TechMentors

Helping you get the most out of technology

# Excel PivotTables

Student Manual

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# 1: PivotTables – The Basics

Complete this unit and you'll be able to answer the following questions:

A. What is an Excel PivotTable?

B. How do you create a simple PivotTable?

C. What are the rules for setting up source data for a PivotTable?

D. How do you pivot in a PivotTable?

E. How do you change the value calculation?

F. How do you change the number formatting?

# Topic A: What is an Excel PivotTable?

An Excel PivotTable is tool that can be used to quickly create interactive summary reports (tables) from raw data. Because they are interactive PivotTables allow you to easily do any of the following:

- Choose a summary calculation (sum, average, maximum, minimum, etc.)
- Display the results vertically or horizontally
- Sort the results in ascending, descending or a custom order
- Filter the data to show what is important to you
- Change or insert additional summary calculations as needed
- Pivot the data (switch the rows and columns)
- Group the data into larger collections
- "Drill down" to see additional details

The following figures are examples of PivotTables that were created from an Excel list of 5406 movies.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | Titles | Ratings | | | | | | |
| 4 | Categories | G | PG | PG-13 | R | NC-17 | NR | Grand Total |
| 5 | 1970 | 24 | 104 | | 73 | 1 | | 202 |
| 6 | 1971 | 38 | 99 | | 76 | | | 213 |
| 7 | 1972 | 26 | 125 | | 82 | | | 233 |
| 8 | 1973 | 24 | 96 | | 90 | | | 210 |
| 9 | 1974 | 22 | 87 | | 70 | | | 179 |
| 10 | 1975 | 11 | 90 | | 64 | | | 165 |
| 11 | 1976 | 23 | 97 | | 62 | | | 182 |
| 12 | 1977 | 16 | 86 | | 54 | 1 | | 157 |
| 13 | 1978 | 12 | 91 | | 70 | | | 173 |
| 14 | 1979 | 13 | 102 | | 69 | | | 184 |
| 15 | 1992 | 5 | 29 | 55 | 121 | 2 | 5 | 217 |
| 16 | 1993 | 5 | 38 | 52 | 89 | 2 | 2 | 188 |
| 17 | 1994 | 2 | 14 | 16 | 27 | 1 | | 60 |
| 18 | **Grand Total** | **221** | **1058** | **123** | **947** | **7** | **7** | **2363** |

Figure 1: Movies from the 1970s by Year and by Rating

| Categories | Titles |
|---|---|
| 1920-1929 | 1 |
| 1950-1959 | 2 |
| 1960-1969 | 313 |
| 1970-1979 | 1898 |
| 1980-1989 | 2263 |
| 1990-1999 | 929 |
| **Grand Total** | **5406** |

Figure 2: Movies by Decade

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | **Titles** | **Ratings** | | | | | | |
| 4 | **Categories** | **G** | **NC-17** | **NR** | **PG** | **PG-13** | **R** | **Grand Total** |
| 5 | Action | 2 | | | 70 | 21 | 218 | 311 |
| 6 | Adventure | 30 | | | 100 | 11 | 36 | 177 |
| 7 | Animated | 43 | | 1 | 13 | 1 | 6 | 64 |
| 8 | Biography | 6 | | | 49 | 17 | 49 | 121 |
| 9 | Children's | 37 | | | 15 | | | 52 |
| 10 | Comedy | 65 | 3 | 1 | 487 | 206 | 505 | 1267 |
| 11 | Crime | 4 | 1 | | 78 | 5 | 252 | 340 |
| 12 | Dance | 4 | | | 1 | 4 | | 9 |
| 13 | Disaster | 3 | | | 14 | | 3 | 20 |
| 14 | Docudrama | 1 | | | 1 | | | 2 |
| 15 | Documentary | 10 | | 2 | 11 | | 7 | 30 |
| 16 | Drama | 40 | 7 | 6 | 410 | 127 | 650 | 1240 |
| 17 | Fantasy | 16 | | | 37 | 13 | 11 | 77 |
| 18 | Historical | 4 | | | 23 | 3 | 18 | 48 |
| 19 | Horror | 2 | 1 | | 110 | 16 | 317 | 446 |
| 20 | Musical | 32 | | | 53 | 8 | 22 | 115 |
| 21 | Mystery | 4 | | | 40 | 4 | 45 | 93 |
| 22 | Opera | 1 | | | 1 | | 1 | 3 |
| 23 | Political | | | | 5 | | 10 | 15 |
| 24 | Prison | | | | 3 | | 27 | 30 |
| 25 | Religious | 5 | | | 5 | 2 | 5 | 17 |
| 26 | Romance | 2 | | | 50 | 18 | 43 | 113 |
| 27 | Science | 22 | | | 88 | 22 | 69 | 201 |
| 28 | Sports | 7 | | | 51 | 9 | 28 | 95 |
| 29 | Spy | 4 | | | 39 | 3 | 15 | 61 |
| 30 | Thriller | | | | 50 | 10 | 143 | 203 |
| 31 | War | 12 | | | 38 | 5 | 26 | 81 |
| 32 | Western | 25 | | | 105 | 3 | 42 | 175 |
| 33 | **Grand Total** | **381** | **12** | **10** | **1947** | **508** | **2548** | **5406** |

Figure 3: Movies by Category and Rating

| 3 | Categories | Titles |
|---|---|---|
| 4 | **Action** | **311** |
| 5 | G | 2 |
| 6 | PG | 70 |
| 7 | PG-13 | 21 |
| 8 | R | 218 |
| 9 | **Adventure** | **177** |
| 10 | G | 30 |
| 11 | PG | 100 |
| 12 | PG-13 | 11 |
| 13 | R | 36 |
| 14 | **Animated** | **64** |
| 15 | G | 43 |
| 16 | NR | 1 |
| 17 | PG | 13 |
| 18 | PG-13 | 1 |
| 19 | R | 6 |
| 20 | **Biography** | **121** |
| 21 | G | 6 |
| 22 | PG | 49 |
| 23 | PG-13 | 17 |
| 24 | R | 49 |
| 25 | **Children's** | **52** |
| 26 | G | 37 |
| 27 | PG | 15 |
| 28 | **Comedy** | **1267** |
| 29 | G | 65 |

Figure 4: Movies per Category, per Rating report

| 3 | Categories | Titles |
|---|---|---|
| 4 | **G** | **381** |
| 5 | Action | 2 |
| 6 | Adventure | 30 |
| 7 | Animated | 43 |
| 8 | Biography | 6 |
| 9 | Children's | 37 |
| 10 | Comedy | 65 |
| 11 | Crime | 4 |
| 12 | Dance | 4 |
| 13 | Disaster | 3 |
| 14 | Docudrama | 1 |
| 15 | Documentary | 10 |
| 16 | Drama | 40 |
| 17 | Fantasy | 16 |
| 18 | Historical | 4 |
| 19 | Horror | 2 |
| 20 | Musical | 32 |
| 21 | Mystery | 4 |
| 22 | Opera | 1 |
| 23 | Religious | 5 |
| 24 | Romance | 2 |
| 25 | Science | 22 |
| 26 | Sports | 7 |
| 27 | Spy | 4 |
| 28 | War | 12 |
| 29 | Western | 25 |
| 30 | **PG** | **1947** |
| 31 | Action | 70 |
| 32 | Adventure | 100 |

Figure 5: Movies per Rating, per Category report

# Topic B: How do I create a simple and easy to use PivotTable?

*The exercise below uses the **1b_Movies.xlsx** file.*

1. Start Excel and create or open your file.

2. Position the cursor in one cell, and only one cell of the data.

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | MovieNumber | Title | Year | Category | Rating | Color |
| 2 | 1 | $(Dollars) | 1972 | Crime | R | TRUE |
| 3 | 2 | $1,000,000 Duck | 1971 | Comedy | G | TRUE |
| 4 | 3 | 10 | 1979 | Comedy | R | TRUE |
| 5 | 4 | 10 Rillington Place | 1970 | Crime | PG | TRUE |
| 6 | 5 | 100 Rifles | 1969 | Western | PG | TRUE |
| 7 | 6 | 11 Harrowhouse | 1974 | Crime | PG | TRUE |
| 8 | 7 | 1492: Conquest of Paradise | 1992 | Drama | PG-13 | TRUE |
| 9 | 8 | 16 Days of Glory | 1986 | Documentary | G | TRUE |
| 10 | 9 | 1776 | 1972 | Historical | G | TRUE |
| 11 | 10 | 18 Again! | 1988 | Comedy | PG | TRUE |
| 12 | 11 | 1900 | 1977 | Drama | NC-17 | TRUE |

Figure 6

3. From the ribbon choose **Insert**, **Tables**, **PivotTable**.

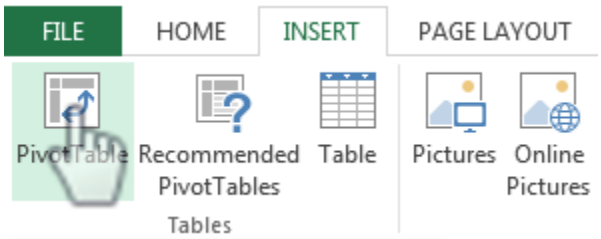



Figure 7

4. In the resulting dialog box make sure the **table/range** is referring to the correct table or range and that the destination is a **New Worksheet**, then click **OK**.

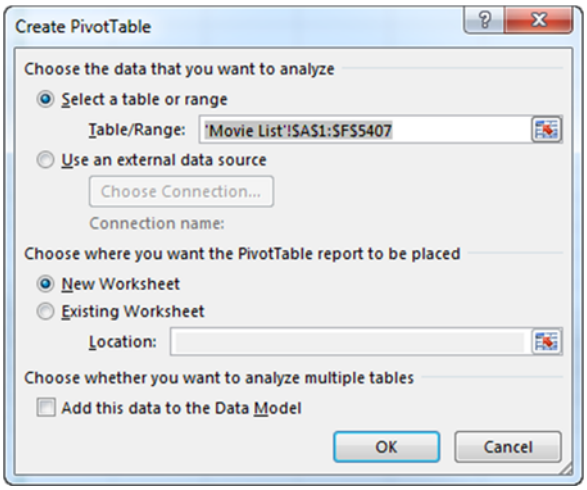



Figure 8

5. Drag the fields from the PivotTable Field List to the desired location as shown below.

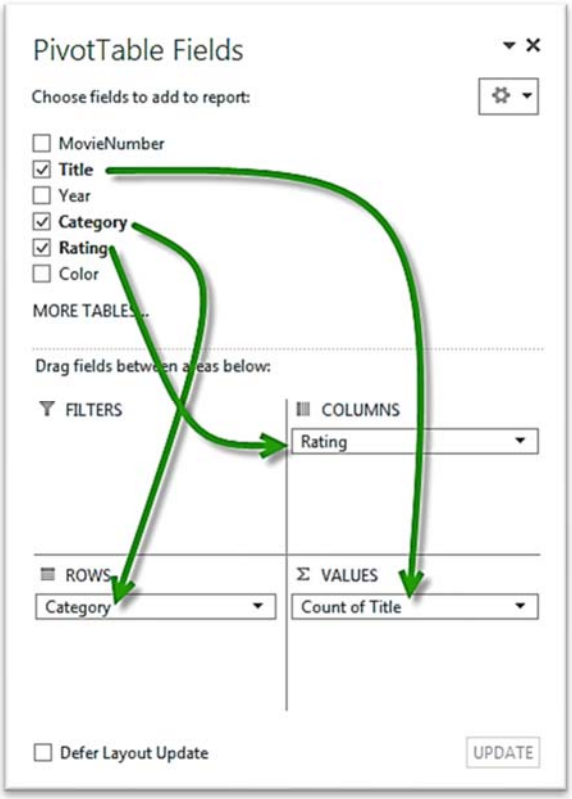
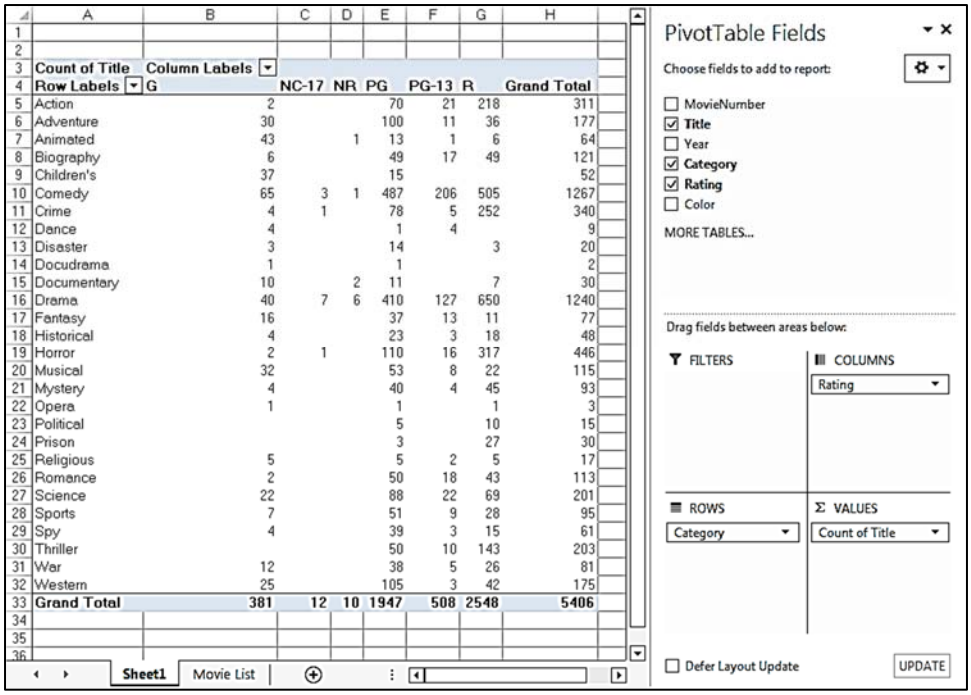



Figure 9

6. Notice, you now have a PivotTable.



| Count of Title | Column Labels | | | | | | |
|---|---|---|---|---|---|---|---|
| Row Labels | G | NC-17 | NR | PG | PG-13 | R | Grand Total |
| Action | 2 | | | 70 | 21 | 218 | 311 |
| Adventure | 30 | | | 100 | 11 | 36 | 177 |
| Animated | 43 | | 1 | 13 | 1 | 6 | 64 |
| Biography | 6 | | | 49 | 17 | 49 | 121 |
| Children's | 37 | | | 15 | | | 52 |
| Comedy | 65 | 3 | 1 | 487 | 206 | 505 | 1267 |
| Crime | 4 | 1 | | 78 | 5 | 252 | 340 |
| Dance | 4 | | | 1 | 4 | | 9 |
| Disaster | 3 | | | 14 | | 3 | 20 |
| Docudrama | 1 | | | 1 | | | 2 |
| Documentary | 10 | | 2 | 11 | | 7 | 30 |
| Drama | 40 | 7 | 6 | 410 | 127 | 650 | 1240 |
| Fantasy | 16 | | | 37 | 13 | 11 | 77 |
| Historical | 4 | | | 23 | 3 | 18 | 48 |
| Horror | 2 | 1 | | 110 | 16 | 317 | 446 |
| Musical | 32 | | | 53 | 8 | 22 | 115 |
| Mystery | 4 | | | 40 | 4 | 45 | 93 |
| Opera | 1 | | | 1 | | 1 | 3 |
| Political | | | | 5 | | 10 | 15 |
| Prison | | | | 3 | | 27 | 30 |
| Religious | 5 | | | 5 | 2 | 5 | 17 |
| Romance | 2 | | | 50 | 18 | 43 | 113 |
| Science | 22 | | | 88 | 22 | 69 | 201 |
| Sports | 7 | | | 51 | 9 | 28 | 95 |
| Spy | 4 | | | 39 | 3 | 15 | 61 |
| Thriller | | | | 50 | 10 | 143 | 203 |
| War | 12 | | | 38 | 5 | 26 | 81 |
| Western | 25 | | | 105 | 3 | 42 | 175 |
| Grand Total | 381 | 12 | 10 | 1947 | 508 | 2548 | 5406 |



Figure 10

## Topic C: What are the rules for setting up source data for a PivotTable?

PivotTables are based on source data. That source data is usually already in Excel as a range of cells or as an Excel table. But it is also possible to create PivotTables from source data that is outside Excel. For example you could create a PivotTable from an Access database.

When setting up your source data in Excel make sure it is in a tabular format. In other words you should make sure your source data follows these rules.

- Each column of data has a column heading
- Each column heading is unique
- Each column heading is in the same row
- The column headings do not span multiple rows
- No merged cells exist anywhere in the data
- All the data is contiguous - there should be no blank rows and no blank columns in the source data
- The data in each column follows a consistent format
- The data is not in section headings
- Data values are not used in column headings

# Topic D: How do you "pivot" in a PivotTable?

To pivot is to turn. In an Excel PivotTable you can "pivot" or move one field to a new location, from row to column for example, while all the other fields stay in their current location.

To pivot just drag the field from its current location to its new location as shown in the following examples.

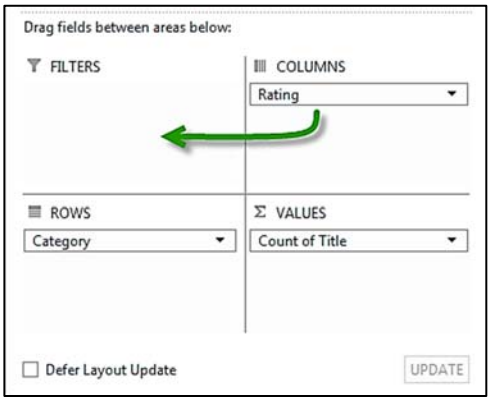


Figure 11: Pivot from column to filter

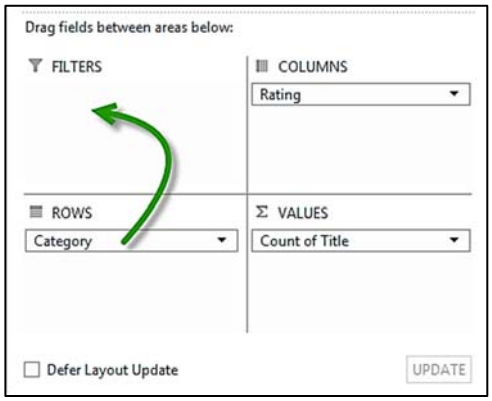


Figure 12: Pivot from row to filter

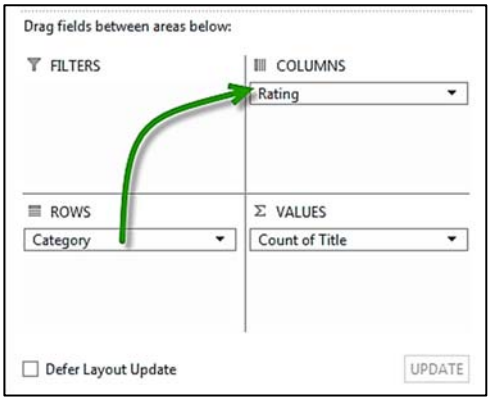


Figure 13: Pivot from row to column

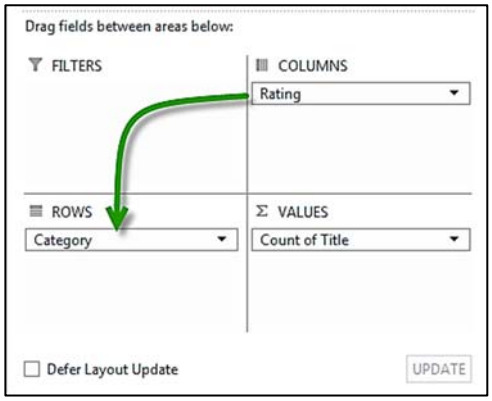


Figure 14: Pivot from column to row

# Topic E: How do you change the value calculation?

*The exercise below uses the **1e_Employees.xlsx** file.*

When creating the PivotTable the value calculation will default to SUM if the field is numeric and COUNT if the field is text. To change the calculation do the following.

1. Click the arrow next to the value calculation.

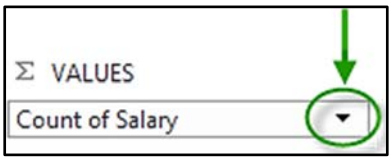



Figure 15

2. From the pop up menu choose **Value Field Settings…**

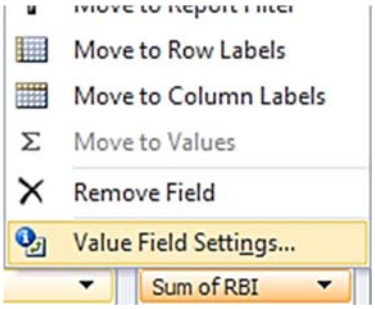



Figure 16

3. In the Value Field Settings dialog box click the desired calculation type.

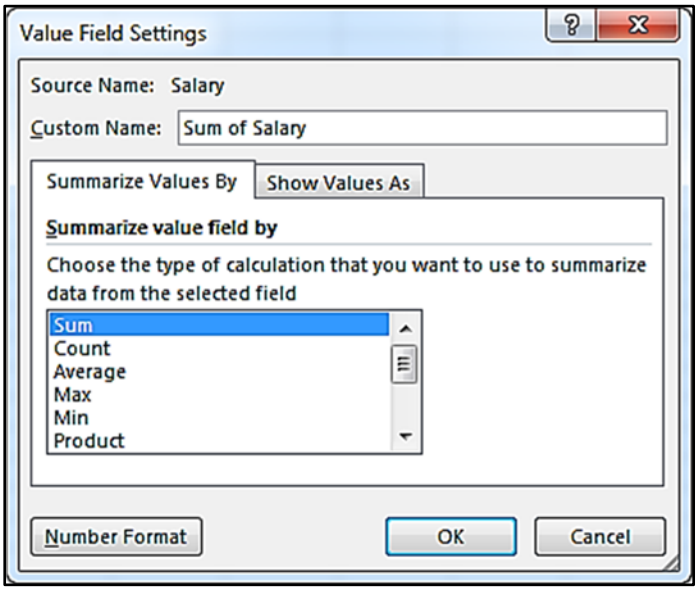



Figure 17

4. Optional: Edit the name in the **Custom Name** box as needed.

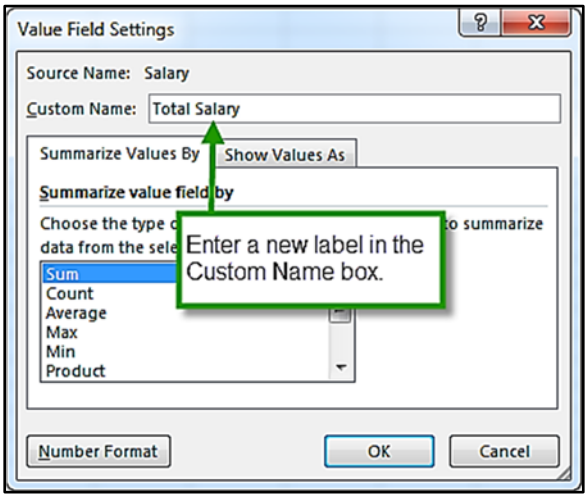



Figure 18

5. Click **OK**.

The Pivot Table is updated with the new calculation and label.

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | Drop Report Filter Fields Here | | | | | | |
| 2 | | | | | | | |
| 3 | Total Salary | Office | | | | | |
| 4 | Dept | Chicago | Dallas | DC | NY | SFO | Grand Total |
| 5 | Acct | | | | 14513 | | 14513 |
| 6 | Manf | | | 9500 | | | 9500 |
| 7 | Mktg | | 23780 | | 2684 | 2200 | 28664 |
| 8 | Sales | 16115 | | | 3184 | 22767 | 42066 |
| 9 | Grand Total | 16115 | 23780 | 9500 | 20381 | 24967 | 94743 |

Figure 19

# Topic F: How do you change the number formatting?

*The exercise below uses the **1f_Employees.xlsx** file.*

## The wrong way

When changing the formatting of numeric fields and calculations, **resist the temptation to use the number formatting options on the ribbon's Home tab**, because these tools only change the formatting of the cell(s) you have selected. If you later pivot or refresh the data you may then discover that some of the updated values have the wrong format.

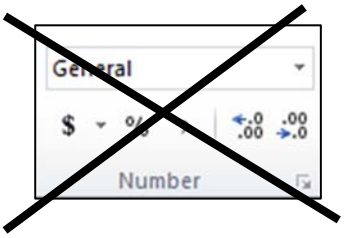



Figure 20

## The right way

The correct way to change the number formatting is to use the Number Format button on the Field Settings dialog box as shown below.

1. Click the arrow next to the field's name.

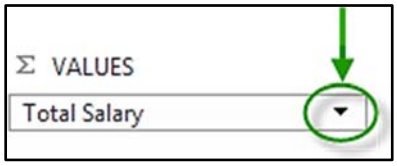



Figure 21

2. From the pop up menu choose **Value Field Settings…**

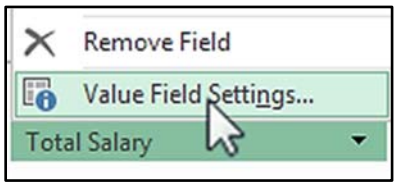



Figure 22

3. In the Value Field Settings dialog box click the **Number Format** button.

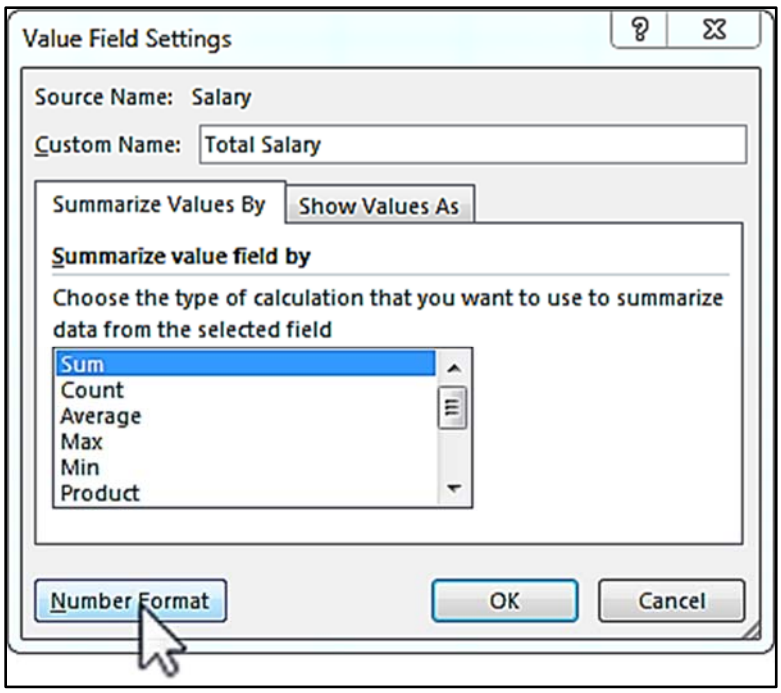



Figure 23

4. Use the Format Cells dialog box to format the number as desired, then click **OK**.

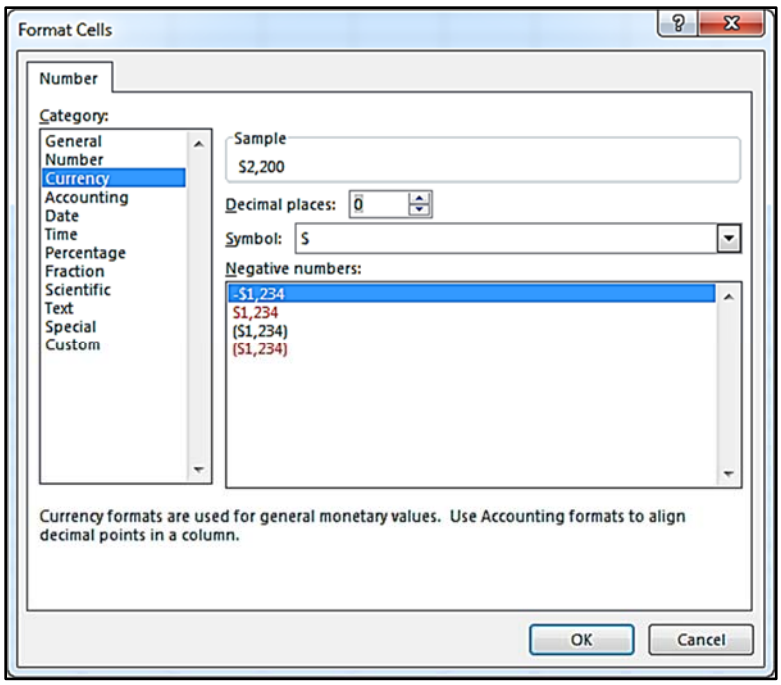



Figure 24

The Pivot Table is updated with the new formatting.

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | Total Salary | Office | | | | | |
| 4 | Dept | Chicago | Dallas | DC | NY | SFO | Grand Total |
| 5 | Acct | | | | $14,513 | | $14,513 |
| 6 | Manf | | | $9,500 | | | $9,500 |
| 7 | Mktg | | $23,780 | | $2,684 | $2,200 | $28,664 |
| 8 | Sales | $16,115 | | | $3,184 | $22,767 | $42,066 |
| 9 | Grand Total | $16,115 | $23,780 | $9,500 | $20,381 | $24,967 | $94,743 |

# 2: Drilling Down

Complete this unit and you'll be able to answer the following questions:

A. What does it mean to drill down?

B. How do you drill down on a summary value?

C. How do you drill down on a row label?

D. How do you drill down on a column label?

E. How do you remove the details?

# Topic A: What does it mean to drill down?

*The example below uses the **2abc_Orders.xlsx** file.*

To "drill down" is to investigate in depth or at a deeper level. In a PivotTable we can drill down to get more details. For example, if your PivotTable shows total sales for the month you can drill down to see the details of who bought what when.

| | A | B |
|---|---|---|
| 3 | Row Labels | Sum of Quantity |
| 4 | Can. & Mex | 671 |
| 5 | Central | 1071 |
| 6 | Northeast | 1185 |
| 7 | Northwest | 155 |
| 8 | Southeast | 785 |
| 9 | Southwest | 558 |
| 10 | **Grand Total** | 4425 |

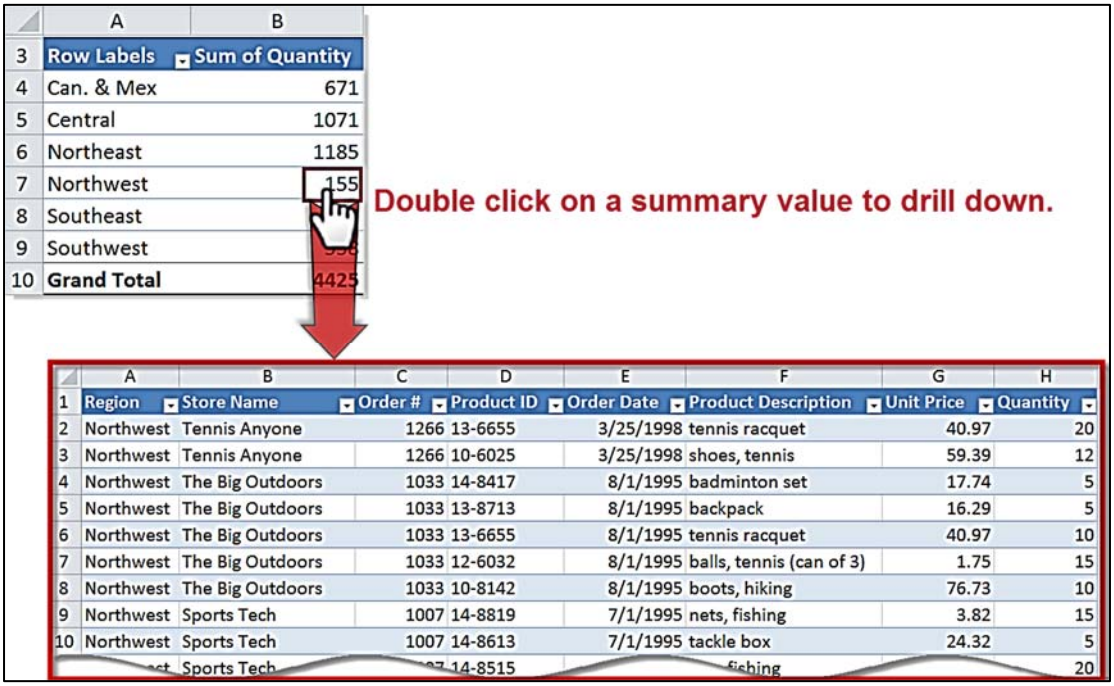
| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | Region | Store Name | Order # | Product ID | Order Date | Product Description | Unit Price | Quantity |
| 2 | Northwest | Tennis Anyone | 1266 | 13-6655 | 3/25/1998 | tennis racquet | 40.97 | 20 |
| 3 | Northwest | Tennis Anyone | 1266 | 10-6025 | 3/25/1998 | shoes, tennis | 59.39 | 12 |
| 4 | Northwest | The Big Outdoors | 1033 | 14-8417 | 8/1/1995 | badminton set | 17.74 | 5 |
| 5 | Northwest | The Big Outdoors | 1033 | 13-8713 | 8/1/1995 | backpack | 16.29 | 5 |
| 6 | Northwest | The Big Outdoors | 1033 | 13-6655 | 8/1/1995 | tennis racquet | 40.97 | 10 |
| 7 | Northwest | The Big Outdoors | 1033 | 12-6032 | 8/1/1995 | balls, tennis (can of 3) | 1.75 | 15 |
| 8 | Northwest | The Big Outdoors | 1033 | 10-8142 | 8/1/1995 | boots, hiking | 76.73 | 10 |
| 9 | Northwest | Sports Tech | 1007 | 14-8819 | 7/1/1995 | nets, fishing | 3.82 | 15 |
| 10 | Northwest | Sports Tech | 1007 | 14-8613 | 7/1/1995 | tackle box | 24.32 | 5 |
| | | Sports Tech | | 14-8515 | | fishing | | 20 |

Figure 25

# Topic B: How do you drill down on a summary value?

*The exercise below uses the **2abc_Orders.xlsx** file.*

Drilling down is easy, just double click on the cell with the summary value. When you do a new sheet is added that shows all the records that made up the summary value.




| | A | B |
|---|---|---|
| 3 | Row Labels | Sum of Quantity |
| 4 | Can. & Mex | 671 |
| 5 | Central | 1071 |
| 6 | Northeast | 1185 |
| 7 | Northwest | 155 |
| 8 | Southeast | [illegible] |
| 9 | Southwest | [illegible] |
| 10 | Grand Total | 4425 |

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | Region | Store Name | Order # | Product ID | Order Date | Product Description | Unit Price | Quantity |
| 2 | Northwest | Tennis Anyone | 1266 | 13-6655 | 3/25/1998 | tennis racquet | 40.97 | 20 |
| 3 | Northwest | Tennis Anyone | 1266 | 10-6025 | 3/25/1998 | shoes, tennis | 59.39 | 12 |
| 4 | Northwest | The Big Outdoors | 1033 | 14-8417 | 8/1/1995 | badminton set | 17.74 | 5 |
| 5 | Northwest | The Big Outdoors | 1033 | 13-8713 | 8/1/1995 | backpack | 16.29 | 5 |
| 6 | Northwest | The Big Outdoors | 1033 | 13-6655 | 8/1/1995 | tennis racquet | 40.97 | 10 |
| 7 | Northwest | The Big Outdoors | 1033 | 12-6032 | 8/1/1995 | balls, tennis (can of 3) | 1.75 | 15 |
| 8 | Northwest | The Big Outdoors | 1033 | 10-8142 | 8/1/1995 | boots, hiking | 76.73 | 10 |
| 9 | Northwest | Sports Tech | 1007 | 14-8819 | 7/1/1995 | nets, fishing | 3.82 | 15 |
| 10 | Northwest | Sports Tech | 1007 | 14-8613 | 7/1/1995 | tackle box | 24.32 | 5 |
| | [illegible] | Sports Tech | [illegible] | 14-8515 | [illegible] | [illegible] fishing | [illegible] | 20 |

Figure 26

# Topic C: How do you drill down on a row label?

*The exercise below uses the **2abc_Orders.xlsx** file.*

In addition to drilling down on a summary value, you can also drill down on a row label. This will give you additional summary information based on another pivot field.

