

Introduction to Fractions

A fraction is a way to represent a part of a whole. It consists of a numerator (the top number) and a denominator (the bottom number). For example, $\frac{1}{2}$ is a fraction where 1 is the numerator and 2 is the denominator.

Equivalent Ratios

Equivalent ratios are fractions that have the same value but different forms. For example, $\frac{1}{2}$, $\frac{2}{4}$, and $\frac{3}{6}$ are all equivalent fractions.

Simplifying Fractions

Simplifying fractions involves reducing them to their simplest form by dividing both the numerator and the denominator by their greatest common divisor (GCD). For example, the fraction $\frac{6}{8}$ can be simplified to $\frac{3}{4}$.

Comparing Fractions

Comparing fractions involves determining which fraction is larger or smaller. To compare fractions, first find a common denominator. Then, the fraction with the larger numerator is larger.

Real-World Applications

Fractions have numerous real-world applications, from cooking and measuring ingredients to science and engineering. Understanding fractions is essential for solving problems that involve proportions and quantities.

Activity 1: Fraction Match

Match the following fractions to their equivalent ratios:

1. $\frac{1}{2}$
2. $\frac{2}{4}$
3. $\frac{3}{6}$
4. $\frac{1}{4}$
5. $\frac{2}{8}$

Activity 2: Simplify Fractions

Simplify the following fractions:

1. $\frac{6}{8}$
2. $\frac{4}{6}$
3. $\frac{8}{10}$

Activity 3: Compare Fractions

Compare the following fractions:

1. $\frac{1}{2}$ and $\frac{2}{3}$
2. $\frac{3}{4}$ and $\frac{2}{3}$
3. $\frac{1}{4}$ and $\frac{1}{2}$

Activity 4: Real-World Application

A recipe calls for $\frac{3}{4}$ cup of sugar. If you want to make half the recipe, how much sugar will you need?

Conclusion

Understanding fraction basics and equivalent ratios is a fundamental concept in mathematics that has numerous practical applications. By mastering these concepts, students will have a solid foundation for more advanced mathematical topics and will be better equipped to tackle challenges in various fields.

Answer Key

Activity 1: Fraction Match

1. $\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$

2. $\frac{1}{4} = \frac{2}{8}$

Answer Key Continued

Activity 2: Simplify Fractions

1. $\frac{6}{8} = \frac{3}{4}$

2. $\frac{4}{6} = \frac{2}{3}$

3. $\frac{8}{10} = \frac{4}{5}$

Answer Key Continued

Activity 3: Compare Fractions

1. $\frac{2}{3}$ is larger than $\frac{1}{2}$
2. $\frac{3}{4}$ is larger than $\frac{2}{3}$
3. $\frac{1}{2}$ is larger than $\frac{1}{4}$

Answer Key Continued

Activity 4: Real-World Application

To find half of $\frac{3}{4}$, multiply $\frac{3}{4}$ by $\frac{1}{2}$: $(\frac{3}{4}) * (\frac{1}{2}) = \frac{3}{8}$. Therefore, you will need $\frac{3}{8}$ cup of sugar.

