Patterns in Powers of 10

Today's Standard

5.NBT.A2 - Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Real-World Applications for this Standard

Calculating large quantities in scientific notation; Understanding metric conversions; Financial calculations involving interest rates; Estimating population growth; Engineering measurements and calculations

Today I Learned

Today we learned about patterns when multiplying and dividing by powers of 10. We saw how numbers change when we multiply them by 10, 100, or 1000, and how the decimal point moves when we divide by these numbers.

Common Stumbling Blocks

Some kids think that multiplying by 10 just means adding zeros, but it's really about moving the digits to the left. Others think that dividing by 10 is the same as multiplying, but it actually moves the digits to the right.

Quiz Me

- What happens when you multiply by 10?
- How does the decimal point move when you divide by 10?
- What is a power of 10?
- Can you show me how to multiply 5 by 100?
- What changes when you divide a number by 1000?

Help Me

When we multiply by 10, 100, or 1000, the numbers get bigger because the digits move to the left. When we divide by these numbers, the digits move to the right, making the number smaller. This helps us understand big numbers and small numbers in real life, like in money or measurements.