Microsoft Excel – Part 3

Understanding the Go to Special option

The **Go To** Special Function in Excel allows you to quickly select all cells that meet certain criteria, such as cells containing:

- Formulas (numbers, text, logicals, errors)
- Constants (numbers, text, logicals, errors)
- Blank cells
- Objects
- Precedents and dependents
- Visible cells only

There are three ways to access Go To:

- Press the F5 key
- Press Ctrl + G
- On the Home ribbon under "Find and Select" choose "Go To"

It is a good tool to find which cells contain formulas or constant or is there any blank cells in worksheet.

Open IntermediateExcelSkills1.xlsx and use *GoToSpecial worksheet* and try to find "blank cells" and "formulas" in the worksheet.

Also, hide columns C through K (Select those columns>Right click>Hide). Using the Visible cells only from Go To Special function; copy visible cells only and copy and paste into a new worksheet.

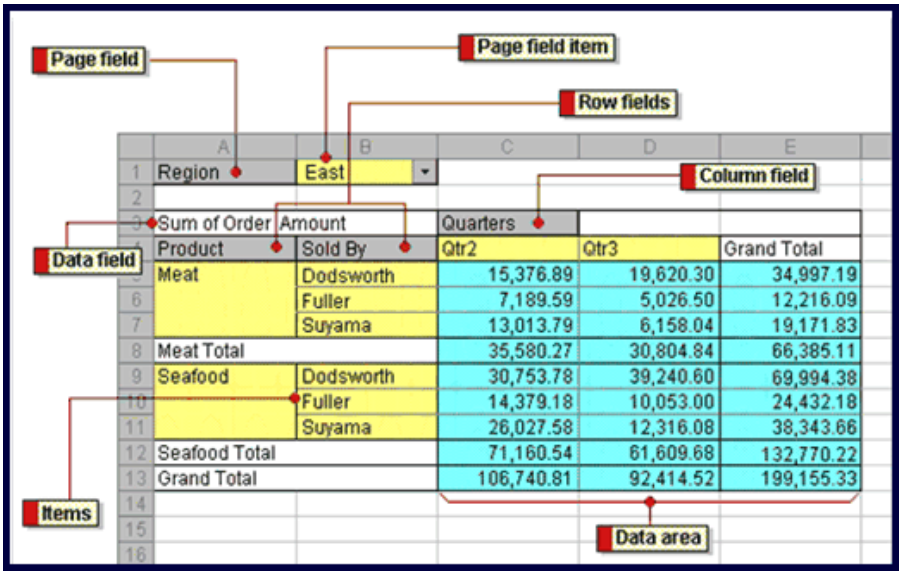
Creating pivot tables

When you want to summarize the large amount of data, create a PivotTable report. Creating PivotTable report will let you reorganize data and notice the trends and patterns that you may not have discovered originally – such as "what if I drop Product C in a particular season if it is not selling?". It is about moving pieces of information around to see how they fit together. Basically, PivotTable reports organize and summarize your data to turn it into useful information. They offer *comparisons*, *reveal patterns* and *relationships*, and *analyze trends*. Use a PivotTable report when you want to make large, complex sets of data more comprehensible and easier to understand at a glance.

Before you open the PivotTable Wizard, *ask yourself what you specifically need to know*. Once you have your questions in mind, Excel makes it easy to get the answers. You decide what data you want analyzed, and how to organize it. PivotTable report can provide you with more than a single arbitrary form that doesn't really suit your needs; each PivotTable report gives you a different view of your data, answering your questions on the spot, and is customized to your purpose.

You can answer different questions by arranging different Pivot Table reports. For example, take a look at the chart generated by a Pivot Table report below. (Source: Microsoft.com)

This chart could have been generated for various scenarios: Do you need to know sales totals by region, by salesperson, by quarter, or by month? Would your business do better if your best people sold only top products? Or would that mean whole product lines with no revenue?



	A	B	C	D	E
1	Region	East			
2					
3	Sum of Order	Amount	Quarters		
4	Product	Sold By	Qtr2	Qtr3	Grand Total
5	Meat	Dodsworth	15,376.89	19,620.30	34,997.19
6		Fuller	7,189.59	5,026.50	12,216.09
7		Suyama	13,013.79	6,158.04	19,171.83
8	Meat Total		35,580.27	30,804.84	66,385.11
9	Seafood	Dodsworth	30,753.78	39,240.60	69,994.38
10		Fuller	14,379.18	10,053.00	24,432.18
11		Suyama	26,027.58	12,316.08	38,343.66
12	Seafood Total		71,160.54	61,609.68	132,770.22
13	Grand Total		106,740.81	92,414.52	199,155.33
14					
15					
16					

Never worry about arranging a report in the "wrong" way. Creating a PivotTable report is about moving pieces of information around to see how they fit together. Move the data around, again and again, to get as many clear answers as you have questions. You may be using a different set of data to answer different questions.

