

Standard and Scientific Notation

$$\begin{array}{ccc} \text{Standard Form} & & \text{Scientific Notation Form} \\ 1,600,000 & = & 1.6 \times 10^6 \end{array}$$

1. **1,600,000** Find where the original decimal point is
(If there isn't a decimal point, then it automatically goes to the far right of the number)
2. **1600000.** Move the decimal point to the right of the first non-zero number
3. **1.6×10^6** Now rewrite the new number 1.6 times a power of 10

- The number of times you move decimal point (6 waves) will be the exponent value ⁶

Scientific Notation Form

Standard Form(Decimal)

$$3.54 \times 10^{-9} = 0.0000000354$$

1. **3.54×10^{-9}**
 - Notice the exponent number is how many places you will move the decimal
2. **0.0000000354** Move decimal left if exponent is **Negative**
Move decimal right if exponent is **Positive**
3. **0.0000000354** Now the number is in Standard (Decimal) Form

*Important to Note:

1. The number of places you must move the decimal point is the exponent you will use.
2. If number is fractional (less than 1 or greater than -1) than a negative exponent will be used.
3. If number is greater than 1 or smaller than -1, a positive exponent will be used.
4. If original number is positive keep it positive: $0.0012 = 1.2 \times 10^{-3}$
5. If original number is negative keep it negative: $-0.00039 = -3.9 \times 10^{-4}$