

Significant Figures and Scientific Notation

There are four rules you need to remember to determine the number of significant figures:

1. All nonzero digits are significant.
2. All zeros in front of the first 1-9 digit are not significant.
3. All zeros between 2 significant figures are significant.
4. All zeros at the end of a number **and** to the right of the decimal point are significant.

Table 1.4

Examples of Significant Figure Rules

Number	Example	Number of Significant Figures
Nonzero digits	9,341	4
Zeros in front of first 1-9 digit	0.000564	3
Zero between 2 significant figures	120.043	6
Zero at end of number and to right of decimal point	510.0 510	4 2

There are two basic rules for scientific notation:

1. Place only 1 digit (not a 0) in front of the decimal point.
2. Only significant figures go in front of the multiplication sign.

Number	Scientific Notation
20,300	2.03×10^4
3,151,367	3.151367×10^6
234,000	2.34×10^5
0.000002340	2.340×10^{-6}
0.000875	8.75×10^{-4}