The requirement of source data range for a pivot table

1. The source data range for a pivot table must be arranged in a list. To begin, you first need raw data to work with. The general rule is you need more than two criteria of data to work with—otherwise you have nothing to pivot.
2. Each record (observation) must be in a single row.
3. Each field (variable) must be in a single column. **Note**: Check that each column contains only one sort of data—for example, include text in one column and numeric values in a separate column.
4. A header row must have names of the fields.
5. No blank rows or columns should be included in your data range (although blank cells within the data are OK).
6. Remove any automatic subtotals. Don't worry; the PivotTable report will calculate the subtotals and grand totals for you.

Assume you have data with sales figures that go on for many rows as shown in the example below. Use the worksheet: *SourceData* in the same workbook to follow. (Source: Microsoft.com)

	A	B	C	D	E
1	**Country**	**Salesperson**	**Order Date**	**OrderID**	**Order Amount**
2	UK	Buchanan	7/16/2003	10248	$440.00
3	UK	Suyama	7/10/2003	10249	$1,863.40
4	USA	Peacock	7/12/2003	10250	$1,552.60
5	USA	Leverling	7/15/2003	10251	$654.06
6	USA	Peacock	7/11/2003	10252	$3,597.90
7	USA	Leverling	7/16/2003	10253	$1,444.80
8	UK	Buchanan	7/23/2003	10254	$556.62
9	UK	Dodsworth	7/15/2003	10255	$2,490.50
10	USA	Leverling	7/17/2003	10256	$517.80
11	USA	Peacock	7/22/2003	10257	$1,119.90
12	USA	Davolio	7/23/2003	10258	$1,614.88
13	USA	Peacock	7/25/2003	10259	$100.80
14	USA	Peacock	7/29/2003	10260	$1,504.65

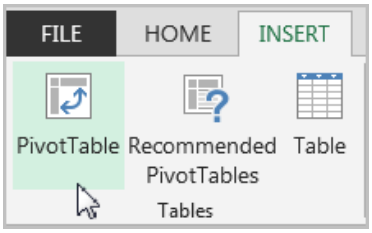
How can you make the data more understandable? To find out, you would start by asking yourself what you need to know:

- How much has each salesperson sold?
- Who are the top 5?
- What are the sales amounts by country?

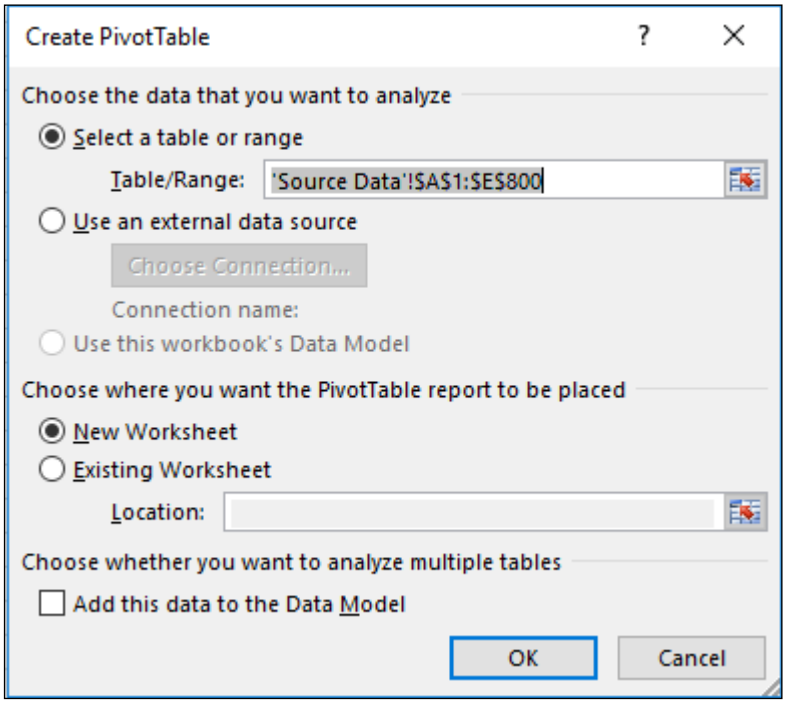
Now you have some idea from this huge data what you desire to find out. When you're ready to get the answers:

- Click anywhere within the data or select all the data and columns you want to include in the report. (**Note**: If you click outside the data, you have to choose the data manually to analyze in your PivotTable report.)

