

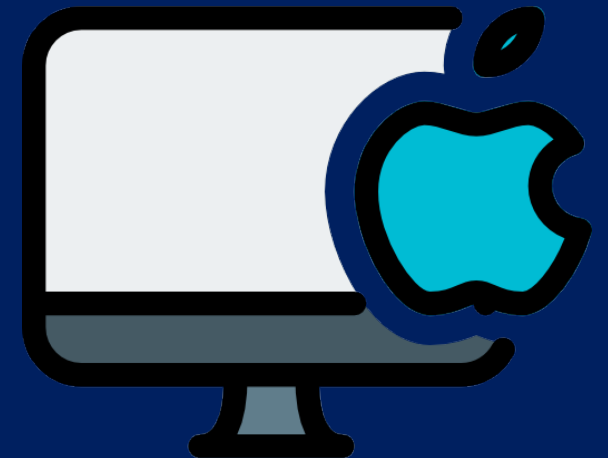


Excel Visualizations: Creating, Refining & Customizing Charts

Tracie Miller & Wendy Tietz

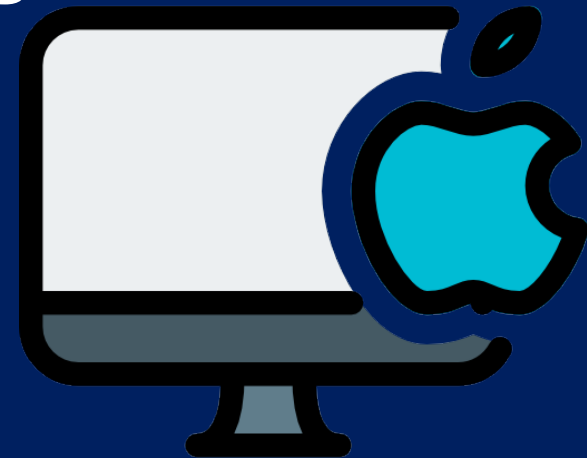
Any Mac users?

- Let us know if you are **using a Mac** today for this workshop



For Mac users...

- Generally, the steps are the same or similar
- Where there is a difference, I will mention the Mac instructions, and in some instances, there will be slides specifically showing Mac only instructions



Hands-on logistics

- Open Excel file from email or download it (link in chat)
- Each worksheet is a new set of skills
- If you have trouble with a worksheet, mark down the # and we will help at the break or at the end



Open Excel workbook

The image shows the Microsoft Excel interface. At the top, there is a search bar and a ribbon with tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Help, Fuzzy Lookup, Acrobat, Power Pivot, PivotTable Analyze, and Design. The Home tab is active, showing options for Clipboard, Font, Alignment, Number, Styles, Cells, Editing, Analysis, and Sensitivity. Below the ribbon is the AutoSave section, which is currently off. The main workspace shows a blank workbook with the active cell A5 containing the text 'Education'. The worksheet tabs at the bottom are numbered 01 through 18, with '01' selected. On the right side, the PivotTable Fields task pane is open, showing options to choose fields to add to a report and drag fields between filters, columns, rows, and values.

Worksheets are numbered

Every worksheet is independent (i.e., cannot fall behind)

01 02 03 04 05 06 07 08 09 10 11 12 13

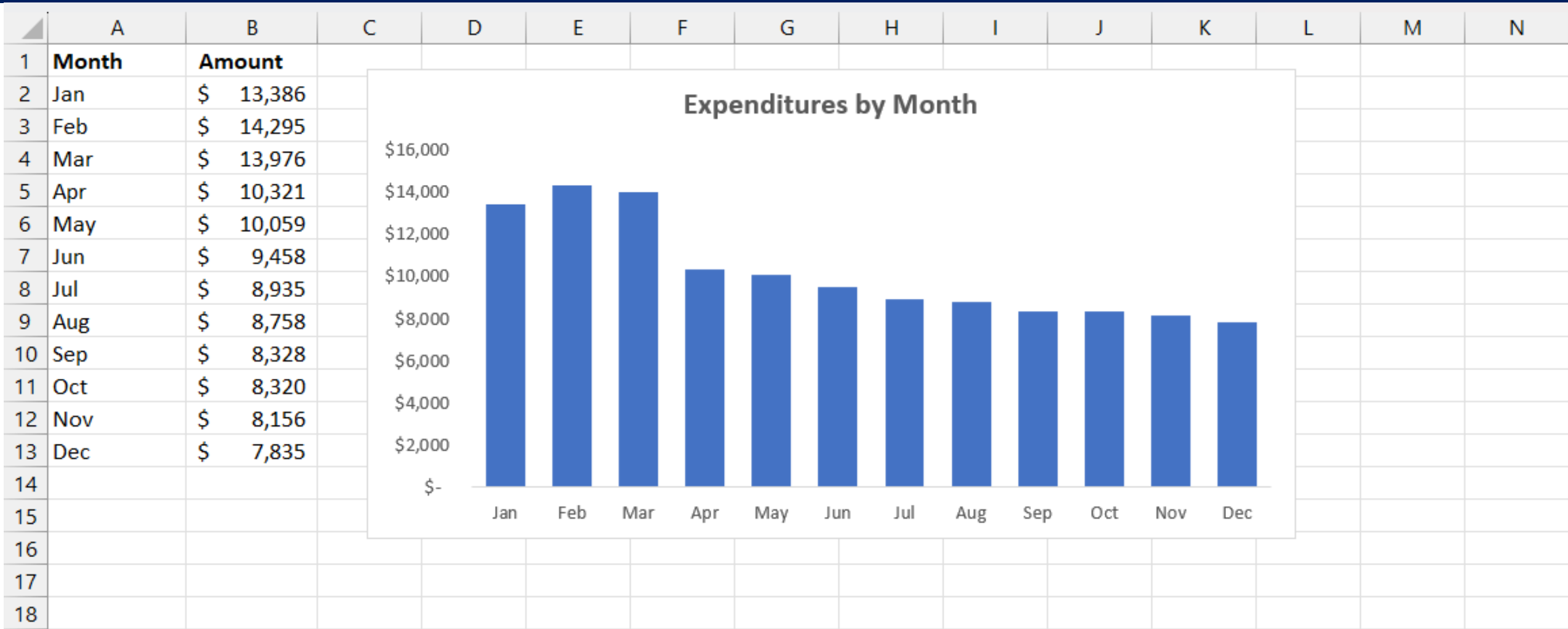
Click on Worksheet **01**



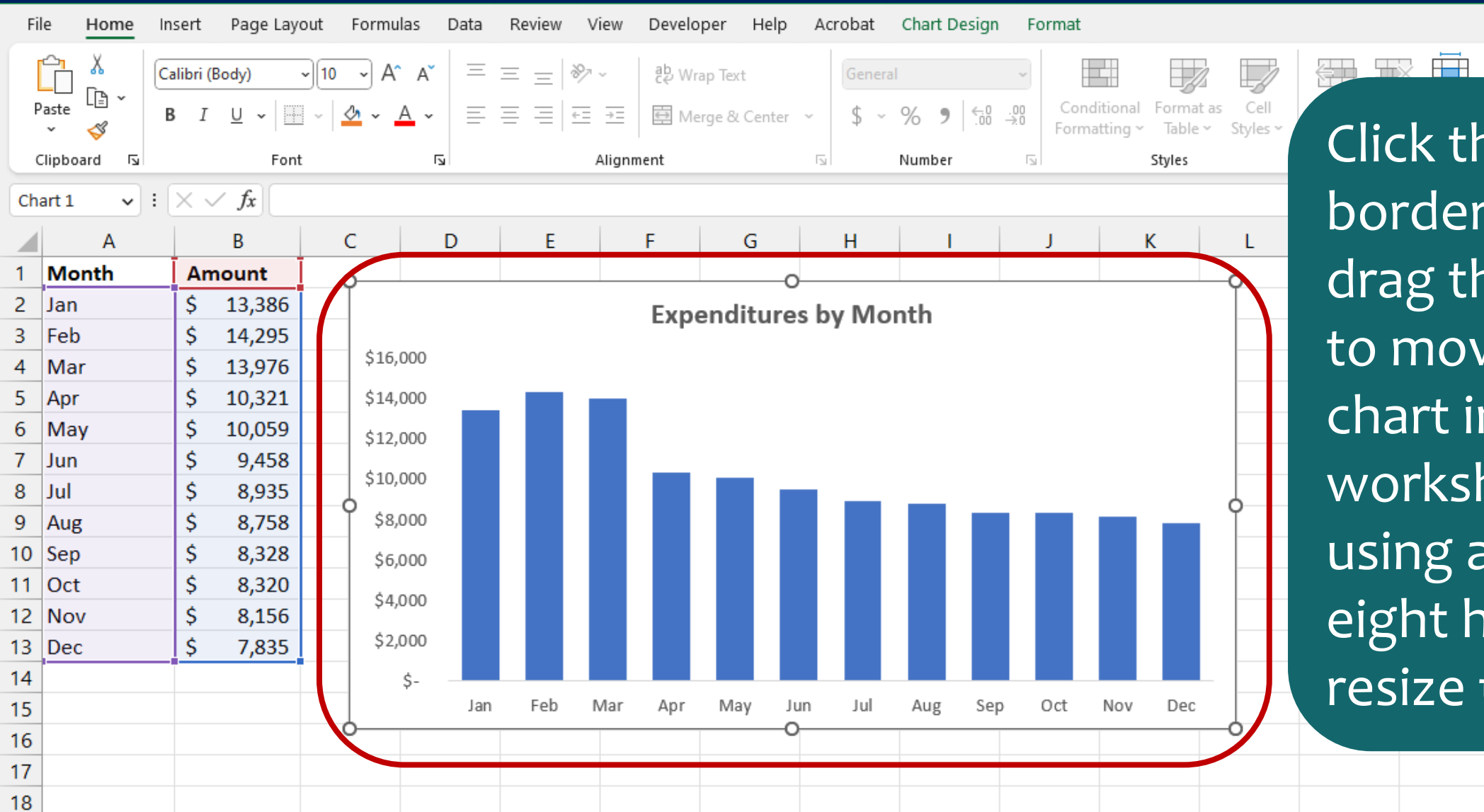
Worksheet 01

Learn Chart Basics

Learn chart basics



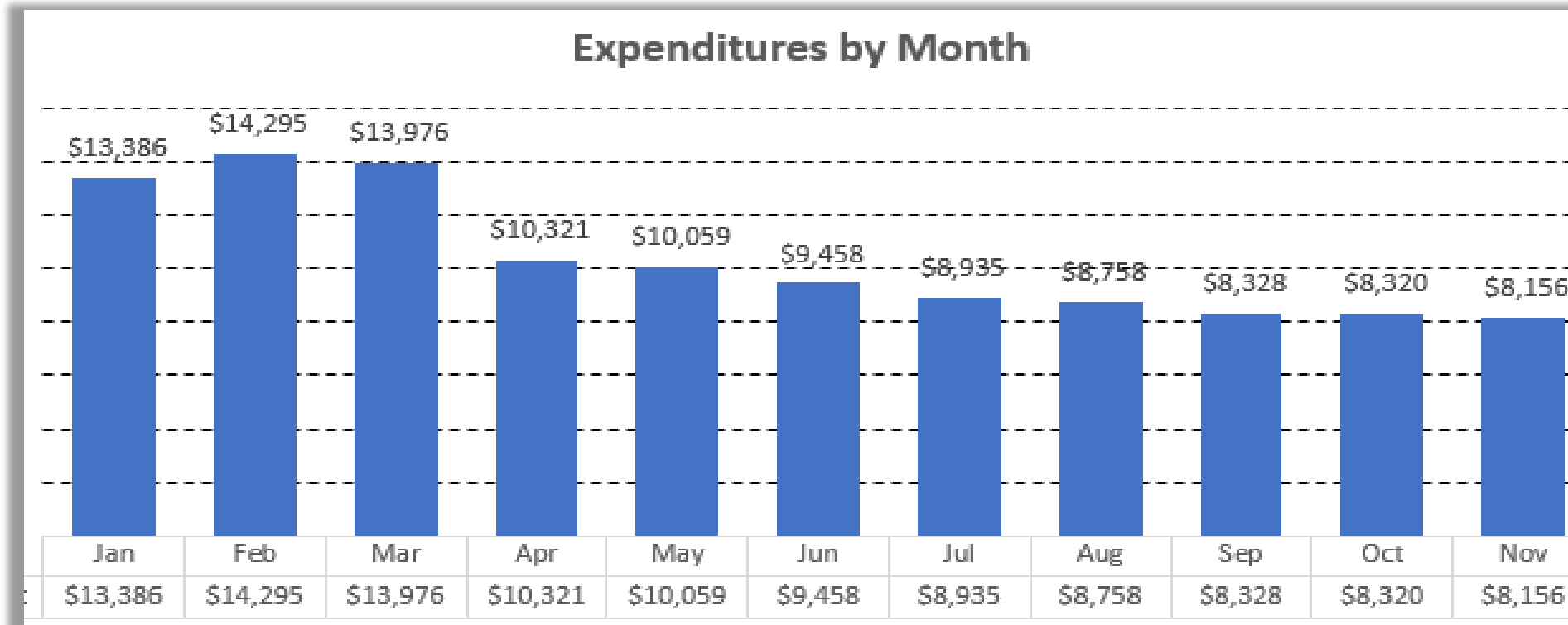
Learn chart basics



Click the chart's border and then drag the border to move the chart in the worksheet. Try using any of the eight handles to resize the chart.

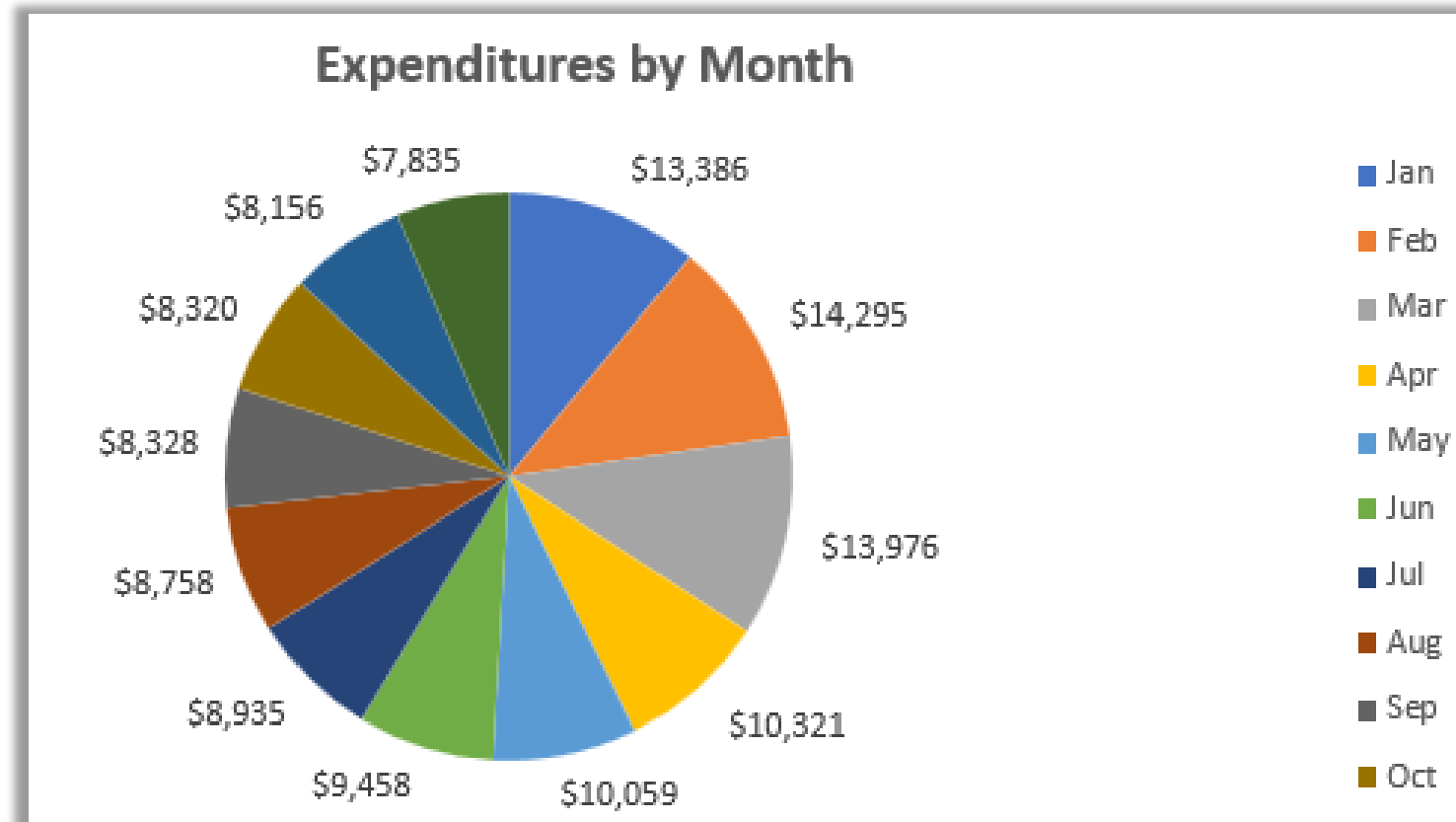
Learn chart basics

Design a clean and simple chart



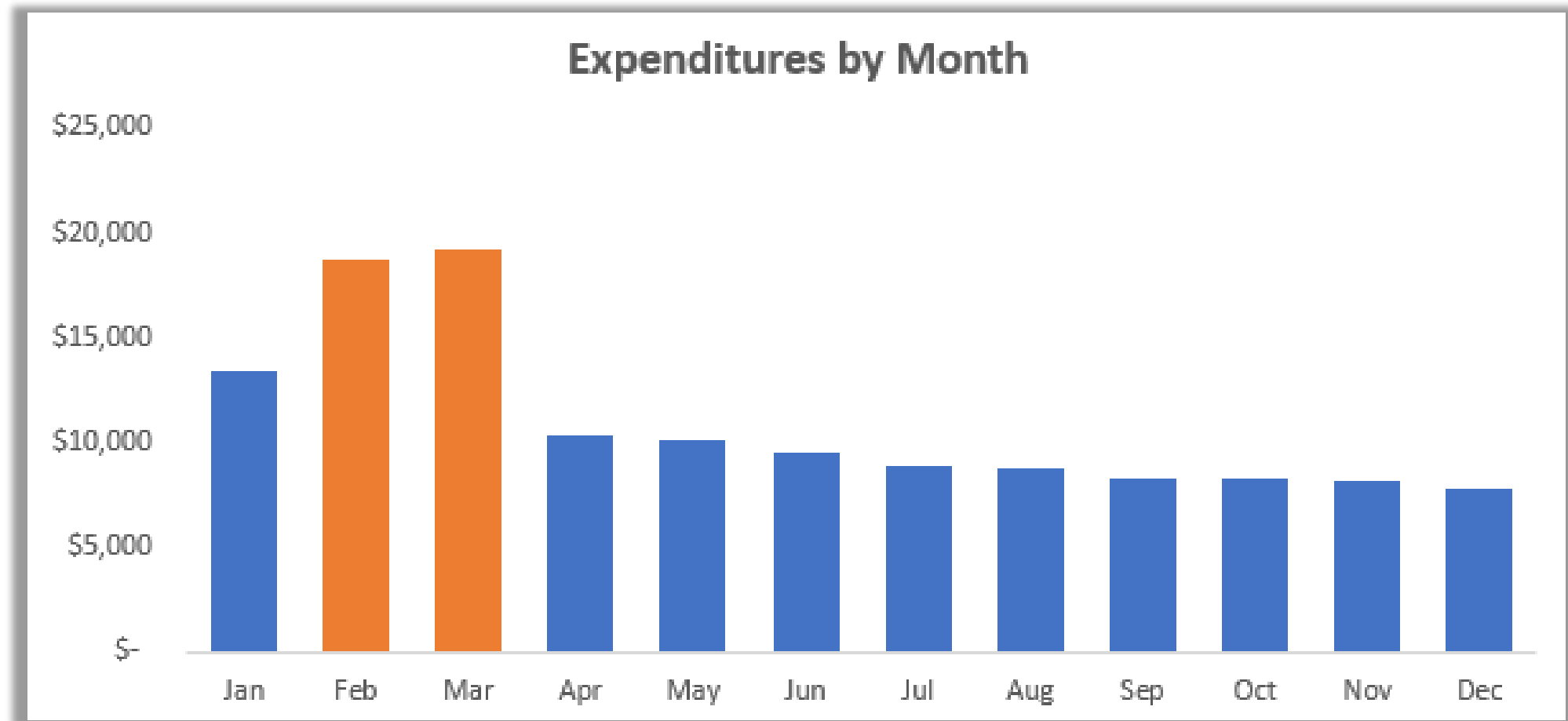
Learn chart basics

Choose the proper chart



Learn chart basics

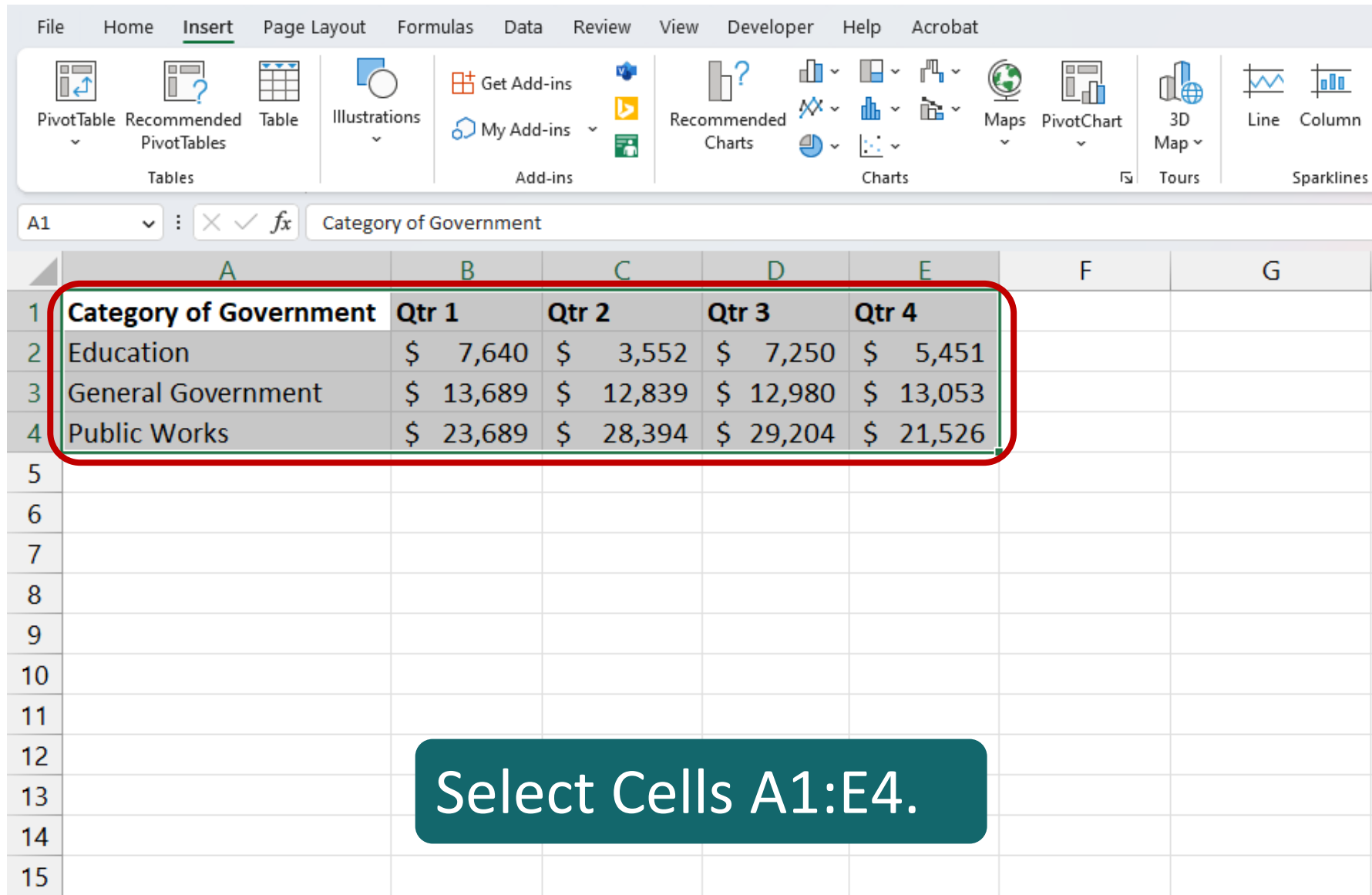
Drive meaning with color



Worksheet 02

Create a Basic Chart

Select data for the chart

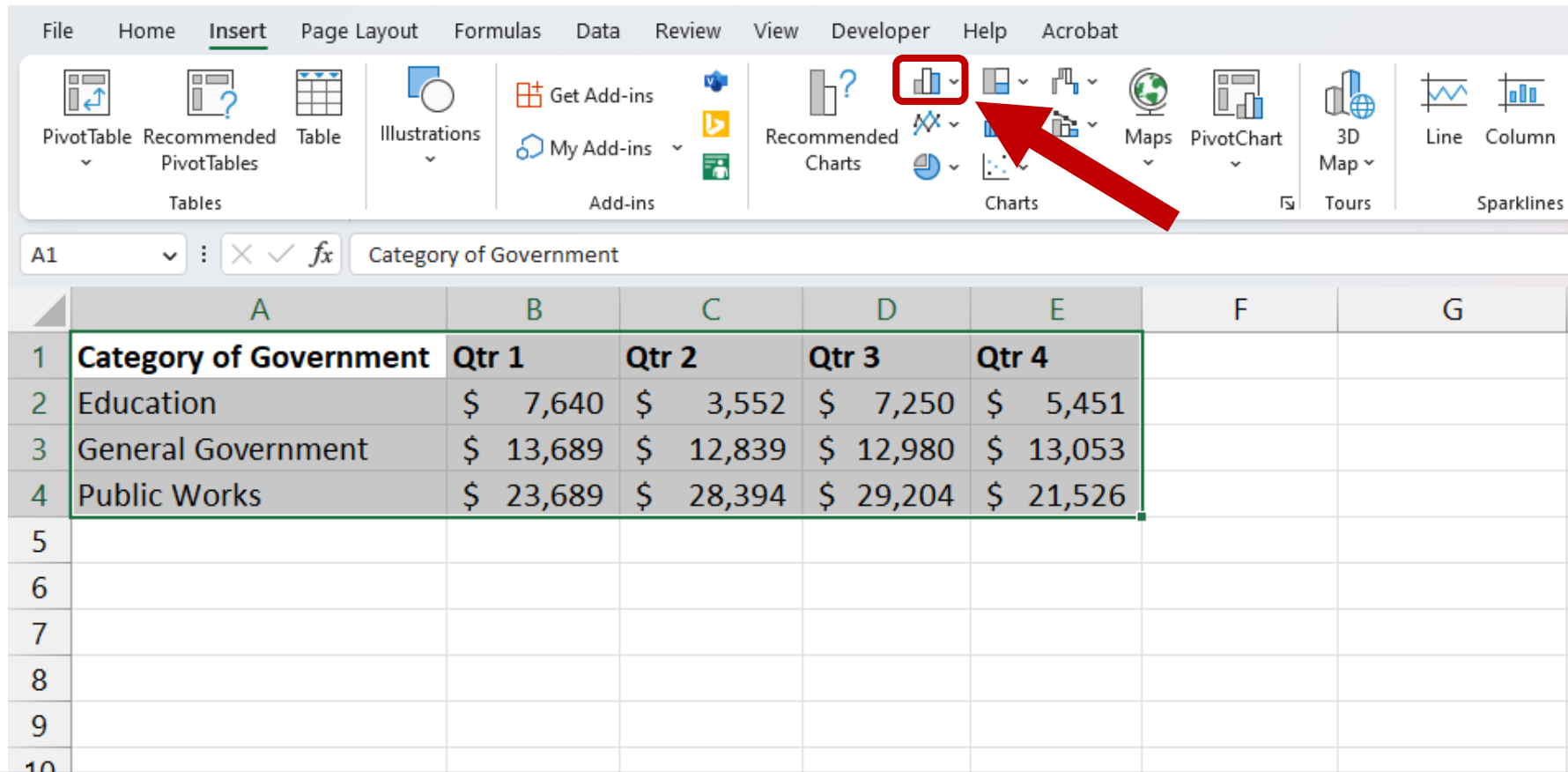


The screenshot shows the Microsoft Excel interface with the **Insert** tab selected. The ribbon includes options for PivotTable, Recommended PivotTables, Table, Illustrations, Add-ins, Recommended Charts, Charts, Maps, PivotChart, 3D Map, Tours, Line, and Column. The active cell is A1, containing the text "Category of Government".