1. **Right click** on the row field value for which you want to drill down, then choose **Expand/Collapse**, and then **Expand**.

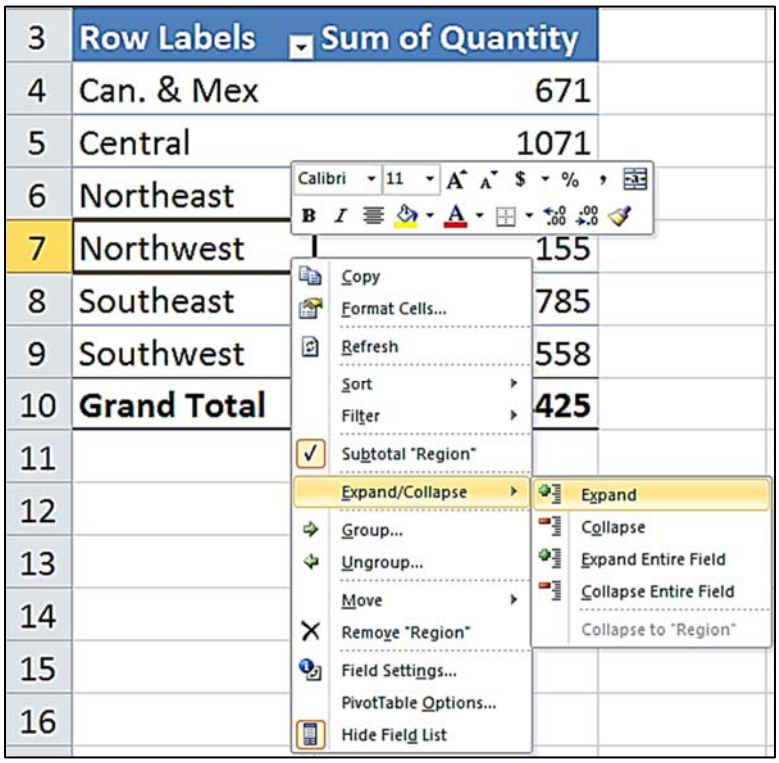



Figure 27

The Show Detail dialog box will appear.

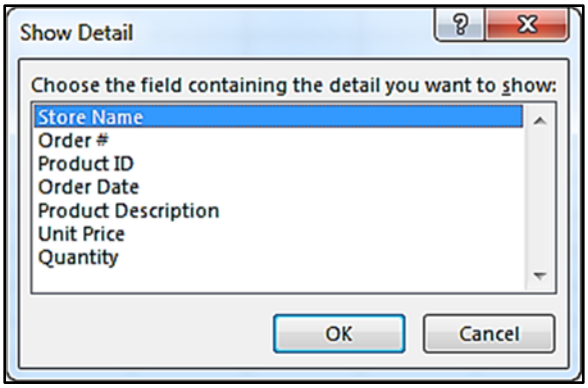



Figure 28

2. Choose the field you want to display and click **OK**.

The new field will appear in the PivotTable.

| | | |
|---|---|---|
| 3 | **Row Labels** | **Sum of Quantity** |
| 4 | ⊞ **Can. & Mex** | **671** |
| 5 | ⊞ **Central** | **1071** |
| 6 | ⊞ **Northeast** | **1185** |
| 7 | ⊟ **Northwest** | **155** |
| 8 | B&B Sporting Goods | 15 |
| 9 | Sports Tech | 63 |
| 10 | Tennis Anyone | 32 |
| 11 | The Big Outdoors | 45 |
| 12 | ⊞ **Southeast** | **785** |
| 13 | ⊞ **Southwest** | **558** |
| 14 | **Grand Total** | **4425** |

Figure 29

The new field will also appear in the row fields list.

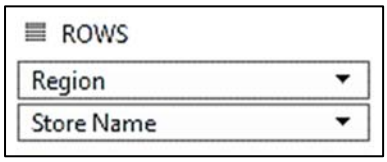



Figure 30

# Topic D: How do you drill down on a column label?

*The exercise below uses the **2d_Orders.xlsx** file.*

Drilling down on a column is very similar to drilling down on a row label.

1. **Right click** on the column field value for which you want to drill down, then choose **Expand/Collapse**, and then **Expand**.

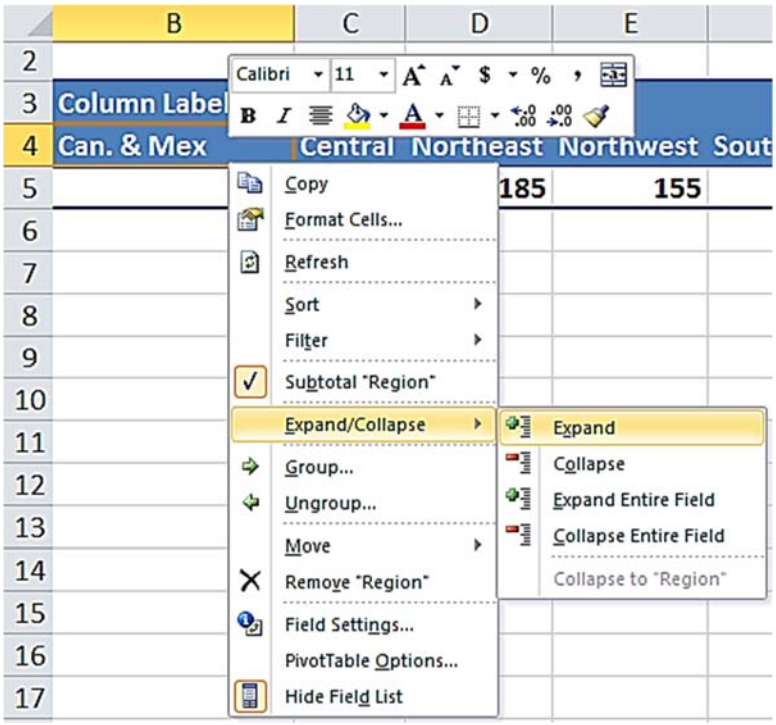



Figure 31

The Show Detail dialog box will appear.

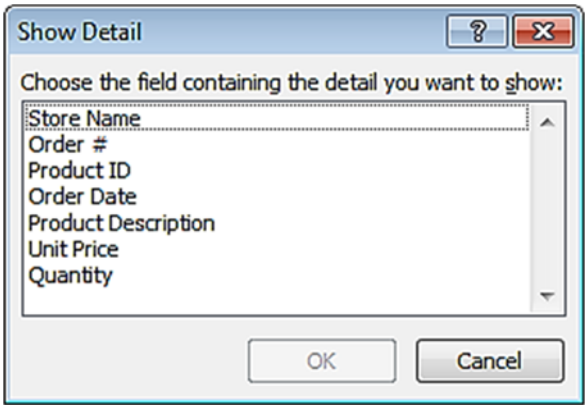



Figure 32

2. Choose the field you want to display and click **OK**.

The new field will appear in the PivotTable.

| Column Labels | | | | |
|---|---|---|---|---|
| ⊟ Can. & Mex | | | | |
| Alvarez Equipaje de Juegos | Canadian Sports Ltd. | El Mundo de Futbol | Juegos de Mexico | Juegos Mundial |
| 141 | 71 | 33 | 65 | 80 |

Figure 33

The new field will also appear in the row fields list.

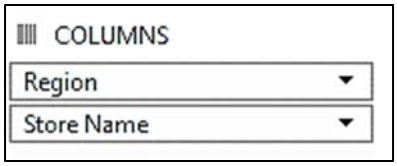



Figure 34

# Topic E: How do you remove the details?

*The example below uses the **2e_Orders.xlsx** file.*

After drilling down you can use the hide details Collapse buttons which appear as little boxes with minus signs. To view the details again just click the expand buttons which appear as little boxes with plus signs. Similar buttons are found on the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010).

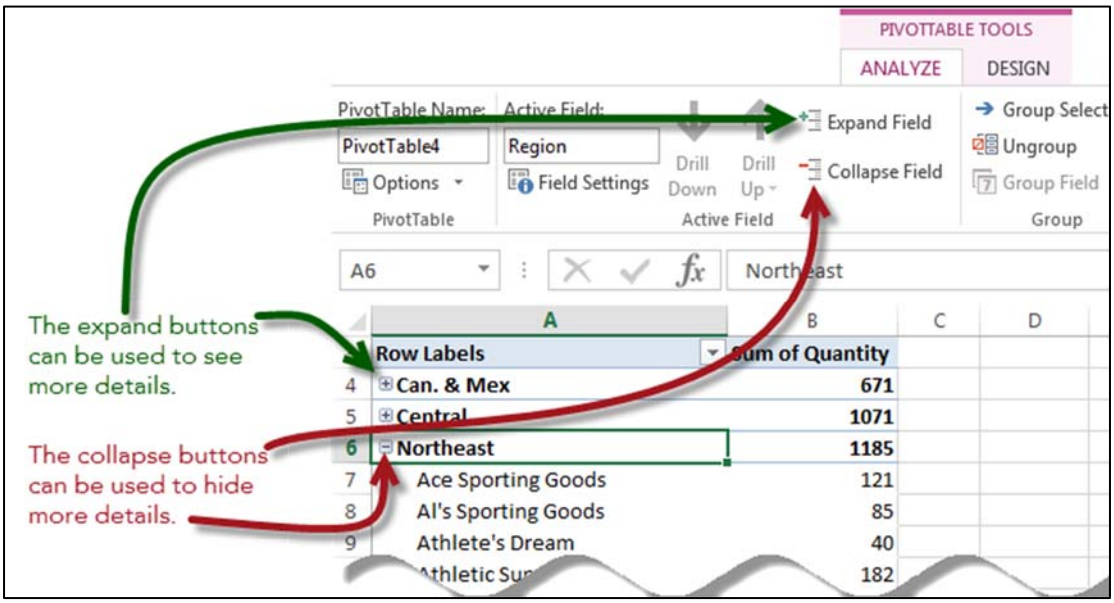


Figure 35

You can also remove the details by removing the field from the field list area as shown below.

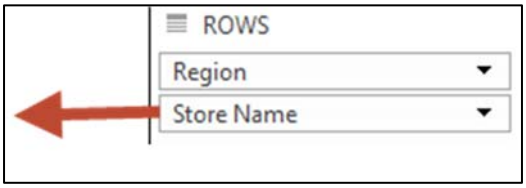


Figure 36

# 3: PivotTable Tricks

Complete this unit and you'll be able to answer the following questions:

A. How do you show items with no data?

B. How do you show 0 instead of blank?

C. How do you select different parts of the PivotTable?

D. How do you move a PivotTable?

E. How do you duplicate a PivotTable?

F. How do you rename a PivotTable?

G. How do you change the data source?

H. How do you create a Pivot Chart?

# Topic A: How do you show items with no data?

*The exercise below uses the **3a_Movies.xlsx** file.*

PivotTables, by default only show records that have values. For example compare the two PivotTables below. The one on the left shows no PG-13 movies prior to 1983. But the example on the right show all items, even if when they have no data.

| Row Labels | Movies |
|---|---|
| ⊟1980 | 214 |
| G | 9 |
| PG | 91 |
| R | 114 |
| ⊟1981 | 201 |
| G | 4 |
| PG | 81 |
| R | 116 |
| ⊟1982 | 184 |
| G | 4 |
| PG | 73 |
| PG-13 | 1 |
| R | 106 |
| ⊟1983 | 189 |
| G | 2 |
| PG | 86 |
| PG-13 | 2 |
| R | 99 |
| ⊟1984 | 206 |
| G | 2 |
| PG | 71 |
| PG-13 | 21 |
| R | 112 |
| Grand Total | 994 |

| Row Labels | Movies |
|---|---|
| ⊟1980 | 214 |
| G | 9 |
| NC-17 | |
| NR | |
| PG | 91 |
| PG-13 | |
| R | 114 |
| ⊟1981 | 201 |
| G | 4 |
| NC-17 | |
| NR | |
| PG | 81 |
| PG-13 | |
| R | 116 |
| ⊟1982 | 184 |
| G | 4 |
| NC-17 | |
| NR | |
| PG | 73 |
| PG-13 | 1 |
| R | 106 |
| ⊟1983 | 189 |
| G | 2 |
| NC-17 | |
| NR | |
| PG | 86 |
| PG-13 | 2 |
| R | 99 |
| ⊟1984 | 206 |
| G | 2 |
| NC-17 | |
| NR | |
| PG | 71 |
| PG-13 | 21 |
| R | 112 |
| Grand Total | 994 |

Figure 37

1. Click the arrow next to the field.

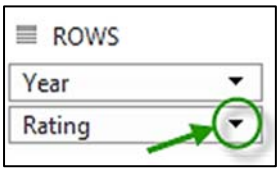



Figure 38

2. From the pop up menu choose **Field Settings…**

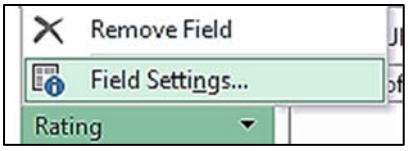



Figure 39

3. In the Field Settings dialog box click the **Layout & Print** tab, then check the **Show Items with no data** option and click **OK**.

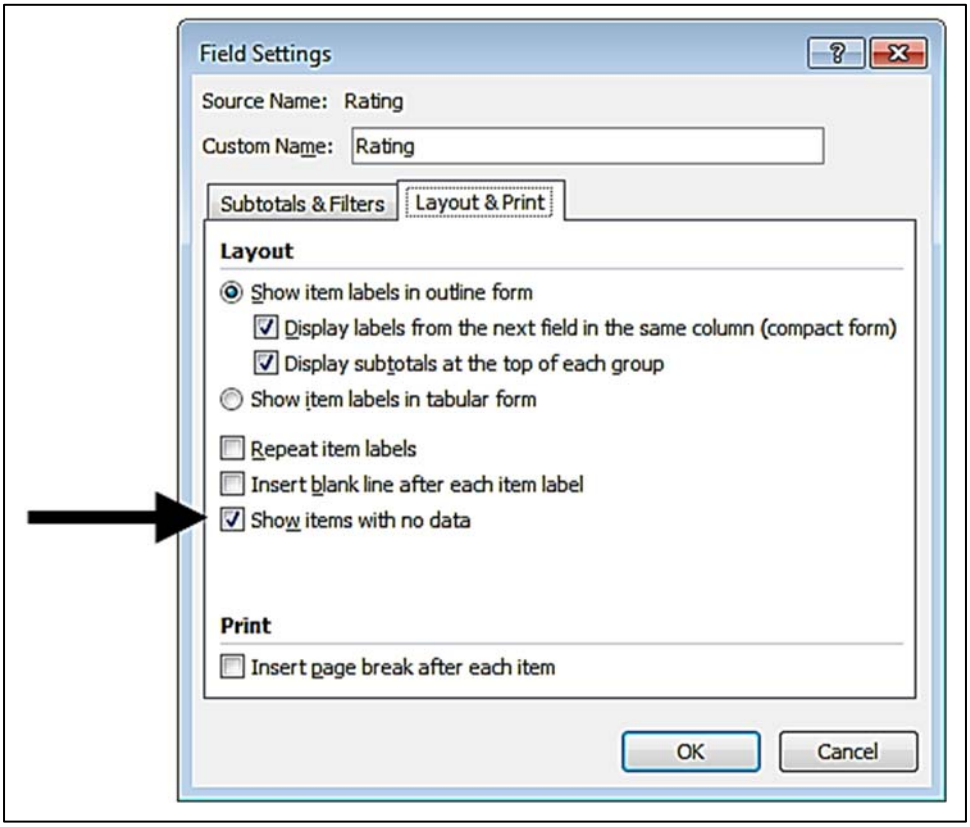



Figure 40

# Topic B: How do you show 0 instead of blank?

*The exercise below uses the **3b_Movies.xlsx** file.*

When you display items with no data you can show the data with a blank or a zero value.

1. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), choose the **Options** drop down and select **options**.

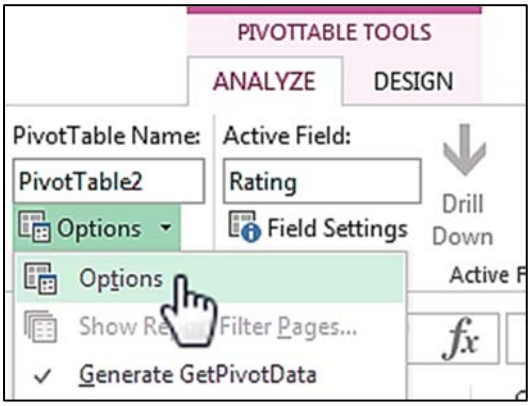



Figure 41

2. On the **Layout & Format tab** check the **For empty cells show:** option, and then type **0** or whatever value you would like to see when the cell is empty, then click **OK**.

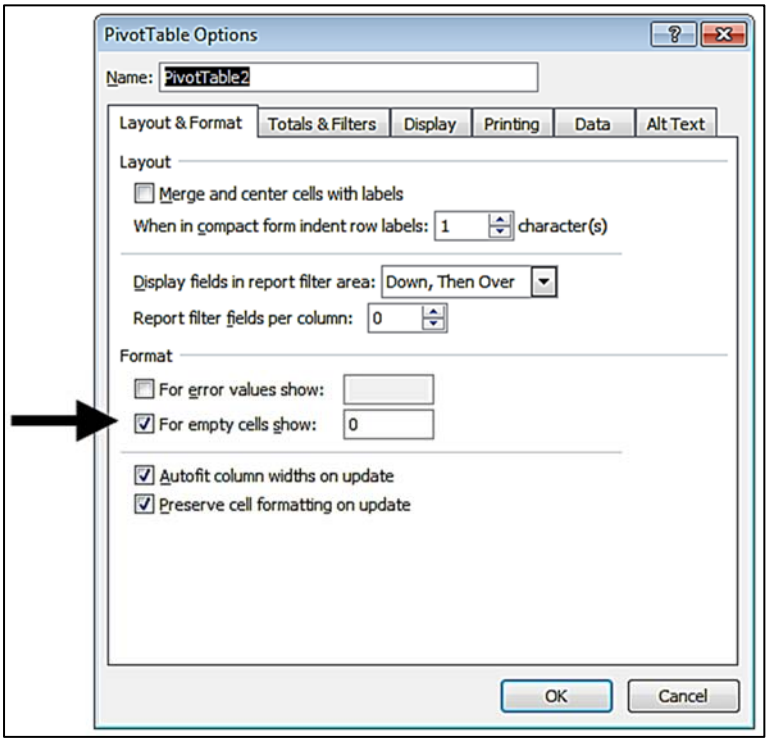



Figure 42

# Topic C: How do you select different parts of the PivotTable?

*The exercise below users the **3cdef_Movies.xlsx** file.*

There are multiple ways to select the different parts of the PivotTable including the following:

- From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), choose the **Entire PivotTable** option to select the whole table.

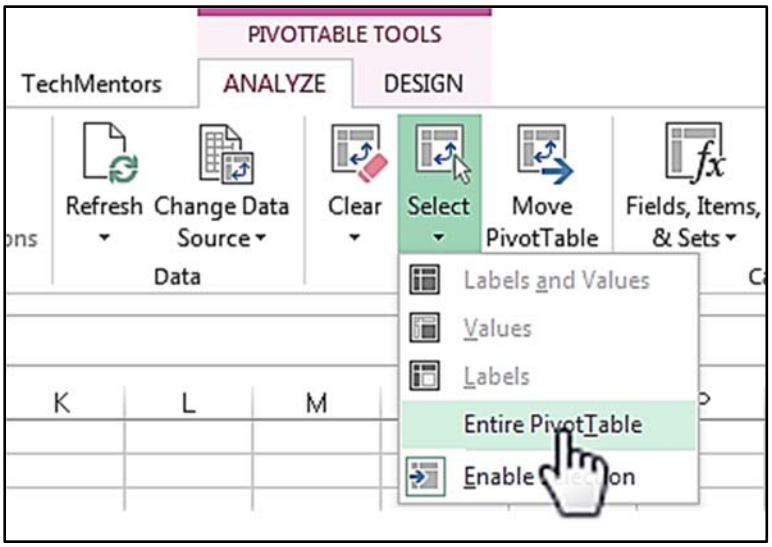



Figure 43

- Select a row by positioning the cursor on the left side of the row, and clicking when the cursor appears as a black arrow.

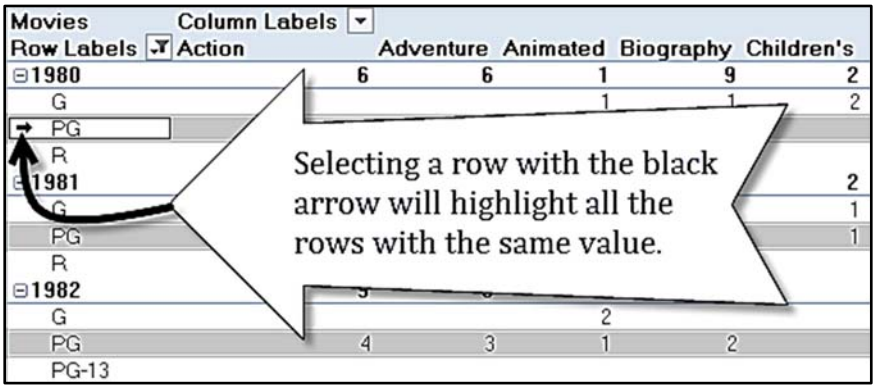



Figure 44

- Select a column by positioning the cursor at the top of a column, and clicking when the cursor appears as a column.

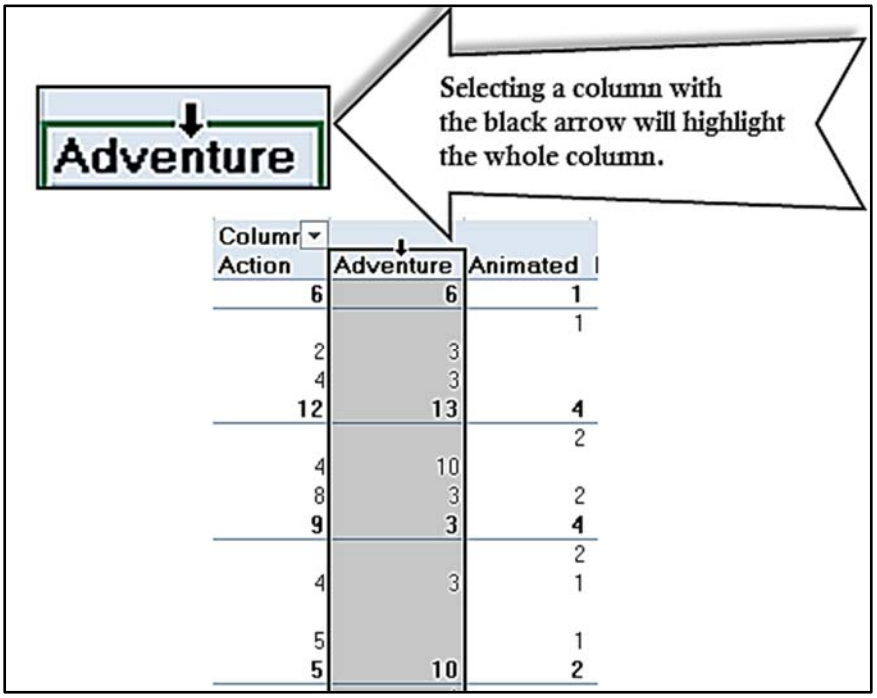



Figure 45

# Topic D: How do you move a PivotTable?

*The exercise below uses the **3cdef_Movies.xlsx** file.*

A PivotTable can be placed in its own spreadsheet, or it can be moved to another sheet.

1. Position the cursor in any cell of the PivotTable.

2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), choose the **Move PivotTable** icon.

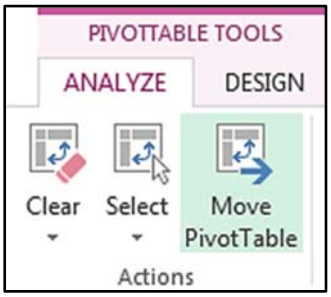



Figure 46

The Move PivotTable dialog box will appear.

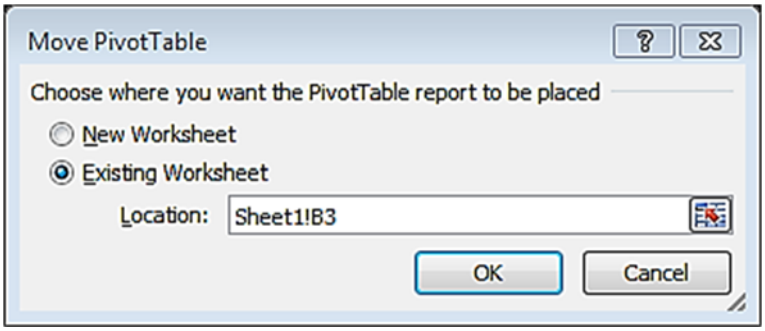



Figure 47

3. Specify if you want to move the PivotTable to a **New Worksheet** or to an **Existing Worksheet**.

   If you choose an Existing Worksheet then you need to specify the address of the cell that will serve as the top left corner of the PivotTable. As shown in Figure 47 above the address must include the sheet name, and exclamation mark, and the cell reference.

4. Click **OK**.

# Topic E: How do you duplicate a PivotTable?

*The exercise below uses the **3cdef_Movies.xlsx** file.*

1. Click in any one cell of the PivotTable.

2. Select the entire PivotTable by choosing from the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), and then selecting the **Entire PivotTable** option.

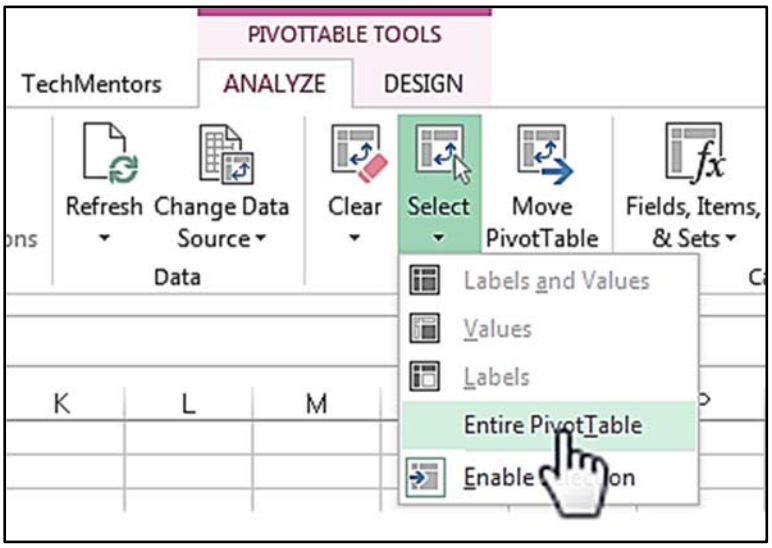



Figure 48

3. Copy the PivotTable to the clipboard by pressing **Ctrl C**.

4. Position the cursor in a different sheet or in a new location on the same sheet, provided the new location is not currently part of a PivotTable.

5. Paste the data by pressing **Ctrl V**.

# Topic F: How do you rename a PivotTable?

*The exercise below uses the **3cdef_Movies.xlsx** file.*

Each PivotTable has a unique name. This name is found in the PivotTable Name box on the left side of the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options tab in Excel 2010).

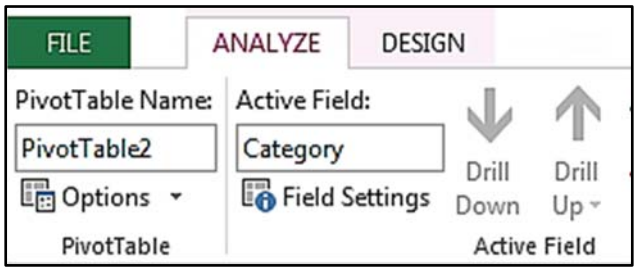



Figure 49

You can rename the PivotTable by simply typing the new name in the PivotTable Name box.

Note: Unlike named ranges, PivotTable names can have spaces as shown below.

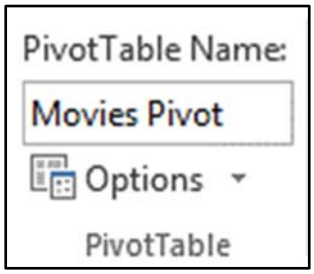



Figure 50

# Topic G: How do you change the data source of a PivotTable?

*The exercise below uses the **3g_Movies.xlsx** file.*

As we saw in the first lesson, each PivotTable is based on some source data. You can change the source of a PivotTable.

1. Click in any one cell of the PivotTable.

2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Change Data Source** button.

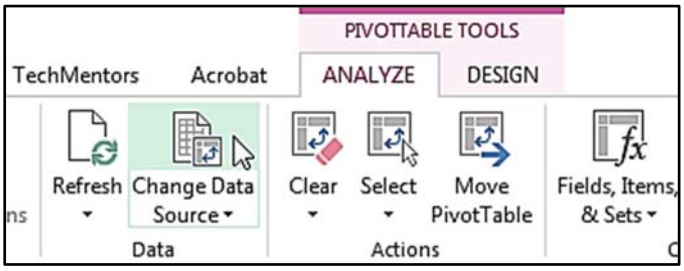



Figure 51

3. Using the Change PivotTable Data Source dialog box identify the new source (table or range) for your PivotTable, then click **OK**.

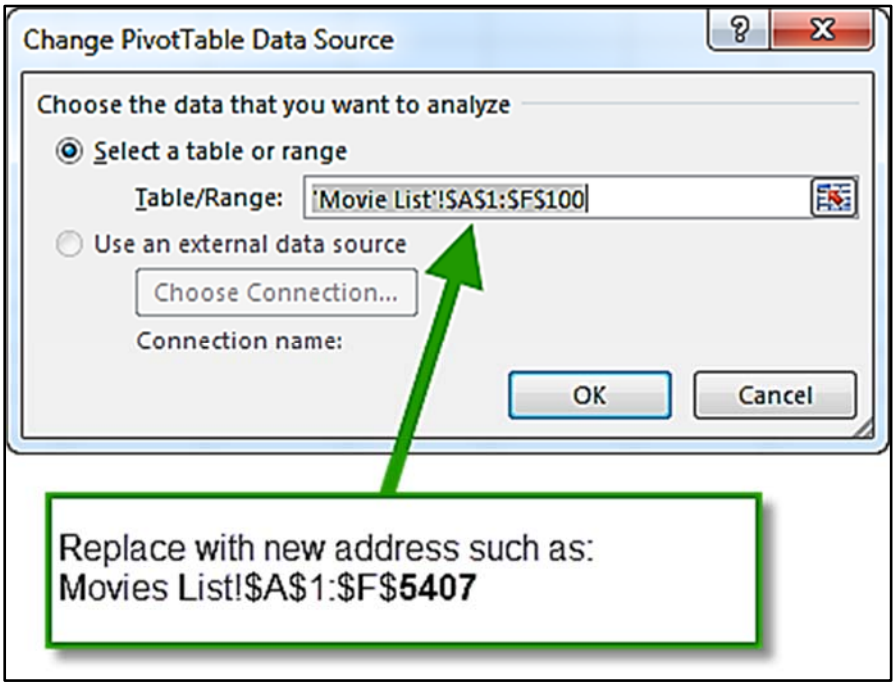



Figure 52

# Topic H: How do you create a PivotChart?

*The exercise below uses the **3h1_Movies.xlsx** file.*

A PivotChart is a graphical representation of the data in a PivotTable. Because it is an Excel chart it has all the features of regular Excel charts, plus it has PivotTable like features because it is based on an existing PivotTable.