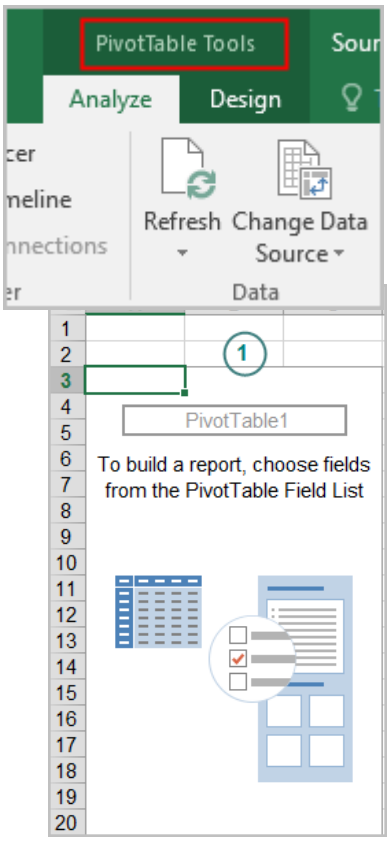
- On the **Insert** tab, click on **Pivot Table** under **Tables** group.



- The **Create PivotTable** dialog box will appear.
- Data range will be automatically selected. Select **New Worksheet** to place the **PivotTable** on a **New Worksheet.** Click **OK.**

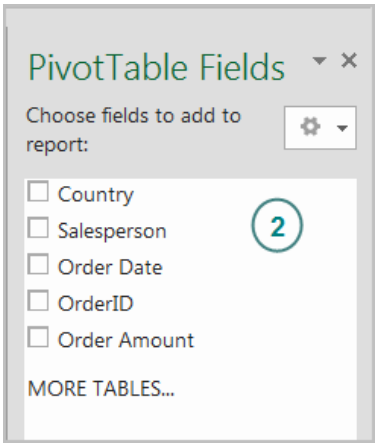


- Notice the PivotTable Tools bar appears on the top with two new tabs: **Analyze** and **Design**.
- Next, the *layout* area appears in a new worksheet for the PivotTable report and also a list of the available fields on the *PivotTable Field List*. It takes less than a second to prepare a new worksheet that contains two items.



1. The *layout area* to drag items onto

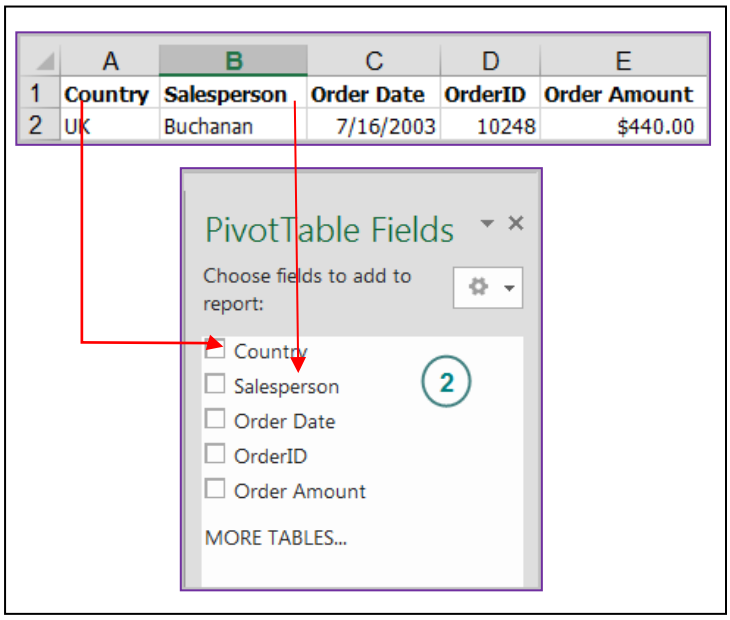
2 The PivotTable Field List.



In the PivotTable, Field Lists are the names of the columns from the source data. In this example, they are: Country, Salesperson, Order Amount, Order Date, and OrderID.

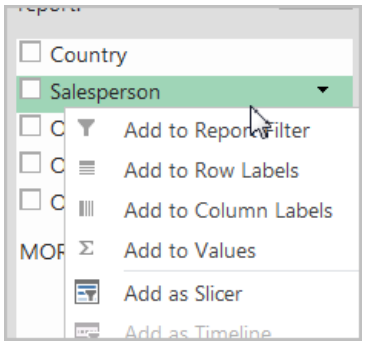
Each column in the source data has become a field with the same name. To create a PivotTable report, you can either

1. Dragging fields from the field list and dropping them directly onto the bottom part of the Field List pane
2. By selecting the check box next to the field name
3. By right-clicking a field name and selecting a location to move the field to



Note: If you happen to click a cell outside of the report, the field list will disappear. To get it back, click inside the report again.

When you select a field by checking the box next to it, Excel places it in a default area of the layout for you. Fields that do not contain numbers go into the rows field on the left side of the report. Fields that contain numbers are placed into data fields on the right side of the report. You can move the field to another area if you want to. For example, if you want a field to be in the column area instead of the row area, you can do so easily.



