

Lesson Plan: Number and Place Value

Lesson Title: Exploring Numbers up to 1,000,000

Subject: Mathematics

Grade: Year 6

Australian Curriculum Code: ACMNA124

Lesson Objectives:

- Understand the place value system for numbers up to 1,000,000.
- Identify and explain the value of digits in whole numbers.
- Compare and order numbers up to 1,000,000.
- Apply understanding of place value to solve problems involving large numbers.

Materials Needed:

- Whiteboard and markers
- Number cards (0-9)
- Place value charts (up to millions place)
- Worksheets with number problems
- Calculators (optional)

Lesson Duration: 60 minutes

Procedure:

1. Introduction (10 minutes)

- Begin with a quick review of place value concepts for numbers up to 100,000, which should be familiar from previous grades.
- Introduce the concept of extending place value to numbers up to 1,000,000. Discuss the significance of each place (ones, tens, hundreds, thousands, ten thousand, hundred thousand, millions).

2. Exploration and Discussion (15 minutes)

- Use place value charts and number cards to demonstrate and build numbers up to 1,000,000.
- Ask students to identify the value of specific digits in these large numbers (e.g., in the number 567,892, what is the value of the digit in the tens place?).
- Discuss any misconceptions and clarify understanding as needed.

3. Comparing and Ordering Numbers (15 minutes)

- Provide examples of numbers up to 1,000,000 and ask students to compare them using symbols ($<$, $>$, $=$).
- Encourage students to explain their reasoning for their comparisons.
- Practice ordering a set of numbers from smallest to largest and vice versa.

4. Problem Solving (15 minutes)

- Distribute worksheets containing word problems involving large numbers. Ensure problems vary in complexity (e.g., addition, subtraction, and simple multiplication with large numbers).
- Encourage students to use place value understanding to solve these problems.
- Walk around the classroom to provide support and clarify any difficulties.

5. Conclusion and Wrap-Up (5 minutes)

- Review key concepts covered in the lesson: place value up to 1,000,000, comparing and ordering numbers, and problem-solving strategies.
- Summarize the importance of understanding place value in solving problems with large numbers.
- Assign homework related to the day's lesson, reinforcing skills on place value and number operations up to 1,000,000.

Assessment:

- Formatively assess students during discussions and activities to gauge their understanding of place value concepts.
- Summative assessment can be conducted through the completion and accuracy of the worksheet problems assigned.
- Review student responses to gauge understanding of comparing and ordering numbers.

Differentiation:

- Provide additional support for struggling students by offering simpler problems or more guided practice.
- Challenge advanced students with more complex word problems or tasks involving larger numbers or decimals.

Extensions:

- Explore patterns in large numbers and how they relate to place value.
- Introduce estimation techniques for large numbers based on place value.

Integration:

- Connect the lesson to real-world applications of large numbers (e.g., population statistics, distances, large sums of money).
- Relate place value understanding to other mathematical concepts such as rounding and estimation.

By the end of this lesson, students should have a solid grasp of place value concepts up to 1,000,000 and be able to apply this knowledge to solve various problems involving large numbers.

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