Finding Data in Google Sheets

Start your lab

1. When you are ready, click **Start Lab** in the upper left panel.

   The Lab Details pane appears with the temporary credentials that you must use to sign into Gmail for this lab.

   If you need to pay for the lab, a pop-up opens for you to select your payment method.

2. Click **Open Google Drive**.

   The lab spins up resources, and then opens another tab that shows the Sign in page.

   Tip: Open the tabs in separate windows, side-by-side.

3. If necessary, copy the **Username** below and paste it into the **Sign in** dialog.

   ```
   student-00-add47cfb309e@qwiklabs.net
   ```

4. Click **Next**.

5. Copy the **Password** below and paste it into the **Welcome** dialog.

   ```
   mHm02RydHtnv
   ```

6. Click **Next**.

7. Accept all terms and conditions as prompted.

Google Drive opens and you are signed in to the Student Google Account.

Task 1. Manipulate data

In this task, you use the SPLIT and TRANSPOSE functions to help On the Rise Bakery update its spreadsheet so it's easily understood.

Use the SPLIT function

1. To use the spreadsheet for this lab, go to Google Drive, and then double-click to open the **On the Rise Bakery Bulk Orders** file that has been created for you.
2. In cell B1 of the **Bulk Orders** sheet, paste or type **=SPLIT(A1, ",")**

   The **Bulk Orders** sheet contains orders from customers as comma-separated values. Using the SPLIT function divides text around a specified character or string and puts each fragment into a separate cell in the row.

3. To apply formula to the rest of the column, select cell B1, and then double-click the small blue box in the lower-right corner of the cell.

   Alternatively, you can click the small blue box in the cell, and then drag your cursor down.

4. Right-click the column A label, and then click **Hide column**.

   You can also split clearly defined data, like text separated by commas, into several columns without using the *SPLIT* function. At the top, click **Data > Split text to columns**.

5. To adjust the size of the column, hold your pointer over the dividing line between the column D label and column E label until a blue line appears, and then double-click.

   You can resize a column or row to ensure the full text is visible.

Use the TRANSPOSE function

1. At the bottom of the spreadsheet, click the sheet labeled **New Order** to view the record for a single customer.

   Notice that the data is arranged in a column, rather than a row.

2. In cell A8, paste or type **=TRANSPOSE(A1:A7)**
   The TRANSPOSE function reorganizes data so the positions of rows and columns are swapped.

3. Copy cells A8:G8.

4. Return to the **Bulk Orders** sheet, click on cell B101, and then paste the data.

   After you paste the data, a clipboard ( ) should appear.

5. Click the dropdown next to the clipboard, and select **Paste values only**.

   Paste values only pastes the data shown in the cells, not the underlying functions, or cell references.

Task 2. Find and replace data

In this task, you help the staff update its records using both the find and replace feature and the SUBSTITUTE function.

Use the find and replace feature

On the Rise Bakery staff members are adding new muffin flavors to the menu. All existing orders are for blueberry muffins. Help the staff update the **Bulk Orders** sheet to specify the muffin flavor.

1. To open the search box, press Control+F on your keyboard (or Command+F if you're using a Mac computer).

Note: You can also use shortcuts for spreadsheets made by other companies in Google Sheets. At the top, click **Help > Keyboard shortcuts > Enable compatible spreadsheet shortcuts.**

2. Click **More options** (⋮).
3. For **Find**, type **Muffin**, and for **Replace with**, type **Blueberry Muffin**.
4. For **Search**, select **This sheet**, click **Replace all**, and then click **Done**.

The find and replace feature is distinct from the FIND and SEARCH functions, which provide the position at which a string is first found within text.

Use the SUBSTITUTE function

On the Rise Bakery is closing early on the November 6th due to a bank holiday. All orders scheduled for that date must be rescheduled to the seventh.

