BASIC EXCEL

FOR LIFELONG LEARNERS

Expectations

Are you ready to embark on a journey into the world of spreadsheets? Join our Basic Excel Class, the perfect starting point for those with limited tech backgrounds. In this engaging three-hour session, you'll master the fundamentals of Excel with ease. Learn to navigate the Excel interface, enter data, and perform basic calculations. Discover the magic of cell formatting and how to organize your work in multiple sheets. By the end of this class, you'll be creating your own Excel workbooks like a pro.

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MICROSOFT EXCEL: BASICS

INTRODUCTION

Microsoft Excel is a spreadsheet program developed by Microsoft and is part of the Office suite of software. It features calculations, formulas, graphing tools, and pivot tables. Excel is used widely for many financially related activities, from simple quarterly forecasts to complete corporate annual reports. Excel is also used for standard information organization like contact lists and inventory tracking. It is one of the most widely used programs in the Office suite.

Microsoft Office is not part of Windows; each must be purchased separately. Home computer users are sometimes dismayed to learn that they must purchase the Office Suite after buying a new computer to get access to Excel.

THE ENVIRONMENT

CREATE A BLANK DOCUMENT

Follow these steps to start Excel and create a new blank document.

ACTIVITY 1: CREATE A BLANK DOCUMENT

1. Enter *excel* in the Windows search box in the lower-left corner of the screen.
2. Click the **EXCEL APP** icon to start the program.
3. When Excel starts, click **BLANK WORKBOOK** to open a new, blank workbook.

THE WORKSPACE

The Excel screen is divided into two main parts. On top is The Ribbon, which contains several tabs that open buttons and links related to that tab. For example, the "Insert" tab has buttons to insert illustrations, charts, comments, and many other objects. To use the Ribbon, click on the tab and then click one of the buttons.

On the bottom is a large, white grid where the worksheet is created and edited.

SAVE A DOCUMENT

Before starting the new workbook, save it so your work won't be lost if the power goes out.

ACTIVITY 2: SAVE A DOCUMENT

1. Click **FILE** on the top menu.

2. Click **SAVE AS** on the left-side menu.

3. Click **BROWSE** and navigate to the desired folder.

4. Enter this file name: *10-GMW*.

5. Click **SAVE**.

ENTER DATA

The most straightforward data entry technique is to type information into each cell. Start this worksheet by entering column headings.

ACTIVITY 3: ENTER DATA

1. Click cell location **A2** on the worksheet.

2. Type the word *Month*.

3. Tap ⌨ *TAB* to enter the word into cell **A2** and activate the next cell to the right.

4. Type *Unit Sales* and tap *TAB* .

5. Repeat the above step for the words *Average Price* and then again for *Sales Dollars*.

Continue the data entry with numeric values for the columns.

ACTIVITY 4: COMPLETE THE DATA ENTRY

1. Click cell location **B3**.

2. Type *2670* and tap *ENTER* . After tapping enter, cell **B4** will be activated. Using enter is an efficient way to enter data vertically down a column.

3. Enter the following numbers in cells **B4** through **B14**: *2160*, *515*, *590*, *1030*, *2875*, *2700*, *900*, *775*, *1180*, *1800*, and *3560*.

4. Click cell location **C3**.

5. Type the number *9.99* and tap *ENTER* .

6. Enter the following numbers in cells **C4** through **C14**: *12.49*, *14.99*, *17.49*, *14.99*, *12.49*, *9.99*, *19.99*, *19.99*, *19.99*, *17.49*, and *14.99*.

7. Click cell location **D3**.

8. Type the number *26685* and tap *ENTER* .

9. Enter the following numbers in cells **D4** through **D14**: *26937*, *7701*, *10269*, *15405*, *35916*, *26937*, *17958*, *15708*, *23562*, *31416*, and *53370*.

10. Save the workbook.

AUTO FILL

The Auto Fill feature is valuable when manually entering sequential data into a worksheet. The following steps demonstrate how the Auto Fill Handle can be used to enter the months of the year in *Column A*.