There are two ways to create a PivotChart

## Method 1

1. Position the cursor in any one cell of the PivotTable.

2. Press **F11**.

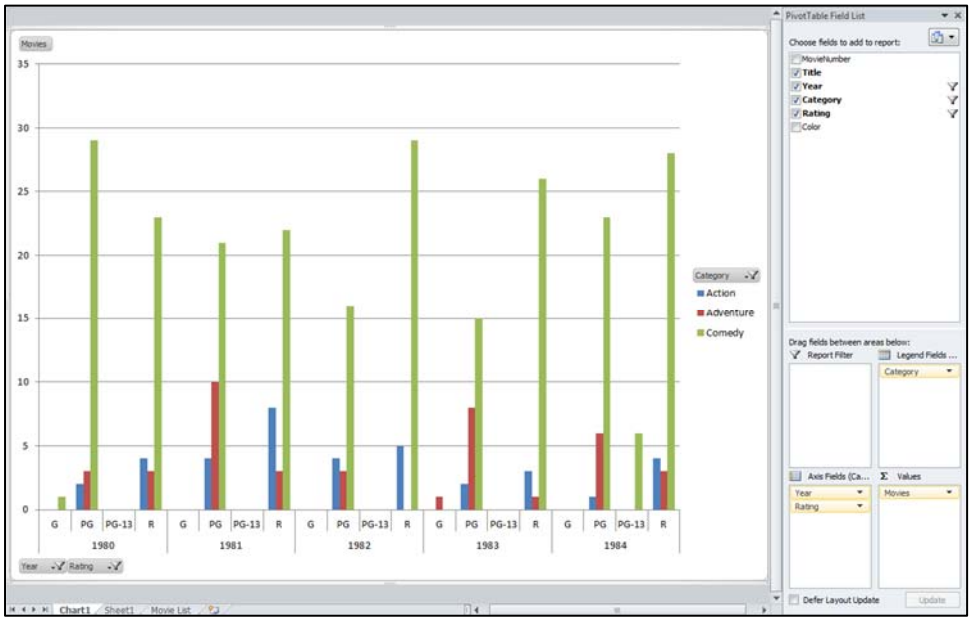


Figure 53

## Method 2

*The exercise below uses the **3h2_Movies** file.*

1. Position the cursor in one cell, and only one cell of the data.

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | MovieNumber | Title | Year | Category | Rating | Color |
| 2 | 1 | $(Dollars) | 1972 | Crime | R | TRUE |
| 3 | 2 | $1,000,000 Duck | 1971 | Comedy | G | TRUE |
| 4 | 3 | 10 | 1979 | Comedy | R | TRUE |
| 5 | 4 | 10 Rillington Place | 1970 | Crime | PG | TRUE |
| 6 | 5 | 100 Rifles | 1969 | Western | PG | TRUE |
| 7 | 6 | 11 Harrowhouse | 1974 | Crime | PG | TRUE |
| 8 | 7 | 1492: Conquest of Paradise | 1992 | Drama | PG-13 | TRUE |
| 9 | 8 | 16 Days of Glory | 1986 | Documentary | G | TRUE |
| 10 | 9 | 1776 | 1972 | Historical | G | TRUE |
| 11 | 10 | 18 Again! | 1988 | Comedy | PG | TRUE |
| 12 | 11 | 1900 | 1977 | Drama | NC-17 | TRUE |

Figure 54

2. From the ribbon choose **Insert**, **Charts**, **PivotChart** (Insert, Tables, PivotTable, PivotChart in Excel 2010).


Figure 55

3. In the resulting dialog box make sure the **table/range** is referring to the correct table or range that holds your data and that the destination is a **New Worksheet**, then click **OK**.

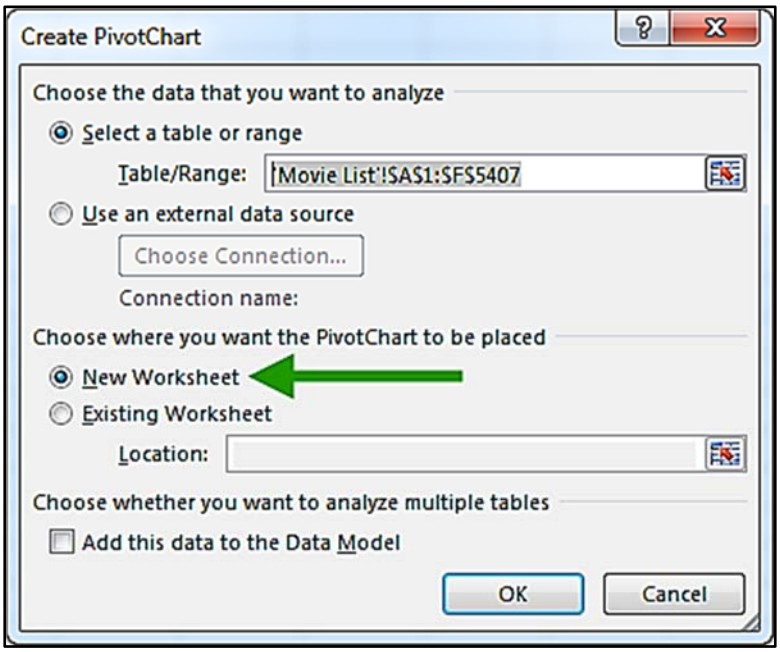



Figure 56

4. Drag the fields from the PivotTable Field List to the desired location.

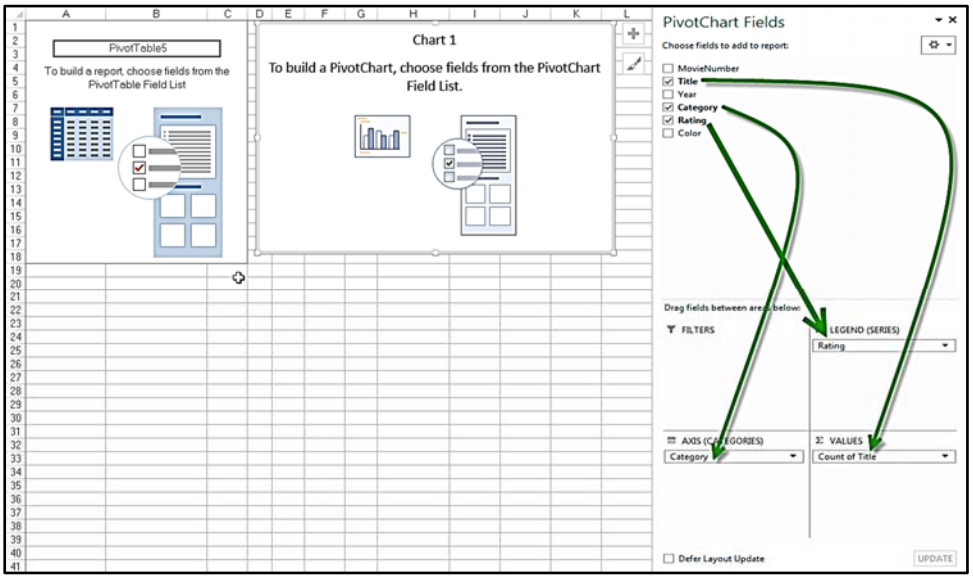



Figure 57

5. Move and resize the chart as needed.

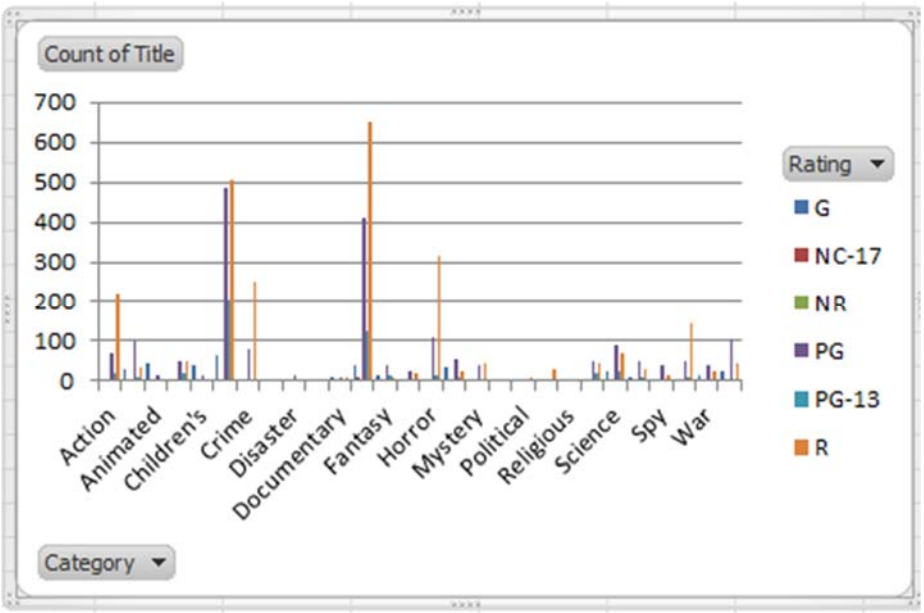



Figure 58

# 4: Refreshing Pivot Data

Complete this unit and you'll be able to answer the following questions:

A. Why do you need to refresh a PivotTable?

B. How do you refresh a PivotTable?

C. How do you refresh all the PivotTables in the workbook?

# Topic A: Why do you need to refresh a PivotTable?

*The exercise below uses the **4a_Northwind.xlsx** file.*

Unlike Excel formulas and function, PivotTables do not get automatically updated when the source data changes. That's because the source data of the PivotTable is contained in a hidden object called a PivotCache. The PivotCache is a static copy of the data as it appeared when the PivotTable was created. Thus, when you change the original data the PivotTable does not automatically get updated because its cache needs to be refreshed.

To demonstrate the need to refresh the PivotCache try the following:

1. View your Pivot Table and take note of some of its calculations.

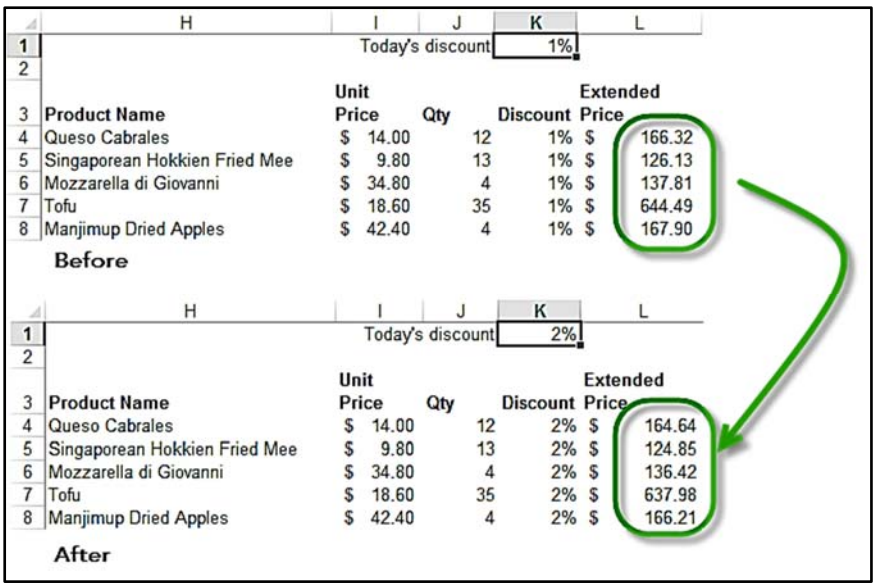
| Row Labels | Total Sales |
|---|---|
| Alfreds Futterkiste | $6,451 |
| Ana Trujillo Emparedados y helados | $4,168 |
| Antonio Moreno Taquería | $4,841 |
| Around the Horn | $12,175 |
| Berglunds snabbköp | $27,539 |
| Blauer See Delikatessen | $7,326 |
| Blondesddsl père et fils | $15,335 |

Figure 59

2. Change one or more values in the source data.

   *In this example you might change the discount rate in cell K1 of the Orders sheet from 1% to 2% and see all the discounts and extended prices change.*



| | H | I | J | K | L |
|---|---|---|---|---|---|
| 1 | | | Today's discount | 1% | |
| 2 | | | | | |
| 3 | Product Name | Unit Price | Qty | Discount | Extended Price |
| 4 | Queso Cabrales | $ 14.00 | 12 | 1% | $ 166.32 |
| 5 | Singaporean Hokkien Fried Mee | $ 9.80 | 13 | 1% | $ 126.13 |
| 6 | Mozzarella di Giovanni | $ 34.80 | 4 | 1% | $ 137.81 |
| 7 | Tofu | $ 18.60 | 35 | 1% | $ 644.49 |
| 8 | Manjimup Dried Apples | $ 42.40 | 4 | 1% | $ 167.90 |

Before

| | H | I | J | K | L |
|---|---|---|---|---|---|
| 1 | | | Today's discount | 2% | |
| 2 | | | | | |
| 3 | Product Name | Unit Price | Qty | Discount | Extended Price |
| 4 | Queso Cabrales | $ 14.00 | 12 | 2% | $ 164.64 |
| 5 | Singaporean Hokkien Fried Mee | $ 9.80 | 13 | 2% | $ 124.85 |
| 6 | Mozzarella di Giovanni | $ 34.80 | 4 | 2% | $ 136.42 |
| 7 | Tofu | $ 18.60 | 35 | 2% | $ 637.98 |
| 8 | Manjimup Dried Apples | $ 42.40 | 4 | 2% | $ 166.21 |

After

Figure 60: Notice the extended prices change when the discount is changed.

3. View the Pivot Table again. Notice that the numbers have not changed.

| Row Labels | Total Sales |
|---|---|
| Alfreds Futterkiste | $6,451 |
| Ana Trujillo Emparedados y helados | $4,168 |
| Antonio Moreno Taquería | $4,841 |
| Around the Horn | $12,175 |
| Berglunds snabbköp | $27,539 |
| Blauer See Delikatessen | $7,326 |
| Blondesddsl père et fils | $15,335 |

Figure 61

# Topic B: How do you refresh a PivotTable?

*The exercise below uses the **4bc_Northwind.xlsx** file.*

When you refresh a PivotTable you are in reality refreshing its PivotCache. You can do so by following the steps listed below. However, please note that all the other PivotTables that use the same PivotCache will also be refreshed because their cache has been refreshed.

1. If needed, notice the values in the various PivotTables.

   *In this example four PivotTables are on the Pivots sheet. The PivotTable in columns A and B is based on the Orders sheet. The three PivotTables in columns D and E are based on the Employees sheet.*

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 3 | Customers | Total Sales | | Department | Total Salary after Raise |
| 4 | Alfreds Futterkiste | $6,451 | | Acct | $14,658 |
| 5 | Ana Trujillo Emparedados y helados | $4,168 | | Manf | $9,595 |
| 6 | Antonio Moreno Taquería | $4,841 | | Mktg | $28,951 |
| 7 | Around the Horn | $12,175 | | Sales | $42,487 |
| 8 | Berglunds snabbköp | $27,539 | | Grand Total | $95,690 |
| 9 | Blauer See Delikatessen | $7,326 | | | |
| 10 | Blondesddsl père et fils | $15,335 | | | |
| 11 | Bólido Comidas preparadas | $2,373 | | | |
| 12 | Bon app' | $24,023 | | | |
| 13 | Bottom-Dollar Markets | $18,844 | | | |
| 14 | B's Beverages | $8,916 | | | |
| 15 | Cactus Comidas para llevar | $2,494 | | | |
| 16 | Centro comercial Moctezuma | $640 | | Office | Total Salary after Raise |
| 17 | Chop-suey Chinese | $13,489 | | Chicago | $16,276 |
| 18 | Comércio Mineiro | $5,604 | | Dallas | $24,018 |
| 19 | Consolidated Holdings | $6,459 | | DC | $9,595 |
| 20 | Die Wandernde Kuh | $11,415 | | NY | $20,585 |
| 21 | Drachenblut Delikatessen | $3,849 | | SFO | $25,217 |
| 22 | Du monde entier | $3,354 | | Grand Total | $95,690 |
| 23 | Eastern Connection | $11,258 | | | |
| 24 | Ernst Handel | $59,239 | | | |
| 25 | Familia Arquibaldo | $4,016 | | | |
| 26 | Folies gourmandes | $8,942 | | | |
| 27 | Folk och fä HB | $23,652 | | | |
| 28 | France restauration | $7,234 | | | |
| 29 | Franchi S.p.A. | $6,467 | | Employee | Total Salary after Raise |
| 30 | Frankenversand | $21,809 | | Abramas | $2,222 |
| 31 | Furia Bacalhau e Frutos do Mar | $9,234 | | Adelheim | $3,003 |
| 32 | Galería del gastrónomo | $3,294 | | Albrecht | $2,096 |
| 33 | Godos Cocina Típica | $14,041 | | Bachman | $1,645 |
| | nchonetes | $11,125 | | | $6,544 |

Figure 62

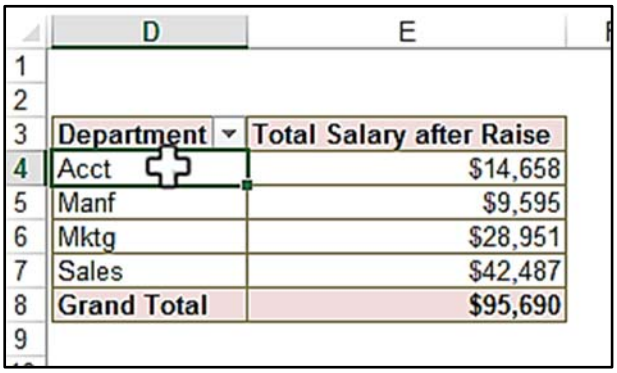
 

2. As needed, change the data in each of the source data ranges that support the various PivotCaches.

   *In this example change the discount rate in the Orders sheet cell K1 to 5%. Also change the employee's raise in the Employees sheet cell F1 to 6%.*

3. Click in any one cell of the PivotTable.

   *In this example click on cell D4.*



| Department | Total Salary after Raise |
|---|---|
| Acct | $14,658 |
| Manf | $9,595 |
| Mktg | $28,951 |
| Sales | $42,487 |
| Grand Total | $95,690 |

Figure 63

4. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Refresh**, **Refresh** option.

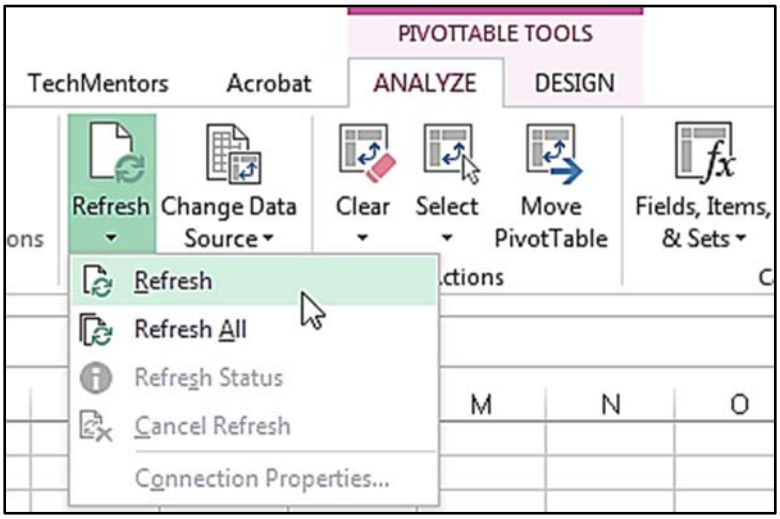
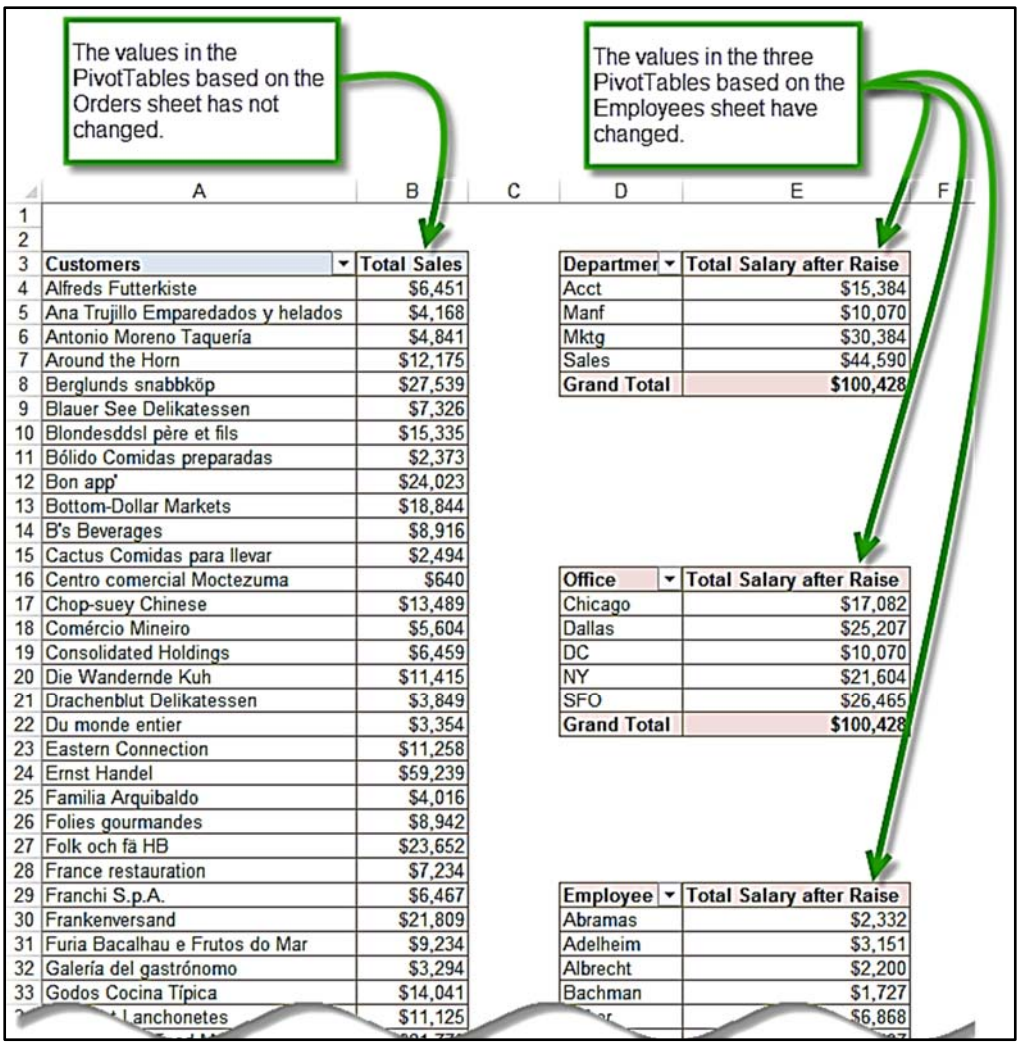



Figure 64

*Notice that the data in the three PivotTables based on the Employees sheet (the PivotTables in columns D and E) have changed, but the data in the PivotTable (the PivotTable in columns A and B) has not changed.*




| Customers | Total Sales |
|---|---|
| Alfreds Futterkiste | $6,451 |
| Ana Trujillo Emparedados y helados | $4,168 |
| Antonio Moreno Taquería | $4,841 |
| Around the Horn | $12,175 |
| Berglunds snabbköp | $27,539 |
| Blauer See Delikatessen | $7,326 |
| Blondesddsl père et fils | $15,335 |
| Bólido Comidas preparadas | $2,373 |
| Bon app' | $24,023 |
| Bottom-Dollar Markets | $18,844 |
| B's Beverages | $8,916 |
| Cactus Comidas para llevar | $2,494 |
| Centro comercial Moctezuma | $640 |
| Chop-suey Chinese | $13,489 |
| Comércio Mineiro | $5,604 |
| Consolidated Holdings | $6,459 |
| Die Wandernde Kuh | $11,415 |
| Drachenblut Delikatessen | $3,849 |
| Du monde entier | $3,354 |
| Eastern Connection | $11,258 |
| Ernst Handel | $59,239 |
| Familia Arquibaldo | $4,016 |
| Folies gourmandes | $8,942 |
| Folk och fä HB | $23,652 |
| France restauration | $7,234 |
| Franchi S.p.A. | $6,467 |
| Frankenversand | $21,809 |
| Furia Bacalhau e Frutos do Mar | $9,234 |
| Galería del gastrónomo | $3,294 |
| Godos Cocina Típica | $14,041 |
| Lanchonetes | $11,125 |

| Departmer | Total Salary after Raise |
|---|---|
| Acct | $15,384 |
| Manf | $10,070 |
| Mktg | $30,384 |
| Sales | $44,590 |
| **Grand Total** | **$100,428** |

| Office | Total Salary after Raise |
|---|---|
| Chicago | $17,082 |
| Dallas | $25,207 |
| DC | $10,070 |
| NY | $21,604 |
| SFO | $26,465 |
| **Grand Total** | **$100,428** |

| Employee | Total Salary after Raise |
|---|---|
| Abramas | $2,332 |
| Adelheim | $3,151 |
| Albrecht | $2,200 |
| Bachman | $1,727 |
| | $6,868 |

Figure 65

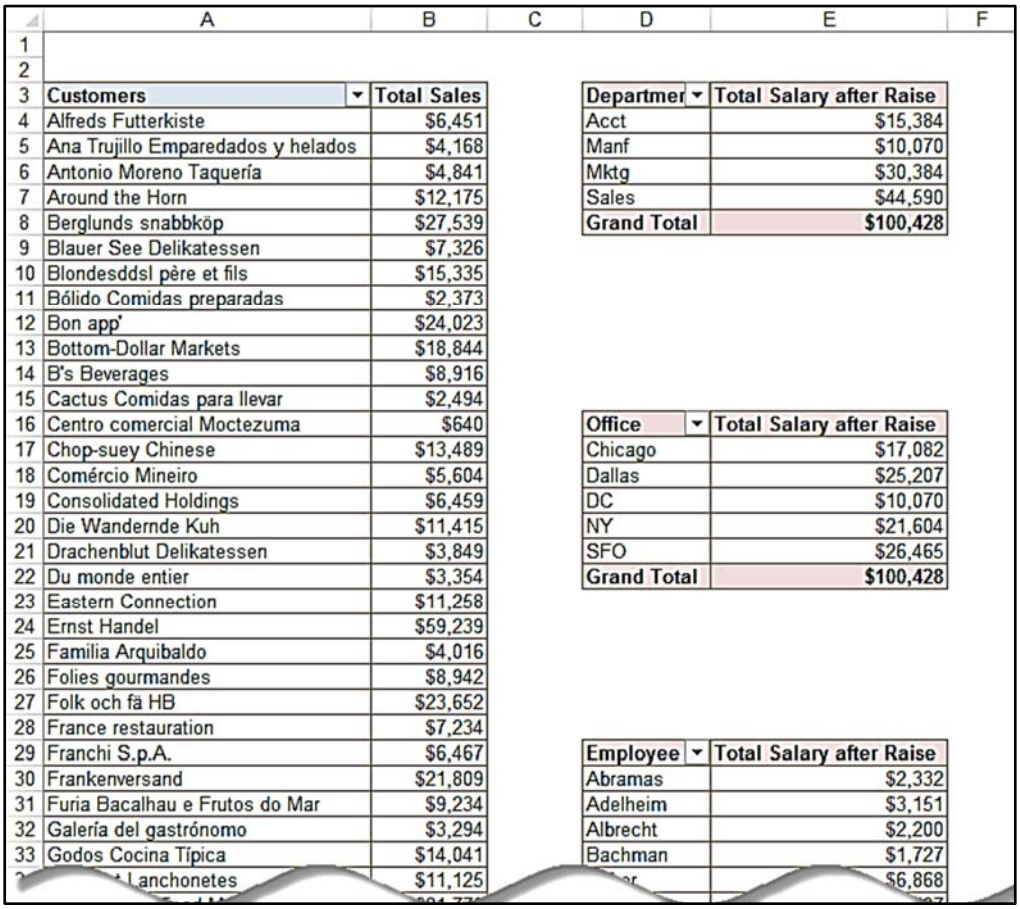
 

# Topic C: How do you refresh all the PivotTables in the workbook?

*The exercise below uses the **4bc_Northwind.xlsx** file and is dependent on your completing the exercise in topic B.*

If you have a workbook with multiple PivotTables which are based on multiple PivotCaches you can refresh all of them by doing the following.

1. If desired, notice the values in the various PivotTables.



| Customers | Total Sales |
|---|---|
| Alfreds Futterkiste | $6,451 |
| Ana Trujillo Emparedados y helados | $4,168 |
| Antonio Moreno Taquería | $4,841 |
| Around the Horn | $12,175 |
| Berglunds snabbköp | $27,539 |
| Blauer See Delikatessen | $7,326 |
| Blondesddsl père et fils | $15,335 |
| Bólido Comidas preparadas | $2,373 |
| Bon app' | $24,023 |
| Bottom-Dollar Markets | $18,844 |
| B's Beverages | $8,916 |
| Cactus Comidas para llevar | $2,494 |
| Centro comercial Moctezuma | $640 |
| Chop-suey Chinese | $13,489 |
| Comércio Mineiro | $5,604 |
| Consolidated Holdings | $6,459 |
| Die Wandernde Kuh | $11,415 |
| Drachenblut Delikatessen | $3,849 |
| Du monde entier | $3,354 |
| Eastern Connection | $11,258 |
| Ernst Handel | $59,239 |
| Familia Arquibaldo | $4,016 |
| Folies gourmandes | $8,942 |
| Folk och fä HB | $23,652 |
| France restauration | $7,234 |
| Franchi S.p.A. | $6,467 |
| Frankenversand | $21,809 |
| Furia Bacalhau e Frutos do Mar | $9,234 |
| Galería del gastrónomo | $3,294 |
| Godos Cocina Típica | $14,041 |
| Lanchonetes | $11,125 |

| Departmer | Total Salary after Raise |
|---|---|
| Acct | $15,384 |
| Manf | $10,070 |
| Mktg | $30,384 |
| Sales | $44,590 |
| **Grand Total** | **$100,428** |

| Office | Total Salary after Raise |
|---|---|
| Chicago | $17,082 |
| Dallas | $25,207 |
| DC | $10,070 |
| NY | $21,604 |
| SFO | $26,465 |
| **Grand Total** | **$100,428** |

| Employee | Total Salary after Raise |
|---|---|
| Abramas | $2,332 |
| Adelheim | $3,151 |
| Albrecht | $2,200 |
| Bachman | $1,727 |
| | $6,868 |

Figure 66

2. As needed, change the data in each of the source data ranges that support the various PivotCaches.

   *In this example change the discount rate in the Orders sheet cell K1 to 3%. Also change the employee's raise in the Employees sheet cell F1 to 3%.*

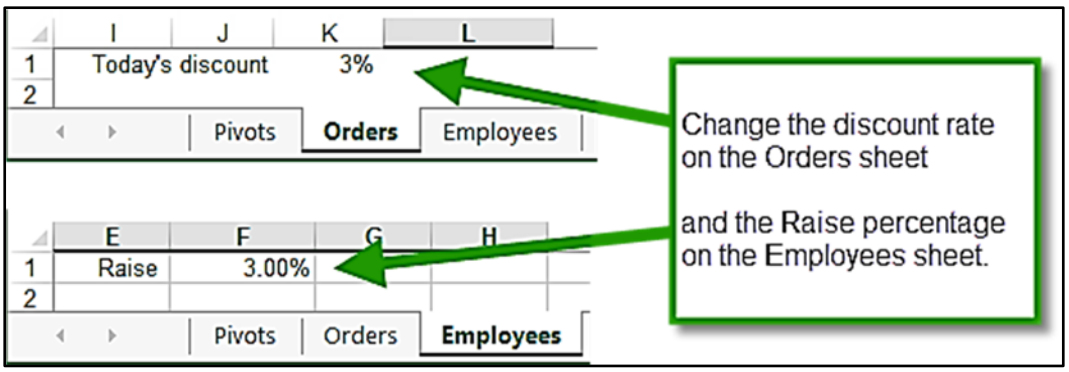
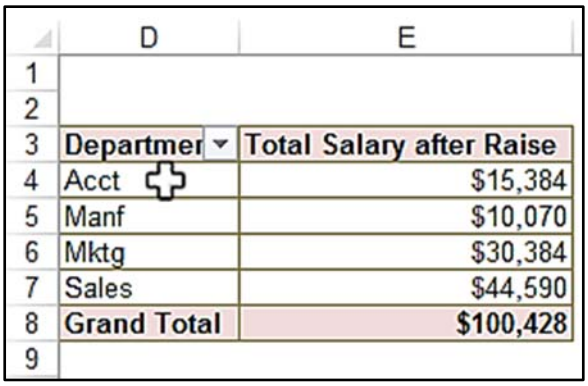



Figure 67

3. Click in any one cell of any PivotTable in your workbook.

   *In this example click again on cell D4.*



| Departmer | Total Salary after Raise |
|---|---|
| Acct | $15,384 |
| Manf | $10,070 |
| Mktg | $30,384 |
| Sales | $44,590 |
| **Grand Total** | **$100,428** |

Figure 68

4. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Refresh**, **Refresh All** option.

