

# How can I use the Excel VLOOKUP function?

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## RECOMMENDED CITATION

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The Excel VLOOKUP function is a powerful tool that allows users to easily find and retrieve data from a large table or database. This function can be used by entering specific criteria, such as a value or label, and returning the corresponding information from a designated column. It is particularly useful for organizing and analyzing large sets of data, as it eliminates the need for manual searching and sorting. Additionally, the VLOOKUP function can be combined with other Excel functions to perform more complex calculations and data manipulation. Overall, the Excel VLOOKUP function is a valuable tool for efficiently managing and accessing data within a spreadsheet.

## Excel VLOOKUP Function

### VLOOKUP Function

The **VLOOKUP** function is a premade function in Excel, which allows searches across columns.

It is typed `=VLOOKUP` and has the following parts:

```
=VLOOKUP(lookup_value, table_array,  
col_index_num, )
```

**Note:** The column which holds the data used to lookup must always be to the left.

**Note:** The different parts of the function are separated by a symbol, like comma `,` or semicolon `;`

The symbol depends on your Language Settings.

**Lookup\_value:** Select the cell where search values will be entered.

**Table\_array:** The table range, including all cells in the table.

**Col\_index\_num:** The data which is being looked up. The input is the number of the column, counted from the left:

	A	B	C	D	E
1	1	2	3	4	5
2	#	Name	Type 1	Type 2	Total
3	1	Bulbasaur	Grass	Poison	318
4	2	Ivysaur	Grass	Poison	405
5	3	Venusaur	Grass	Poison	525
6	4	Charmander	Fire		309
7	5	Charmeleon	Fire		405
8	6	Charizard	Fire	Flying	534
9	7	Squirtle	Water		314
10	8	Wartortle	Water		405
11	9	Blastoise	Water		530
12	10	Caterpie	Bug		195
13	11	Metapod	Bug		205
14	12	Butterfree	Bug	Flying	395
15	13	Weedle	Bug	Poison	195
16	14	Kakuna	Bug	Poison	205
17	15	Beedrill	Bug	Poison	395
18	16	Pidgey	Normal	Flying	251
19	17	Pidgeotto	Normal	Flying	349
20	18	Pidgeot	Normal	Flying	479
21	19	Rattata	Normal		253
22	20	Raticate	Normal		413

**Range\_lookup:** TRUE if numbers (1) or FALSE if text (0).

**Note:** Both 1 / 0 and True / False can be used in **Range\_lookup**.

How to use the **VLOOKUP** function.

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Select

a cell (H4)Type =VLOOKUPDouble click the VLOOKUP commandSelect the cell where search value will be entered (H3)Type (,)Mark table range (A2:E21)Type (,)Type the number of the column,

counted from the left (2) Type True (1) or False (0) (1) Hit enter Enter a value in the cell selected for the Lookup\_value H3 (7)

Let's have a look at an example!

Use the **VLOOKUP** function to find the Pokemon names based on their **ID#**:

	A	B	C	D	E	F	G	H
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>			
2	1	Bulbasaur	Grass	Poison	318			
3	2	Ivysaur	Grass	Poison	405		Search ID#	
4	3	Venusaur	Grass	Poison	525		Name	=
5	4	Charmander	Fire		309			
6	5	Charmeleon	Fire		405			
7	6	Charizard	Fire	Flying	534			
8	7	Squirtle	Water		314			
9	8	Wartortle	Water		405			
10	9	Blastoise	Water		530			
11	10	Caterpie	Bug		195			
12	11	Metapod	Bug		205			
13	12	Butterfree	Bug	Flying	395			
14	13	Weedle	Bug	Poison	195			
15	14	Kakuna	Bug	Poison	205			
16	15	Beedrill	Bug	Poison	395			
17	16	Pidgey	Normal	Flying	251			
18	17	Pidgeotto	Normal	Flying	349			
19	18	Pidgeot	Normal	Flying	479			
20	19	Rattata	Normal		253			
21	20	Raticate	Normal		413			
22								