ACTIVITY 5: USE AUTO FILL

1. Click cell **A3**.
2. Type the word *January* and tap ENTER .
3. Click in cell **A3** again.
4. Move the mouse pointer to the lower right corner of cell **A3**. Notice a small square in this corner of the cell called the *Auto Fill Handle*. When the mouse pointer gets close to the *Auto Fill Handle*, it will change into a black plus character.
5. Click and drag the *Auto Fill Handle* to cell **A14**. Notice that the *Auto Fill Handle* tip box indicates what month will be placed into each cell. Release the left mouse button when the tip box reads *December*.

Once the left mouse button is released, all twelve months of the year should appear in the cell range *A3:A14*.

ADJUST THE COLUMN WIDTH

A few entries in the worksheet appear to be cut off. For example, the last letter of the word *September* cannot be seen in cell *A11* because the column is too narrow. Columns can be adjusted to accommodate the data being entered into a cell.

ACTIVITY 6: ADJUST THE COLUMN WIDTH

1. Bring the mouse pointer between *Column A* and *Column B*. Notice the pointer turns into double arrows.
2. Double-click to auto-adjust the column width.
3. Release the left mouse button.

FORMAT DATA

ACTIVITY 7: FORMAT THE HEADER AND TOTAL ROWS

1. Select **A2:D2**.
2. Click **HOME → FONT → BOLD**.

3. Click **HOME → FONT → BORDER → DOWN ARROW**. Select **BOTTOM BORDER** from the list to place a border on the bottom of *Row 2*.

4. Click **A15**.

5. Enter *Total*.

6. Select **A15:D15**.

7. Click **HOME → FONT → BOLD**.

8. Click **HOME → FONT → BORDER → DOWN ARROW**. Select **TOP BORDER** to place a border on the top of *Row 15*, where totals will eventually be displayed.

ACTIVITY 8: FORMAT THE DATA ROWS

1. Select **B3:B14**.

2. Click **HOME → NUMBER → COMMA STYLE**.

3. Click **HOME → NUMBER → DECREASE DECIMAL** two times.

4. Select **C3:C14**.

5. Click **HOME → NUMBER → ACCOUNTING NUMBER** (indicated with a dollar sign).

6. Select **D3:D14**.

7. Click **HOME → NUMBER → ACCOUNTING NUMBER**.

8. Click **HOME → NUMBER → DECREASE DECIMAL** two times.

9. Save the workbook.

ACTIVITY 9: FORMAT THE TITLE ROW

1. Select **A1:D1**.

2. Click **HOME → FONT → FILL COLOR → DOWN ARROW**.

3. Click **BLUE, ACCENT 1, DARKER 25%** from the palette.

4. Click **A1** and enter the worksheet title, *General Merchandise World*.

5. Click **A2** and then click **A1** again to select that cell.

6. Click **HOME → FONT → FONT COLOR → DOWN ARROW** and select **WHITE**.

ACTIVITY 10: WRAP TEXT

1. Select the range **B2:D2**.

2. Click **HOME → ALIGNMENT → CENTER**.

3. Click **Home → Alignment → Wrap Text**.

4. Save the workbook.

ACTIVITY 11: CREATE THE WORKSHEET TITLE

1. Select **A1:D1**.

2. Click **Home → Alignment → Merge & Center**.

3. Click **A1**. Since the cells were merged, clicking cell **A1** will automatically activate the range **A1:D1**.

4. Position the mouse to the end of the title, directly after the "d" in the word "World," and double-click to get a cursor (flashing I-beam).

