# Microsoft Excel Expert (Microsoft 365 Apps)

# Student Study Guide: Project 1

**Instructions:** In this project there are 28 tasks based on the exam objectives for Exam MO-211: Microsoft Excel Expert (Microsoft 365 Apps). For each exam objective, complete the task(s) using the supporting files listed below under Resources. After each task is completed, check the task box to mark it as complete.

**Note:** Refer to the Learning Directory for step-by-step guidance and additional resources, if needed.

**Resources:**

* **Project1\_datafile.xlsx** in the **Project\_Files** folder.
* **DiscountCodes.xlsx** in the **Project\_Files** folder.

## Project 1 Tasks

2.1.1 Fill cells by using Flash Fill

In the Project1\_datafile.xlsx workbook, on the Salespeople worksheet, use Flash Fill to extract information from the list of Salespeople in column C. List the 4-digit ID in the Salesperson ID column in column A, and list the first and last name in the Salesperson full name column as first name, space, last name, for example, Tom Smith.

3.2.1 Look up data by using the XLOOKUP(), VLOOKUP(), HLOOKUP(), MATCH(), and INDEX() functions

On the Sales worksheet, in the Salesperson name column, using the values in the Salesperson ID column, enter a function in the Salesperson Name column that lists the full name of each salesperson from the Salespeople worksheet.

2.2.1 Create custom number formats

On the Salespeople worksheet, create a custom format so the numeric values in A2:A16 are prefaced with the text “ID-“ for example, ID-1234.

3.4.6 Sort data by using SORTBY()

☐ On the Products worksheet, create a sorted list starting in F2 that sorts the data in A2:D14 in ascending alphabetical order first by Category, and then by Product name.

3.2.1 Look up data by using the XLOOKUP(), VLOOKUP(), HLOOKUP(), MATCH(), and INDEX() functions

On the Sales worksheet, use the MATCH and INDEX functions in the Product Name column to reference the values in the Product ID column and then return the product names from column B of the Products worksheet.

2.2.1 Create custom number formats

On the Sales worksheet, format the dates in the Month column with a custom date format that displays only the full month name, for example, June.

2.2.2 Configure data validation

On the Sales worksheet, apply Data Validation to the values in the Discount number column to display an error alert when a value is entered that isn’t a whole number between 0 and 3. The alert should have the “Warning” style, the Title “Invalid entry” and the description “Enter a whole number between 0 and 3.” Also, when a cell in the column is selected, an Input Message displays with the title “Discount number” and the text “Enter a whole number between 0 and 3.” Circle any invalid data.

3.1.1 Perform logical operations by using nested functions including the IF(), IFS(), SWITCH(), SUMIF(), AVERAGEIF(), COUNTIF(), SUMIFS(), AVERAGEIFS(), COUNTIFS(), MAXIFS(), MINIFS(), AND(), OR(),NOT(), and LET() functions

On the Sales worksheet in the Discount code column, use the SWITCH() function to return a value based on the value in the Discount number column. If the Discount number column value is 0 (zero), return “no discount”; if the Discount number column value is 1, display A; if the Discount number column value is 2, display B; and if the Discount number column value is 3, display C.

3.5.3 Validate formulas by using error checking rules

3.5.4 Evaluate formulas

On the Sales worksheet, use Error Checking to find the name and cause of the error in O4. Enable background error checking and set the error color to orange. Use Trace Precedents in O4 to determine what value on the sheet is causing the error, replace that value with “2” and remove the arrows.

1.1.2 Reference data in other workbooks

3.1.1 Perform logical operations by using nested functions including the IF(), IFS(), SWITCH(), SUMIF(), AVERAGEIF(), COUNTIF(), SUMIFS(), AVERAGEIFS(), COUNTIFS(), MAXIFS(), MINIFS(), AND(), OR(),NOT(), and LET() functions

3.2.1 Look up data by using the XLOOKUP(), VLOOKUP(), HLOOKUP(), MATCH(), and INDEX() functions

On the Sales worksheet, enter a nested function in the Discount percentage column that uses the IF and HLOOKUP functions. Reference the Discount code listed in column O on the Sales sheet to obtain the corresponding Discount percentage from the DiscountCodes.xlsx workbook. If “no discount” is listed in column O, return 0 (zero).

3.5.2 Monitor cells and formulas by using the Watch Window

On the Sales worksheet, set up a Watch Window for the three cells in row 309 that contain the column totals. Enter Quantity values of 7, 8, and 5 in L2:L4 and observe the changed totals in the Watch Window and then close it.

