MS Office 2016 – Excel Pivot Tables - notes
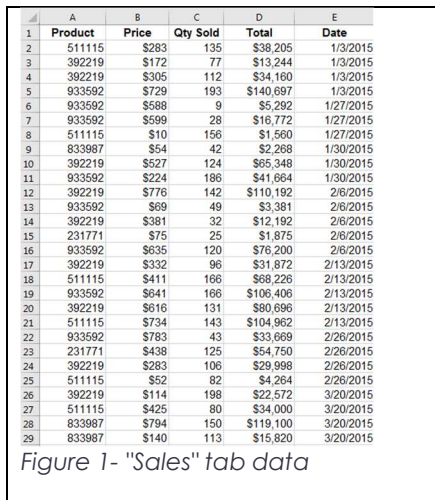
Introduction

Why You Should Use a Pivot Table:

- Organize your data by aggregating the rows into interesting and useful views.
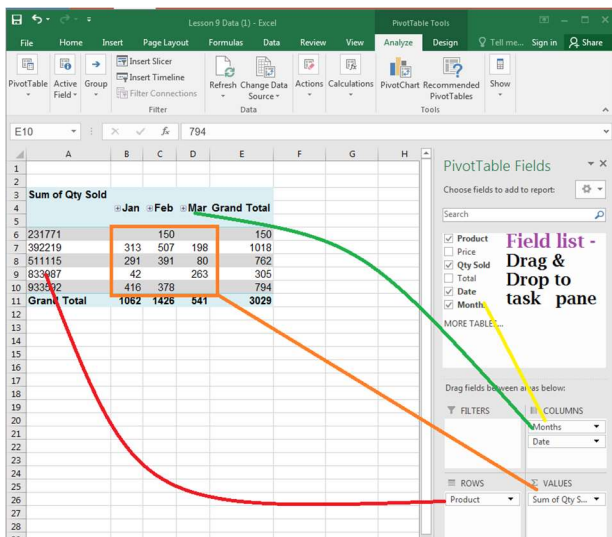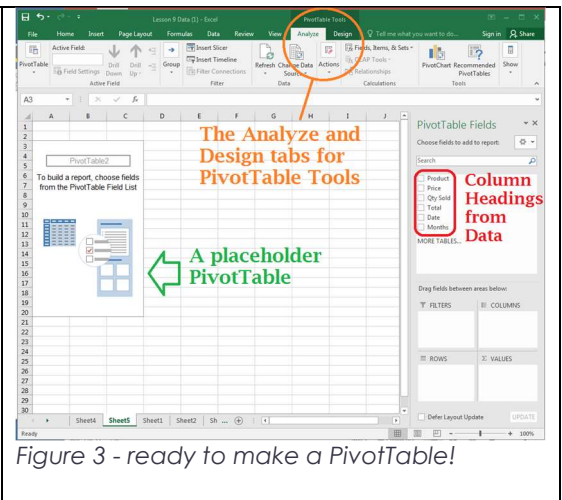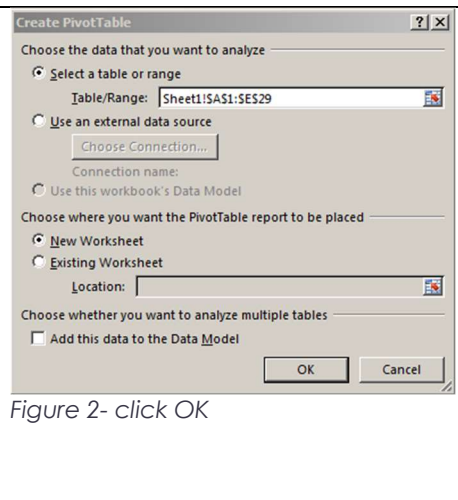- Calculate and sum data quickly.
- Great for finding typos.

Create a Pivot Table

Exercise #1a - create a PivotTable

1. Open the file "PivotTableClass".
2. Click on the Sales tab – tab names are found on the bottom of the spreadsheet.
3. Select a cell with data. (*see Figure 1*)
4. **Insert tab > PivotTable button** (most left side)
5. Click "OK" in the Create PivotTable dialog box. (*see Figure 2*)
6. Automatically directed to new sheet with PivotTable controls. (*see Figure 3*)

Figure 1- "Sales" tab data

Figure 2- click OK

Figure 3 - ready to make a PivotTable!

