

# Accuracy, Precision and Sig Figs



## Significant Figures

How scientists collect and record their data is extremely important for maintaining validity. Thus, scientists must be aware of the tools they use and their own skills at using these tools. A tool is only as good as the person using it.

Using significant figures (sig figs) allows scientists to show the precision of the measuring tools they used in their data collecting and the accuracy of their own abilities. Also, significant figure rules help maintain the precision and integrity of any calculations performed with their data. So, in our study of chemistry we will always use significant figures with measurements and calculations from this point.

## Recognizing Significant Figures

1. All non-zero digits are significant. (1, 2, 3, 4, 5, 6, 7, 8, 9)
2. All zeroes between sig figs are significant.
3. Leading zeroes are **never** significant.
4. Trailing zeroes are significant only in the presence of a written decimal.

### Examples

0.09870 has 4 sig figs rule #1, rule #3 and rule #4

10.023 has 5 sig figs rule #1 and rule #2

1000. has 4 sig figs rule #1 rule #4

**Determine** the number of significant figures in each measurement.

\_\_\_ 10.01 meters      \_\_\_ 3.14 liters      \_\_\_ .000000345 grams

\_\_\_ 300.00 cm      \_\_\_ 23000 mL      \_\_\_ .0020 kg