H4 is where the search result is displayed. In this case, the Pokemon's names based on their ID#.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>									
2	1	Bulbasaur	Grass	Poison	318									
3	2	Ivysaur	Grass	Poison	405		Search ID#							
4	3	Venusaur	Grass	Poison	525		Name	=VLOOKUP						
5	4	Charmander	Fire		309			VLOOKUP						
6	5	Charmeleon	Fire		405									
7	6	Charizard	Fire	Flying	534									
8	7	Squirtle	Water		314									
9	8	Wartortle	Water		405									
10	9	Blastoise	Water		530									
11	10	Caterpie	Bug		195									
12	11	Metapod	Bug		205									
13	12	Butterfree	Bug	Flying	395									
14	13	Weedle	Bug	Poison	195									
15	14	Kakuna	Bug	Poison	205									
16	15	Beedrill	Bug	Poison	395									
17	16	Pidgey	Normal	Flying	251									
18	17	Pidgeotto	Normal	Flying	349									
19	18	Pidgeot	Normal	Flying	479									
20	19	Rattata	Normal		253									
21	20	Raticate	Normal		413									
22														

VLOOKUP Looks for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order

	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>							
2	1	Bulbasaur	Grass	Poison	318							
3	2	Ivysaur	Grass	Poison	405		Search ID#					
4	3	Venusaur	Grass	Poison	525		Name	=VLOOKUP{				
5	4	Charmander	Fire		309			VLOOKUP (lookup_value; table_array; col_index_num; [range_lookup])				
6	5	Charmeleon	Fire		405							
7	6	Charizard	Fire	Flying	534							
8	7	Squirtle	Water		314							
9	8	Wartortle	Water		405							
10	9	Blastoise	Water		530							
11	10	Caterpie	Bug		195							
12	11	Metapod	Bug		205							
13	12	Butterfree	Bug	Flying	395							
14	13	Weedle	Bug	Poison	195							
15	14	Kakuna	Bug	Poison	205							
16	15	Beedrill	Bug	Poison	395							
17	16	Pidgey	Normal	Flying	251							
18	17	Pidgeotto	Normal	Flying	349							
19	18	Pidgeot	Normal	Flying	479							
20	19	Rattata	Normal		253							
21	20	Raticate	Normal		413							
22												

H3 selected as **lookup\_value**. This is the cell where the search query is entered. In this case the Pokemons **ID#**.

	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>							
2	1	Bulbasaur	Grass	Poison	318							
3	2	Ivysaur	Grass	Poison	405		Search ID#					
4	3	Venusaur	Grass	Poison	525		Name	=VLOOKUP(H3				
5	4	Charmander	Fire		309			VLOOKUP (lookup_value; table_array; col_index_num; [range_lookup])				
6	5	Charmeleon	Fire		405							
7	6	Charizard	Fire	Flying	534							
8	7	Squirtle	Water		314							
9	8	Wartortle	Water		405							
10	9	Blastoise	Water		530							
11	10	Caterpie	Bug		195							
12	11	Metapod	Bug		205							
13	12	Butterfree	Bug	Flying	395							
14	13	Weedle	Bug	Poison	195							
15	14	Kakuna	Bug	Poison	205							
16	15	Beedrill	Bug	Poison	395							
17	16	Pidgey	Normal	Flying	251							
18	17	Pidgeotto	Normal	Flying	349							
19	18	Pidgeot	Normal	Flying	479							
20	19	Rattata	Normal		253							
21	20	Raticate	Normal		413							
22												