Figure 4 create first Pivot table

7. Drag and drop fields into Rows, Columns, and Values areas. A good way to start is: put text fields in the Rows field, and Dates in the Columns field. Put "numbers" in the value fields because Excel will Sum, Count, etc. the data.

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Exercise #1b - create a Table, then a PivotTable

1. Click on Make a Table tab

2. Select columns A - E.

3. Insert > Table   - or - <ctrl t>

4. Click "OK" on pop-up window

5. Automatically directed to Table Tools

6. Insert > PivotTable Click "OK" on pop-up window

7. Automatically directed to new sheet, with PivotTable controls.

Exercise #2 – play around

1. Select the BigData tab. <Ctrl a> to select all the data.

2. **Insert > Recommended PivotTables**

3. Look through the various possible ways to show the same data. Some of these will not make sense! Ex: summing the salesman numbers.

4. Click on one and see the different options.
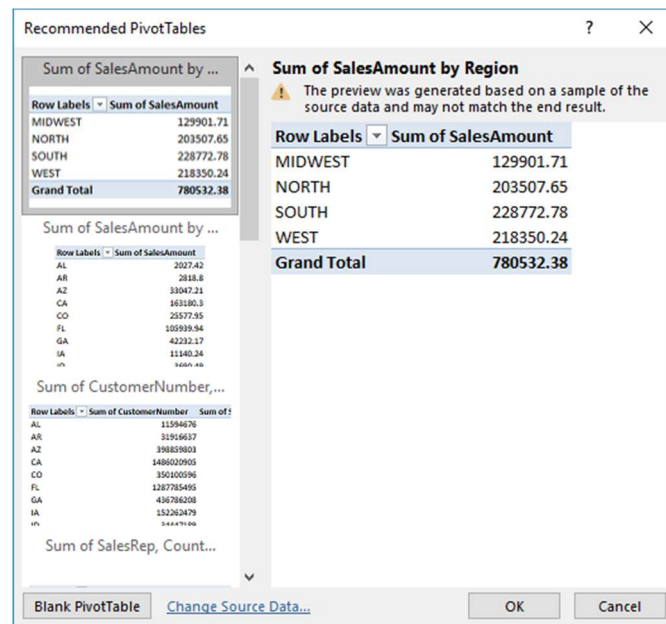
Figure 5 recommended Pivot Tables
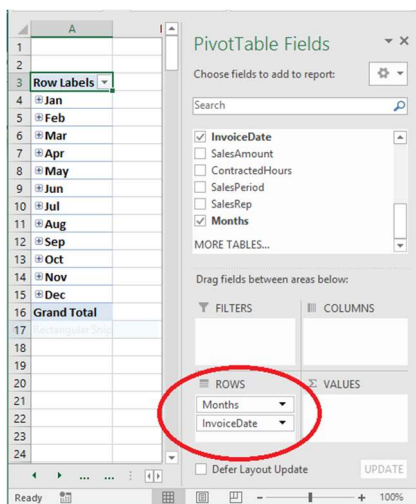
Figure 6 - handling dates

Notes:

• Excel 2016 does some date handling automatically. In a new Pivot Table, I dragged InvoiceDate to the Rows field, and Excel automatically included the Months field and summarizes by month. I can remove this if I really want to use the individual dates.

Special formatting is lost. Need to format dates, currency, etc.

Using a Table as input to a Pivot Table is preferred – every time you add a new row or column to the input data, the boundaries of a Table will automatically "see" the new data.

