Lesson 5: Recording Acceptable Measurements

In the previous lesson you have looked at the concept of ***tolerance***, ***minimum***, and ***maximum*** values.

The range of acceptable values of measurements can be represented in different forms:

- $target\ value \pm half\ of\ the\ tolerance$

Should be on your Study Sheet

- $\begin{matrix} maximum\ value \\ minimum\ value \end{matrix}$
- $minimum\ value^{+tolerance}_{-0}$
- $maximum\ value^{+0}_{-tolerance}$

Another term that is often used when expressing tolerances is the term *nominal value.* The nominal value is the value that is named in the question. Sometimes this nominal value is the target value and sometimes the nominal value can be either the maximum or minimum value. This means that the concept of tolerance can also be represented as:

- $\boldsymbol{nominal}\ value \pm half\ of\ the\ tolerance$

Should be on your study sheet.

- $\begin{matrix} maximum\ value \\ minimum\ value \end{matrix}$
- $\boldsymbol{nominal}\ value^{+tolerance}_{-0}$ (minimum)
- $\boldsymbol{nominal}\ value^{+0}_{-tolerance}$ (maximum)

This lesson focuses on writing and deciphering these different forms of representing tolerance.

Example 1

The diameter of a large pizza has a nominal value of 12 inches (which is halfway between the maximum and minimum values). The tolerance is 1". State the maximum and minimum values of the size of the pizza diameter.

Maximum: $12" + 0.5" = 12.5"$

Minimum: $12" - 0.5 = 11.5"$

Tolerance = 1" $\quad \frac{1}{2}$ tolerance = 0.5"