	A	B	C	D	E	F	G
1	Category of Government	Qtr 1	Qtr 2	Qtr 3	Qtr 4		
2	Education	\$ 7,640	\$ 3,552	\$ 7,250	\$ 5,451		
3	General Government	\$ 13,689	\$ 12,839	\$ 12,980	\$ 13,053		
4	Public Works	\$ 23,689	\$ 28,394	\$ 29,204	\$ 21,526		
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Select Cells A1:E4.

Choose a column chart



The screenshot shows the Microsoft Excel interface with the Insert tab selected. In the Charts group, the 'Insert Column or Bar Chart' icon is highlighted with a red box and a red arrow. Below the ribbon, the formula bar shows 'Category of Government'. The data table below is as follows:

	A	B	C	D	E	F	G
1	Category of Government	Qtr 1	Qtr 2	Qtr 3	Qtr 4		
2	Education	\$ 7,640	\$ 3,552	\$ 7,250	\$ 5,451		
3	General Government	\$ 13,689	\$ 12,839	\$ 12,980	\$ 13,053		
4	Public Works	\$ 23,689	\$ 28,394	\$ 29,204	\$ 21,526		
5							
6							
7							
8							
9							
10							

On the Insert tab, in the Charts group, click the Insert Column or Bar Chart icon.

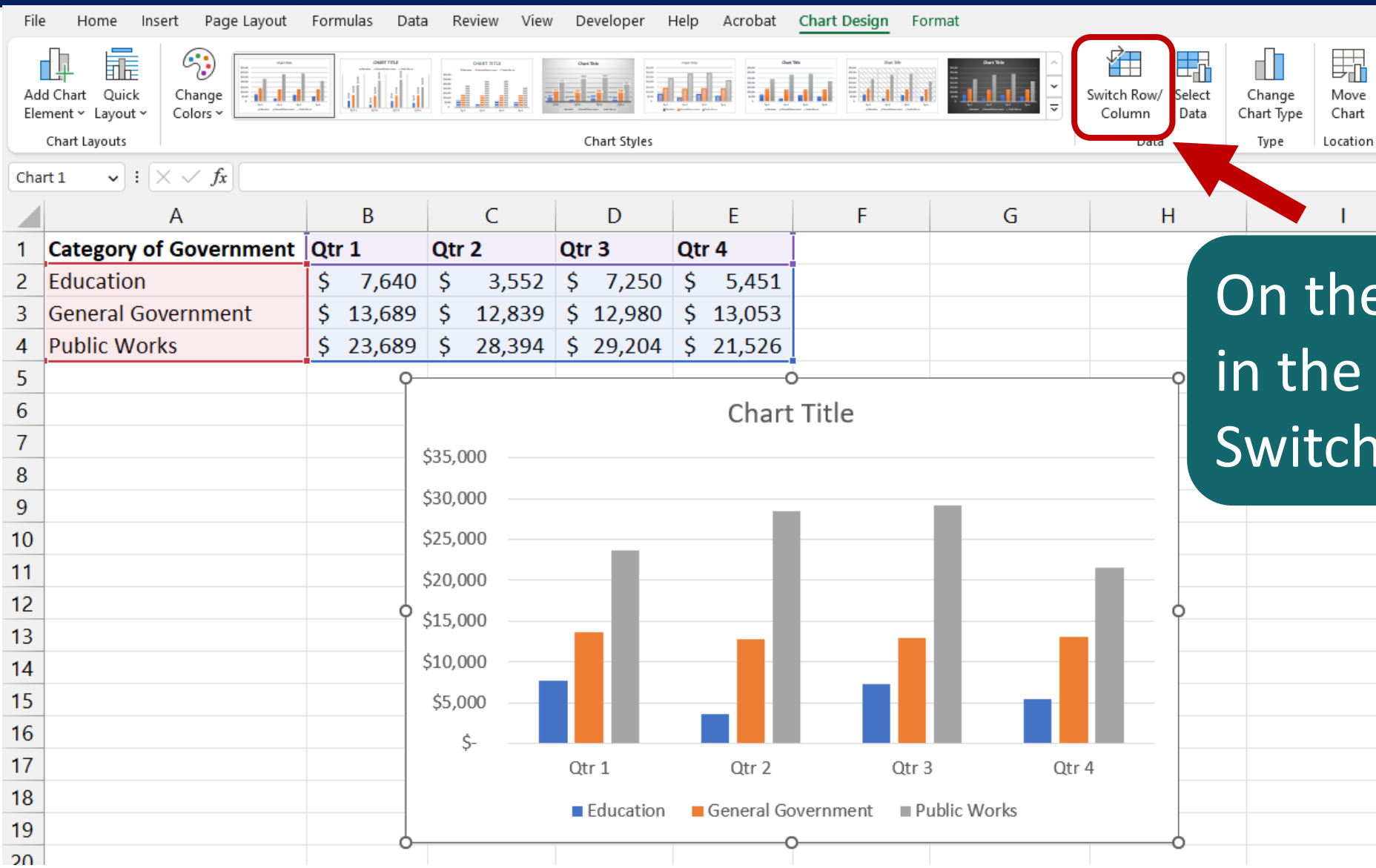
Choose a column chart

The screenshot shows the Microsoft Excel interface with the 'Insert' tab selected. The 'Charts' group is expanded, showing various chart options. A red box highlights the 'Clustered Column' icon in the '2-D Column' group, and a red arrow points to it. The background spreadsheet contains the following data:

	A	B	C	D
1	Category of Government	Qtr 1	Qtr 2	Qtr 3
2	Education	\$ 7,640	\$ 3,552	\$ 7,640
3	General Government	\$ 13,689	\$ 12,839	\$ 12,839
4	Public Works	\$ 23,689	\$ 28,394	\$ 29,394
5				
6				
7				
8				
9				
10				

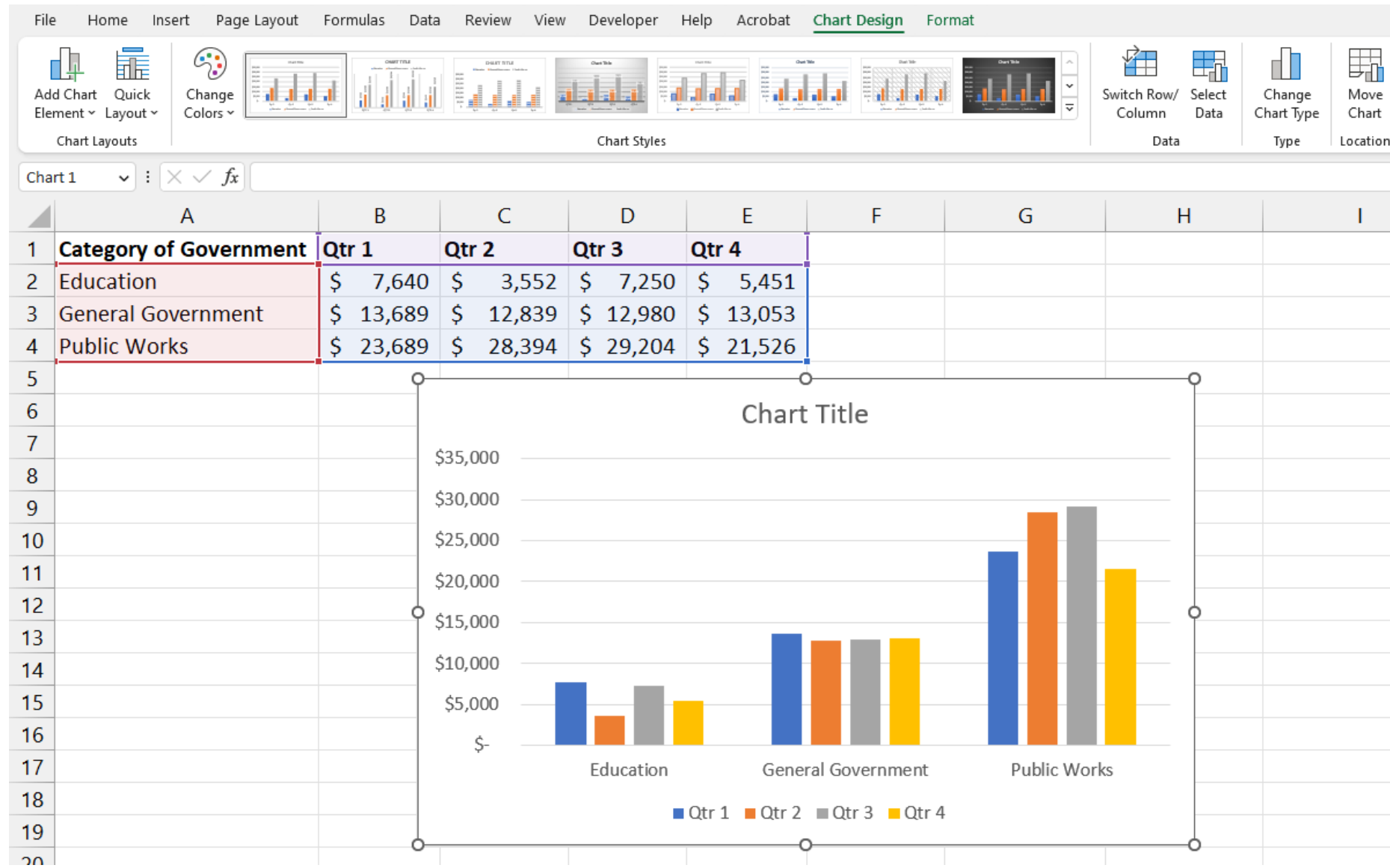
Click on the Clustered Column chart icon.

Switch row and column orientation



On the Chart Design tab, in the Data group, click Switch Row/Column.

Switch row and column orientation



Worksheet 03

Make Changes to a Chart

Change chart type

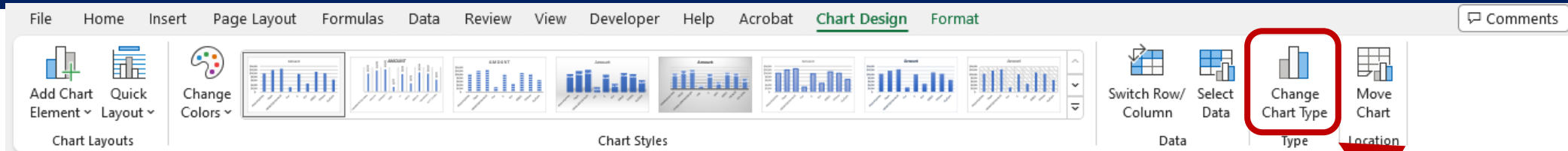
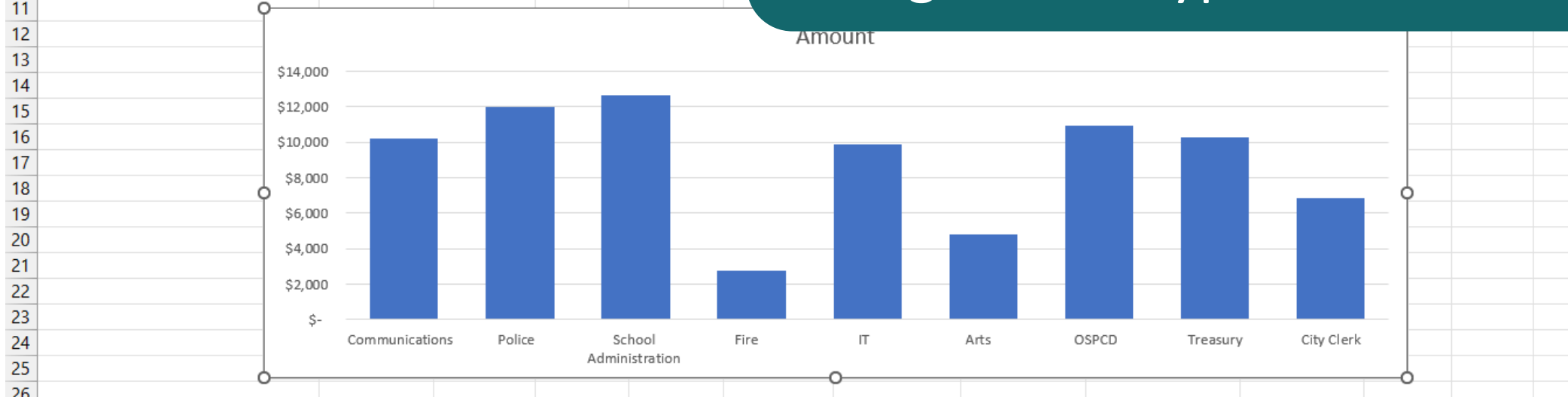


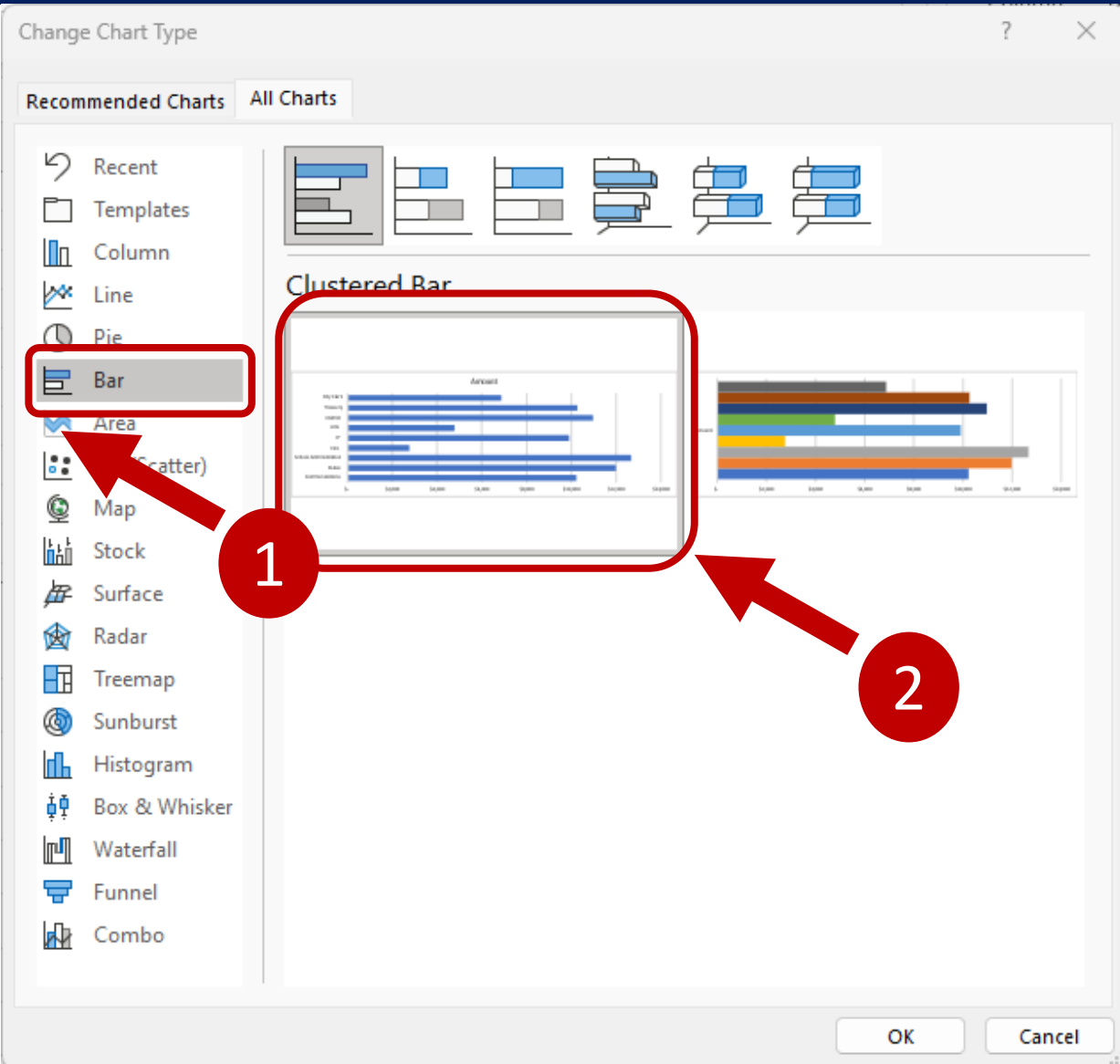
Chart 3

Department	Amount
Communications	\$ 10,220
Police	\$ 11,980
School Administration	\$ 12,670
Fire	\$ 2,757
IT	\$ 9,902
Arts	\$ 4,788
OSPCD	\$ 10,964
Treasury	\$ 10,257
City Clerk	\$ 6,877

Select the chart. On the Chart Design tab, in the Type group, click Change Chart Type.

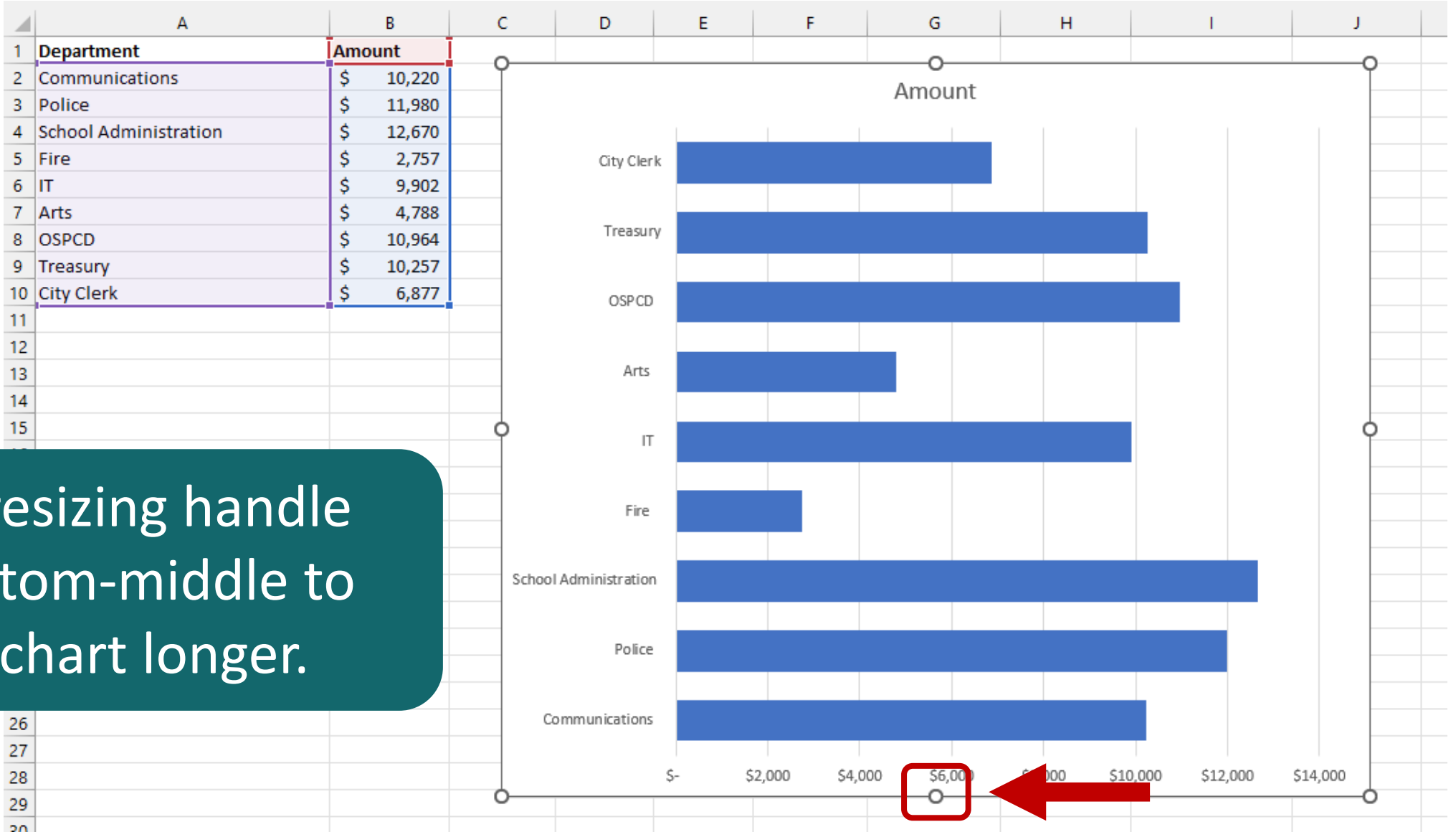


Change chart type



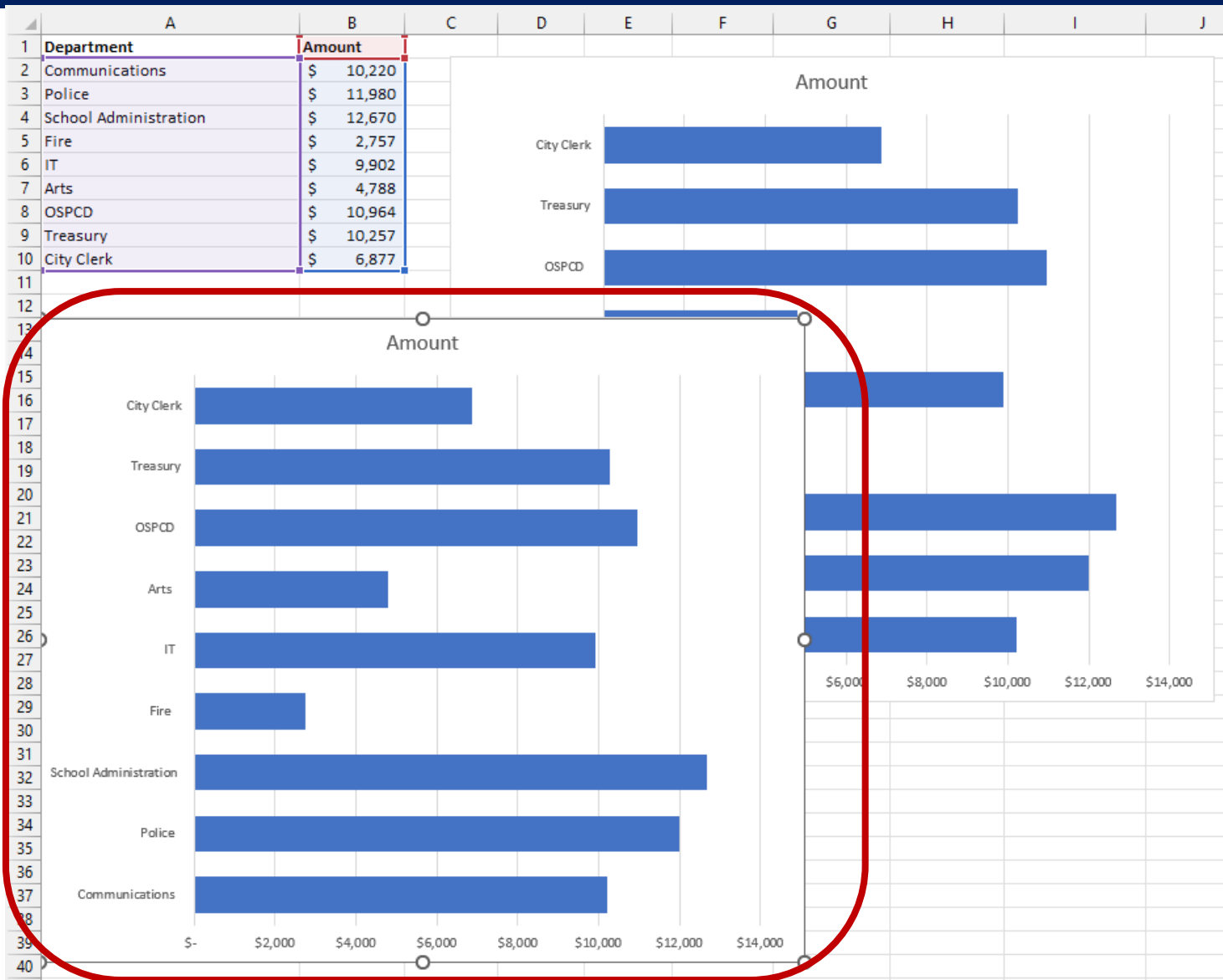
Click the Bar type chart and then click on the first chart icon. Click OK.

Change chart type



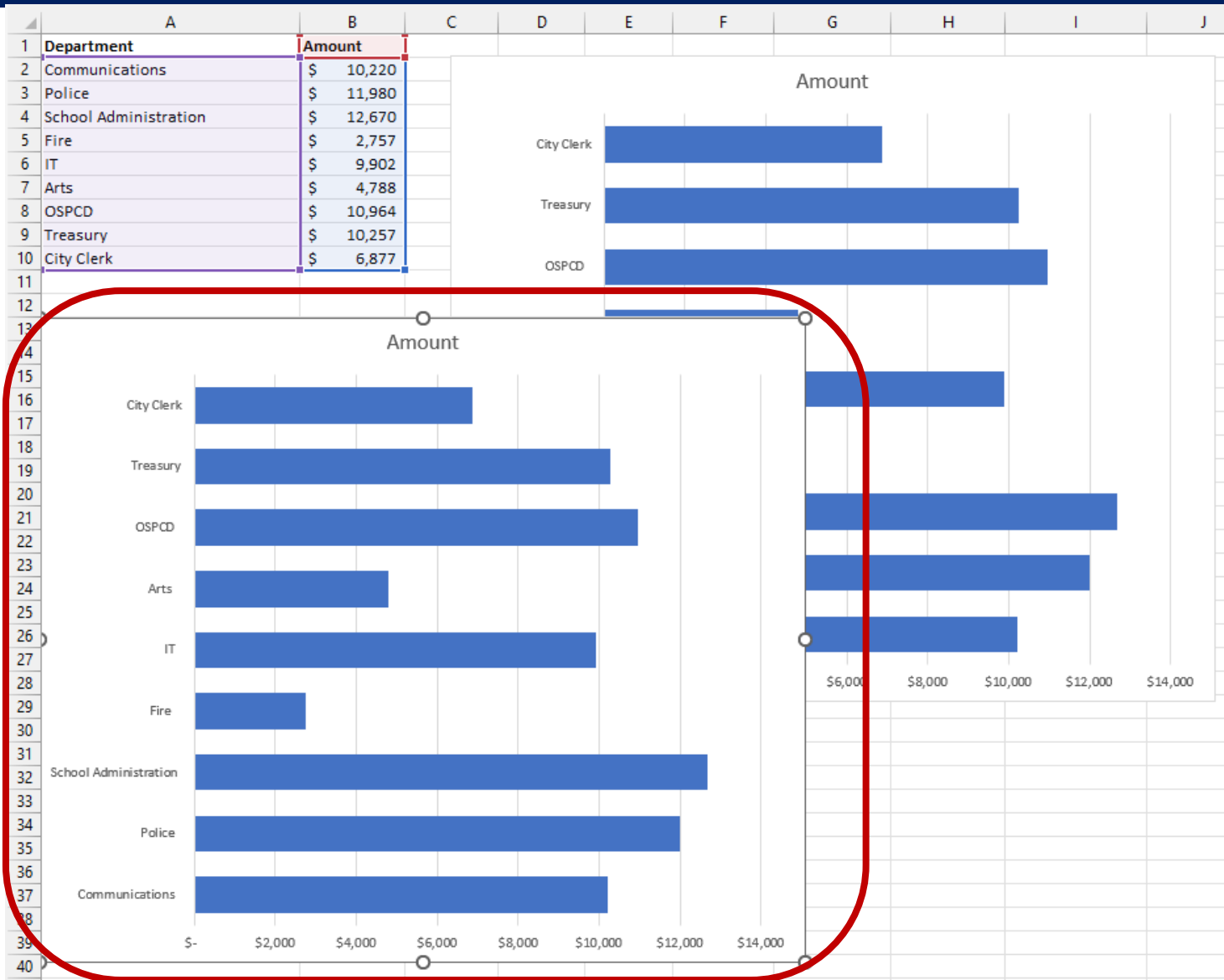
Drag the resizing handle at the bottom-middle to make the chart longer.

Copying a chart



Be sure the chart is selected and hit Ctrl+C (or Command+C on Mac) to copy. Then, activate an unused cell in your worksheet, I chose Cell A13, and hit Ctrl+V (or Command+V on Mac) to paste.

Deleting a chart



Be sure the chart is selected and hit Delete on your keyboard.

