

What is the function of the VLOOKUP function in Google Sheets?

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RECOMMENDED CITATION

stats writer (2024). *What is the function of the VLOOKUP function in Google Sheets?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=160641>

The VLOOKUP function in Google Sheets is a tool used for searching and retrieving specific data from a large dataset. It allows users to search for a certain value in a specific column and retrieve a corresponding value from another column in the same row. This function is particularly useful for organizing and analyzing data, as it eliminates the need for manual search and comparison. It also helps in creating dynamic and interconnected spreadsheets, making data management more efficient.

Google Sheets VLOOKUP Function

VLOOKUP Function

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

It is typed =VLOOKUP and has the following parts:

=VLOOKUP(**search_key**, **range**,
index,)

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

search_key: Select the cell where search values will be entered.

range: The table range, including all cells in the table.

index: 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

: TRUE/1 if the range is sorted or FALSE/0 if it is not sorted.

Note: Both 1 / 0 and True / False can be used in .

Let's have a look at an example!

Vlookup Function Example

Lookup and return Pokemon names from this list by their **ID#**:

	A	B	C	D	E	F	G	H
1	#	Name	Type 1	Type 2	Total			
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								

The **VLOOKUP** function, step by step:

Select the cell H4Type =VLOOKUPClick the VLOOKUP command

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
1	#	Name	Type 1	Type 2	Total						
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			Vertical 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											

Select the cell where search value will be entered (H3)

H3 selected as **search_key**. This is the cell where the search query is entered. In this case the Pokemon's **ID#**.

	A	B	C	D	E	F	G	H	I	J	K
1	#	Name	Type 1	Type 2	Total						
2	1	Bulbasaur	Grass	Poison	318						
3	2	Ivysaur	Grass	Poison	405						
4	3	Venusaur	Grass	Poison	525						
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											
23											
24											

VLOOKUP(**search_key**, range, index, [is_sorted])

EXAMPLE
VLOOKUP(10003, A2:B26, 2, FALSE)

ABOUT
Vertical lookup. Searches down the first column of a range for a key and returns the value of a specified cell in the row found.

search_key
The value to search for. For example, 42, "Cats", or I24.

range
The range to consider for the search. The first column in the range is searched for the key specified in search_key.

index
The column index of the value to be returned, where the first column in range is numbered 1.

is_sorted - [optional]
Indicates whether the column to be searched (the first column of the specified range) is sorted, in which case the closest match for search_key will be returned.

[Learn more](#)

Type , Specify the table range A2:E21

	A	B	C	D	E	F	G	H	I	J	K
1	#	Name	Type 1	Type 2	Total						
2	1	Bulbasaur	Grass	Poison	318						
3	2	Ivysaur	Grass	Poison	405						
4	3	Venusaur	Grass	Poison	525						
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											
23											
24											

VLOOKUP(search_key, **range**, index, [is_sorted])

EXAMPLE
VLOOKUP(10003, **A2:B26**, 2, FALSE)

ABOUT
Vertical lookup. Searches down the first column of a range for a key and returns the value of a specified cell in the row found.

search_key
The value to search for. For example, 42, "Cats", or I24.

range
The range to consider for the search. The first column in the range is searched for the key specified in search_key.

index
The column index of the value to be returned, where the first column in range is numbered 1.

is_sorted - [optional]
Indicates whether the column to be searched (the first column of the specified range) is sorted, in which case the closest match for search_key will be returned.

[Learn more](#)

Type , Type the number of the Name column, counted from the left: 2

	A	B	C	D	E	F	G	H	I	J	K
1	#	Name	Type 1	Type 2	Total						
2		1 Bulbasaur	Grass	Poison	318						
3		2 Ivysaur	Grass	Poison	405						
4		3 Venusaur	Grass	Poison	525						
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											
23											
24											

Search ID#

Name

=VLOOKUP(H3, A2:E21, 2

VLOOKUP(search_key, range, index, [is_sorted])

EXAMPLE
VLOOKUP(10003, A2:B26, 2, FALSE)

ABOUT
Vertical lookup. Searches down the first column of a range for a key and returns the value of a specified cell in the row found.

search_key
The value to search for. For example, 42, "Cats", or I24.

range
The range to consider for the search. The first column in the range is searched for the key specified in search_key.

index
The column index of the value to be returned, where the first column in range is numbered 1.

is_sorted - [optional]
Indicates whether the column to be searched (the first column of the specified range) is sorted, in which case the closest match for search_key will be returned.

