Introduction to Fractions and Equivalent Ratios with Real-World Scenarios

Introduction to Fractions

A fraction is a way of expressing a part of a whole. It consists of a numerator (the top number) and a denominator (the bottom number). For example, the fraction 1/2 represents one equal part out of a total of two parts.

What are Fractions?

Fractions can be used to represent a variety of real-world scenarios, such as measuring ingredients for a recipe or calculating the ratio of elements in a compound.

1. What is the numerator and denominator in the fraction 3/4?
2. What does the fraction 2/3 represent?

Equivalent Ratios

Equivalent ratios are ratios that have the same value, but with different numbers. For example, the ratios 1:2 and 2:4 are equivalent, because they both represent the same relationship between the numbers.

Activity:

Match the equivalent ratios:

Ratio 1	Ratio 2
1:2	2:4
2:3	4:6

Simplifying Fractions

Simplifying fractions is an important concept in mathematics. To simplify a fraction, we need to find the greatest common divisor (GCD) of the numerator and denominator, and divide both numbers by the GCD.

1. Simplify the fraction 4/8
2. Simplify the fraction 6/12

Real-World Applications

Fractions and equivalent ratios are used in many real-world scenarios, such as cooking, science, finance, and music.

Activity:

Solve the following problems:

1. A recipe calls for 3/4 cup of sugar. If you want to make half the recipe, how much sugar will you need?
2. A bookshelf has 5 shelves, and each shelf can hold 3/4 of a meter of books. If the bookshelf is currently empty, how much space is available for books?

Fraction Art

Create a piece of art that incorporates fractions. Use different colors and shapes to represent different fractions.

[Space for creative work]

Questions

Answer the following questions:

1. What is the simplified form of the fraction 6/8?
2. Identify the equivalent ratio of 2:4
3. A group of friends want to share some candy equally. If they have 3/4 of a bag of candy and there are 4 friends, how much candy will each friend get?

Conclusion

In conclusion, fractions and equivalent ratios are important concepts in mathematics that are used in many real-world scenarios. By practicing and applying these concepts, you will develop a deeper understanding of mathematical relationships and improve your problem-solving skills.

Reflection:

1. What did you learn about fractions and equivalent ratios?
2. How can you apply these concepts in real-world scenarios?

Differentiated Activities

For mixed-ability groups, provide the following activities:

Activity 1:

For students who need extra support:

1. Provide additional examples of fractions and equivalent ratios
2. Use visual aids to help students understand the concepts

Activity 2:

For students who need a challenge:

1. Provide more complex problems involving fractions and equivalent ratios
2. Ask students to create their own real-world scenarios involving fractions and equivalent ratios

Answer Key

Check your answers with the following answer key:

1. 1. 3/4
2. 2. 1:2
3. 3. 3/16 of a bag