Worksheet 04

Use Chart Elements

Adding a chart layout

The screenshot shows the Microsoft Excel interface with the **Chart Design** tab selected. The **Chart Layout** group is highlighted with a red box and a red arrow labeled '1'. The **Quick Layout** button is also highlighted with a red box and a red arrow labeled '2'. A gallery of chart layouts is open, showing **Layout 5** selected. A tooltip for Layout 5 lists the following elements:

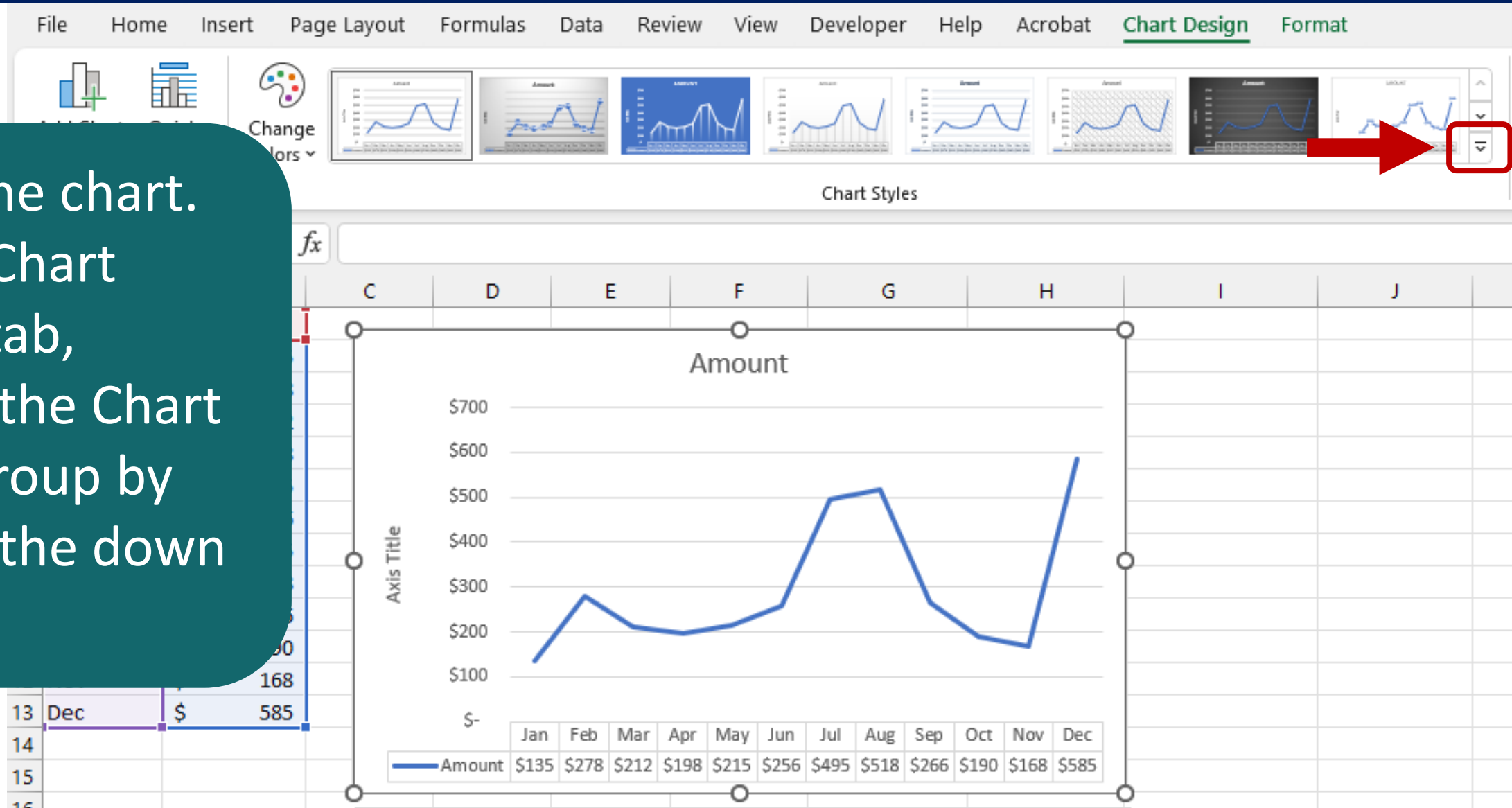
- Chart Title
- Data Table
- Vertical Axis Title
- Vertical Axis
- Major Gridlines

The chart displays a line graph of monthly amounts. The top chart is a simple line graph with the title 'Amount' and x-axis labels 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec'. The bottom chart is a more detailed line graph with the title 'Amount', a y-axis labeled '\$700', '\$600', '\$500', '\$400', '\$300', '\$200', '\$100', '\$-', and x-axis labels 'Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec'.

Select the top chart. On the Chart Design tab, in the Chart Layout group, click Quick Layout. In the gallery, click on Layout 5.

Adding a chart style

Select the chart.
On the Chart Design tab, expand the Chart Styles group by clicking the down arrow.



Adding a chart style

File Home Insert Page Layout Formulas Data Review View Developer Help Acrobat **Chart Design** Format

Add Chart Quick Element Layout Change Colors

Chart Layouts

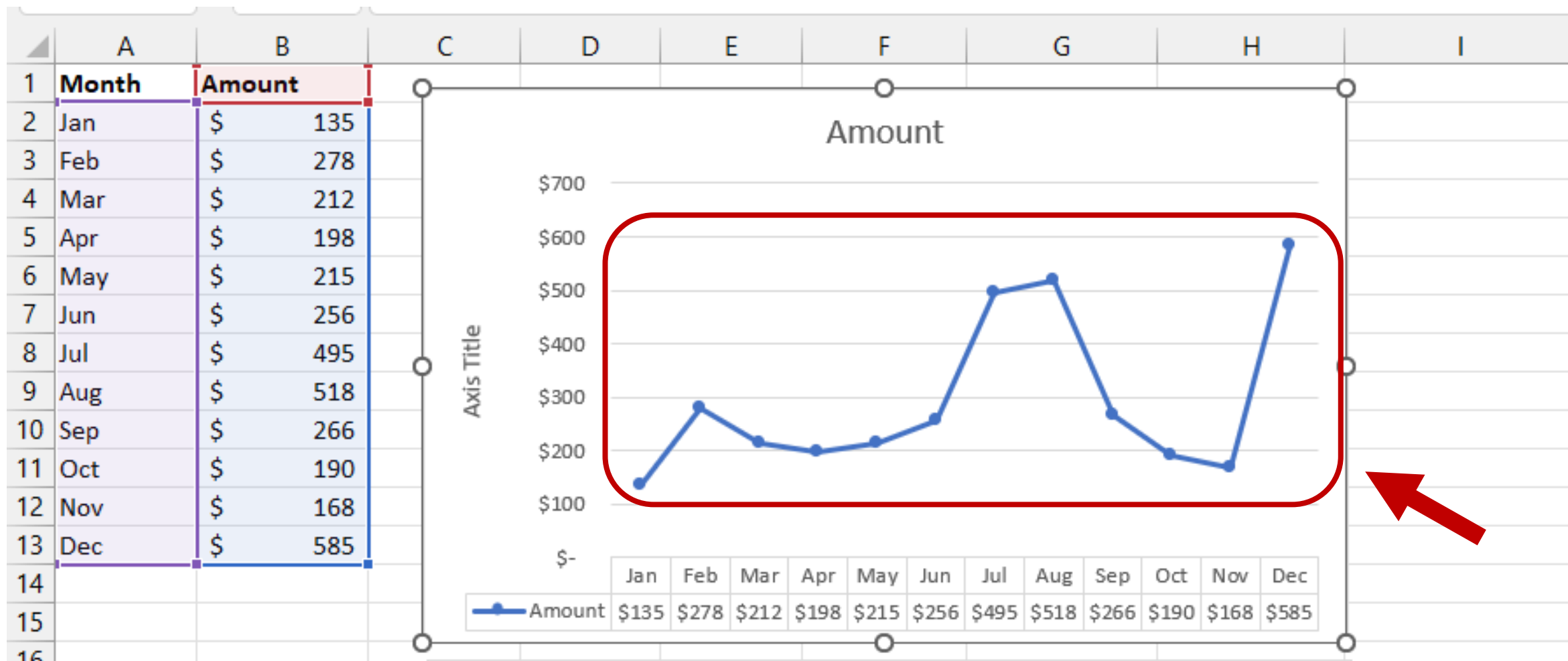
Chart 5

Style 14

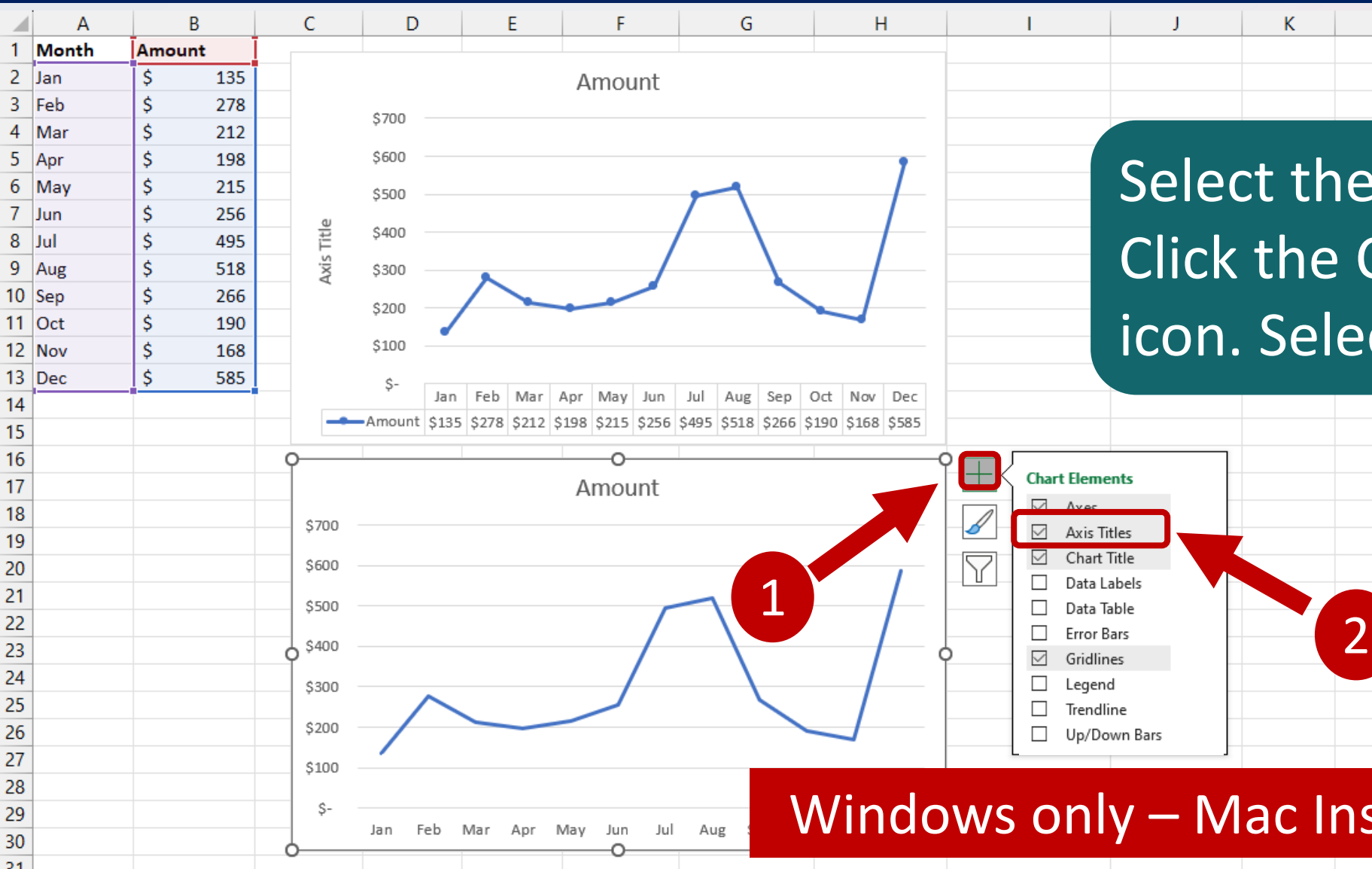
Click on Style 14.

Month	Amount
Jan	\$ 135
Feb	\$ 278
Mar	\$ 212
Apr	\$ 198
May	\$ 215
Jun	\$ 256
Jul	\$ 495
Aug	\$ 518
Sep	\$ 266
Oct	\$ 190
Nov	\$ 168
Dec	\$ 585

Adding a chart style



Adding and deleting chart elements



Select the bottom chart.
Click the Chart Elements icon. Select Axis Titles.

Windows only – Mac Instructions will follow

Adding and deleting chart elements



Home Insert Draw Page Layout Formulas Data Review View Developer **Chart Design**

Add Chart Element

Change Colors

Chart 6

Month	Amount
Jan	\$ 135
Feb	\$ 278
Mar	\$ 212
Apr	\$ 198
May	\$ 215
Jun	\$ 256
Jul	\$ 495
Aug	\$ 518
Sep	\$ 266
Oct	\$ 190
Nov	\$ 168
Dec	\$ 585

Axis Title

Amount

On the Chart Design tab, click Add Chart Element.

Adding and deleting chart elements



1

2

3

4

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Amount	\$135	\$278	\$212	\$198	\$215	\$256	\$495	\$510

In the drop-down menu, click Axis Titles. In the next drop-down menu, click Primary Horizontal. Then, repeat this step and click Primary Vertical axis titles as well.

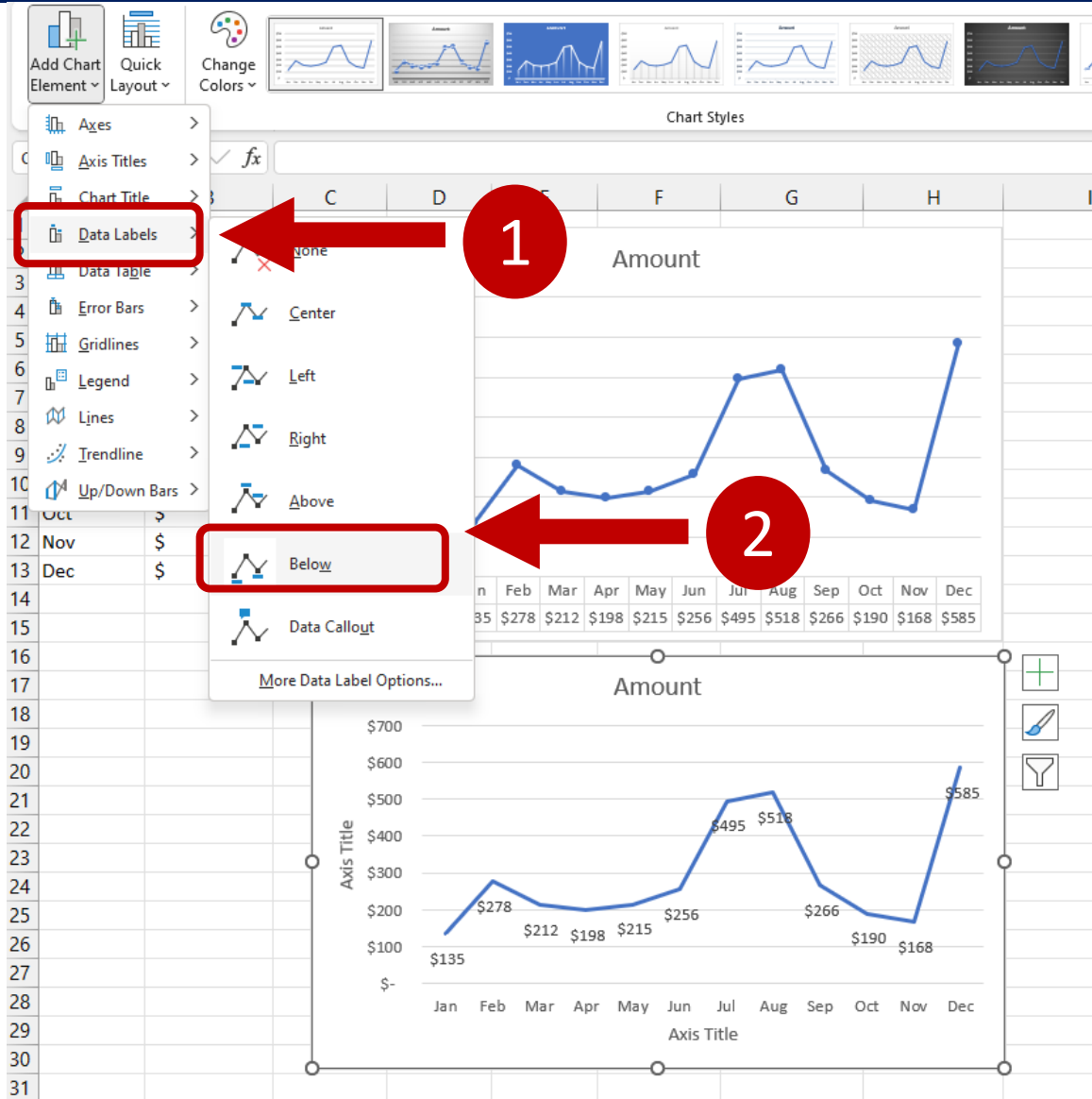
Adding and deleting chart elements

The screenshot shows the Microsoft Excel interface with the **Chart Design** tab selected. In the **Chart Layouts** group, the **Add Chart Element** button is highlighted with a red box and a red arrow. The chart area displays a line chart titled "Amount" with data for months Jan through Dec. A data table is visible below the chart.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Amount	\$135	\$278	\$212	\$198	\$215	\$256	\$495	\$518	\$266	\$190	\$168	\$585

On the Chart Design tab, in the Chart Layouts group, click Add Chart Element.

Adding and deleting chart elements

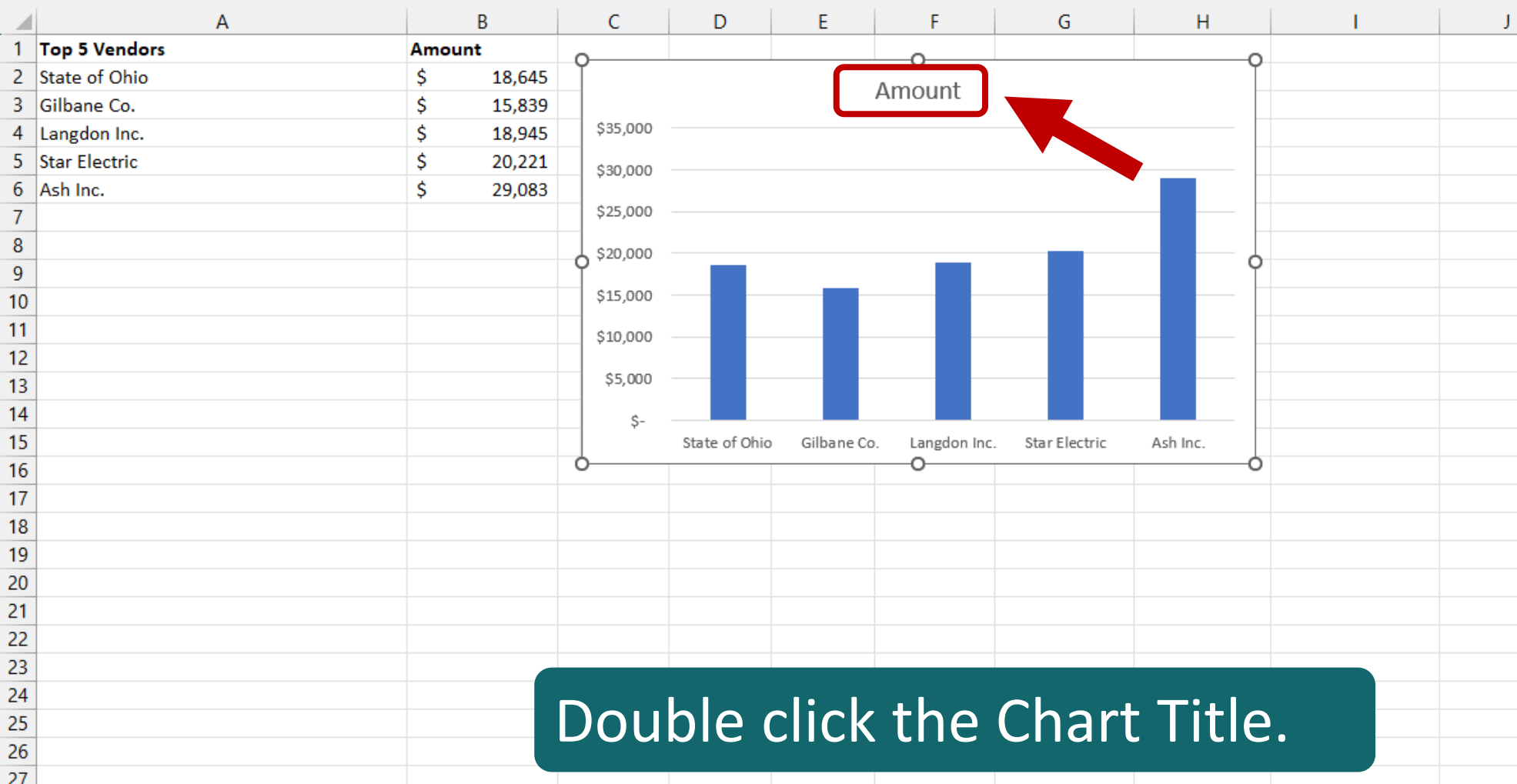


In the drop-down menu, click Data Labels. In the next drop-down menu, click Below.

Worksheet 05

Format Chart Elements

Formatting chart elements



Format Chart Title

Title Options Text Options



> Fill

> Border

Double click the Chart Title.

Formatting chart elements

File Home Insert Page Layout Formulas Data Review View Developer Help Acrobat **Chart Design** Format Comments Share

Add Chart Element Quick Layout Change Colors Chart Layouts Chart Styles Data Type Location

Chart 3

	A	B	C	D	E	F	G	H	I	J
1	Top 5 Vendors	Amount								
2	State of Ohio	\$ 18,645								
3	Gilbane Co.	\$ 15,839								
4	Langdon Inc.	\$ 18,945								
5	Star Electric	\$ 20,221								
6	Ash Inc.	\$ 29,083								

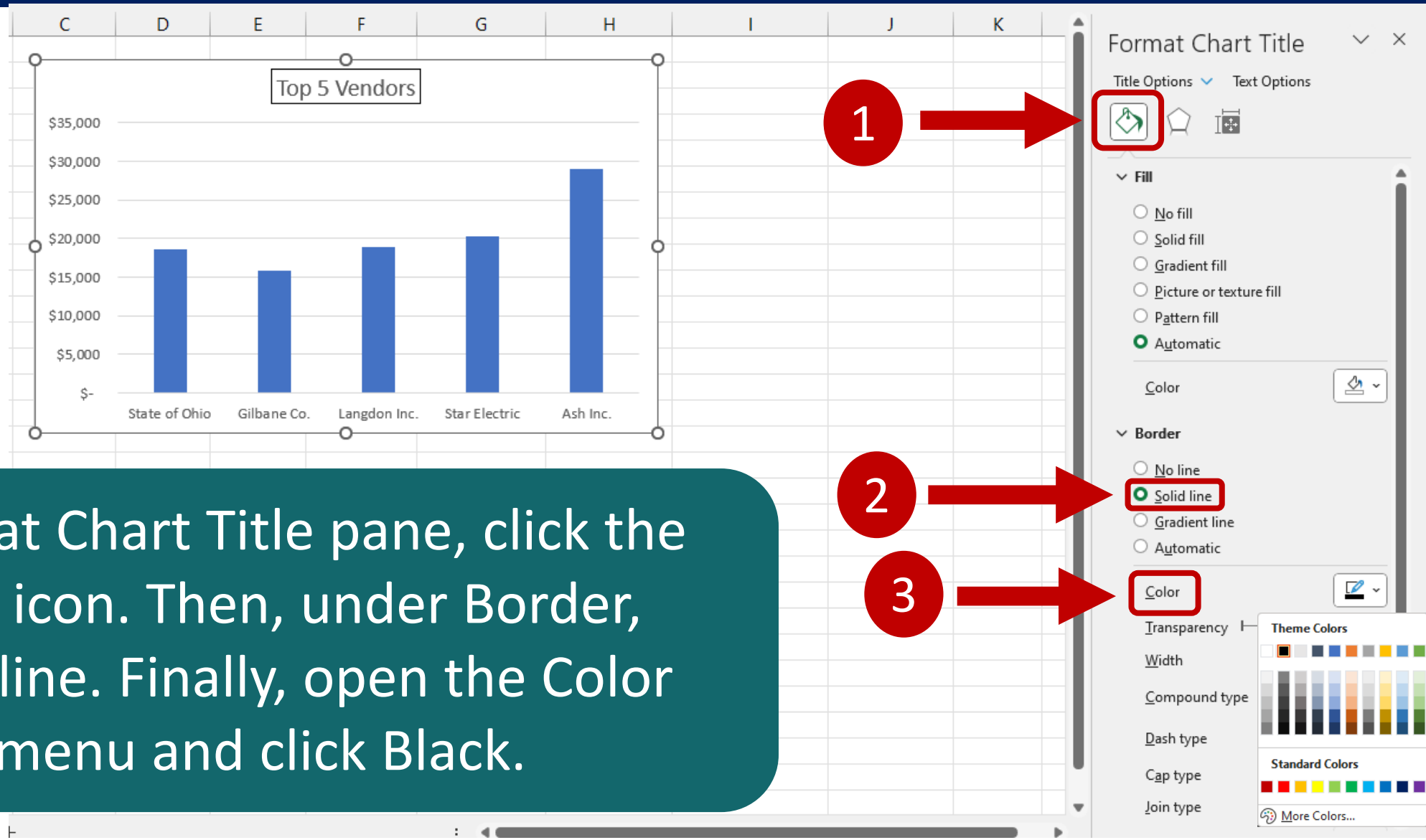
Format Chart Title

Title Options Text Options

Fill Border

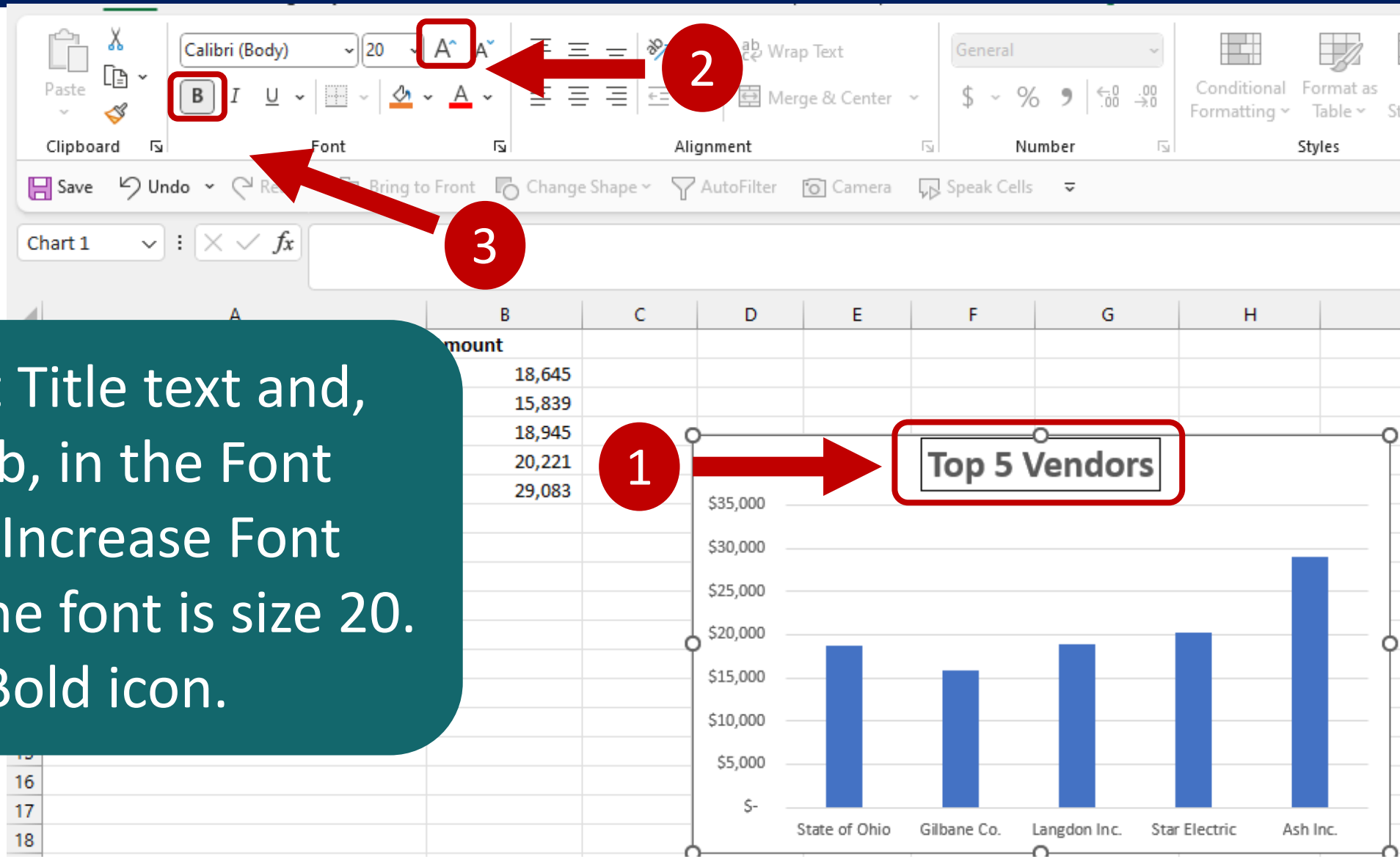
Type the text “Top 5 Vendors” in the Chart Title text box.

