

Excel 2016

Intro to PivotTables

Introduction

When you have a lot of data, it can sometimes be difficult to analyze all of the information in your worksheet. **PivotTables** can help make your worksheets more manageable by **summarizing** your data and allowing you to **manipulate** it in different ways.

Optional: Download our [practice workbook](#).

Watch the video below to learn more about PivotTables.

*Video removed from printing pages

Using PivotTables to answer questions

Consider the example below. Let's say we wanted to answer the question **What is the amount sold by each salesperson?** Answering it could be time consuming and difficult; each salesperson appears on multiple rows, and we would need to total all of their different orders individually. We could use the **Subtotal** command to help find the total for each salesperson, but we would still have a lot of data to work with.

	A	B	C	D	E
1	Salesperson	Region	Account	Order Amount	Month
2	Albertson, Kathy	East	29386	\$925.00	January
3	Albertson, Kathy	East	74830	\$875.00	February
4	Albertson, Kathy	East	90099	\$500.00	February
5	Albertson, Kathy	East	74830	\$350.00	March
6	Brennan, Michael	West	82853	\$400.00	January
7	Brennan, Michael	West	72949	\$850.00	January
8	Brennan, Michael	West	90044	\$1,500.00	January
9	Brennan, Michael	West	82853	\$550.00	February
10	Brennan, Michael	West	72949	\$400.00	March
11	Davis, William	South	55223	\$235.00	February
12	Davis, William	South	10354	\$850.00	January
13	Davis, William	South	50192	\$600.00	March
14	Davis, William	South	27589	\$250.00	January
15	Dumlao, Richard	West	67275	\$400.00	January
16	Dumlao, Richard	West	41828	\$965.00	February

Fortunately, a PivotTable can instantly **calculate** and **summarize** the data in a way that will make it much easier to read. When we're done, the PivotTable will look something like this:

Row Labels	Sum of Order Amount
Albertson, Kathy	\$2,650.00
Brennan, Michael	\$3,700.00
Davis, William	\$1,935.00
Dumlao, Richard	\$1,490.00
Flores, Tia	\$4,565.00
Post, Melissa	\$1,690.00
Thompson, Shannon	\$3,160.00
Walters, Chris	\$4,375.00
Grand Total	\$23,565.00

Once you've created a PivotTable, you can use it to answer different questions by rearranging—or **pivoting**—the data. For example, let's say we wanted to answer **What is the total amount sold in each month?** We could modify our PivotTable to look like this:

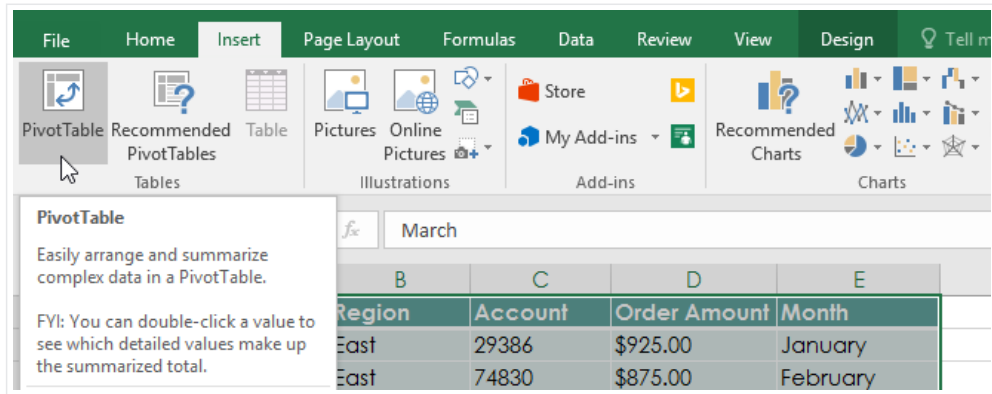
Row Labels	Sum of Order Amount
January	\$9,090.00
February	\$9,160.00
March	\$5,315.00
Grand Total	\$23,565.00