4.2.1 Create PivotTables

Using all the data on the Sales worksheet, create a PivotTable on the Honey Orders worksheet in cell A1. Use the Order total field in Values and Product name field in Rows. Name the PivotTable “HoneySales.”

4.2.2 Modify field selections and options

4.2.4 Group PivotTable data

4.2.6 Configure value field settings

In the HoneySales PivotTable, move the Product name field to Columns. Add the Sale date field to Rows so only the months and quarters display. Format the Sum of Order totals field as Currency with two decimal places, a dollar sign ($), red text in parenthesis for negative numbers, and the Custom Name “Total of All Orders.”

4.2.3 Create slicers

Create a slicer for the HoneySales PivotTable to filter by Product name, and then filter the PivotTable to display only Buckwheat honey, Clover honey, and Wildflower honey sales data.

4.3.1 Create PivotCharts

4.3.2 Manipulate options in existing PivotCharts

Create a Clustered Column PivotChart based on the HoneySales PivotTable. Only include data from June, July, and August. The X axis should display Product names.

4.1.2 Create and modify charts including Box & Whisker, Combo, Funnel, Histogram, Sunburst, and Waterfall charts

On the Honey Sold worksheet, create a Histogram chart that shows the frequency of the values in the % of stock sold column. Add Data Labels in the center of the columns that show the number of records included in each bin.

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On the Honey Sold worksheet, use the IFS() function in cell D1 to return:

* ”Less than 50%” if the average of % of Stock Sold is less than 50%
* “50% or more” if the average of % of Stock Sold is 50% or more
* “65% or more” if the average of % of Stock Sold is 65% or more

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On the Customers Report worksheet, in the Large or weekly orders column, create a nested function that returns the value “Yes” if the customer’s Farm Box size in column B is “Large” or if the customer’s Order frequency is “Weekly.” If neither is true, then display nothing.

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On the Customers Report worksheet, in the Weekly or Bi-weekly Small or Medium orders column, create a nested function that returns the value “Yes” if the customer’s Farm Box size in column B is not “Large” and the customer’s Order frequency is not “Monthly.” If the returned value isn’t “Yes” then display nothing.

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On the Customers Report worksheet, in cell H3, enter a COUNTIFS() function that returns the total number of customers who place weekly or bi-weekly orders for a Small Farm Box.

2.3.2 Create conditional formatting rules that use formulas

On the Customers Report worksheet, create a new Conditional Formatting rule that uses a formula and that applies a light green fill to the cell containing the customer’s name if the customer places large or weekly orders.

3.1.1 Perform logical operations by using nested functions including the IF(), IFS(), SWITCH(), SUMIF(), AVERAGEIF(), COUNTIF(), SUMIFS(), AVERAGEIFS(), COUNTIFS(), MAXIFS(), MINIFS(), AND(), OR(), NOT(), and LET() functions

3.4.5 Filter data by using FILTER()

On the Customer Counties worksheet, use a combination of the LET, IF, and FILTER functions to produce a set of filtered data starting in F3. Filter the data in the range A3:D20 (name this variable filteredData) by the value in cell G1 (name this variable countyName). If the value in the Sales rep column (column C) is not assigned, return a dash in the filtered dataset.

2.2.2 Configure data validation

On the Sales Report worksheet, apply Data Validation that allows values only from a list to cells A4 and B4. In A4, use the cities listed on the List data worksheet; in B4, use the products listed on the List data worksheet.

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On the Sales Report worksheet, choose a city in cell A4 and a product in cell B4. Enter a function in C7 that returns the total quantity from the Quantity column in the Sales worksheet where the City in the Sales worksheet matches the City in A4, and the Product name in the Sales worksheet matches the Product name in B4.

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On the Sales Report worksheet, add a function in C7:C19 that returns the number of sales in the Sales worksheet for the products listed in B7:B19.

2.2.4 Calculate data by inserting subtotals and totals

On the Sales Report worksheet, use Subtotals to create Totals and Averages for the values in the Number of Sales column.

2.3.2 Create conditional formatting rules that use formulas

3.3.2 Calculate dates by using the WEEKDAY() and WORKDAY() functions

On the Market Report worksheet, create a new custom Conditional Formatting rule in A3:C33 that will shade a row with light yellow when the date in column A is a weekend day (a Saturday or Sunday).

2.1.3 Generate numeric data by using RANDARRAY()

On the Market Stall Projections worksheet, enter an array of random whole numbers between 15 and 50 in the range B3:D15.