized parts of the whole, using fractional names (e.g., halves; fourths or quarters).</li> </ul>
2	<ul style="list-style-type: none"> <li>determine, through investigation using concrete materials, the relationship between the number of fractional parts of a whole and the size of the fractional parts (e.g., a paper plate divided into fourths has larger parts than a paper plate divided into eighths) (Sample problem: Use paper squares to show which is bigger, one half of a square or one fourth of a square.).</li> </ul>
2	<ul style="list-style-type: none"> <li>regroup fractional parts into wholes, using concrete materials (e.g., combine nine fourths to form two wholes and one fourth);</li> </ul>
2	<ul style="list-style-type: none"> <li>compare fractions using concrete materials, without using standard fractional notation (e.g., use fraction pieces to show that three fourths are bigger than one half, but smaller than one whole).</li> </ul>
3	<ul style="list-style-type: none"> <li>divide whole objects and sets of objects into equal parts, and identify the parts using fractional names (e.g., one half; three thirds; two fourths or two quarters), without using numbers in standard fractional notation.</li> </ul>
4	<ul style="list-style-type: none"> <li>represent fractions using concrete materials, words, and standard fractional notation, and explain the meaning of the denominator as the number of the fractional parts of a whole or a set, and the numerator as the number of fractional parts being considered;</li> </ul>
4	<ul style="list-style-type: none"> <li>compare and order fractions (i.e., halves, thirds, fourths, fifths, tenths) by considering the size and the number of fractional parts (e.g., <math>\frac{4}{5}</math> is greater than <math>\frac{3}{5}</math> because there are more parts in <math>\frac{4}{5}</math>; <math>\frac{1}{4}</math> is greater than <math>\frac{1}{5}</math> because the size of the part is larger in <math>\frac{1}{4}</math>);</li> </ul>
4	<ul style="list-style-type: none"> <li>demonstrate and explain the relationship between equivalent fractions, using concrete materials (e.g., fraction circles, fraction strips, pattern blocks) and drawings;</li> </ul>
4	<ul style="list-style-type: none"> <li>count forward by halves, thirds, fourths, and tenths to beyond one whole, using concrete materials and number lines (e.g., use fraction circles to count fourths: “One fourth, two fourths, three fourths, four fourths, five fourths, six fourths, ...”);</li> </ul>
5	<ul style="list-style-type: none"> <li>represent, compare, and order fractional amounts with like denominators, including proper and improper fractions and mixed numbers, using a variety of tools (e.g., fraction circles, Cuisenaire rods, number lines) and using standard fractional notation;</li> </ul>
5	<ul style="list-style-type: none"> <li>demonstrate and explain the concept of equivalent fractions, using concrete materials (e.g., use fraction strips to show that <math>\frac{3}{4}</math> is equal to <math>\frac{9}{12}</math>);</li> </ul>
5	<ul style="list-style-type: none"> <li>determine and explain, through investigation using concrete materials, drawings, and calculators, the relationship between fractions (i.e., with denominators of 2, 4, 5, 10, 20, 25, 50, and 100) and their equivalent decimal forms (e.g., use a 10 x 10 grid to show that <math>\frac{2}{5} = \frac{40}{100}</math>, which can also be represented as 0.4).</li> </ul>
6	<ul style="list-style-type: none"> <li>determine and explain, through investigation using concrete materials, drawings, and calculators, the relationships among fractions, decimal numbers, and percents.</li> </ul>
7	<ul style="list-style-type: none"> <li>divide whole numbers by simple fractions and by decimal numbers to hundredths, using concrete materials;</li> </ul>
7	<ul style="list-style-type: none"> <li>add and subtract fractions with simple like and unlike denominators, using a variety of tools and algorithms;</li> </ul>
7	<ul style="list-style-type: none"> <li>determine, through investigation, the relationships among fractions, decimals, percents, and ratios;</li> </ul>

<b>8</b>	<ul style="list-style-type: none"> <li>• use estimation when solving problems involving operations with whole numbers, decimals, percents, integers, and fractions, to help judge the reasonableness of a solution;</li> </ul>
<b>8</b>	<ul style="list-style-type: none"> <li>• represent the multiplication and division of fractions, using a variety of tools and strategies;</li> </ul>
<b>8</b>	<ul style="list-style-type: none"> <li>• solve problems involving addition, subtraction, multiplication, and division with simple fractions.</li> </ul>
<b>9D</b>	<ul style="list-style-type: none"> <li>• simplify numerical expressions involving integers and rational numbers, with and without the use of technology;</li> </ul>
<b>9D</b>	<ul style="list-style-type: none"> <li>• solve problems requiring the manipulation of expressions arising from applications of percent, ratio, rate, and proportion;</li> </ul>
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<b>9P</b>	<ul style="list-style-type: none"> <li>• solve problems requiring the expression of percents, fractions, and decimals in their equivalent forms</li> </ul>