



Excel 2

Module 5 – Pivot Tables

Module Overview

This module is part of the Excel 2 course which is for advancing your knowledge of Excel.

During this module we will explore Pivot Tables.

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1. Introduction to Pivot Tables

When working with large amounts of data you may find that just printing all the data or parts of a database does not directly meet your needs. Pivot tables can be used to reorganize and summarize selected columns and rows of data to obtain a desired report. Note: Pivot tables do not actually change the spreadsheet or database itself.

Creating a Pivot Table

Follow Me	<p>Open Pivot Table 1</p> <ol style="list-style-type: none"> 1. Open the file Pivot Table 1
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This table represents a relatively small amount of data but you can see it would difficult to answer such questions as:

- Which student had the highest average score in French?
- In what month was the overall grades the highest? Lowest?
- Is there a student who needs help in a given subject?

In order to create a pivot table your data must qualify as a database table. This means your data must meet the following criteria:

- The top row of data must contain column headers
- Each row of data is a record about one particular entity or transaction
- Each column of data holds the same kind of information
- There are no entirely blank rows or columns in the data (this means if columns contain numbers, use a zero instead of a blank cell)

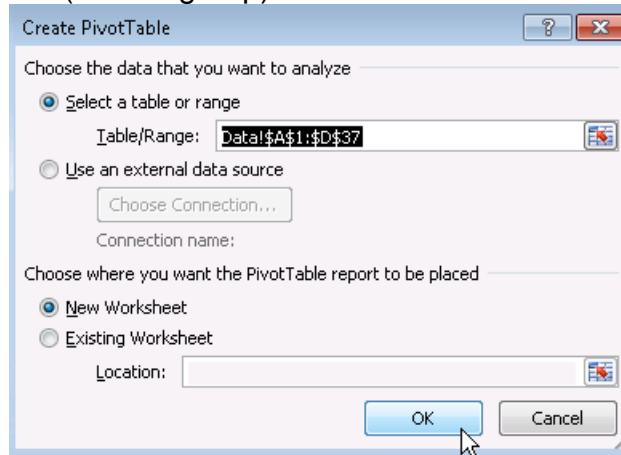
Let's begin by creating a pivot table using the data in Pivot Table 1.

2. Creating Pivot Tables

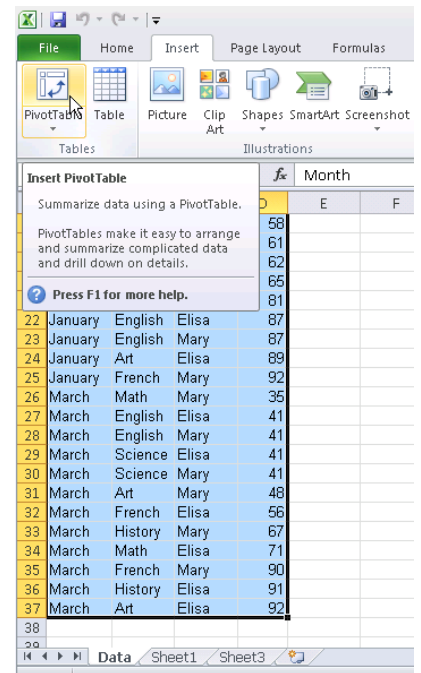
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Create Pivot Table

1. Select the data you want to include in your pivot table. In this case, cells A1 to D37
2. Select the Pivot Table icon in the ribbon Insert tab (Tables group).



