

Unit 3 Using Microsoft Excel

The following video and activity provide an introduction on

- using tables,
- using IF and COUNTIF functions to check conditions,
- using conditional formatting, and
- inserting charts.

Watch

Click [here](#) or use the QR code provided to watch the Unit 3 video.



Now You Try It!

Open the Excel file named **Dog_Patients_April** and follow along with the following instructions.

Tables

Tables in Excel are used to organize and analyze data efficiently by automatically applying filters, formatting, and formulas across rows and columns. They also make it easier to manage dynamic data ranges and create structured references for calculations.

A range of cells can be converted to a table by selecting the cells and selecting “Format as Table” on the Home tab.

1. Select cells A1 through D14 and format these cells as a table. Be sure that “My table has headers” is checked.

Using IF and COUNTIF Functions

IF functions in Excel check a given condition and then show different results based on that condition. They’re useful for things like grading, sorting, or flagging data that meet certain conditions.

A COUNTIF function in Excel is used to count how many cells meet a specific condition. For example, you can use it to count how many students scored above 80 or how many entries say “Pass”.

The inputs for these functions are as follows.

- IF(logical_test,[value_if_true],[value_if_false])
 - **Note:** to input text for [value_if_true] or [value_if_false], use quotation marks, such as “True”.
- COUNTIF(range, criteria)
 - **Note:** to input text for criteria, use quotation marks, such as “Pass”.

2. Suppose a dog is considered to be a senior if they are 8 years old or older. Use an IF function in column D to label each dog as either Senior or Not Senior. (**Hint:** the symbols \geq are used to represent greater than or equal to in Excel.) State the formula as it appears in Excel.
3. Use a COUNTIF function in cell F2 to count the number of Senior dogs in the table. State the formula as it appears in Excel. What value is displayed in cell F2?
4. Use a COUNTIF function in cell G2 to count the number of Not Senior dogs in the table. State the formula as it appears in Excel. What value is displayed in cell G2?

Conditional Formatting

Conditional formatting in Excel adjusts the formatting of cells based on rules you set, like changing colors when values are very high or low. This helps you quickly spot trends, patterns, or issues in your data.

Conditional formatting can be added by selecting a range of cells, and selecting “Conditional Formatting” on the Home tab.

5. Add conditional formatting to column D so that the value in column D highlights yellow if the dog is labeled Senior. Explain why this might be helpful.

Charts

Charts in Excel turn numbers into visual pictures like bars graphs, line graphs, or pie charts, making data easier to understand. They help you quickly spot trends, compare values, and share insights.

The Insert tab allows you to insert charts. There are several ways to do this, but we will use the “Recommended Charts” option in these examples.

6. Select columns A and B in the table (Patient and Weight). Select “Recommended Charts” and insert a bar graph that shows each dog on the horizontal axis and the dog’s weight on the vertical axis.
7. Sort column B (weight) by smallest to largest. Notice that the chart updates to be sorted as well.
8. Select cells F1, F2, G1, and G2 (the counts of senior versus non-senior dogs). Select “Recommended Charts” and insert a pie chart that shows the breakdown of senior versus non-senior dogs. Double click on Chart Title to update the title to Dog Ages.

Save Your File

Go to File > Save As to save your file. Change the name of the file to contain your name, so change the file name to **Dog_Patients_April_[Your_Name]**.