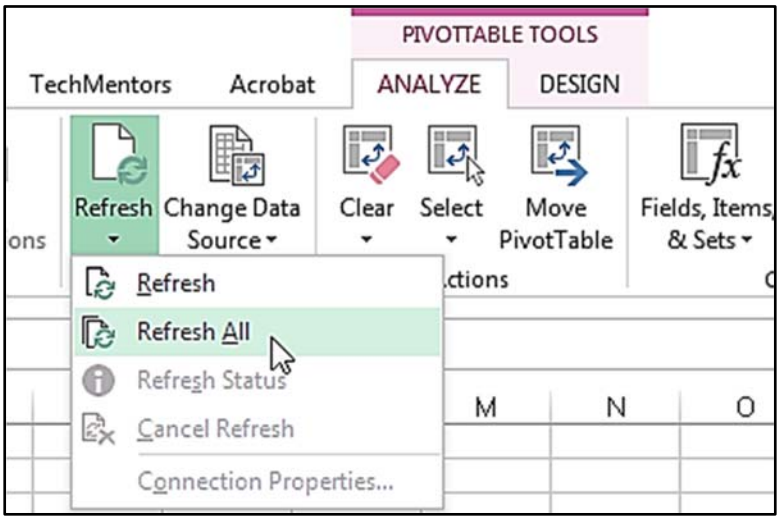
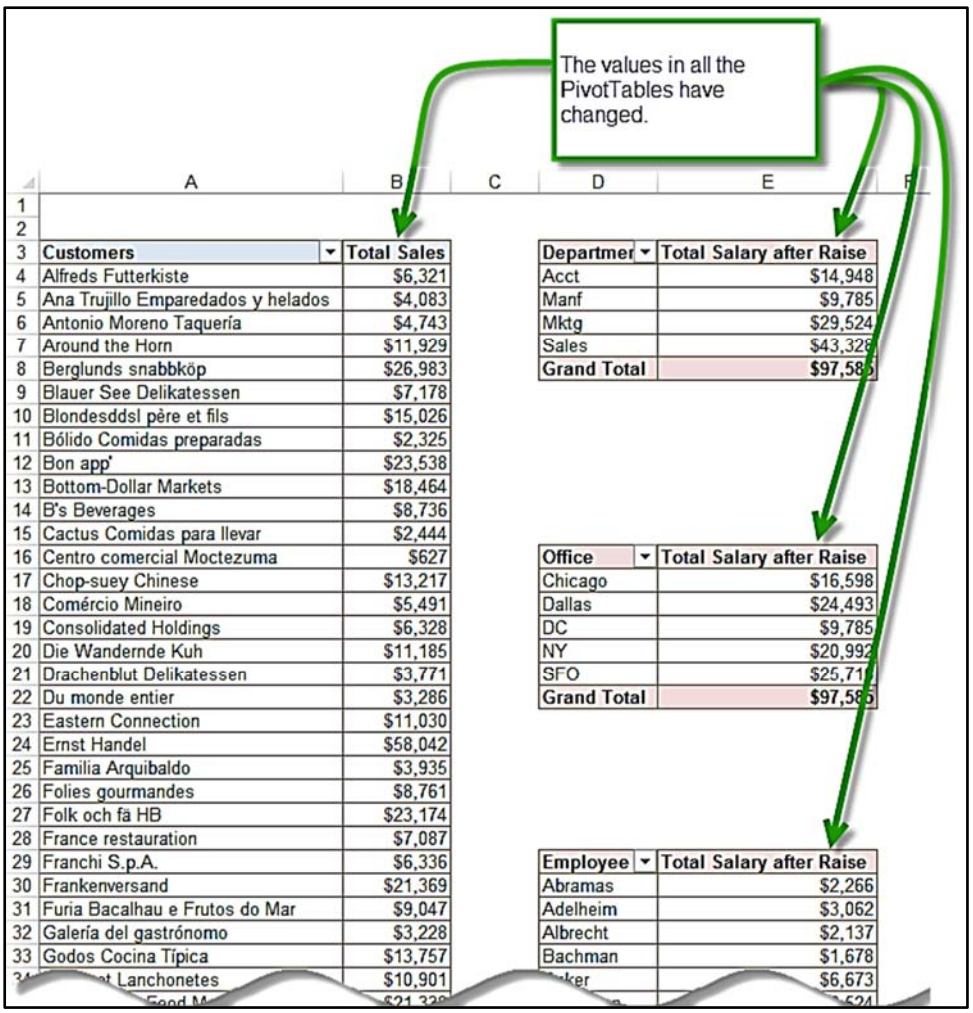



Figure 69

Notice that all the PivotTables in your workbook have been updated.




| Customers | Total Sales |
|---|---|
| Alfreds Futterkiste | $6,321 |
| Ana Trujillo Emparedados y helados | $4,083 |
| Antonio Moreno Taquería | $4,743 |
| Around the Horn | $11,929 |
| Berglunds snabbköp | $26,983 |
| Blauer See Delikatessen | $7,178 |
| Blondesddsl père et fils | $15,026 |
| Bólido Comidas preparadas | $2,325 |
| Bon app' | $23,538 |
| Bottom-Dollar Markets | $18,464 |
| B's Beverages | $8,736 |
| Cactus Comidas para llevar | $2,444 |
| Centro comercial Moctezuma | $627 |
| Chop-suey Chinese | $13,217 |
| Comércio Mineiro | $5,491 |
| Consolidated Holdings | $6,328 |
| Die Wandernde Kuh | $11,185 |
| Drachenblut Delikatessen | $3,771 |
| Du monde entier | $3,286 |
| Eastern Connection | $11,030 |
| Ernst Handel | $58,042 |
| Familia Arquibaldo | $3,935 |
| Folies gourmandes | $8,761 |
| Folk och fä HB | $23,174 |
| France restauration | $7,087 |
| Franchi S.p.A. | $6,336 |
| Frankenversand | $21,369 |
| Furia Bacalhau e Frutos do Mar | $9,047 |
| Galería del gastrónomo | $3,228 |
| Godos Cocina Típica | $13,757 |
| Lanchonetes | $10,901 |

| Departmer | Total Salary after Raise |
|---|---|
| Acct | $14,948 |
| Manf | $9,785 |
| Mktg | $29,524 |
| Sales | $43,328 |
| Grand Total | $97,585 |

| Office | Total Salary after Raise |
|---|---|
| Chicago | $16,598 |
| Dallas | $24,493 |
| DC | $9,785 |
| NY | $20,992 |
| SFO | $25,71 |
| Grand Total | $97,585 |

| Employee | Total Salary after Raise |
|---|---|
| Abramas | $2,266 |
| Adelheim | $3,062 |
| Albrecht | $2,137 |
| Bachman | $1,678 |
| | $6,673 |

Figure 70

# 5: Sorting PivotTables

Complete this unit and you'll be able to answer the following questions:

A. How do you sort PivotTable data by row labels?

B. How do you manually rearrange row labels?

C. How do you sort PivotTable data by column label?

D. How do you manually rearrange column labels?

E. How do you sort PivotTable data by a value field?

# Topic A: How do you sort PivotTable data by row labels?

*The example below uses the **5a_Employees.xlsx** file.*

You can easily sort PivotTable results by selecting a row label and then clicking any of the three sorting buttons shown on the **Data** ribbon (in Excel 2010 sort options are also on the PivotTable Tools, Options tab).

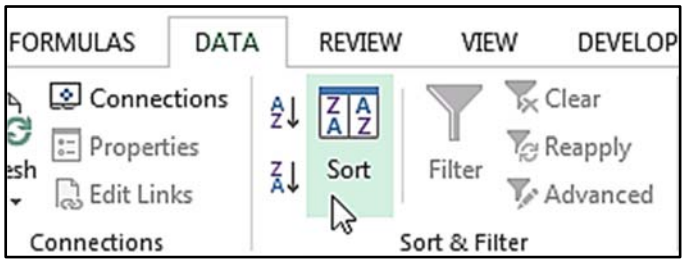



Figure 71

You can also sort by a row label by clicking the field's drop down menu and choosing **Sort A to Z** or **Sort Z to A**.

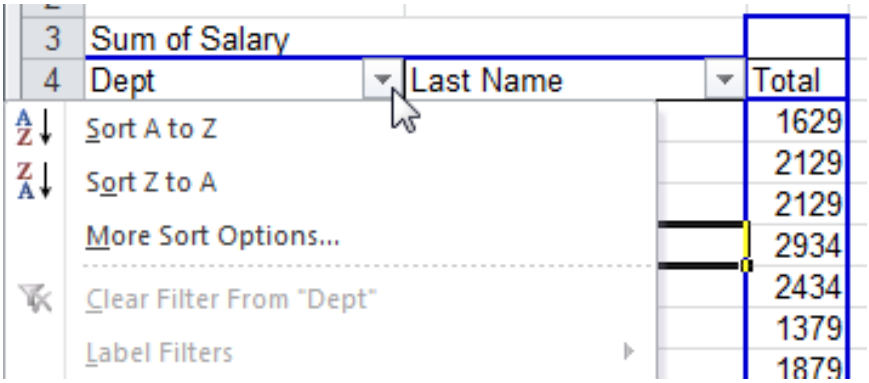



Figure 72

# Topic B: How do you manually move row labels?

*The example below uses the **5b_Employees.xlsx** file.*

In addition to sorting the rows in your PivotTable you may want to manually rearrange the location of each row. For example instead of listing each office alphabetically, as shown below in Figure 73, you may want to list all the cities by their location (i.e. East coast cities first followed by the Midwest cities, and then finally West coast cities at the end) as shown in Figure 74.

| Total Salary | |
|---|---|
| Office | Total |
| Chicago | $16,115.00 |
| Dallas | $23,780.00 |
| DC | $ 9,500.00 |
| NY | $20,381.00 |
| SFO | $24,967.00 |
| Grand Total | $94,743.00 |

Figure 73 – Offices sorted alphabetically

| Total Salary | |
|---|---|
| Office | Total |
| NY | $20,381.00 |
| DC | $ 9,500.00 |
| Chicago | $16,115.00 |
| Dallas | $23,780.00 |
| SFO | $24,967.00 |
| Grand Total | $94,743.00 |

Figure 74 – Offices manually rearranged.

To manually move rows do the following:

1. Right click on the row that you want to move.

2. Select Move, and then select one of the available move options.

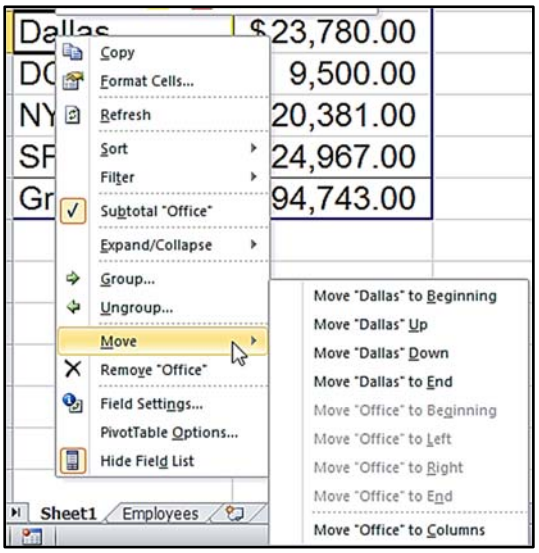


Figure 75

# Topic C: How do you sort PivotTable data by column label?

*The example below uses the **5c_Employees.xlsx** file.*

In addition to sorting PivotTable results vertically, you can also sort the data horizontally by selecting a column label (assuming it has at least one column field) and then clicking any of the three sorting buttons shown on the **Data** ribbon (in Excel 2010 sort options are on the PivotTable Tools, Options tab).

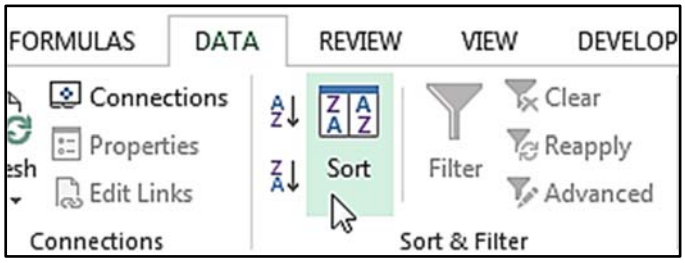



Figure 76

You can also sort by a column label by clicking the field's drop down menu and choosing **Sort A to Z** or **Sort Z to A**.

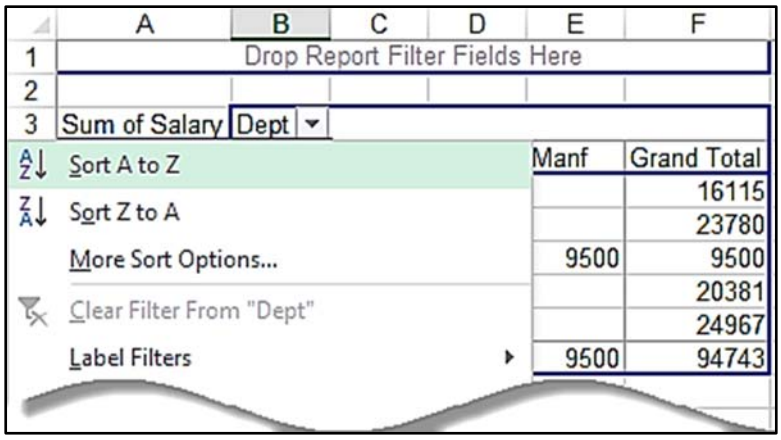



Figure 77

# Topic D: How do you manually move column labels?

*The example below uses the **5d_Employees.xlsx** file.*

Manually rearranging column labels is very similar to manually moving rows labels. To manually move columns do the following:

1. Right click on the column that you want to move.

2. Select Move, and then select one of the available move options.

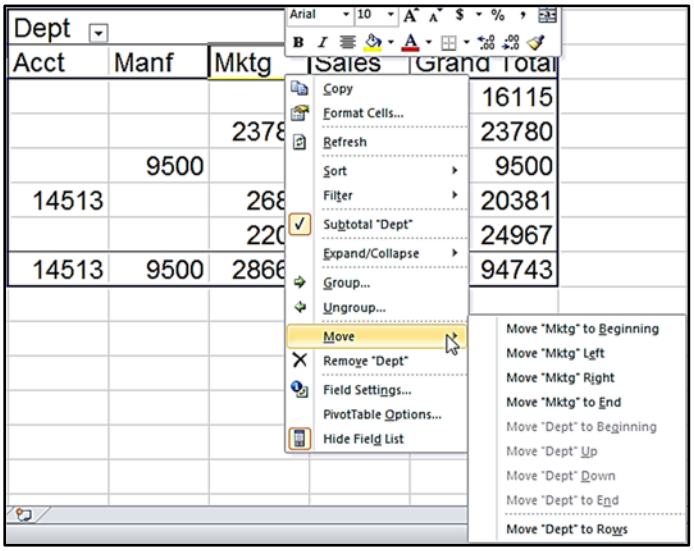



Figure 78

# 6: Grouping PivotTables

Complete this unit and you'll be able to answer the following questions:

A. How can you group different labels together?

B. How do you group numbers together?

C. How do you group dates by year, quarter, or month?

D. How do you ungroup a grouped field?

# Topic A: How can you group different labels together?

*The exercise below uses the **6_Northwind.xlsx** file's **Region Pivot** sheet.*

Sometimes you want to group together the row labels or the column labels that appear in your PivotTable. For example, with you may want to put the west coast states in one group and the mountain states in another group.

| | A | B |
|---|---|---|
| 1 | Country | USA |
| 2 | | |
| 3 | **Row Labels** | **Total Sales** |
| 4 | **West Coast** | |
| 5 | CA | $3,076 |
| 6 | OR | $29,190 |
| 7 | WA | $29,292 |
| 8 | **Mountain** | |
| 9 | ID | $104,362 |
| 10 | MT | $1,947 |
| 11 | WY | $11,442 |
| 12 | **Grand Total** | **$179,309** |

Figure 79

To group labels together do the following:

1. Click on the first label that you want in the group.

2. While holding down the control key click on other labels that you want in the group.

3. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Group**, **Group Selection** option.

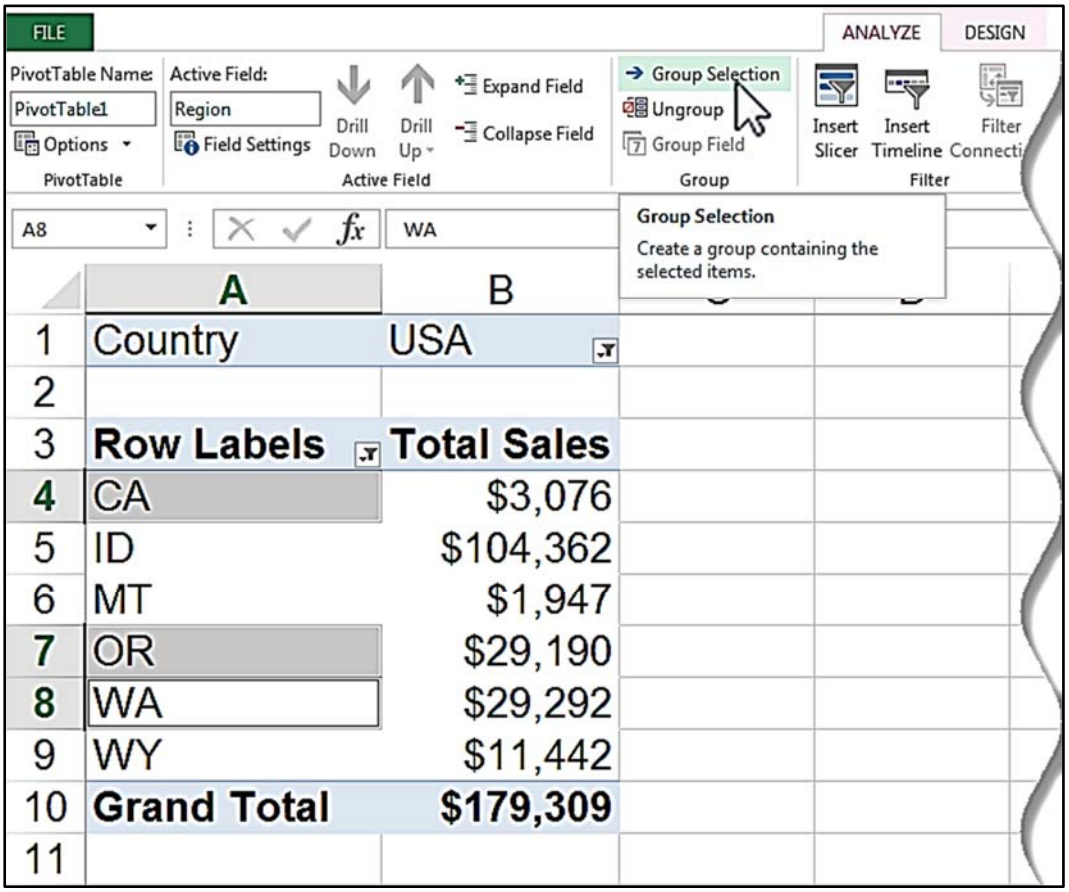



Figure 80

# Topic B: How do you group numbers together?

*The exercise below uses the **6_Northwind.xlsx** file's **Product ID Pivot** sheet.*

When a PivotTable row or column labels are numeric you may want to group the numeric data together in set of fives, tens, hundreds, etc. For example instead of showing the Total Quantity Sold per Product ID, you may want to show the total sold per product grouping, where the grouping is in sets of ten.

| Product ID | Total Qty Sold |
|---|---|
| 1 | 828 |
| 2 | 1057 |
| 3 | 328 |
| 4 | 453 |
| 5 | 298 |
| 6 | 301 |
| 73 | 763 |
| 74 | 297 |
| 75 | 1155 |
| 76 | 981 |
| 77 | 791 |
| **Grand Total** | **51317** |

Figure 81

| Product ID | Total Qty Sold |
|---|---|
| 0-9 | 4495 |
| 10-19 | 6607 |
| 20-29 | 6204 |
| 30-39 | 6796 |
| 40-49 | 6161 |
| 50-59 | 7728 |
| 60-69 | 7129 |
| 70-79 | 6197 |
| **Grand Total** | **51317** |

Figure 82

To group numeric labels together do the following:

1. Click on one of the numeric labels.

2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Group**, **Group Selection** option.

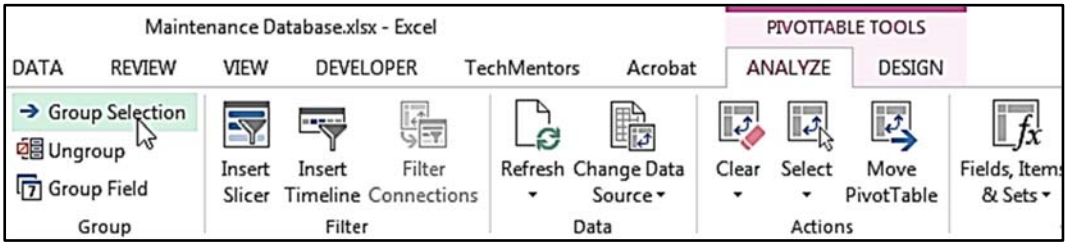


Figure 83

3. Optional: In the grouping dialog box set the desired starting and ending numbers, as well as the desired grouping interval.
   *In this example we changed the starting value to 0.*

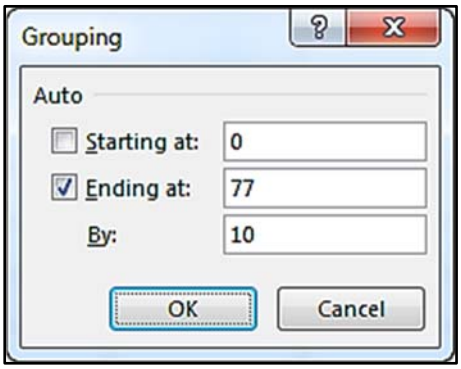


Figure 84

| Product ID | Total Qty Sold |
|---|---|
| 0-9 | 4495 |
| 10-19 | 6607 |
| 20-29 | 6204 |
| 30-39 | 6796 |
| 40-49 | 6161 |
| 50-59 | 7728 |
| 60-69 | 7129 |
| 70-79 | 6197 |
| **Grand Total** | **51317** |

Figure 85

# Topic C: How do you group dates by year, quarter, or month?

*The exercise below uses the **6_Northwind.xlsx** file's **Order Date Pivot** sheet.*

In addition to creating groups for textual labels and numeric labels, you can also create groups based on date labels.

| Invoice Date | Total Hours |
|---|---|
| ⊟2007 | |
| ⊟Qtr1 | |
| Jan | 5,217 |
| Feb | 8,710 |
| Mar | 5,811 |
| **Qtr1 Total** | **19,738** |
| ⊟Qtr2 | |
| Apr | 7,200 |
| May | 7,349 |
| Jun | 6,831 |
| **Qtr2 Total** | **21,380** |
| ⊟Qtr3 | |
| Jul | 7,177 |
| Aug | 7,530 |
| Sep | 6,663 |
| **Qtr3 Total** | **21,370** |
| ⊟Qtr4 | |
| Oct | 7,154 |
| Nov | 7,526 |
| Dec | 5,535 |
| **Qtr4 Total** | **20,215** |
| **2007 Total** | **82,703** |

Figure 86

Note: In order to group a date label by date, it must include all three parts of a date (year, month, and day). If the date label has only one or two of the three parts, then Excel will not recognize it as a date.

| Order Year | Order Month | Order Date |
|---|---|---|
| 1996 | July | 07/04/96 |
| 1996 | July | 07/05/96 |
| 1996 | July | 07/08/96 |
| 1996 | August | 08/01/96 |
| 1996 | August | 08/02/96 |
| 1996 | September | 09/04/96 |
| 1996 | September | 09/05/96 |

Figure 87: The year and month columns above cannot be used as a date grouping field in a PivotTable because they are not complete dates. However, the order date field can be grouped as a date because it contains a month, day and year.

To group date labels together do the following:

1. Click on one of the date labels.

2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Group**, **Group Selection** option.

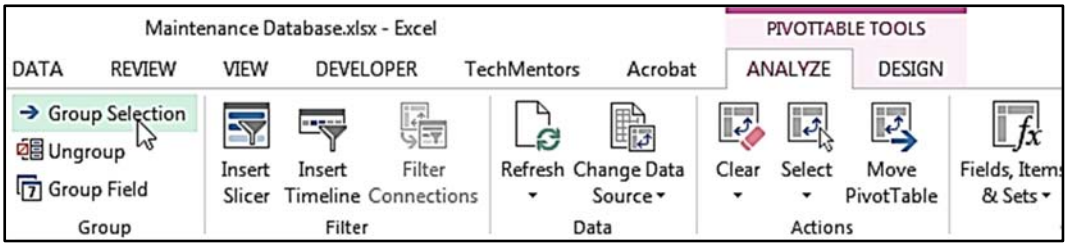



Figure 88

3. Optional: In the grouping dialog box change the desired starting and ending dates.

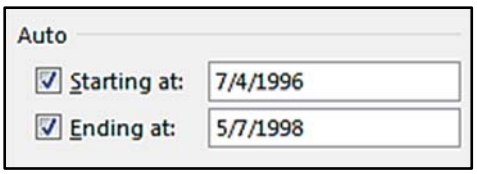



Figure 89

4. In the grouping dialog box click on the desired date intervals.

   *In the example below the PivotTable will group the Invoice date by Year, Quarter, Month and Day.*

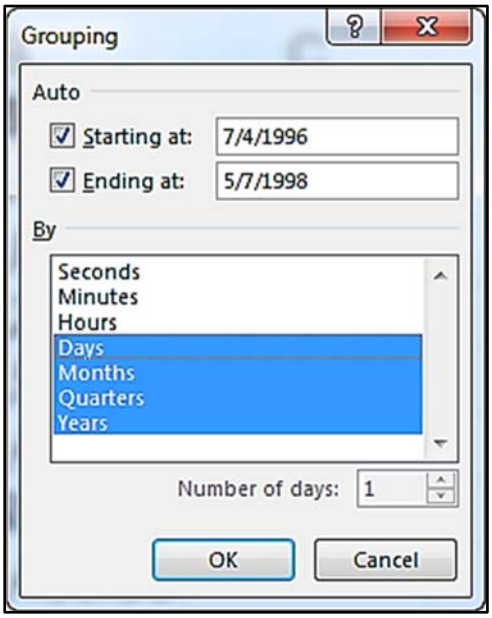



Figure 90

5. Click **OK**.

| Order Date | Total Sales |
|---|---|
| 1996 | |
| Qtr3 | |
| Jul | |
| 4-Jul | $440.00 |
| 5-Jul | $1,863.40 |
| 8-Jul | $2,206.66 |
| 9-Jul | $3,597.90 |
| 10-Jul | $1,444.80 |
| Jul | 6.62 |

Figure 91

6. Optional: Drag the original date field from the row area to remove the details of each individual date.

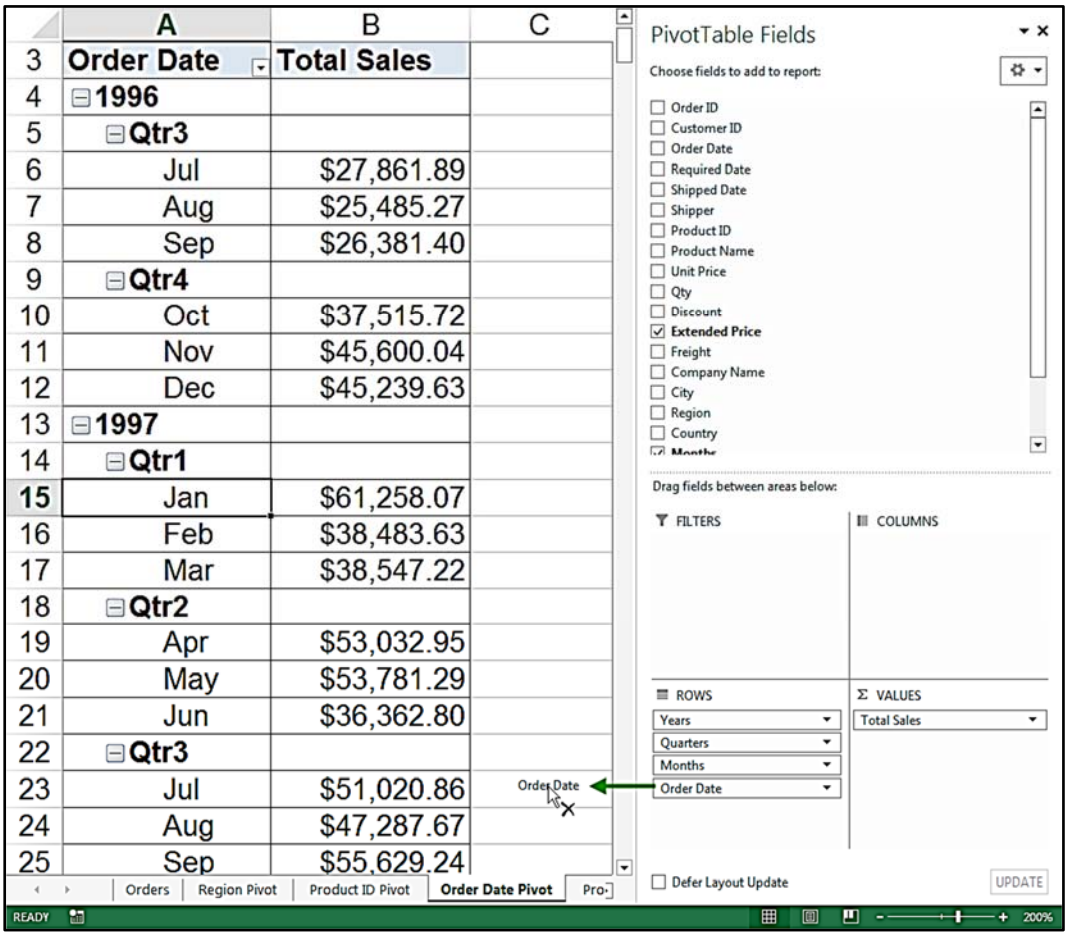


Figure 92

Tip: It is highly recommended that you select the **Days** option in the grouping dialog box. If you do not include the Days option the PivotTable will redefine your date field as shown below.

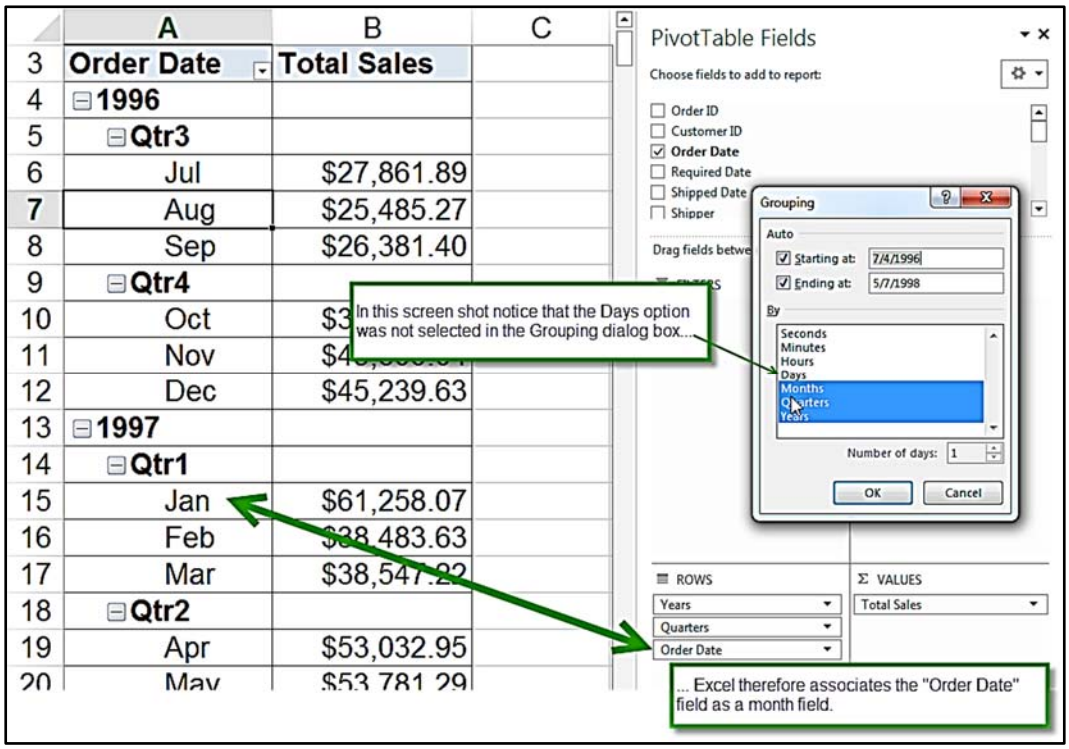



Figure 93

# Topic D: How do you ungroup a grouped field?

*The exercise below uses the **6_Northwind.xlsx** file's **Product Grouping Pivot** sheet.*

After combining multiple values into a group, you may want to ungroup that field so you can again view the details associated with that field.

To ungroup a grouped field do the following:

1. Select one of the values of the grouped field.

| Row Labels | Total Qty Sold |
|---|---|
| 0-9 | 4495 |
| 10-19 | 6607 |
| 20-29 | 6204 |
| 30-39 | 6796 |
| 40-49 | 6161 |
| 50-59 | 7728 |
| 60-69 | 7129 |
| 70-79 | 6197 |
| **Grand Total** | **51317** |

Figure 94

2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Group**, **Ungroup** option.

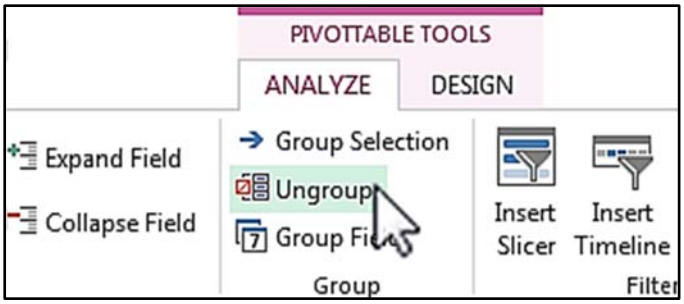



Figure 95

The field will be restored to its original non-grouped state.

| Row Labels | Total Qty Sold |
|---|---|
| 1 | 828 |
| 2 | 1057 |
| 3 | 328 |
| [illegible] | 453 |

Figure 96

# 7: Filtering PivotTables

Complete this unit and you'll be able to answer the following questions:

A. How do you filter by selecting row labels?

B. How do you filter by selecting column labels?

C. How do you filter by using comparison operators?

D. How do you filter by values?

E. How do you filter when there are multiple rows/columns?

F. How do you create and use a report filter?

G. What are Report Filter Pages and how do you create them?

# Topic A: How do you filter by selecting row labels?

*The exercise below uses the **7a_Movies.xlsx** file.*

When you apply a filter to a PivotTable you limit the data that will appear. You can filter the rows that appear by doing the following:

1. Click the Row Label drop down button.


Figure 97

2. Uncheck the **Select All** option.

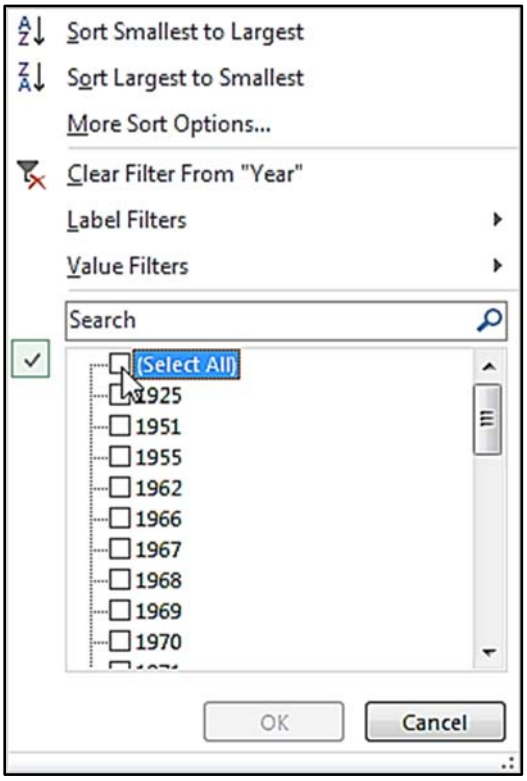



Figure 98

3. Check the boxes for the values you want displayed in the PivotTable.

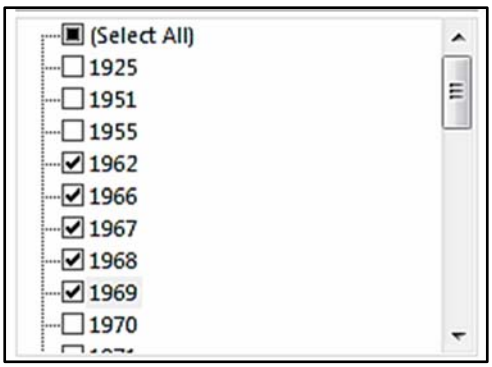



Figure 99

4. Click **OK**.
The resulting PivotTable displays the rows you selected.

| Count of Title | Column Labels | | | |
|---|---|---|---|---|
| Row Labels | G | PG | R | Grand Total |
| 1962 | 1 | | | 1 |
| 1966 | | 1 | 4 | 5 |
| 1967 | | 7 | 3 | 10 |
| 1968 | 44 | 37 | 37 | 118 |
| 1969 | 51 | 83 | 45 | 179 |
| **Grand Total** | **96** | **128** | **89** | **313** |

Figure 100

Tip: Notice that whenever a label filter has been applied the button changes to show an icon with a filter.

No filter was applied.

A filter has been applied.

