

Excel pivot tables are a feature that you should learn how to use. Instead of analyzing countless spreadsheet records, these tables can aggregate your information and show a new perspective in a few clicks. You can also move columns to rows or vice versa. The problem is people believe creating a pivot table is difficult to learn. Grab a seat and we'll guide you through a short tutorial so you can start data crunching. (*Check Resources section at bottom for example worksheet.*)

What is an Excel Pivot Table?

You might think of a pivot table as a user-created summary table of your original spreadsheet. You create the table by defining which fields to view and how the information should be displayed. Based on your field selections, Excel organizes the data so you see a different view of your data.

As example, I've uploaded a sample spreadsheet of 4000 fictitious people, which includes the following data fields:

- Voter ID
- Party Affiliation
- Their precinct
- Age group
- When they last voted
- Years they've been registered
- Ballot status

pivot_table_example.xls - Microsoft Excel

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From Access From Web From Text From Other Sources Existing Connections Refresh All Connections Sort & Filter

Sort Filter Clear Reapply Advanced Text to Columns

N25

	A	B	C	D	E	F	G	H	I
	VOTER	PARTY	PRECINCT	AGE GROUP	LAST VOTED	YEARS REG	BALLOT STATUS		
2	1012	REPUBLICAN	2408	71 +	08/2006	51	PERM		
3	1013	REPUBLICAN	2411	71 +	08/2006	50	PERM		
4	1014	DEMOCRAT	2424	71 +	08/2006	50	PERM		
5	1015	DEMOCRAT	2418	71 +	08/2006	50	POLL		
6	1016	REPUBLICAN	2411	71 +	08/2006	50	PERM		
7	1017	REPUBLICAN	2419	71 +	08/2006	50	PERM		
8	1018	REPUBLICAN	2417	71 +	08/2006	48	PERM		
9	1019	REPUBLICAN	2417	71 +	08/2006	48	PERM		
10	1023	DEMOCRAT	2424	71 +	08/2006	46	POLL		
11	1024	REPUBLICAN	2411	71 +	08/2006	46	PERM		
12	1025	REPUBLICAN	2416	71 +	06/2006	46	POLL		
13	1026	DEMOCRAT	2405	71 +	08/2006	46	PERM		
14	1027	REPUBLICAN	2405	71 +	08/2006	3	PERM		
15	1028	REPUBLICAN	2420	71 +	06/2006	46	PERM		
16	1029	DEMOCRAT	2416	71 +	08/2006	45	PERM		
17	1030	REPUBLICAN	2416	71 +	08/2006	44	PERM		
18	1031	REPUBLICAN	2412	71 +	08/2006	44	PERM		
19	1032	DEMOCRAT	2420	71 +	08/2006	44	PERM		
20	1033	DEMOCRAT	2419	61-70	08/2006	44	POLL		
21	1034	DEMOCRAT	2408	71 +	06/2006	44	PERM		

Looking at the first 20 voter records, you can see the content is boring. In this format, the key question it answers is how many voters exist in all the precincts.

Using Excel pivot tables, you can organize and group the same data in ways that start to answer questions such as:

- What is the party breakdown by precinct?
- Do voters use permanent absentee ballots?

- Which precincts have the most Democrats?
- How many voter pamphlets do I need for Precinct 2416?
- Do 18-21 year olds vote?

Excel pivot tables allow you to group the spreadsheet or external data source by any of your data fields. The screen snap below shows a count of voters by party by precinct.

Using a pivot table, I can continue to slice the information by selecting more fields from the PivotTable Field List. For example, I can take the same data and segment by voter age group.

Understanding the Table Structures

In the screen snap above, I've labeled the main areas of the pivot table.

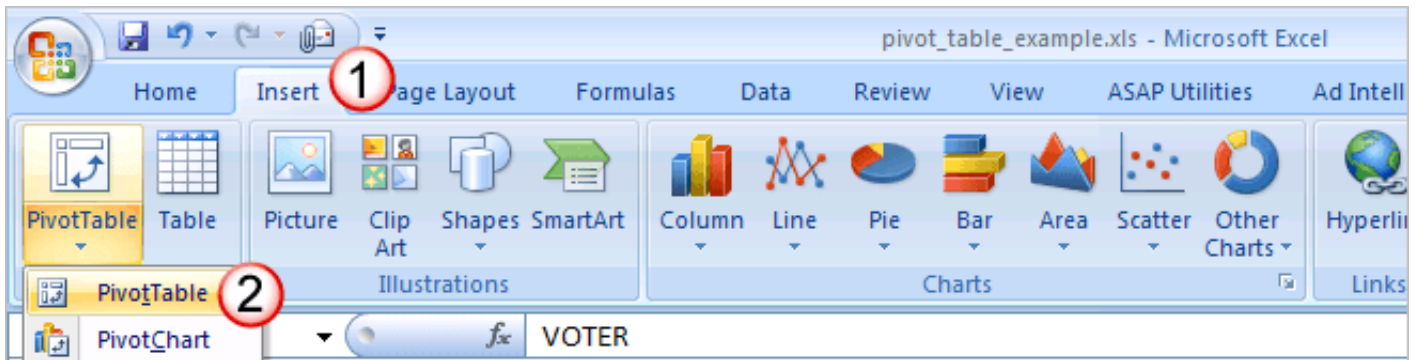
1. PivotTable Field List – this section in the top right displays the fields in your spreadsheet. You may check a field or drag it to a quadrant in the lower part.
2. The lower right quadrants – this area defines **where** and **how** the data shows on your pivot table. You can have a field show in either a column or row. You may also indicate if the information should be counted, summed, averaged, filtered and so on.
3. The red outlined area to the left is the result of your selections from (1) and (2). You'll see that the only difference I made in the last pivot table was to drag the AGE GROUP field underneath the PRECINCT field in the Row Labels quadrant.

