

## PIVOT TABLES

**Row Labels**

Row Labels	Sum of Order Amount
Albertson, Kathy	2650
January	925
February	1375
March	350
Brennan, Michael	3700
January	2750
February	550
March	400
Davis, William	1985
January	1100
February	235
March	600
Dumlan, Richard	1490
January	400
February	965
March	125
Flores, Tia	4565
January	1655
February	985
March	1925

**PivotTable Fields**

Choose fields to add to report:

- ☒ Salesperson
- ☐ Region
- ☐ Account
- ☒ Order Amount
- ☒ Month

Drag fields between areas below:

**FILTERS**

- Salesperson
- Month

**VALUES**

- Sum of Order Amount

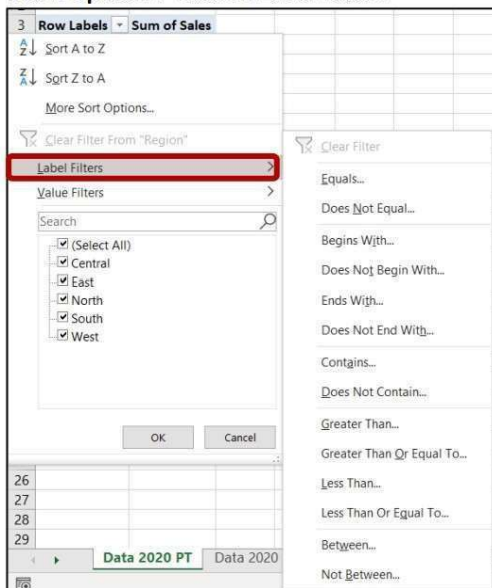
### Filtering Data

- Purpose: To view specific data by narrowing down visible information.
- **Filter Button in B1:**
  - Displays automatic filter button in PivotTable.
  - Shows “Multiple Items” when filtering multiple items.
  - Label outside the PivotTable to clarify applied filters.
  - Always clear filters before continuing work.

### Row and Column Filters

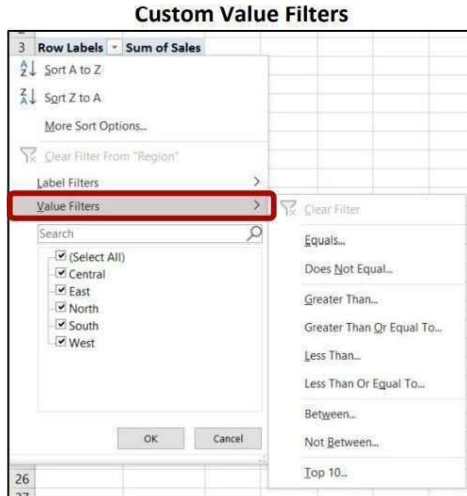
- **Accessing Filters:**
  - Click the drop-down arrow next to Row or Column Labels.
  - Use Label Filters for custom filtering.
  - Traditional filters available throughout Excel.

### Filter Options > Custom Label Filters



### Value Filters

- **Options Specific to Values:**
  - Includes "Top 10..." filter.
  - Custom value filters help when filtering long lists.



### Search Box Filter (Office 365 Excel)

- Helps locate a single entry in long lists.
- **Steps:**
  - Start typing in the Search box → AutoComplete suggests entries.
  - Press **Enter** to apply the filter.
  - To add more items, type again and select **"Add current selection to filter."**
  - To clear filters:
    - Click **Select All** or **Clear Filter** option.

### Right-Click Filtering

- **Options:**
  - Right-click an item → Select **Filter**.
  - Choose:
    - **Keep Only Selected Items**
    - **Hide Selected Items**
- **Keyboard Shortcuts:**
  - **Ctrl** → Select noncontiguous items.
  - **Shift** → Select a contiguous range.

### Filters in PivotTables

- Filters impact overall PivotTable results.
- **Filter Area Box:**
  - Fields can be placed in the **Filter area** but are not mandatory.