Formatting chart elements



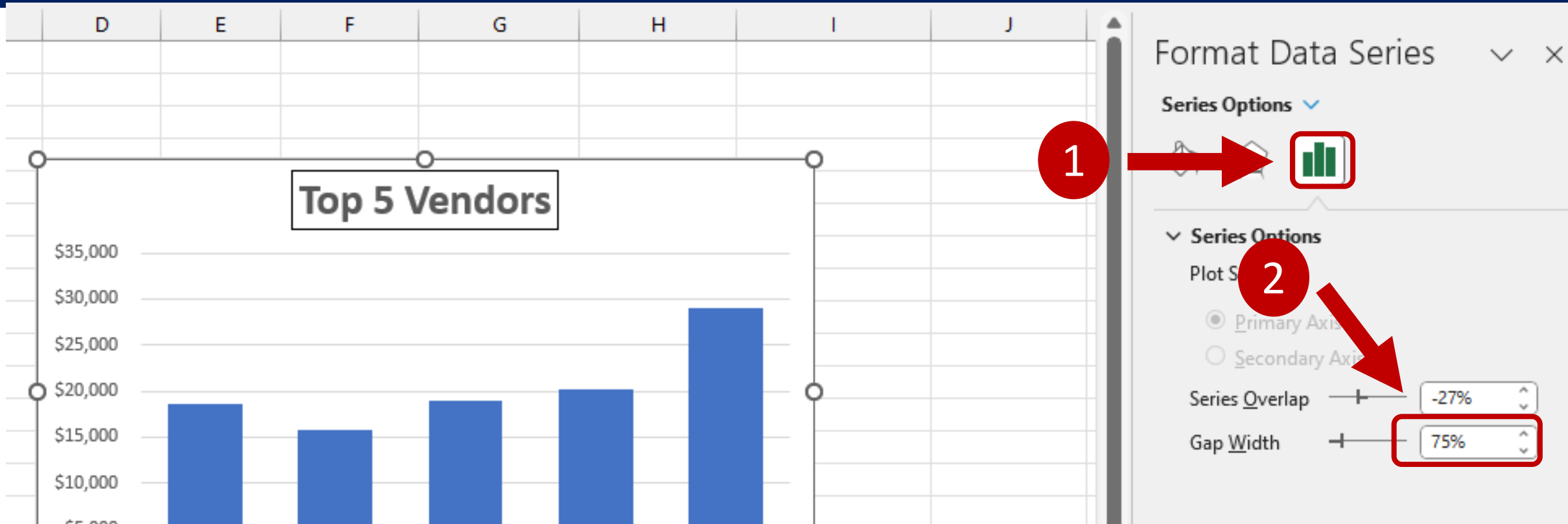
In the Format Chart Title pane, click the Fill and Line icon. Then, under Border, select Solid line. Finally, open the Color drop-down menu and click Black.

Formatting chart elements



Select the Chart Title text and, on the Home tab, in the Font group, click the Increase Font Size icon until the font is size 20. Then, click the Bold icon.

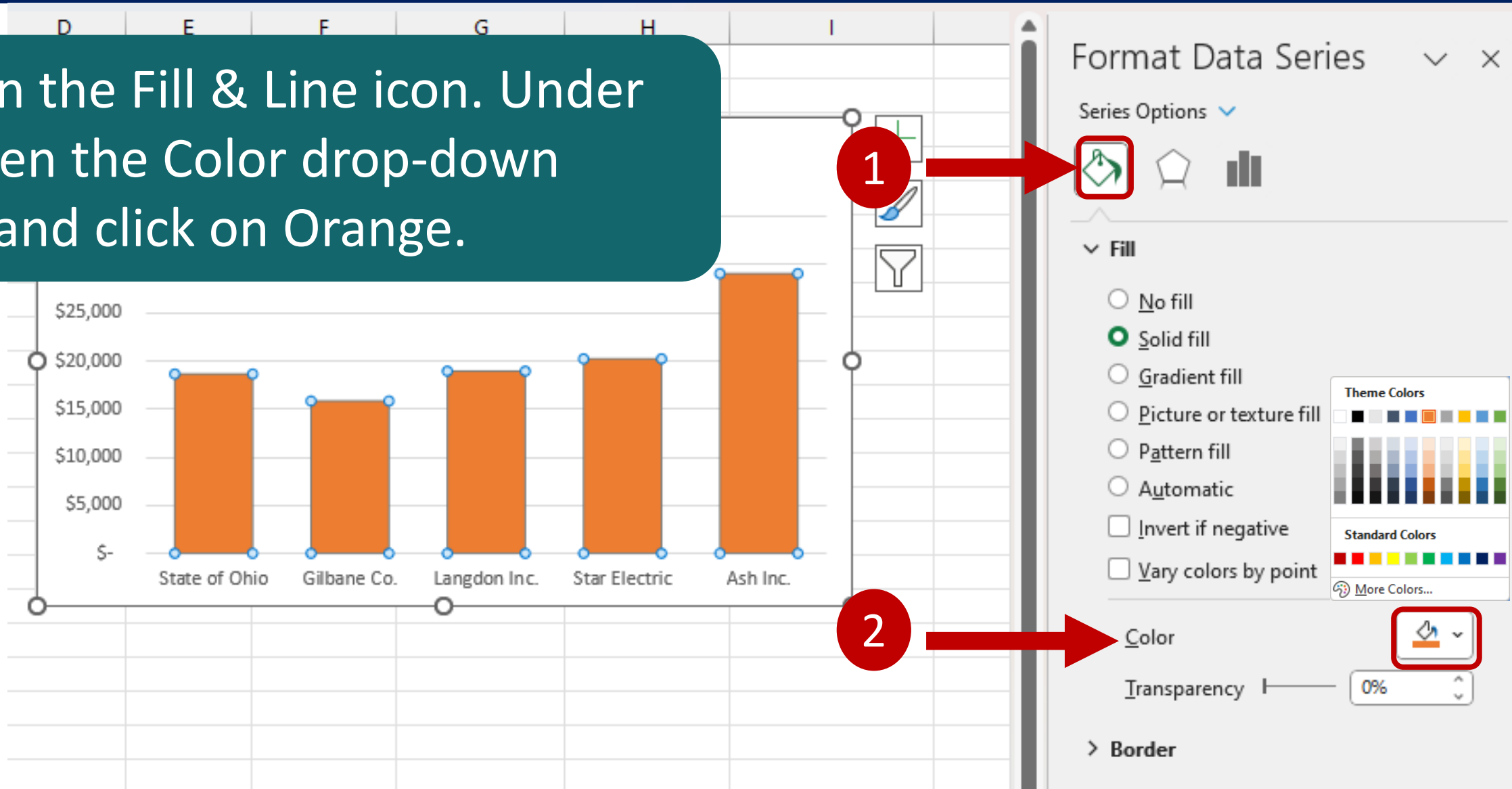
Formatting chart elements



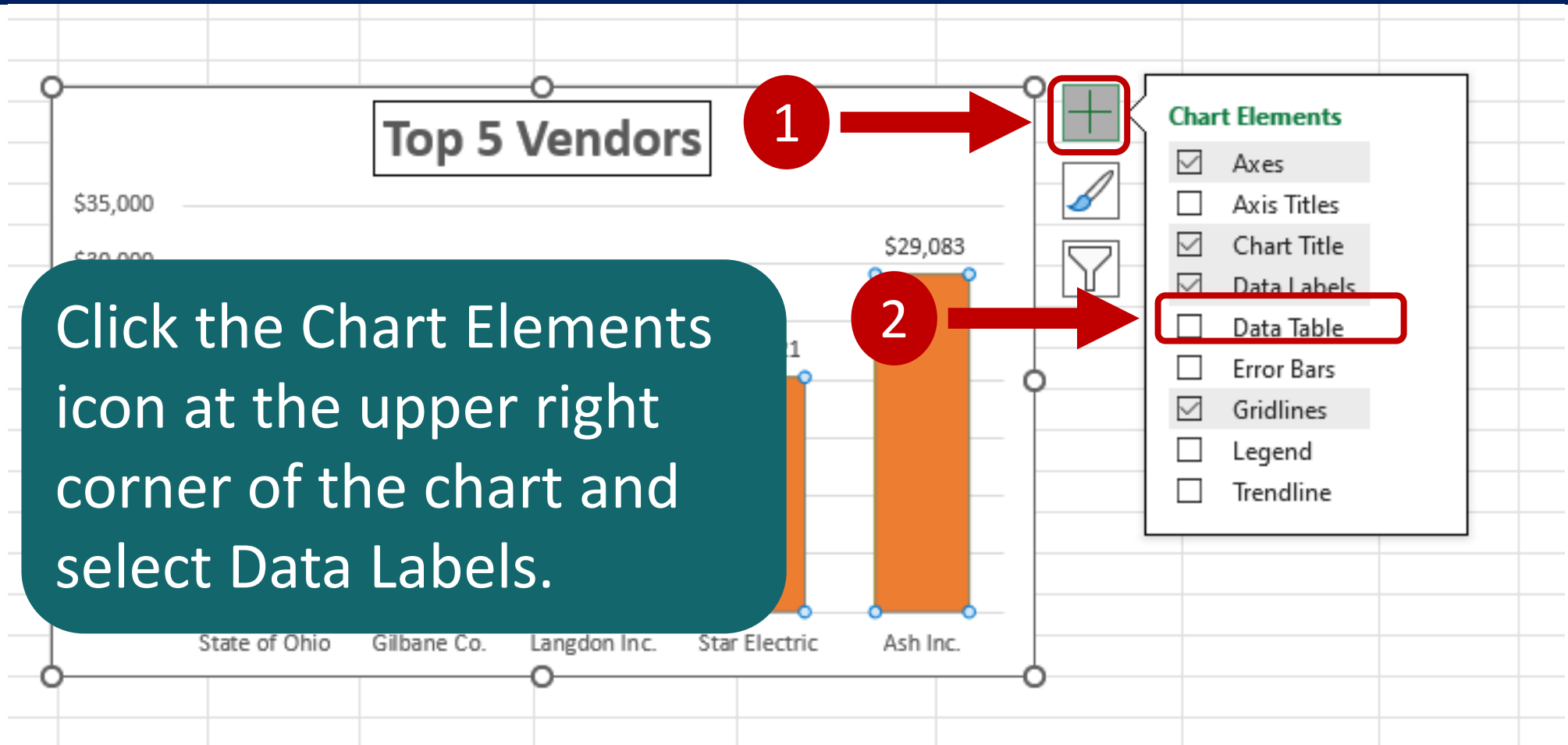
Click any of the columns in the chart to open the Format Data Series pane. Then, click the Series Options icon and, next to Gap Width, decrease to 75%.

Formatting chart elements

Click on the Fill & Line icon. Under Fill, open the Color drop-down menu and click on Orange.



Formatting chart elements



Windows only – Mac Instructions will follow

Formatting chart elements



The screenshot shows the Microsoft Excel interface with the 'Chart Design' ribbon selected. A bar chart is visible in the background. Three red circles with arrows indicate the steps: 1. The 'Add Chart Element' button (a bar chart icon with a plus sign) is highlighted. 2. The 'Data Labels' option in the dropdown menu is highlighted. 3. The 'Above' option in the 'Data Labels' submenu is highlighted.

Home Insert Draw Page Layout Formulas Data Review View Developer **Chart Design** Format

1. Add Chart Element

2. Data Labels

3. Above

None
Center
Left
Right
Above
Below
Data Callout

More Data Label Options...

Click the Add Chart Element button on the far left of the Chart Design tab. Click Data Labels, then choose Above.

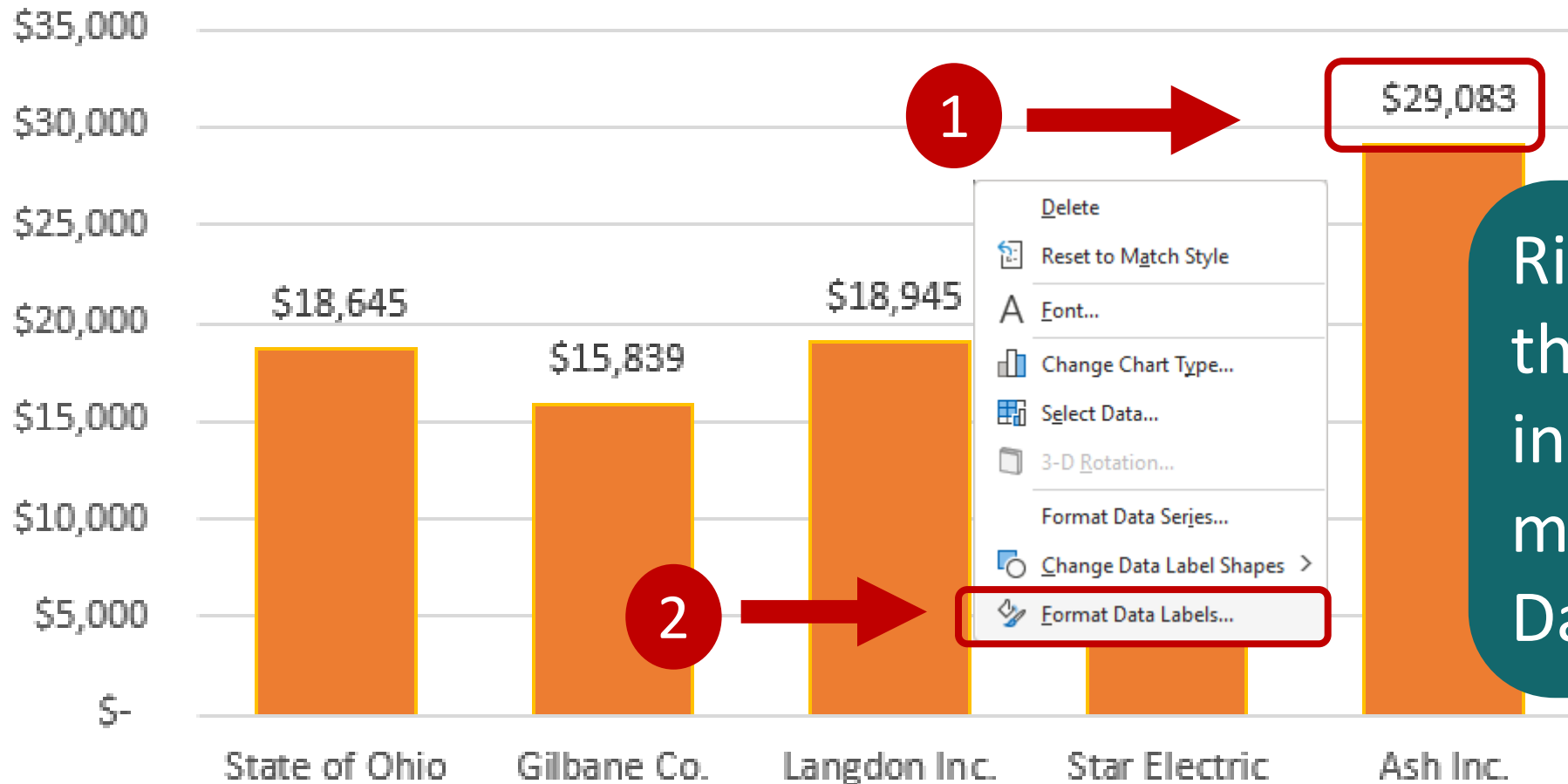
Formatting chart elements



Select the vertical axis and hit Delete on your keyboard.

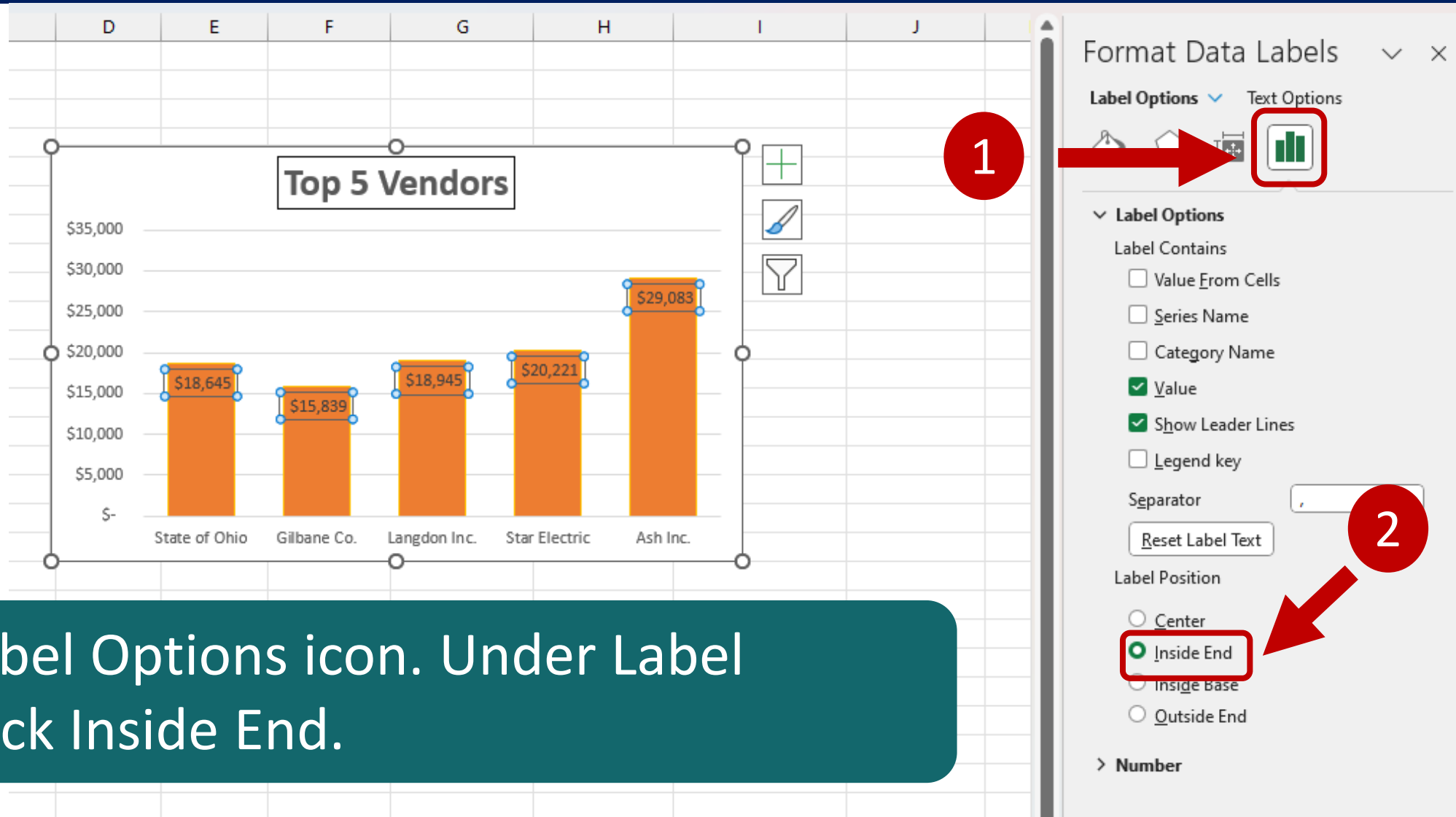
Formatting chart elements

Top 5 Vendors



Right-click one of the Data Labels and, in the drop-down menu, click Format Data Labels.

Formatting chart elements

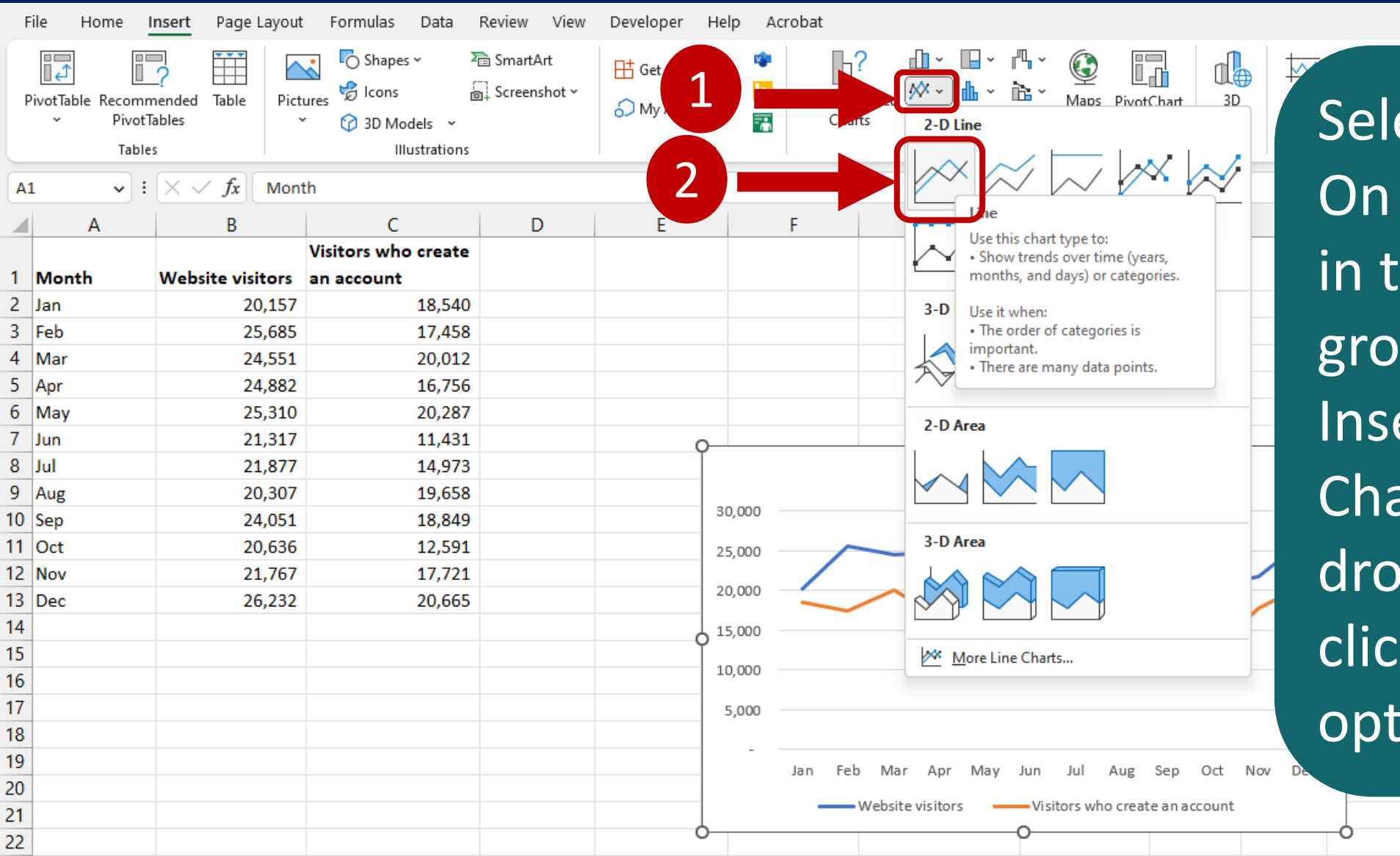


Click the Label Options icon. Under Label Position, click Inside End.

Worksheet 06

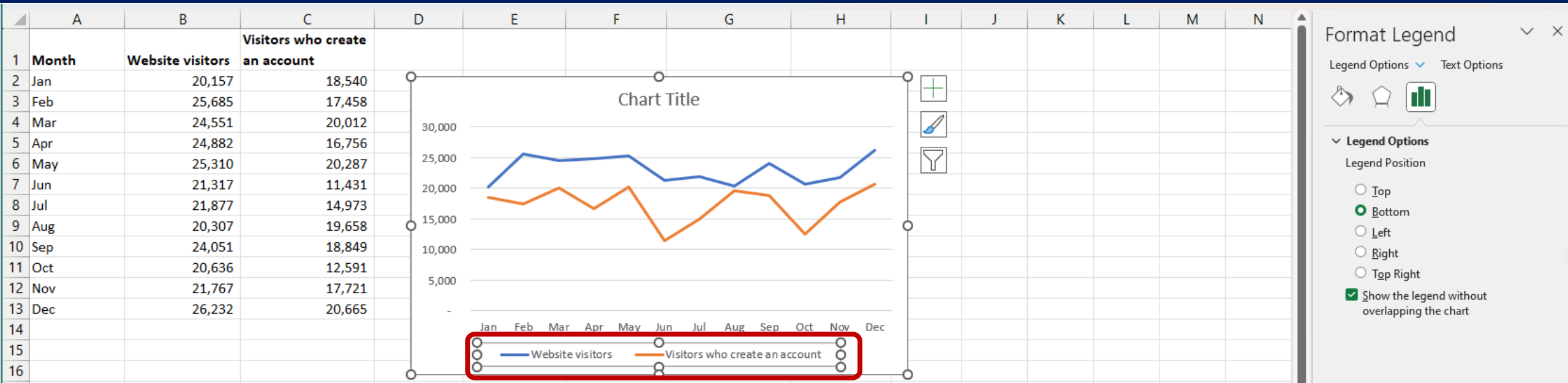
Create Charts for Visualizing
Changes Over Time

Visualizing changes over time



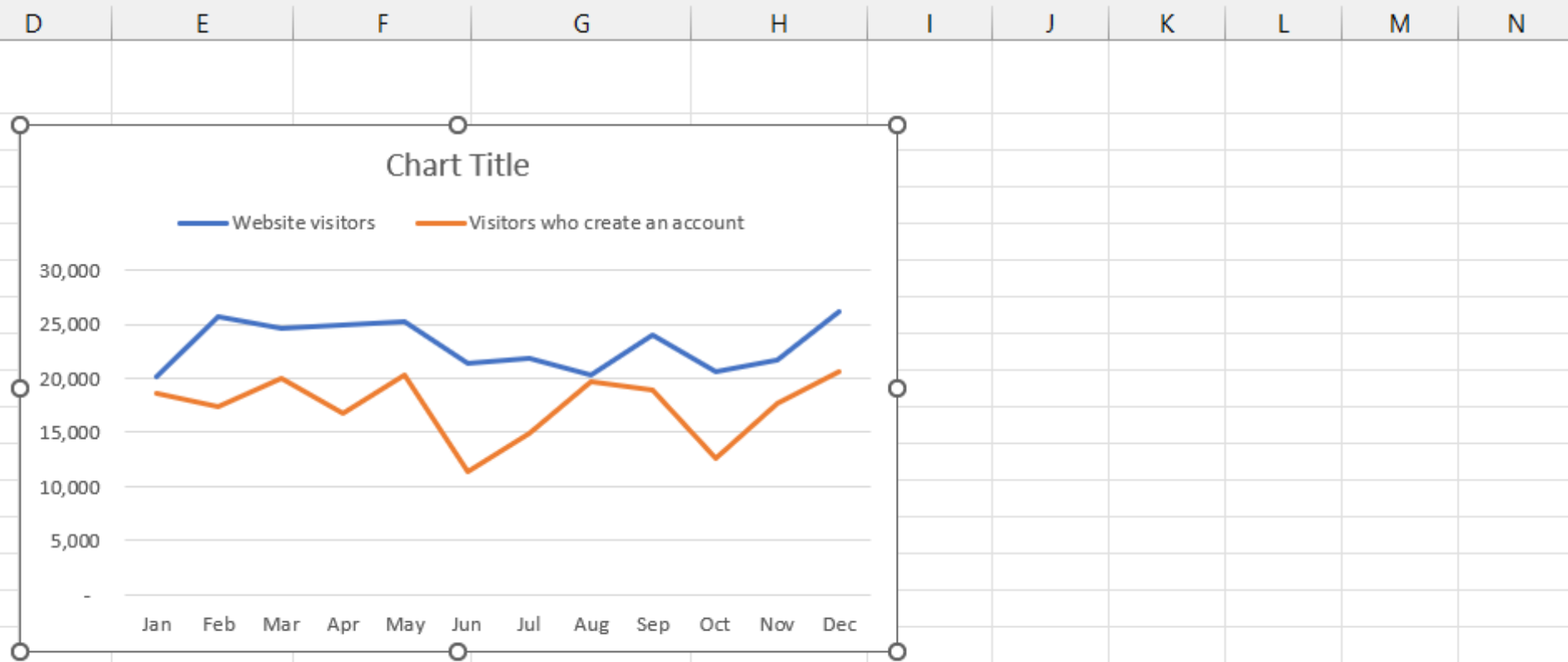
Select Cells A1:C13. On the Insert tab, in the Charts group, click the Insert Line or Area Chart icon. In the drop-down menu, click the Line chart option.