To create a PivotTable:

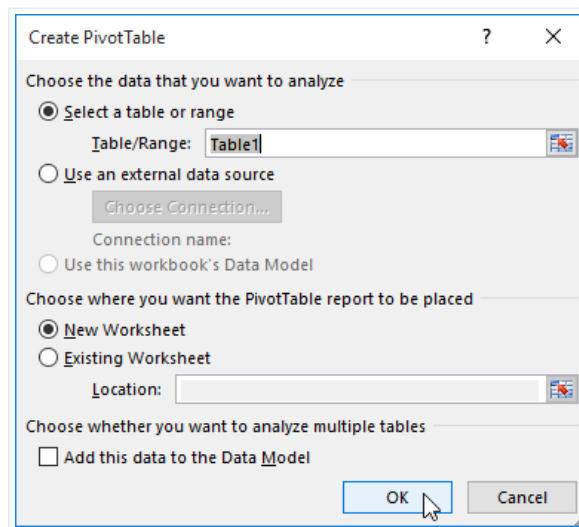
- 1 Select the **table** or **cells** (including column headers) you want to include in your PivotTable.

	A	B	C	D	E
1	Salesperson	Region	Account	Order Amount	Month
2	Albertson, Kathy	East	29386	\$925.00	January
3	Albertson, Kathy	East	74830	\$875.00	February
4	Albertson, Kathy	East	90099	\$500.00	February
5	Albertson, Kathy	East	74830	\$350.00	March
6	Brennan, Michael	West	82853	\$400.00	January
7	Brennan, Michael	West	72949	\$850.00	January
8	Brennan, Michael	West	90044	\$1,500.00	January
9	Brennan, Michael	West	82853	\$550.00	February
10	Brennan, Michael	West	72949	\$400.00	March
11	Davis, William	South	55223	\$235.00	February
12	Davis, William	South	10354	\$850.00	January
13	Davis, William	South	50192	\$600.00	March
14	Davis, William	South	27589	\$250.00	January
15	Dumlao, Richard	West	67275	\$400.00	January
16	Dumlao, Richard	West	41828	\$965.00	February

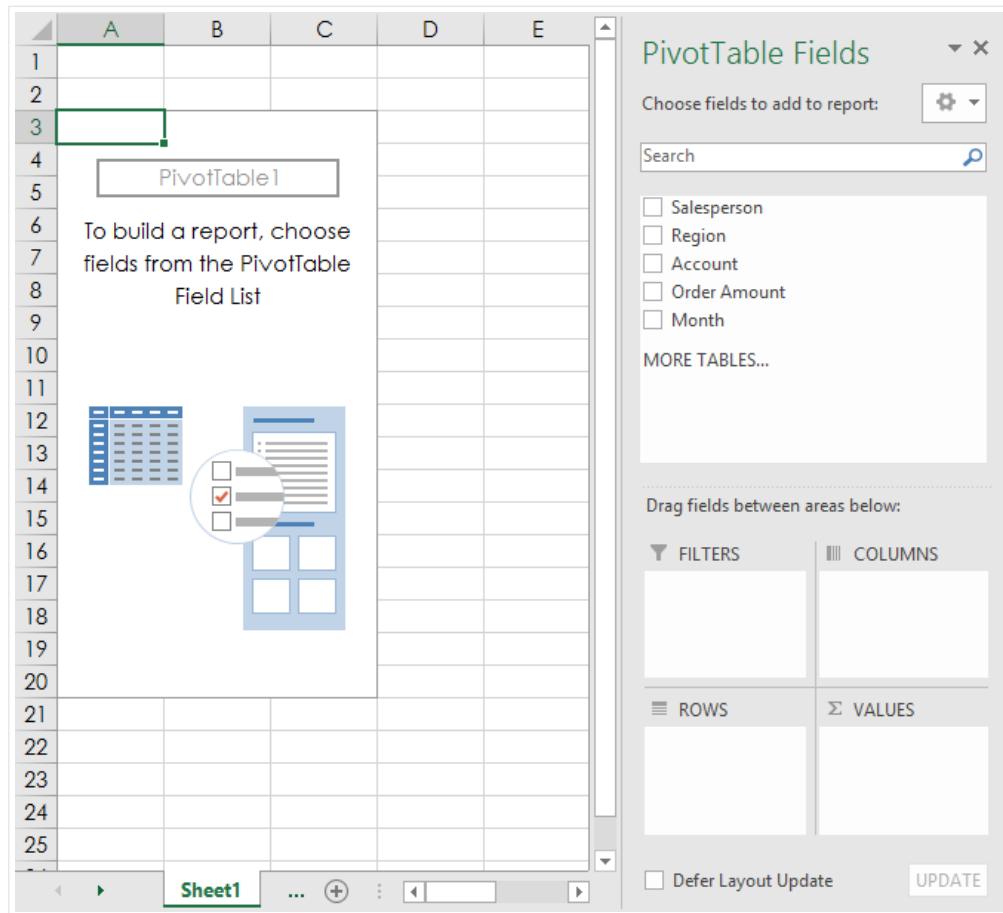
- 2 From the **Insert** tab, click the **PivotTable** command.



