

Grade 6 Mathematics Unit Preview

Quarter 2: Number Relationships and Computation (Fractions)

Objectives: (Your student will be able to)

- **Read, write, or represent fractions or mixed numbers using symbols, models, and words.**
- **Compare and order fractions.** For example, place fractions and mixed numbers on a number line.
- **Find common factors of numbers.** For example, factors of 8 are 1, 2, 4, 8. The factors of 12 are 1, 2, 3, 4, 6, and 12. The common factors of 8 and 12 are 1, 2, and 4. The greatest common factor is 4.
- **Simplify and determine equivalent fractions.** For example, to simplify $\frac{4}{12}$:
the factors of 4 are 1,2,4; the factors of 12 are 1,2,3,4,6,12; so the common factors are 1,2,4;
and the GCF is 4; $\frac{4}{12} \div \frac{4}{4} = \frac{1}{3}$. The simplified fraction for $\frac{4}{12}$ is $\frac{1}{3}$.
- **Rename mixed numerals as improper fractions and improper fractions as mixed numerals.** For example, the improper fraction $\frac{18}{5}$ is equivalent to the mixed numeral $3\frac{3}{5}$.
- **Add and subtract fractions and mixed numerals with like and unlike denominators in simplest forms.**
For example, $\frac{4}{5} + \frac{2}{3}$ or $\frac{12}{15} + \frac{10}{15} = \frac{22}{15}$ or $1\frac{7}{15}$.
- **Multiply a fraction by a fraction.** For example, $\frac{3}{4} \times \frac{8}{9} = \frac{24}{36}$ or $\frac{2}{3}$
- **Divide a whole number by a fraction or a fraction by a fraction.** For example, $\frac{5}{6} \div \frac{2}{3} = \frac{15}{12}$ or $1\frac{1}{4}$
- **Multiply a mixed number by a whole number and a fraction by a mixed number.** For example, $3\frac{4}{5} \times 6 = \frac{114}{5}$ or $22\frac{4}{5}$.

Vocabulary: (Words your student will need to understand are listed and defined on the back)

Activities to do with your student (in addition to homework, optional):

- Pick or create numbers to make fractions with. Add, subtract, multiply, divide, or simplify using the fractions you create.
- With a partner, pick numbers. Race to find the common factors of those numbers.
- With a partner, choose fractions. Race to put the fractions in order from least to greatest or greatest to least.
- Pick or create numbers to make improper fractions. Change the improper fractions to mixed numerals.
- Find examples of fractions and/or mixed numerals around your house.
- Pick or create numbers to make fractions, improper fractions, or mixed numbers. Draw pictures of the fraction, improper fraction, or mixed number.
- Practice basic facts.



Vocabulary: (Words your student will need to understand)

<ul style="list-style-type: none"> • Common factor: A number that is a factor of two or more numbers. 	<ul style="list-style-type: none"> • Common multiple: A number that is a multiple of two or more numbers.
<ul style="list-style-type: none"> • Denominator: The quantity below the line in a fraction. It tells the number of equal parts into which a whole is divided. 	<ul style="list-style-type: none"> • Equivalent fractions: Fractions that name the same amount. For example, $\frac{3}{4}$ and $\frac{6}{8}$ are equivalent.
<ul style="list-style-type: none"> • Fraction: A way of representing part of a whole or part of a group by telling the number of equal parts in the whole and the number of those parts you are describing 	<ul style="list-style-type: none"> • Greatest common factor (GCF): The greatest factor that two or more numbers have in common.
<ul style="list-style-type: none"> • Least common denominator (LCD): The least common multiple of two or more denominators. For example, $\frac{1}{4} = \frac{3}{12}$ and $\frac{5}{6} = \frac{10}{12}$. 12 is the LCD for $\frac{1}{4}$ and $\frac{5}{6}$. 	<ul style="list-style-type: none"> • Least common multiple (LCM): The smallest number, other than zero, that is a common multiple of two or more numbers. For example, multiples of 6 are 6,12,18,24,30,36 and multiples of 9 are 9,18,27,36,45,54. The LCM of 6 and 9 is 18.
<ul style="list-style-type: none"> • Mixed numbers: A number represented by a whole number and a fraction. 	<ul style="list-style-type: none"> • Multiple: The product of a given whole number and another number. For example, the multiples of 10 are 0,10,20,30,40,50, ...
<ul style="list-style-type: none"> • Simplest form: A fraction is in its simplest form when the numerator and denominator have only 1 as their common factor. 	<ul style="list-style-type: none"> • Unlike denominators: Two or more fractions with unequal denominators. For example, $\frac{6}{17}$ and $\frac{3}{7}$ have different denominators.