Visualizing changes over time



Double-click the legend so the Format Legend pane appears.

Visualizing changes over time



Format Legend

Legend Options Text Options

Legend Options

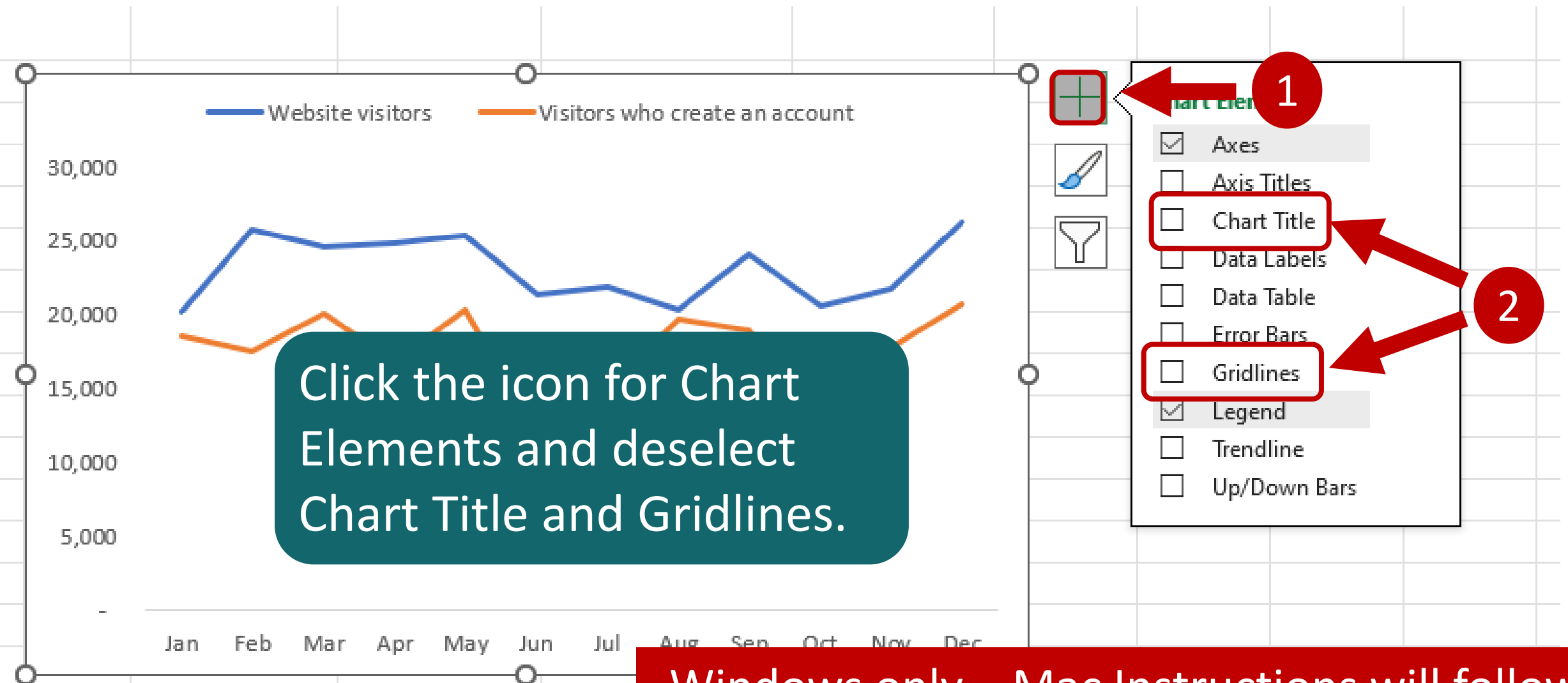
Legend Position

- Top
- Bottom
- Left
- Right
- Top Right

Show the legend without overlapping the chart

In the Format Legend pane, click Legend Options. Under legend Position, select Top.

Visualizing changes over time



Visualizing changes over time



The screenshot shows the Microsoft Excel interface with the **Chart Design** tab selected. A red box labeled '1' highlights the **Add Chart Element** button. A red box labeled '2' highlights the **Chart Title** option in the dropdown menu. A red box labeled '3' highlights the **None** option in the sub-menu. A teal callout box contains the following text:

On the Chart Design tab, click the Add Chart Element button. To deselect Chart Titles, click Chart Title, then select None.

24,002	10,750
25,310	20,287
21,317	11,431
21,877	14,973
22,007	10,050

Visualizing changes over time



The screenshot shows the Microsoft Excel interface with the **Chart Design** ribbon selected. A line chart is displayed on the worksheet, comparing 'Website visitors' (blue line) and 'Visitors who create an account' (orange line) over time. The chart is overlaid on a data table with columns C, D, E, and F. The data table contains the following values:

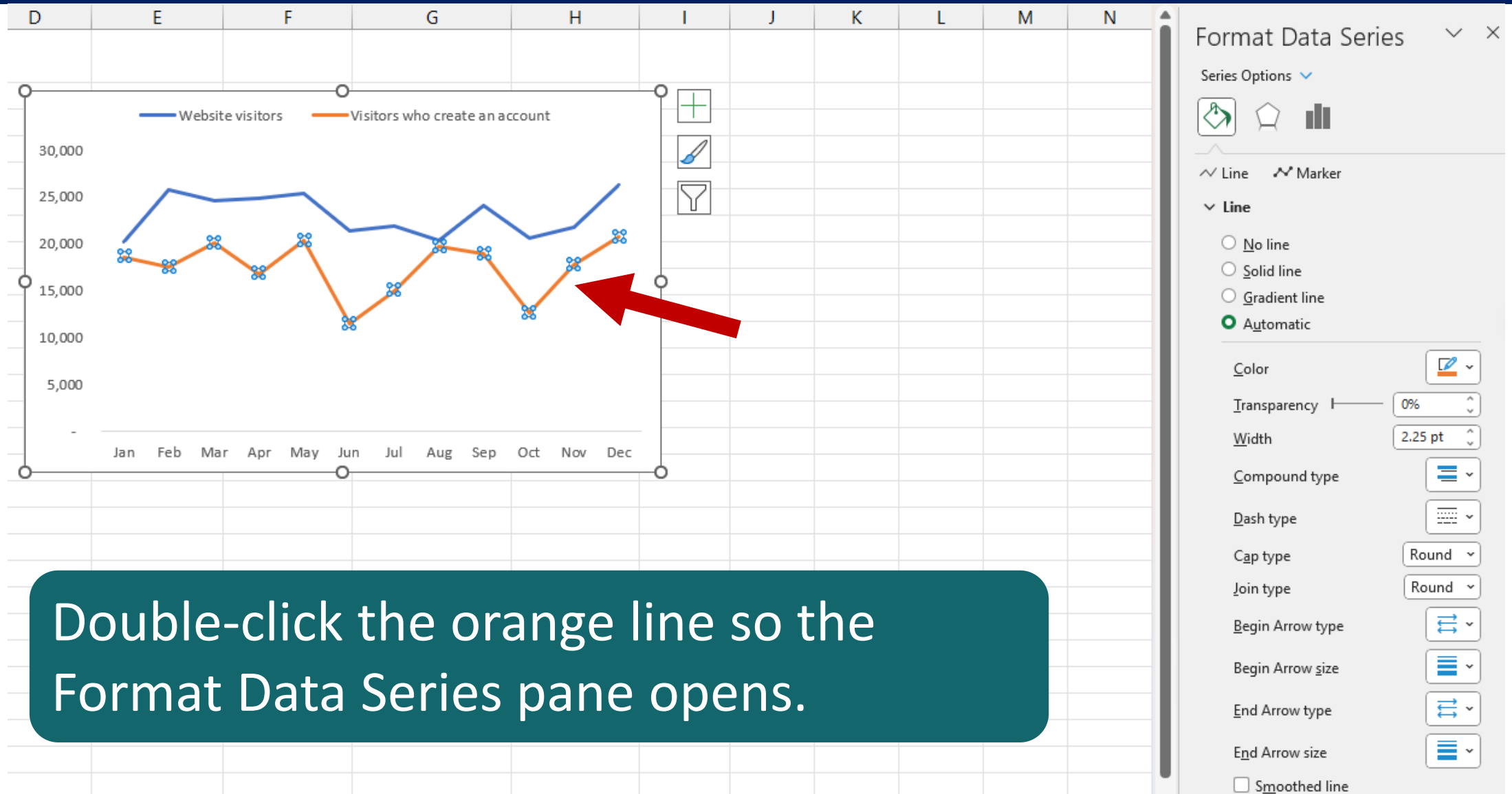
	C	D	E	F
Visitors	20 157	18 540		

Three red circles with numbers 1, 2, and 3 indicate the steps to remove gridlines:

1. Click the **Add Chart Element** button (represented by a bar chart icon with a plus sign).
2. Click **Gridlines** in the dropdown menu.
3. Click **Primary Major Horizontal** to deselect the horizontal gridlines.

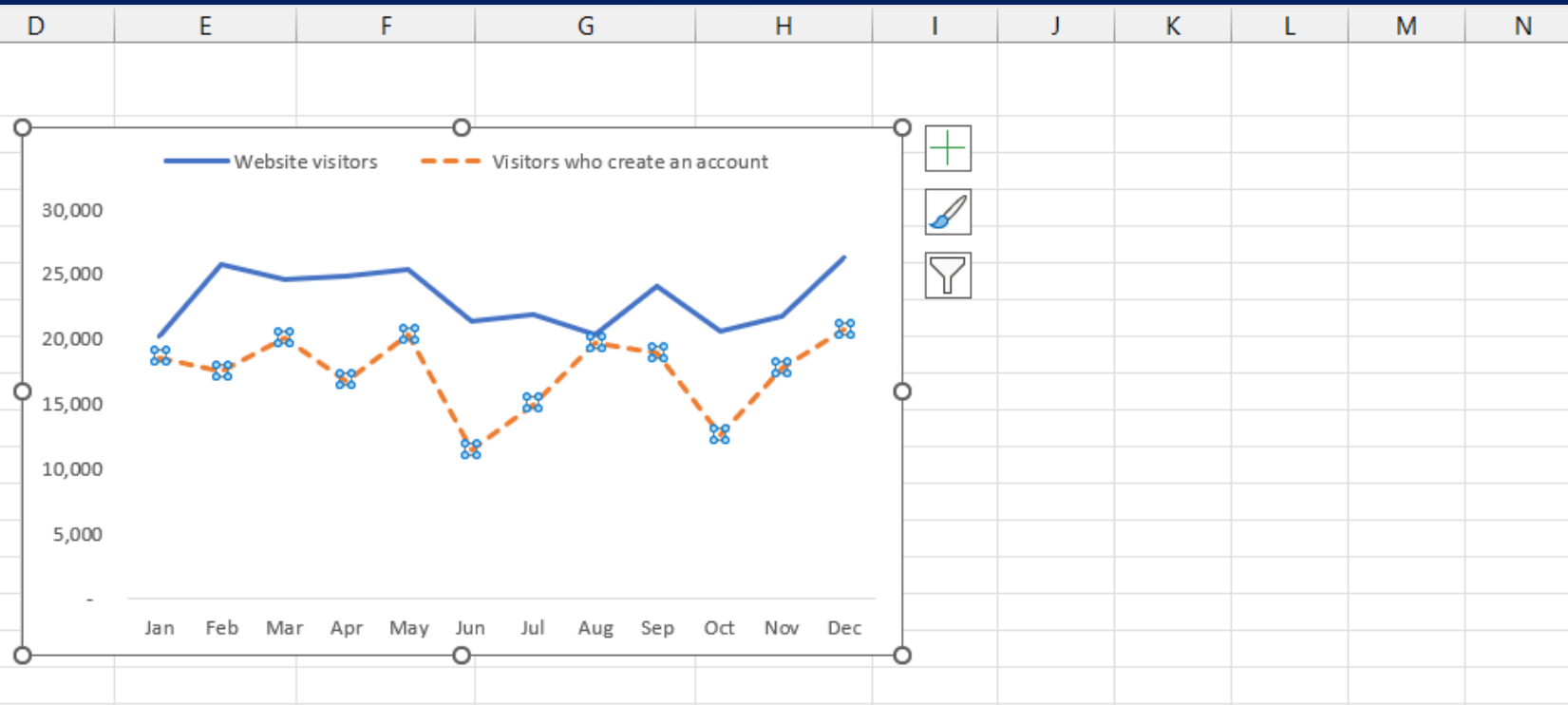
To delete Gridlines, click the Add Chart Element button. Then click Gridlines and click Primary Major Horizontal to deselect the horizontal gridlines.

Visualizing changes over time



Double-click the orange line so the Format Data Series pane opens.

Visualizing changes over time

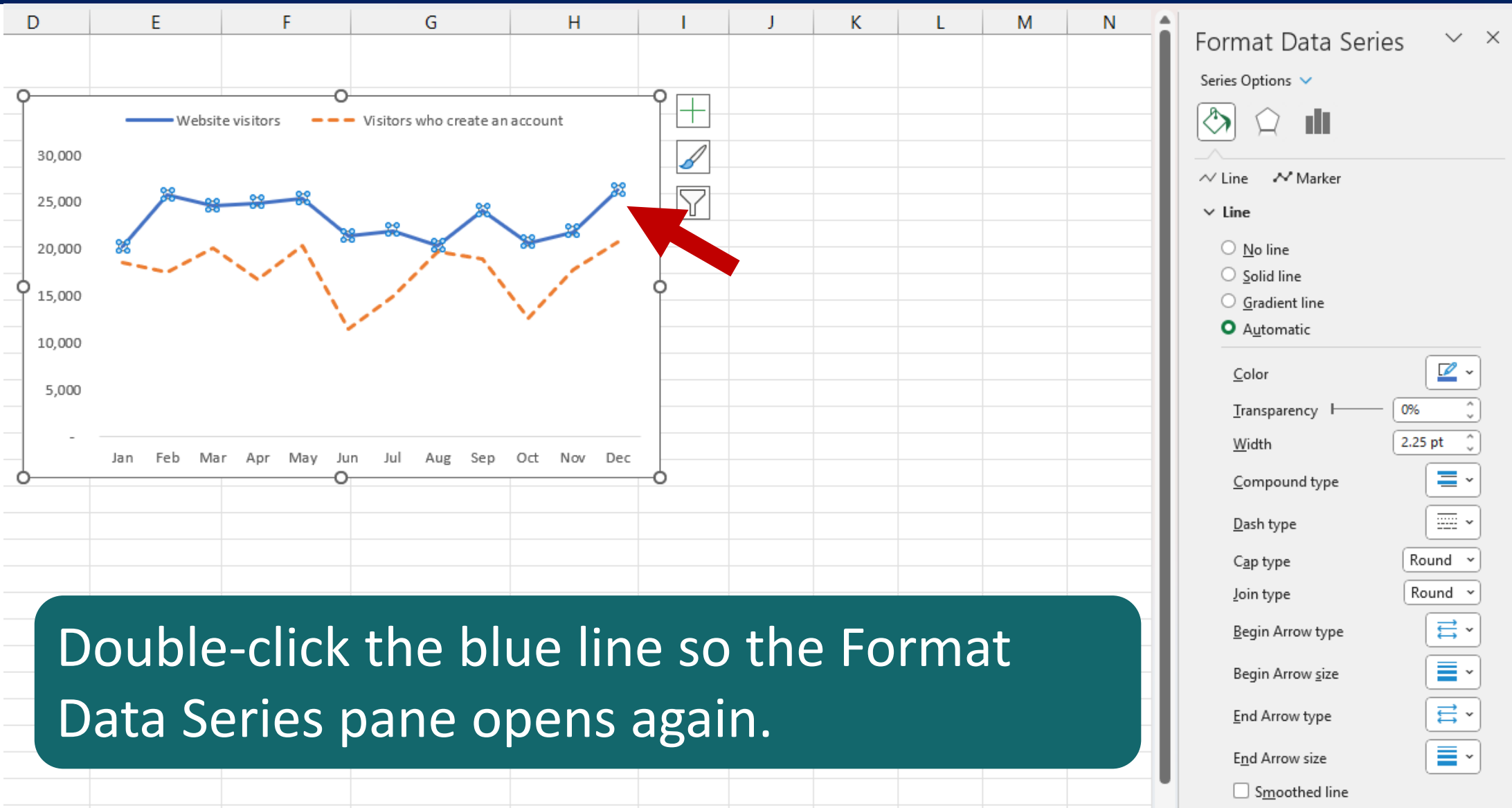


The 'Format Data Series' pane is shown on the right side of the image. It contains several sections and options:

- Series Options:** A red box highlights the 'Fill & Line' icon, with a red arrow pointing to it labeled '1'.
- Line:** The 'Line' section is expanded, showing options for 'No line', 'Solid line', 'Gradient line', and 'Automatic'. The 'Solid line' option is selected.
- Color:** A color selection dropdown is visible.
- Transparency:** A slider set to 0%.
- Width:** A dropdown set to 2.25 pt.
- Compound type:** A dropdown menu.
- Dash type:** A dropdown menu is highlighted with a red box, with a red arrow pointing to it labeled '2'. A sub-menu is open, showing various line styles, with 'Square Dot' selected and highlighted with a red box.
- Cap type:** A dropdown menu set to 'Round'.
- Join type:** A dropdown menu set to 'Round'.
- Begin Arrow type:** A dropdown menu.
- End Arrow type:** A dropdown menu.
- End Arrow size:** A dropdown menu.
- Smoothed line:** A checkbox that is unchecked.

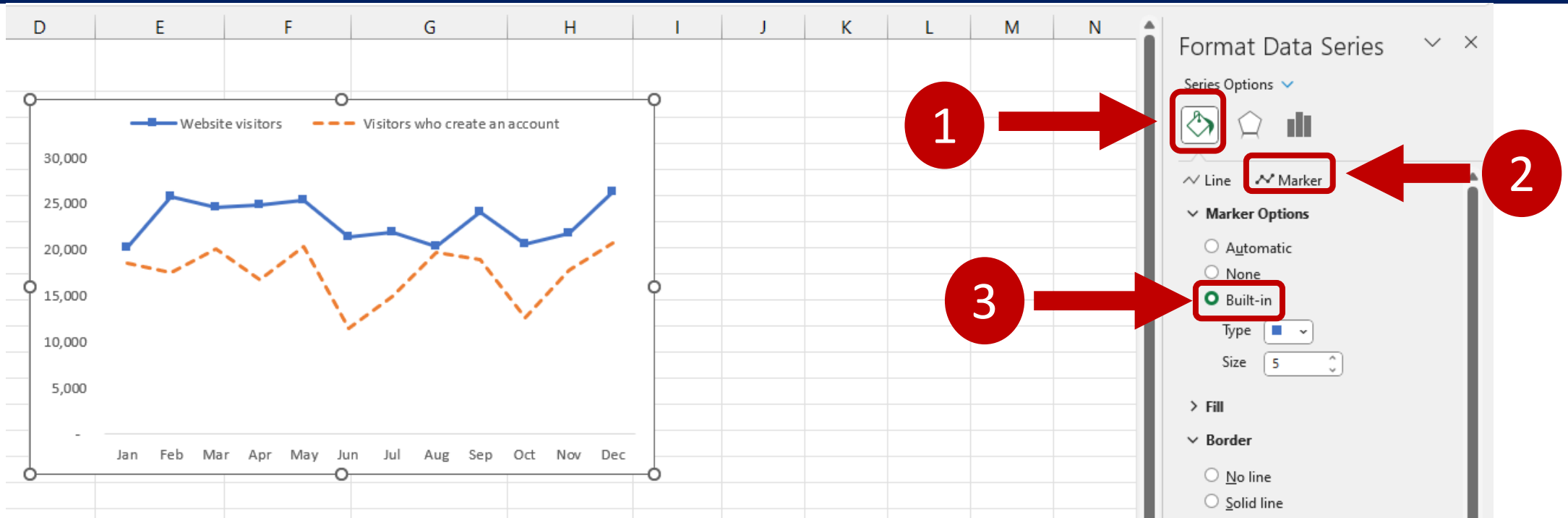
In the Format Data Series pane, click the Fill & Line icon. Then, expand the options for Dash type and choose Square Dot.

Visualizing changes over time



Double-click the blue line so the Format Data Series pane opens again.

Visualizing changes over time



In the Format Data Series pane, click Fill & Line. Then Click Marker. Under Marker Options, click Built-in.

Worksheet 07

Create Charts for Visualizing
Parts-of-a-Whole

Visualizing parts-of-a-whole

The screenshot shows the Microsoft Excel interface with the **Insert** tab selected. In the **Charts** group, the **Insert Pie or Doughnut Chart** icon is highlighted with a red circle and the number 1. A red arrow points from this icon to a drop-down menu. In the drop-down menu, the **2-D Pie** option is highlighted with a red circle and the number 2. Below the ribbon, a data table is visible with columns for Department, Q1, Q2, Q3, Q4, and Total Amount.

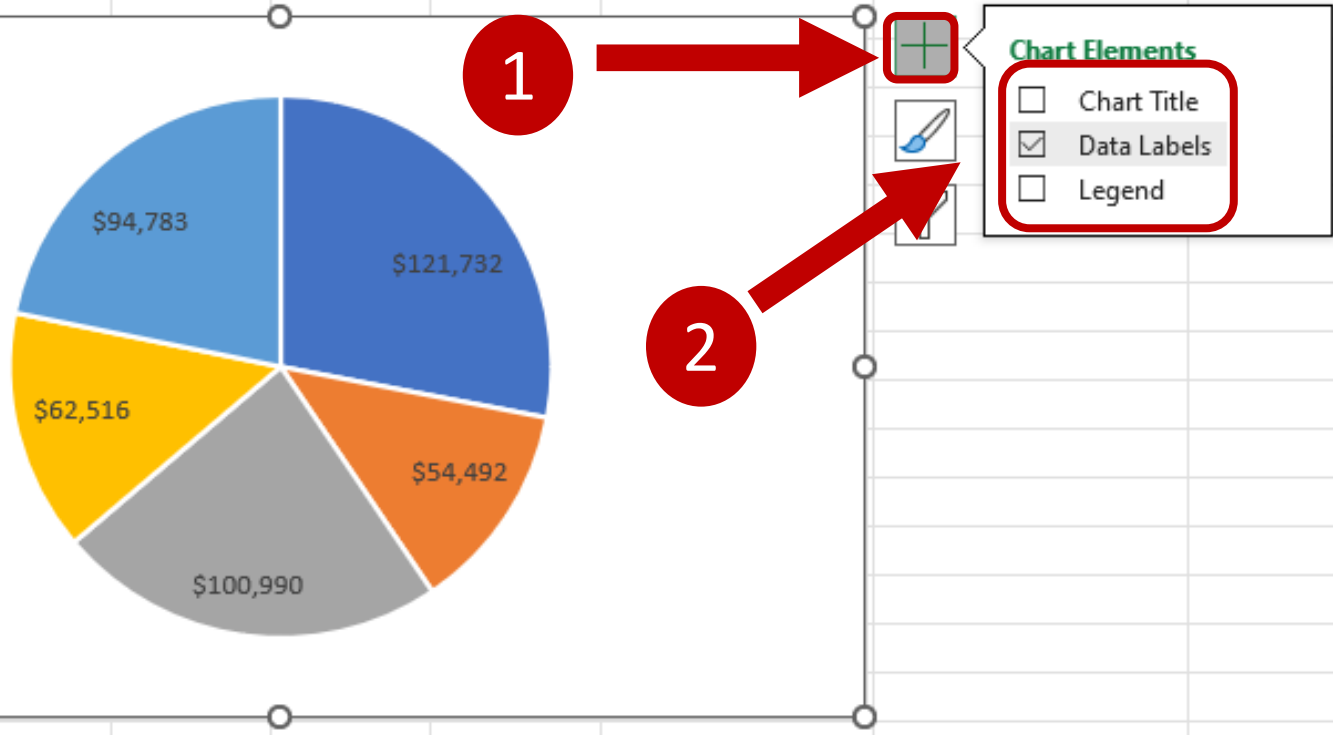
	A	B	C	D	E	
1	Department	Q1	Q2	Q3	Q4	Total Amount
2	Public library	\$ 47,235	\$ 38,987	\$ 15,685	\$ 19,825	\$
3	Veterans services	\$ 19,830	\$ 9,847	\$ 13,875	\$ 10,940	\$
4	Council on aging	\$ 16,584	\$ 59,039	\$ 14,383	\$ 10,984	\$
5	Parks and recreatio	\$ 14,890	\$ 15,749	\$ 19,847	\$ 12,030	\$
6	Youth services	\$ 18,309	\$ 22,985	\$ 31,584	\$ 21,905	\$

On the Insert tab, in the Charts group, click the Insert Pie or Doughnut Chart icon. In the drop-down menu, click the Pie chart option.

Visualizing parts-of-a-whole

	A	B	C	D	E
1	Department	Q1	Q2	Q3	Q4
2	Public library	\$ 47,235	\$ 38,987	\$ 15,685	\$ 19,825
3	Veterans services	\$ 19,830	\$ 9,847	\$ 13,875	\$ 10,940
4	Council on aging	\$ 16,584	\$ 59,039	\$ 14,383	\$ 10,984
5	Parks and recreatio	\$ 14,890	\$ 15,749	\$ 19,847	\$ 12,030
6	Youth services	\$ 18,309	\$ 22,985	\$ 31,584	\$ 21,905

Windows only – Mac Instructions will follow



1

2

Chart Elements

- Chart Title
- Data Labels
- Legend

Click the icon for Chart Elements and select Data Labels. Then, deselect Chart Title and Legend.

Visualizing parts-of-a-whole



Home Insert Draw Page Layout Formulas Data Review View Developer **Chart Design**

1

2

3

Chart Title

Data Labels

Data Table

Legend

Lines

Trendline

Up/Down Bars

None

Center

Left

Right

Above

Below

Data Callout

More Data Label Options...