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Exercise #3 – Value Field and Sort

1. Using the BigData tab, create a new Pivot Table on a new page

2. Select Region and BranchNumbers for the rows

3. Select Sum Of Sales for the Values field **twice**.

4. On the drop down arrow of Sum of Sales, click on Value Field Settings.

5. Select Count.

6. Right click on any cell in the Count of Sales column.

7. Mouse down to Sort, then mouse over to Sort Smallest to Largest and click.

8. Now all the data is sorted by Region / highest count of sales.
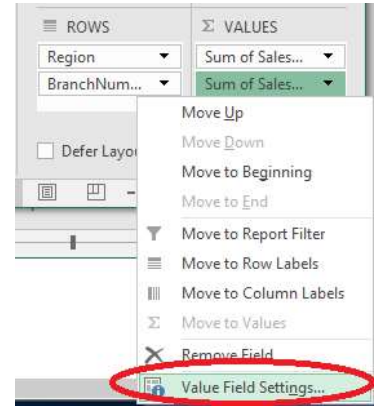
Figure 7 Value field Settings
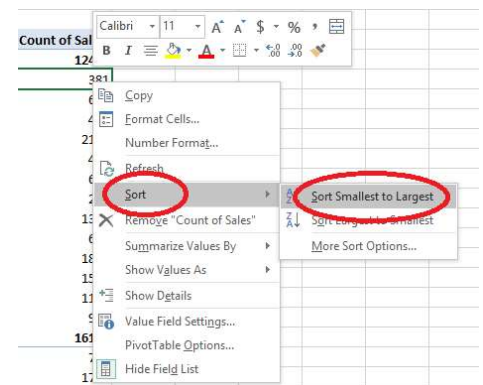
Figure 8 Sort by a Value field

Exercise #4

1. Click on a BranchNumber cell (left click)

2. Hold down the shift key.

3. Click two or three other BranchNumber cells. They don't have to be touching each other.

4. Now click on `PivotTable Tools > Analyze > Group > Group Selection` button.

5. Repeat this process so all the BranchNumbers are in a group.

6. Now we can sort by Group Number

7. http://bit.ly/2eKIOyF to see more options.
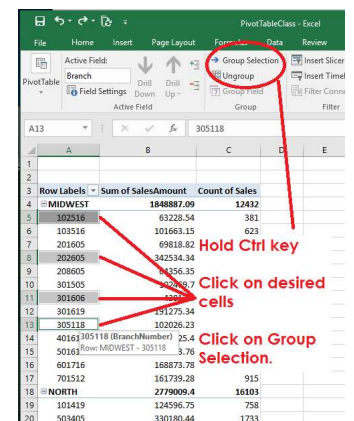
Figure 9 Group field

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Exercise #4 – Slicers

1. Using the BigData tab, create a new Pivot Table on a new page. Use the layout in the example.

2. <Right Click> on the header row, Format Cells, click on the Alignment tab, and Orient the text -90 degrees.

3. Click on PivotTable Tools > Analyze > Insert Slicer. Check Region, Market, and BranchNumber. Three "slicers" appear on the report, and the Slicer Tools tab appears. More choices!

4. In the Slicer Tool tab, you can assign each slicer a color.

5. Click on "Midwest" in the Region Slicer. Now only data from the Midwest will show. Notice the other slicers only display data from the Midwest – Denver, Kansas City, and Tulsa.

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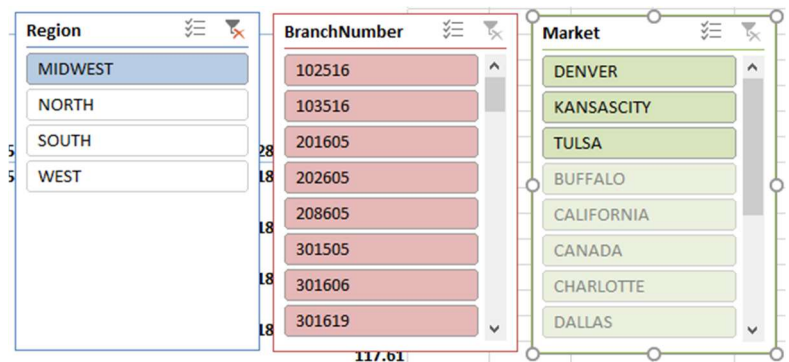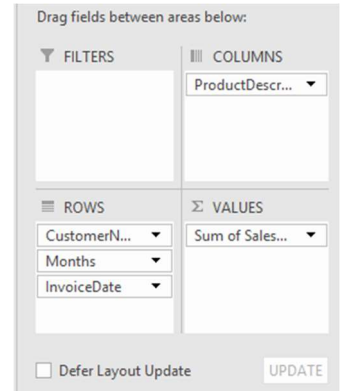
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Exercise #5a – validate numbers

