Activity Overview

You've been learning about `VLOOKUP`, a spreadsheet function that vertically searches for a certain value in a column to return a corresponding piece of information. In this activity, you'll practice cleaning data and using `VLOOKUP` to consolidate information between two spreadsheet tabs. You'll complete your analysis by creating a pivot table.

By the time you complete this activity, you will be able to use `VLOOKUP` to find information in one sheet and add it to the correct row in another spreadsheet. This is an important skill that can help you work with large datasets in your career as a data analyst.

Scenario

Step-By-Step Instructions

Follow the instructions to complete each step of the activity. Then answer the questions at the end of the activity before going to the next course item.

Step 1: Access the template

To get started, access the `VLOOKUP` Practice Worksheet. Select the link to the worksheet below and select **USE TEMPLATE** to create a copy. If you don't have a Google account, you can download the `VLOOKUP` Practice Sheet directly from the attachment below.

Link to the worksheet: [VLOOKUP Practice Sheet](#)

OR

Step 2: Prepare the data

Sheet1 of the `VLOOKUP` Practice Sheet contains a timesheet of hours worked by several employees. However, this data has not been cleaned. You'll create a clean version of the table in Sheet1 so you can manipulate the data without changing the data from the original table. Then, you'll combine data from two sheets in the `VLOOKUP` Practice Sheet spreadsheet (Sheet1 and Sheet2) using the `VLOOKUP` function.

Step 3: Label the columns

Working with data gets messy quickly, and it's important to keep track of what your columns mean. First, add labels to the columns in your new table to help keep your data organized.

Add the following labels to the Sheet1:

1. In cell B14, enter: **Names**.

2. In cells C14 to H14, enter: **1/1/2020, 1/2/2020, 1/3/2020, 1/4/2020**, **1/5/2020**, and **1/6/2020**.

3. In cell **I14**, enter: **Hours**.

4. In cell **J14**, enter: **Pay Rate**.

5. In cell **K14**, enter: **Total Pay**.

Step 4: Clean the data

Some of the employee names in column B have extra spaces. Use the following steps to remove the extra spaces and clean your data.

1. In cell **B15**, enter `=TRIM(B2)`.

2. Select and drag the fill handle to cell **B19**, then release it. This populates the names, with extra spaces removed, in these cells.

Step 5: Populate the daily employee hours

Next, move employee hours to your new table with cleaned employee names. Perform the following steps to populate the daily hours for the employees:

1. In cell **C15**, type `=value(C2)`.

2. Select and drag the fill handle to cell **C19**. This populates the hours for the other employees.

Your new table should contain the following data in rows **15-19** of column **C**:

Row	C
15	8
16	8
17	7
18	8
19	6

Your table should have the values 8, 8.5, 7.5, 8, and 6 in the cells C15 through C19 respectively.

Use the populated cells from **C15** through **C19** to populate the remaining hours needed for each employee. To do this, perform the following steps:

3. Select and drag the fill handle for cell **C15** to cell **H15**. This populates the remaining hours for Daniel Chan. You should see the values 8, 8, 8.5, 7, 5, and 2.5 in cells C15 through H15.

4. Select and drag the fill handle for cell **C16** to cell **H16**. This populates the remaining hours for Dana Ali. You should see the values 8.5, 7, 8, 8, 9, and 5.5 in cells C16 through H16.

5. Repeat this process in **rows 17**, **18**, and **19** for the remaining employees.

a. In row 17, you should see the values 7.5, 6.5, 10, 8, 7, and 5 in cells C17 through H17.

b. In row 18, you should see the values 8, 8, 8, 7, 7, and 4 in cells C18 through H18.

c. In row 19, you should see the values 6, 5, 5, 5.5, 6, and 2 in cells C19 through H19.

Verify that your spreadsheet contains the following data:

Row	C	D	E
15	8	8	8.5
16	8.5	7	8
17	7.5	6.5	10
18	8	8	8
19	6	5	5

Step 6: Sum the total hours for each employee

Fill in the **Hours** column for the employees.

