

ICT

BY

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GRADE 9

SPREADSHEETS LESSON



Welcome to the world of spreadsheets! If you have never opened Excel before, or if you have opened it and felt completely overwhelmed by all those tiny blank boxes, you are in the exact right place. We are going to build your confidence from absolute zero.

Think of a spreadsheet as a super-powered calculator combined with a highly organized digital notebook. It is designed to hold data, run calculations automatically, and help you make sense of numbers without having to do any manual math.

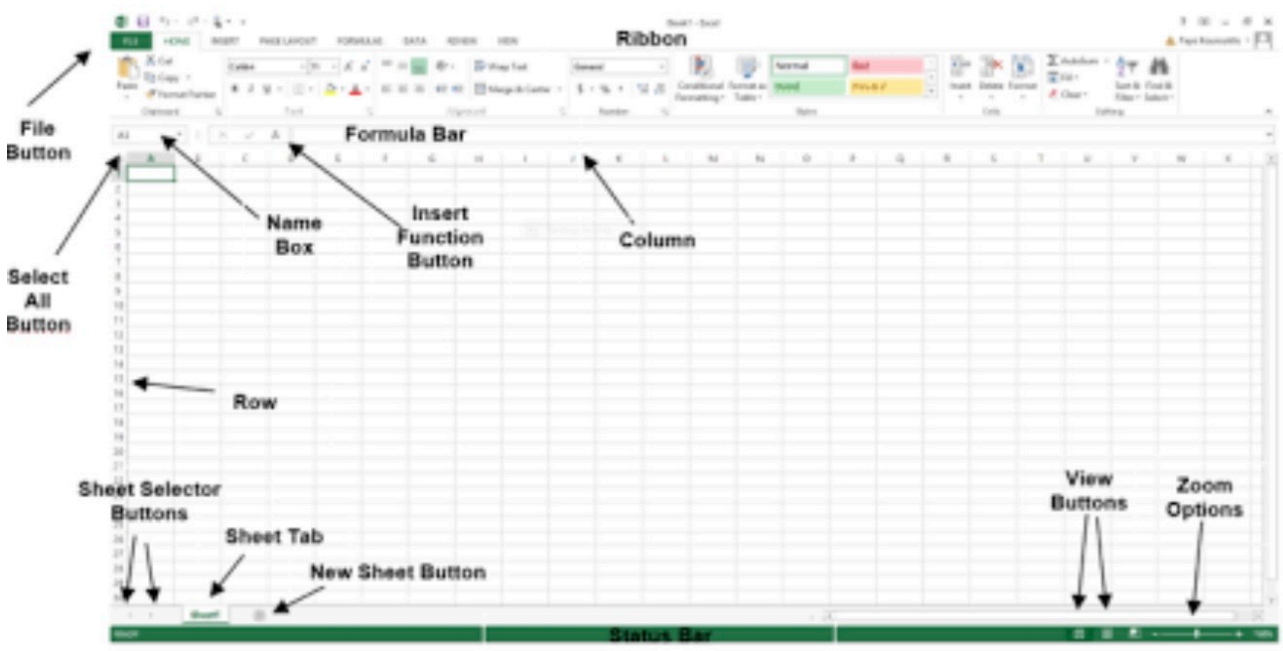
1. What is a Spreadsheet? (The Interface)

When you open Microsoft Excel or any other spreadsheet program, you are greeted by a massive grid of boxes. Here is how it is structured:

Columns: These run vertically (up and down) and are labeled with **Letters** (A, B, C, D...).

Rows: These run horizontally (left to right) and are labeled with **Numbers** (1, 2, 3, 4...).

Cells: Every single box in the grid is called a cell. Each cell has its own unique "address" based on its column letter and row number. For example, the very first box at the top left is cell **A1**. If you move two boxes to the right and three boxes down, you are in cell **C3**.



Whenever you want to do anything in Excel—whether typing a name, a number, or a math equation—you do it by clicking into one of these cells.

2. A Quick History: How the Spreadsheet Changed the World

Before computers, business workers and accountants had to do everything by hand using physical paper ledgers. If a company had a ledger with thousands of calculations and realized they made a mistake on line 2, someone would have to sit down with an eraser and manually recalculate every single line below it. It took hours, sometimes days.

That all changed in **1979** when a Harvard Business School student named Dan Bricklin got tired of recalculating blackboards full of numbers. He teamed up with his programmer friend Bob Frankston to create **VisiCalc** (short for "Visible Calculator").