For example, if you check the Salesperson field box or right-click on the field name and select **Add to Row Labels**, you would see one row for each salesperson's name in the left side of the PivotTable. If you prefer seeing the salesperson's name in each column, you can right-click the field and select **Add to Column Labels**.

Remember that you don't have to use all the fields.

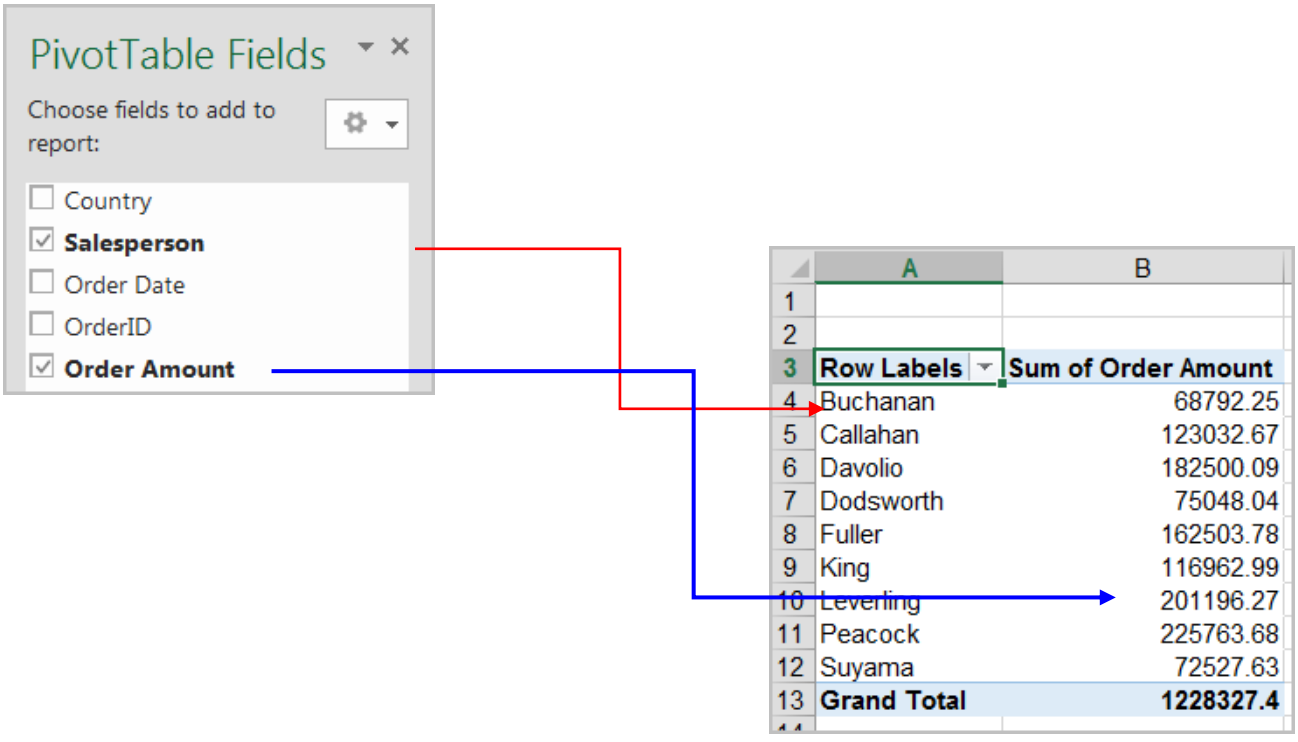
Now it's time to put the pieces together.

Step 1: Say that your first question is: How much has each salesperson sold? To find out the answer, you would use two of the fields on the field list: the Salesperson field to display the names of the salespeople in each row, and the Order Amount field to display the amount that each person sold.

After deciding which fields to use, you would decide which field to select. To display each salesperson's name on its own *row*, you would click the box next to the Salesperson field.

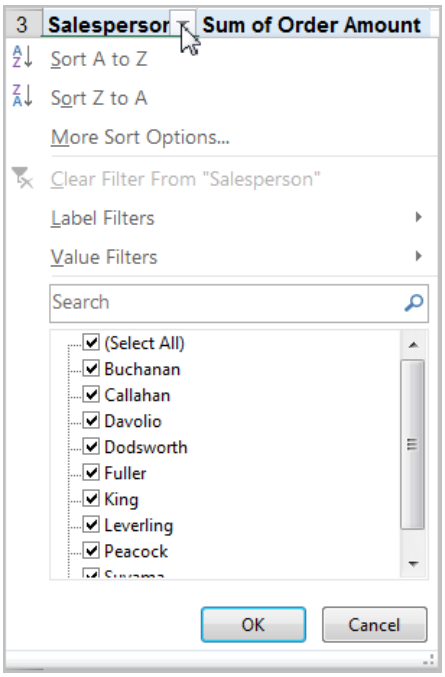
To see the *sales amount* for each person, you would select the box next to the Order Amount field. **The Data Items drop area is where you would usually select data containing numbers, because Excel automatically adds up numbers in this area.** The totals then appear in your PivotTable report.

