



## 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.

Cues	Notes
Powers of 10	Multiplying by powers of 10 shifts digits to the left.
Multiplying by 10	Dividing by powers of 10 shifts digits to the right.
Dividing by 10	The number of zeros in the product increases with higher powers of 10.
Place value shift	The decimal point moves to the right when multiplying and to the left when dividing.
Decimal point movement	Whole-number exponents represent the power of 10.

### Summary

Understanding patterns in multiplying and dividing by powers of 10 involves recognizing shifts in place value and movement of the decimal point. This foundational knowledge is crucial for more advanced mathematical concepts.