

# Excel 2016: Large Data 3 vLookups



# Excel 2016: Large Data 3 - vLookups

1.5 hours

In this advanced math workshop, we will work with multipart functions such as IF() and VLOOKUP() statements. We will also use Data Validation to create drop-down lists that help with data entry. We'll use the results of the list in our functions.

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## Class Exercises

### vLookup

	A	B	C	D
1	Original Data			
2	Name	Employee ID	Title	Phone #
3	Scrooge McDuck	2134-6113	Captain	(352) 555-2060
4	Donald Duck	3291-5756	First Mate	(352) 555-6108
5	Daisy Duck	9949-3960	Quartermaster	(352) 555-6615
6	Gunner <b>1</b>	6670 <b>2</b>	Gunner <b>3</b>	(352) 555-387 <b>4</b>
7	Huey Duck	5602-6973	Cabin Boy	(352) 555-5025
8	Louie Duck	7362-1089	Cabin Boy	(352) 555-8546
9	Dewey Duck	1910-3921	Cabin Boy	(352) 555-6756

VLOOKUP( **lookup\_value**, **table\_array**, **col\_index\_num**, **[range\_lookup]** )

VLOOKUP( **Find this value**, **in this dataset**, **return data from column #**, **FALSE** (exact match) )

	F	G
1	Phone Lookup	
2	Name	Phone #
3	Daisy Duck	=VLOOKUP( <b>F3</b> , <b>A3:D9</b> , <b>4</b> , <b>FALSE</b> )
4	Dewey Duck	

### Lock the Range

Cell addresses in an equation are relative to their location. When we use the fill handle or copy and paste feature the addresses move to the new location. When we fill the equation above to the next row, the formula will become:

=VLOOKUP( **F4**, **A4:D10**, **4**, **FALSE** )

We want the first value to change, so we're now looking for "Dewey Duck", but we need the data range to stay the same. The two options we learn in the Basic 2: Math class are locking the cell addresses and naming the range.

To **Lock** a range you can type in the dollar signs (little handcuffs), or you can press function key **F4** as soon as you select the range and Excel will add the dollar signs for you. **F4**- Force!

=VLOOKUP( **F3**, **\$A\$3:\$D\$9**, **4**, **FALSE** )

You need to **Name** a range before you start your equation. Select the data range, click in the name box and type the name you want for that dataset and press **Enter** on the keyboard. I used the name **Data**.

=VLOOKUP( **F3**, **Data**, **4**, **FALSE** )