How to Create an Excel Pivot Table

There are several ways to build a pivot table. Excel has logic that knows the field type and will try to place it in the correct row or column if you check the box. For example, numeric data such as Precinct counts tends to appear to the right in columns. Textual data, such as Party would appear in rows.

While you can simply check fields to display and let Excel build your pivot table, I prefer to use the “drag and drop” method. This is partly because I like to visualize my data in columns and rows. I think it may also be easier if you have fields, which can appear to be numbers like a precinct value.

1. Open your original spreadsheet and remove any blank rows or columns.
2. Make sure each column has a heading, as it will be carried over to the Field List.
3. Make sure your cells are properly formatted for their data type.
4. Highlight your data range
5. Click the **Insert** tab.
6. Select the **PivotTable** button from the **Tables** group.
7. Select **PivotTable** from the list.



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PivotTable Table Picture Clip Art Shapes SmartArt Illustrations

PivotTable **2** PivotChart

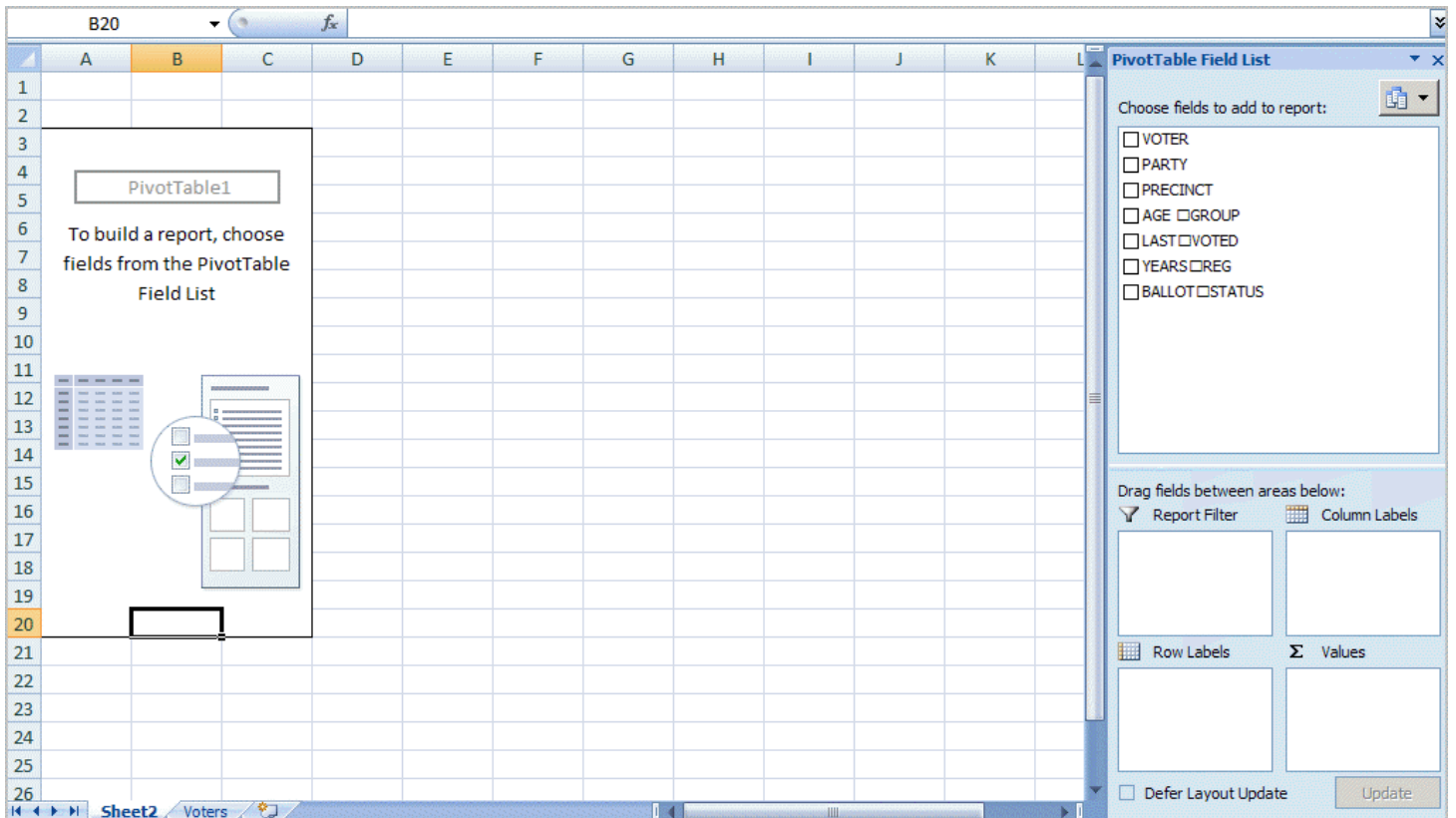
VOTER

	A	B	C	D	E	F	G	H	I
1	VOTER	PARTY	PCT	AGE	LAST VOTE	YRS R	ABST	STATUS	
3978	5138	DEMOCRAT	2415	41-50	06/2006	2	PERM		
3979	5139	REPUBLICAN	2415	41-50	06/2006	2	PERM		
3980	5140	DEMOCRAT	2424	61-70	08/2006	2			
3981	5141	DEMOCRAT	2420	61-70	08/2006	2	PERM		
3982	5142	NON-DECLINE	2406	41-50	06/2006	2			
3983	5143	DEMOCRAT	2414	41-50	06/2006	2	PERM		
3984	5144	DEMOCRAT	2414	41-50	08/2006	2	PERM		
3985	5145	DEMOCRAT	2418	41-50	06/2006	2	PERM		
3986	5146	DEMOCRAT	2417	71 +	06/2006	2	PERM		
3987	5147	NON-DECLINE	2424	18-20	06/2006	2	PERM		
3988	5149	DEMOCRAT	2408	71 +	06/2006	2	PERM		
3989	5150	DEMOCRAT	2407	31-40	06/2006	2	PERM		
3990	5151	NON-DECLINE	2422	41-50	06/2006	2			

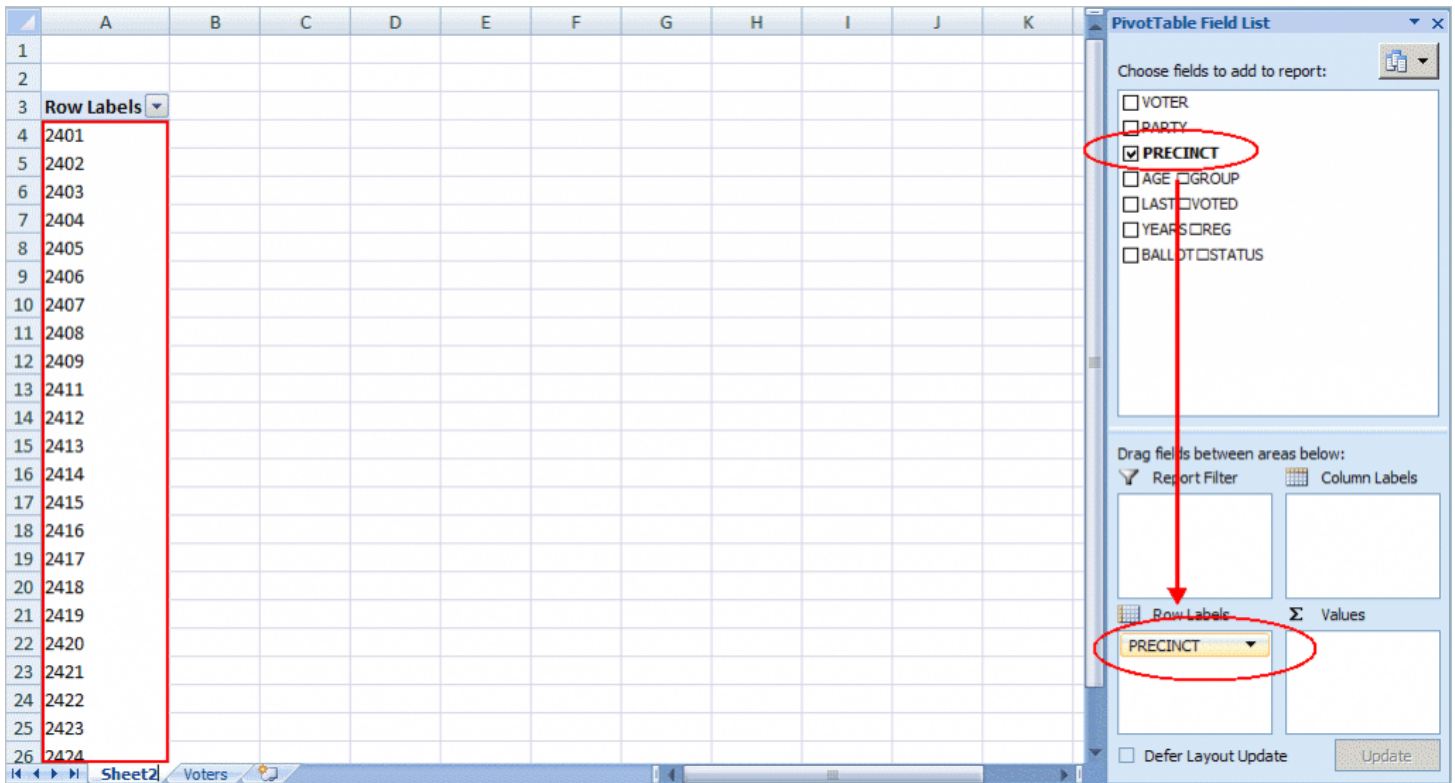
The Create PivotTable dialog appears.