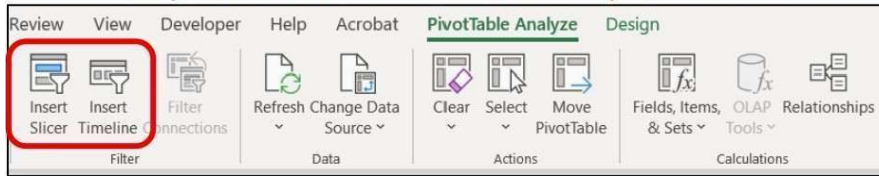
### Multiple Filters in PivotTables

- Stack fields in the Filter area for multi-filter selection.
- Change filter layout to horizontal if needed.
- **Steps:**
  1. Go to **Analyze Tab > PivotTable Group > Options**
  2. Navigate to **Options > Layout & Format > Filter fields per column**

### Slicers – Advanced Filters

- **Purpose:** Create multi-filter dashboards for dynamic data filtering.
- **Benefits:**
  - Can filter multiple PivotTables with the same data source.
  - Easy visualization and interaction.
- **How to Insert a Slicer:**
  1. **Analyze Tab > Sort & Filter Command Group > Insert Slicer**
  2. Select columns to filter (e.g., Region, Product).
  3. Apply color, display multiple columns, adjust settings via the **Slicer Tab**.

## Analyze Tab > Sort & Filter Command Group > Insert Slicer

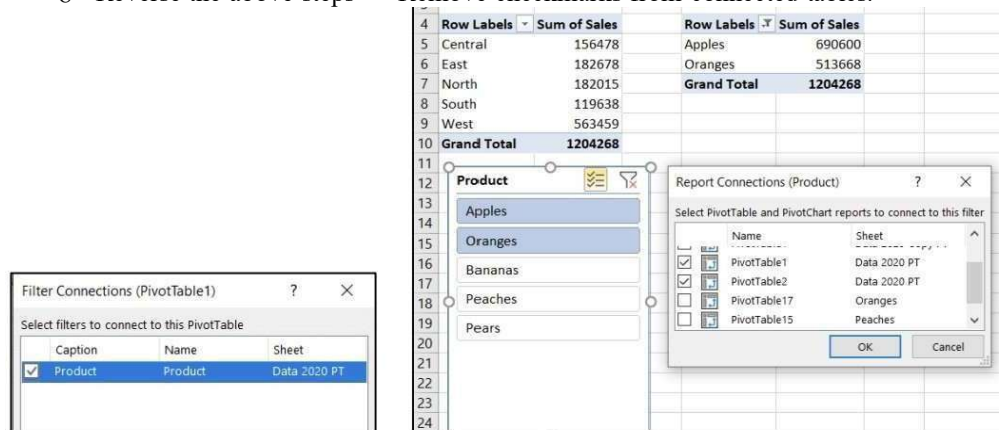


### Managing Slicers

- **Clear Filters:**
  - Click **Clear Filter** button on the slicer.
  - Use **Multi-Select** button to filter multiple items without **Ctrl**.
- **Remove Slicers:**
  - Right-click a slicer → Select **Remove slicer**.
  - To remove multiple, **Ctrl+click** slicers → Press **Delete**.

### Slicer Filter Connections (Connecting Slicers to Multiple PivotTables)

- **Steps to Connect:**
  1. Click on a PivotTable.
  2. Insert a **Slicer** and select relevant fields.
  3. Click **Filter Connections** → Select PivotTables to filter.
- **Marking Tables for Filtering:**
  1. Click the worksheet tab containing the slicers.
  2. Select slicer → **Slicer Tab > Report Connections**.
  3. Mark tables to filter → Click **OK**.
- **Disconnecting Slicers from Tables:**
  - Reverse the above steps → Remove checkmarks from connected tables.



### Timeline Slicer (For Time-Based Data Filtering)

- **Purpose:** Filters PivotTables based on time.
- **How to Use:**
  - Select the **time element** (upper-right of the Timeline Slicer).
  - Drag or click the timeline lever to adjust dates.
  - PivotTable updates automatically.
  - Clear filter before leaving the file.
  - To remove: Select the filter → Press **Delete**.

#### Timeline Slicer



## Grouping Dates

- Right-click on any **row label value (Column A)** → **Select "Group"**.
- The **Grouping Dialog** appears, showing the **oldest and most recent date**.
- Select a **time increment** (e.g., Quarters, Months).
- The **Order Date** field in the Rows area allows:
  - A **hierarchical layout** (e.g., Quarters and Months).
  - **Collapse and Expand buttons** on the left of the **Analyze** tab.