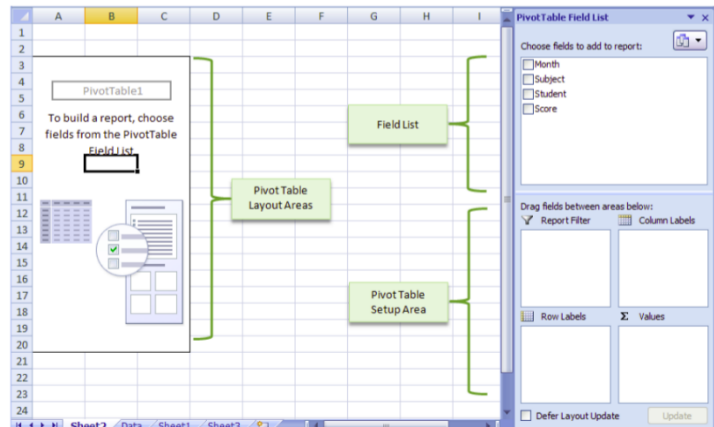
3. Review the Table/Range and choose New Worksheet in the Create PivotTable dialog box. - *If an error occurs the dialog box will not appear, review the criteria above to confirm the data meets all the requirements of a database table.*



2.1. Parts of Pivot Table

On the left-hand side of the screen is the pivot table layout area. The fields you choose will appear in this area.

On the right-hand side of the screen, you will find the Pivot Table Field List which is made up of two main areas. At the top is the actual listing of all the available fields in the source data worksheet. Below that area is the Setup Area with four blocks representing individual components that will be used to “construct” your pivot table (row labels, column labels, values and report filter).



There are two new tabs available on the ribbon for PivotTable Tools, Options and Design. Note: If you lose the Pivot Table Field List simply re-select the pivot table.

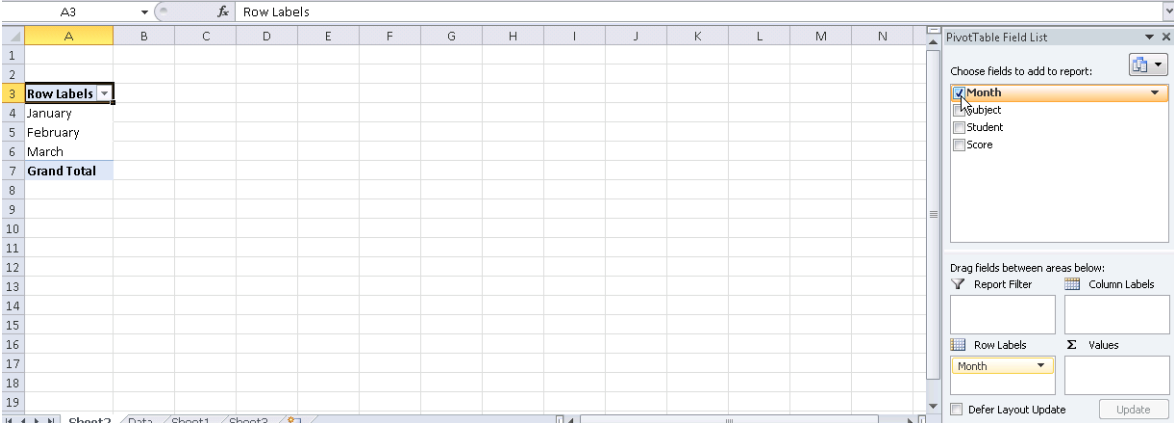
2.2. Adding Fields and Labels

The order items are added to each column will determine how items are grouped together. To re-order items simply drag and drop, just as you did to move items between column and row labels.

