

Microsoft Excel – Functions and formulae

Consider these topics if you use Excel to work out calculations and to look at the range of functions available for working with specific types of data including dates, text and statistics.

- The importance of **Good Practice** when setting up calculated expressions in Excel that work out results.
- Use absolute, relative and mixed cell references in formulae and understand what happens when the formulae with these references are moved or copied.
- Work with the basic arithmetic operators (+, -, *, /) and understand the order in which these operations are carried out.
- Understand the role of functions in Excel and the range of options they offer.
- Use the common functions: COUNT, COUNTA, MAX, MIN, SUM, AVERAGE to summarise data ranges.
- Build formulae that link data across sheets in a workbook.
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- Use the logical functions: IF, AND, OR, NOT to make the outcome of expressions conditional (for example if the total is more than 1000 the discount is 2% otherwise it is 0).
- Use a range of lookup and reference functions to lookup information from one location and display in another – for example given a table of shipping costs based on weight lookup the cost of shipping an item given its weight – use VLOOKUP and HLOOKUP.
- Use the 'Insert Function' feature for guidance when using functions and to overview the categories of function available.
- Use text functions to manage data strings – for example to concatenate data from different cells (for example join forename and surname into a single string) or to extract elements from a string (find an initial by taking the first letter of the forename).
- Use date/time functions to calculate date/time information – for example to determine the renewal date for a certification that lasts 3 years.
- Use formula auditing options to locate cells that contribute to, or are based on, cells with calculated results.
- Use the Evaluate tool to step through a complex expression and check for errors.
- Use data validation to control data input.
- Use worksheet protection to prevent the accidental editing or deletion of formulae.
- Use workbook protection to prevent the accidental editing of a workbook's structure.