

“Scientific notation” is useful to represent numbers which are very large or very small, which often occur in the sciences, hence the name.

For instance, the earth weighs about  
**13,170,000,000,000,000,000,000** pounds,  
or in scientific notation,  **$1.317 \times 10^{25}$**  pounds.

Computer calculation speeds are often measured in nanoseconds. One nanosecond is **0.000000001** seconds,  
or in scientific notation,  **$1.0 \times 10^{-9}$**  seconds.

We will work with more manageable numbers to illustrate the concept.

Convert to scientific notation:

94,310,000

Convert to standard notation:

$8.56 \times 10^4$

4927.15

$3.0 \times 10^7$

0.0000623

$4.052 \times 10^{-6}$