	A	B	C
1			
2			
3	Row Labels	Sum of Sales	
4	1/1/2020	82662	
5	1/2/2020	68603	
6	1/3/2020	126523	
7	2/4/2020	58892	
8	2/5/2020	90643	
9	2/6/2020	53031	
10	3/7/2020	30620	
11	3/8/2020	57493	

**Grouping** ? X

Auto

☒ Starting at: 1/1/2020

☒ Ending at: 12/11/2020

By:

- Seconds
- Minutes
- Hours
- Days
- Months**
- Quarters
- Years

Number of days: 1

OK Cancel

**Grouped by Months**

	A	B
1		
2		
3	Row Labels	Sum of Sales
4	Jan	277788
5	Feb	202566
6	Mar	152682
7	Apr	203455
8	May	177272
9	Jun	178934
10	Jul	172949
11	Aug	221727
12	Sep	242653
13	Oct	149245
14	Nov	83230
15	Dec	225944
16	<b>Grand Total</b>	<b>2288445</b>

**Grouped by Quarters and Months**

	A	B
1		
2		
3	Row Labels	Sum of Sales
4	Qtr1	633036
5	Jan	277788
6	Feb	202566
7	Mar	152682
8	Qtr2	559661
9	Apr	203455
10	May	177272
11	Jun	178934
12	Qtr3	637329
13	Jul	172949
14	Aug	221727
15	Sep	242653
16	Qtr4	458419
17	Oct	149245
18	Nov	83230
19	Dec	225944
20	<b>Grand Total</b>	<b>2288445</b>

## Grouping Numbers

- Helps **simplify** large numeric datasets by creating **ranges** instead of listing every value.
- Grouped numbers display as **numeric text values**.

### Steps to Group Numbers

1. Initial **PivotTable** displays a list of individual numbers.
2. **Right-click on any number in Column A** → **Select "Group"**.
3. **Grouping Dialog** appears with the smallest and largest number.
4. Adjust the **range of values** as needed.
5. Click **OK** to apply the grouping.
6. Example: **Sales grouped into ranges** (e.g., Coleman has sales in the largest range).

**Grouping** ? X

Auto

☒ Starting at: 12600

☒ Ending at: 53921

By: 10000

OK Cancel

	Sum of Sales	Column Labels					
4	Row Labels	Appleby	Carney	Close	Coleman	Jacobs	Grand Total
5	12600-22599	65,097	81,857	139,224	60,894	33,284	380,356
6	22600-32599	55,902	56,999	240,115	27,818	111,496	492,330
7	32600-42599	110,852	77,885	338,248	153,462	79,483	759,930
8	42600-52599	89,626	93,332	280,161	45,000	93,789	601,908
9	52600-62599				53,921		53,921
10	<b>Grand Total</b>	<b>321,477</b>	<b>310,073</b>	<b>997,748</b>	<b>341,095</b>	<b>318,052</b>	<b>2,288,445</b>

## Custom Text Groups

- Allows **manual grouping** of selected data.
- Useful for categorizing data like:
  - **States into regions**
  - **Products into product types**

### Steps to Create Custom Text Groups

1. Select multiple **contiguous (Shift)** or **non-contiguous (Ctrl +key)** items.
2. **Right-click** → **Select "Group"**.
3. Enter a **custom label** to replace the automatic label.
- The **new group name** appears in the **filter list** for selection.
- Collapse/expand groups using:
  - **Collapse button** next to the group name.

- o Analyze tab > Active Field group.

Original PivotTable

3	Row Labels	Sum of Sales
4	Apples	127,662
5	Bananas	150,837
6	Green Beans	172,704
7	Lettuce	238,684
8	Oranges	84,315
9	Peas	139,449
10	<b>Grand Total</b>	<b>913,651</b>

Grouped PivotTable

3	Row Labels	Sum of Sales
4	<b>Fruit</b>	<b>362,814</b>
5	Apples	127,662
6	Bananas	150,837
7	Oranges	84,315
8	<b>Vegetables</b>	<b>550,837</b>
9	Green Beans	172,704
10	Lettuce	238,684
11	Peas	139,449
12	<b>Grand Total</b>	<b>913,651</b>

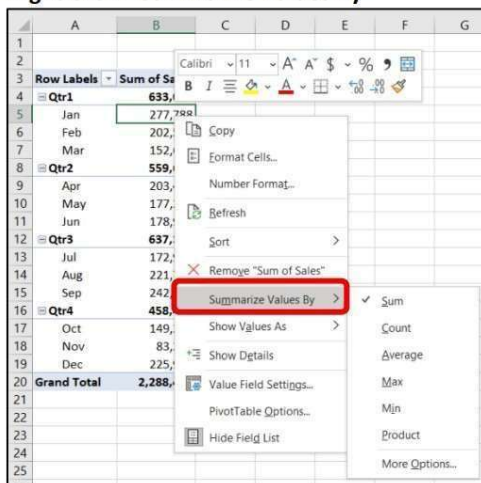
## Important Notes

- **Custom groups** introduce **new terms** that are not in the original dataset.
- Ensure to **document** custom changes for better collaboration.
- **Ungrouping:**
  - o Click **Ungroup** button or **Right-click > Ungroup**.
  - o Works for **all date, numeric, and text** fields.
  - o **Text groups** can be **individually ungrouped**.