Note that it doesn't matter whether you select the check box next to the Salesperson field before or after the Order Amount field. Excel will automatically put them in the right place every time. Fields without numbers will land on the left; fields with numbers will land on the right, regardless of the order in which you select them.



	A	B
1		
2		
3	**Row Labels**	**Sum of Order Amount**
4	Buchanan	68792.25
5	Callahan	123032.67
6	Davolio	182500.09
7	Dodsworth	75048.04
8	Fuller	162503.78
9	King	116962.99
10	Leverling	201196.27
11	Peacock	225763.68
12	Suyama	72527.63
13	**Grand Total**	**1228327.4**

In this example, the PivotTable report summarizes 799 rows of information so that you can see at a glance how much each salesperson sold. The generic heading for the Salesperson, "Row Labels" can be easily changed into "Salesperson" by overtyping after selecting the cell.



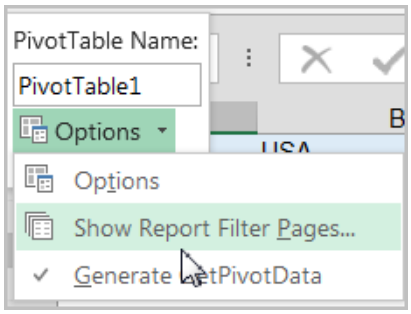
Note: Downward-pointing arrows on field headings indicate that you can select how much detail to display in the report. For example, clicking the arrow on the Salesperson field reveals a list containing each salesperson's name; provides you with the ability to sort within the PivotTable report; or filter your data within the report.

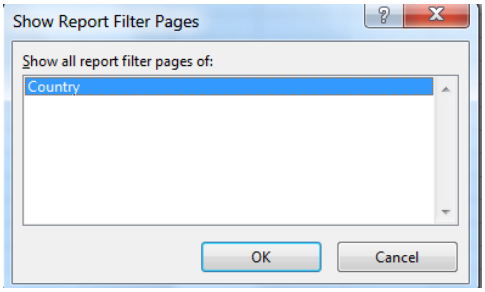
To show only some of the names, click the box beside Show All to clear all the check marks. Then click beside each name you want to display, and then click OK. To display all the names again, click the arrow on the Salesperson field, click the box beside Show All, and then click OK.

Step 2: As you noticed, all salespeople are from two countries: UK and USA. If you would like to *filter* salespeople from one country at a time, right-click on **Country** field from your **PivotTable Field List** and select **Add to Report Filter.** Then, you can select from the drop-down arrow to display the country of your choice. See below. To see both countries, select **All** from your drop-down list again.

	A	B
1	Country	USA
2		
3	**Salesperson**	**Sum of Order Amount**
4	Callahan	123032.67
5	Davolio	182500.09
6	Fuller	162503.78
7	Leverling	201196.27
8	Peacock	225763.68
9	**Grand Total**	**894996.49**

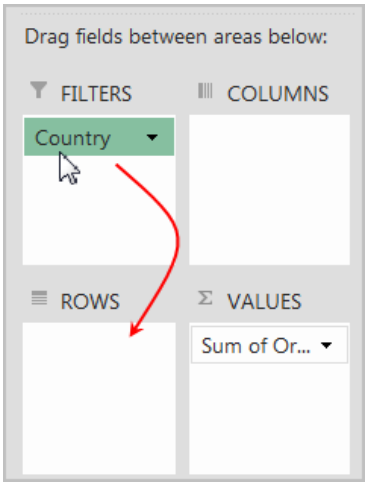
If you are compelled to see each country on a separate worksheet, click on the drop-down arrow next to the **Options** command under **PivotTable** group. Select **Show Report Filter Pages** and make selection of your filter, **Country** field. New worksheets with <u>each</u> filter name, USA and UK, in this example, will be automatically added.





Step 3: Let's create a different layout by using the same data. This time let's find out the breakdown of total sales by country. Without starting over, we can modify the above report by deleting the data field that we do not need for this question. We do not need the **Salesperson** field. Simply uncheck the box next to the **Salesperson** field.

Next, from the PivotTable layout, drag the Country field to onto the Rows block since you want to see the total Country sales instead of the total Salesperson figures. You may also right-click on the **Country** field in the Field List and select **Add to Row Labels**.