# Topic B: How do you filter by selecting column labels?

*The exercise below uses the **7b_Movies.xlsx** file.*

In addition to selecting the row labels, you can filter a PivotTable by selecting column labels by doing the following:

1. Click the Column Label drop down.


Figure 101

2. Uncheck the Select All option.

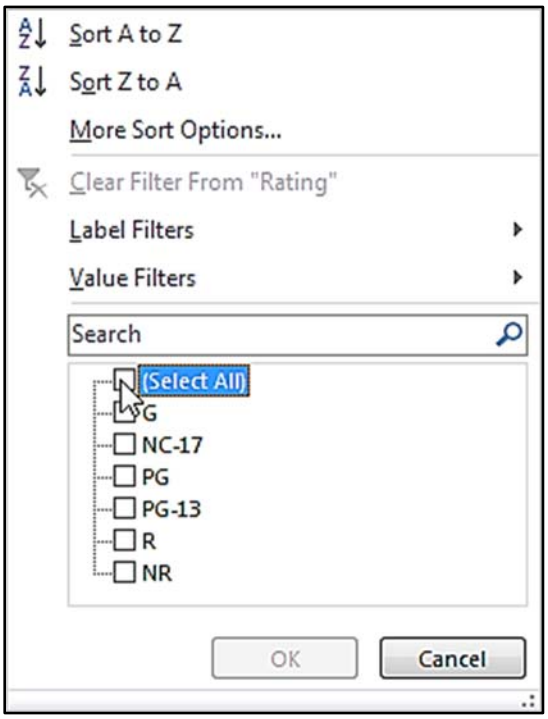



Figure 102

3. Check the boxes for the values you want to display in the PivotTable.

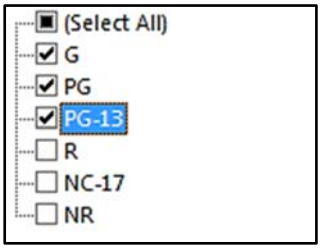



Figure 103

4. Click **OK**.
   The resulting PivotTable displays the columns you selected.

| Count of Title | Column Labels | | |
|---|---|---|---|
| Row Labels | G | PG | Grand Total |
| 1962 | 1 | | 1 |
| 1966 | | 1 | 1 |
| 1967 | | 7 | 7 |
| 1968 | 44 | 37 | 81 |
| 1969 | 51 | 83 | 134 |
| **Grand Total** | **96** | **128** | **224** |

Figure 104: PivotTable with both column and row filters.

# Topic C: How do you filter by using comparison operators?

*The exercise below uses the **7c_Movies.xlsx** file.*

In the previous topics the PivotTable were filtered by the user selecting the items they wanted to see. Sometime a faster approach is to apply a "Label filter" which lets you filter by a comparison operators such **Equals…**, **Greater Than…**, **Less Than…**, **Begins With…** and many more as shown below.

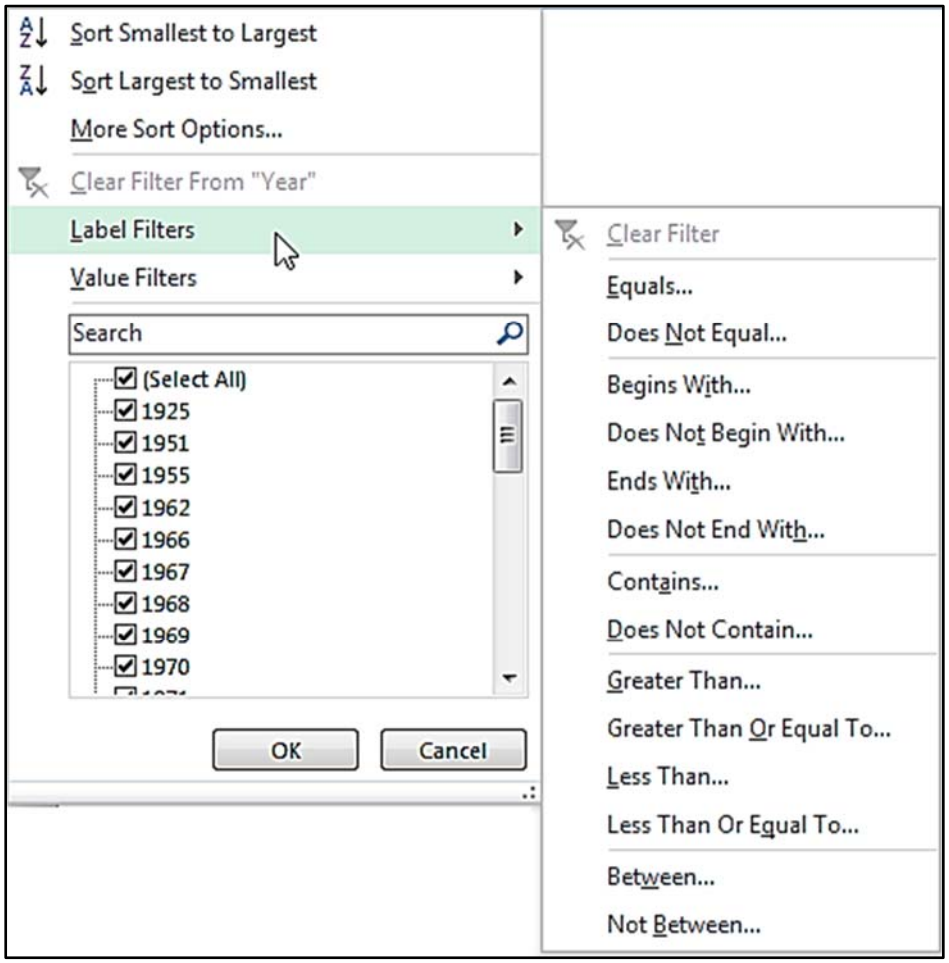



Figure 105

To filter by using a comparison operator do the following:

1. Click either the Row Label drop down button, or the Column Label drop down button.

2. Click on the **Label Filters** option.

3. Click on the desired operator.

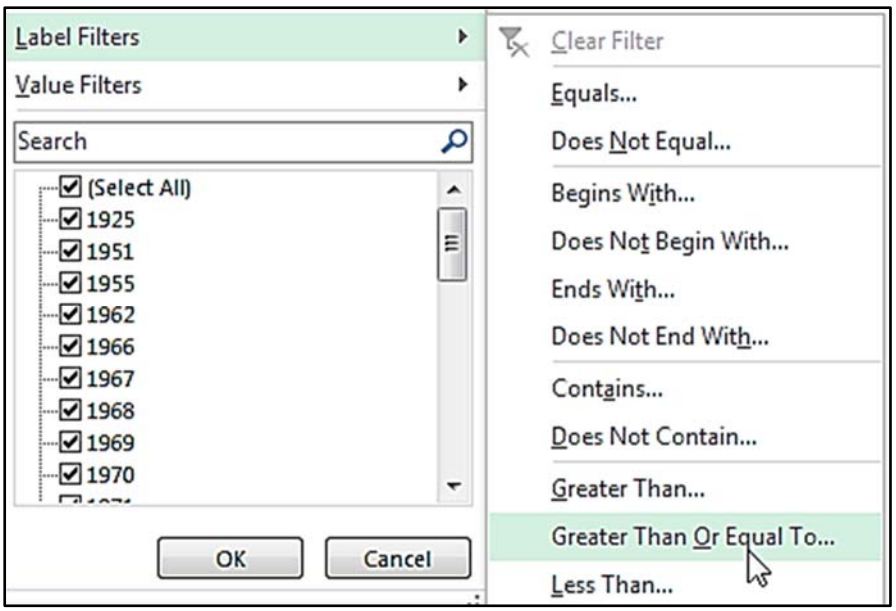



Figure 106

4. Fill in the desired values in the resulting dialog box.

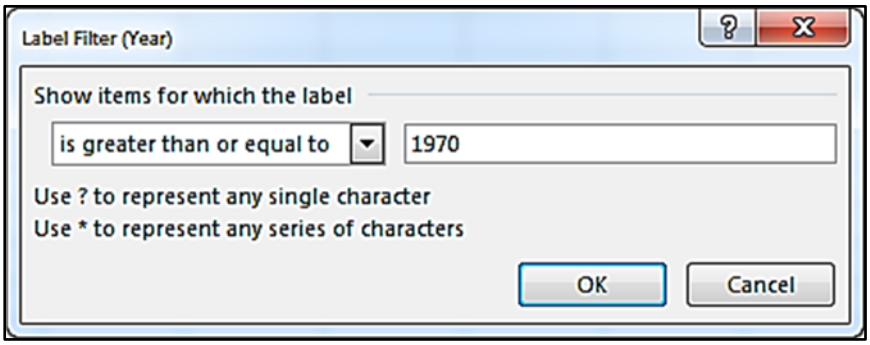



Figure 107

5. Click **OK**.
   The resulting PivotTable displays the rows or columns that meet your criteria.

| Count of Title | Column Labels | | | | | | |
|---|---|---|---|---|---|---|---|
| Row Labels | G | NC-17 | PG | PG-13 | R | NR | Grand Total |
| 1970 | 24 | 1 | 104 | | 73 | | 202 |
| 1971 | 38 | | 99 | | 76 | | 213 |
| 1972 | 26 | | 125 | | 82 | | 233 |
| 1973 | 24 | | 96 | | 90 | | 210 |
| 1974 | 22 | | 87 | | 70 | | 179 |
| 1975 | 11 | | 90 | | 64 | | 165 |
| 1976 | 23 | | 97 | | 62 | | 182 |
| 1977 | 16 | 1 | 86 | | 54 | | 157 |
| 1978 | 12 | | 91 | | 70 | | 173 |
| 1979 | 13 | | 102 | | 69 | | 184 |
| 1980 | 9 | | 91 | | 114 | | 214 |
| 1981 | 4 | | 81 | | 116 | | 201 |
| 1982 | 4 | | 73 | 1 | 106 | | 184 |
| 1983 | 2 | | 86 | 2 | 99 | | 189 |
| 1984 | 2 | | 71 | 21 | 112 | | 206 |
| 1985 | 6 | | 57 | 49 | 110 | | 222 |
| 1986 | 6 | | 57 | 47 | 127 | | 237 |
| 1987 | 5 | | 69 | 56 | 157 | | 287 |
| 1988 | 7 | | 64 | 49 | 150 | | 270 |
| 1989 | 6 | 1 | 40 | 64 | 141 | 1 | 253 |
| 1990 | 7 | 2 | 38 | 55 | 133 | | 235 |
| 1991 | 6 | 2 | 33 | 41 | 147 | | 229 |
| 1992 | 5 | 2 | 29 | 55 | 121 | 5 | 217 |
| 1993 | 5 | 2 | 38 | 52 | 89 | 2 | 188 |
| 1994 | 2 | 1 | 14 | 16 | 27 | | 60 |
| **Grand Total** | **285** | **12** | **1818** | **508** | **2459** | **8** | **5090** |

Figure 108

# Topic D: How do you filter by values?

*The exercise below uses the **7d_Movies.xlsx** file.*

In the previous topics we have filtered the data based on the row or column labels. But sometimes you may want to filter the results based on the value. For example you may want to show all the years where the movie count is between 100 and 200.

To filter by value do the following:

1. Click either the Row Label drop down button, or the Column Label drop down button.

2. Click on the **Value Filters** option.

3. Click on the desired operator.

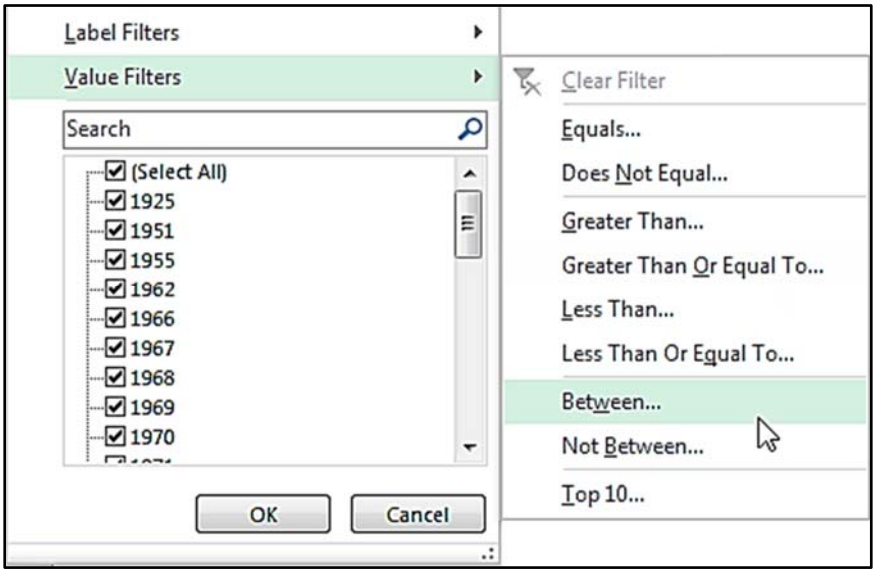



Figure 109

4. Fill in the desired values in the resulting dialog box.

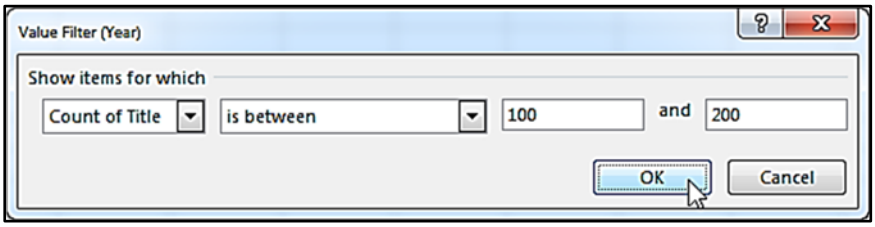



Figure 110

5. Click **OK**.
   The resulting PivotTable displays all the rows or columns where the row or column total meets your criteria.

| Count of Title | Column Labels | | | | | | |
|---|---|---|---|---|---|---|---|
| Row Labels | G | NC-17 | PG | PG-13 | R | NR | Grand Total |
| 1968 | 44 | | 37 | | 37 | | 118 |
| 1969 | 51 | | 83 | | 45 | | 179 |
| 1974 | 22 | | 87 | | 70 | | 179 |
| 1975 | 11 | | 90 | | 64 | | 165 |
| 1976 | 23 | | 97 | | 62 | | 182 |
| 1977 | 16 | 1 | 86 | | 54 | | 157 |
| 1978 | 12 | | 91 | | 70 | | 173 |
| 1979 | 13 | | 102 | | 69 | | 184 |
| 1982 | 4 | | 73 | 1 | 106 | | 184 |
| 1983 | 2 | | 86 | 2 | 99 | | 189 |
| 1993 | 5 | 2 | 38 | 52 | 89 | 2 | 188 |
| **Grand Total** | **203** | **3** | **870** | **55** | **765** | **2** | **1898** |

Figure 111: Display only rows that have a total count between 100 and 200.

# Topic E: How do you filter when there are multiple rows/columns?

*The exercise below uses the **7e_Movies.xlsx** file.*

You can have many rows and/or many columns in your PivotTable. For example, the PivotTable shown below has two rows and one column.

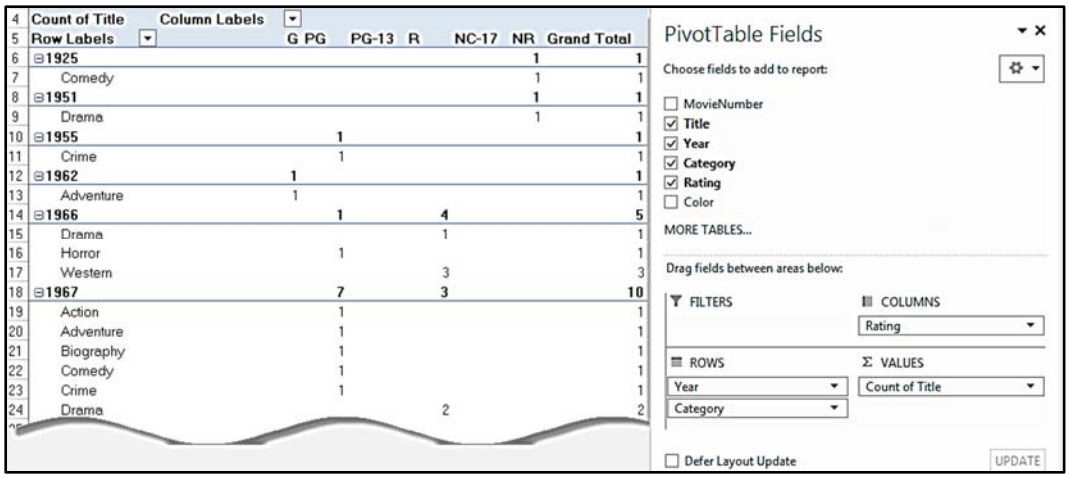



Figure 112

When there are multiple items the label's drop down will include a select field option so you can specify which of the rows or columns you want to filter.

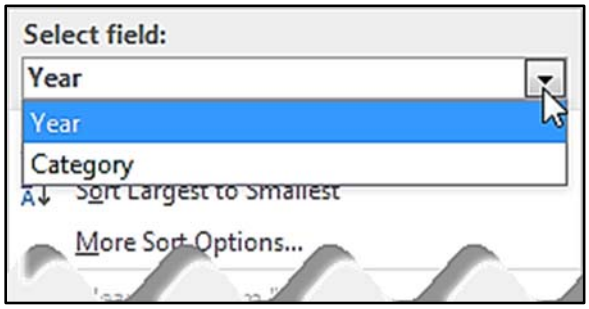



Figure 113

# Topic F: How do you create and use a report filter?

*The exercise below uses the **7f_Movies.xlsx** file.*

In addition to filtering data that appears in the rows and columns, you can also filter the PivotTable by fields that are not in the rows and columns. For example, you may want to create a PivotTable that shows the number of Adventure movies by Year and Rating.

| Category | Adventure | | | | |
|---|---|---|---|---|---|
| | | | | | |
| **Count of Title** | **Column Labels** | | | | |
| **Row Labels** | **G** | **PG** | **PG-13** | **R** | **Grand Total** |
| 1962 | 1 | | | | 1 |
| 1967 | | 1 | | | 1 |
| 1968 | 1 | | | | 1 |
| 1969 | 3 | 2 | | 1 | 6 |
| 1970 | 3 | 4 | | | 7 |
| 1971 | 4 | 4 | | 2 | 10 |
| 1972 | 4 | 1 | | 2 | 7 |
| 1973 | 2 | 3 | | 1 | 6 |
| [illegible] | [illegible] | [illegible] | | [illegible] | 7 |
| [illegible] | | | | | |
| 1991 | | 1 | | 3 | 5 |
| 1992 | | | | 2 | 2 |
| 1993 | | 1 | 1 | | 2 |
| 1994 | | 1 | | | 1 |
| **Grand Total** | **30** | **100** | **11** | **36** | **177** |

Figure 114

To create a PivotTable with a Report filter do the following:

1. Create the PivotTable as you would normally.

2. Drag one or more desired fields to the report filters area.

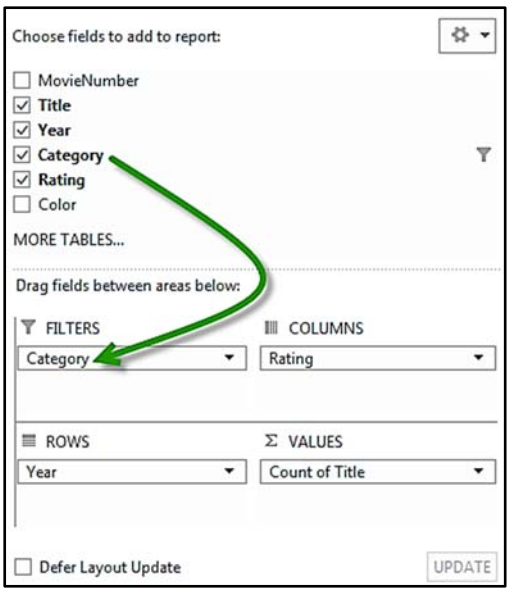



Figure 115

3. Click the report filter's drop down, and then choose the desired value.

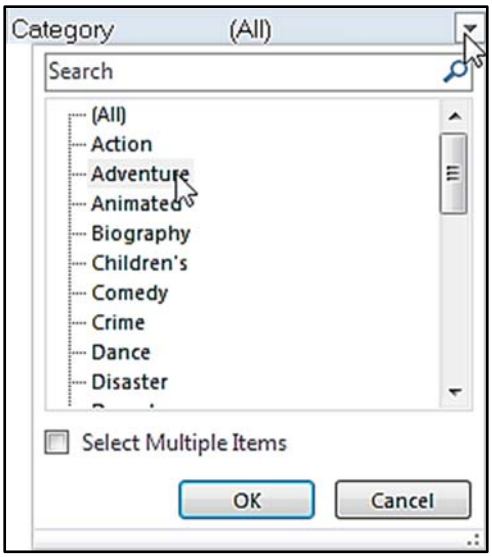



Figure 116

4. Click **OK**.
   The PivotTable is updated to meet your criteria.

Note: During step 3 you can check the **Select Multiple Items** option and then choose multiple items for the desired filter.

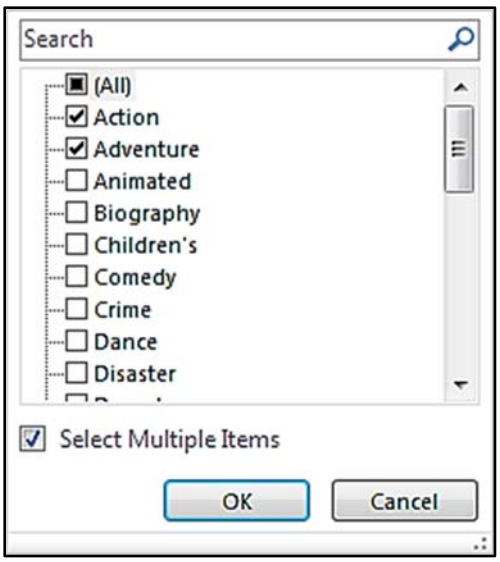


Figure 117

The end result shows all the values that match either value.

| Category | (Multiple Items) | | | | |
|---|---|---|---|---|---|
| Count of Title | Column Labels | | | | |
| Row Labels | G | PG | PG-13 | R | Grand Total |
| 1962 | 1 | | | | 1 |
| 1967 | | 2 | | | 2 |
| 1968 | 1 | | | 1 | 2 |
| 1969 | 3 | 2 | | 2 | 7 |
| 1970 | 3 | 5 | | 2 | 10 |
| 1971 | 4 | 7 | | 5 | 16 |
| 1972 | 5 | 2 | | 9 | 16 |
| 1991 | | 3 | | 22 | [illegible] |
| 1992 | | 1 | 3 | 13 | 17 |
| 1993 | | 4 | 6 | 9 | 19 |
| 1994 | | 2 | | 5 | 7 |
| Grand Total | 32 | 170 | 32 | 254 | 488 |

Figure 118

# Topic G: What are Report Filter Pages and how do you create them?

*The exercise below uses the **7g_Movies.xlsx** file.*

Now that you have created a PivotTable with a report filter, imagine if you needed to create a separate sheet for each of the possible values in the report filter field. The results, called "Report Filter Pages", would look something like the following. To manually create all of these would be tedious and time consuming.

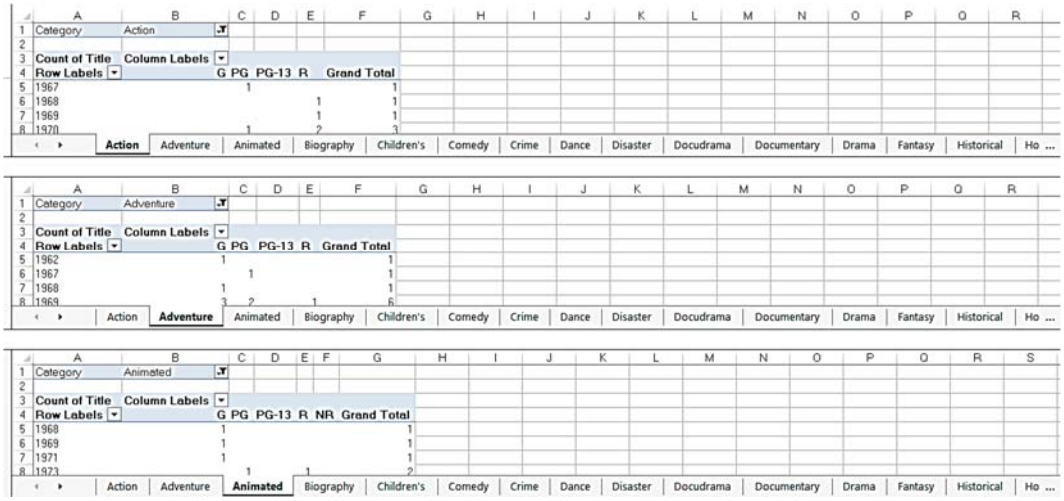


Figure 119

Thankfully you can quickly and easily create Report Filter Pages by doing the following.

1. Click in any one cell of the PivotTable.

2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Options** drop down and then click **Show Report Filter Pages…**

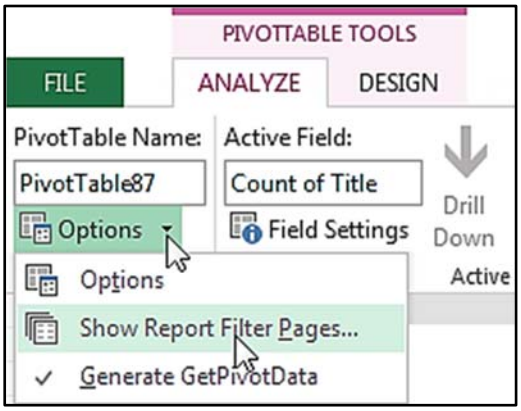


Figure 120

3. If the Show Report Filter Pages dialog box displays, then choose the desired Report Filter and then click **OK**.

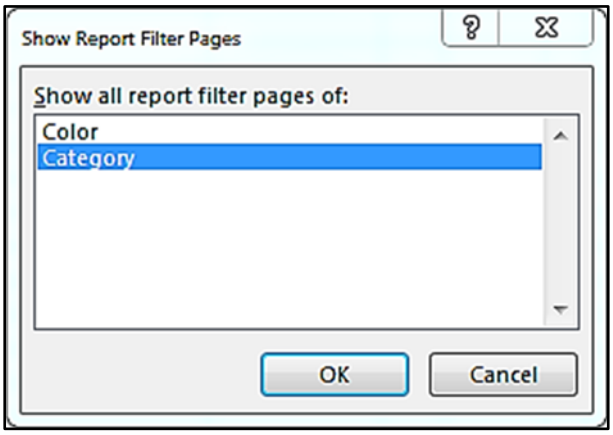



Figure 121

Excel will then create a separate sheet for each value in the selected field.


Figure 122

# 8: Using Slicers

Complete this unit and you'll be able to answer the following questions:

A. What is a slicer?

B. How do you insert a slicer?

C. How do you move the slicer?

D. How do you resize the slicer?

E. How do you change the slicer caption?

F. How do you delete a slicer?

G. How do you connect a slicer to multiple PivotTables?

# Topic A: What is a slicer?

*The examples below uses the **8a_Movies.xlsx** file.*

A slicer is a visual tool that makes filtering data easy and intuitive. With slicers a user can easily see all the possible values from which they can filter the data.

The following screen shot shows a PivotTable from the Movie List with four connected slicers based on the Category, Rating, Color and Year fields.

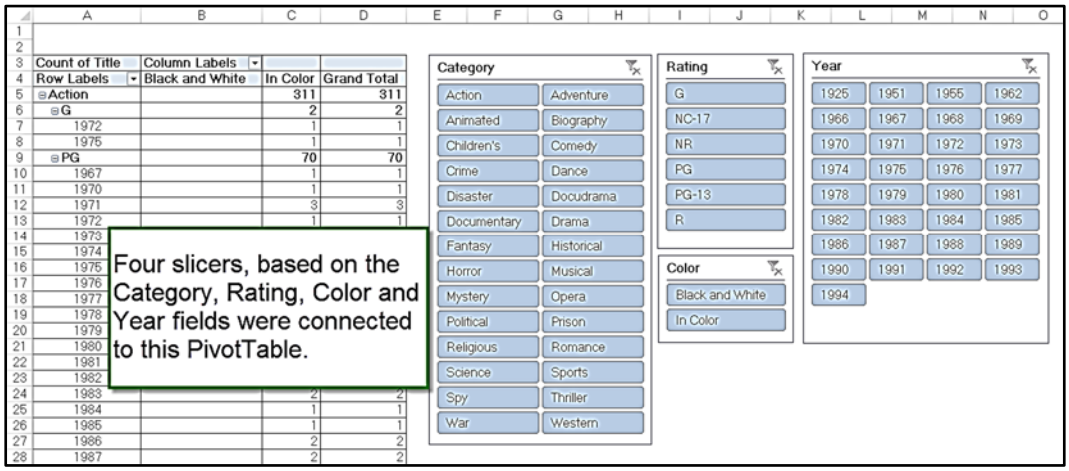



Figure 123: PivotTable with four connected slicers based on the Category, Rating, Color and Year fields.

With slicers you can easily filter the data by simply clicking on the desired value. For example in the screen shot below the user clicked on 1980.

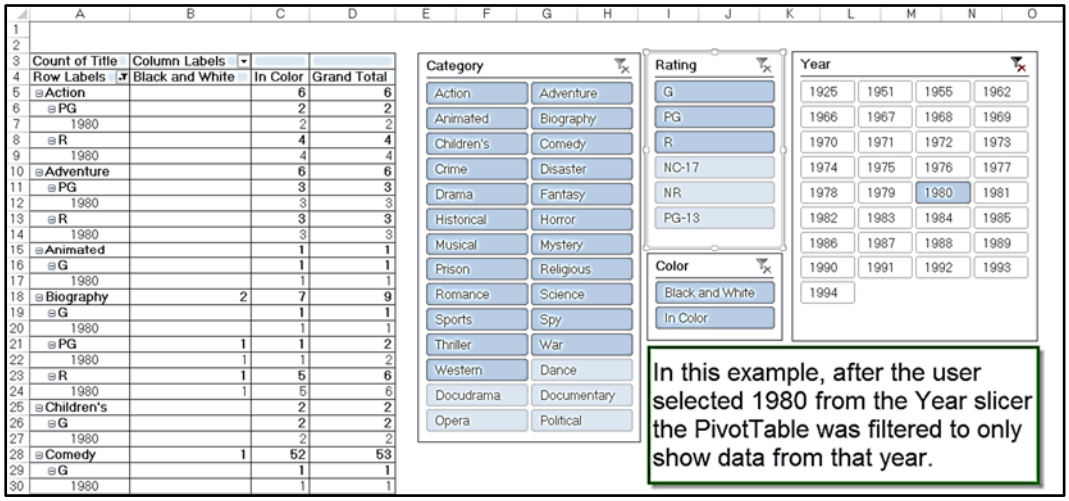



Figure 124: The user filtered the PivotTable to only show movies from 1980 by clicking on that button in the Year slicer.

Multiple values can be selected from the same slicer by doing the following:

1. Click on the first desired value.
2. Hold down the control key and select the next desired value from the same slicer.
3. Repeat step 2 until you have selected all the desired values.
4. Release the control key.

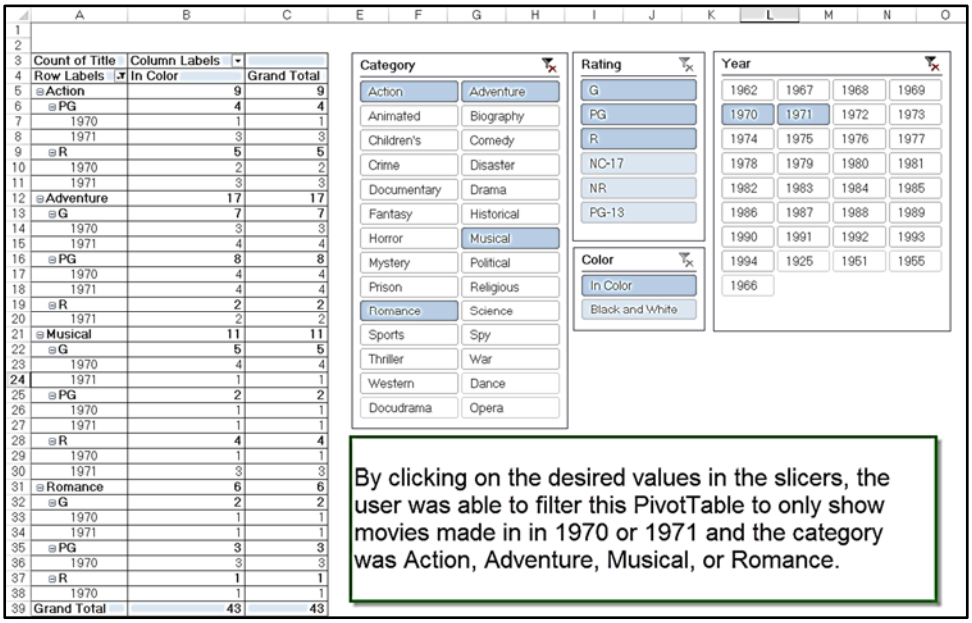



Figure 125: By clicking on 1970 and then control clicking on 1971, the user filtered the PivotTable to show movies from 1970 or 1971. They then further filtered the data by clicking on Action and then control clicking on Adventure, Musical and Romance.

To clear a filter from a slicer click on the clear filter icon in the top right corner of the slicer.

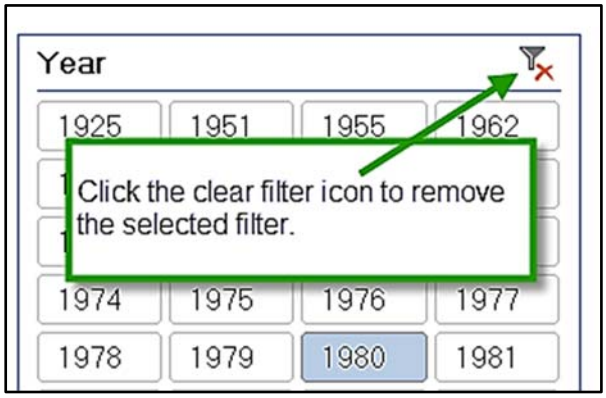



Figure 126

As you use the slicers you may notice that some slicer buttons change positions and become greyed out. This occurs when those items are not found in your current selection.

For example in the screen shot below the user selected G and PG movies from the 1960s. Notice that some of the buttons in the Category slicer moved to the bottom and are greyed out because no G and PG movies with those categories were made in the 1960s.

