

# What is the purpose and functionality of an Excel PivotTable?

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## RECOMMENDED CITATION

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PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=157653>

An Excel PivotTable is a powerful tool used for data analysis and organization in Microsoft Excel. Its main purpose is to summarize large amounts of data into a more manageable and understandable format. It allows users to quickly manipulate and view data from different perspectives, making it easier to identify trends, patterns, and relationships. The functionality of a PivotTable lies in its ability to dynamically reorganize and summarize data based on the user's desired criteria, such as sorting, filtering, and grouping. This allows for a more efficient and customizable analysis of data, making it a valuable tool for data-driven decision making. Additionally, PivotTables can also create visual representations of data through charts and graphs, providing a comprehensive overview of the data at hand. Overall, the purpose and functionality of an Excel PivotTable is to simplify and enhance the process of data analysis and organization.

## Introduction Excel PivotTable

### PivotTable

PivotTable is a functionality in Excel which helps you organize and analyze data.

It lets you add and remove values, perform calculations, and to filter and sort data sets.

PivotTable helps you structure and organize data to understand large data sets.

The data that you use needs to be in tabular format.

The tabular form is data in a table format (rows and columns).

### How a PivotTable Works

PivotTables have four main components:

#### Columns

Columns are vertical tabular data.

The column includes the unique header, which is on the top.

The header defines which data you are seeing listed downwards.

In this example, **D5(Sum of Attack)** is the header.

D6(110), D7(100), D8(50), D9(73), and so on are the data.

		A	B	C	D	E
2	Generation	1				
3	Type 1	Psychic				
4						
5	Name	Sum of Total	Sum of HP	Sum of Attack	Sum of Defense	
6	Mewtwo	680	106	110	90	
7	Mew	600	100	100	100	
8	Alakazam	500	55	50	45	
9	Hypno	483	85	73	70	
10	Mr. Mime	460	40	45	65	
11	Kadabra	400	40	35	30	
12	Drowzee	328	60	48	45	
13	Abra	310	25	20	15	
14	Grand Total	3761	511	481	460	

### Rows

Rows are horizontal tabular data.

Data in the same row are related.

In this example, **A8(Alakazam)** is the Pokemon name.

**B8(500), C8(55), D8(50), E8(45)** represents the pokemons stats.

The type of stats is read in the header in the columns.

	A	B	C	D	E
2	Generation	1			
3	Type 1	Psychic			
4					
5	<b>Name</b>	<b>Sum of Total</b>	<b>Sum of HP</b>	<b>Sum of Attack</b>	<b>Sum of Defense</b>
6	Mewtwo	680	106	110	90
7	Mew	600	100	100	100
8	Alakazam	500	55	50	45
9	Hypno	483	85	73	70
10	Mr. Mime	460	40	45	65
11	Kadabra	400	40	35	30
12	Drowzee	328	60	48	45
13	Abra	310	25	20	15
14	<b>Grand Total</b>	<b>3761</b>	<b>511</b>	<b>481</b>	<b>460</b>

**Filters**

Filters are used to select what data you see.

In this example, there are two filters enabled: **Generation** and **Type 1**.

The filters are set to Generation (1) and Type (Psychic).

We will only see Generation 1 pokemon that is Type 1, Psychic.

All pokemon in the table below the filter are of this generation and type.

A		B	C	D	E
2	Generation	1			
3	Type 1	Psychic			
4					
5	<b>Name</b>	<b>Sum of Total</b>	<b>Sum of HP</b>	<b>Sum of Attack</b>	<b>Sum of Defense</b>
6	Mewtwo	680	106	110	90
7	Mew	600	100	100	100
8	Alakazam	500	55	50	45
9	Hypno	483	85	73	70
10	Mr. Mime	460	40	45	65
11	Kadabra	400	40	35	30
12	Drowzee	328	60	48	45
13	Abra	310	25	20	15
14	<b>Grand Total</b>	<b>3761</b>	<b>511</b>	<b>481</b>	<b>460</b>

Filter view:

### Filter ✕

🔍

Select item:

- (Select All)
- Bug
- Dark
- Dragon
- Electric
- Fairy
- Fighting
- Fire
- Flying
- Ghost
- Grass
- Ground
- Ice
- Normal
- Poison
- Psychic

OKCancel



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### Values

Values define how you present the data.

You can define how you **Summarize** and **Show** values.

In this example, values are defined for the range `B5:E5`.

The range `B5:E5` has all the same value setting: **Sum**

The Sum is summarized in the range `B14:E14`.