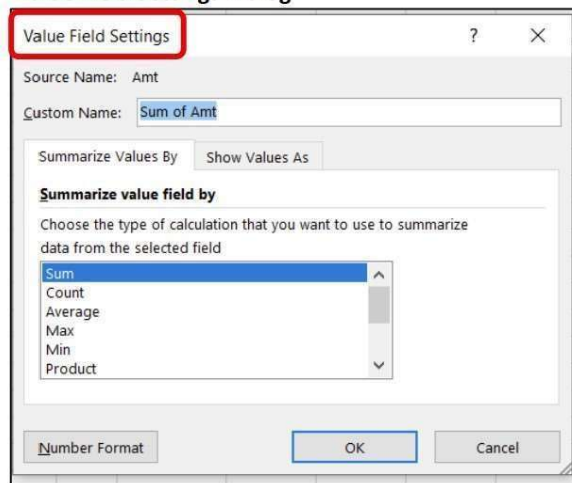
## Summarize Values By

- **Default Calculation Behavior:**
  - o **Numeric fields** → **Sum**.
  - o **Text fields** → **Count**.
  - o If a numeric field has text or blanks, the function defaults to **Count**.
- Right-click on a numeric cell → **Summarize Values By** → Choose function.
- Additional settings available via:
  - o **Analyze Tab > Calculations Command Group > Summarize Values By**.
  - o **Value Field Settings** dialog for quick adjustments.

Right-click > Summarize Values By



Value Field Settings Dialog



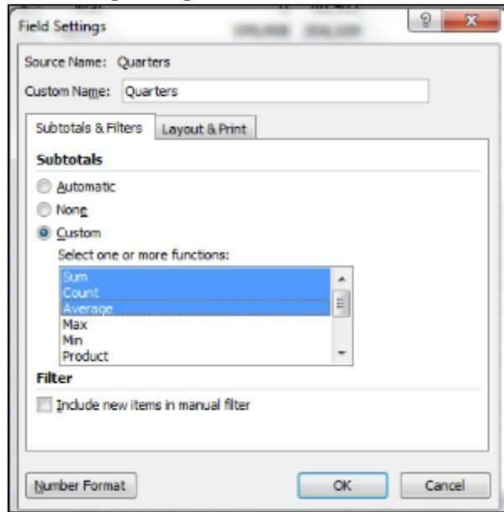
## Multiple Subtotals

- **Horizontal Layout:**
  - o The same numeric field can be reused multiple times with different calculations.
  - o Right-click on a field → **Value Field Settings** → Choose function.
  - o Remove fields by dragging them out of the Values box.
- **Stacked (Vertical) Layout:**
  - o Display multiple subtotal functions at once.
  - o Select a parent item → **Field Settings** → **Subtotals & Filters Tab** → **Custom** → Choose functions (Sum, Count, Average).
  - o Remove via the same **Field Settings** path.



**Analyze > Active Field > Field Settings >  
Subtotals & Filters Tab > Subtotals > Custom > Select funtion(s)**

**Field Settings Dialog**



**Subtotals**

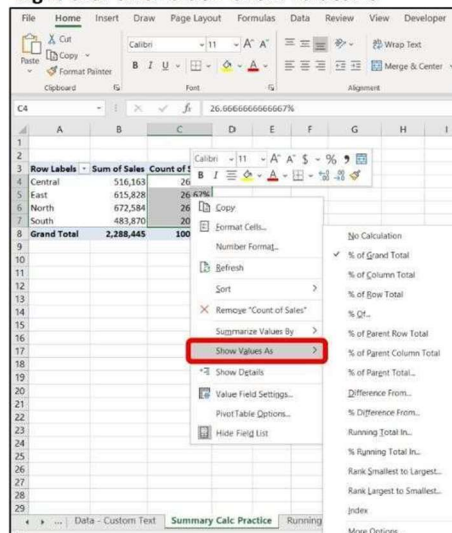
Sum of Sales	Column Labels	Apples	Oranges	Grand Total
Row Labels				
Qtr1				
Jan		82662	68603	151265
Feb		53031		53031
Mar			30620	30620
Qtr1 Sum		135693	99223	234916
Qtr1 Count		6	6	12
Qtr1 Average		22615.5	16537.16667	19576.33333
Qtr2				
Apr		40418		40418
May			35194	35194
Jun		57307	30655	87962
Qtr2 Sum		97725	65849	163574
Qtr2 Count		4	4	8
Qtr2 Average		24431.25	16462.25	20446.75

Follow the same path to remove these settings.