The result should look like this:

Salesperson	Sum of Order Amount
UK	333330.91
USA	894996.49
Grand Total	**1228327.4**

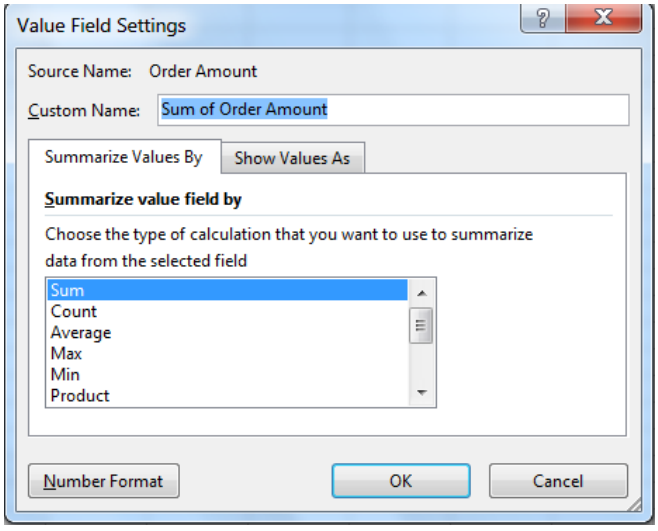
Alternative: How about dragging the **Country** field to the column fields' area to see the countries in column orientation? OR right-click on **Country** field in the Field List area and select **Add to Column Labels**.

	Column Labels		
	UK	USA	Grand Total
Sum of Order Amount	**333330.91**	**894996.49**	**1228327.4**

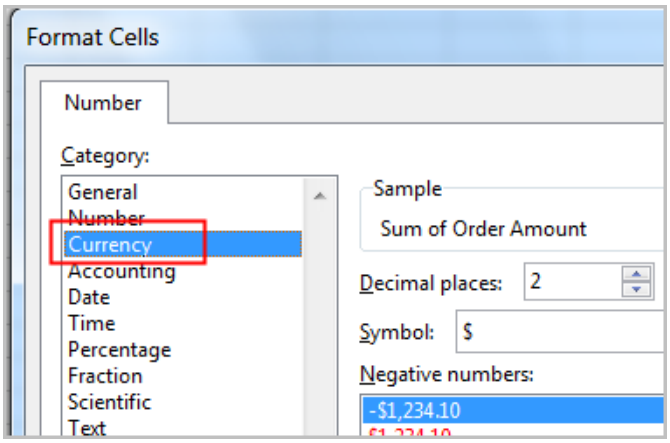
For the next practice, take out the country field and arrange **Salesperson** in row fields and **Order Amount** in value fields.

Now that you have created the report, you can modify it in any way that you want to read your report.

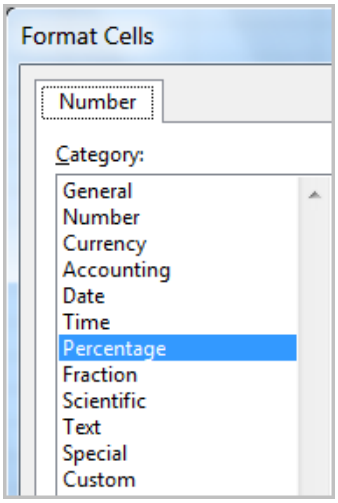
- How about finding out the "average", "count" (the total number of orders each salesperson received), or "max" (the highest order amount), or "min" (the lowest order amount). Simply double-click the "Sum of Order Amount" field. The Value Field Settings dialog box will come up. Select other options to summarize your data under "Summarize by" tab.

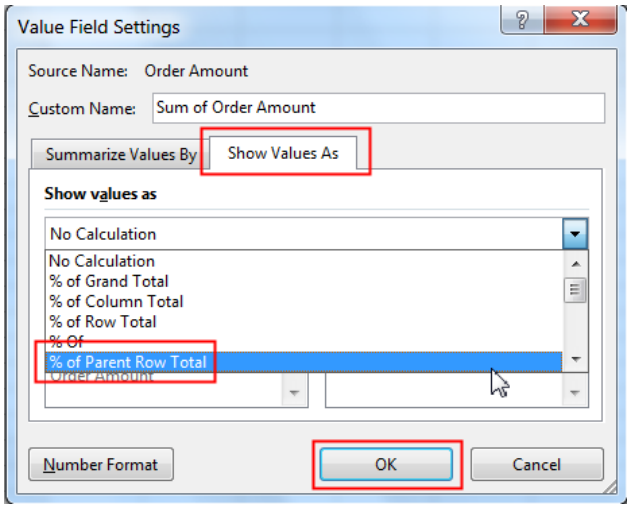


- How about formatting Order Amount cells with US$ currency? While selecting the "Sum of Order Amount" cell (as shown above), click on the "Number Format" button. In the "Format Cells" window, select "Currency" under "Category" and select your decimal places option.



- How about displaying the individual salesperson's share of sales as a percentage of total sales? First, click on the "Number Format" button and bring out the "Format Cells" window, make sure to select "Percentage" in it. Click OK. Next, click on the "Show values as" tab in Value Field Settings dialog box and select **"% of Parent Row total"** from the drop-down box. See below.