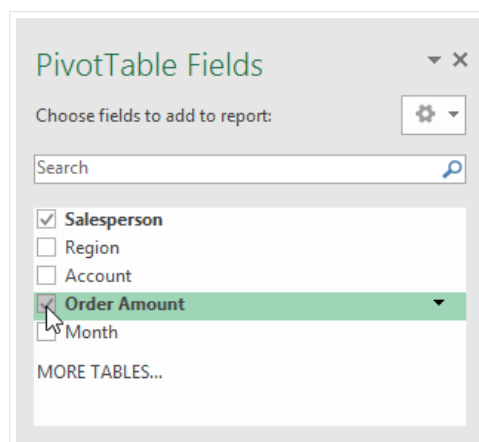
- 3 The **Create PivotTable** dialog box will appear. Choose your settings, then click **OK**. In our example, we'll use **Table1** as our source data and place the PivotTable on a **new worksheet**.



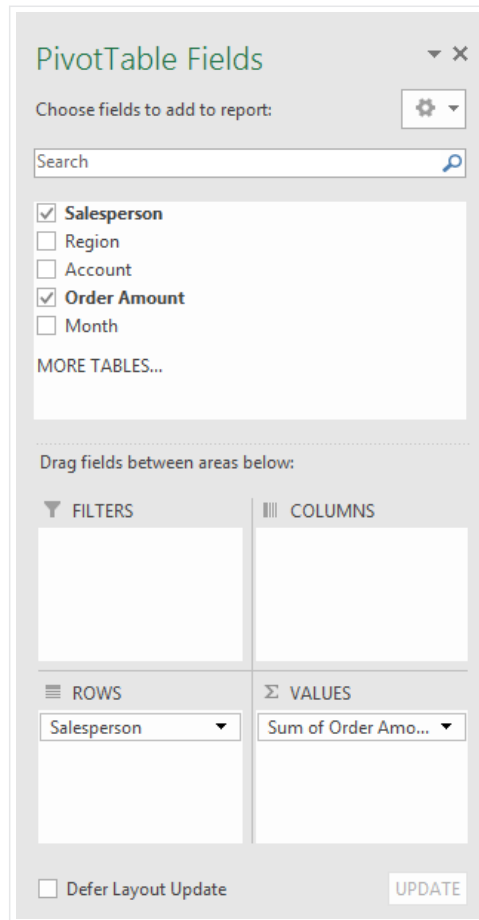
- 4 A blank **PivotTable** and **Field List** will appear on a new worksheet.