ITEM	NO.	UNIT	COST
MUCK RAKE	43	12.95	556.85
BUZZ CUT	15	6.75	101.25
TOE TONER	250	49.95	12487.50
EYE SNUFF	2	4.95	9.90
SUBTOTAL			13155.50
9.75% TAX			1282.66
TOTAL			14438.16

VisiCalc was the world's first electronic spreadsheet. For the first time in history, if you changed a number in cell A1, every other cell connected to it updated instantly. It was such a massive time-saver that people bought expensive Apple II computers just to run this one program.

Later, a program called **Lotus 1-2-3** dominated the market, until Microsoft launched **Excel** in 1985 for the Mac (and 1987 for Windows), which eventually became the gold standard we use today.

Similar Software Today

While Excel is the most famous, you have likely run into its modern competitors:

Google Sheets: A free, web-based spreadsheet that lives in your browser and lets multiple people work on it at the same time.

Apple Numbers: A beautiful, sleek spreadsheet app designed specifically for Mac and iPad users.

LibreOffice Calc: A completely free, open-source alternative for people who want a desktop app without paying for a subscription.

3. Basic Math Operators (+, -, *, /)

Now let's get our hands dirty with some actual math. Excel can easily add, subtract, multiply, and divide.

The Golden Rule of Excel: Every single formula or math equation **MUST** start with an equals sign (=). If you just type $5 + 5$ into a cell, Excel treats it like plain text and does nothing. If you type $=5 + 5$, Excel instantly displays 10.

Instead of just typing raw numbers, we usually point Excel to the cells holding those numbers. This is called using a **cell reference**. Let's say you have the number 10 sitting in cell **A1**, and the number 2 sitting in cell **B1**.

Here is how you write your basic math operators:

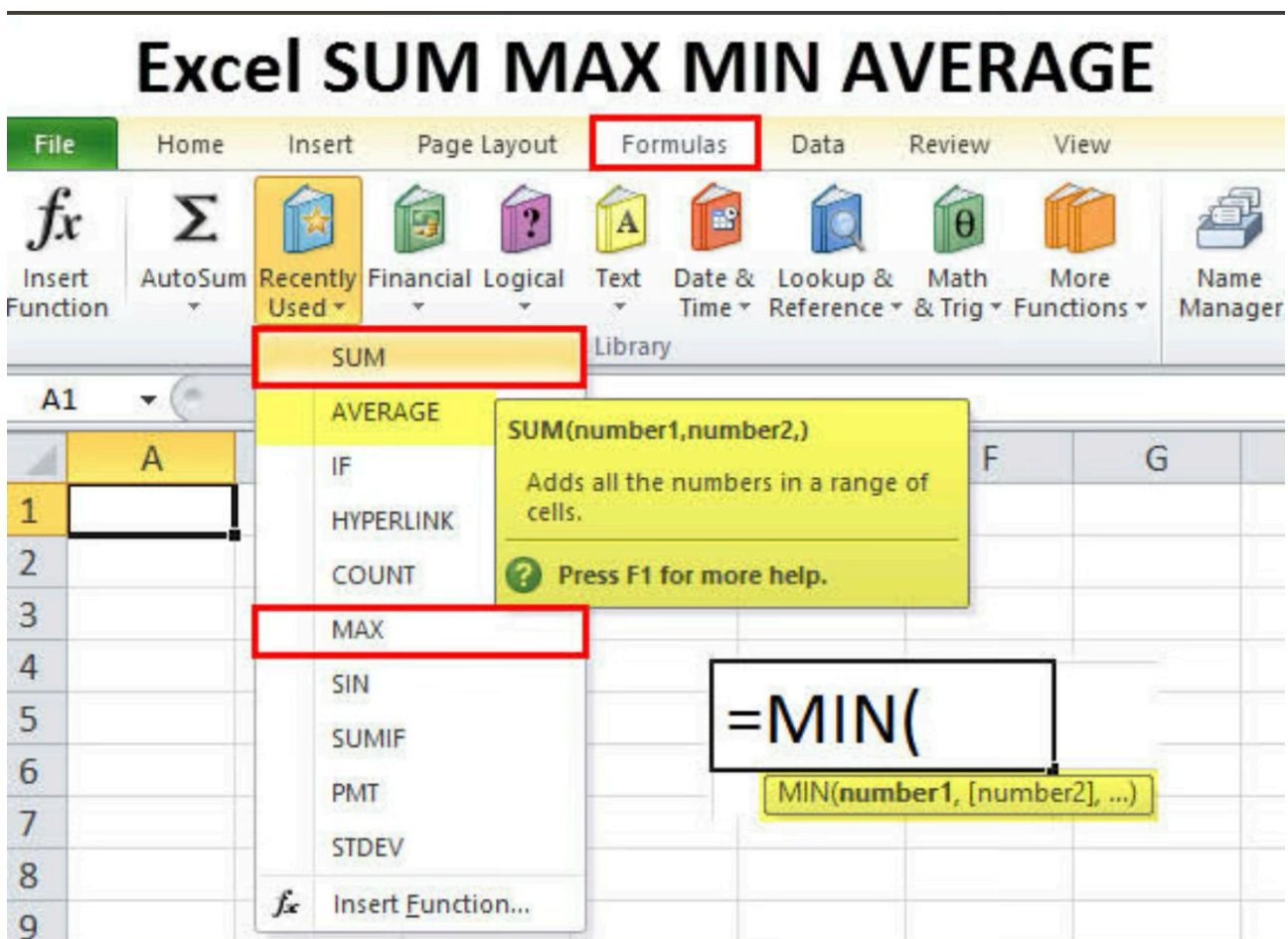
Operation	Keyboard Symbol	How to type it in Excel	What it does
Addition	+	$A1 + B1$	Adds the values together (Result: 12)
Subtraction	-	$A1 - B1$	Subtracts B1 from A1 (Result: 8)
Multiplication	* (Asterisk)	$A1 \times B1$	Multiplies the values (Result: 20)
Division	/ (Forward Slash)	$A1 \div B1$	Divides A1 by B1 (Result: 5)

