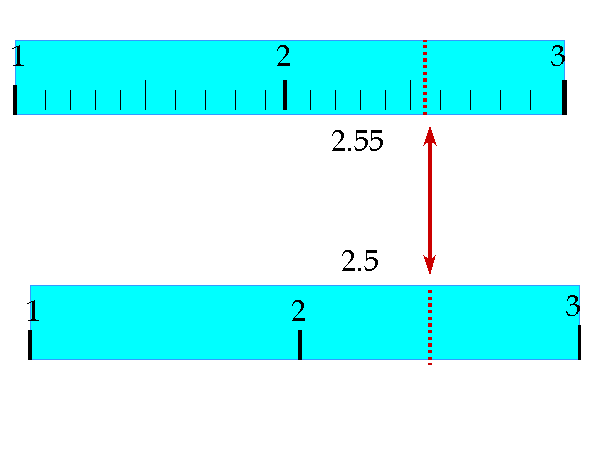
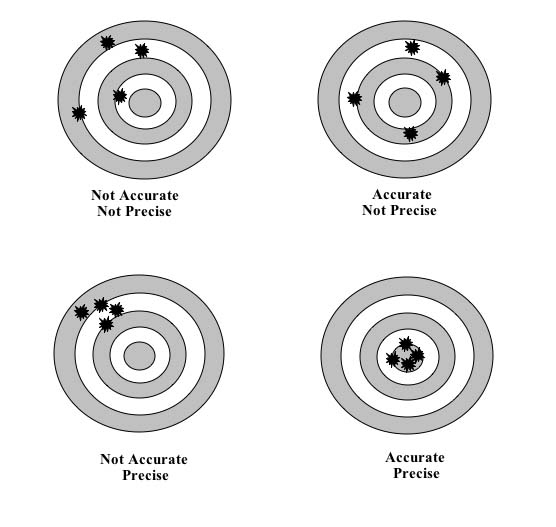
**Chemistry Foundations**

* 1. **Notes-Measurements**

**Measurements**

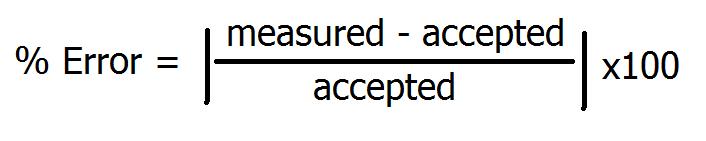
* Measurements vs. Exact Numbers
* Uncertainty



**Precision vs. Accuracy**

* Precision
* Accuracy

Percent Error



Reporting a set of measurements

Significant Figures

* All non-zero digits are significant
* Leading zeros are never significant
* Sandwiched zeros are always significant
* Trailing zeros are significant

2.53 0.00241 1.00

2400 0.010 320.

602,214,129,270,000,000,000,000

Scientific Notation

* Every digit is significant

25,000 1.30 x 10-2

0.00130 4.52 x 101

Operations with Significant Figures

* Multiplication

(1.25)(0.40)

(0.08206)(300.)

* Addition and Subtraction

94.4 + 15.9

42.15 – 39.85