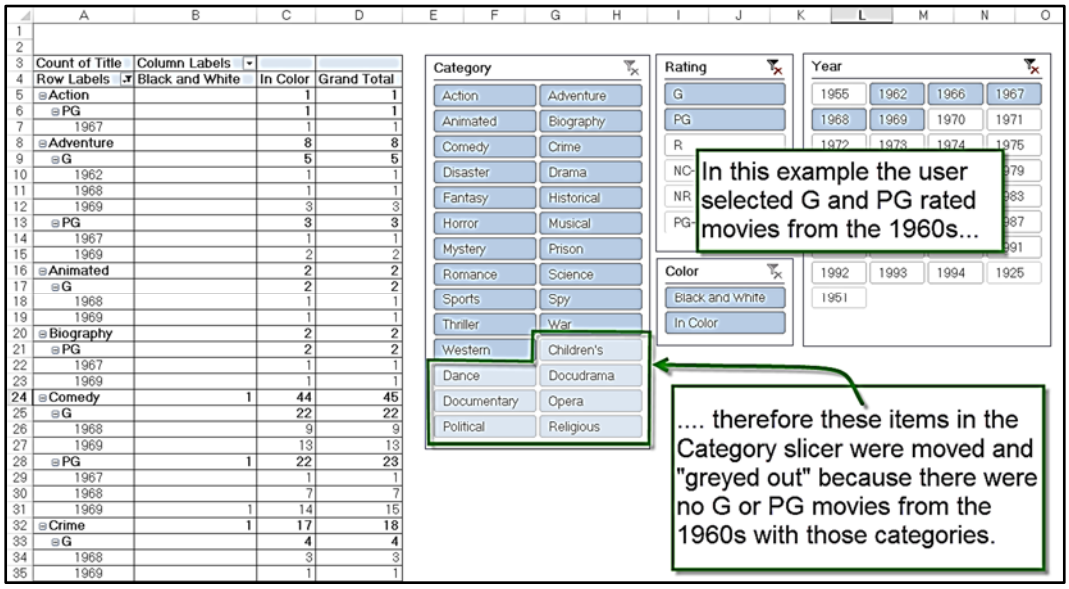



Figure 127

# Topic B: How do you insert a slicer?

*The exercise below uses the **8b_Movies.xlsx** file.*

To insert a slicer do the following:

1. Click inside the PivotTable.

2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), choose the **Insert Slicer** icon.

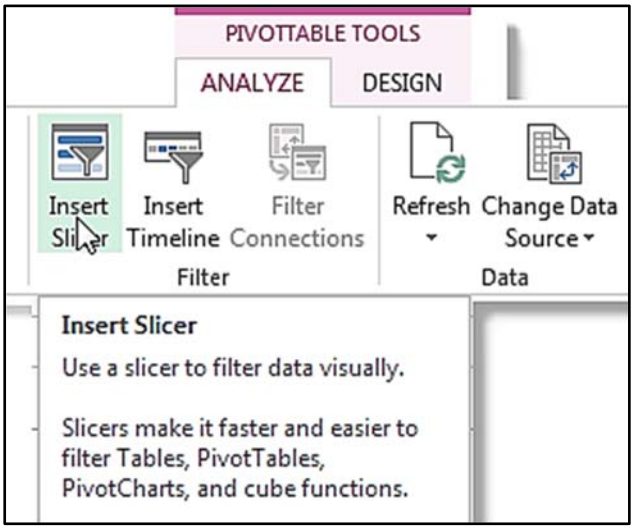



Figure 128

3. From the Insert Slicers dialog box, check the field(s) to be used for the desires slicers and then click **OK**.

   *For this example we selected only the Category field.*

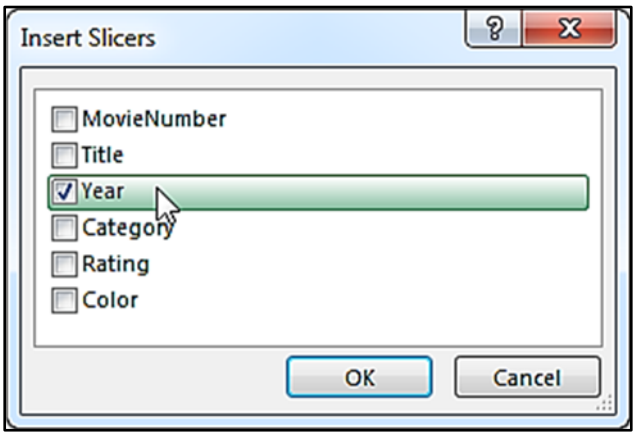



Figure 129

# Topic C: How do you move the slicer?

*The exercise below uses the **8cd_Movies.xlsx** file.*

When you insert multiple slicers you may find that they often overlap.

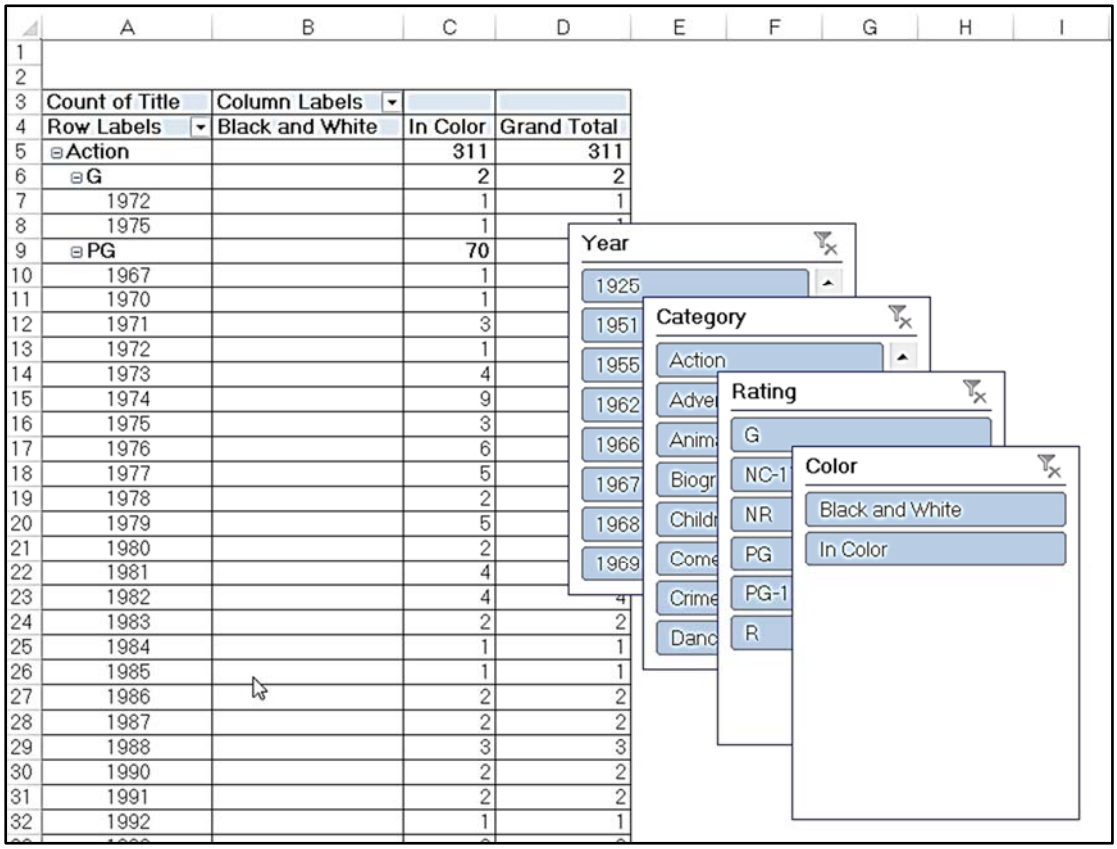


Figure 130

The good news is you can move the slicers by dragging them from their title bar.

To move the slicer do the following:

1. Position the cursor in the title bar of the slicer.
2. While holding down the mouse button, drag the slicer to the desired location.
3. Release the mouse button.

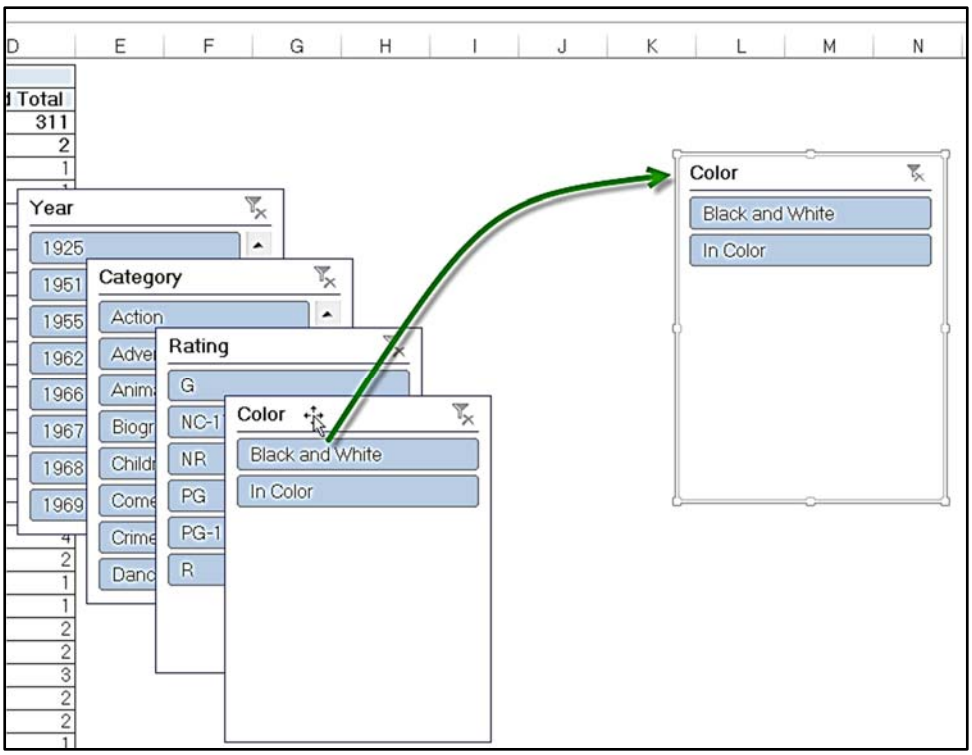



Figure 131

# Topic D: How do you resize the slicer?

*The exercise below uses the **8cd_Movies.xlsx** file, and assumes you have completed the exercise in topic C.*

You can change the size of the slicer by dragging and dropping the size handles that appear when the slicer is selected.

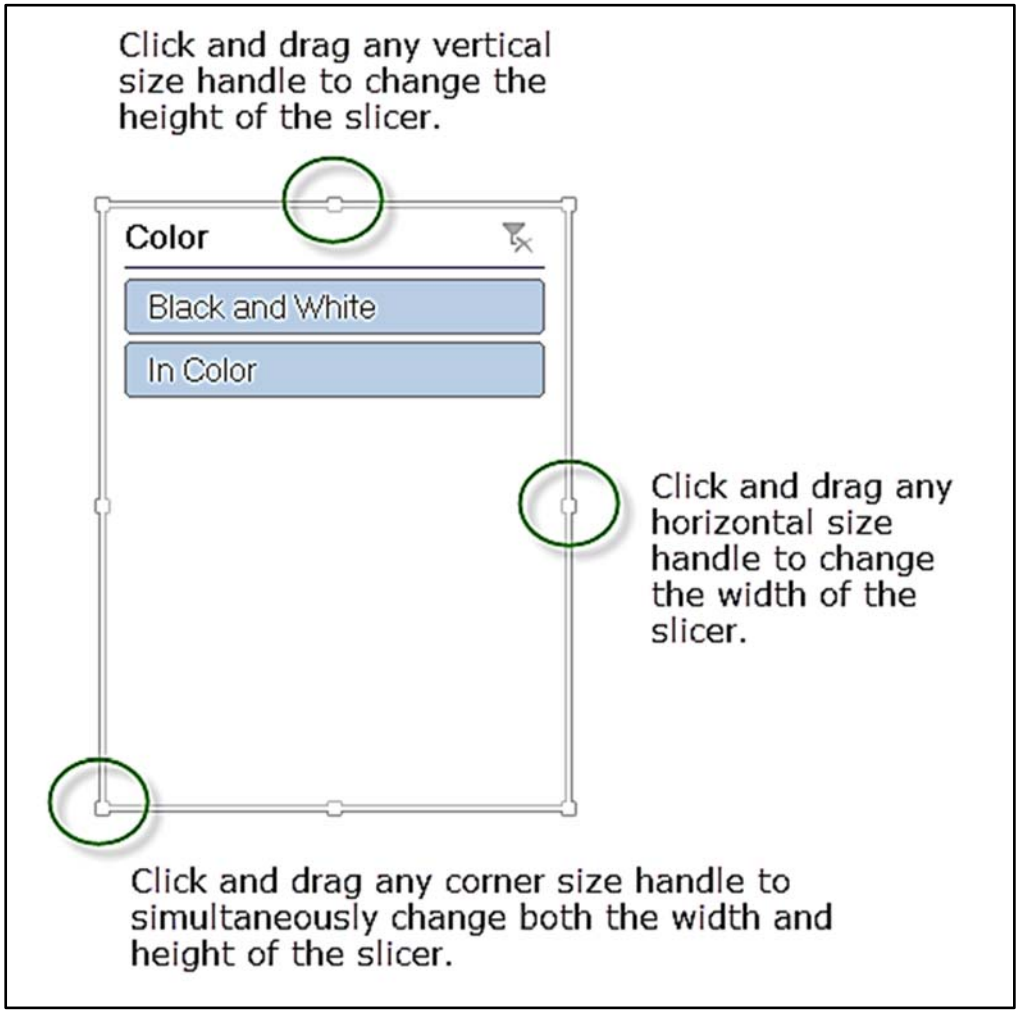



Figure 132

You can also change the dimensions of the slicer by using the size options in the ribbon's **Slicer Tools, Options** tab.

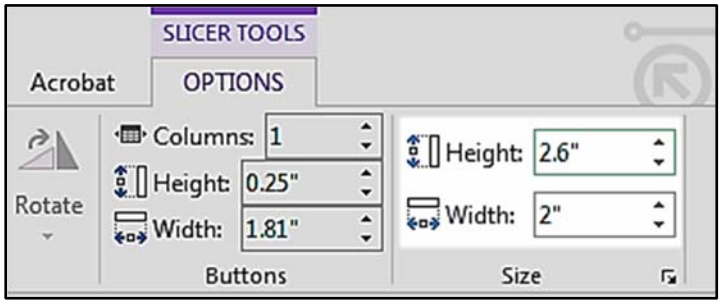



Figure 133

The buttons on the slicer, and the number of columns displayed can also be modified from the ribbon's **Slicer Tools, Options** tab.

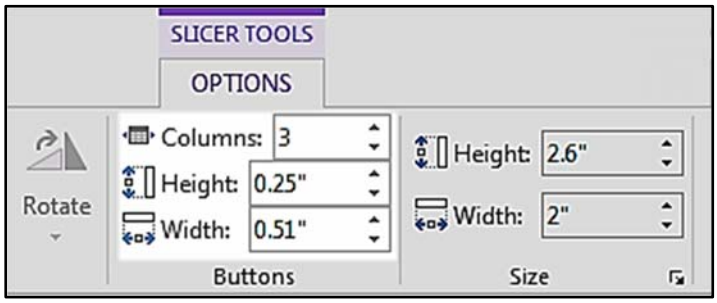



Figure 134

*In the example below the slicers were moved, the category slicer was set to two columns, and the year slicer was set to three columns.*

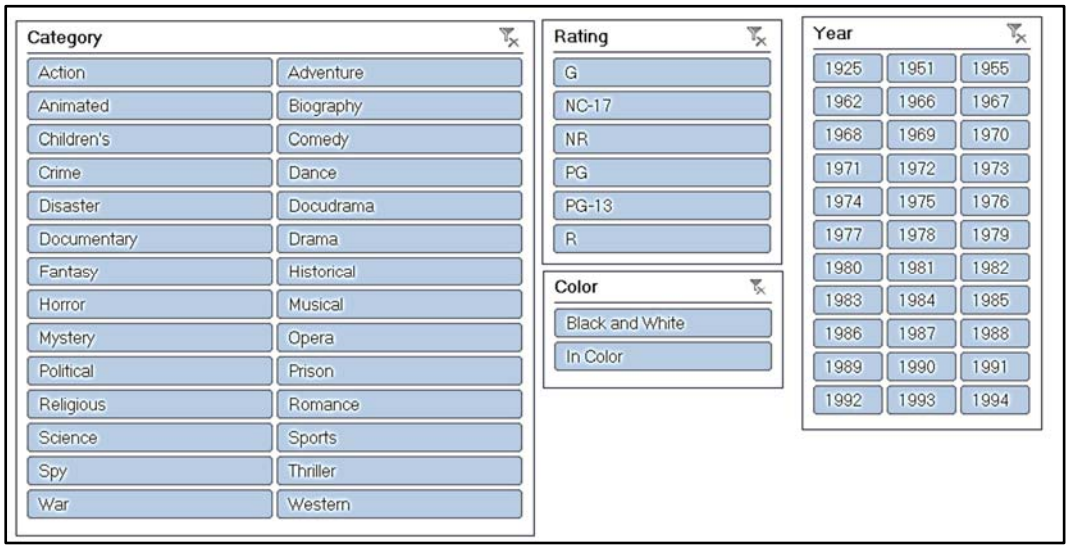



Figure 135

# Topic E: How do you change the slicer caption?

*The exercise below uses the **8ef_Employees.xlsx** file.*

Because field names are not always user friendly, you may want to change the caption that appears at the top of a slicer.

To change a slicer's caption do the following:

1. Click on the slicer.

2. Select the ribbon's **Slicer Tools, Options** tab and then change the value in the **Slicer Caption** box.

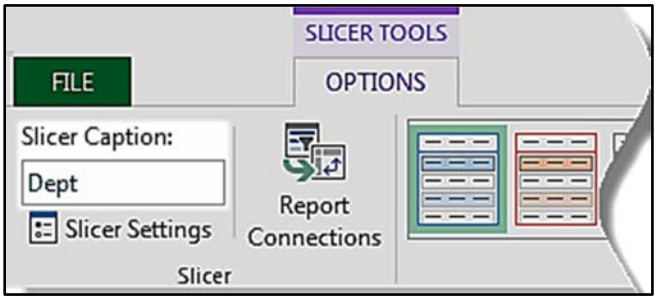



Figure 136

*In this example we changed the **Dept** and **Office** slicers' captions to **Department** and **Home Office**.*

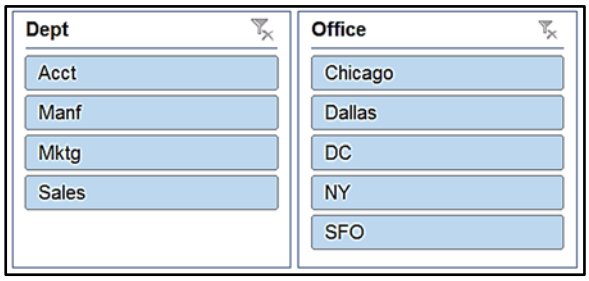



Figure 137: Before the captions were changed

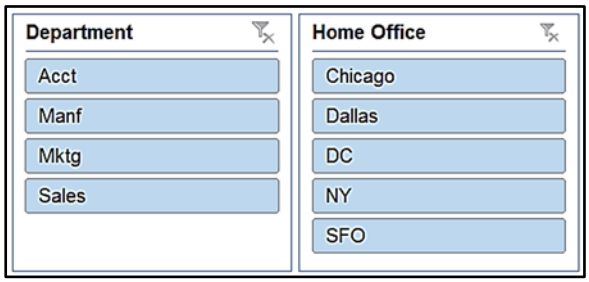



Figure 138: After the captions were changed.

# Topic F: How do you delete a slicer?

*The exercise below uses the **8ef_Employees.xlsx** file and assumes you have completed the exercise in topic E.*

To delete a slicer do the following:

1. Select the slicer.
2. Optional: Click the clear filter icon in the top right corner of the slicer.
3. Press the delete key on the keyboard.


Figure 139

# Topic G: How do you connect a slicer to multiple PivotTables?

A slicer can be connected to multiple PivotTables thus allowing you to create electronic dashboards that filter multiple PivotTables and their related PivotCharts with one click.

To connect a slicer to multiple PivotTables do the following:

1. Select the slicer.

2. From the ribbon's Slicer Tools, Options, tab click Report Connections.

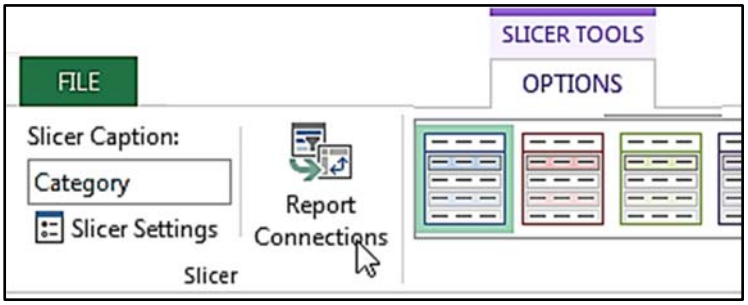



Figure 140

3. In the Report Connections dialog box, check the PivotTables that should be connected to this slicer, and then click **OK**.

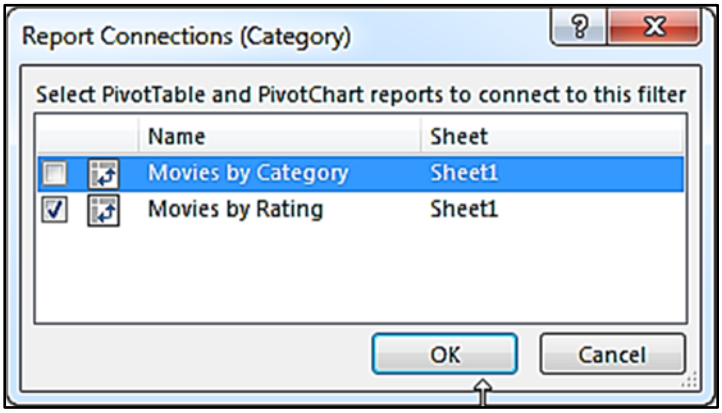



Figure 141

Now when you click a button in that slicer all the connected PivotTables and their related PivotCharts will be modified.

# 9: Subtotals and Grand Totals

Complete this unit and you'll be able to answer the following questions:

A. How do you add / remove Grand Totals?

B. How do you turn on / off subtotals?

C. How do you change the location of the subtotals?

# Topic A: How do you add / remove Grand Totals?

*The exercise below uses the **9a_Orders.xlsx** file.*

A PivotTable can be displayed with or without grand totals for its rows and/or its columns. The options to turn them on or off are found on the ribbon's **PivotTable Tools, Design** tab.

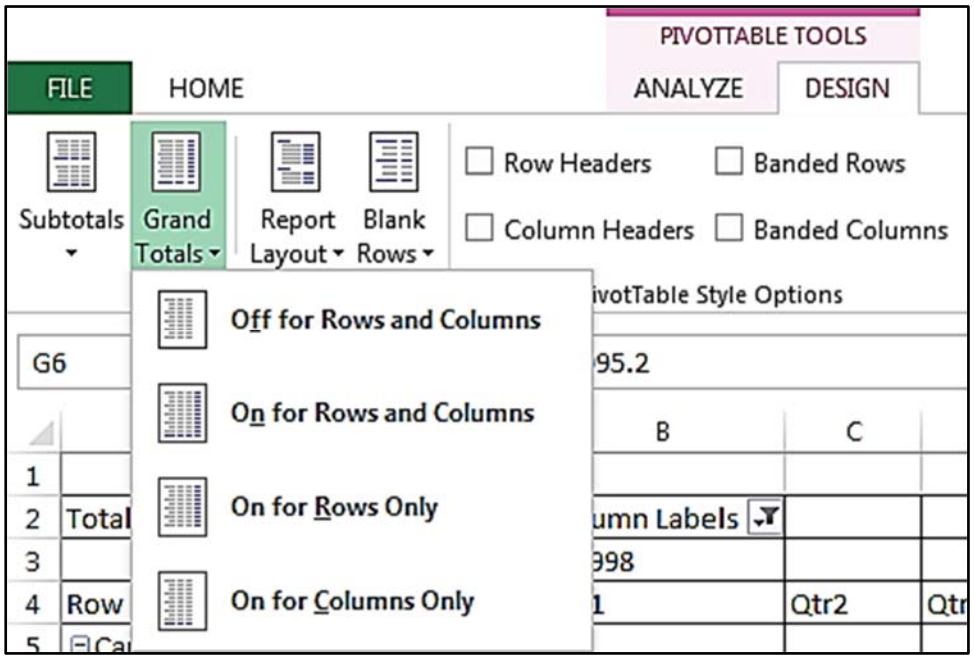
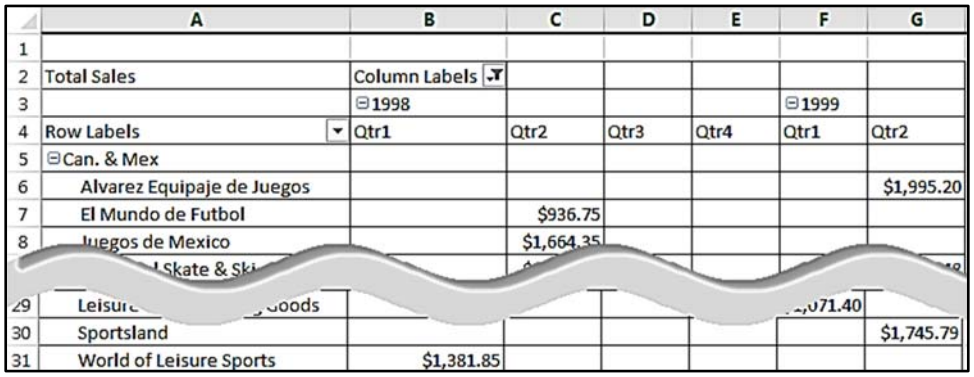



Figure 142

If you choose **Off for Rows and Columns** then no grand totals will be shown.



| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | Total Sales | Column Labels | | | | | |
| 3 | | ⊟1998 | | | | ⊟1999 | |
| 4 | Row Labels | Qtr1 | Qtr2 | Qtr3 | Qtr4 | Qtr1 | Qtr2 |
| 5 | ⊟Can. & Mex | | | | | | |
| 6 | Alvarez Equipaje de Juegos | | | | | | $1,995.20 |
| 7 | El Mundo de Futbol | | $936.75 | | | | |
| 8 | Juegos de Mexico | | $1,664.35 | | | | |
| 29 | Leisur goods | | | | | 071.40 | |
| 30 | Sportsland | | | | | | $1,745.79 |
| 31 | World of Leisure Sports | $1,381.85 | | | | | |

Figure 143

If you choose **On for Rows Only** then grand totals they will appear on the **right side** of the PivotTable.

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | Total Sales | Column Labels | | | | | | |
| 3 | | ⊟1998 | | | | ⊟1999 | | Grand Total |
| 4 | Row Labels | Qtr1 | Qtr2 | Qtr3 | Qtr4 | Qtr1 | Qtr2 | |
| 5 | ⊟Can. & Mex | | | | | | | |
| 6 | Alvarez Equipaje de Juegos | | | | | | $1,995.20 | $1,995.20 |
| 7 | El Mundo de Futbol | | $936.75 | | | | | $936.75 |
| 8 | Juegos de Mexico | | $1,664.35 | | | | | $1,664.35 |
| 9 | Montreal Skate & Ski | | $3,757.15 | | | | $2,864.48 | $6,621.63 |
| 10 | ⊟Central | | | | | | | |
| 11 | Champion Sports Equipment | | | | $3,801.58 | | $3,934.45 | $7,736.03 |
| 12 | Just for Fun Sports Shop | | | | | | $808.20 | $808.20 |
| 13 | Sports and Fitness Supply Co. | | | | | | $1,454.82 | $1,454.82 |
| | [illegible]utfitters | | | | $2,059.70 | | [illegible] | $2,790.24 |

Figure 144: PivotTable with Grand Total for rows. Column H was manually highlighted for emphasis.

If you choose **On for Columns Only** then grand totals will appear at the **bottom** of the PivotTable.

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | Total Sales | Column Labels | | | | | |
| 3 | | ⊟1998 | | | | ⊟1999 | |
| 4 | Row Labels | Qtr1 | Qtr2 | Qtr3 | Qtr4 | Qtr1 | Qtr2 |
| 5 | ⊟Can. & Mex | | | | | | |
| 6 | Alvarez Equipaje de Juegos | | | | | | $1,995.20 |
| 7 | El Mundo de Futbol | | $936.75 | | | | |
| 8 | Juegos de Mexico | | $1,664.35 | | | | |
| | [illegible] Skate & Ski | | [illegible] | | | | [illegible] |
| 29 | Leisur[illegible] Goods | | | | | [illegible]071.40 | |
| 30 | Sportsland | | | | | | $1,745.79 |
| 31 | World of Leisure Sports | $1,381.85 | | | | | |
| 32 | Grand Total | $2,913.93 | $10,506.21 | $5,177.18 | $6,383.35 | $1,963.44 | $27,486.94 |

Figure 145: PivotTable with Grand Total for columns. Row 32 was manually highlighted for emphasis.

If you choose **On for Rows and Columns** then grand totals will appear at the **bottom** and at the **right** of the PivotTable.

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | Total Sales | Column Labels | | | | | | |
| 3 | | ⊟1998 | | | | ⊟1999 | | Grand Total |
| 4 | Row Labels | Qtr1 | Qtr2 | Qtr3 | Qtr4 | Qtr1 | Qtr2 | |
| 5 | ⊟Can. & Mex | | | | | | | |
| 6 | Alvarez Equipaje de Juegos | | | | | | $1,995.20 | $1,995.20 |
| 7 | El Mundo de Futbol | | $936.75 | | | | | $936.75 |
| 8 | Juegos de Mexico | | $1,664.35 | | | | | $1,664.35 |
| | [illegible] Skate & Ski | | [illegible] | | | | [illegible] | $6,621.63 |
| 28 | Coastal [illegible] House | | | | | | | [illegible] |
| 29 | Leisure Time Sporting Goods | | | | | $1,071.40 | | $1,071.40 |
| 30 | Sportsland | | | | | | $1,745.79 | $1,745.79 |
| 31 | World of Leisure Sports | $1,381.85 | | | | | | $1,381.85 |
| 32 | Grand Total | $2,913.93 | $10,506.21 | $5,177.18 | $6,383.35 | $1,963.44 | $27,486.94 | $54,431.05 |

Figure 146: PivotTable with both row and column Grand Totals. Row 32 and column H were manually highlighted for emphasis.

# Topic B: How do you turn on /off subtotals?

*The exercise below uses the **9b_Orders.xlsx** file.*

In addition to displaying Grand Totals you can have an Excel PivotTable display subtotals. But, as shown in this example, you may want subtotals for some fields and not for others. Thankfully Excel allows you to decide which fields get subtotals.

In the figure shown below you will notice the PivotTable has four row fields, Region, Store Name, Product ID and Product Description. Notice that this PivotTable has subtotals for the Region, Store Name, and Product ID (the first three row fields).

You may also notice that the subtotals are shaded. You will learn how to shade your subtotals in chapter 10 Layouts and Styles.

| | A | B | C | D | E | |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | Region | Store Name | Product ID | Product Description | Total Sales | |
| 3 | Can. & Mex | Alvarez Equipaje de Juegos | 10-1437 | shoes, soccer | $1,446.50 | |
| 4 | | | 10-1437 Total | | $1,446.50 | Product ID subtotal |
| 5 | | | 10-3827 | shoes, baseball | $978.10 | |
| 6 | | | 10-3827 Total | | $978.10 | |
| | | | | shoes, ru | $307.62 | |
| | | | 14-8378 | | | |
| 707 | | | 14-8429 | bicycle, mens | $1,282.26 | |
| 708 | | | 14-8429 Total | | $1,282.26 | |
| 709 | | Sportsland Total | | | $6,269.83 | Store Name subtotal |
| 710 | | World of Leisure Sports | 10-8137 | shoes, running | $307.62 | |
| 711 | | | 10-8137 Total | | $307.62 | |
| 712 | | | 12-8478 | volleyball | $88.20 | |
| 713 | | | 12-8478 Total | | $88.20 | |
| 714 | | | 14-7328 | golf clubs | $773.15 | |
| 715 | | | 14-7328 Total | | $773.15 | |
| 716 | | | 14-8417 | badminton set | $212.88 | |
| 717 | | | 14-8417 Total | | $212.88 | |
| 718 | | World of Leisure Sports Total | | | $1,381.85 | |
| 719 | Southwest Total | | | | $18,945.35 | Region subtotal |
| 720 | Grand Total | | | | $141,501.59 | Grand Total |

Figure 147

To turn off all the subtotals do the following:

1. Click anywhere within your PivotTable.

2. From the ribbon choose PivotTable Tools, Design, Subtotals, Do Not Show Subtotals.

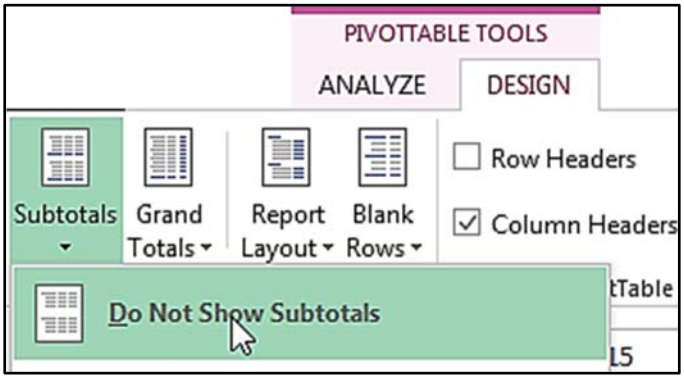



Figure 148

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | Region | Store Name | Product ID | Product Description | Total Sales |
| 3 | Can. & Mex | Alvarez Equipaje de Juegos | 10-1437 | shoes, soccer | $1,446.50 |
| 4 | | | 10-3827 | shoes, baseball | $978.10 |
| 5 | | | 10-8137 | shoes, running | $307.62 |
| 6 | | | 12-1687 | ball, soccer | $410.75 |
| | | | | baseball | $65.75 |
| 330 | | | 14-8429 | , mens | 26 |
| 331 | | World of Leisure Sports | 10-8137 | shoes, running | $307.62 |
| 332 | | | 12-8478 | volleyball | $88.20 |
| 333 | | | 14-7328 | golf clubs | $773.15 |
| 334 | | | 14-8417 | badminton set | $212.88 |
| 335 | Grand Total | | | | $141,501.59 |

Figure 149: The subtotals have been removed from the PivotTable.

Excel allows you to turn on subtotals for selected rows as shown below.