- 5 Once you create a PivotTable, you'll need to decide which **fields** to add. Each field is simply a **column header** from the source data. In the **PivotTable Field List**, check the box for each field you want to add. In our example, we want to know the total **amount** sold by each **salesperson**, so we'll check the **Salesperson** and **Order Amount** fields.



- 6 The selected fields will be added to one of the four areas below. In our example, the **Salesperson** field has been added to the **Rows** area, while **Order Amount** has been added to **Values**. Alternatively, you can **drag and drop** fields directly into the desired area.



- 7 The PivotTable will calculate and summarize the selected fields. In our example, the PivotTable shows the **amount sold by each salesperson**.

Row Labels	Sum of Order Amount
Albertson, Kathy	2650
Brennan, Michael	3700
Davis, William	1935
Dumlao, Richard	1490
Flores, Tia	4565
Post, Melissa	1690
Thompson, Shannon	3160
Walters, Chris	4375
Grand Total	23565

PivotTable Fields

Choose fields to add to report:

Search

Salesperson
 Region
 Account
 Order Amount
 Month

MORE TABLES...

Drag fields between areas below:

FILTERS

COLUMNS

ROWS: Salesperson

VALUES: Sum of Order Amo...

Defer Layout Update **UPDATE**

Just like with normal spreadsheets, you can sort the data in a PivotTable using the **Sort & Filter** command on the Home tab. You can also apply any type of **number formatting** you want. For example, you may want to change the number format to **Currency**. However, be aware that some types of formatting may disappear when you modify the PivotTable.

Row Labels	Sum of Order Amount
Flores, Tia	\$4,565.00
Walters, Chris	\$4,375.00
Brennan, Michael	\$3,700.00
Thompson, Shannon	\$3,160.00
Albertson, Kathy	\$2,650.00
Davis, William	\$1,935.00
Post, Melissa	\$1,690.00
Dumlao, Richard	\$1,490.00
Grand Total	\$23,565.00

If you change any of the data in your source worksheet, the PivotTable **will not update automatically**. To manually update it, select the PivotTable and then go to **Analyze** → **Refresh**.

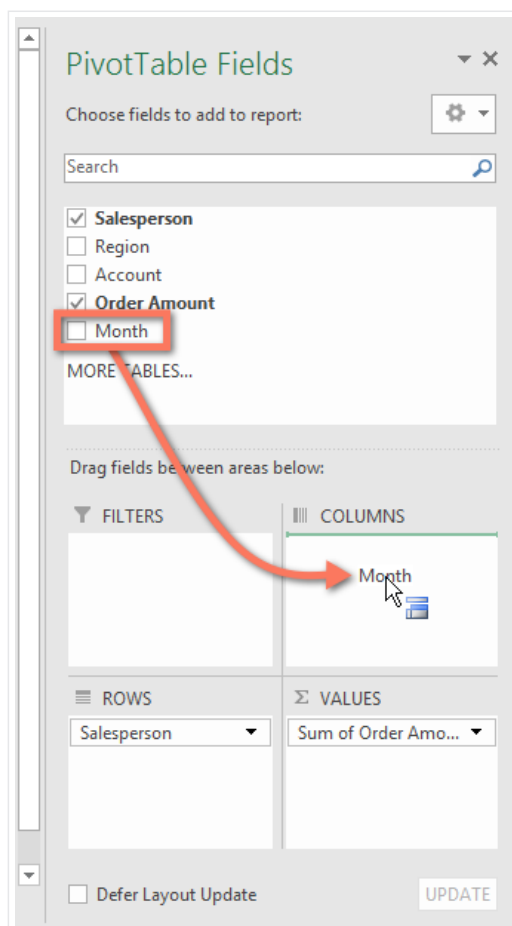
Pivoting data

One of the best things about PivotTables is that they can quickly **pivot**—or reorganize—your data, allowing you to examine your worksheet in several ways. Pivoting data can help you answer **different questions** and even **experiment** with your data to discover new trends and patterns.

