


**note****You can also convert a range to a table using the Quick Analysis button**

When you select an entire range you'll see the *Quick*

*Analysis* button  appear on the bottom right-hand corner of the selected range.

You can also use this button to convert the range into a table by clicking:

Quick Analysis Button → Tables → Table.

**tip**

You can also convert a range into a table using the keyboard shortcut:

<Ctrl>+<T>

**note****Slicers can be used to visually filter tables**

Slicers were one of the most important new features added to the previous version of Excel (2010).

In Excel 2010 slicers could only be used with pivot tables.

Excel 2013 has added the ability for slicers be used with normal tables (such as the one used in this lesson). Slicers will be extensively covered later, in: *Lesson 5-8: Filter a pivot table visually using slicers.*

Slicers can be used with tables in exactly the same way they are used with pivot tables.

**Inventory-5**

# Lesson 1-11: Convert a range into a table and add a total row

This lesson introduces tables (originally added to Excel in the Excel 2007 version). Tables provide a completely new way to work with tabular data and are particularly powerful when dealing with dynamic data. A table is very similar to a range but incorporates several very useful extra features.

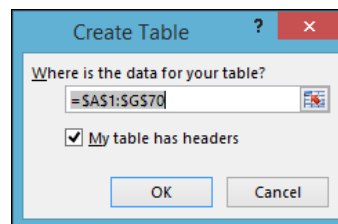
You can freely convert a table to a range, or a range to a table. The key difference between ranges and tables is that table references shrink and grow dynamically.

For example, if you create a chart from a table and then add more rows to the table, the source data will automatically adjust to include the new rows. This doesn't happen with a range.

- 1 Open *Inventory-5* from your sample files folder (if it isn't already open).
- 2 Convert the range into a table.

1. Click anywhere inside the range
2. Click: Insert → Tables → Table.

The *Create Table* dialog is displayed:



3. Click the OK button.

The range is converted into a table. The appearance of the range changes and filter arrows appear in the header row.

	A	B	C
1	No	Product Name	Supplier
2	1	Aniseed Syrup	Exotic Liquids
3	2	Boston Crab Meat	New England Seafood Cannery
4	3	Camembert Pierrot	Gai pâturage
5	4	Carnarvon Tigers	Pavlova, Ltd.

- 3 Scroll down the table and notice the “sticky” column headers.

1. Click inside the table
2. Scroll down the table until the headers disappear from the top row.

In a range you would have to freeze panes in order to continue to view the range headers (freeze panes was covered in the *Essential Skills* book in this series). Tables are much easier to work with. The table headers and filter buttons are always visible as they replace the column letters when scrolled off the screen:

## note

### Excel's use of the quirky SUBTOTAL function

When Excel adds a total row, the quirky SUBTOTAL function is used. The SUBTOTAL function has a very odd syntax. It is:

**SUBTOTAL(function\_num, ref1, [ref2], ...)**

The *function\_num* argument can cause confusion as it has been implemented in a very quirky way!

The *function\_num* can be a value of 1 to 11, each corresponding to a different function. For example function\_num 9 is the SUM function and function\_num 1 is the AVG function.

The *function\_num* can also be the same numbers with 100 added to them (ie 101-111) and these correspond to the same functions. For example function\_num 9 is the SUM function and so is function\_num 109.

So why do we have 109 and 9 both meaning the SUM function?

The reason is that a 109 SUM function ignores any rows that are hidden, while a 9 SUM function will include any hidden rows. (You'll learn about hidden rows later, in: *Lesson 7-7: Hide and unhide worksheets, columns and rows*).

By default, the total row ignores hidden rows meaning that (in this lesson's example) the function used to total (or sum) the column is:

**=SUBTOTAL(109,[Value])**

Sometimes you might want to include any hidden rows in the total. In this case you would have to change the formula to:

**=SUBTOTAL(9,[Value])**

No	Product Name	Supplier
19	18 Grandma's Boysenberry Spread	Grandma Kelly's Homestead
20	19 Gravd lax	Svensk Sjöföda AB
21	20 Gudbrandsdalsost	Norske Meierier
22	21 Gula Malacca	Leka Trading

#### 4 Add a total row.

Tables have a built-in ability to add total rows.

1. Click anywhere inside the table.

The *Table Tools* tab appears on the ribbon.

2. Click: Table Tools→Design→Table Style Options→Total Row.



A total row appears at the bottom of the table.

	Category	Unit Price	In Stock	Value
69	Grains/Cereals	33.25	22	731.50
70	Confections	9.50	36	342.00
71				69,598.25

3. Re-size the *Value* column if needed to view the total.

By default the total row contains the SUM of all values in the right-most column. Excel uses the SUM function indirectly via the SUBTOTAL function (see sidebar).

Note that you can do nearly the same thing by using the *Quick Analysis* feature (used in: *Lesson 1-9: Add totals using Quick Analysis*) to add a SUM total row. The only difference is that a *Quick Analysis* sum is added to every column (rather than only to the right-most column).

#### 5 Change the total from SUM to AVERAGE and add a total for the *In Stock* column.

1. Click cell G71 (the cell containing the total).

A drop-down arrow appears next to the total.

2. Click the drop-down arrow and choose *Average* from the function list.

3. Click on cell F71 at the bottom of the *In Stock* column (the cell in the dark blue total row).

A drop-down arrow appears next to the empty cell.

4. Click the drop-down arrow and then click *Sum* from the function list.

The sum of units in stock is now also displayed.

#### 6 Change the AVERAGE in cell G71 back to a SUM.

	33.25	22	731.50
	9.50	36	342.00
		3018	1,008.67

#### 7 Save your work as *Inventory-6*.