## Title Lookup

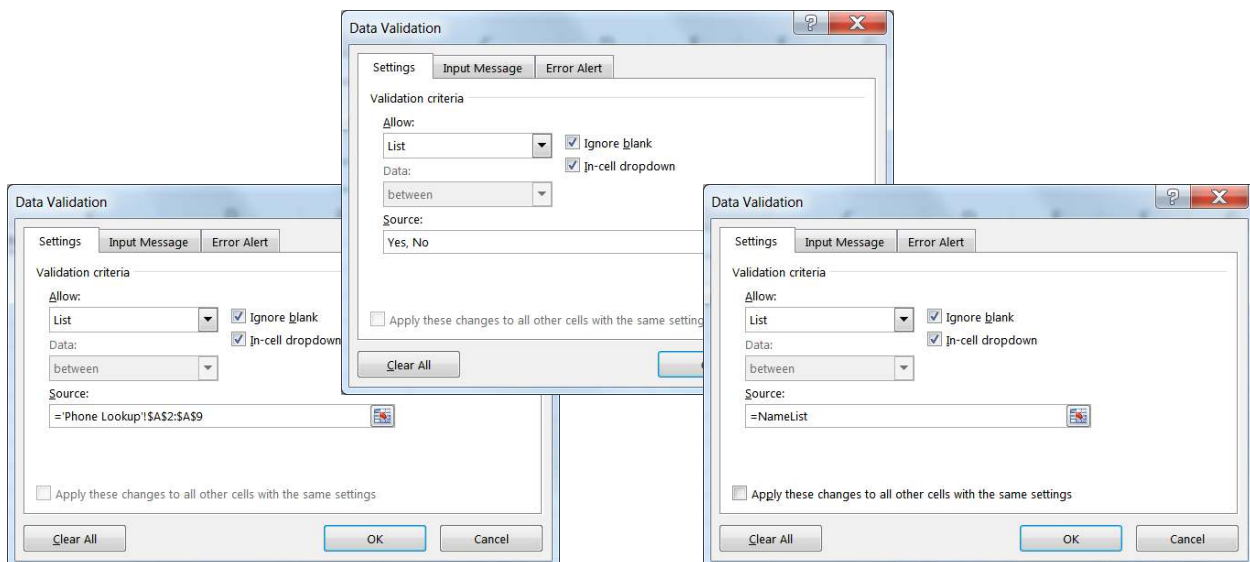
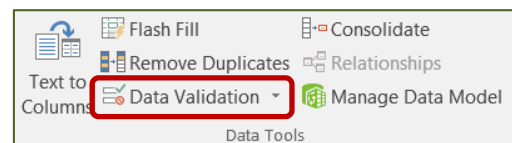
	A	B
1	<b>Title Lookup</b>	
2	<b>Name</b>	<b>Title</b>
3	Daisy Duck	=VLOOKUP( A3, Data, 3, FALSE )
4	Dewey Duck	Cabin Boy
5	Donald Duck	First Mate
6	Gus Goose	Gunner

Use function key **F3** to open the name box while you're building an equation. **F3**- Find Me!

## Choose Employee

	A	B
1	<b>Choose Employee</b>	
2	<b>Employee:</b>	Daisy Duck
3	<b>Title:</b>	=VLOOKUP( B2, Data, 3, FALSE )
4		
5	<b>Active Employee?</b>	

We can build a list within a cell using the **Data Validation** tool on the **Data** tab. Change the Allow option to List, and then type in the values, or the named range, or select a single column of the values you want to appear on the list.



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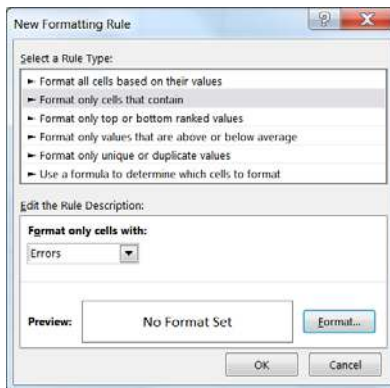
## Fill in a Blank

	A	B	C
1		Fill in a Blank	
2		Employee Name	Employee Title
3	#1:	Daisy Duck	=VLOOKUP( A3, Data, 3, FALSE )
4	#2:		#N/A
5	#3:	Louie Duck	Cabin Boy

Since there is no Employee 2 listed, we get the #N/A message saying the vLookup can't find that value.

There are three choices to deal with this.

- 1) Ignore it. I often do, I know what it means. I can use it to filter all the unmatched data.
- 2) Use a conditional formatting to make the text appear invisible by turning the font color white.



- 3) Use a nested formula with IF and ISNA.

IF(logical\_test,value\_if\_true,value\_if\_false)

IF( Question, What to do if True, What to do if False)

ISNA(Value) = returns a TRUE if it's an #N/A and a FALSE if it's not an #N/A

**Question:** Does our vLookup return an N/A

**If TRUE:** If it's true, let's put a blank cell ""

**If FALSE:** show me what the vLookup returned

=IF( ISNA( VLOOKUP( A3, Data, 3, FALSE ) ), "", VLOOKUP( A3, Data, 3, FALSE ) )

Diagram illustrating the components of the nested IF formula:

- Question:** ISNA( VLOOKUP( A3, Data, 3, FALSE ) )
- If TRUE:** ""
- If FALSE:** VLOOKUP( A3, Data, 3, FALSE )

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