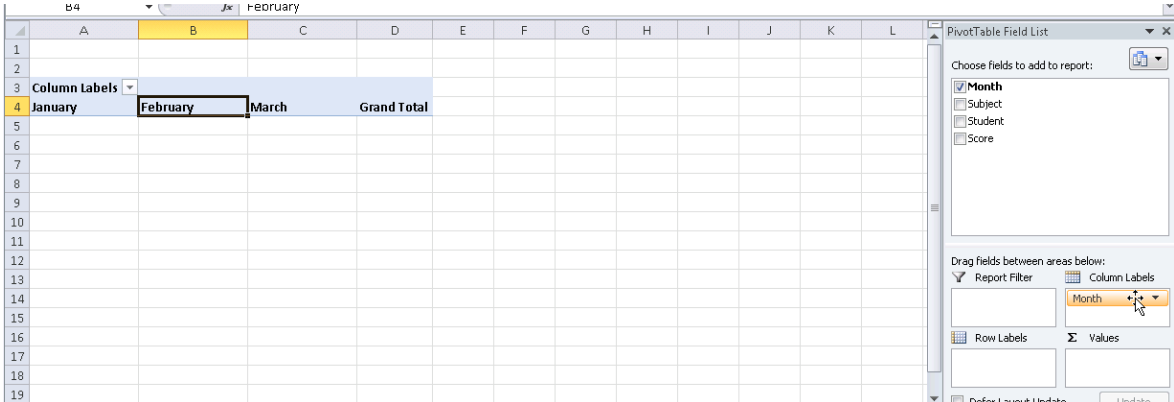
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Add a Field to report

- 1. From the field list, add Month to the pivot table. To do this, select the checkbox next to **Month**.



- 2. Change Month to a Column Label rather than Row – *To do this simply drag and drop **Month** from Row Labels to Column Labels.*



Fields will nest with others based on the order they are added to the labels.

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Add additional fields

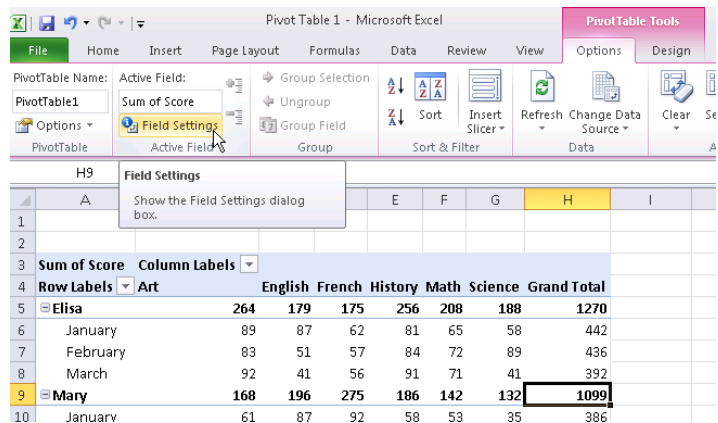
1. Continue adding all the fields to the pivot table.
2. Adjust the order and placement of each field until your pivot table looks as follows.

Sum of Score	Column Labels						
Row Labels	Art	English	French	History	Math	Science	Grand Total
Elisa	264	179	175	256	208	188	1270
January	89	87	62	81	65	58	442
February	83	51	57	84	72	89	436
March	92	41	56	91	71	41	392
Mary	168	196	275	186	142	132	1099
January	61	87	92	58	53	35	386
February	59	68	93	61	54	56	391
March	48	41	90	67	35	41	322
Grand Total	432	375	450	442	350	320	2369

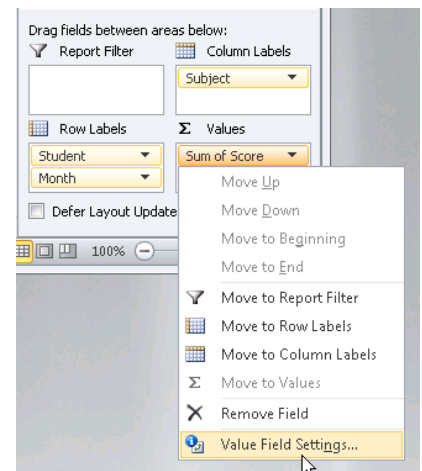
In the above example you should have Subject in the column label and Student then Month in the Row Labels.

