Applying Addition by Partitioning to Solve Multi-Step Word Problems

Introduction (5 minutes)

Welcome to this worksheet on applying addition by partitioning to solve multi-step word problems. Read the introduction and complete the task:

Addition by partitioning is a strategy used to solve complex problems by breaking them down into smaller parts. This worksheet is designed for 7-year-old students and aims to help them develop their problem-solving skills and build their confidence in solving multi-step word problems.

Activity 1: Understanding Addition by Partitioning (15 minutes)

Read the following examples and complete the calculations:

1. 457 + 279 = ?
2. 945 + 117 = ?
3. 753 + 428 = ?

Activity 2: Multi-Step Word Problems (20 minutes)

Read the following word problems and use addition by partitioning to solve them:

1. Tom has 15 pencils in his pencil case. He adds 7 more pencils to his case. Then, he gives 3 pencils to his friend. How many pencils does Tom have now?

2. A bookshelf has 5 shelves, and each shelf can hold 8 books. If the bookshelf is currently empty, how many books can be placed on it in total?

3. A bakery sells 250 loaves of bread per day. They make a profit of $0.50 per loaf. If they operate 7 days a week, how much profit do they make in a week?

Activity 3: Real-World Applications (20 minutes)

Read the following scenarios and use addition by partitioning to solve the problems:

1. You are planning a birthday party and need to calculate the total number of guests, party favors, and treats. If you have 15 guests, 2 party favors per guest, and 3 treats per guest, how many party favors and treats will you need in total?

2. A water tank can hold 1200 liters of water. If 300 liters of water are already in the tank, and 200 liters are added to it, how much water is in the tank now?

3. A company sells 250 units of a product per day. They make a profit of $10 per unit. If they operate 5 days a week, how much profit do they make in a week?

Activity 4: Mixed-Ability Group Challenges (25 minutes)

Group Task:

Work in groups to solve the following word problems:

1. A group of friends want to share some candy equally. If they have 48 pieces of candy and there are 8 friends, how many pieces of candy will each friend get?

2. A toy car track is 10 meters long. If it is extended by 5 meters, how long is the track now?

3. A person has $250 in their savings account. They add $50 to their account each month. How much will they have in their account after 6 months?

Activity 5: Reflection and Feedback (10 minutes)

Individual Reflection:

1. What did you learn about addition by partitioning in this worksheet?

2. What challenges did you face, and how did you overcome them?

3. What would you like to learn more about in future lessons?

Conclusion (5 minutes)

Congratulations on completing this worksheet! You have demonstrated your understanding of addition by partitioning and your ability to apply it to solve multi-step word problems. Remember to always break down complex problems into smaller parts and use visual aids to support your thinking.

Assessment

This worksheet assesses your ability to:

- Apply addition by partitioning to solve multi-step word problems
- Break down complex problems into smaller parts
- Use visual aids to support your thinking
- Work collaboratively in mixed-ability groups

Extension (10 minutes)

For further practice, try creating your own word problems and solving them using addition by partitioning. You can also explore other strategies for solving multi-step word problems, such as subtraction by partitioning or multiplication and division.

Differentiated Activities for Mixed-Ability Groups

Group Task:

Work in groups to complete the following tasks:

1. Create a word problem that requires addition by partitioning to solve.
2. Solve a word problem created by another group.
3. Present your solution to the class.