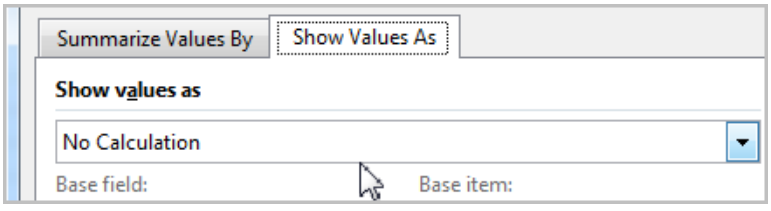




The result should look like this:

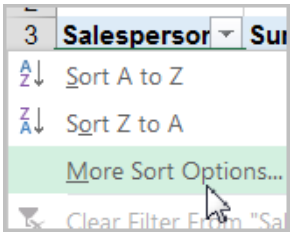
Salesperson	Sum of Order Amount
Buchanan	5.60%
Callahan	10.02%
Davolio	14.86%
Dodsworth	6.11%
Fuller	13.23%
King	9.52%
Leverling	16.38%
Peacock	18.38%
Suyama	5.90%
Grand Total	**100.00%**

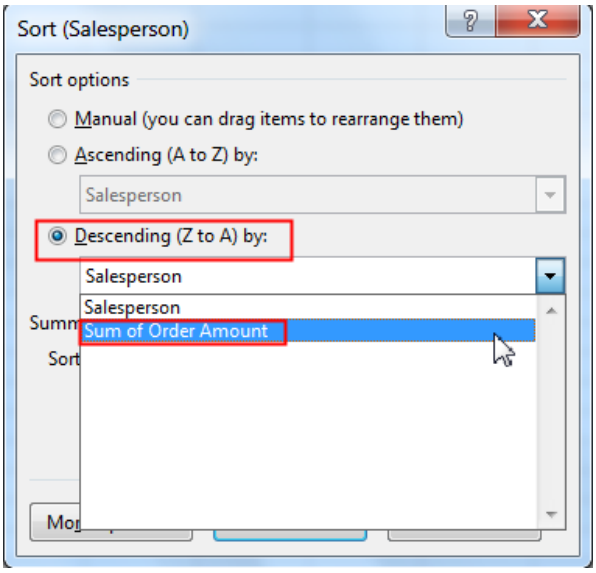
To



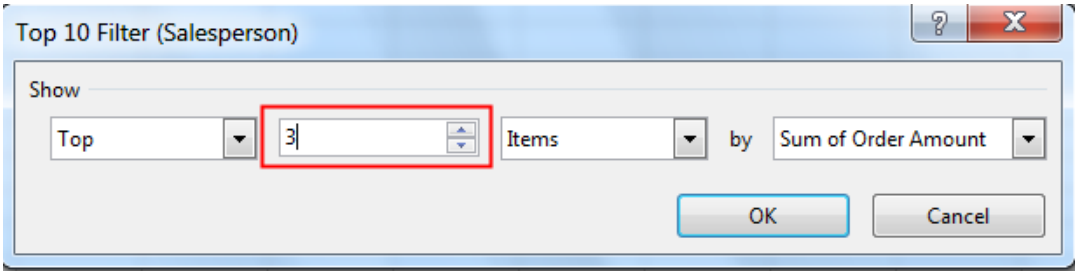
Practice: keep the data back to Normal by using **Currency** and **No Calculation** under **Show Values As** in the **Value Field Settings** dialog box.

- Let's say you want to sort the salesperson column from top to bottom. Click on the drop-down box next to the "Salesperson" field. Click on "More Sort Options" to bring up the **Sort** dialog box. Select "Descending (Z to A) by: Sum of Order Amount". Your data will be sorted by the largest amount of sales. See below.





- Let's say you want to find out the top 3 salespersons. Click on the drop-down box next to the "Salesperson" field. Under "Value Filters" click on "Top 10". User the spinner to change the number to "3" to find top 3 salespersons. See below.

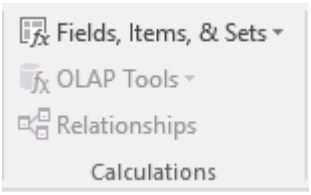


Row Labels	Sum of Order Amount
Davolio	182500.09
Leverling	201196.27
Peacock	225763.68
Grand Total	**609460.04**

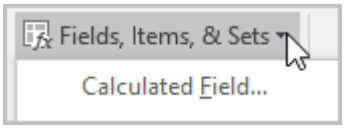
Indicates there is a filter in this field!

Practice: Open "*1000 Sales Record Sample.xlsx*" workbook and insert a Pivot Table to find: Total units sold by Region and total profits made by Region; add Item Type to discover which item type sells most and made profit. Take out the region and replace with country.