5. Hold $\boxed{ALT}$ and press $\boxed{ENTER}$ to start a new line of text in this cell location.

6. Type *Retail Sales (in millions)* and press $\boxed{ENTER}$.

7. Click **A1**.

8. Click **Home → Format → Row Height** and enter *30*, then click **Ok**.

9. Click **Home → Font → Bold**.

10. Click **Home → Font → Italics**.

ACTIVITY 12: CREATE CELL BORDERS

1. Select **A1:D15**.

2. Click **Home → Font → Borders → Down Arrow → All Borders**.

3. Select **A2:D2**.

4. Click **Home → Font → Borders → Down Arrow → Thick Bottom Border**.

5. Select **A14:D14**.

6. Click **Home → Font → Borders → Down Arrow → Thick Bottom Border**.

7. Select **A1:D15**.

8. Click **Home → Font → Borders → Down Arrow → More Borders…**.

9. In the *Style* section of the Borders tab, click the thickest line style.

10. Click **Outline** in the *Presets* section.

11. Click **Ok**.

ACTIVITY 13: USE AUTOSUM

1. Click **B15**.

2. Click **HOME → EDITING → AUTOSUM → DOWN ARROW**.

3. Click **SUM**.

4. Excel will display a flashing marquee around the range of numbers to sum.

5. Press [**ENTER**] .

6. It would not make sense to total the averages in *Column C*, so **C15** will be left blank.

7. Click **D15**.

8. Click **FORMULAS → FUNCTION LIBRARY → AUTOSUM → DOWN ARROW**.

9. Click **SUM**.

10. Excel will display a flashing marquee around the range of numbers to sum.

11. Press [**ENTER**] .

12. Save the workbook.

SIMPLE FORMULAS

ACTIVITY 14: LOAD A NEW WORKBOOK

1. Click **FILE → OPEN → BROWSE**.

2. Navigate to *11-Data* and click **OPEN**.

3. Click **FILE → SAVE AS → BROWSE**.

4. Navigate to the desired file location and save it as *11-Personal Budget*.

ACTIVITY 15: CALCULATE THE MONTHLY SPEND

1. Click **C3**.

2. Type an equal sign: **=**. When the first character entered in a cell location is an equal sign, it signals Excel to perform a calculation or produce a logical output.

3. Type **D3** to add the value of cell *D3* to the formula.

4. Type slash: **/**, which is the symbol for division in Excel.

5. Type the number *12* to divide the value in cell **D3** by *12*.

6. Press [**ENTER**] .

ACTIVITY 16: AUTO FILL A FORMULA

1. Click **C3**.

2. Place the mouse pointer over the *Auto Fill Handle*.

3. When the mouse pointer turns to a black plus sign, click and drag to cell **C11** to paste the formula into the range **C4:C11**.

4. Click **C6** and observe that the formula was changed to refer to **D6**.

ACTIVITY 17: ENTER A COMPLEX FORMULA

1. Click **F3**.

2. Type an equal sign: **=**.

3. Type an open parenthesis: **(**.

4. Click **D3** to add a cell reference to cell **D3** to the formula. When building formulas, clicking cells rather than typing the reference is more accurate.

5. Type a minus sign: **–**.

6. Click **E3** to add this cell reference to the formula.

7. Type a closing parenthesis: **)**.

8. Type slash: **/** for division.

9. Click **E3**.

10. Press   **ENTER** . The result is 0.0% since *Annual Spend* and *LY Spend* (*Last Year's Spend*) are the same.

11. Click **F3**.

12. Place the mouse pointer over the *Auto Fill Handle*.

13. Click and drag down to **F11**.

14. Save the workbook.

The parentheses in the formula above are essential. If they are removed, the result is 299900%. Since there is no change between the LY Spend and the budget Annual Spend, the result should be 0%. However, without the parentheses, Excel follows the standard order of operations. So, the value in cell E3 is divided by E3 first (3000/3000), which is 1. Then, the value of 1 is subtracted from the value in cell D3 (3000-1), which is 2,999. Since cell F3 is formatted as a percentage, Excel expresses the output as an increase of 299900%.