	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>							
2	1	Bulbasaur	Grass	Poison	318							
3	2	Ivysaur	Grass	Poison	405		Search ID#					
4	3	Venusaur	Grass	Poison	525		Name	=VLOOKUP(H3;A2:E21				
5	4	Charmander	Fire		309			VLOOKUP (lookup_value; table_array; col_index_num; [range_lookup])				
6	5	Charmeleon	Fire		405							
7	6	Charizard	Fire	Flying	534							
8	7	Squirtle	Water		314							
9	8	Wartortle	Water		405							
10	9	Blastoise	Water		530							
11	10	Caterpie	Bug		195							
12	11	Metapod	Bug		205							
13	12	Butterfree	Bug	Flying	395							
14	13	Weedle	Bug	Poison	195							
15	14	Kakuna	Bug	Poison	205							
16	15	Beedrill	Bug	Poison	395							
17	16	Pidgey	Normal	Flying	251							
18	17	Pidgeotto	Normal	Flying	349							
19	18	Pidgeot	Normal	Flying	479							
20	19	Rattata	Normal		253							
21	20	Raticate	Normal		413							
22												

The range of the table is marked at **table\_array**, in this example **A2 : E21**.

	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>							
2	1	Bulbasaur	Grass	Poison	318							
3	2	Ivysaur	Grass	Poison	405							
4	3	Venusaur	Grass	Poison	525		Search ID#					
5	4	Charmander	Fire		309		Name	=VLOOKUP(H3;A2:E21;2				
6	5	Charmeleon	Fire		405			VLOOKUP (lookup_value; table_array; col_index_num; [range_lookup])				
7	6	Charizard	Fire	Flying	534							
8	7	Squirtle	Water		314							
9	8	Wartortle	Water		405							
10	9	Blastoise	Water		530							
11	10	Caterpie	Bug		195							
12	11	Metapod	Bug		205							
13	12	Butterfree	Bug	Flying	395							
14	13	Weedle	Bug	Poison	195							
15	14	Kakuna	Bug	Poison	205							
16	15	Beedrill	Bug	Poison	395							
17	16	Pidgey	Normal	Flying	251							
18	17	Pidgeotto	Normal	Flying	349							
19	18	Pidgeot	Normal	Flying	479							
20	19	Rattata	Normal		253							
21	20	Raticate	Normal		413							
22												

The number 2 is entered as **col\_index\_number**. This is the second column from the left and is the data that is being looked up.

	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>							
2	1	Bulbasaur	Grass	Poison	318							
3	2	Ivysaur	Grass	Poison	405							
4	3	Venusaur	Grass	Poison	525		Search ID#					
5	4	Charmander	Fire		309		Name	=VLOOKUP(H3;A2:E21;2;1				
6	5	Charmeleon	Fire		405			VLOOKUP (lookup_value; table_array; col_index_num; [range_lookup])				
7	6	Charizard	Fire	Flying	534							
8	7	Squirtle	Water		314							
9	8	Wartortle	Water		405							
10	9	Blastoise	Water		530							
11	10	Caterpie	Bug		195							
12	11	Metapod	Bug		205							
13	12	Butterfree	Bug	Flying	395							
14	13	Weedle	Bug	Poison	195							
15	14	Kakuna	Bug	Poison	205							
16	15	Beedrill	Bug	Poison	395							
17	16	Pidgey	Normal	Flying	251							
18	17	Pidgeotto	Normal	Flying	349							
19	18	Pidgeot	Normal	Flying	479							
20	19	Rattata	Normal		253							
21	20	Raticate	Normal		413							
22												

An illustration for selecting **col\_index\_number**2.

	A	B	C	D	E
1	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
2	<b>#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>
3	1	Bulbasaur	Grass	Poison	318
4	2	Ivysaur	Grass	Poison	405
5	3	Venusaur	Grass	Poison	525
6	4	Charmander	Fire		309
7	5	Charmeleon	Fire		405
8	6	Charizard	Fire	Flying	534
9	7	Squirtle	Water		314
10	8	Wartortle	Water		405
11	9	Blastoise	Water		530
12	10	Caterpie	Bug		195
13	11	Metapod	Bug		205
14	12	Butterfree	Bug	Flying	395
15	13	Weedle	Bug	Poison	195
16	14	Kakuna	Bug	Poison	205
17	15	Beedrill	Bug	Poison	395
18	16	Pidgey	Normal	Flying	251
19	17	Pidgeotto	Normal	Flying	349
20	18	Pidgeot	Normal	Flying	479
21	19	Rattata	Normal		253
22	20	Raticate	Normal		413

Ok, so next - **1(True)** is entered as **range\_lookup**. This is because the most left column has numbers only. If it was text, **0(False)** would have been used.