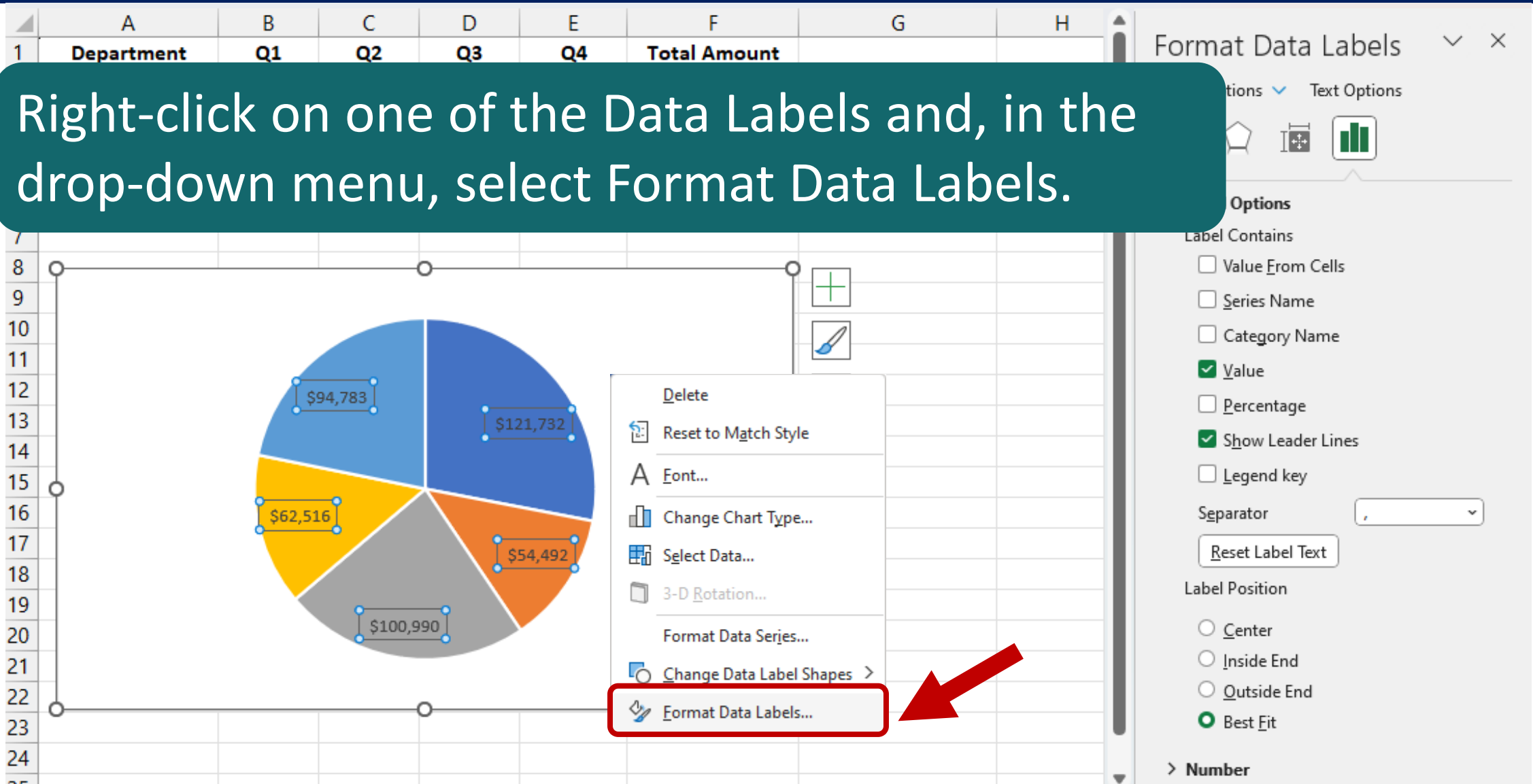
5	Parks and recreation	\$	14
6	Youth services	\$	18
7			
8			
9			
10			
11			
12			

Click the Add Chart Elements button and select Data Labels. Choose Center.

Next, click the Chart Title and Legend options, and select None.

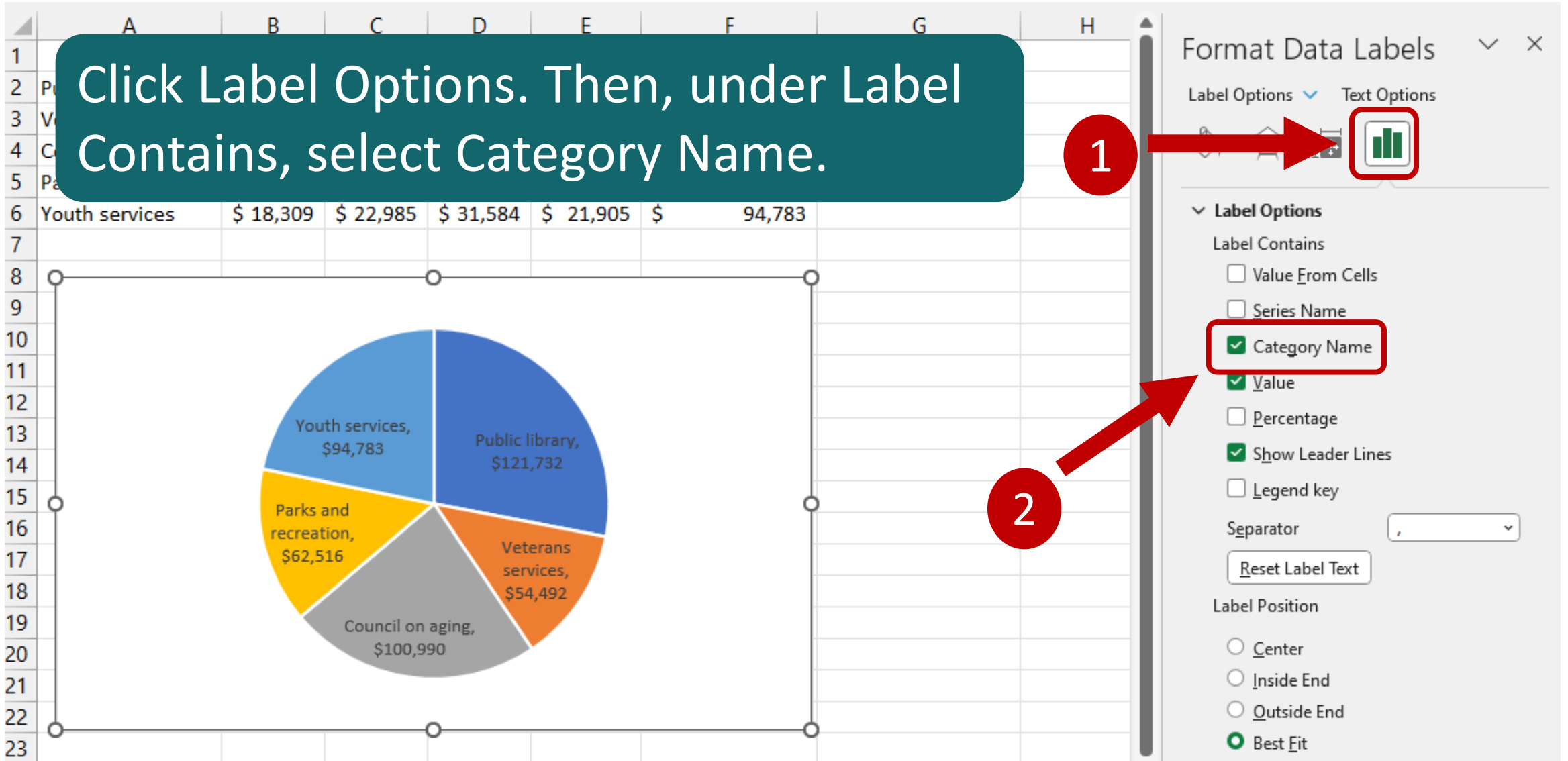
Visualizing parts-of-a-whole

Right-click on one of the Data Labels and, in the drop-down menu, select Format Data Labels.



Visualizing parts-of-a-whole

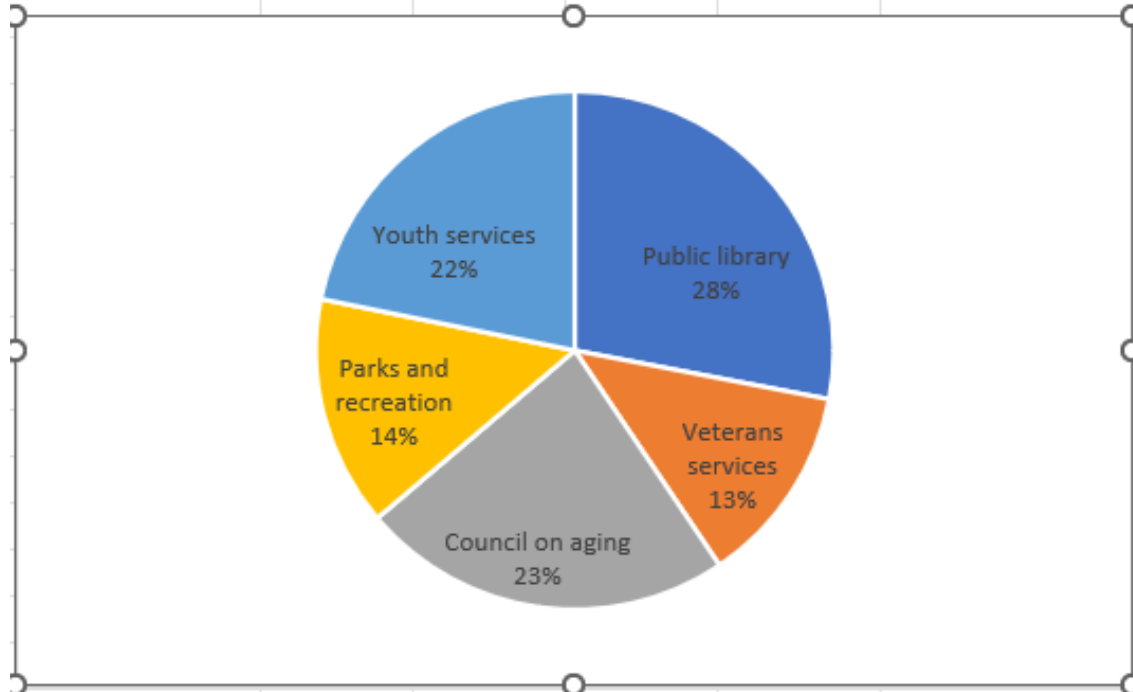
Click Label Options. Then, under Label Contains, select Category Name.



Visualizing parts-of-a-whole

Next, deselect Value and select Percentage.

A	B	C	D	E	F	G	H
Department	Q1	Q2	Q3	Q4	Total Amount		
Public library	\$ 47,235	\$ 38,987	\$ 15,685	\$ 19,825	\$ 121,732		
Youth services	\$ 18,309	\$ 22,985	\$ 31,584	\$ 21,905	\$ 94,783		



Format Data Labels

Label Options Text Options



Label Options

Label Contains

- Value From Cells
- Series Name
- Category Name
- Value
- Percentage
- Show Leader Lines

Legend key

Separator

Reset Label Text

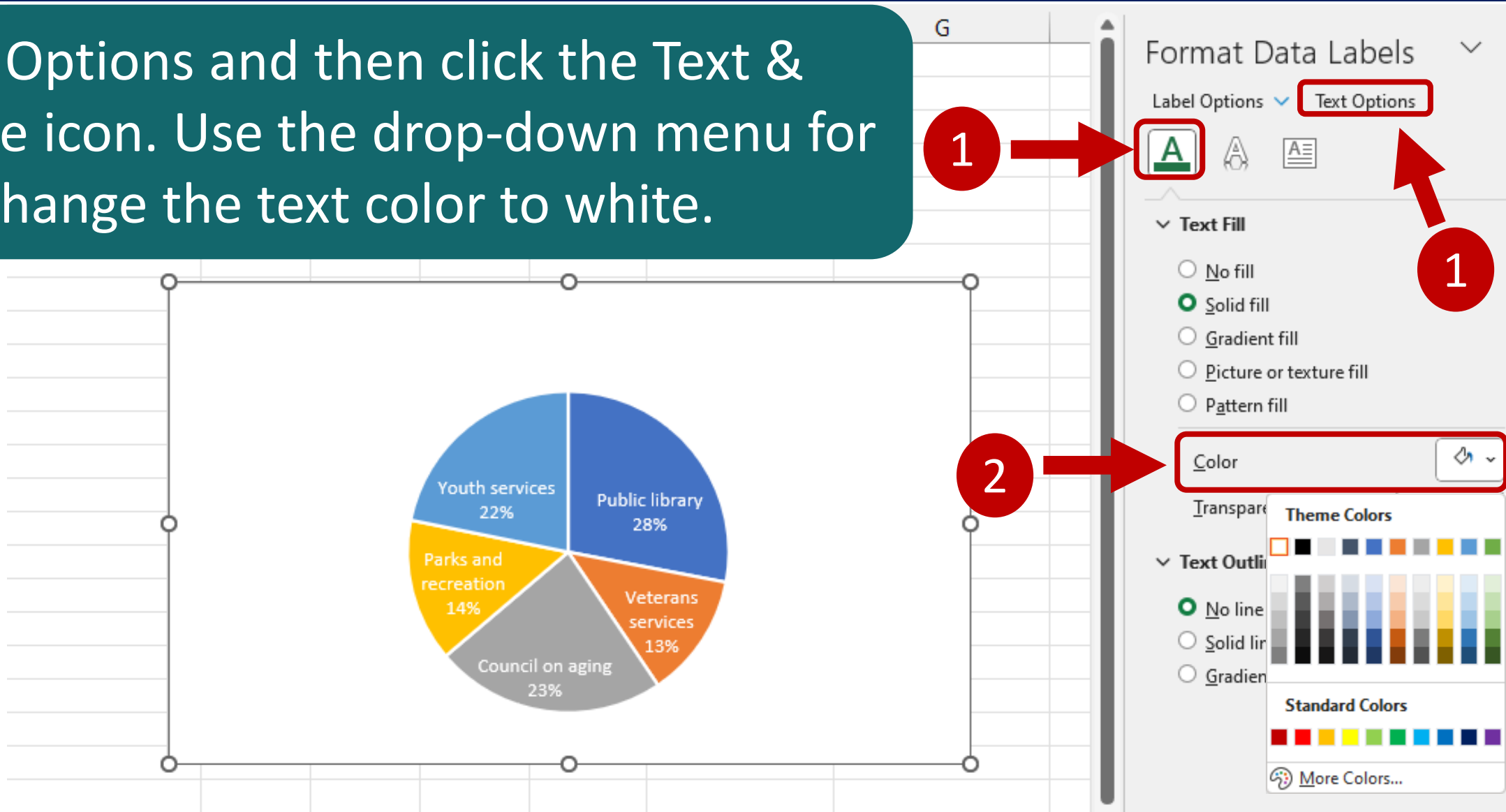
Label Position

- Center
- Inside End
- Outside End
- Best Fit



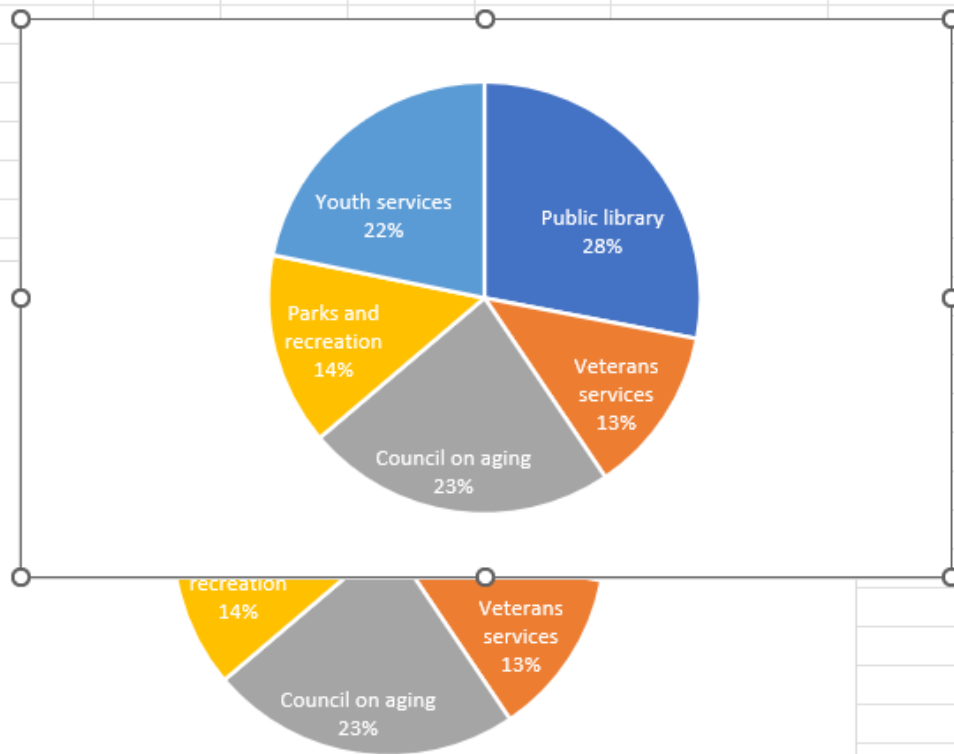
Visualizing parts-of-a-whole

Click Text Options and then click the Text & Fill Outline icon. Use the drop-down menu for Color to change the text color to white.



Visualizing parts-of-a-whole

	A	B	C	D	E	F	G
1	Department	Q1	Q2	Q3	Q4	Total Amount	
2	Public library	\$ 47,235	\$ 38,987	\$ 15,685	\$ 19,825	\$ 121,732	
3	Veterans services	\$ 19,830	\$ 9,847	\$ 13,875	\$ 10,940	\$ 54,492	
4	Council on aging	\$ 16,584	\$ 59,039	\$ 14,383	\$ 10,984	\$ 100,990	
5	Parks and recreatio	\$ 14,890	\$ 15,749	\$ 19,847	\$ 12,030	\$ 62,516	
6	Youth services	\$ 18,309	\$ 22,985	\$ 31,584	\$ 21,905	\$ 94,783	



Select the pie chart and hit Ctrl+C (or Command+C for Mac) to copy. Then activate an unused cell in your worksheet and hit Ctrl+V (or Command+V for Mac) to paste.

Visualizing parts-of-a-whole

Windows only – Mac Instructions will follow

Select the new chart. On the Chart Design tab, in the Type group, click Change Chart type. In the dialog box, click the icon for Doughnut. Click OK.

The screenshot shows the Microsoft Excel interface with the Chart Design tab selected. The ribbon includes 'Chart Layouts', 'Chart Styles', and 'Data'. The 'Change Chart Type' button in the 'Type' group is highlighted with a red box and a red arrow labeled '1'. The 'Change Chart Type' dialog box is open, showing the 'Doughnut' chart type selected with a red box and a red arrow labeled '2'. The 'OK' button is highlighted with a red box and a red arrow labeled '3'. The background shows a spreadsheet with a table of data and a pie chart.

Amount
21,732
54,492
100,990
62,516
94,783

Chart 8

Change Chart Type

Recommended Charts | All Charts

Doughnut

OK Cancel

Visualizing parts-of-a-whole



Select the new chart.
On the Chart Design
tab, click Change
Chart Type. In the
drop-down menu,
click Pie, then
choose Doughnut.

Review View Developer **Chart Design** Format Tell me

Comments

1

2

3

Public library 28%

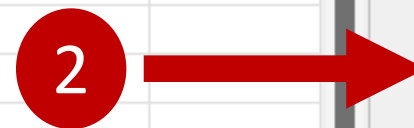
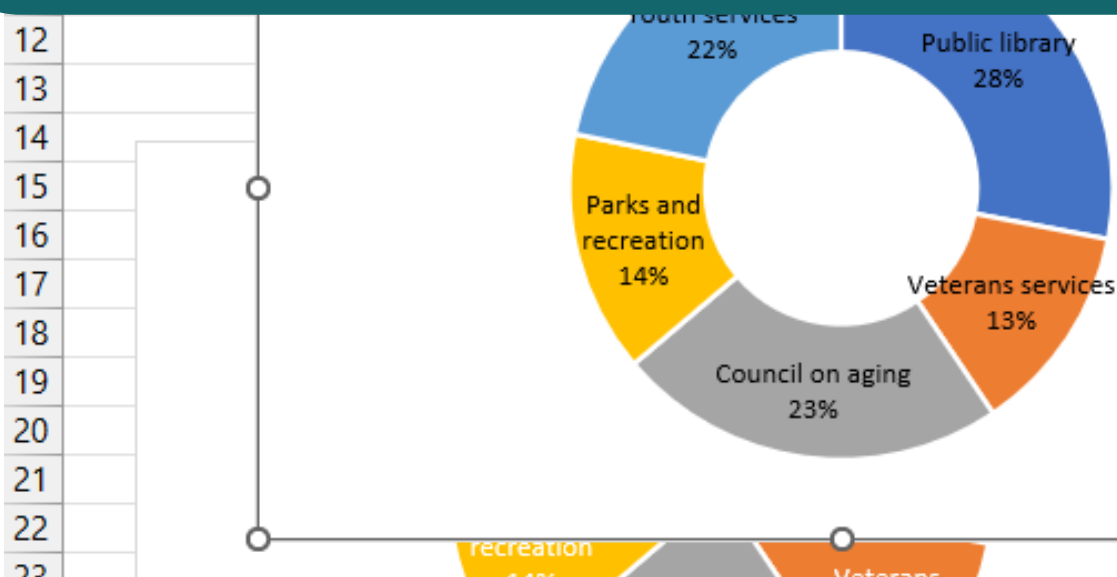
Veterans services 13%

Council on aging 23%

Doughnut

Visualizing parts-of-a-whole

Double-click one of the data labels to open the Format Data Labels pane. Click the Text Options icon. Under Text Fill, open the Color menu and click Black.



Format Data Labels

Label Options Text Options



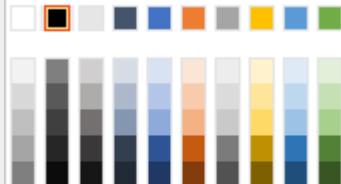
Text Fill

- No fill
- Solid fill
- Gradient fill
- Picture or texture fill
- Pattern fill

Color

Transparency

Theme Colors



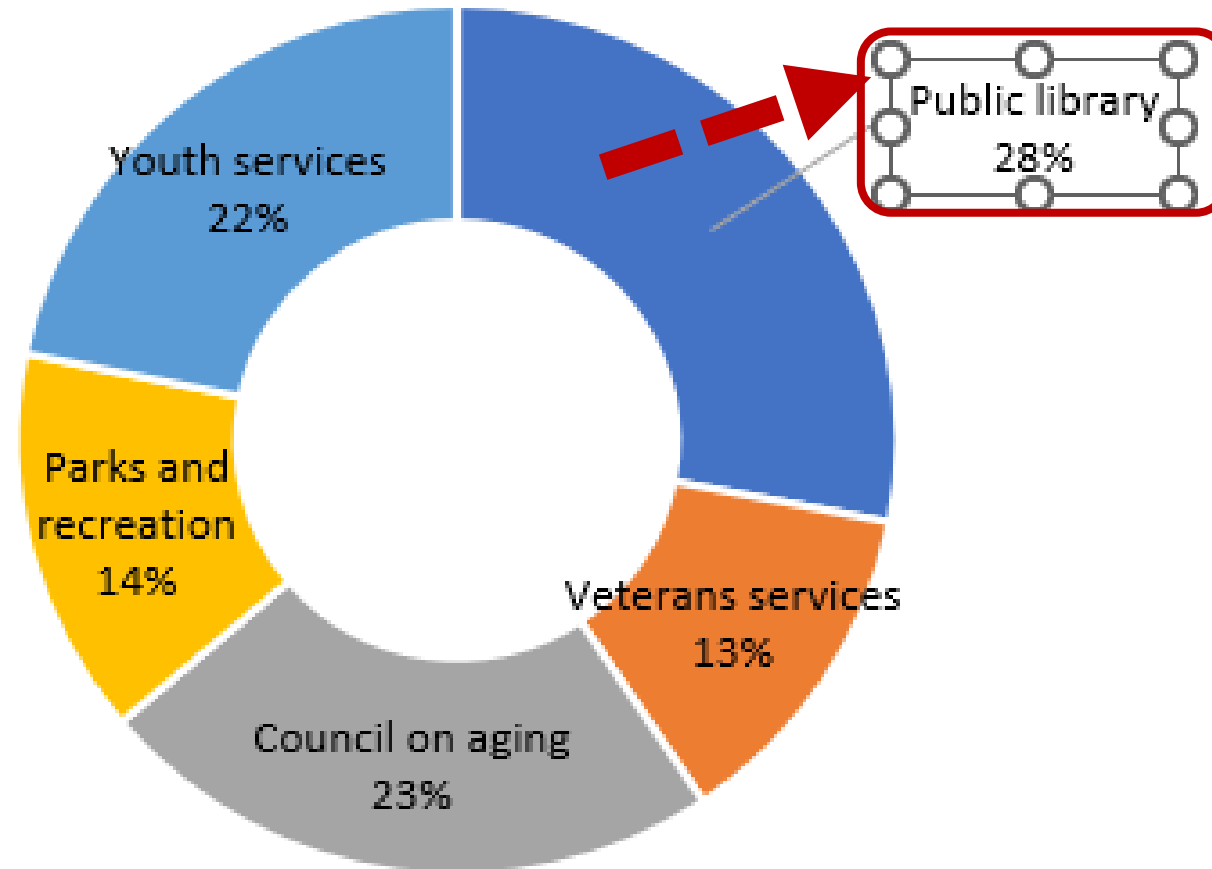
Text Outline

Standard Colors



More Colors...

Visualizing parts-of-a-whole



Click each Data Label and drag it to the outside of the doughnut.

Worksheet 08

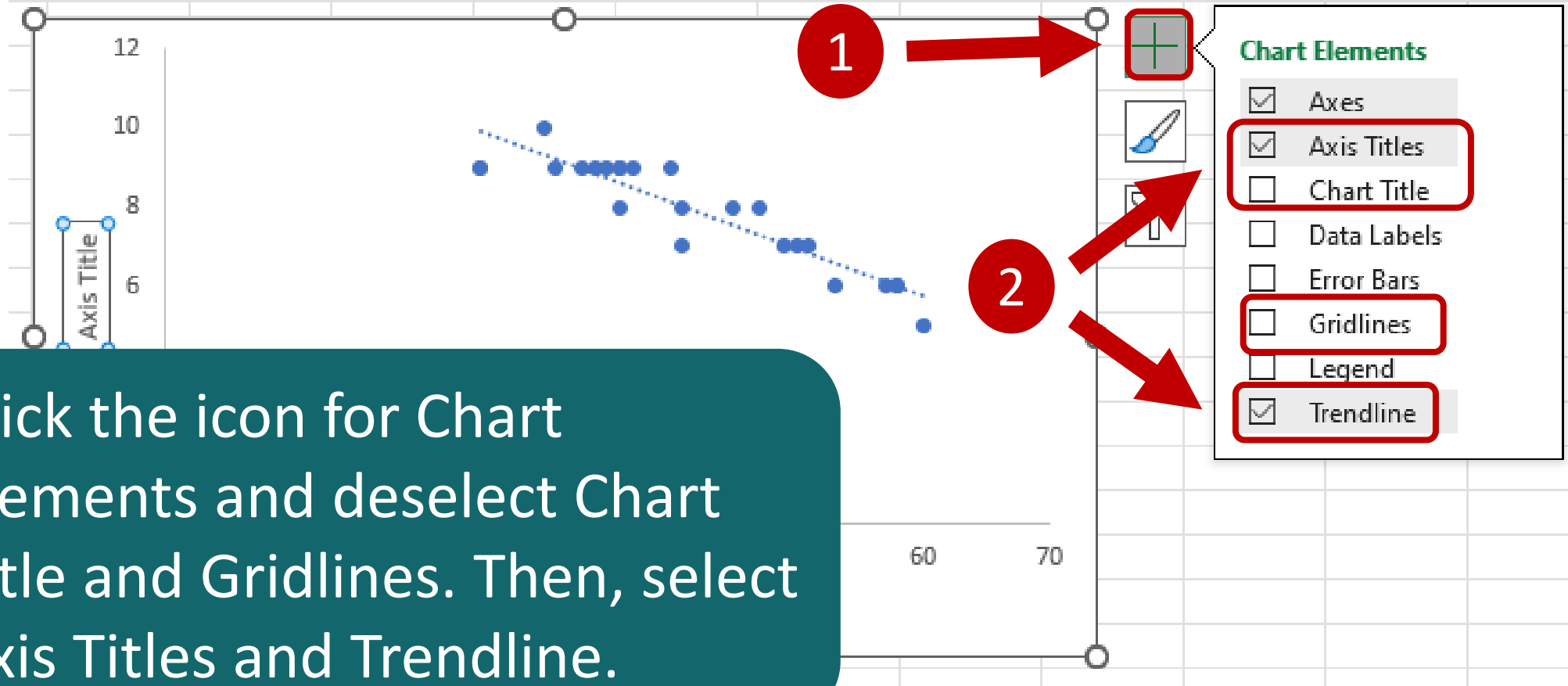
Create Charts for Visualizing
Relationships

Visualizing relationships

	A	B	C	E	F
	Average weekly hours worked	Average reported job satisfaction (1-10)			
1					
2	45	8			
3	34	9			
4	58	6			
5	50	7			
6	41	8			
7	36	8			
8	40	9			
9	53	6			
10	60	5			
11	36	9			
12	37	9			
13	30	10			
14	31	9			
15	41	7			
16	33	9			
17	51	7			
18	25	9			
19	58	6			
20	47	8			
21	36	9			
22	57	6			
23	25	9			
24	49	7			
25	35	9			

Select Cells A1:B25. On the Insert tab, in the Charts group, click the Insert Scatter or Bubble Chart icon. In the drop-down menu, click the Scatter chart option.

Visualizing relationships



Click the icon for Chart Elements and deselect Chart Title and Gridlines. Then, select Axis Titles and Trendline.