ACTIVITY 18: USE THE SUM FUNCTION

1. Click cell **C12**.

2. Type an equal sign: **=**.

3. Type the function name: *sum*.

4. Type an open parenthesis: **(**.

5. Click **C3** and drag down to **C11** to enter **C3:C11** into the function.

6. Type a closing parenthesis: **)**.

7. Press ⎡**ENTER**⎤ and calculate the total of $1,496.

ACTIVITY 19: COPY THE SUM FORMULA

1. Click **C12**.

2. Click **HOME → CLIPBOARD → COPY**.

3. Click **D12** and drag the mouse to **E12**.

4. Click **HOME → CLIPBOARD → PASTE**.

5. Tap ⎡**ESC**⎤ to stop the "marching ants" highlighting of *C12*.

6. Click **F11**.

7. Click **HOME → CLIPBOARD → COPY**.

8. Click **F12**.

9. Click **HOME → CLIPBOARD → PASTE** to paste the percent change formula.

10. Tap ⎡**ESC**⎤ to stop the "marching ants" highlighting of **F11**.

ACTIVITY 20: USE ABSOLUTE REFERENCES

1. Click **B3**.

2. Type an equal sign: **=**.

3. Click **D3**.

4. Type a forward slash: **/**.

5. Enter *D12*. The dollar signs keep this cell reference from changing if the formula is pasted into another location.

6. Tap ⎡**ENTER**⎤ to find *Household Utilities* represent 16.7% of the *Annual Spend*.

7. Click **B3**.

8. Click **HOME → CLIPBOARD → COPY**.

9. Select **B4:B11**.

10. Click **HOME → CLIPBOARD → PASTE**.

11. Tap ⎡**ESC**⎤ to stop the "marching ants" highlighting of **B3**.

12. Save the workbook.

ACTIVITY 21: COUNT CELLS CONTAINING NUMBERS

1. Click **D13**.
2. Type an equal sign: **=**.
3. Type the function name: *count*.
4. Type an open parenthesis: **(**.
5. Click **D3** and drag down to **D11** to enter **D3:D11** into the function.
6. Type a closing parenthesis: **)**.
7. Press ⊞**ENTER** and calculate the count of *9*.

ACTIVITY 22: CALCULATE AN AVERAGE

1. Click **D14** in the worksheet.
2. Type an equal sign: **=**.
3. Type the function name: *average*.
4. Type an open parenthesis: **(**.
5. Click **D3** and drag down to **D11** to enter **D3:D11** into the function.
6. Type a closing parenthesis: **)**.
7. Press ⊞**ENTER** and calculate the average of *1994*.

ACTIVITY 23: FIND THE MIN AND MAX VALUES

1. Click **D15** in the worksheet.
2. Type an equal sign: **=**.
3. Type the function name: *min*.
4. Type an open parenthesis: **(**.
5. Click **D3** and drag down to **D11** to enter **D3:D11** into the function.
6. Type a closing parenthesis: **)**.
7. Press ⊞**ENTER** and find the minimum value of *1200*.
8. Click **D16** in the worksheet.
9. Type an equal sign: **=**.
10. Type the function name: *max*.
11. Type an open parenthesis: **(**.
12. Click **D3** and drag down to **D11** to enter **D3:D11** into the function.

13. Type a closing parenthesis: **)**.

14. Press **ENTER** and find the minimum value of *3500*.

15. Save the workbook.

ACTIVITY 24: PASTE FORMULAS WITHOUT FORMATTING

1. Select **D13:D16** in the worksheet.

2. Click **HOME → CLIPBOARD → COPY**.

3. Click **E13**.

4. Click **HOME → CLIPBOARD → PASTE DOWN ARROW**.

5. Click the **FORMULAS** option from the drop-down list.

6. Tap **ESC** to stop the "marching ants" highlighting of **D13:D16**.

7. Save the workbook.

ACTIVITY 25: SORT DATA

1. Select **A2:F11**.

2. Click **DATA → SORT & FILTER → SORT**.

3. Click the **↓** (down arrow) next to the *Sort by* box.

4. Click the **PERCENT OF TOTAL** option from the drop-down list.

5. Click the **↓** (down arrow) next to the *Sort Order* box.

6. Click the **LARGEST TO SMALLEST** option.

7. Click the **ADD LEVEL** button to allow a second sort level.

8. Click the **↓** (down arrow) next to the *Then by* box.

9. Select the **LY SPEND** option. Leave the *Sort Order* as *Smallest to Largest*.

10. Click **OK**.

11. Save the workbook.

USE MULTIPLE WORKSHEETS

ACTIVITY 26: OPEN A WORKSEET

1. Click **FILE → OPEN → BROWSE**.

2. Navigate to *12-Data* and click **OPEN**.

3. Click **FILE → SAVE AS → BROWSE**.

4. Navigate to the desired file location and save it with the name _12-Budget_.

ACTIVITY 27: MOVE A WORKSHEET

1. Click through the workbook and notice monthly worksheets with an _Expenses Summary_ worksheet at the far right. All of the monthly worksheets are identical in layout and format.