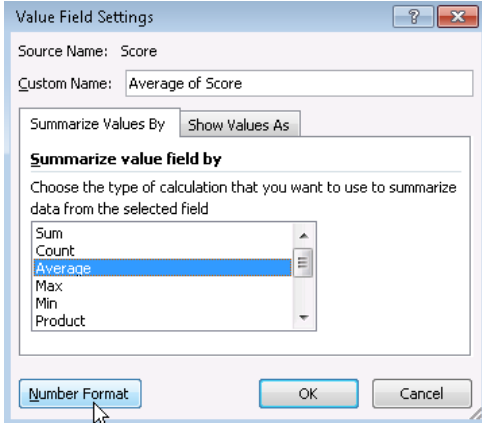
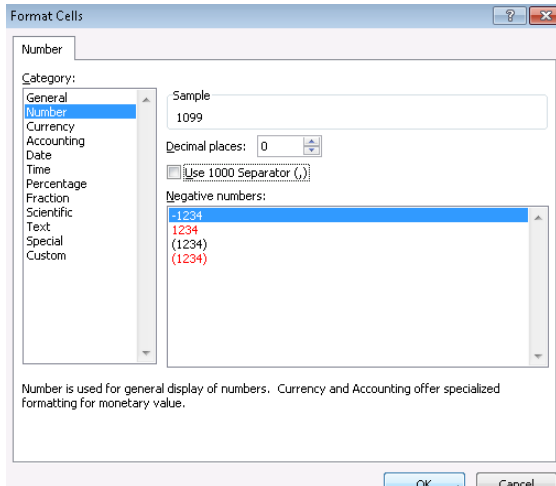
2.3. Formatting

Fields that are placed in the values section always have a math function associate with them. In this case the name shown in the Pivot Table is **Sum of Score**. A better name might be nice. Also, since these are grades, it might be more useful to see the scores as **averages** rather than totals. Formatting the numbers may also be necessary as we will see. These formatting changes are easily accomplished using the **Value Field Settings** dialog.



One of the ways to see these settings is to select a score, then select Field Settings from the ribbon Options tab (Active Field group). Alternatively, you can also select Value Field Setting from the options that appear when clicking Sum of Score in the PivotTable Field List.



<p>Follow Me</p>	<h3>Rename Value Field Setting</h3> <ol style="list-style-type: none"> 1. Open Value Field Settings – <i>Do this by clicking Sum of Score and selecting Value Field Settings from the menu.</i> 2. Change the Custom Name to Average of Score 3. Change the ‘Summarize Values by’ from Sum to Average 4. Click Number Format to change the scores to whole numbers (no decimals) – <i>This is done by selecting Number and zero decimals.</i> 5. Select OK in both Dialog boxes to accept changes. 	 
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You can change the text of cells in a Pivot Table the same way other cells are changed. Click to select and change text. We will use this to change the Grand Total to Average.

<p>Follow Me</p>	<h3>Final Adjustments</h3> <ol style="list-style-type: none"> 1. Select Grand Total and change the name to Average of Score 2. Adjust the columns to slightly larger width.
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Average of Score	Column Labels							
Row Labels	Art	English	French	History	Math	Science	Average of Score	
Elisa		88	60	58	85	69	63	71
January		89	87	62	81	65	58	74
February		83	51	57	84	72	89	73
March		92	41	56	91	71	41	65
Mary		56	65	92	62	47	44	61
January		61	87	92	58	53	35	64
February		59	68	93	61	54	56	65
March		48	41	90	67	35	41	54
Average of Score		72	63	75	74	58	53	66

Notice that there are dropdown arrows next to the words Column and Row. Using these dropdowns allows you to filter the data shown in the pivot table. You can tailor your

view of the data by clicking on those arrows and selecting one or more of the options to filter data in or out of the pivot table view.