**Show Values As**

- Provides **pre-built calculations** for comparative analysis.
- Right-click on a numeric value → **Show Values As** → Choose from:
  - % of Grand Total
  - % of Row/Column Total
  - Difference From
  - Running Total In
  - Rank
  - Index (Weighted Average Calculation)

**Right-click on a value > Show Values As**



**Show Values as: % of Grand Total Results**

Row Labels	Sum of Sales	% Grand Total
Central	516,163	26.67%
East	615,828	26.67%
North	672,584	26.67%
South	483,870	20.00%
Grand Total	2,288,445	100.00%

**% of Row Totals**

Sum of Sales	Column Labels	Apples	Oranges	Bananas	Peaches	Pears	Grand Total
Row Labels							
Central		18.25%	12.06%	17.76%	16.82%	35.11%	100.00%
East		18.35%	11.32%	22.96%	19.40%	27.98%	100.00%
North		17.10%	9.97%	22.28%	22.79%	27.86%	100.00%
South		7.91%	10.54%	23.61%	25.54%	32.40%	100.00%
Grand Total		15.75%	10.92%	21.73%	21.11%	30.49%	100.00%

**Specific Calculations:**

- Parent Row/Column Calculations:

- o Right-click on an inner field value → **Show Values As > % of Parent Row Total**.
- **Running Totals:**
  - o Displays cumulative values.
  - o Right-click → **Show Values As > Running Total In**.
  - o The **Grand Total** is displayed in the **final period's cell**, with the Grand Total row empty.
  - o Hide the Grand Total label via **Design Tab > Grand Totals > Off**.
- **Index Calculation:**
  - o Compares values against totals to calculate a weighted average.
  - o Right-click → **Show Values As > Index**.

**Original PivotTable**

Sum of Sales	Column Labels			
Row Labels	Central	East	North	South
Apples	94206	112980	114984	38276
Bananas	91668	141408	149868	114252
Oranges	62272	69698	67031	50980
Peaches	86799	119457	153296	123588
Pears	181218	172285	187405	156774

**Index Results**

Sum of Sales	Column Labels			
Row Labels	Central	East	North	South
Apples	1.16	1.16	1.09	0.50
Bananas	0.82	1.06	1.03	1.09
Oranges	1.10	1.04	0.91	0.96
Peaches	0.80	0.92	1.08	1.21
Pears	1.15	0.92	0.91	1.06

- **Rank Calculation:**
  - o Converts numbers into ranked order (smallest to largest or vice versa).
  - o Right-click → **Show Values As > Rank**.

Row Labels	Sum of Sales
Apples	4
Bananas	2
Oranges	5
Peaches	3
Pears	1

- **To Disable Custom Calculations:**
  - o Right-click → **Show Values As > No Calculation**.

#### **To Create a Calculated Field:**

1. Click within the PivotTable data.
2. Analyze > Calculations Command Group > Fields, Items, & Sets button > Calculated Field
3. The Insert Calculated Field dialog appears.
4. Enter a name for the field, such as Comm Increase.
5. Enter the formula for the new field, inserting existing fields from the field list as needed.
6. The new field will appear in the field list. The new column will appear with the calculations in the PivotTable. The new field is part of the PivotTable's list and can be turned on and off.

### PivotTable with New Calculated Field

3	Row Labels	Sum of Commission	Sum of Comm Increase
4	Central	61939.56	\$68,134
5	East	73899.36	\$81,289
6	North	80710.08	\$88,781
7	South	58064.4	\$63,871
8	<b>Grand Total</b>	<b>274613.4</b>	<b>\$302,075</b>