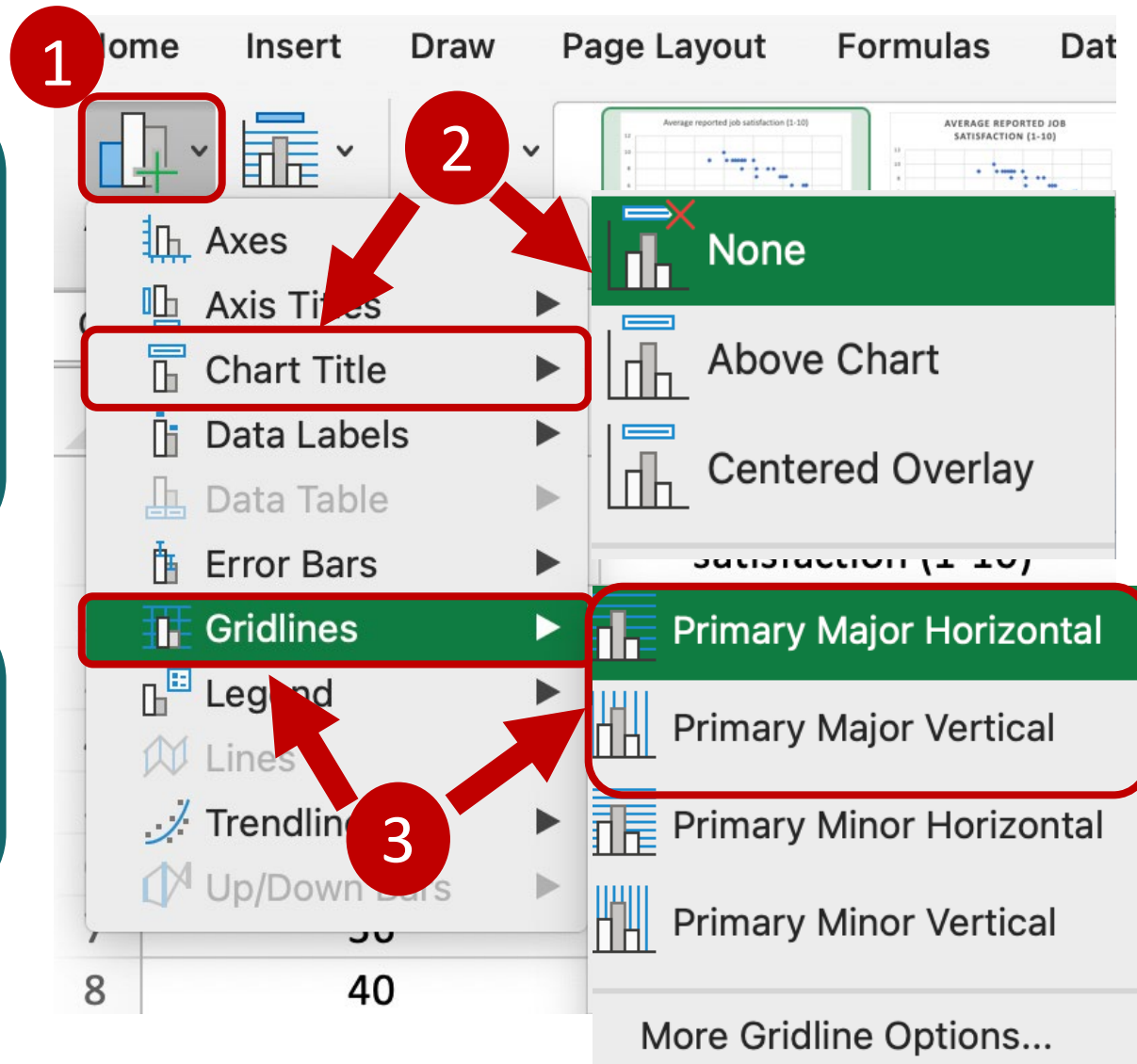
Windows only – Mac Instructions will follow

Visualizing relationships



1. On the Chart Design tab, click the Add Chart Elements button.

2. Click Chart Title and select None.



3. Next, click Gridlines and deselect the Primary Major Horizontal option. Repeat the step to also deselect the Primary Major Vertical option.

Visualizing relationships



1

2

3

Primary Horizontal

Primary Vertical

More Axis Title Options...

None

Linear

Exponential

Linear Forecast

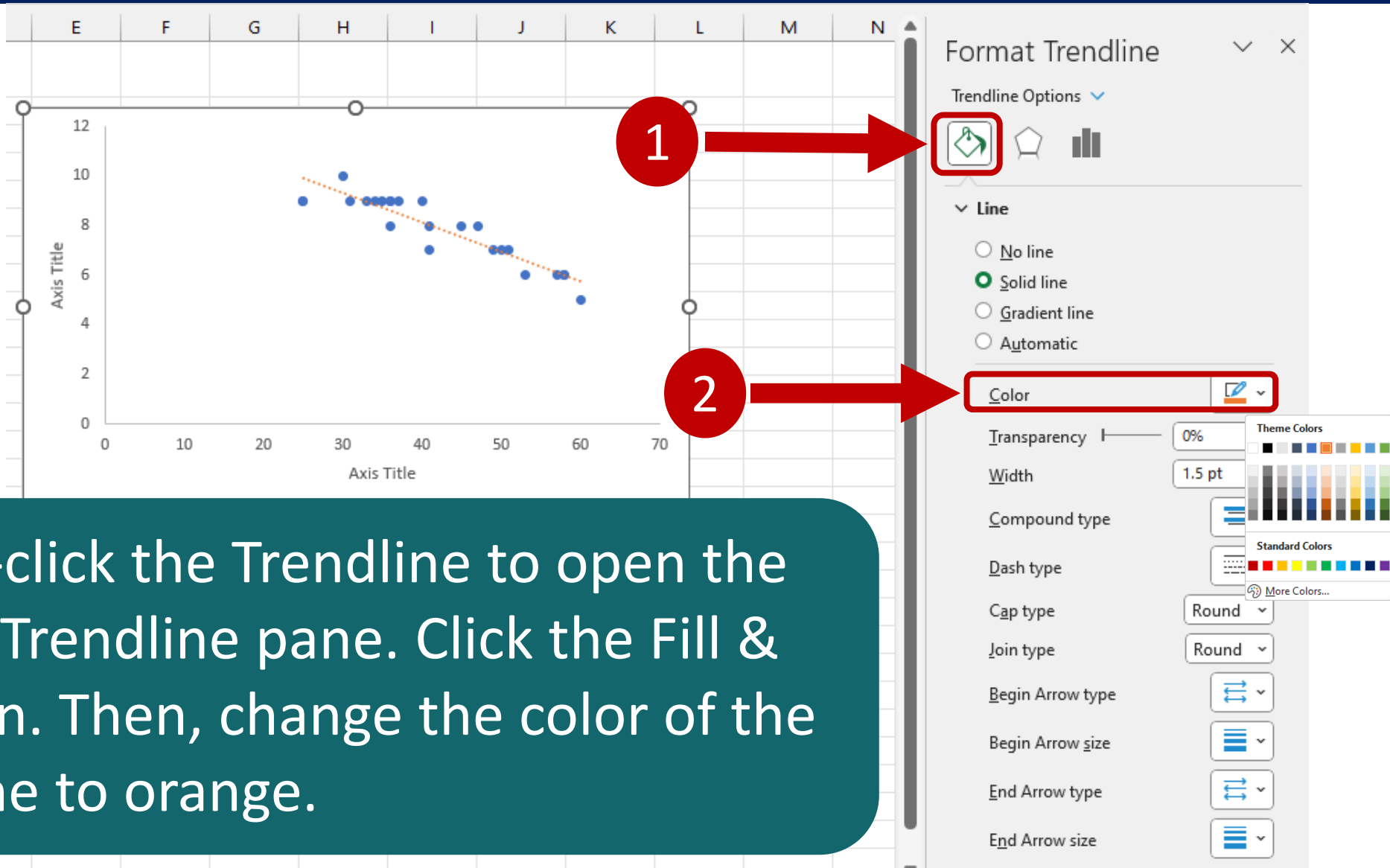
Moving Average

7	30
8	40
9	53
10	60
11	36
12	37
13	30

In the Add Chart Elements drop-down menu, click Axis Titles, then select both the Primary Horizontal AND Primary Vertical options.

Next, click Trendline and select Linear.

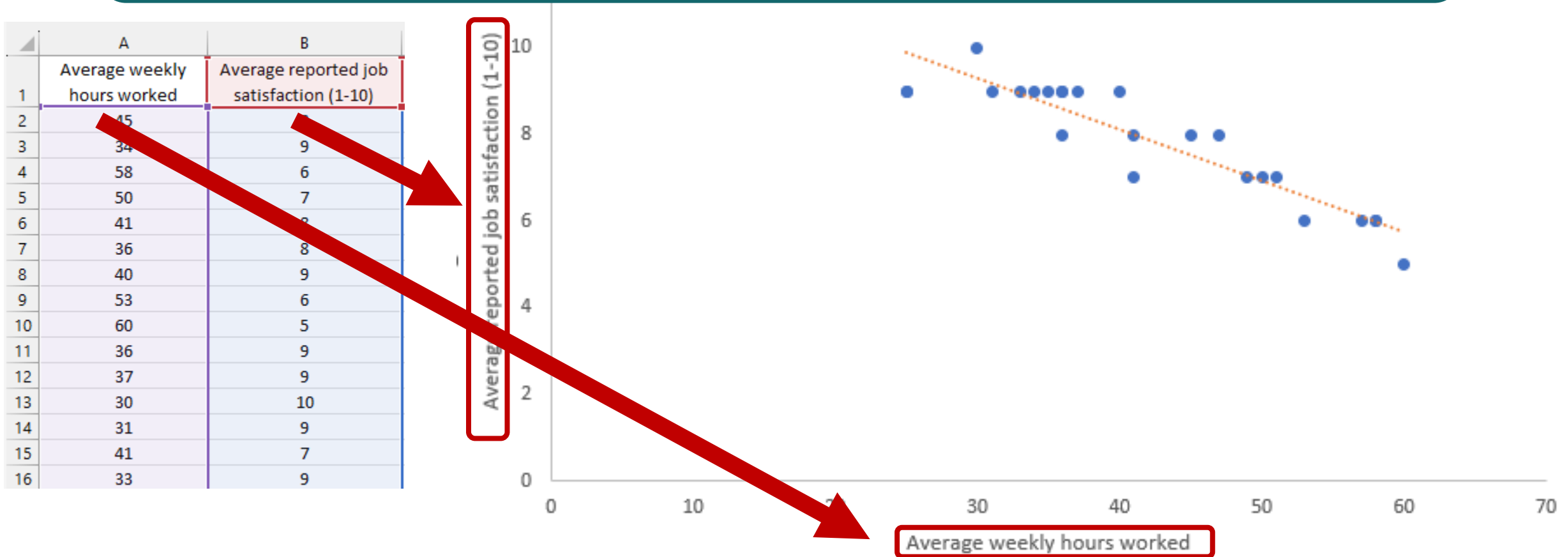
Visualizing relationships



Double-click the Trendline to open the Format Trendline pane. Click the Fill & Line icon. Then, change the color of the Trendline to orange.

Visualizing relationships

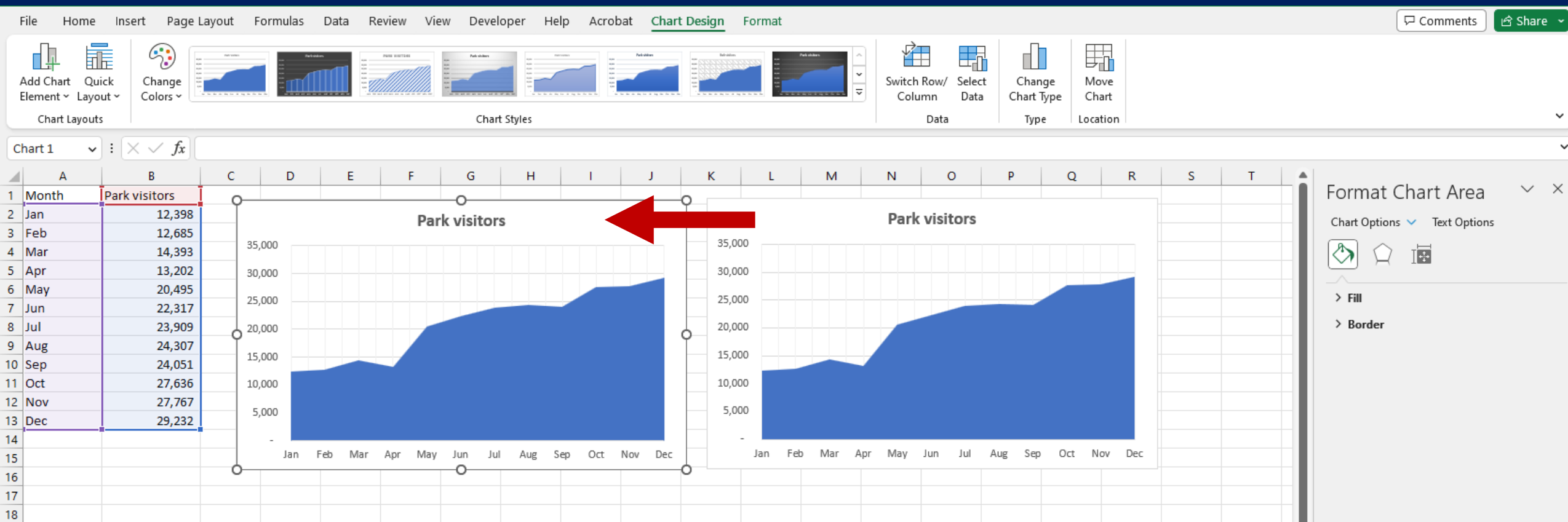
Double-click the axis titles and type their names using the column headers in the data.



Worksheet 09

Utilize Advanced Charting Techniques

Utilizing advanced charting techniques



Double-click the chart in the white space near the title. The Format Chart Area pane will open.

Utilizing advanced charting techniques

The screenshot displays the Microsoft Excel interface with the **Format** tab selected in the ribbon. A red arrow points to the **Format** tab, and a red box highlights the **Chart Area** dropdown menu. The data table shows monthly park visitor counts from January to December. Two area charts are shown, both titled "Park visitors". The left chart is a standard area chart, and the right chart is a 3D area chart. The right sidebar shows the **Format Chart Area** task pane with options for **Fill** and **Border**.

Month	Park visitors
Jan	12,398
Feb	12,685
Mar	14,393
Apr	13,202
May	20,495
Jun	22,317
Jul	23,909
Aug	24,307
Sep	24,051
Oct	27,636
Nov	27,767
Dec	29,232

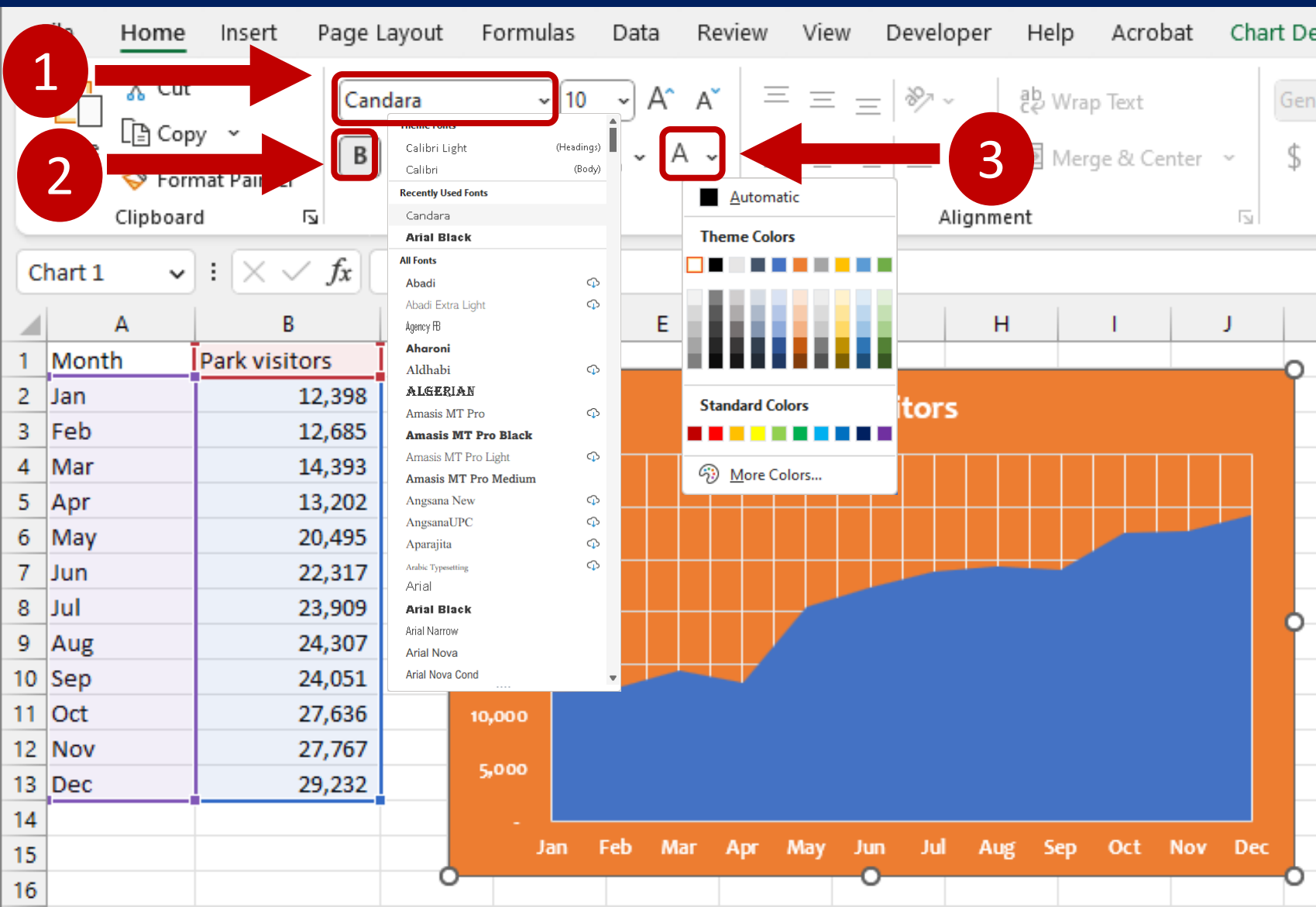
Click on the Format tab.

Utilizing advanced charting techniques



In the Format Chart Area pane, click Chart Options and then click Fill & Line. Under Fill, change the Color to Orange.

Utilizing advanced charting techniques



Select the chart and, on the Home tab, change the Font to Candara, click the Bold icon, and change the color to White.

Utilizing advanced charting techniques

The image displays two area charts titled "Park visitors" on an Excel spreadsheet. The left chart is set against an orange background, while the right chart is set against a light blue background. The right chart is selected, and the "Format Chart Area" task pane is open on the right side of the screen. Three red circles with numbers 1, 2, and 3 are overlaid on the right chart, with red arrows pointing to the corresponding steps in the task pane:

1. Click the "Chart Options" dropdown menu.
2. Click the "Fill & Line" icon.
3. Click the "Gradient fill" radio button under the "Fill" section.

The "Format Chart Area" pane shows the following settings for the selected chart:

- Chart Options: Chart Options (selected), Text Options
- Fill: Gradient fill (selected), No fill, Solid fill, Picture or texture fill, Pattern fill, Automatic
- Preset gradients: [Color swatch]
- Type: Linear
- Direction: [Color swatch]
- Angle: 90°
- Gradient stops: [Color swatch]
- Color: [Color swatch]
- Position: 0%
- Transparency: 0%
- Brightness: 95%

Select the second chart and, in the Format Chart Area pane, click Chart Options and then click the Fill & Line icon. Under Fill, click Gradient fill.

Utilizing advanced charting techniques



1

2

Format Chart Area

Chart Options Text Options

Border

- No line
- Solid line
- Gradient line
- Automatic

Color

Transparency 0%

Width 2 pt

Compound type

Dash type

Cap type Flat

Join type Round

Begin Arrow type

Begin Arrow size

Scroll down to Border and change the Color to Black and increase the Width of the Border to 2 pt.

Worksheet 10

Use Conditional Formatting

Using Conditional Formatting: Color Scales

File Home Insert Page Layout Formulas Data Review View Developer Help Acrobat

Paste Font Alignment Number

Save Undo Redo Bring to Front Change Shape AutoFilter Camera Speak Cells

B2 71

A	B	C	D
Vendor name	Number of checks issued in 2022		
1			
2	71		
3	25		
4	44		
5	45		
6	26		
7	67		
8	52		
9	32		
10	64		
11	67		
12	15		
13	10		
14	48		
15	49		
16	42		
17	71		
18	19		
19	33		
20	26		

Select Cells B2:B20 and, on the Home tab, in the Styles group, click Conditional Formatting. In the drop-down menu, click Color Scales.

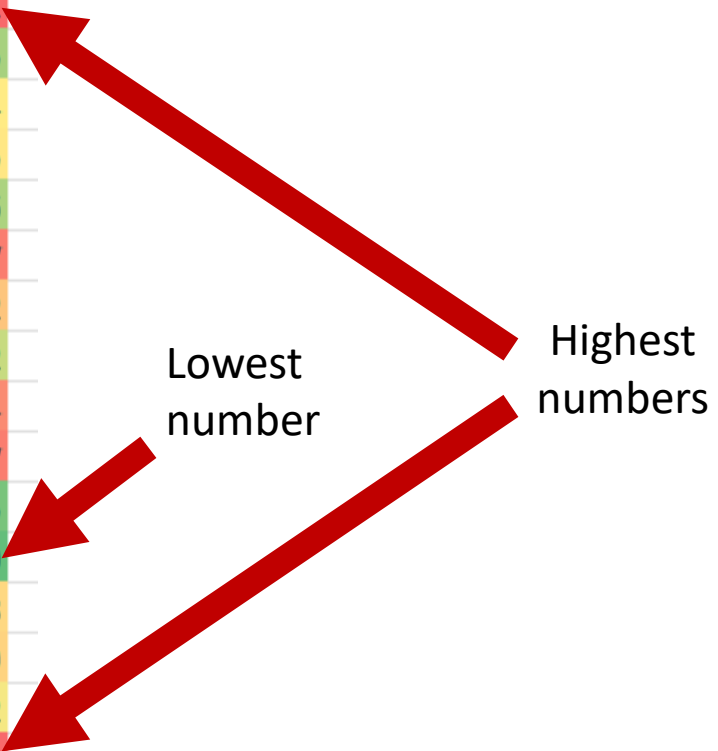
Using Conditional Formatting: Color Scales

Click the Red-Yellow-Green Color Scale.



Using Conditional Formatting: Color Scales

	A	B
1	Vendor name	Number of checks issued in 2022
2	AMERICAN MESSAGING SVC LLC	71
3	SOMES UNIFORMS INC	25
4	DELL MARKETING L P	44
5	SCHOOL SPECIALTY INC	45
6	DELL MARKETING L P	26
7	SCHOOL SPECIALTY INC	67
8	ATS EQUIPMENT INC	52
9	MIDDLESEX GASES AND TECHNOL INC	32
10	WALTHAM AMERICAN LEGION BAND	64
11	CAMBRIDGE PUBLIC HEALTH COMMISSIO	67
12	KATHRYN M MEYER	15
13	GORILLA GRAPHICS INC	10
14	YESTERDAY SERVICE SHEET MUSIC INC.	48
15	TEACHING AND LEARNING ALLIANCE IN	49
16	BOSTON MUTUAL LIFE INS.CO	42
17	SOMERVILLE COMMUNITY ACCESS TELEV	71
18	GREATER BOSTON LEGAL SERVICES, INC	19
19	MHQ MUNICIPAL VEHICLES	33
20	SHI INTERNATIONAL CORP	26
21		



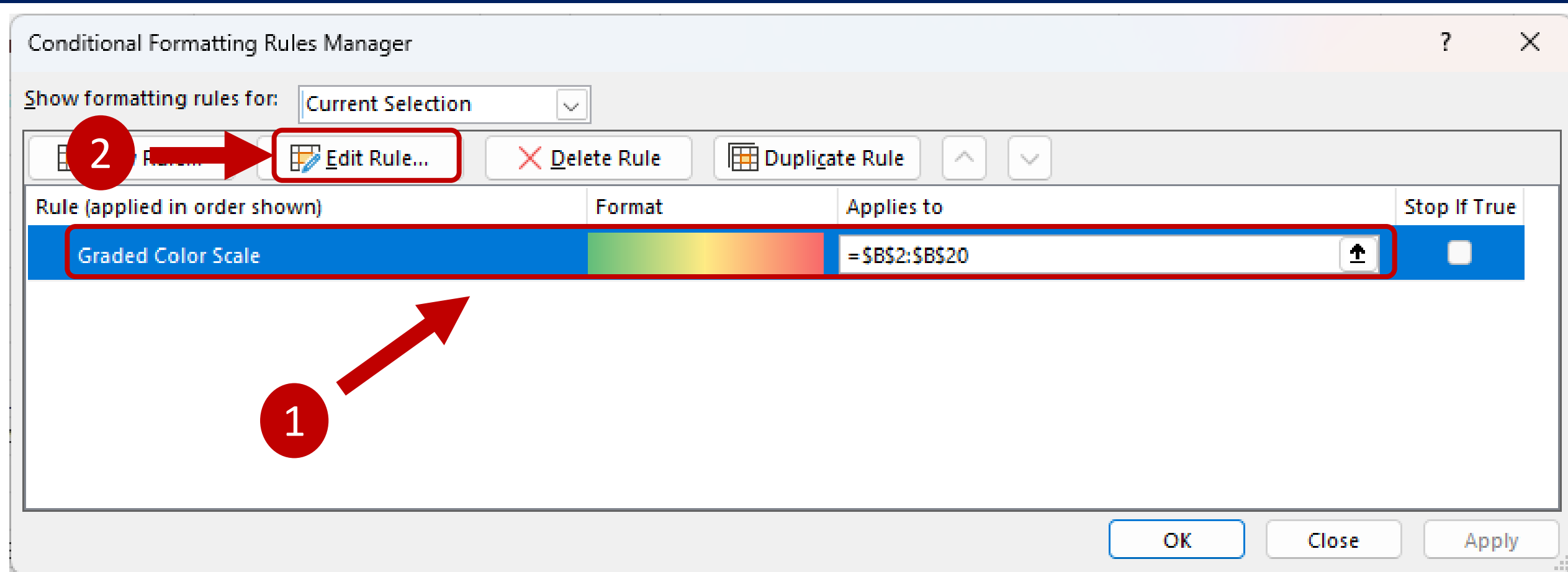
Using Conditional Formatting: Color Scales

Select Cells B2:B20 again. On the Home tab, click Conditional Formatting. In the drop-down menu, click Manage Rules.

The screenshot shows the Excel interface with the following data in the spreadsheet:

	A	B	C	D	E
1	Vendor name	Number of checks issued in 2022			
2	AMERICAN MESSAGING SVC LLC	71			
3	SOMES UNIFORMS INC	25			
4	DELL MARKETING L P	44			
5	SCHOOL SPECIALTY INC	45			
6	DELL MARKETING L P	26			
7	SCHOOL SPECIALTY INC	67			
8	ATS EQUIPMENT INC	52			
9	MIDDLEBURY COLLEGE AND TECHNOLOGY INC	32			
10	WALTERS AND COMPANY	64			
11	CAMBRIDGE PUBLIC HEALTH COMMISSION	67			
12	KATHRYN M MEYER	15			
13	GORILLA GRAPHICS INC	10			
14	YESTERDAY SERVICE SHEET MUSIC INC	48			
15	TEACHING AND LEARNING ALLIANCE INC	49			
16	BOSTON MUTUAL LIFE INS.CO	42			
17	SOMERVILLE COMMUNITY ACCESS TELEVISION	71			
18	GREATER BOSTON LEGAL SERVICES, INC	19			
19	MHQ MUNICIPAL VEHICLES	33			
20	SHI INTERNATIONAL CORP	26			

Using Conditional Formatting: Color Scales



Select the Graded Color Scale rule. Click the Edit Rule button.