1. Click anywhere within your PivotTable.

2. In the PivotTables fields list, rows area, click on the field that should have a subtotal, and then click on **Field Settings…**.
   *In this example we clicked on the Region field.*

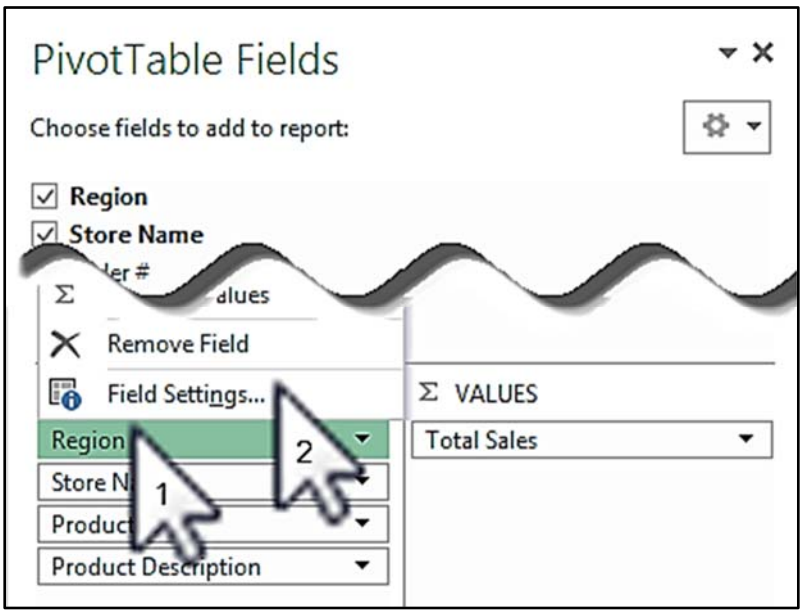



Figure 150

3. Select one of the following options:

| | |
|---|---|
| Automatic | Excel uses the **Sum** function if the value field is numeric. For alpha-numeric data it uses the **Count** function. |
| None | No subtotals are displayed |
| Custom | Allows you to choose one or more functions. |

*In this example we chose the Automatic option.*

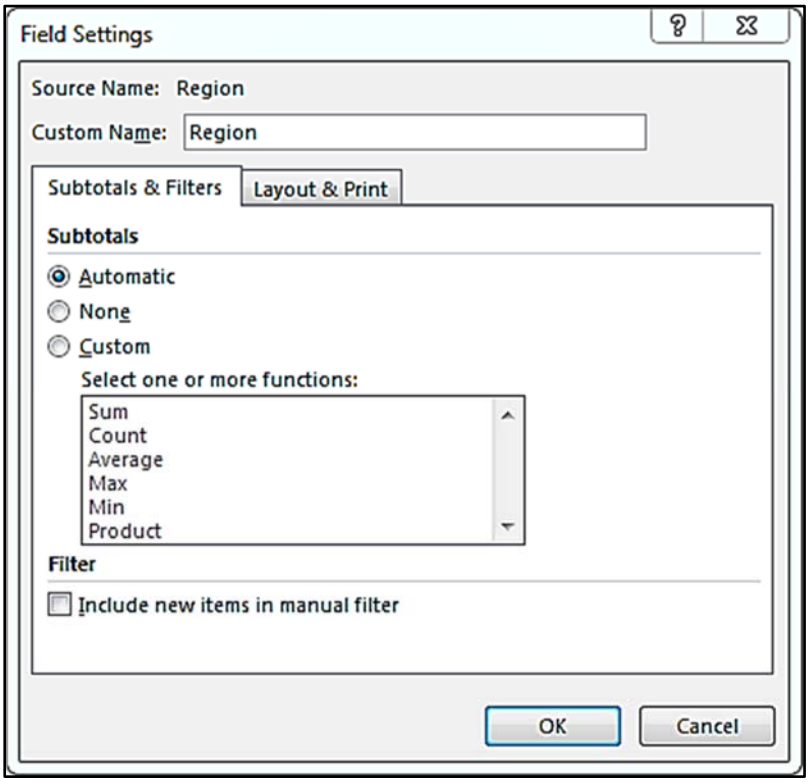
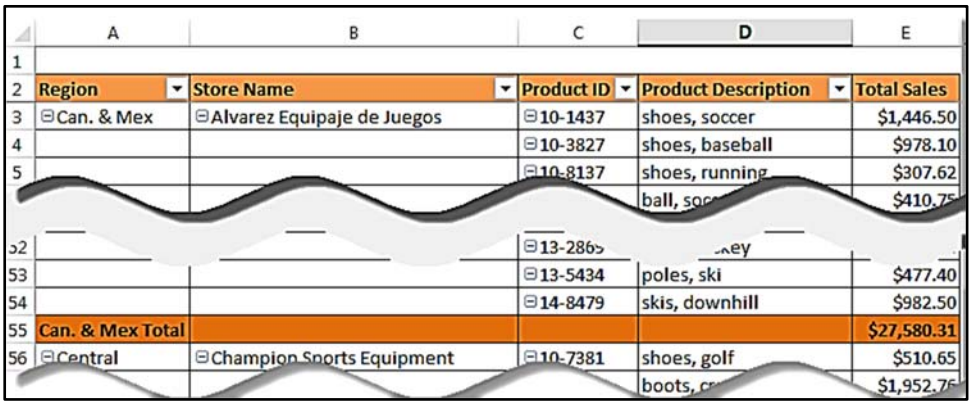



Figure 151



| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | Region | Store Name | Product ID | Product Description | Total Sales |
| 3 | Can. & Mex | Alvarez Equipaje de Juegos | 10-1437 | shoes, soccer | $1,446.50 |
| 4 | | | 10-3827 | shoes, baseball | $978.10 |
| 5 | | | 10-8137 | shoes, running | $307.62 |
| | | | | ball, soc | $410.75 |
| 52 | | | 13-2865 | key | |
| 53 | | | 13-5434 | poles, ski | $477.40 |
| 54 | | | 14-8479 | skis, downhill | $982.50 |
| 55 | Can. & Mex Total | | | | $27,580.31 |
| 56 | Central | Champion Sports Equipment | 10-7381 | shoes, golf | $510.65 |
| | | | | boots, cr | $1,952.76 |

Figure 152

4. Repeat steps 2 and 3 to modify the subtotal for additional fields.

*In this example we did automatic subtotals for both the **Region** and the **Store Name** fields.*

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | Region | Store Name | Product ID | Product Description | Total Sales |
| | | | | helmet, bi | $104.68 |
| 56 | | | ⊟13-5434 | ski | |
| 57 | | | ⊟14-8479 | skis, downhill | $491.25 |
| 58 | | SportsCanada of Toronto Total | | | $2,343.25 |
| 59 | | ⊟The Calgary Sporting Goods Co. | ⊟10-8121 | boots, downhill ski | $1,751.70 |
| 60 | | | ⊟11-2235 | shin guards, hockey | $423.60 |
| 61 | | | ⊟13-2869 | stick, hockey | $261.96 |
| 62 | | | ⊟13-5434 | poles, ski | $477.40 |
| 63 | | | ⊟14-8479 | skis, downhill | $982.50 |
| 64 | | The Calgary Sporting Goods Co. Total | | | $3,897.16 |
| 65 | Can. & Mex Total | | | | $27,580.31 |
| 66 | ⊟Central | ⊟Champion Sports Equipment | ⊟10-7381 | shoes, golf | $510.65 |
| 67 | | | ⊟10-8122 | boots, cross-country ski | $1,952.76 |
| 68 | | | ⊟10-8137 | shoes, running | $307.62 |
| 69 | | | ⊟10-9106 | shoes, aerobic | $251.58 |

Figure 153

# Topic C: How do you change the location of the subtotals?

*The exercise below uses the **9c1_Orders.xlsx** file.*

The subtotals, for row fields, can appear at the top of the group or at the bottom of the group.

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | Region | Store Name | Product ID | Product Description | Total Sales |
| | | | | helmet, bi | $104.68 |
| 56 | | | ⊟13-5434 | | |
| 57 | | | ⊟14-8479 | skis, downhill | $491.25 |
| 58 | | SportsCanada of Toronto Total | | | $2,343.25 |
| 59 | | ⊟The Calgary Sporting Goods Co. | ⊟10-8121 | boots, downhill ski | $1,751.70 |
| 60 | | | ⊟11-2235 | shin guards, hockey | $423.60 |
| 61 | | | ⊟13-2869 | stick, hockey | $261.96 |
| 62 | | | ⊟13-5434 | poles, ski | $477.40 |
| 63 | | | ⊟14-8479 | skis, downhill | $982.50 |
| 64 | | The Calgary Sporting Goods Co. Total | | | $3,897.16 |
| 65 | Can. & Mex Total | | | | $27,580.31 |
| 66 | ⊟Central | ⊟Champion Sports Equipment | ⊟10-7381 | shoes, golf | $510.65 |
| 67 | | | ⊟10-8122 | boots, cross-country ski | $1,952.76 |
| 68 | | | ⊟10-8137 | shoes, running | $307.62 |
| 69 | | | ⊟10-9106 | shoes, aerobic | $251.58 |

Figure 154: PivotTable with subtotals at the bottom of the group

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | Region | Store Name | Product ID | Product Description | Total Sales |
| 3 | ⊟Can. & Mex | | | | $27,580.31 |
| 4 | | ⊟Alvarez Equipaje de Juegos | | | $4,532.23 |
| 5 | | | ⊟10-1437 | shoes, soccer | $1,446.50 |
| 6 | | | ⊟10-3827 | shoes, baseball | $978.10 |
| | | | | shoes, ru | $307.62 |
| 9 | | | ⊟12-316 | | |
| 60 | | ⊟The Calgary Sporting Goods Co. | | | $3,897.16 |
| 61 | | | ⊟10-8121 | boots, downhill ski | $1,751.70 |
| 62 | | | ⊟11-2235 | shin guards, hockey | $423.60 |
| 63 | | | ⊟13-2869 | stick, hockey | $261.96 |
| 64 | | | ⊟13-5434 | poles, ski | $477.40 |
| 65 | | | ⊟14-8479 | skis, downhill | $982.50 |
| 66 | ⊟Central | | | | $35,537.60 |
| 67 | | ⊟Champion Sports Equipment | | | $9,253.64 |
| 68 | | | ⊟10-7381 | shoes, golf | $510.65 |
| 69 | | | ⊟10-8122 | boots, cross-country ski | $1,952.76 |
| | | | | shoes, ru | $307.62 |

Figure 155: PivotTable with subtotals at the top of the group

Excel provides two methods for changing the location of the subtotals. The first uses options on the ribbon, the second uses options in the field settings dialog box.

To change the location of the subtotals using the ribbon do the following:

1. Click anywhere within your PivotTable.

2. From the ribbon choose PivotTable Tools, Design, Subtotals, and then choose either the Show all Subtotals at Bottom of Group or the Show all Subtotals at Top of Group option.

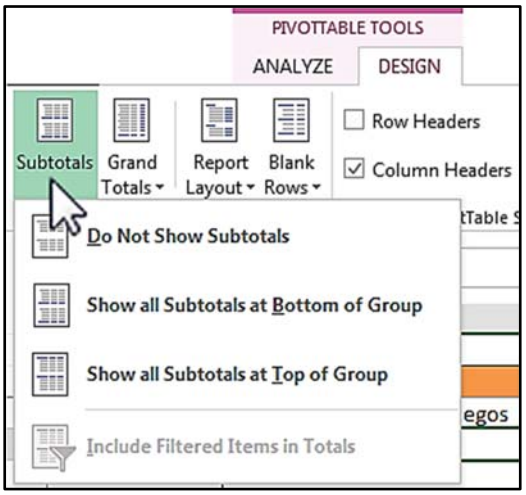



Figure 156

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | Region | Store Name | Product ID | Product Description | Total Sales |
| 3 | Can. & Mex | Alvarez Equipaje de Juegos | 10-1437 | shoes, soccer | $1,446.50 |
| 4 | | | 10-1437 Total | | $1,446.50 |
| 5 | | | 10-3827 | shoes, baseball | $978.10 |
| 6 | | | 10-3827 Total | | $978.10 |
| 7 | | | 10-8137 | shoes, running | $307.62 |
| 8 | | | 10-8137 Total | | $307.62 |
| 9 | | | 12-1687 | ball, soccer | $410.75 |
| 10 | | | 12-1687 Total | | $410.75 |
| 11 | | | 12-3167 | baseball | $65.75 |
| 12 | | | 12-3167 Total | | $65.75 |
| 13 | | | 12-3964 | glove, baseball | $1,049.16 |
| 14 | | | 12-3964 Total | | $1,049.16 |
| 15 | | | 12-8521 | softball | $46.05 |
| 16 | | | 12-8521 Total | | $46.05 |
| 17 | | | 13-3251 | bat, baseball | $228.30 |
| 18 | | | 13-3251 Total | | $228.30 |
| 19 | | Alvarez Equipaje de Juegos Total | | | $4,532.23 |
| 20 | | Canadian Sports Ltd. | 10-1437 | shoes, soccer | $394.50 |
| | | | | | $394.50 |

Figure 157

Notice that this method shows **ALL** subtotals at the bottom or top of the group, meaning the subtotals you turned off earlier are now turned back on.

To change the location of the subtotals using the field settings dialog box do the following.

*The exercise below uses the **9c2_Orders.xlsx** file.*

1. Click anywhere within your PivotTable.

1. In the PivotTables fields list, rows area, click on the field that should have a subtotal in a new location, and then click on **Field Settings…**.
   *In this example we clicked on the Region field.*

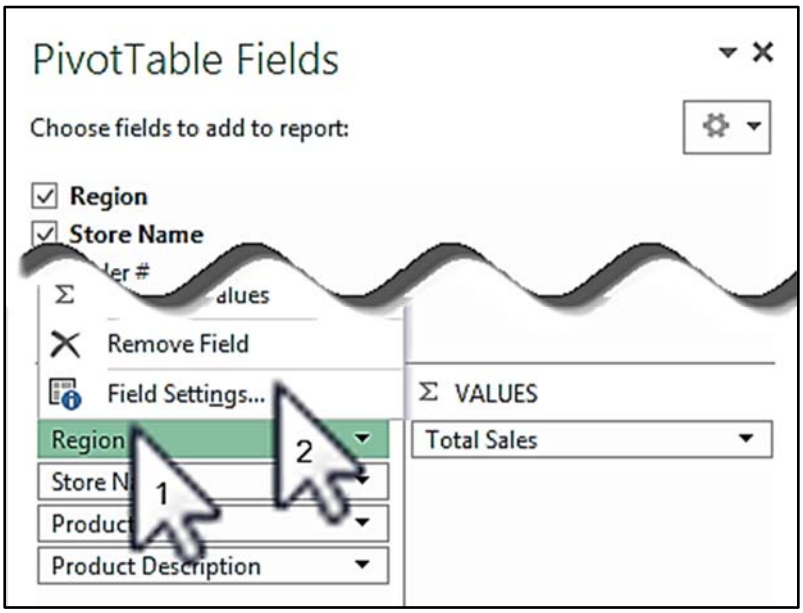


Figure 158

2. In the Field Settings dialog box click on the Layout & Print tab.

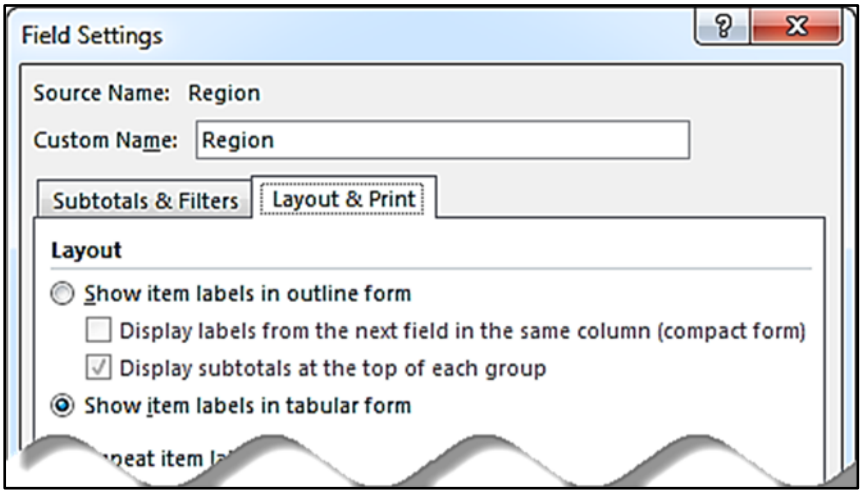


Figure 159

3. To display subtotals at the *top* of the group select the **Show item labels in outline form** and check the **Display subtotals at the top of each group**.

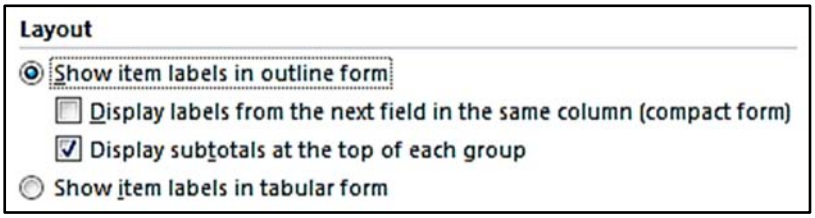



Figure 160

To display subtotals at the *bottom* of the group either select the **Show item labels in outline form** and *uncheck* the **Display subtotals at the top of each group**….

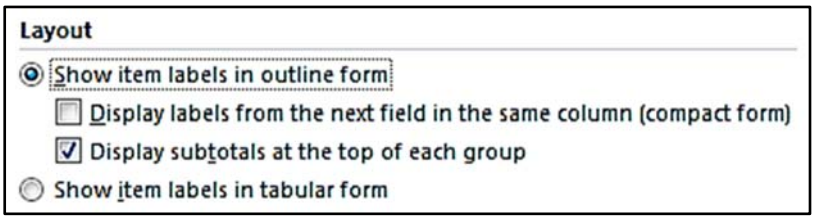



Figure 161

…. or select the **Show item labels in tabular format**.

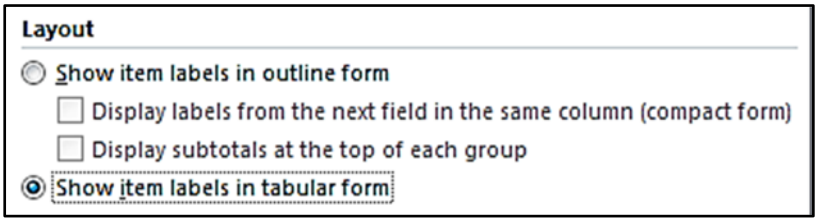



Figure 162

4. Click **OK**.

5. Repeat steps 2 through 5 for the desired fields.

*In this example we chose the **Show item labels in outline form** and checked the **Display subtotals at the top of each group** for both the **Region** and the **Store Name** fields.*

| Region | Store Name | Product ID | Product Description | Total Sales |
|---|---|---|---|---|
| ⊟Can. & Mex | | | | $27,580.31 |
| | ⊟Alvarez Equipaje de Juegos | | | $4,532.23 |
| | | ⊟10-1437 | shoes, soccer | $1,446.50 |
| | | ⊟10-3827 | shoes, baseball | $978.10 |
| | | ⊟10-8137 | shoes, running | $307.62 |
| | | ⊟12-1687 | ball, soccer | $410.75 |
| | | ⊟12-3167 | baseball | $65.75 |
| | | ⊟12-3964 | glove, baseball | $1,049.16 |
| | | ⊟12-8521 | softball | $46.05 |
| | | ⊟13-3251 | bat, baseball | $228.30 |
| | ⊟Canadian Sports Ltd. | | | $2,067.40 |
| | | ⊟10-1437 | shoes, soccer | $394.50 |
| | | | skates, h | $985.00 |

Subtotals now appear at the top of the group.

Figure 163: Subtotals at the top of the group.

# 10: Layouts and Styles

Complete this unit and you'll be able to answer the following questions:

A. What are the three layout options?

B. How do you repeat item labels?

C. How do you not repeat item labels?

D. How do you use styles?

E. What are the style options, and how do you use them?

F. How do you show/hide field headers?

G. How do you show/hide the expand and collapse buttons?

H. How do you hide the field list?

# Topic A: What are the three layout options?

*The exercise below uses the **10ab_Movies.xlsx** file.*

The data in an Excel PivotTable can be laid out in any of the following three layouts: Compact Form, Outline Form, or Tabular Form.

## Compact Form

This layout display all the rows in the same column, and places subtotals at the top of the group.

| | A | B |
|---|---|---|
| 3 | Row Labels | Movies |
| 4 | ⊟Action | 16 |
| 5 | ⊟PG | 2 |
| 6 | 1984 | 1 |
| 7 | 1985 | 1 |
| 8 | ⊟R | 14 |
| 9 | 1984 | 4 |
| 10 | 1985 | 10 |

Figure 164

## Outline Form

This layout display each row field in its own column, and places the subtotals at the top of the group.

| | A | B | C | D |
|---|---|---|---|---|
| 3 | Category | Rating | Year | Movies |
| 4 | ⊟Action | | | 16 |
| 5 | | ⊟PG | | 2 |
| 6 | | | 1984 | 1 |
| 7 | | | 1985 | 1 |
| 8 | | ⊟R | | 14 |
| 9 | | | 1984 | 4 |
| 10 | | | 1985 | 10 |

Figure 165

## Tabular Form

This layout display each row field in its own column, and places the subtotals at the bottom of the group.

| | A | B | C | D |
|---|---|---|---|---|
| 3 | Category | Rating | Year | Movies |
| 4 | ⊟Action | ⊟PG | 1984 | 1 |
| 5 | | | 1985 | 1 |
| 6 | | PG Total | | 2 |
| 7 | | ⊟R | 1984 | 4 |
| 8 | | | 1985 | 10 |
| 9 | | R Total | | 14 |
| 10 | Action Total | | | 16 |

Figure 166

To change the layout format do the following:

1. Click anywhere within your PivotTable.

2. From the ribbon choose **PivotTable Tools, Design, Report Layout** and then choose one of the following options.
   - Show in Compact Form
   - Show in Outline Form
   - Show in Tabular Form

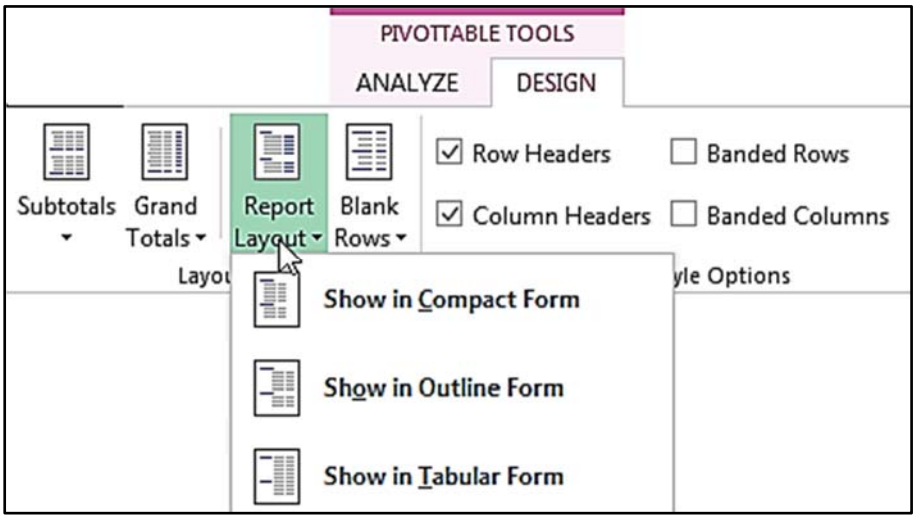



Figure 167

# Topic B: How do you repeat item labels?

*The exercise below uses the **10ab_Movies.xlsx** file.*

As shown below you have the option to repeat items labels in a PivotTable. Notice how the values "Action", "PG", and "R" are repeated on each row.

| | A | B | C | D |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | Category | Ratin | Year | Movies |
| 4 | ⊟Action | | | 16 |
| 5 | Action | ⊟PG | | 2 |
| 6 | Action | PG | 1984 | 1 |
| 7 | Action | PG | 1985 | 1 |
| 8 | Action | ⊟R | | 14 |
| 9 | Action | R | 1984 | 4 |
| 10 | Action | R | 1985 | 10 |

Figure 168

To repeat the item labels do the following:

1. Click anywhere within your PivotTable.

2. From the ribbon choose **PivotTable Tools**, **Design**, **Report Layout**, and then choose **Repeat All Item Labels.**

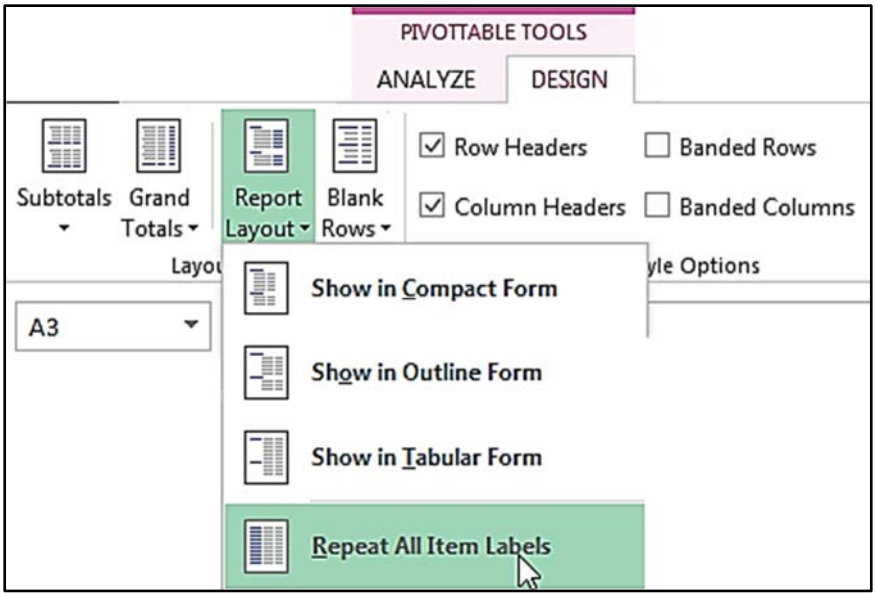



Figure 169

You can also repeat item labels for individual fields by doing the following:

1. Click anywhere within your PivotTable.

2. In the PivotTables fields list, rows area, click on the field that should have a subtotal in a new location, and then click on **Field Settings…**.
   *In this example we clicked on the Region field.*

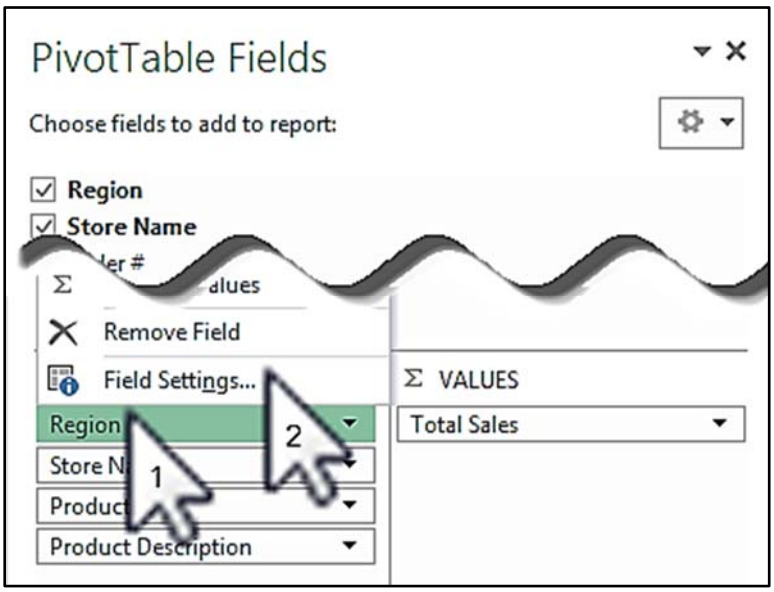


Figure 170

3. In the Field Settings dialog box click on the **Layout & Print** tab.

4. Check the Repeat item labels option and then click **OK**.

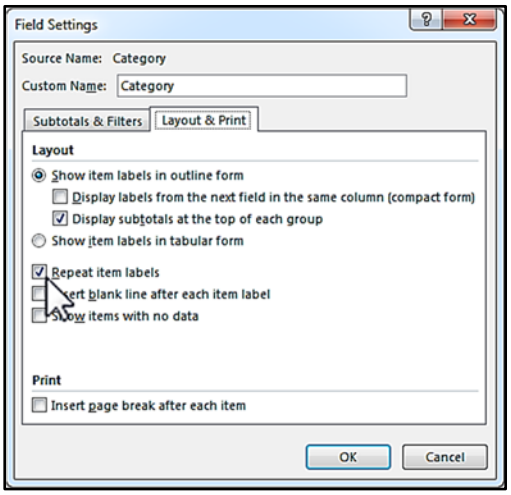


Figure 171

5. Repeat steps 2 through 4 for each additional field as needed.

# Topic C: How do you not repeat item labels?

You can also turn off the repeating labels. The first method is from the ribbon. Choose **PivotTable Tools**, **Design**, **Report Layout**, and then choose **Do Not Repeat Item Labels**.

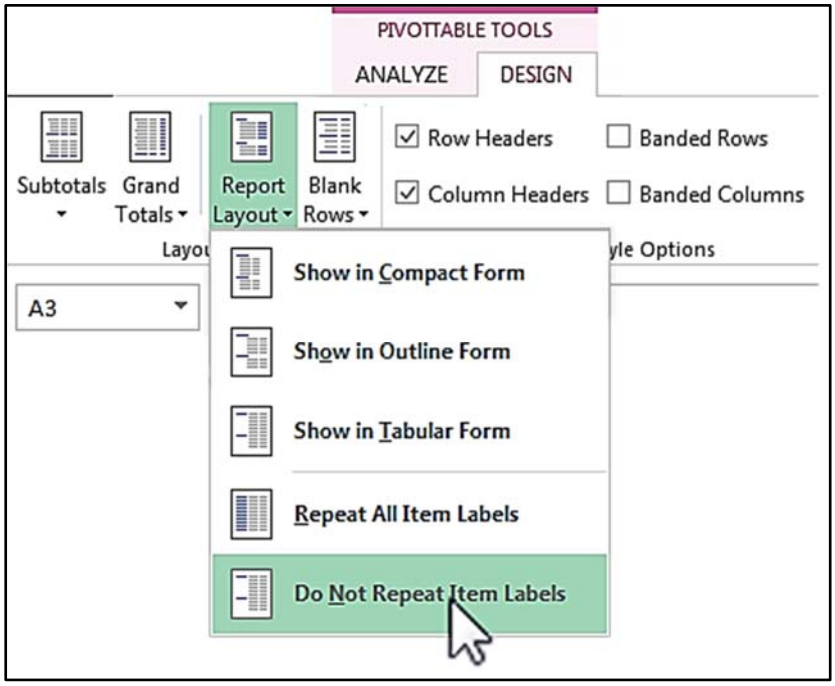



Figure 172

You can also turn off repeating item labels by unchecking the **Repeat item labels** option in the Field Settings dialog box.

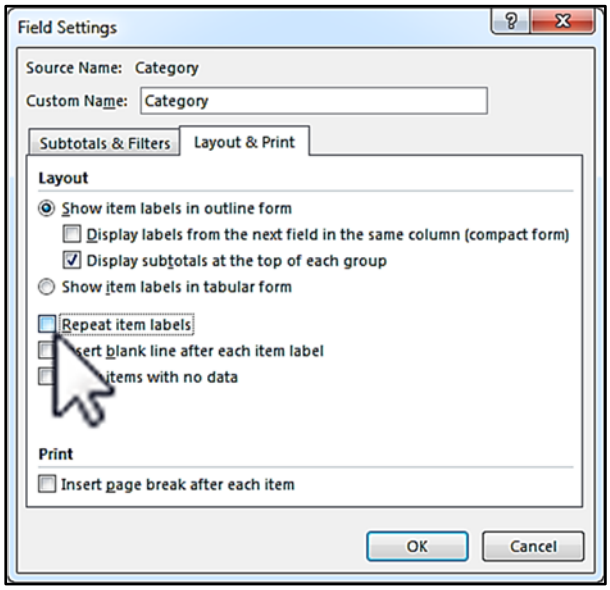



Figure 173

# Topic D: How do you use styles?

*The exercise below uses the **10d_Movies.xlsx** file.*

You can add color and other formatting features to a PivotTable using the PivotTable styles feature.

To apply a PivotTable style do the following:

1. Click anywhere within your PivotTable.

2. From the ribbon choose PivotTable Tools, Design and then click the PivotTable Styles More button shown below.

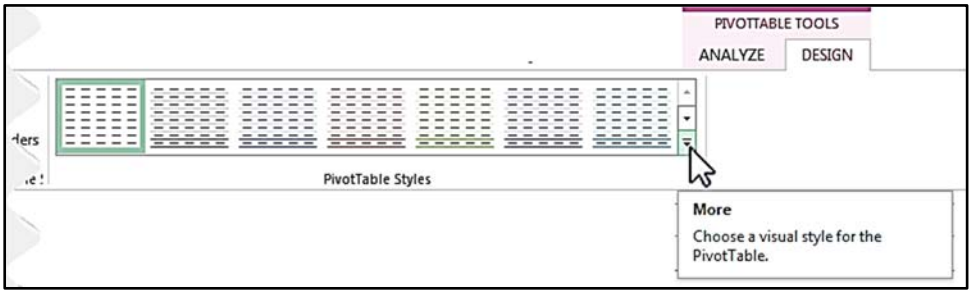



Figure 174

3. Drag the mouse over the various styles and notice that the effect on the PivotTable.

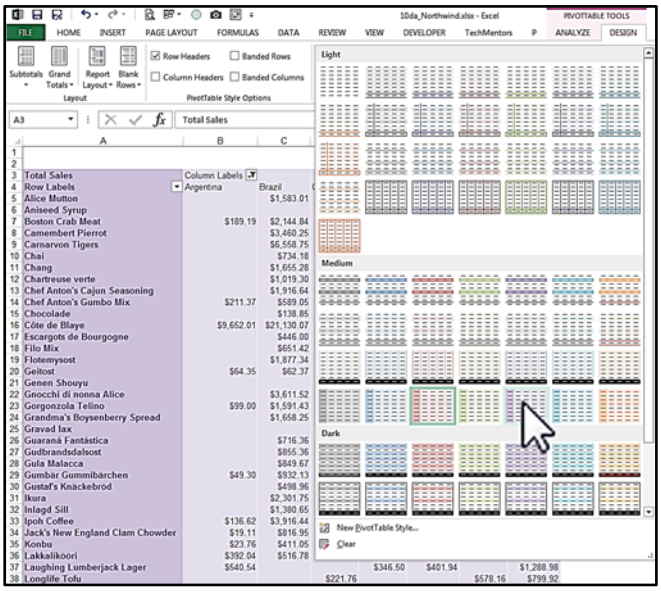



Figure 175

4. When you find a style that you like click on it with the mouse.

# Topic E: What are the style options, and how do you use them?

Excel has four style options that appear on the PivotTable Tools, Design tab of the ribbon. They are explained below.

