

SIGNIFICANT FIGURES IN CHEMISTRY:

One of the most confusing topics in chemistry is significant figures. Here are some rules for significant figures:

1. All non-zero digits are significant.
2. If a zero is trapped between two non-zero numbers, then it is significant.
3. Any zeros that follow a non-zero digit **right** of the decimal point are significant.

Here are some examples:

1. .0098 has **2** significant figures
2. 1.250 has **4** significant figures
3. 120000 has **2** significant figures
4. 1.05 has **3** significant figures

When multiplying, dividing, adding, or subtracting numbers, the answer always has the same number of significant figures as the number with the least number of significant figures. Round if necessary.

Here are some examples:

1. $.0098 + .0987$ has **2** significant figures because of .0098
2. $1.250 - 1$ has **1** significant figure because of 1.
3. $120000 \cdot 456789$ has **2** significant figures because of 120000.
4. $2341 \div 1.05$ has **3** significant figures because of 1.05

If you are in doubt, convert the number to **scientific notation** and count the digits before the power of ten. Example: $120000 = 1.2 \times 10^5$, so 120000 has 2 significant figures.