	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>							
2	1	Bulbasaur	Grass	Poison	318							
3	2	Ivysaur	Grass	Poison	405							
4	3	Venusaur	Grass	Poison	525		Search ID#					
5	4	Charmander	Fire		309		Name	#N/A				
6	5	Charmeleon	Fire		405							
7	6	Charizard	Fire	Flying	534							
8	7	Squirtle	Water		314							
9	8	Wartortle	Water		405							
10	9	Blastoise	Water		530							
11	10	Caterpie	Bug		195							
12	11	Metapod	Bug		205							
13	12	Butterfree	Bug	Flying	395							
14	13	Weedle	Bug	Poison	195							
15	14	Kakuna	Bug	Poison	205							
16	15	Beedrill	Bug	Poison	395							
17	16	Pidgey	Normal	Flying	251							
18	17	Pidgeotto	Normal	Flying	349							
19	18	Pidgeot	Normal	Flying	479							
20	19	Rattata	Normal		253							
21	20	Raticate	Normal		413							
22												

**Good job!** The function returns the #N/A value. This is because there have not been entered any value to the Search ID# H3.

Let us feed a value to it, type H3 (7):

	A	B	C	D	E	F	G	H
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>			
2	1	Bulbasaur	Grass	Poison	318			
3	2	Ivysaur	Grass	Poison	405		Search ID#	7
4	3	Venusaur	Grass	Poison	525		Name	Squirtle
5	4	Charmander	Fire		309			
6	5	Charmeleon	Fire		405			
7	6	Charizard	Fire	Flying	534			
8	7	Squirtle	Water		314			
9	8	Wartortle	Water		405			
10	9	Blastoise	Water		530			
11	10	Caterpie	Bug		195			
12	11	Metapod	Bug		205			
13	12	Butterfree	Bug	Flying	395			
14	13	Weedle	Bug	Poison	195			
15	14	Kakuna	Bug	Poison	205			
16	15	Beedrill	Bug	Poison	395			
17	16	Pidgey	Normal	Flying	251			
18	17	Pidgeotto	Normal	Flying	349			
19	18	Pidgeot	Normal	Flying	479			
20	19	Rattata	Normal		253			
21	20	Raticate	Normal		413			
22								

**Have a look at that!** The **VLOOKUP** function has successfully found the Pokemon Squirtle which has the ID# 7.

One more time, type (H3) 4:

	A	B	C	D	E	F	G	H
1	<b>ID#</b>	<b>Name</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Total</b>			
2	1	Bulbasaur	Grass	Poison	318			
3	2	Ivysaur	Grass	Poison	405		Search ID#	4
4	3	Venusaur	Grass	Poison	525		Name	Charmander
5	4	Charmander	Fire		309			
6	5	Charmeleon	Fire		405			
7	6	Charizard	Fire	Flying	534			
8	7	Squirtle	Water		314			
9	8	Wartortle	Water		405			
10	9	Blastoise	Water		530			
11	10	Caterpie	Bug		195			
12	11	Metapod	Bug		205			
13	12	Butterfree	Bug	Flying	395			
14	13	Weedle	Bug	Poison	195			
15	14	Kakuna	Bug	Poison	205			
16	15	Beedrill	Bug	Poison	395			
17	16	Pidgey	Normal	Flying	251			
18	17	Pidgeotto	Normal	Flying	349			
19	18	Pidgeot	Normal	Flying	479			
20	19	Rattata	Normal		253			
21	20	Raticate	Normal		413			
22								

**It still works!** The function returned Charmanders name, which has 4 as its ID#. **That's great.**

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