1. In cell **I15**, enter `=sum(C15:H15)`.

2. Select and drag the fill handle for cell **I15** to cell **H15**. This populates the sums for the remaining employees.

Column **I** in rows **15–19** should contain the following data:

Row	Column I
15	39
16	46
17	44
18	42
19	29.5

Your table should have the values 39, 46, 44, 42, and 29.5 in the cells I15 through I19 respectively.

Step 7: Import pay rate data

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K15:K19   ▼ | *fx* =product(I15,J15)

	A	B	C	D
1	ID	Name	1/1/2020	1/2/2020
2	G001	Chan, Daniel	8	8
3	G002	Ali, Dana	8.5	7
4	G003	Sanchez, Alexis	7.5	6.5
5	G004	Fischer, Wolfgang	8	8
6	G005	Patel, Anika	6	5
7				
8				
9				
10				
11				
12				
13				
14		**Names**	**1/1/2020**	**1/2/2020**
15		Chan, Daniel	8	8
16		Ali, Dana	8.5	7
17		Sanchez, Alexis	7.5	6.5
18		Fischer, Wolfgang	8	8
19		Patel, Anika	6	5

Step 8: Create a pivot table

Now that the data is clean and includes the pay rate information, you can create a pivot table. This makes it easier to quickly identify trends and patterns and generate reports without having to search the raw data. This section demonstrates how to

create a pivot table in **Google Sheets**. If you are using Excel, follow the [documentation for how to manually create a pivot table in Excel](#).

To create a table for data in cells **B14:K19**:

1. Select the data in cells **B14:K19**.

2. Select **Insert** from the menu, then select **Pivot Table**.

3. From the pop-up window, select **New Sheet**, then select **Create**.

A new tab titled Pivot Table 1 will appear between Sheet1 and Sheet2. A **Pivot table editor** will pop up on the screen. Use this editor to create a pivot table that contains each employee's name, pay rate, and total pay:

1. Select **Add** for **Rows**. Then, select **Names** from the dropdown options.

2. Select **Add** for **Values**. Then, select **Pay Rate** from the dropdown options.

3. Select **Add** for **Values** again. Then, select **Total Pay** from the dropdown options.

4. Select cells **B2** through **C6**, then select the **$** symbol from the toolbar to reformat these cells as currency.

Rows **1-7** in columns **A**, **B**, and **C** in the sheet Pivot Table 1 should contain the following data:

Row	Names	SUM of Pay Rate
2	Ali, Dana	$75.00
3	Chan, Daniel	$100.50
4	Fischer, Wolfgang	$65.00
5	Patel, Anika	$3,000.00
6	Sanchez, Alexis	$150.00

Row	Names	SUM of Pay Rate
7	Grand Total	$3,390.50

Your table should have the following values:

In row 2, you see the name Ali, Dana with a pay rate of $75.00 and a total pay of $3,450.00. In row 3, you see the name Chan, Daniel with a pay rate of $100.50 and a total pay of $3,919.00. In row 4, you see the name Fischer, Wolfgang with a pay rate of $65.00 and a total pay of $2,730.00. In row 5, you see the name Patel, Anika with a pay rate of $3,000.00 and a total pay of $88,500.00. In row 6, you see the name Sanchez, Alexis with a pay rate of $150.00 and a total pay of $6,600.00. In row 7 are the grand totals, which include the total combined pay rate of $3,390.50 and the total combined pay of $105,199.50.

Congratulations! You have now cleaned and labeled your data, used `VLOOKUP` to import data from another spreadsheet, and created a pivot table. Now you'll be able to easily complete payroll for your employees.

Pro Tip: Save the activity template

Be sure to save a copy of the spreadsheet template you used to complete this activity. You can use it for further practice or to help you work through your thought processes for similar tasks in a future data analyst role.