2. Click and drag the _Expenses Summary_ worksheet to the left, and then drop it in the first position.

3. Add the following data in the _November_ worksheet.

   A) Power: 135

   B) Water: 30

   C) Groceries: 400

   D) Miscellaneous: 100

   E) Freelance: 150

4. Save the workbook.

ACTIVITY 28: COPY A WORKSHEET

1. Point the mouse at the _November_ worksheet tab at the bottom of the screen.

2. Hold down the **LEFT MOUSE BUTTON** and then press and hold down **CONTROL** .

3. Drag the mouse to the right and drop the copied worksheet to the right of the _November_ worksheet.

4. There should now be a _November (2)_ worksheet to the right of the _November_ worksheet.

5. Right-click on the **NOVEMBER (2)** worksheet tab at the bottom of the screen and choose **RENAME**.

6. Enter _December_.

7. Click on the **DECEMBER** worksheet tab to activate it.

8. Click **B1** and change _November_ to _December_.

9. Make the following data changes.

   A) Miscellaneous: $300

      B) Bonus: $250 (holiday bonus)

      C) Freelance: delete the amount

10. Save the workbook.

ACTIVITY 29: GROUP WORKSHEETS

1. Click the **EXPENSES SUMMARY** worksheet tab to make it active.

2. Hold $\boxed{SHIFT}$ down and click on the **DECEMBER** worksheet tab to group them.

3. Click **H1** and change the year to the current year.

4. Right-click on the **EXPENSES SUMMARY** worksheet tab and choose **UNGROUP** Sheets.

5. Click the **JANUARY** worksheet tab to make it active.

6. Hold $\boxed{SHIFT}$ down and click on the **DECEMBER** worksheet tab to group them.

7. Click **F11** in the January worksheet and enter the formula *=SUM(F5:F8)*.

8. Click **F12** and enter the formula *=SUM(C5:C13)*.

9. Click **F13**, and enter the formula *=F11-F12*. In the *January* worksheet, the balance should be $690.

10. Click **I6**. (I6 and I7 are merged, but that does not matter.)

11. Enter *=F12/F11*. In the *January* worksheet, the result should be 74%.

12. Right-click on the **JANUARY** worksheet tab and choose **UNGROUP** Sheets.

ACTIVITY 30: UPDATE GYM MEMBERSHIP FEES

1. Click the **OCTOBER** worksheet to active it, then group the *October*, *November*, and *December* worksheets.

2. Click **C13** (Gym Membership) and change the amount to *$0*.

3. Ungroup the worksheets.

4. Save the workbook.

ACTIVITY 31: COMPLETE THE SUMMARY WORKSHEET

1. Click the **EXPENSES SUMMARY** worksheet tab to activate it.

2. Click **C5** and enter *=SUM(*. (Make sure to type the open parentheses.)

3. Click the **JANUARY** worksheet.

4. Hold $\boxed{SHIFT}$ down and click the **DECEMBER** worksheet.

5. Click **C5** again (this will be on the *January* worksheet) and tap $\boxed{\textbf{\textit{ENTER}}}$. Cell **C5** on the *Expenses Summary* worksheet should display $8,400.

6. Click **C6** and enter **=SUM(**. (Make sure to type the open parentheses.)

7. Click the **JANUARY** worksheet.

8. Hold $\boxed{\textbf{\textit{SHIFT}}}$ down and click the **DECEMBER** worksheet.

9. Click cell **C6** again and tap $\boxed{\textbf{\textit{ENTER}}}$. Cell **C6** on the Expenses *Summary* worksheet should now display $1,610.

10. Auto fill **C6** to **C7:C13**.

11. Save the workbook.

SUMMARY

You've grasped the essentials of Excel, from navigating the interface to organizing data and performing calculations. But don't stop here - take your skills even further! Our Intermediate Excel course will build on these fundamentals, equipping you with more advanced techniques like graphs and complex functions. Sign up today to become a true Excel expert. Keep practicing the skills from this handout, and apply your new Excel knowledge to real scenarios. Mastery awaits you - take the next step on your journey!