8. Double-check your Table/Range: value.
9. Select the radio button for New Worksheet.
10. Click OK.

A new worksheet opens with a blank pivot table. You'll see that the fields from our source spreadsheet were carried over to the PivotTable Field List.



11. Drag an item such as PRECINCT from the PivotTable Field List down to the Row Labels quadrant. The left side of your Excel spreadsheet should show a row for each precinct value. You should also see a check mark appear next to PRECINCT.



12. The next step is to ask what you would like to know about each precinct. I'll drag the PARTY field from the PivotTable Field List to the Column Labels quadrant. This will give an extra column for each party. Note that you won't see any numerical data.

13. To see the count for each party, I need to drag the same field to the Values quadrant. In this case, Excel determines I want a Count of PARTY. I could double-click the entry and choose another Field Setting. Excel has also added Grand Totals.

Additional Groupings and Options

As you build your Excel pivot table, you'll probably think of more ways to group the information. For example, you might want to know the Age Range of voters by Precinct by Party. In this case, I would drag the AGE GROUP column from the PivotTable Field List down below the PRECINCT value in Row Labels.

A3

Count of PARTY

	A	B	C	D	E	F	G	H	I
4	Row Labels	AMERICAN INDEP	DECLINED	DEMOCRAT	GREEN	REPUBLICAN	Grand Total		
5	2401		23	106	2	31	162		
6	21-30		1	3		1	5		
7	31-40		6	24		7	37		
8	41-50		5	29	2	10	46		
9	51-60		5	23		6	34		
10	61-70		4	16		3	23		
11	71 +		2	11		4	17		
12	2402		6	33	128	5	55	227	
13	21-30		2	8	2		12		
14	31-40		4	21	3		37		
15	41-50	1	10	38		12	61		
16	51-60	1	13	21		16	51		
17	61-70	3	2	28		13	46		
18	71 +	1	2	12		5	20		
19	2403		2	17	72	4	28	123	
20	21-30		3	5			8		
21	31-40	1		10	1	6	18		
22	41-50		8	21	2	6	37		
23	51-60	1	4	18	1	12	36		
24	61-70		1	11		1	13		
25	71 +		1	7		3	11		
26	2404		3	17	94	3	34	151	
27	21-30			4			4		
28	31-40		4	10		6	20		
29	41-50		4	16	3	8	31		

PivotTable Field List

Choose fields to add to report:

☐ VOTER

☒ PARTY

☒ PRECINCT

☒ AGE ☐ GROUP

☐ LAST ☐ VOTED

☐ YEARS ☐ REG

☐ BALLOT ☐ STATUS

Drag fields between areas below:

Report Filter

Column Labels

PARTY

Row Labels

PRECINCT

AGE ☐ GROUP

Values

Count of PARTY

Defer Layout Update

Update

Each age group is broken out and indented by precinct. At this stage, you might also be thinking of usability. As with a regular spreadsheet, you may manipulate the fields. For example, you might want to rename "Grand Total" to "Total" or even collapse the age values for one or more precincts. You can also hide or show rows and columns. These features work the same way as a regular spreadsheet.

One area that is different is the pivot table has its own options. You can use these options by right-clicking a cell within and selecting **PivotTable Options...** For example, you might only want Grand Totals for columns and not rows.

There are also ways to filter the data using the controls next to Row Labels or Column labels on the pivot table. You may also drag fields to the Report