Converting Between Fractions and Decimals with Practical Applications

Introduction (5 minutes)

Welcome to this worksheet on converting between fractions and decimals with practical applications in measurement and data analysis. Read the introduction and answer the following questions:

1. What is the difference between a fraction and a decimal?

2. Provide an example of a fraction and its decimal equivalent.

3. What is the relationship between fractions and decimals?

Section 1: Understanding Fractions and Decimals (15 minutes)

Complete the following exercises to understand fractions and decimals:

1. Convert the following fractions to decimals:
   - 1/2
   - 3/4
   - 2/5

2. What is the decimal equivalent of 3/8?

3. Convert 2 1/4 to a decimal.

Section 2: Converting Fractions to Decimals (15 minutes)

Complete the following exercises to practice converting fractions to decimals:

1. Convert the following fractions to decimals:
   - 1/2
   - 3/4
   - 2/5

2. What is the decimal equivalent of 3/8?

3. Convert 2 1/4 to a decimal.

Section 3: Converting Decimals to Fractions (15 minutes)

Complete the following exercises to practice converting decimals to fractions:

1. Convert the following decimals to fractions:
   - 0.5
   - 0.25
   - 0.75
2. What is the fraction equivalent of 0.6?
3. Convert 2.5 to a fraction.

Section 4: Practical Applications (20 minutes)

Complete the following word problems to apply your understanding of fractions and decimals:

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 water tank can hold 2 1/2 liters of water. If 1 3/4 liters of water are already in the tank, how much more water can be added?

3. A car travels 2 1/2 miles in 1/2 hour. How many miles will it travel in 1 hour?

Section 5: Data Analysis (20 minutes)

Complete the following exercises to analyze data using fractions and decimals:

1. A survey found that 3/5 of the students in a class prefer math. If there are 25 students in the class, how many students prefer math?

2. A company sold 2 1/4 million units of a product last year. If they want to increase sales by 1/4, how many units do they need to sell this year?

3. A student scored 75% on a test. What is the fraction equivalent of this percentage?

Section 6: Word Problems (25 minutes)

Complete the following word problems to apply your understanding of fractions and decimals:

1. A bakery sells 2 3/4 dozen cupcakes per day. If each dozen contains 12 cupcakes, how many cupcakes does the bakery sell per day?

2. A person has $15 1/2 to spend on lunch. If they buy a sandwich for $4 1/4 and a drink for $2 3/4, how much money do they have left?

3. A group of friends want to share some candy equally. If they have 2 3/4 pounds of candy and there are 5 friends, how much candy will each friend get?

Section 7: Challenge Problems (25 minutes)

Complete the following challenge problems to apply your understanding of fractions and decimals:

1. A water bottle can hold 1 3/4 liters of water. If 1 1/2 liters of water are already in the bottle, how much more water can be added?

2. A person is planning a road trip and wants to drive 2 1/2 hours per day. If they want to travel 10 1/2 hours in total, how many days will the trip take?

3. A student has 3 1/2 hours to complete a task. If they work for 2 1/4 hours, how much time do they have left?

Section 8: Review (15 minutes)

Complete the following review exercises to reinforce your understanding of fractions and decimals:

1. What is the decimal equivalent of 1/2?

2. What is the fraction equivalent of 0.25?

3. A recipe calls for 3/4 cup of sugar. If you want to make half the recipe, how much sugar will you need?

Differentiated Activities (20 minutes)

Complete one of the following differentiated activities:

For students who need extra support:

Provide additional practice exercises on converting fractions to decimals and decimals to fractions.

Use visual aids such as number lines and hundreds charts to help students understand the relationship between fractions and decimals.

For students who need a challenge:

Provide more complex word problems that require converting between fractions and decimals.

Ask students to create their own word problems and share them with the class.

Conclusion (5 minutes)

Congratulations on completing this worksheet on converting between fractions and decimals with practical applications in measurement and data analysis! Reflect on what you have learned and answer the following questions:

1. What was the most challenging part of this worksheet for you?

2. What did you learn about fractions and decimals?

3. How will you apply what you have learned in real-world scenarios?