## Row Headers

When checked, the row's headers are emphasized, often with a bold font and/or different background.

| Total Sales | Column Labels | | |
|---|---|---|---|
| Row Labels | Argentina | Brazil | Canada |
| Alice Mutton | | $1,583.01 | $3,127.41 |
| Aniseed Syrup | | | $138.60 |
| Boston Crab Meat | $189.19 | $2,144.84 | $291.06 |
| Camembert Pierrot | | $3,460.25 | $2,659.14 |
| Carnarvon Tigers | | $6,558.75 | $643.50 |
| Chai | | $734.18 | $659.34 |
| Chang | | $1,655.28 | |

Figure 176: Styled PivotTable with row headers checked

| Total Sales | Column Labels | | |
|---|---|---|---|
| Row Labels | Argentina | Brazil | Canada |
| Alice Mutton | | $1,583.01 | $3,127.41 |
| Aniseed Syrup | | | $138.60 |
| Boston Crab Meat | $189.19 | $2,144.84 | $291.06 |
| Camembert Pierrot | | $3,460.25 | $2,659.14 |
| Carnarvon Tigers | | $6,558.75 | $643.50 |
| Chai | | $734.18 | $659.34 |
| Chang | | $1,655.28 | |

Figure 177: Styled PivotTable with row headers not checked

## Column Headers

| Total Sales | Column Label | | |
|---|---|---|---|
| Row Labels | Argentina | Brazil | Canada |
| Alice Mutton | | $1,583.01 | $3,127.41 |
| Aniseed Syrup | | | $138.60 |
| Boston Crab Meat | $189.19 | $2,144.84 | $291.06 |

Figure 178: Styled PivotTable with column headers checked. Notice the top row has bold text.

| Total Sales | Column Labels | | |
|---|---|---|---|
| Row Labels | Argentina | Brazil | Canada |
| Alice Mutton | | $1,583.01 | $3,127.41 |
| Aniseed Syrup | | | $138.60 |
| Boston Crab Meat | $189.19 | $2,144.84 | $291.06 |

Figure 179: Styled PivotTable with column headers not checked. Notice the top row is not bolded.

## Banded Rows

| Total Sales | Column Labels | | |
|---|---|---|---|
| Row Labels | Argentina | Brazil | Canada |
| Alice Mutton | | $1,583.01 | $3,127.41 |
| Aniseed Syrup | | | $138.60 |
| Boston Crab Meat | $189.19 | $2,144.84 | $291.06 |
| Camembert Pierrot | | $3,460.25 | $2,659.14 |
| Carnarvon Tigers | | $6,558.75 | $643.50 |
| Chai | | $734.18 | $659.34 |
| Chang | | $1,655.28 | |

Figure 180: Styled PivotTable with banded rows checked. Notice every other row has a darker background.

## Banded Columns

| Total Sales | Column Labels | | | | | | |
|---|---|---|---|---|---|---|---|
| Row Labels | Argentina | Brazil | Canada | Mexico | USA | Venezuela | Grand Total |
| Alice Mutton | | $1,583.01 | $3,127.41 | $1,652.51 | $8,509.64 | | $14,872.57 |
| Aniseed Syrup | | | $138.60 | | $138.60 | $134.64 | $411.84 |
| Boston Crab Meat | $189.19 | $2,144.84 | $291.06 | $848.63 | $2,356.40 | $1,657.66 | $7,487.77 |
| Camembert Pierrot | | $3,460.25 | $2,659.14 | $1,346.40 | $4,133.45 | $1,090.58 | $12,689.82 |
| Carnarvon Tigers | | $6,558.75 | $643.50 | $1,485.00 | $7,907.63 | $1,546.88 | $18,141.75 |
| Chai | | $734.18 | $659.34 | $848.23 | $2,904.66 | $1,639.44 | $6,785.86 |
| Chang | | $1,655.28 | | $489.06 | $4,420.35 | $1,087.22 | $7,651.91 |

Figure 181: Styled PivotTable with banded columns checked. Notice every other column has a darker background.

# Topic F: How do you show/hide field headers?

*The exercise below uses the **10f_Employees.xlsx** file.*

The field headers are the labels that appear above the row labels and above the column labels.

| Total Salary | Dept | | | | |
|---|---|---|---|---|---|
| Office | Acct | Manf | Mktg | Sales | Grand Total |
| Chicago | | | | $16,115 | $16,115 |
| Dallas | | | $23,780 | | $23,780 |
| DC | | $9,500 | | | $9,500 |
| NY | $14,513 | | $2,684 | $3,184 | $20,381 |
| SFO | | | $2,200 | $22,767 | $24,967 |
| Grand Total | $14,513 | $9,500 | $28,664 | $42,066 | $94,743 |

Figure 182

These headers can easily be turned on and off by doing the following:

1. Click anywhere within your PivotTable.

2. From the ribbon choose **PivotTable Tools**, **Analyze**, and then toggle the **Field Headers** option.

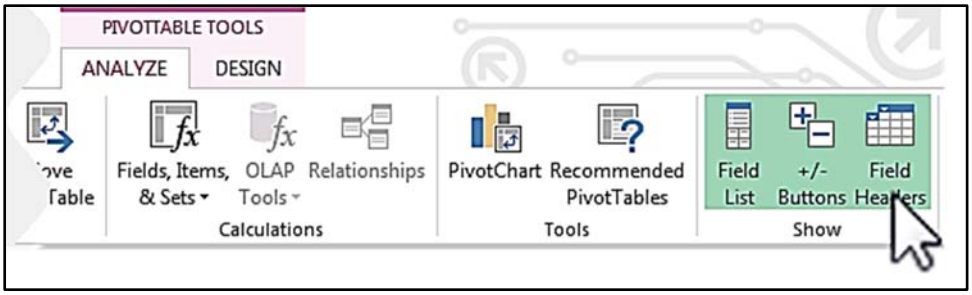



Figure 183

| Total Salary | | | | | |
|---|---|---|---|---|---|
| | Acct | Manf | Mktg | Sales | Grand Total |
| Chicago | | | | $16,115 | $16,115 |
| Dallas | | | $23,780 | | $23,780 |
| DC | | $9,500 | | | $9,500 |
| NY | $14,513 | | $2,684 | $3,184 | $20,381 |
| SFO | | | $2,200 | $22,767 | $24,967 |
| Grand Total | $14,513 | $9,500 | $28,664 | $42,066 | $94,743 |

Figure 184: PivotTable with headers turned off.

# Topic G: How do you show/hide the expand and collapse buttons?

*The example below uses the **10gh_Employees.xlsx** file.*

The expand and collapse buttons, shown below, can be useful for hiding (collapsing) or showing (expanding) the details of your PivotTable.

| | Total Salary | | |
|---|---|---|---|
| | Office | Dept | Total |
| | ⊟ Chicago | Sales | $16,115 |
| | Chicago Total | | $16,115 |
| | ⊟ Dallas | Mktg | $23,780 |
| | Dallas Total | | $23,780 |
| Collapse button → | ⊟ DC | Manf | $9,500 |
| | DC Total | | $9,500 |
| Expand button → | ⊞ NY | | $20,381 |
| | ⊟ SFO | Mktg | $2,200 |
| | | Sales | $22,767 |
| | SFO Total | | $24,967 |
| | Grand Total | | $94,743 |

But there may be times when you want to hide them. You can toggle their visibility from the ribbon by clicking the **PivotTable Tools**, **Analyze**, **Buttons** icon.

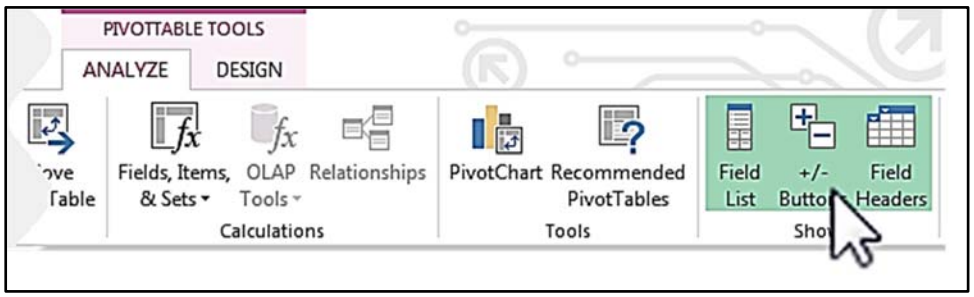



Figure 185

# Topic H: How do you hide the field list?

*The example below uses the **10gh_Employees.xlsx** file.*

The field list that appears on the right side of the screen whenever you click inside a PivotTable can also be toggled on and off. To do so from the ribbon click the **PivotTable Tools**, **Analyze**, **Field List** icon.

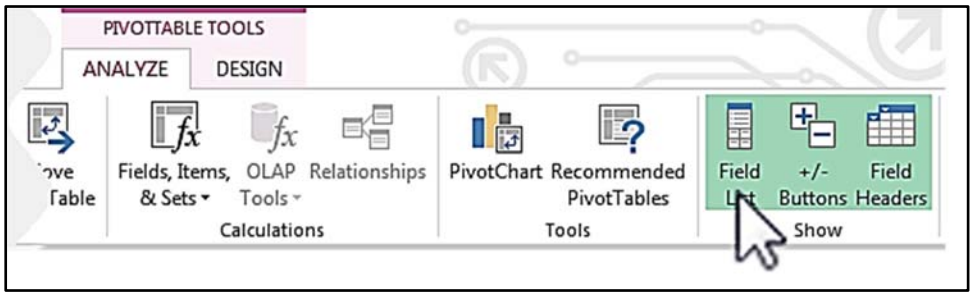



Figure 186

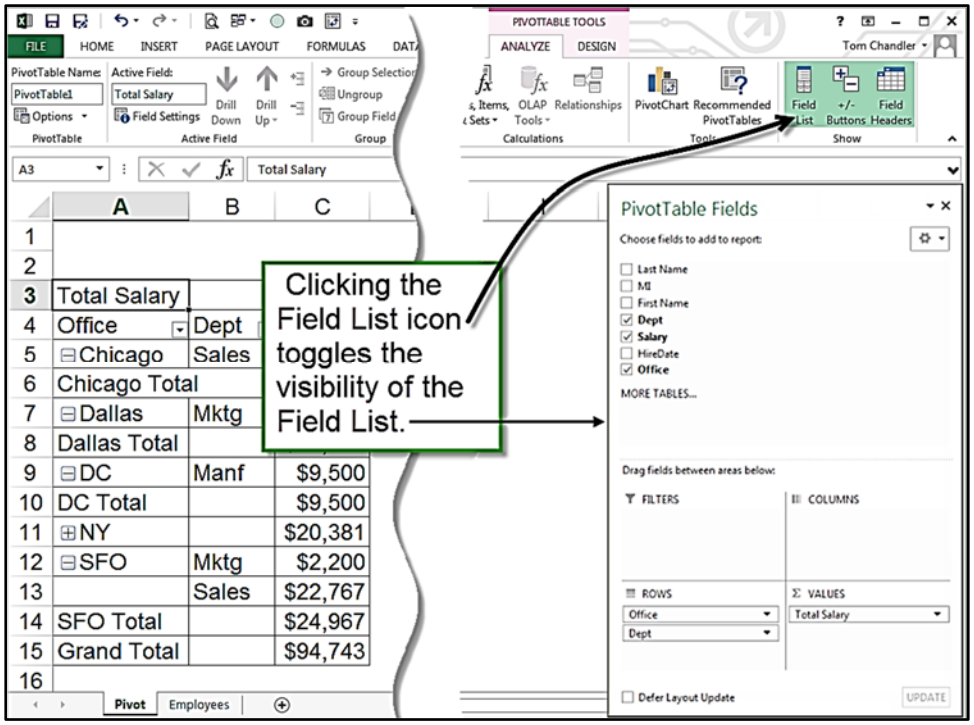



Figure 187

# 11: Calculated Fields and Items

Complete this unit and you'll be able to answer the following questions:

A. What is a calculated field?

B. How do you create a calculated field?

C. What is a calculated item?

D. How do you create a calculated item?

# Topic A: What is a calculated field?

*The example below uses the **11a_Employees.xlsx** file.*

When you first create your PivotTable the column headings in the source data become the field list for the PivotTable. In addition to those fields you can create your own calculated fields based on a calculation.

For example the PivotTable below shows the additional earnings each employee will receive if they received a 5% raise. The "Raise" field is not in the original data. Instead it is based on a calculation of 5% of the salary field.

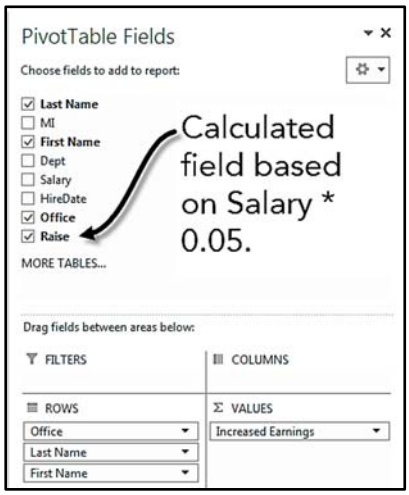



Figure 188: PivotTable field list including the calculated field named "Raise."

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | Last Name | MI | First Name | Dept | Salary | HireDate | Office |
| 2 | Deibler | M | Karl | Manf | $ 1,700.00 | 3/14/1983 | DC |
| 3 | Peters | E | Anne | Manf | $ 1,450.00 | 3/14/1983 | DC |
| 4 | Carlson | I | Mary | Sales | $ 1,575.00 | 6/23/1983 | SFO |
| 5 | Callaghan | N | Ronald | Mktg | $ 2,450.00 | 1/15/1984 | Dallas |

Figure 189: Source Data – Notice there is no Raise field.

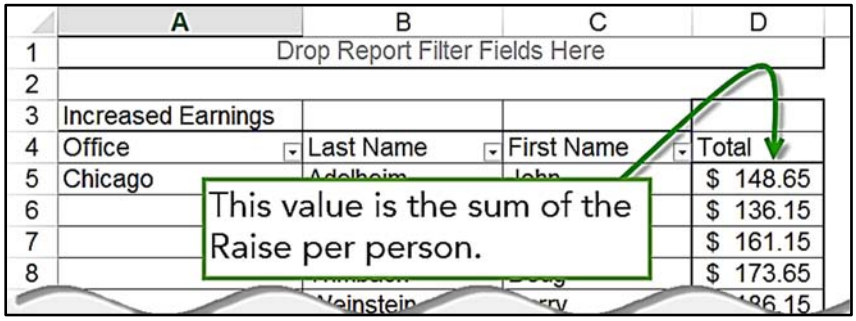



Figure 190

Unlike regular PivotTable fields, calculated fields can only be placed in the Values section of a PivotTable. They cannot be used in the Rows, Columns, or Filters section.

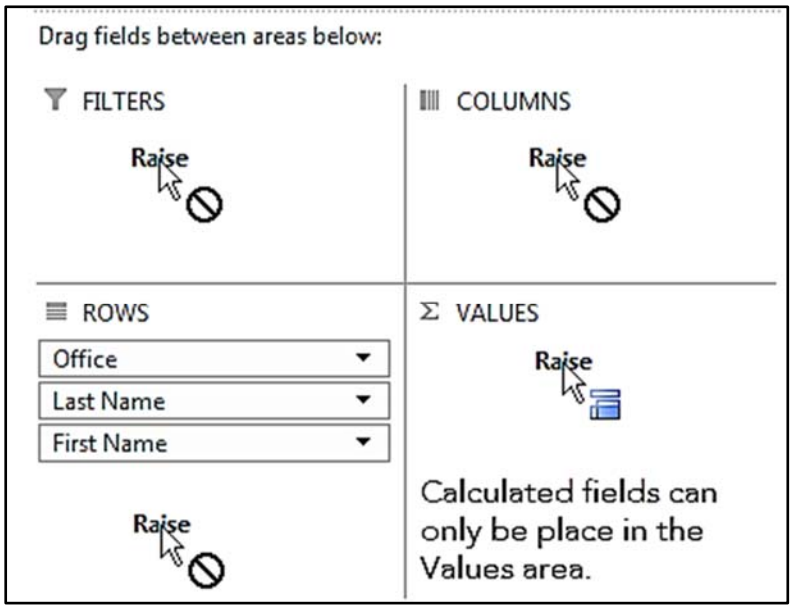



Figure 191

Calculated fields have limitations. For example a calculated field cannot:

- Reference cells, tables, nor named ranges. It can only reference other fields within the PivotTable.
- Reference the PivotTable's Subtotals and Grand Totals.
- Perform text calculations. For example you cannot create a calculated field to combine the employee's last and first name.
- Perform calculations that use the SumProduct function.

# Topic B: How do you create a calculated field?

*The exercise below uses the **11b_Employees.xlsx** file.*

You can add a new calculated field by doing the following:

1. Click anywhere within your PivotTable.

2. From the ribbon choose **PivotTable Tools**, **Analyze**, **Fields, Items & Sets**, **Calculated Field…**.

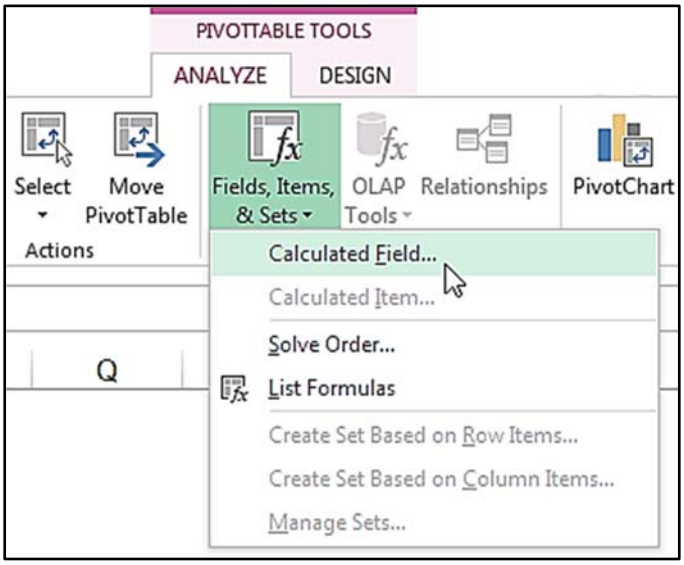



Figure 192

3. Enter the calculated field's desired name in the **Name** box. The name must not match any of the existing field names.

4. Enter the calculated field's formula in the **Formula** box.

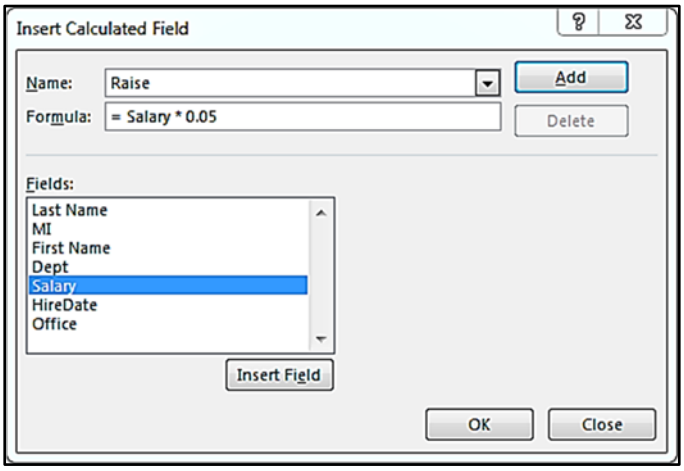



Figure 193

5. Click **OK**.

6. If needed add the new calculated field to the values area.

7. Optional: Modify the calculated field's settings in the settings dialog box as you would with any other field.

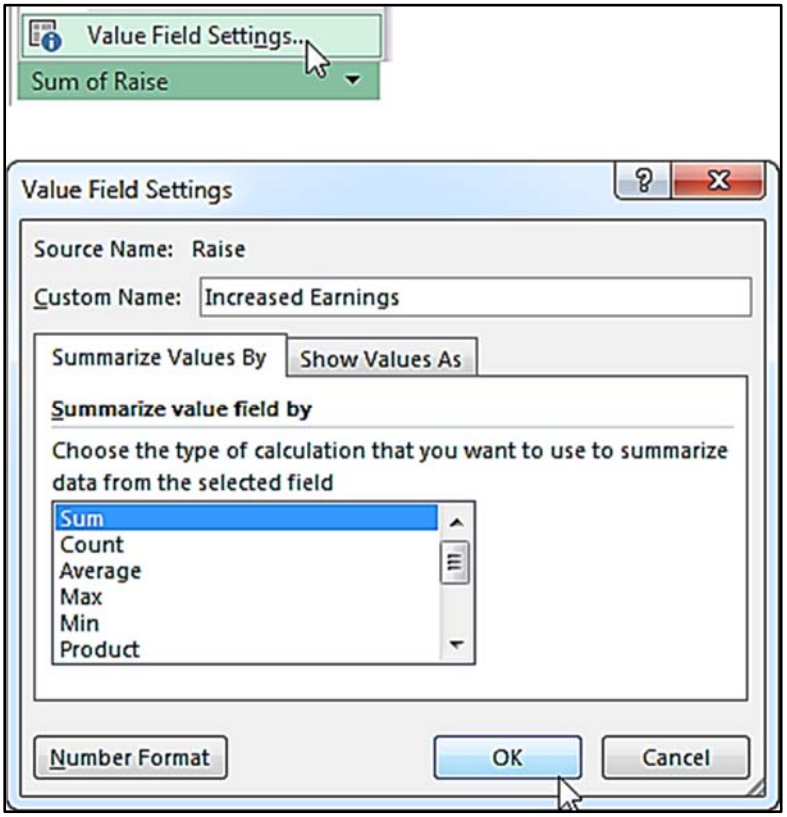



Figure 194

If you need to modify or delete a calculated field, do the following:

1. Click anywhere within your PivotTable.

2. From the ribbon choose **PivotTable Tools**, **Analyze**, **Fields, Items & Sets**, **Calculated Field….**

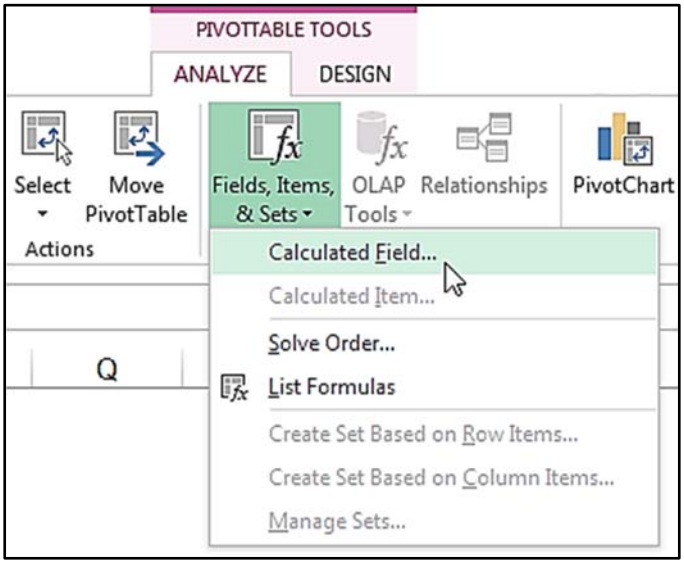



Figure 195

3. In the Insert Calculated Field dialog box click the drop down next to the name box, and choose your calculated field.

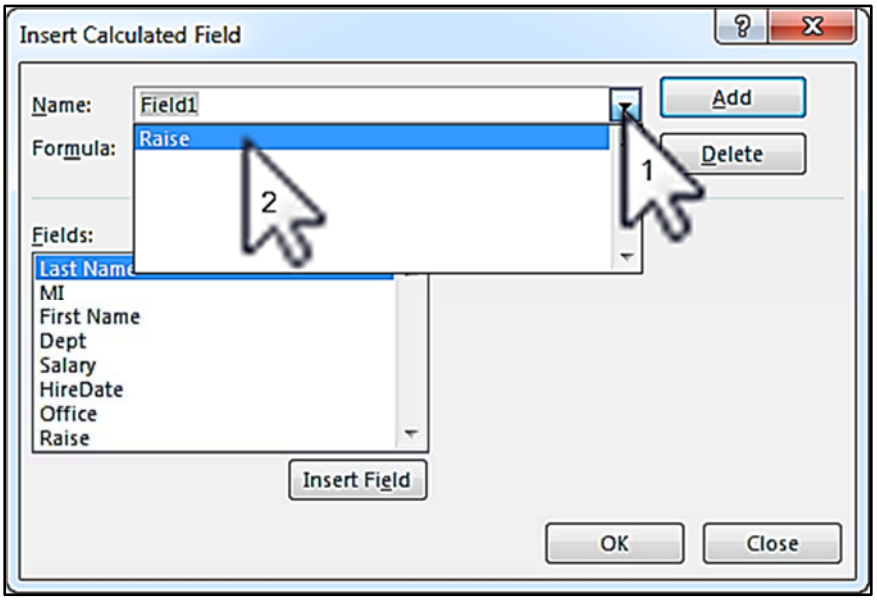



Figure 196

4. Do one of the following:
   - Click **Delete** to delete the calculated field, then click Close.
   - Change the formula and click **OK**.

# Topic C: What is a calculated item?

A calculated item is similar to grouping multiple items together. For example suppose you want to group the following movie ratings together for the movie database.

| Ratings | Rating Group |
|---|---|
| G and PG | Family Friendly |
| PG-13 and NR | Questionable |
| R and NC-17 | Not acceptable |

| Count of Title | Column Labels | | | |
|---|---|---|---|---|
| Row Labels | Family Friendly | Questionable | Not acceptable | Grand Total |
| Action | 72 | 21 | 218 | 311 |
| Adventure | 130 | 11 | 36 | 177 |
| Animated | 56 | 2 | 6 | 64 |
| Biography | 55 | 17 | 49 | 121 |
| [illegible] | 52 | [illegible] | [illegible] | 52 |

Figure 197

You could easily do this with the manual grouping feature we learned about in chapter 6. But, you could also do it with a calculated item.

# Topic D: How do you create a calculated item?

*The exercise below uses the **11b_Movies.xlsx** file.*

To create a calculated item do the following:

1. Click on a cell in the column or row heading that has the field you want grouped.

   *In this example we clicked on cell B4 because we want to create a grouping based on the existing ratings.*

2. From the ribbon choose **PivotTable Tools**, **Analyze**, **Fields, Items & Sets**, **Calculated Item…**.

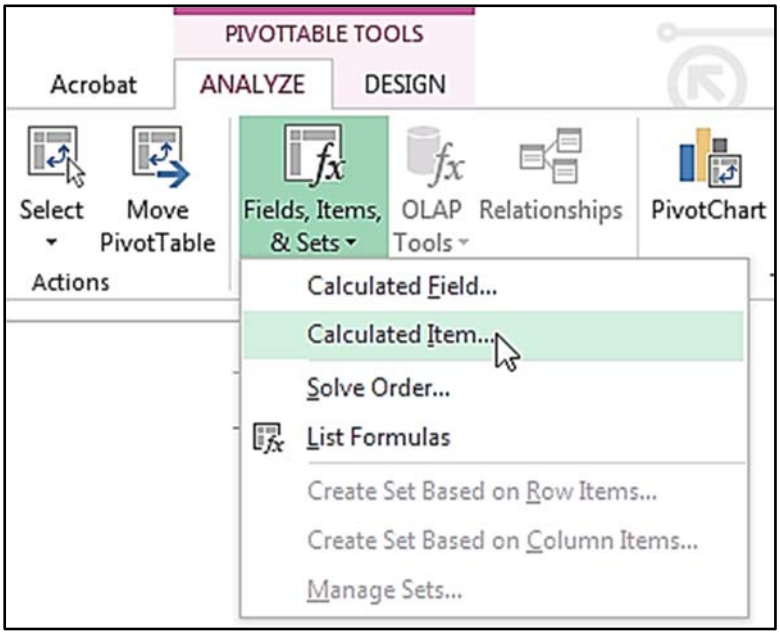



Figure 198

   Notice in the resulting Insert Calculated Item dialog box that the system has selected the field you selected in step 1.

3. Enter the calculated item's desired name in the **Name** box.

   The name must not match any of the existing field names.

4. Enter the calculated item's formula in the **Formula** box.

   You can either type the formula, or you can double click on the desired items and type the arithmetic operator.

*In this example we created a calculated field for Family Friendly movies based on the rating being either "G" or "PG."*

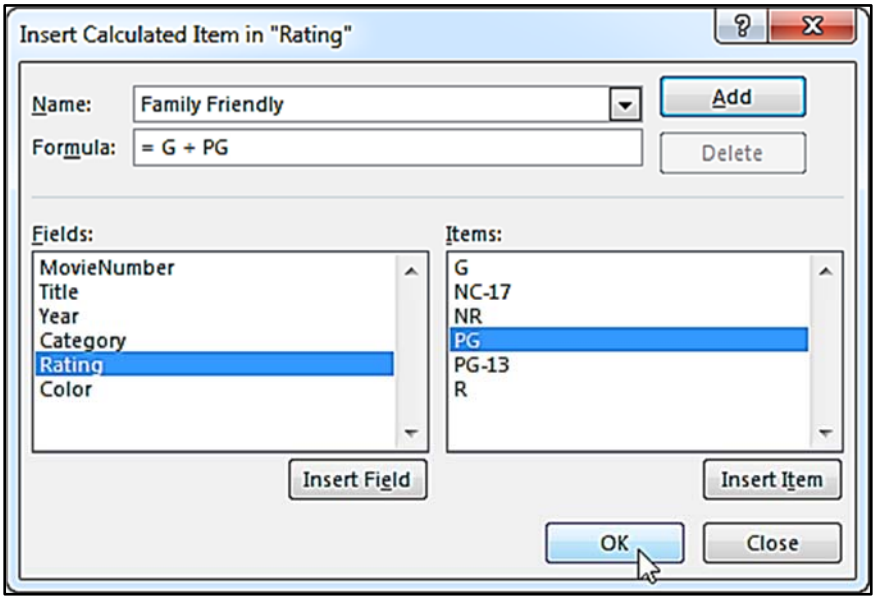



Figure 199

5. Optional: Click **Add** and then repeat steps 3 and 4 to add additional calculated items.

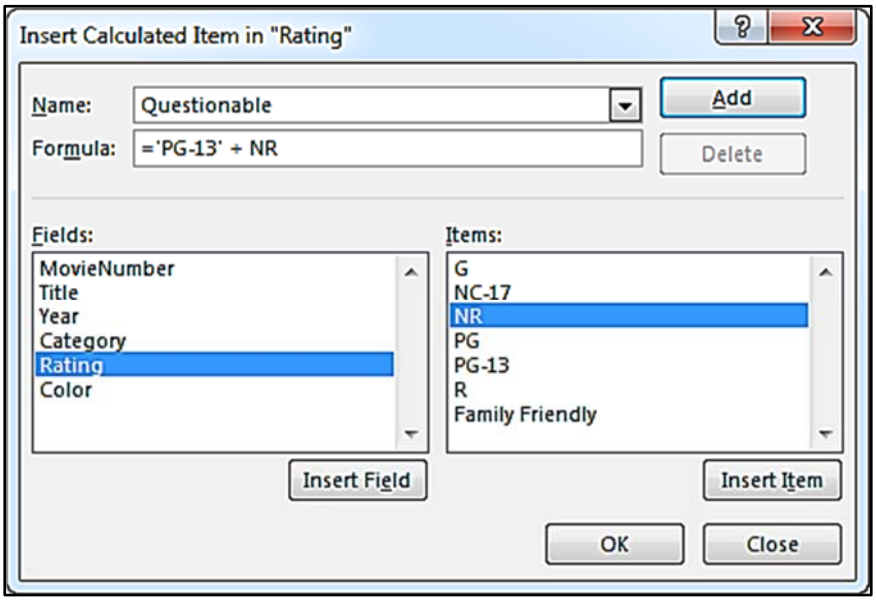



Figure 200: Notice that items with dashes like PG-13 are enclosed in single quotes in the formula.

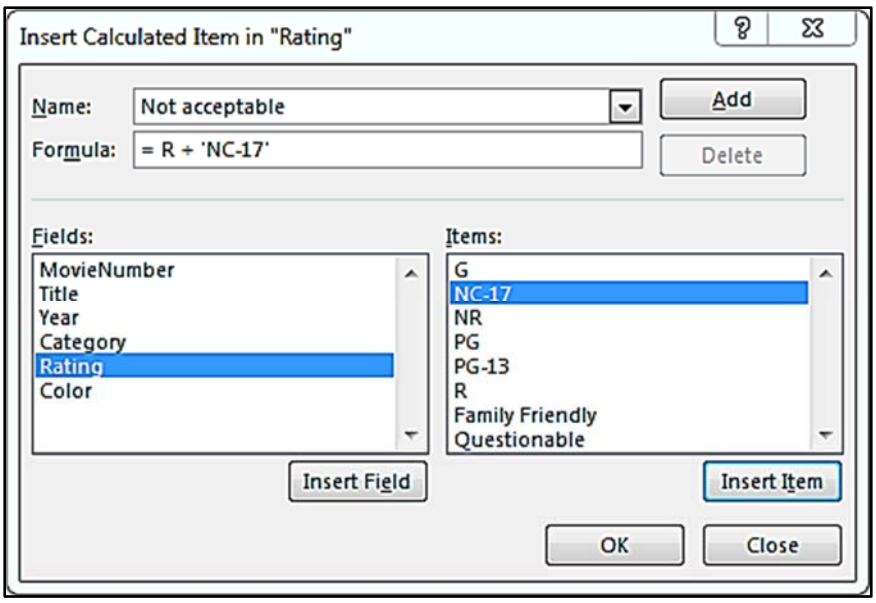



Figure 201

6. Click **OK**.

7. As needed filter the field to avoid redundant data.

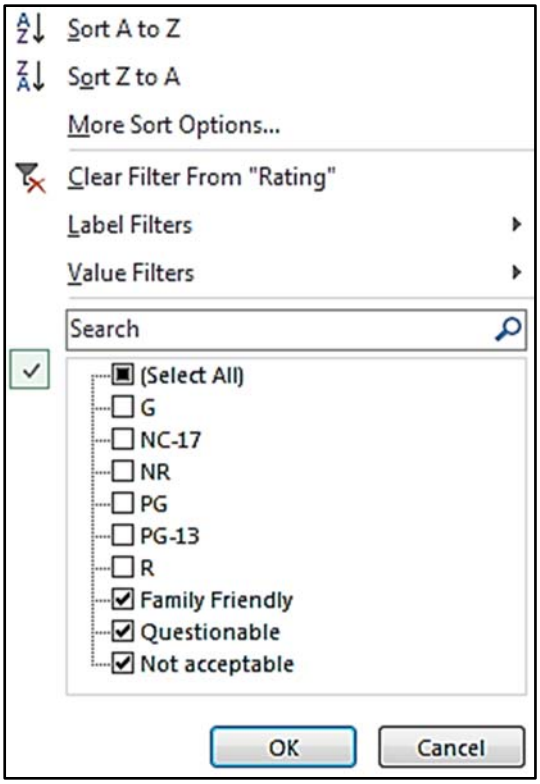



Figure 202