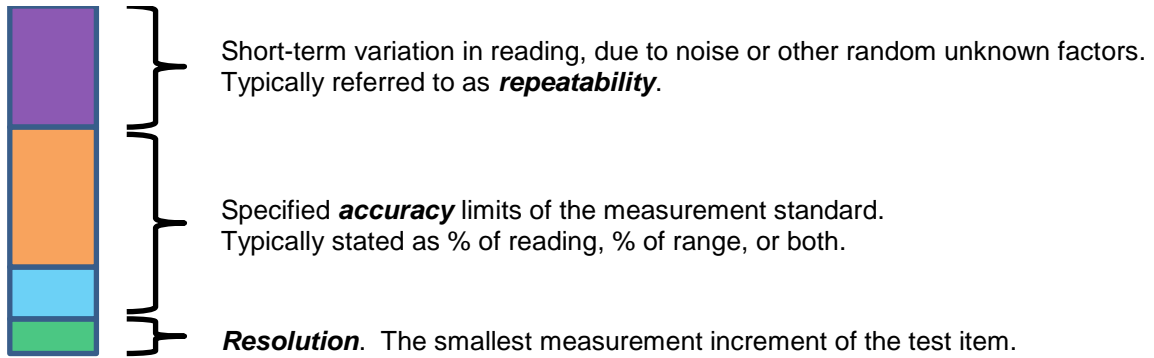
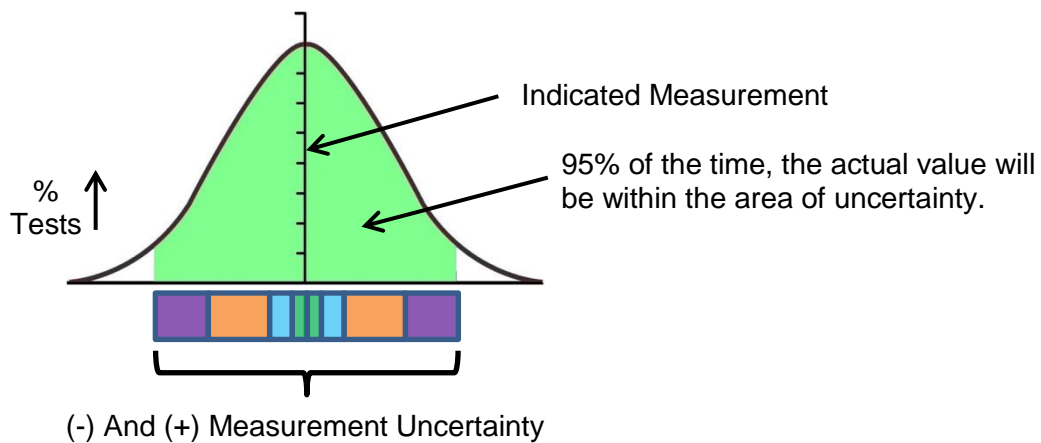


The **expanded uncertainty** of a measurement is the stacking of several contributing factors. Sometimes the **resolution** is quoted as the **accuracy**, but this is either naive or deceptive. Also, the quoted accuracy of just the measurement standard gives an incomplete picture of the total uncertainty.



There are many more factors to consider, including but not limited to, the resolution of each measurement standard, the influence of a test fixture, and environmental effects.

The individual factors are combined, using statistical methods based on "normal distribution," a.k.a. the "bell curve," for a 95% **confidence interval**.



Ideally, the area of uncertainty should be very small compared to the specified tolerance zone of the test item. The **test uncertainty ratio** or **TUR** is used to indicate this relationship. A TUR of 1:1 is poor, and a minimum of 4:1 is considered acceptable.