1. Using PivotTableClass.XLS, click on the Validate tab.
2. Look over the data and try to identify the errors. Now we'll let Excel do the work.
3. Select a cell in the top portion, say C8. Click Insert > PivotTable, and notice the green running dashes just go around A1 to D15. Why?
4. Select either column C, or cells C2:C19.
5. Home > Conditional Formatting > Highlight Cells Rules > Less Than. <click> mouse.
6. In the Less Than dialog box, enter a number, like .1, and choose a color that will identify bad numbers. (You can't sell a negative quantity of something.) Notice that "empty" cells are also identified.
7. Try simple formatting to see errors – <right click> on column D, click on Format Cells in the pop up window

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Exercise #5b – make a PivotTable with bad data

1. Play around with the "bad data" file – create a PivotTable, putting Item in the Rows field, and Qty Sold in the Values field.
2. Note that it becomes "Count of Qty Sold", and it counts how many rows have data.
3. Click on the drop down triangle in the Values field. Select **Value Field Settings**. Change it to **Sum**.

Sales Rep	Item	Qty Sold	Date
Harry	table	3	3/16/2016
Ginny	table	4	3/17/2016
Hermoine	chair	2	3/18/2016
Ron	lamp	4	3/19/2016
Albus	chair	3	3/20/2016
Minerva	lamp	5	3/21/2016
Bellatrix	chair	-1	3/22/2016
Harry	chair	3	2/3/2016
Ginny	table	4	2/4/2016
Hermoine	chair	4	2/5/2016
Ron	lamp	4	2/6/2016
Albus	chair	3	2/7/2016
Minerva	lamp	5	2/8/2016
Bellatrix	lamp	1	2/9/2016
Albus	toaste	99999	13/24/2016
Minerva	chair	3	1/23/2016
Peeves	rat	some	3/22/2005
Drako	chair	400	2/2/2016

Figure 10 - the bad data. I did a few charts with different data, pressing the "Refresh Data" button after each change.
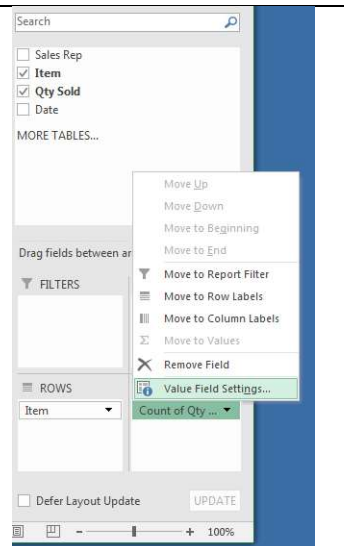
Figure 11 - change to "sum"

Row Labels ▾	Average of Qty Sold
chair	52.125
lamp	3.8
rat	#DIV/0!
table	3.666666667
toaster	99999
Grand Total	**5908.588235**

Figure 12 - very unpredictable results.

Row Labels ▾	Count of Qty Sold
chair	8
lamp	5
rat	1
table	3
toaster	1
(blank)	
Grand Total	**18**

Figure 13 - it counts the number of rows with data

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Format a Pivot Table
Rename tab
1. Double-click the working sheet tab for the PivotTable's sheet.
2. Type the new name.
3. Press Enter

Adjust the column width
1. Select the column(s) that you want to change
2. On the Home tab, in the Cells group, click Format
3. Under Cell Size, click AutoFit Column Width.
4. Tip: to quickly autofit all columns on the worksheet, click the Select All button and then double-click any boundary between two column headings.

Update number formatting
The PivotTable may not pick up formatting from the original data. It is necessary to re-format numbers.
1. Click on the down arrow next to the desired field in the Values section of the task pane (Lower right hand corner).
2. In the pop-menu, click Value Field settings… to bring up the Value Field Settings menu.
3. Click on Number Format (bottom left of pop up).
4. Apply formatting as in regular worksheet. Ex: Click on Number, change number of decimals. Or ex: click on Date and format mm/dd/yyyy. Click OK.

Parts of a PivotTable

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