To add columns:

So far, our PivotTable has only shown **one column** of data at a time. In order to show **multiple columns**, you'll need to add a field to the **Columns** area.

- 1 Drag a field from the **Field List** into the **Columns** area. In our example, we'll use the **Month** field.



- 2 The PivotTable will include multiple columns. In our example, there is now a column for each person's **monthly sales**, in addition to the **grand total**.

	A	B	C	D	E
1					
2					
3	Sum of Order Amount Column				
4	Row Labels	January	February	March	Grand Total
5	Flores, Tia	1655	985	1925	4565
6	Walters, Chris	355	2755	1265	4375
7	Brennan, Michael	2750	550	400	3700
8	Thompson, Shannon	1140	1720	300	3160
9	Albertson, Kathy	925	1375	350	2650
10	Davis, William	1100	235	600	1935
11	Post, Melissa	765	575	350	1690
12	Dumlao, Richard	400	965	125	1490
13	Grand Total	9090	9160	5315	23565
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

PivotTable Fields

Choose fields to add to report: ⚙️

Search

- Salesperson
- Region
- Account
- Order Amount
- Month

MORE TABLES...

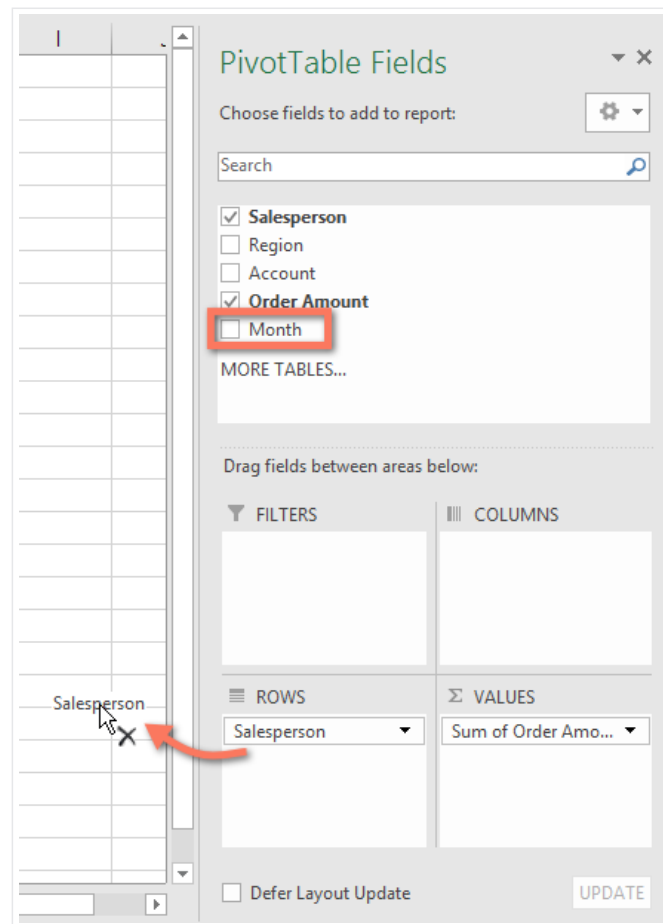
Drag fields between areas below:

<p>▼ FILTERS</p> <div style="border: 1px solid gray; height: 40px; width: 100%;"></div>	<p> COLUMNS</p> <div style="border: 1px solid gray; padding: 2px;"> Month ▼ </div>
<p>≡ ROWS</p> <div style="border: 1px solid gray; padding: 2px;"> Salesperson ▼ </div>	<p>Σ VALUES</p> <div style="border: 1px solid gray; padding: 2px;"> Sum of Order ... ▼ </div>