Note: Make sure to use the forward slash (/) on your keyboard for division, not the backslash (\), which Excel won't recognize for math!

4. The Powerhouses: Core Excel Formulas

Writing out =A1+A2+A3+A4+A5 gets exhausting if you have hundreds of rows. That is where built-in functions come to the rescue.

To use a formula, you type the equals sign, the name of the function, and then the **range** of cells you want to analyze inside parentheses. A range is written using a colon (:), which basically means "through". For example, A1:A5 means "every cell from A1 through A5".



Let's look at the six essential formulas every beginner needs to know:

=SUM(range)

This is the ultimate shortcut for adding a massive list of numbers together.

Example: =SUM(A1:A5)

What it does: Instantly adds up everything inside those five cells.

=MIN(range)

Stands for "Minimum". It hunts through your list and finds the absolute smallest number.

Example: =MIN(A1:A5)

What it does: If your cells contain 12, 45, 3, 89, and 21, this formula will spit out 3.

=MAX(range)

Stands for "Maximum". It does the exact opposite of MIN by finding the largest number in your list.

Example: =MAX(A1:A5)

What it does: Using the same numbers as above, it will spit out 89.

=AVERAGE(range)

This calculates the mathematical mean of your numbers (it adds them all up and divides by how many numbers there are) completely automatically.

Example: =AVERAGE(A1:A5)

=COUNT(range) vs =COUNTA(range)

This is a classic trap that trips up a lot of beginners! Both formulas count how many cells have items inside them, but they look for different things:

=COUNT(range) Only counts numbers. If a cell contains text (like a person's name) or is completely blank, COUNT will ignore it.

=COUNTA(range) Counts ALL data. The "A" stands for "All" or "Anything". It counts any cell that isn't completely empty—whether it holds a number, a word, an email address, or a symbol.

Summary Cheat Sheet

Imagine you have a small business spreadsheet tracking daily sales:

Cell **A1** to **A4** contain the numbers: 10, 20, 30, and a text label Pending.

Cell **A5** is completely empty.

If you run our core formulas on this group (A1:A5), here is exactly what Excel will give you:

Formula	What Excel computes	The Final Output
SUM(A1:A5)	10 + 20 + 30 (ignores text/blanks)	60
MIN(A1:A5)	Finds the lowest number	10
MAX(A1:A5)	Finds the highest number	30
AVERAGE(A1:A5)	60 / 3 (ignores text/blanks)	20
COUNT(A1:A5)	Counts cells with numbers (10, 20, 30)	3
COUNTA(A1:A5)	Counts any cell with contents (10, 20, 30, Pending)	4