### Insert Calculated Field Dialog

Insert Calculated Field

Name:  Modify

Formula:  Delete

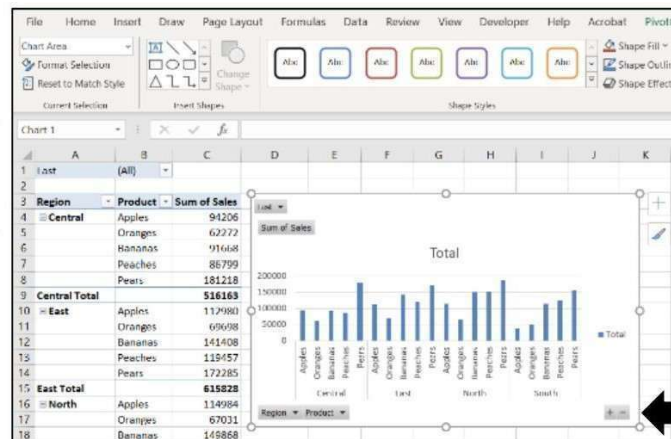
Fields:

- First
- Last
- Region
- Order Date
- Product
- Prod.Status
- Rank
- Customer

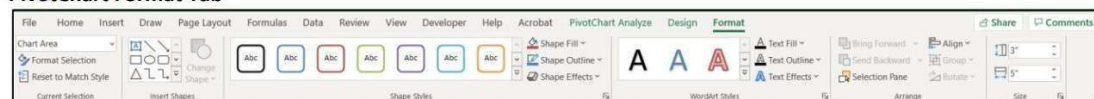
Insert Field OK Close

Column data =  
Series Axis  
(Y-Axis).

Row data =  
Category Axis  
(X-Axis).



### PivotChart Format Tab



### Creating a PivotChart

- Click anywhere inside the **PivotTable** to start.
- Navigate to **Analyze Tab > Tools Command Group > PivotChart Button**.
- Select a chart type in the **PivotChart dialog**.
- The chart appears on the same sheet as the **PivotTable** and updates dynamically.

### PivotChart Features

- Filter buttons** allow filtering at the chart level.
- Changing the PivotTable** affects the PivotChart and vice versa.
- Drill-down buttons** (+/-) help expand or collapse hierarchical data.
- Row Data (X-Axis)** – Category Axis.
- Column Data (Y-Axis)** – Series Axis.

### PivotChart Customization

- PivotChart Format Tab** contains:
  - PivotChart Analyze, Design, and Format** ribbons.
  - Additional commands available from **Insert Tab**.
- Chart Elements and Styles buttons** provide more formatting options.
- Dragging fields into the **Column Area (Legend)** redraws the chart with new data.

### Managing PivotCharts



- **Delete a chart** – Click the border and press **Delete**.
- **Move a chart** – Click the border or white space → Drag when **four-way arrow** appears.
- **Resize a chart** – Click a **corner border**, hold **Shift**, and drag.
- **Print a chart** –
  - Select the chart → **Print** (for chart only).
  - Click outside the chart → **Print** (for both PivotTable and chart).

#### **Instant Chart Creation**

- Press **F11** → Creates a default chart on a new sheet.
- Press **Alt+F1** → Creates a chart on the same sheet as the PivotTable.

#### **Sorting and Filtering Data in PivotCharts**

- Click a **filter button** → Use **Sort command**.
- Sorting in the PivotTable affects the chart order.
- Use **manual sorting** if automatic sorting is insufficient.
- Filters for **labels, numbers, and dates** work the same as in PivotTables.

#### **Changing Chart Types**

- Readability is key when selecting a chart type:
  - **Column Charts (Vertical)** – Compare series across categories.
  - **Bar Charts (Horizontal)** – Ideal for lengthy labels.
  - **Line Charts** – Useful for spotting trends.
  - **Pie Charts** – Show parts of a whole (use only totals and labels).
- To change a chart type:  
**Design Tab > Type Command Group > Change Chart Type**
- Not all conversions work well, but changes are **undoable**.

#### **Customizing Pie Charts**

- To add **percentages** to a pie chart:  
**Chart Elements button > Data Labels > More Data Label Options > Percentage**
- To add a **chart title**:  
**Chart Elements button > Chart Title > Above Chart**

#### **Setting a Default Chart Type**

- In **All Chart Types** or **Change Chart Types** dialogs:
  1. Right-click the desired chart type.
  2. Click **Set as Default Chart**.
- This will be used when pressing **F11** or **Alt+F1**.

#### **Saving & Reusing Chart Templates**

- Save a customized chart for future use:
  1. Right-click the chart → **Save as Template**.
  2. Name it and save (default path: **Microsoft > Templates > Charts**).
- Apply a saved template:
  1. Select a chart to modify.
  2. **Design Tab > Change Chart Type** OR right-click the chart → **Change Chart Type**.
  3. Open **Templates Folder** and choose the saved format.