1. In cell I1, paste or type **Adjusted Delivery Date**

2. In cell I2, paste or type **=SUBSTITUTE(F2,"Nov-6","Nov-7")**

   The **SUBSTITUTE** function searches for the specified text, which is in cell F2. If an exact match for **Nov-6** is found, the date changes to **Nov-7**. If a match is not found, the value of the corresponding cell from column F is displayed.

3. Apply the formula to the remaining cells in column I.

Task 3. Retrieve data using VLOOKUP and QUERY

The bakery staff must search the sheet to answer customer inquiries and complete other business functions. In this task, you use the VLOOKUP and QUERY functions to retrieve data in the spreadsheet.

VLOOKUP

A customer called On the Rise Bakery to confirm the expected delivery date. VLOOKUP can be used to search for related information in a row.

1. In cell J2, paste or type **Georgia Nkosi**

2. In cell K2, paste or type **=VLOOKUP(J2, G2:I100, 3, False)**

   The VLOOKUP function requires three parameters: the key to search by, the range to search, and the column number of the information being searched. The fourth, and optional parameter,

The column number is relative to the range provided. **Adjusted Delivery Date** is designated as the third column in the formula because the range used with VLOOKUP starts at column G.

Note: In this task, you use VLOOKUP to retrieve data in a sheet. Google Sheets also supports functions like HLOOKUP and XLOOOKUP. To learn more, see LOOKUP.

QUERY

On the Rise Bakery wants to email a discount code for a future purchase to all customers who spent at least $500. In this task, you get a list of email addresses.

1. In the lower-left of your spreadsheet, click **Add Sheet** (+) to add another sheet.

2. Right-click the new sheet name, click Rename, and type **Discount**

3. In cell A1 of the **Discount** sheet, paste or type `=QUERY('Bulk Orders'!$B$2:$I$100, "select H where E > 500")`

   The QUERY function uses the Google Visualization API Query Language and requires both a range and the search criteria.

   When referencing data contained in a different sheet, include the name of the source sheet, followed by an exclamation mark. If a sheet name contains spaces or other non-alphanumeric symbols, include single quotes around it (as shown in the provided query statement).

(Optional) Modify the query statement to only retrieve email addresses if the

4. Task 4. Use VLOOKUP with IF and ISERROR

You used VLOOKUP to successfully retrieve information about an order in task three. In this task, you explore what you can do when you search for data with VLOOKUP and the record is not found.

Debug errors in Sheets

1. In cell J3 of the **Bulk Orders** sheet, type the name **Alexander Jorgenson**

2. In cell K3, paste or type **=VLOOKUP(J3, B2:I100)**

   The text in the cell should show #N/A and a red error flag should appear in the upper-right corner of the cell.

3. Hold your pointer over the red error flag to see the error message.

   The formula in cell K3 results in an error because it uses fewer arguments, or inputs, than required.

4. In cell K3, paste or type **=VLOOKUP(J3, B2:I100, 8)**

   This updated formula includes three arguments, the last of which is the column number of the data that must be retrieved.

5. Hold your pointer over the red error flag again.

   An updated error message should appear.

Which of the following is the new error message?

close~~Wrong number of arguments to VLOOKUP. Expected between 3 and 4 arguments, but got 2 arguments.~~

checkDid not find value Alexander Jorgenson in VLOOKUP evaluation.

Alexander Jorgenson not found.

#REF!

Submit

When you use functions and formulas in Sheets, many errors can occur. When you encounter an error, be sure to read the full message so you can understand the problem. You can also reference the Google Sheets function list for function usage instructions.

Handle errors with IFERROR

1. In cell K4, paste or type **=ISERROR(K3)**

   The **ISERROR** function checks whether the provided value is an error.

2. In cell K3, paste or type to **=IFERROR(VLOOKUP(J3, B3:I100, 8), "Record not found")**

   Notice that the red error flag does not appear in the cell. Also, observe how the values of cells K3 and K4 have changed.

IFERROR evaluates whether the first argument is an error value. If it is not an error value, it returns that argument. Otherwise, **IFERROR** returns the second argument, so the text **"Record not found"** is displayed.