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Final Adjustments

1. Click on the dropdown next to Row and uncheck Elisa’s name. Hit Enter or click OK. – *Notice how the table only shows information for Mary*

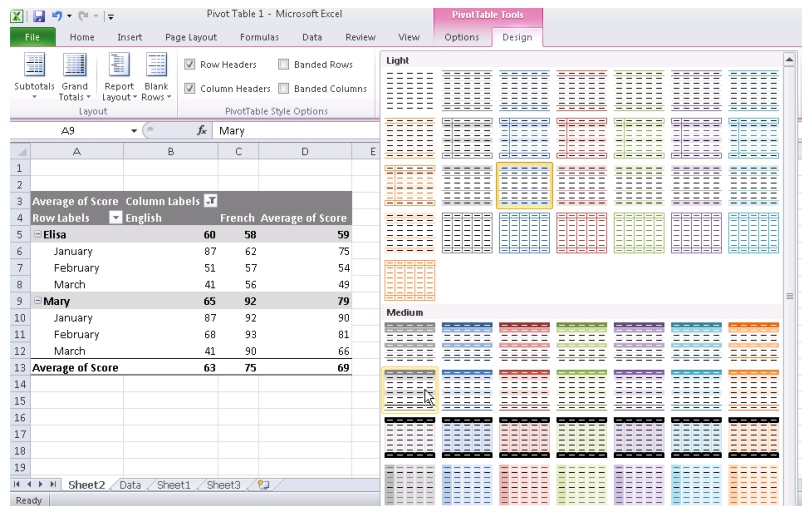
Average of Score		Column Labels						
Row Labels	Art	English	French	History	Math	Science	Average of Score	
<input checked="" type="checkbox"/> Mary		56	65	92	62	47	44	61
January		61	87	92	58	53	35	64
February		59	68	93	61	54	56	65
March		48	41	90	67	35	41	54
Average of Score		56	65	92	62	47	44	61

2. Click the dropdown next to Row and check **Select All**
3. Click on the arrow next to Column and uncheck **Select All** then select **French** and **English** from the list.

Average of Score		Column Labels		
Row Labels	English	French	Average of Score	
<input checked="" type="checkbox"/> Elisa	60	58	59	
January	87	62	75	
February	51	57	54	
March	41	56	49	
<input checked="" type="checkbox"/> Mary	65	92	79	
January	87	92	90	
February	68	93	81	
March	41	90	66	
Average of Score	63	75	69	

4. Click the drop down again to reselect all subjects.

Many design options are available to you on the Pivot Table Styles in the ribbon Design tab. Use the dropdown arrow at the side of the group for lots of options for colors and styles. Find your favorite and see how it looks compared to the original.



3. Exercise – Copy Cat

Open **Pivot Table 2**, using the data provided create the following report. Be sure to add each field to the correct area including filters. The design has also been updated.

Row Labels	Client A	Client B	Client C	Client D	Grand Total
Barber Foods Co			168		168
12M11B110			168		168
Campbell Soup Co.			558.5		558.5
12M11C140			558.5		558.5
Conagra Culinary Products	82.75			161	243.75
04Q11C774	82.75			161	243.75
Custom Culinary Inc.			90.4		90.4
12M11C980			90.4		90.4
Dannon Inc			68.64		68.64
12M11D070			68.64		68.64
Frito Lay Corp (Pepsico)	65.5				65.5
04Q11F007	65.5				65.5
Hormel Foods Corp.	90.3			234.98	325.28
04Q11H690	90.3			234.98	325.28
Icelandic USA			19		19
12M11I105			19		19
Mars Foodservices		117			117
10M11M278		43.5			43.5
11M07M278		45			45
12M11M278		28.5			28.5
McCain Foods USA			224.78		224.78
12M11M295			224.78		224.78
McCormick & Co. Inc.		79.1	347.2		426.3
12M11M310		79.1	347.2		426.3
Ocean Spray Cranberries		33	142		175
10M11O150			10		10
11M11O150			15		15
12M11O150			8	142	150
Quaker Oats (Pepsico)	98.75				98.75
04Q11Q200	98.75				98.75
Rich Products Corp.			406.5		406.5
12M11R380			406.5		406.5
Spunkmeyer, Otis, Inc.			28		28
12M11S590			28		28
Grand Total	337.3	229.1	2053	395.98	3015.4

Once completed, save the workbook to the desktop as **Pivot Table 2 – Complete** and close Excel.