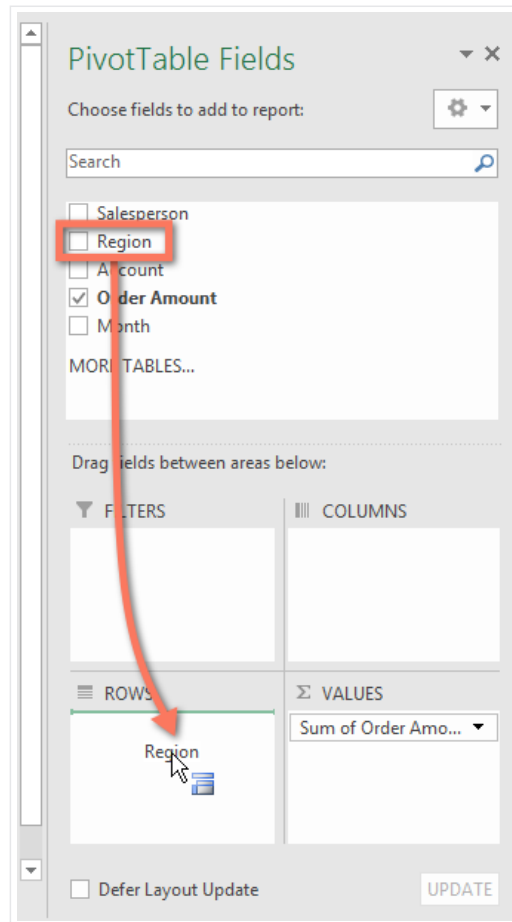
To change a row or column:

Changing a row or column can give you a completely different perspective on your data. All you have to do is **remove** the field in question, then **replace** it with another.

- 1 Drag the field you want to remove out of its **current area**. You can also **uncheck** the appropriate box in the **Field List**. In this example, we've removed the **Month** and **Salesperson** fields.



- 2 Drag a **new field** into the **desired area**. In our example, we'll place the **Region** field under **Rows**.



- 3 The PivotTable will adjust—or pivot—to show the new data. In our example, it now shows the **amount sold by each region**.

Row Labels	Sum of Order Amount
East	4340
North	3160
South	10875
West	5190
Grand Total	23565

PivotTable Fields

Choose fields to add to report: [Settings]

Search

Salesperson
 Region
 Account
 Order Amount
 Month

MORE TABLES...

Drag fields between areas below:

FILTERS | **COLUMNS**

ROWS | **VALUES**

Region | Sum of Order Amo...

To learn more

Once you're comfortable with PivotTables, check out our [Doing More with PivotTables](#) lesson for even more ways to customize and manipulate them.

Challenge!

- 1 Open our [practice workbook](#).
- 2 Create a **PivotTable** in a separate sheet.
- 3 We want to answer the question **What is the total amount sold in each region?** To do this, select **Region** and **Order Amount**. When you're finished, your workbook should look like this:

Row Labels	Sum of Order Amount
East	4340
North	3160
South	10875
West	5190
Grand Total	23565

- 4 In the **Rows** area, remove **Region** and replace it with **Salesperson**.

- 5 Add **Month** to the **Columns** area.
- 6 Change the number format of cells **B5:E13** to **Currency**. **Note:** You might have to make columns C and D wider in order to see the values.
- 7 When you're finished, your workbook should look like this:

Row Labels	January	February	March	Grand Total
Albertson, Kathy	\$925.00	\$1,375.00	\$350.00	\$2,650.00
Brennan, Michael	\$2,750.00	\$550.00	\$400.00	\$3,700.00
Davis, William	\$1,100.00	\$235.00	\$600.00	\$1,935.00
Dumlao, Richard	\$400.00	\$965.00	\$125.00	\$1,490.00
Flores, Tia	\$1,655.00	\$985.00	\$1,925.00	\$4,565.00
Post, Melissa	\$765.00	\$575.00	\$350.00	\$1,690.00
Thompson, Shannon	\$1,140.00	\$1,720.00	\$300.00	\$3,160.00
Walters, Chris	\$355.00	\$2,755.00	\$1,265.00	\$4,375.00
Grand Total	\$9,090.00	\$9,160.00	\$5,315.00	\$23,565.00