E5					
Sum of Defense					
	A	B	C	D	E
2	Generation	1			
3	Type 1	Psychic			
4					
5	<b>Name</b>	<b>Sum of Total</b>	<b>Sum of HP</b>	<b>Sum of Attack</b>	<b>Sum of Defense</b>
6	Mewtwo	680	106	110	90
7	Mew	600	100	100	100
8	Alakazam	500	55	50	45
9	Hypno	483	85	73	70
10	Mr. Mime	460	40	45	65
11	Kadabra	400	40	35	30
12	Drowzee	328	60	48	45
13	Abra	310	25	20	15
14	<b>Grand Total</b>	<b>3761</b>	<b>511</b>	<b>481</b>	<b>460</b>

Values settings view:

You can change the name and settings of the values.

## Value Field Settings



Source Name: Total

Custom Name:

SUMMARIZE VALUE BY

SHOW VALUE AS

Summarize value field by

Choose the type of calculation that you want to use to summarize data from the selected field

Sum
Count
Average
Max
Min
Product

OK

Cancel

## Fields and layout

The TablePivot is displayed how by your settings.

The **PivotTable Fields panel** is used to change how you see the data.

The settings can be separated in two: **Fields** and **Layout**.

The screenshot shows an Excel PivotTable with the following data:

Name	Sum of Total	Sum of HP	Sum of Attack	Sum of Defense
Mewtwo	680	106	110	90
Mew	600	100	100	100
Alakazam	500	55	50	45
Hypno	483	85	73	70
Mr. Mime	460	40	45	65
Kadabra	400	40	35	30
Drowzee	328	60	48	45
Abra	310	25	20	15
<b>Grand Total</b>	<b>3761</b>	<b>511</b>	<b>481</b>	<b>460</b>

The PivotTable Fields task pane on the right shows the following configuration:

- Filters:** Generation, Type 1
- Rows:** Name
- Columns:** Values
- Values:** Sum of Total, Sum of HP, Sum of Attack, Sum of Defense

In the 'VALUES' section, the 'Speed' checkbox is selected, and a dropdown arrow is visible next to it.

### Fields

The checkboxes can be selected or unselected to display or change the property of the data.

In this example, the checkbox for **Speed** is selected.

Speed is now displayed in the table.

The screenshot shows the same Excel PivotTable, but now with an additional column for 'Sum of Speed':

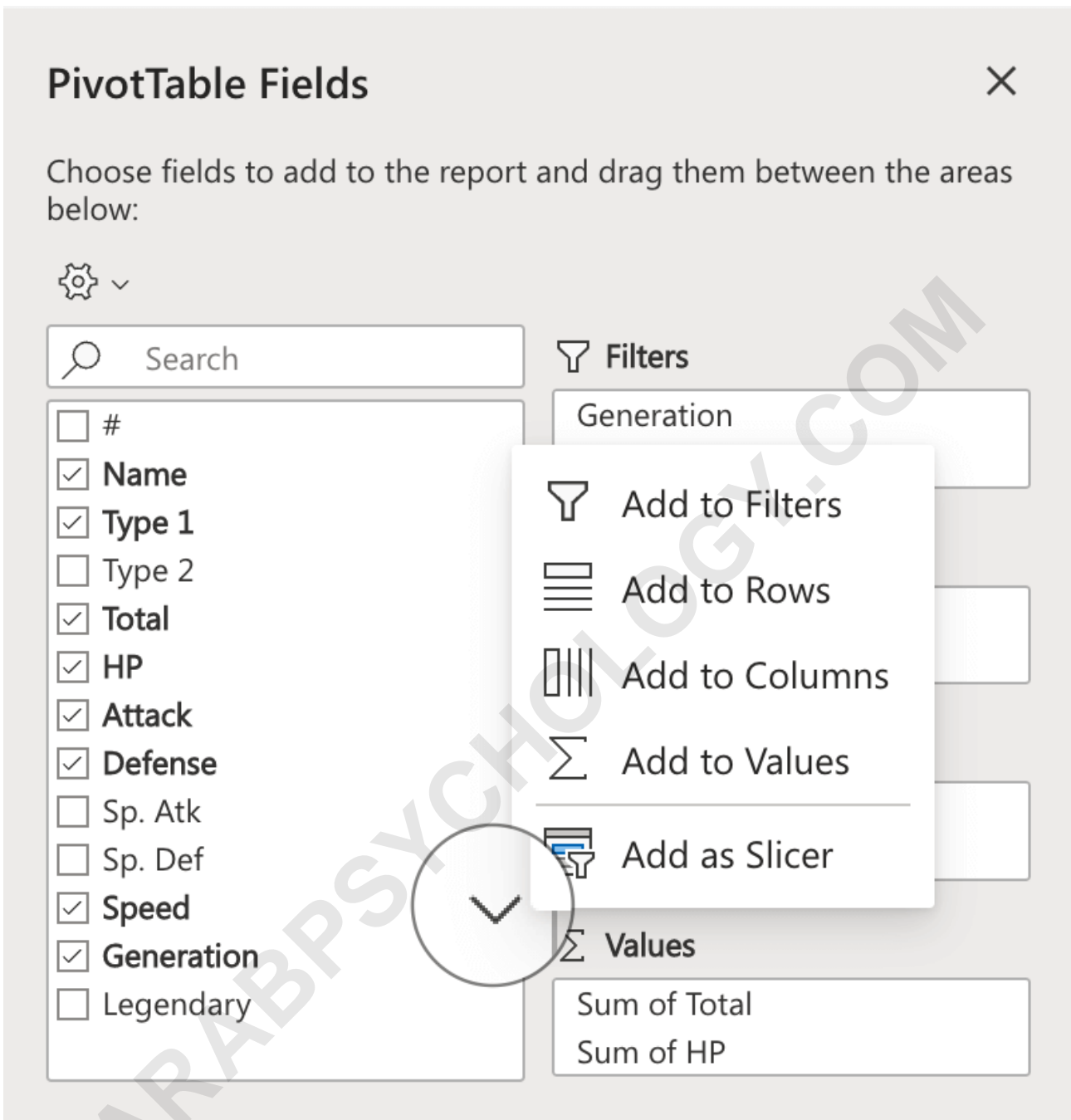
Name	Sum of Total	Sum of HP	Sum of Attack	Sum of Defense	Sum of Speed
Mewtwo	680	106	110	90	130
Mew	600	100	100	100	100
Alakazam	500	55	50	45	120
Hypno	483	85	73	70	67
Mr. Mime	460	40	45	65	90
Kadabra	400	40	35	30	105
Drowzee	328	60	48	45	42
Abra	310	25	20	15	90
<b>Grand Total</b>	<b>3761</b>	<b>511</b>	<b>481</b>	<b>460</b>	<b>744</b>