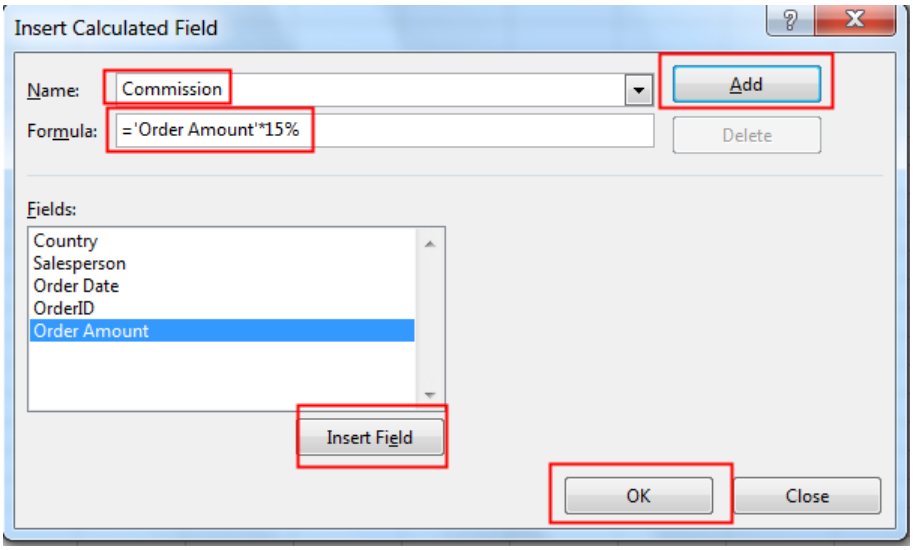
- Use the **Calculated Field** command under **Calculations Group** to create and modify calculated fields or items.



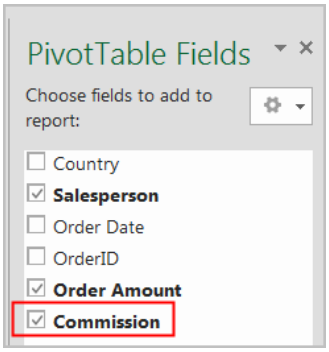
  - Assume you want to calculate a 15% commission to all salespersons and you wish to insert a new calculated field called “Commission” added to your report. Here is how.
  - Click on the report.
  - Under the **Calculations** group, click the drop-down arrow next to **Fields, Items, …** and then click **Calculated Field.** **Insert Calculated Field** box will appear.



  - In the **Name** box, type a name “**Commission**” for the field.
  - Use the **Tab** key on your keyboard to move to the **Formula** box. To use the data from another field in the formula, click the field in the Fields box (in this case, “Order Amount”), and then click **Insert Field**. Then Type in “*” (multiply) and “15%” to calculate a 15% commission on each value in the Sales field.
  - Click **Add**, and then click **OK**. See below.



- See your newly added Field in your PivotTable Field List.

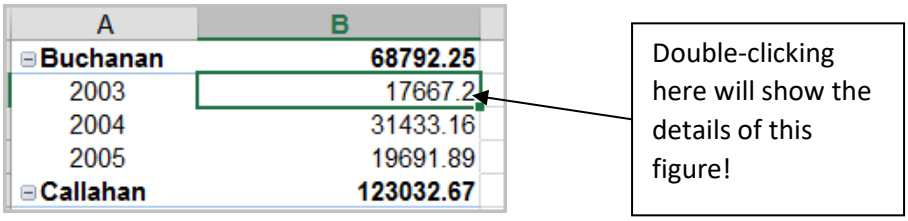


  Note: Use a calculated field when you want to use the data from another field in your formula. Use a calculated item when you want your formula to use data from one or more specific items (item: A subcategory of a field in the PivotTable and PivotChart reports. For instance, you want to create a new field called "Sold" from items “shipped”, “pending”, “backordered”, for example) within a field.

  You can change the field names after creating the report.

- Let’s say you want to change how a field name displays. Instead of “Sum of Order Amount”, you may change to your choice of name. Simply select the field, retype it and press enter. That’s simple!

Details: You can easily list the records from the source data that are summarized in a particular data cell, just by double-clicking the cell. Excel creates a new worksheet like this one with a copy of the data. You can format, sort, and filter this detail data without affecting the PivotTable report or the original source data. For example, to find out which individual orders contributed to Buchanan's 2003 order amount, simply click the cell that has 2003 sales amount in it. A new sheet will appear with all 2003 data belonged to Buchanan.



- You can change the format of your PivotTable report. Normally you would leave the formatting until you’re through pivoting the report. Click on the **Design** tab under the **PivotTable Tools** ribbon and select the design you like. Use the scroll bar to view more designs.