[Learn more](#)

Type TRUE

In this example the table is sorted by ID#, so the value is TRUE.

	A	B	C	D	E	F	G	H	I	J	K
1	#	Name	Type 1	Type 2	Total						
2		1 Bulbasaur	Grass	Poison	318						
3		2 Ivysaur	Grass	Poison	405						
4		3 Venusaur	Grass	Poison	525						
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											
23											
24											

Search ID#

Name

=VLOOKUP(H3, A2:E21, 2, TRUE

VLOOKUP(search_key, range, index, [is_sorted])

EXAMPLE
VLOOKUP(10003, A2:B26, 2, FALSE)

ABOUT
Vertical lookup. Searches down the first column of a range for a key and returns the value of a specified cell in the row found.

search_key
The value to search for. For example, 42, "Cats", or I24.

range
The range to consider for the search. The first column in the range is searched for the key specified in search_key.

index
The column index of the value to be returned, where the first column in range is numbered 1.

is_sorted - [optional]
Indicates whether the column to be searched (the first column of the specified range) is sorted, in which case the closest match for search_key will be returned.

[Learn more](#)

An illustration for selecting column **index** number 2:

	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

Now, the function returns the Name value of the **search_key** specified in cell H3:

	A	B	C	D	E	F	G	H	I
1	#	Name	Type 1	Type 2	Total				
2		1 Bulbasaur	Grass	Poison	318				
3		2 Ivysaur	Grass	Poison	405		Search ID#		
4		3 Venusaur	Grass	Poison	525		Name	#N/A	
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									

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

Let us feed a value to it, type 7 into cell H3:

	A	B	C	D	E	F	G	H	I
1	#	Name	Type 1	Type 2	Total				
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 4 into cell H3:

	A	B	C	D	E	F	G	H	I
1	#	Name	Type 1	Type 2	Total				
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.**

Let's try another example, using the Pokemon names as input instead.

First, change the places of columns **A** and **B**.

Note: You can click and drag columns in Google Sheet to rearrange them.

Clicking and holding column A and dragging it between columns B and C will rearrange them like this:

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

Now, the function is trying to look up 4 in the Name column, which returns the #N/A error.

Let's switch the labels, and try to enter Caterpie into the cell H3, where the vlookup functions finds the **search_key**:

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

Notice that the ID# returned is 1, although Caterpie's ID# is actually 10.

This result is another error.

This is because the Name values are not **sorted** like the ID numbers are.

Let's change the value of the part of the function from **TRUE** to **FALSE**:

	A	B	C	D	E	F	G	H	I	J	K
1	Name	#	Type 1	Type 2	Total						
2	Bulbasaur	1	Grass	Poison	318						
3	Ivysaur	2	Grass	Poison	405						
4	Venusaur	3	Grass	Poison	525						
5	Charmander	4	Fire		309						
6	Charmeleon	5	Fire		405						
7	Charizard	6	Fire	Flying	534						
8	Squirtle	7	Water		314						
9	Wartortle	8	Water		405						
10	Blastoise	9	Water		530						
11	Caterpie	10	Bug		195						
12	Metapod	11	Bug		205						
13	Butterfree	12	Bug	Flying	395						
14	Weedle	13	Bug	Poison	195						
15	Kakuna	14	Bug	Poison	205						
16	Beedrill	15	Bug	Poison	395						
17	Pidgey	16	Normal	Flying	251						
18	Pidgeotto	17	Normal	Flying	349						
19	Pidgeot	18	Normal	Flying	479						
20	Rattata	19	Normal		253						
21	Raticate	20	Normal		413						
22											
23											
24											
25											

10 x 10

Search Name

ID#

=VLOOKUP(H3, A2:E21, 2, FALSE)

VLOOKUP(search_key, range, index, [is_sorted])

EXAMPLE
VLOOKUP(10003, A2:B26, 2, FALSE)

ABOUT
Vertical lookup. Searches down the first column of a range for a key and returns the value of a specified cell in the row found.

search_key
The value to search for. For example, 42, "Cats", or I24.

range
The range to consider for the search. The first column in the range is searched for the key specified in search_key.

index
The column index of the value to be returned, where the first column in range is numbered 1.

is_sorted - [optional]
Indicates whether the column to be searched (the first column of the specified range) is sorted, in which case the closest match for search_key will be returned.

[Learn more](#)

Now, the function correctly returns Caterpie's real ID number:

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

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