The PivotTable Fields task pane on the right shows the following configuration:

- Filters:** Generation, Type 1
- Rows:** Name
- Columns:** Values
- Values:** Sum of Total, Sum of HP, Sum of Attack, Sum of Speed

The 'Speed' checkbox is now selected and highlighted in the 'VALUES' section.

You can click the downwards arrow to change how the data is presented.



**Layout**

Drag and drop fields to the boxes to the right to display data in the table.

You can drag them to the four different boxes that we mentioned earlier (four main components):

Filters Rows Columns Values

## PivotTable Fields ✕

Choose fields to add to the report and drag them between the areas below:

⚙️

🔍 Search

- #
- Name
- Type 1
- Type 2
- Total
- HP
- Attack
- Defense
- Sp. Atk
- Sp. Def
- Speed
- Generation
- Legendary

🔿 Filters

Generation

Type 1

☰ Rows

Name

☐ Columns

Values

Σ Values

Sum of Speed

In this example, we will drag and drop **Sp. def** to **Values**.

The screenshot shows an Excel PivotTable with the following data:

Name	Sum of Total	Sum of HP	Sum of Attack	Sum of Defense	Sum of Speed	Sum of Sp. Def
Mewtwo	680	106	110	90	130	90
Mew	600	100	100	100	100	100
Alakazam	500	55	50	45	120	95
Hypno	483	85	73	70	67	115
Mr. Mime	460	40	45	65	90	120
Kadabra	400	40	35	30	105	70
Drowzee	328	60	48	45	42	90
Abra	310	25	20	15	90	55
<b>Grand Total</b>	<b>3761</b>	<b>511</b>	<b>481</b>	<b>460</b>	<b>744</b>	<b>735</b>

The PivotTable Fields task pane on the right shows the following settings:

- Filters:** Generation, Type 1
- Rows:** Name
- Columns:** Values
- Values:** Sum of Speed, Sum of Sp. Def

The field list on the left includes: #, Name, Type 1, Type 2, Total, HP, Attack, Defense, Sp. Atk, Sp. Def, Speed, Generation, and Legendary.

Sp. Def is now displayed in the table.

The settings of the fields that you have moved to the right side can be changed.

Click the downwards arrow to access the settings.

This is possible in the four areas (Filters, rows, columns and, values).

**PivotTable Fields**

Choose fields to add to the report below:

⚙️

🔍 Search

- #
- Name
- Type 1
- Type 2
- Total
- HP
- Attack
- Defense
- Sp. Atk
- Sp. Def
- Speed
- Generation
- Legendary

Sum of Sp. Def

Context Menu:

- Move Up
- Move Down
- Move to Beginning
- Move to End
- Move to Filters
- Move to Rows
- Move to Columns
- Move to Values
- Remove Field
- Value Field Settings

## Chapter summary

PivotTable can be used both simple and advanced.

It can be set up in many different ways.

You can configure on many different layers cross filters, rows, columns and values.

How you set it up depends on your needs and how you want to present the data.

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