2-Digit Addition using the Split Strategy and Number Sense Concepts

Student Name: _____

Class: _____

Due Date: _____

Introduction to 2-Digit Addition using the Split Strategy

Welcome to this homework assignment on 2-digit addition using the split strategy and number sense concepts. In this assignment, you will learn how to use the split strategy to solve 2-digit addition problems, understand number sense concepts, and apply them to word problems.

Key Concepts:

- Split strategy
- Number sense
- 2-digit addition
- Word problems

Activity 1: 2-Digit Addition using the Split Strategy

Complete the following 2-digit addition problems using the split strategy:

1. 14 + 25 = _____
2. 37 + 19 = _____
3. 46 + 22 = _____
4. 53 + 17 = _____
5. 65 + 29 = _____

Step-by-Step Guide to the Split Strategy

1. Split the numbers into tens and ones.
2. Add the tens and ones separately.
3. Combine the answers.

Example: 14 + 25 = ?

1. Split the numbers: 14 = 10 + 4, 25 = 20 + 5
2. Add the tens: 10 + 20 = 30
3. Add the ones: 4 + 5 = 9
4. Combine the answers: 30 + 9 = 39

Activity 2: Number Sense Concepts

Complete the following number sense activities:

1. Order the following numbers from smallest to largest: 24, 17, 35, 42, 19
2. Identify the missing number in the pattern: 10, 12, 14, ____, 18
3. Write the number 45 as a sum of two numbers in three different ways (e.g., 20 + 25)

Number Sense Concepts:

- Ordering numbers
- Identifying patterns
- Missing numbers

Activity 3: Word Problems

Complete the following word problems:

1. Tom has 15 pencils in his pencil case. His friend gives him 22 more pencils. How many pencils does Tom have now?
2. A bookshelf has 25 books on it. If 17 more books are added, how many books are on the bookshelf now?

Word Problems:

- Real-world application
- Problem-solving

Activity 4: Real-World Application

Read the following scenario and answer the questions:

"A basket contains 35 apples. If 19 more apples are added to the basket, how many apples are in the basket now? If 12 apples are taken out of the basket, how many apples are left?"

1. How many apples are in the basket after 19 more apples are added?
2. How many apples are left after 12 apples are taken out?

Real-World Application:

- Applying math to real-world situations
- Problem-solving

Activity 5: Challenge Problem

Solve the following 2-digit addition problem using the split strategy:

97 + 43 = _____

Challenge Problem:

- Applying the split strategy to a challenging problem
- Problem-solving

Learning Wall Content

Key Vocabulary:

- Split strategy
- Number sense
- 2-digit addition
- Word problems

Key Concepts:

- Using the split strategy to solve 2-digit addition problems
- Understanding number sense concepts
- Applying number sense concepts to word problems

Important Questions:

- What is the split strategy?
- How do you use the split strategy to solve 2-digit addition problems?
- What is number sense?
- How do you apply number sense concepts to word problems?

Resources

Resources:

- Whiteboard and markers
- Printed or digital copies of the assignment
- Pencils, pens, and erasers
- Calculator (optional)

Lesson Plan

Lesson Plan:

1. Introduction (5 minutes): Review the split strategy and number sense concepts. Introduce the assignment and explain the activities.
2. Activity Time (20 minutes): Have students complete the activities and questions. Circulate around the room to provide feedback and guidance.
3. Conclusion (5 minutes): Review the key concepts and vocabulary. Ask students to share their answers and explanations.

Assessment

Assessment:

- Completed activities and questions
- Use of the split strategy to solve 2-digit addition problems
- Understanding of number sense concepts
- Application of number sense concepts to word problems

Extension

Extension:

- Create your own word problems using the split strategy
- Solve 3-digit addition problems using the split strategy
- Create a number sense concept chart to help you remember key concepts

Glossary

Glossary:

- **Split strategy:** a method of solving addition problems by splitting numbers into tens and ones
- **Number sense:** the ability to understand and work with numbers in a logical and meaningful way
- **2-digit addition:** adding two numbers with two digits each
- **Word problems:** math problems that are presented in a real-world context

Advanced Concepts

In this section, we will explore advanced concepts related to 2-digit addition using the split strategy and number sense concepts. We will delve into the world of multi-digit addition, regrouping, and mental math strategies.

Example: Multi-Digit Addition

Suppose we want to add 457 and 279. Using the split strategy, we can break down the numbers into hundreds, tens, and ones: 457 = 400 + 50 + 7 and 279 = 200 + 70 + 9. Then, we can add the corresponding parts: 400 + 200 = 600, 50 + 70 = 120, and 7 + 9 = 16. Finally, we combine the answers: 600 + 120 + 16 = 736.

Key Concepts:

- Multi-digit addition
- Regrouping
- Mental math strategies

Real-World Applications

2-digit addition using the split strategy and number sense concepts has numerous real-world applications. For instance, in shopping, we need to calculate the total cost of items, which often involves adding multi-digit numbers. In science, we may need to calculate the total volume of liquids or the total distance traveled by an object.

Case Study: Shopping

Suppose we want to buy two items: a shirt that costs $45 and a pair of pants that costs $32. Using the split strategy, we can calculate the total cost: 45 = 40 + 5 and 32 = 30 + 2. Then, we can add the corresponding parts: 40 + 30 = 70 and 5 + 2 = 7. Finally, we combine the answers: 70 + 7 = 77.

Practice Questions:

1. A book costs $25 and a pencil costs $17. What is the total cost?
2. A toy car costs $43 and a doll costs $29. What is the total cost?

Mental Math Strategies

Mental math strategies are essential for solving math problems quickly and efficiently. One strategy is to use the split strategy to break down numbers into smaller parts, making it easier to calculate the answer.

Example: Mental Math

Suppose we want to calculate 45 + 27. Using the split strategy, we can break down the numbers into tens and ones: 45 = 40 + 5 and 27 = 20 + 7. Then, we can add the corresponding parts: 40 + 20 = 60 and 5 + 7 = 12. Finally, we combine the answers: 60 + 12 = 72.

Key Concepts:

- Mental math strategies
- Split strategy
- Breaking down numbers

Assessment and Evaluation

To assess and evaluate student understanding, teachers can use a variety of methods, including quizzes, tests, and projects. It is essential to provide feedback and guidance to help students improve their math skills.

Case Study: Assessment

Suppose we want to assess student understanding of 2-digit addition using the split strategy. We can create a quiz with questions that require students to apply the split strategy to solve problems. We can also provide feedback and guidance to help students improve their math skills.

Practice Questions:

1. What is the sum of 45 and 27?
2. What is the sum of 93 and 19?

Conclusion

In conclusion, 2-digit addition using the split strategy and number sense concepts is an essential math skill that has numerous real-world applications. By using the split strategy, students can break down numbers into smaller parts, making it easier to calculate the answer. Mental math strategies, such as the split strategy, are also essential for solving math problems quickly and efficiently.

Key Concepts:

- 2-digit addition
- Split strategy
- Number sense concepts
- Mental math strategies

References

The following references were used to create this document:

- National Council of Teachers of Mathematics. (2014). Principles to Actions: Ensuring Mathematical Success for All.
- Van de Walle, J. A., & Lovin, L. H. (2018). Teaching Student-Centered Mathematics: Grades 3-5.

Glossary

The following glossary defines key terms used in this document:

- **2-digit addition:** the process of adding two numbers with two digits each
- **Split strategy:** a method of solving addition problems by breaking down numbers into smaller parts

- **Number sense concepts:** the ability to understand and work with numbers in a logical and meaningful way

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Challenge Problem:

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