To make a comparison between two mean values for unpaired data do the following:

1. From the **Tools** menu select **Data Analysis….**

2. Select **t-Test: Two Sample Assuming Equal Variances** or **t-test: Two Sample Assuming Unequal Variances**

3. Click on the box for **Variable 1 Range** and highlight the data in your spreadsheet

4. Click on the box for **Variable 2 Range** and highlight the data in your spreadsheet

5. Click on the box for **Hypothesized mean difference** and enter 0 (zero)

6. Enter your desired value for alpha in the appropriate box

7. Select the radio button for **Output Range**, click in the associated box, and then click on the spreadsheet cell that will be the upper left cell for the output

8. Select **OK;** results will appear in the spreadsheet

Results are given for both one-tailed and two-tailed tests. If the value of P(T<=t) is less than t Stat, then the difference between the two data sets is signficant at the chosen confidence level. In the example shown below there is no evidence for a difference between the new and standard methods.

standard	new		t-Test: Two-Sample Assuming Equal Variances		
21.62	21.54				
22.20	20.51			*standard*	*new*
24.27	22.31		Mean	22.8557143	22.5057143
23.54	21.30		Variance	1.6323619	3.69032857
24.25	24.62		Observations	7	7
23.09	25.72		Pooled Variance	2.66134524	
21.02	21.54		Hypothesized Mean Difference	0	
			df	12	
			t Stat	0.40137605	
			P(T<=t) one-tail	0.34759949	
			t Critical one-tail	1.78228674	
			P(T<=t) two-tail	0.69519898	
			t Critical two-tail	2.17881279	