



Exploring Tens and Ones in Whole Numbers: A Supportive Approach for 11-Year-Old Students with ADHD, EL, and Autism

Introduction

The concept of tens and ones in whole numbers is a fundamental building block of mathematics, and understanding it is crucial for students to progress in their mathematical journey. For students with ADHD, EL learners, and students with autism, mastering this concept can be particularly challenging, but with the right support and accommodations, they can achieve success.

Lesson Objectives

- Students will be able to define and identify the concepts of tens and ones in whole numbers.
- Students will be able to explain the relationship between tens and ones in whole numbers.
- Students will be able to apply their understanding of tens and ones to solve word problems.
- Students will be able to analyze and compare different representations of whole numbers.



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Prior Knowledge

To ensure that students can successfully explore the concept of tens and ones in whole numbers, it is essential to assess their prior knowledge of the following prerequisite concepts:

- Understanding of Whole Numbers: Students should have a basic understanding of whole numbers, including their ability to count, read, and write whole numbers up to 100.
- Place Value Awareness: Students should have a basic understanding of place value, including the concept of ones, tens, and hundreds.
- Basic Addition and Subtraction Facts: Students should have a solid foundation in basic addition and subtraction facts within 20.
- Number Sense and Patterns: Students should have an understanding of number sense and patterns, including their ability to recognize and extend patterns.



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Lesson Plan

Introduction and Review (10 minutes)

- Review the concept of whole numbers and ask students to share examples of times when they have used numbers in their daily lives.
- Write the numbers 10, 20, and 30 on the board and ask students to identify the tens and ones in each number.

Direct Instruction (15 minutes)

- Use visual aids, such as base-ten blocks or number lines, to demonstrate the concept of tens and ones.
- Explain that tens are groups of 10 and ones are individual units.
- Use examples, such as $14 = 1 \text{ ten} + 4 \text{ ones}$, to illustrate the concept.

Guided Practice (15 minutes)

- Provide students with a worksheet containing numbers and ask them to identify the tens and ones in each number.
- Circulate around the room to provide support and feedback.

Independent Practice (15 minutes)

- Provide students with a set of word problems that involve tens and ones, such as "If I have 2 tens and 5 ones, how many pencils do I have in total?"
- Ask students to work independently to solve the problems.

Closure (10 minutes)

- Review the key concepts of the lesson and ask students to share their answers to the word problems.
- Provide feedback and encouragement, highlighting the students' understanding of tens and ones.



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Accommodations and Support

To meet the diverse needs of students with ADHD, EL learners, and students with autism, the following accommodations and support will be provided:

- Visual Aids and Manipulatives: The use of visual aids, such as base-ten blocks or number lines, and manipulatives, such as counting blocks or fingers, will help students to understand and retain the concept of tens and ones.
- Graphic Organizers: Graphic organizers will be used to help students with ADHD and autism to organize their thoughts and ideas.
- One-on-One Support: One-on-one support will be provided to students who need additional guidance or support.
- Extra Time: Extra time will be provided to students who need it to complete assignments or tasks.



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Assessment

The assessment will consist of a written test, a project-based assessment, a presentation, and a performance task.

- **Written Test:** The written test will consist of 20 multiple-choice questions that assess the students' understanding of tens and ones in whole numbers.
- **Project-Based Assessment:** The project-based assessment will require students to create a visual representation of the concept of tens and ones, such as a poster or a diagram.
- **Presentation:** The presentation will require students to present their understanding of tens and ones to the class.
- **Performance Task:** The performance task will require students to apply their understanding of tens and ones to a real-world scenario, such as counting money or measuring length.



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Conclusion

In conclusion, the concept of tens and ones is a fundamental building block of mathematics, and understanding it is crucial for students to progress in their mathematical journey. By providing a supportive and inclusive learning environment, teachers can help students with ADHD, EL learners, and students with autism to understand and apply this concept.



PLANIT
TEACHERS

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Reflection Questions

To evaluate the effectiveness of this lesson and identify areas for improvement, teachers should reflect on the following questions:

- How did the students respond to the visual aids and manipulatives?
- Were the accommodations and support provided sufficient to meet the diverse needs of the students?
- How can the lesson be modified to better meet the needs of students with ADHD, EL learners, and students with autism?



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Extension Activities

To provide additional challenges and enrichment opportunities for students who have mastered the concept of tens and ones, the following activities are suggested:

- **Creating Tens and Ones Puzzles:** Ask students to create their own puzzles that involve tens and ones, such as a crossword puzzle or a word search.
- **Tens and Ones Real-World Applications:** Ask students to research and present on real-world applications of tens and ones, such as measuring ingredients for a recipe or calculating the cost of items at a store.
- **Tens and Ones Coding:** Introduce students to basic coding concepts using tens and ones, such as creating a program that adds or subtracts tens and ones.



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Parent Engagement

To encourage parent involvement and support student learning, the following strategies are suggested:

- **Regular Progress Updates:** Provide parents with regular updates on their child's progress, including strengths and areas for improvement.
- **Volunteer Opportunities:** Invite parents to volunteer in the classroom or assist with homework assignments.
- **Parent-Child Activities:** Provide parents with activities and resources to practice tens and ones with their child at home.



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Safety Considerations

When teaching students with ADHD, EL learners, and students with autism, it is essential to consider the safety protocols and preventive measures to ensure a supportive and inclusive learning environment. The classroom should be organized in a way that reduces clutter and visual stimuli, and the teacher should establish clear rules and expectations for behavior.