Using Conditional Formatting: Color Scales

Edit Formatting Rule





Select a Rule Type:

- Format all cells based on their values
- Format only cells that contain
- Format only top or bottom ranked values
- Format only values that are above or below average
- Format only unique or duplicate values
- Use a formula to determine which cells to format

Edit the Rule Description:

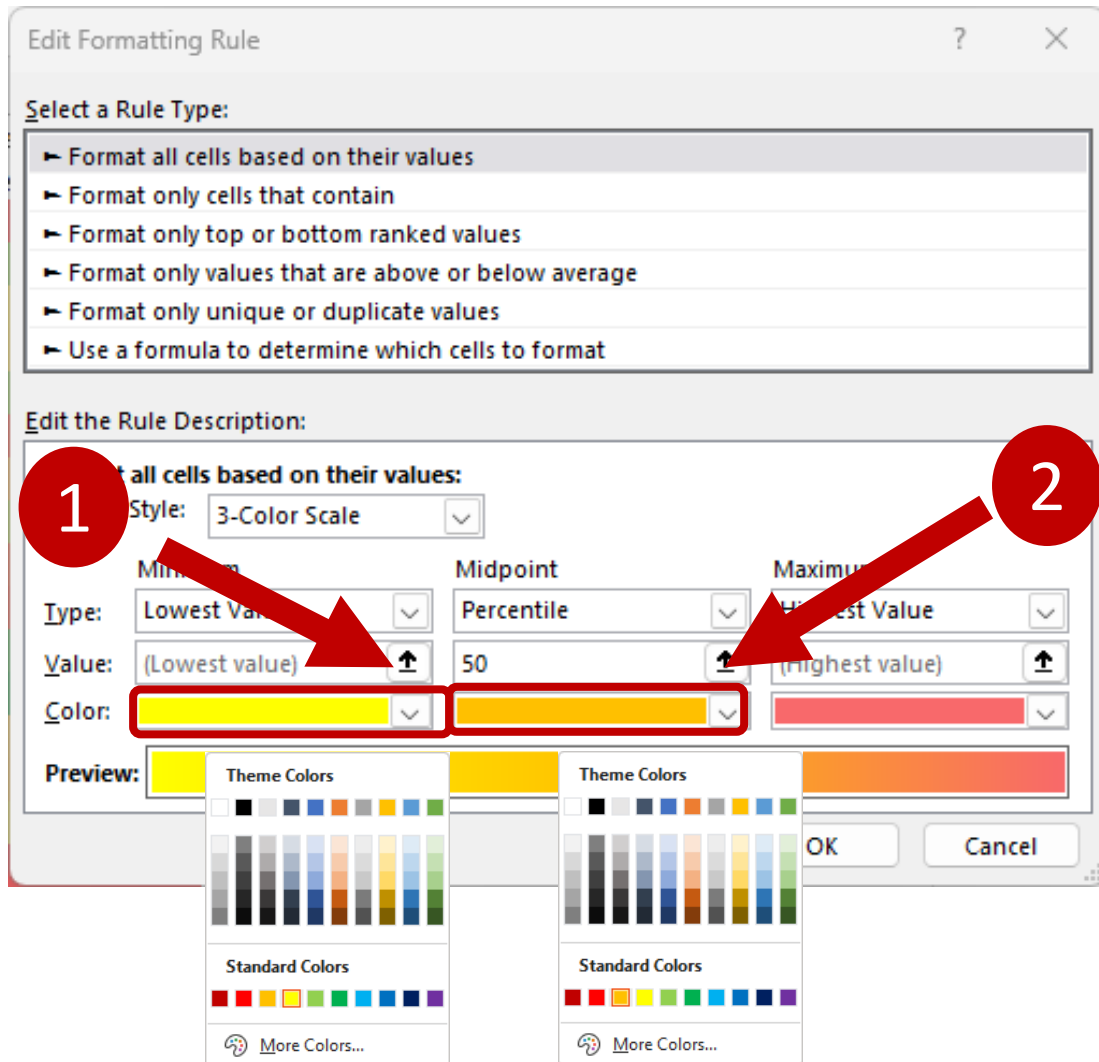
Format all cells based on their values:

Format Style: 3-Color Scale

	Minimum	Midpoint	Maximum
Type:	Lowest Value	Percentile	Highest Value
Value:	(Lowest value)	50	(Highest value)
Color:			
Preview:			

OK Cancel

Using Conditional Formatting: Color Scales



Use the Color drop-down menus to change the Lowest Value to yellow and the 50th Percentile to orange. Then click OK twice.

Using Conditional Formatting: Color Scales

File Home Insert Page Layout Formulas Data Review View Developer Help Acrobat

Paste Font Alignment Number

Save Undo Redo Bring to Front Change Shape AutoFilter Camera Speak Cells

B2 : X ✓ fx 71

	A	B	C	D	E
1	Vendor name	Number of checks issued in 2022			
2	AMERICAN MESSAGING SVC LLC	71			
3	SOMES UNIFORMS INC	25			
4	DELL MARKETING L P	44			
5	SCHOOL SPECIALTY INC	45			
6	DELL MARKETING L P	26			
7	SCHOOL SPECIALTY INC	67			
8	ATS ECO... IT INC	52			
9	MIDD... ES... INC	32			
10	WALT... AMERICAN LEGION BAND	64			
11	CAMBRIDGE PUBLIC HEALTH COMMISSIO	67			
12	KATHRYN M MEYER	15			
13	GORILLA GRAPHICS INC	10			
14	YESTERDAY SERVICE SHEET MUSIC INC.	48			
15	TEACHING AND LEARNING ALLIANCE IN	49			
16	BOSTON MUTUAL LIFE INS.CO	42			
17	SOMERVILLE COMMUNITY ACCESS TELEV	71			
18	GREATER BOSTON LEGAL SERVICES, INC	19			
19	MHQ MUNICIPAL VEHICLES	33			
20	SHI INTERNATIONAL CORP	26			

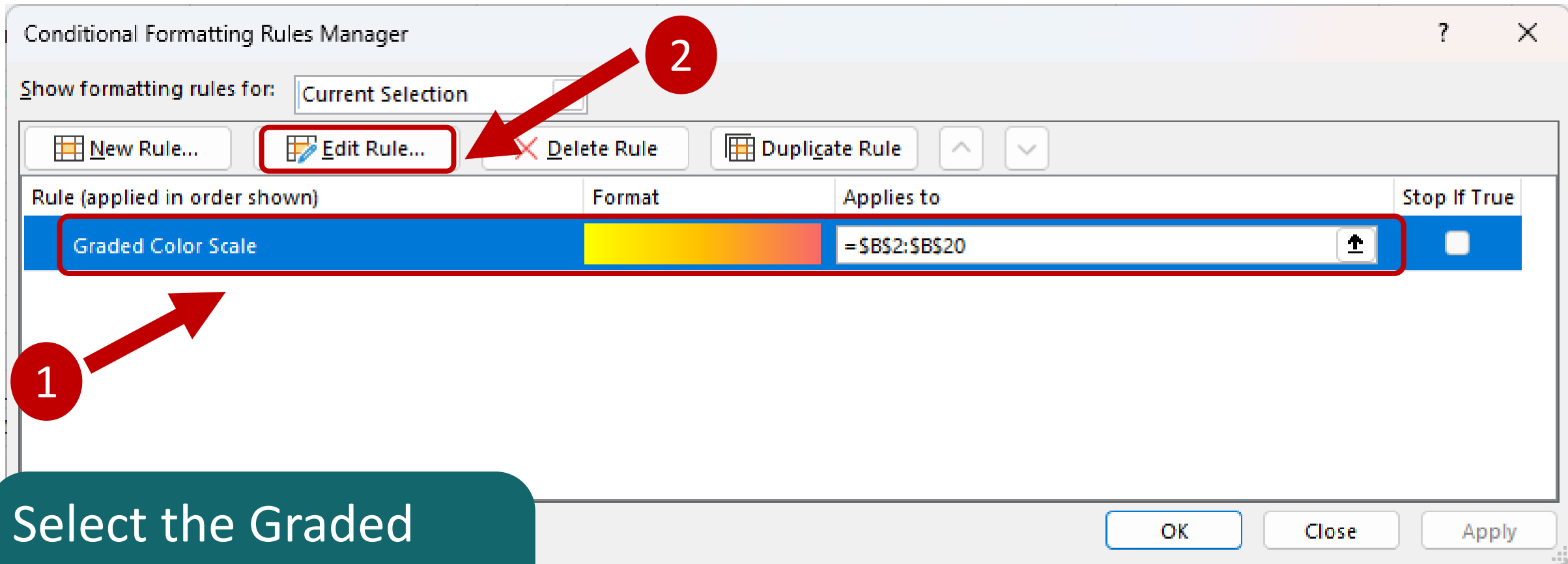
Conditional Formatting

- Highlight Cells Rules >
- Top/Bottom Rules >
- Data Bars >
- Color Scales >
- Icon Sets >
- New Rule...
- Clear Rules >
- Manage Rules...

Select the cells and, on the Home tab, click Conditional Formatting. Then click Manage Rules.

Windows only – Mac Instructions will follow

Using Conditional Formatting: Color Scales



1

Select the Graded Color Scale rule. Click the Edit Rule button.

2

Windows only – Mac Instructions will follow

Using Conditional Formatting: Color Scales

Edit Formatting Rule

Select a Rule Type:

- Format all cells based on their values
- Format only cells that contain
- Format only top or bottom ranked values**
- Format only values that are above or below average
- Format only unique or duplicate values
- Use a formula to determine which cells to format

Edit the Rule Description:

Format values that rank in the:

Top

Preview:

No Format Set

Format...

Under Select a Rule Type, click Format only top or bottom ranked values. Then, under Edit the Rule Description, change the value next to Top values to "5". Then, click Format.

Windows only – Mac Instructions will follow

Using Conditional Formatting: Color Scales



1. Choose "Format only top or bottom ranked values" in the drop-down menu

2. Make sure "Top" is selected in the next drop-down menu, and type 5 into the empty box to the right.

3. In the "Format with:" drop-down menu, click Custom Format...

Format only top or bottom ranked values

Top

5

Format with

- ✓ Light Red Fill with Dark Red Text
- Yellow Fill with Dark Yellow Text
- Green Fill with Dark Green Text
- Light Red Fill
- Red Text
- Red Border

Custom Format...

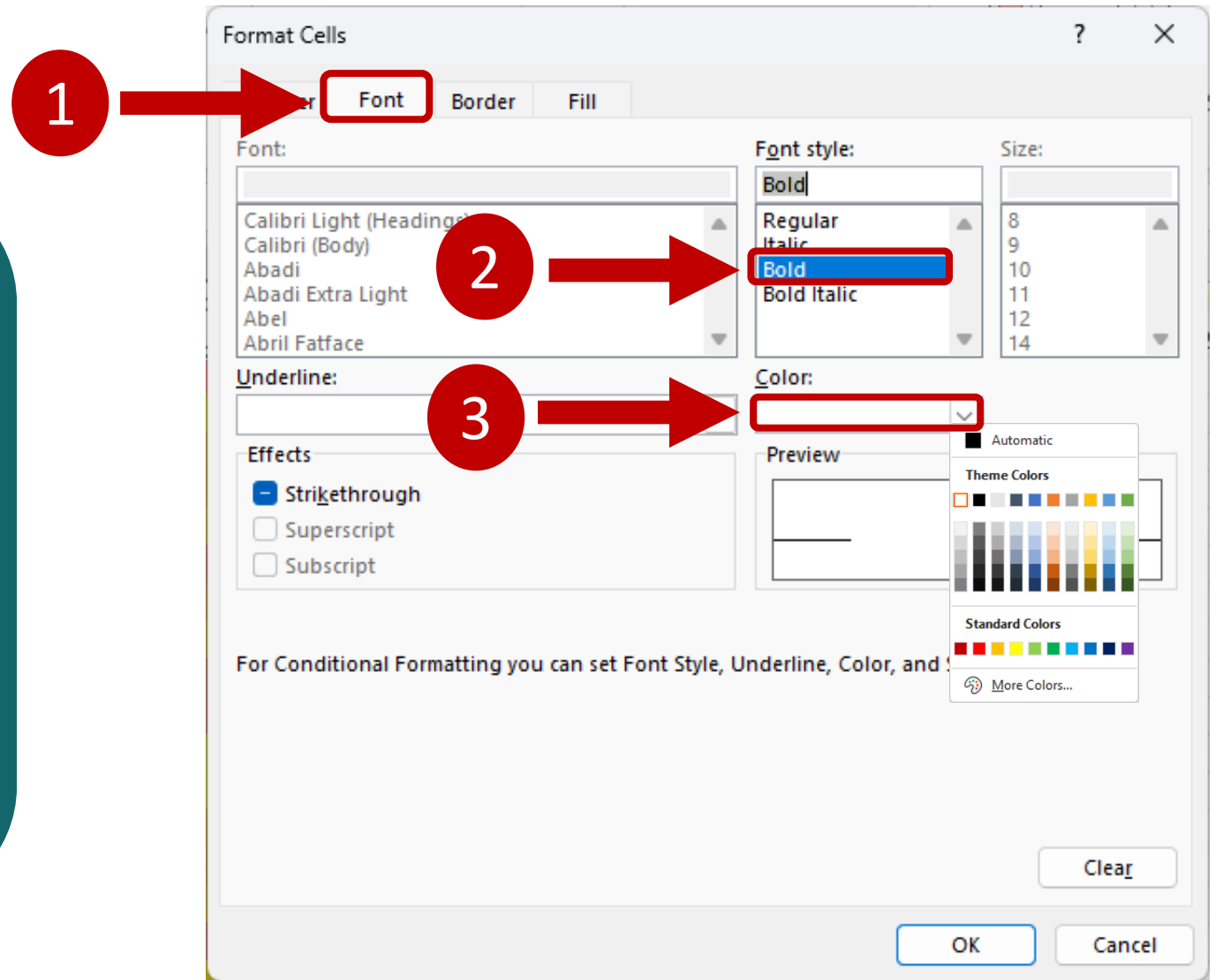
AaBbCcYyZz

Cancel

OK

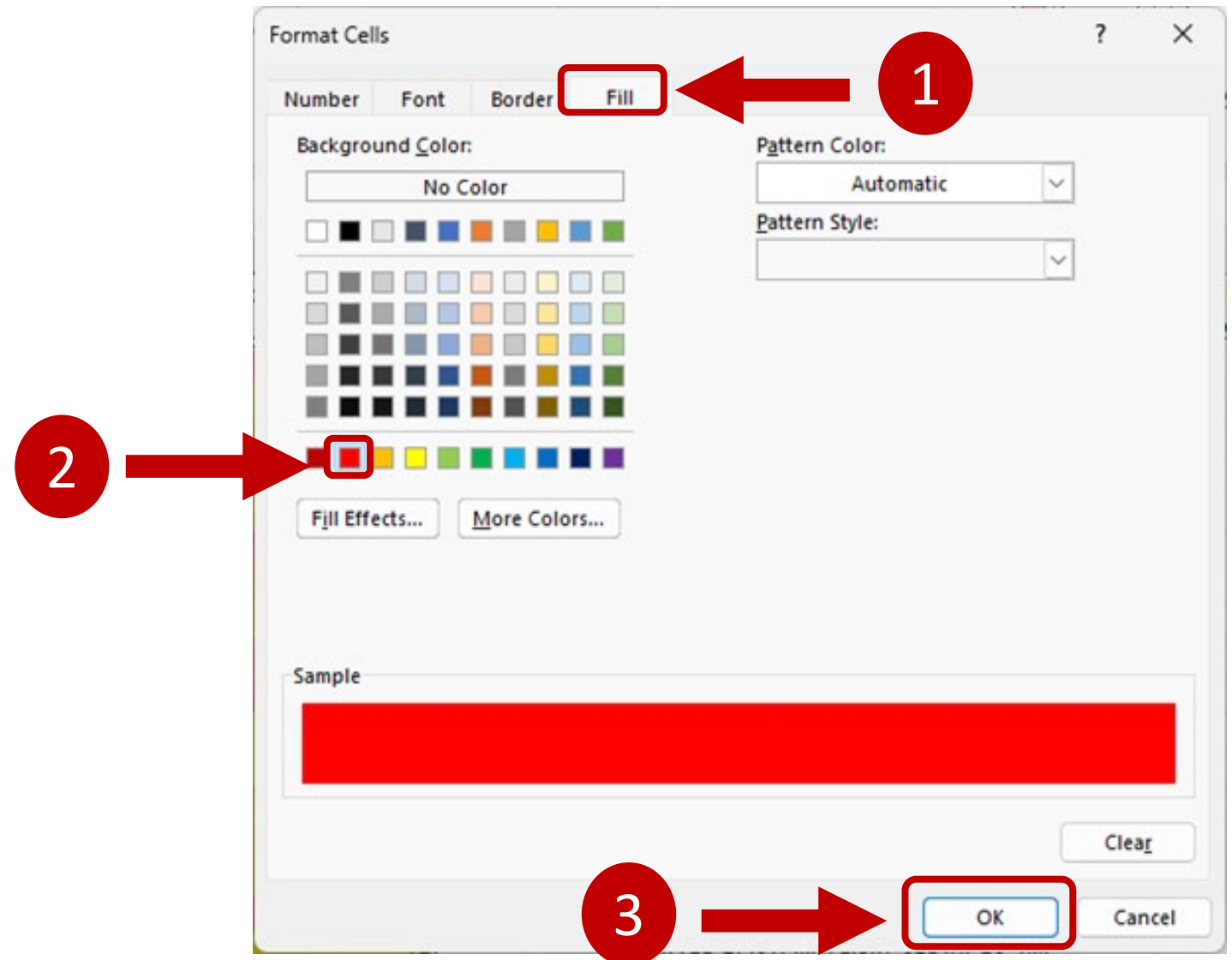
Using Conditional Formatting: Color Scales

In the Format Cells dialog box, click the Font tab. Then, under Font style, click Bold. Next, use the Color drop-down menu to select White.



Using Conditional Formatting: Color Scales

Still in the Format Cells dialog box, click the Fill tab. Under Background Color options, click the color Red. Click OK three times.



Using Conditional Formatting: Color Scales

Vendor name	Number of checks issued in 2022
AMERICAN MESSAGING SVC LLC	71
SOMES UNIFORMS INC	25
DELL MARKETING L P	44
SCHOOL SPECIALTY INC	45
DELL MARKETING L P	26
SCHOOL SPECIALTY INC	67
ATS EQUIPMENT INC	52
MIDDLESEX GASES AND TECHNOL INC	32
WALTHAM AMERICAN LEGION BAND	64
CAMBRIDGE PUBLIC HEALTH COMMISSIO	67
KATHRYN M MEYER	15
GORILLA GRAPHICS INC	10
YESTERDAY SERVICE SHEET MUSIC INC.	48
TEACHING AND LEARNING ALLIANCE IN	49
BOSTON MUTUAL LIFE INS.CO	42
SOMERVILLE COMMUNITY ACCESS TELEV	71
GREATER BOSTON LEGAL SERVICES, INC	19
MHQ MUNICIPAL VEHICLES	33
SHI INTERNATIONAL CORP	26

Worksheet 11

Create Sparklines

Creating Sparklines

The screenshot shows the Microsoft Excel interface with the 'Insert' tab selected. The 'Sparklines' group is highlighted, and the 'Line' button is circled in red with a '2'. A red arrow points from the 'Line' button to the selected data range B2:E7, which is also circled in red with a '1'. A tooltip for 'Line Sparkline' is visible on the right, stating: 'Line Sparkline: Sparklines are mini charts placed in single cells, each representing a row of data in your selection.'

	A	B	C	D	E	F	G
1		2019	2020	2021	2022	Trend	
2	Advertising	5065	5080	6125	6340		
3	Dues and subscriptions	2349	2108	2154	2689		
4	Repairs and maintenance	14560	12302	11080	10450		
5	Supplies	1284	1487	1583	2629		
6	Technology	21350	22432	27690	28412		
7	Utilities	7831	7930	7888	7925		

Select Cells B2:E7. On the Insert tab in the Sparklines group, click Line.

Creating Sparklines

In the Create Sparklines dialog box, click in Location Range and then use your mouse to select Cells F2:F7. Then click OK.

Create Sparklines

Choose the data that you want

Data Range: B2:E7

Choose where you want the sparklines to be placed

Location Range: **\$F\$2:\$F\$7**

OK

	A	B	C	D	E	F
1		2019	2020	2021	2022	Trend
2	Advertising	5065	5080	6125	6340	
3		2349	2108	2154	2689	
4		560	12302	11080	10000	
5		284				
6		350				
7		831				

Creating Sparklines

The screenshot shows the Microsoft Excel interface with the **Insert** tab selected. The **Sparklines** group is highlighted with a red circle and the number 2. A red arrow points from this group to the **Column** button. In the spreadsheet, the data range B10:E15 is selected and highlighted with a red circle and the number 1. A tooltip for the **Column Sparkline** button is visible, stating: "Sparklines are mini charts placed in single cells, each representing a row of data in your selection."

	A	B	C	D	E	F
1		2019	2020	2021	2022	Trend
2	Advertising	5065	5080	6125	6340	
3	Dues and subscriptions	2349	2108	2154	2689	
4	Repairs and maintenance	14560	12302	11080	10450	
5	Supplies	1284	1487	1583	2629	
6	Technology	21350	22432	27690	28412	
7	Utilities	7831	7930	7888	7925	
8						
9		2019	2020	2021	2022	Trend
10	Advertising	5065	5080	6125	6340	
11	Dues and subscriptions	2349	2108	2154	2689	
12	Repairs and maintenance	14560	12302	11080	10450	
13	Supplies	1284	1487	1583	2629	
14	Technology	21350	22432	27690	28412	
15	Utilities	7831	7930	7888	7925	

Select Cells B10:E15. On the Insert tab, in the Sparklines group, click Column.

Creating Sparklines

	A	B	C	D	E	F
1					2022	Trend
2	Advertising				6340	
3	Dues and subscrip				2689	
4	Repairs and mainte				10450	
5					2629	
6					28412	
7					7925	
8						Trend
9						
10						
11						
12						
13						
14						
15						

In the create Sparklines dialog box, click in Location Range and then use your mouse to select Cells F10:F15. Then hit OK.

Creating Sparklines

File Home Insert Page Layout Formulas Data Review View Developer Help Acrobat **Sparkline**

High Point First Point
 Low Point Last Point
 Negative Points Markers

Sparkline Color ▾
 Marker Color ▾

Group
 Ungroup
 Clear ▾
 Group

Edit Data ▾
 Line
 Column
 Win/Loss

Type
 Show
 Style

F10

	A	B	C	D	E	F	G	H	I	J	K
1		2019	2020	2021	2022	Trend					
2	Advertising	5065	5080	6125	6340						
3	Dues and subscriptions	2349	2108	2154	2689						
4	Repairs and maintenance	14560	12302	11080	10450						
5	Supplies	1284	1487	1583	2629						
6	Technology	21350	22432	27690	28412						
7	Utilities	7831	7930	7888	7925						
8											
9		2019	2020	2021	2022	Trend					
10	Advertising	5065	5080	6125	6340						
11	Dues and subscriptions	2349	2108	2154	2689						
12	Repairs and maintenance	14560	12302	11080	10450						
13	Supplies	1284	1487	1583	2629						
14	Technology	21350	22432	27690	28412						
15	Utilities	7831	7930	7888	7925						

Creating Sparklines

The screenshot shows the Microsoft Excel interface with the **Sparkline** ribbon selected. The ribbon is divided into several groups: **Edit Data**, **Type**, **Show**, **Style**, and **Group**. In the **Show** group, the **Markers** checkbox is checked and highlighted with a red box and a red arrow labeled '2'. In the **Type** group, the **Line** type is selected. In the **Group** group, the **Axis** dropdown is set to **Group**. Below the ribbon, a data table is visible with columns for years (2019-2022) and a 'Trend' column. The 'Trend' column contains six line sparklines, one for each row of data. A red box and arrow labeled '1' point to the sparklines in the 'Trend' column.

	A	B	C	D	E	F	G	H	I	J	K
1		2019	2020	2021	2022	Trend					
2	Advertising	5065	5080	6125	6340						
3	Dues and subscriptions	2349	2108	2154	2689						
4	Repairs and maintenance	14560	12302	11080	10450						
5	Supplies	1284	1487	1583	2629						
6	Technology	21350	22432	27690	28412						
7	Utilities	7831	7930	7888	7925						

Click any Cell in the Line type Sparklines group to select the whole group. On the Sparkline tab, in the Show group, click Markers.

Creating Sparklines

The screenshot shows the Microsoft Excel interface with the **Sparkline** ribbon selected. The ribbon includes options for **Edit Data**, **Line**, **Column**, and **Win/Loss** types. Under the **Show** section, there are checkboxes for **High Point**, **Low Point**, **Negative Points**, **First Point**, **Last Point**, and **Markers**. A **Sparkline Color** drop-down menu is open, showing **Theme Colors** and **Standard Colors**, with a green color selected. Red circles with numbers 1 and 2 highlight the **Sparkline Color** menu and the selected green color, respectively. Below the ribbon is a data table with sparklines in column F.

	A	B	C	D	E	F	G
1		2019	2020	2021	2022	Trend	
2	Advertising	5065	5080	6125	6340		
3	Dues and subscriptions	2349	2108	2154	2689		
4	Repairs and maintenance	14560	12302	11080	10450		
5	Supplies	1284	1487	1583	2629		
6	Technology	21350	22432	27690	28412		
7	Utilities	7831	7930	7888	7925		

Use the Sparkline Color drop-down menu to change the color to Green.

Creating Sparklines

The screenshot shows the Microsoft Excel interface with the **Sparkline** ribbon selected. The ribbon includes options for **Edit Data**, **Type** (Line, Column, Win/Loss), and **Show** (High Point, Low Point, Negative Points, First Point, Last Point, Markers). A preview area shows various sparkline styles. Below the ribbon is a data table with columns for years (2019-2022) and a 'Trend' column containing sparklines. A red circle labeled '1' points to a sparkline in the 'Trend' column. A red circle labeled '2' points to the 'Markers' option in the ribbon. A red circle labeled '3' points to the 'More Colors...' option in the 'More Colors...' dialog box.

	A	B	C	D	E	F	G
1		2019	2020	2021	2022	Trend	
2	Advertising	5065	5080	6125	6340		
3	Dues and subscriptions	2349	2108	2154	2689		
4	Repairs and maintenance	14560	12302	11080	10450		
5	Supplies	1284	1487	1583	2629		
6	Technology	21350	22432	27690	28412		
7	Utilities	7831	7930	7888	7925		

Use the Marker Color drop-down menus to change the color of the Markers to Black.

Creating Sparklines

The screenshot shows the Excel interface with the Sparkline ribbon active. The ribbon includes options for Sparkline Color, Marker Color, Negative Points, Markers, High Point, Low Point, First Point, Last Point, and Negative Points. A table of data is shown with sparklines in column F. Red circles and arrows indicate the steps: 1. Click on the Marker Color dropdown. 2. Select the High Point option. 3. Choose the orange color from the Theme Colors palette.

	A	B	C	D	E	F	G	H
1		2019	2020	2021	2022	Trend		
2	Advertising	5065	5080	6125	6340			
3	Dues and subscriptions	2349	2108	2154	2689			
4	Repairs and maintenance	14560	12302	11080	10450			
5	Supplies	1284	1487	1583	2629			
6	Technology	21350	22432	27690	28412			
7	Utilities	7831	7930	7888	7925			
8								

Then go back to Marker Color and change the High Point to Orange.

Creating Sparklines

The screenshot shows the Microsoft Excel interface with the **Sparkline** tab selected. The ribbon includes options for **Edit Data**, **Type** (Line, Column, Win/Loss), **Show** (High Point, Low Point, Negative Points, First Point, Last Point, Markers), **Style** (Sparkline Color, Marker Color), and **Group** (Group, Ungroup, Clear). A red circle with the number '2' and an arrow points to the **Ungroup** button.

The spreadsheet data is as follows:

	A	B	C	D	E	F
1		2019	2020	2021	2022	Trend
2	Advertising	5065	5080	6125	6340	
3	Dues and subscriptions	2349	2108	2154	2689	
4	Repairs and maintenance	14560	12302	11080	10450	
5	Supplies	1284	1487	1583	2629	
6	Technology	21350	22432	27690	28412	
7	Utilities	7831	7930	7888	7925	
8						
9		2019	2020	2021	2022	Trend
10	Advertising	5065	5080	6125	6340	
11	Dues and subscriptions	2349	2108	2154	2689	
12	Repairs and maintenance	14560	12302	11080	10450	
13	Supplies	1284	1487	1583	2629	
14	Technology	21350	22432	27690	28412	
15	Utilities	7831	7930	7888	7925	
16						

A red circle with the number '1' and an arrow points to the range of cells F10:F15, which are highlighted with a red border.

2 Select Cells F10:F15. On the Sparkline tab, click Ungroup.

Creating Sparklines

The screenshot shows the Excel interface with the Sparkline tab selected. The ribbon includes options for Edit Data, Line, Column, and Win/Loss, along with checkboxes for High Point, Low Point, Negative Points, First Point, Last Point, and Markers. A preview area shows various sparkline styles. The main area displays a table with data for 2019-2022 and trend sparklines. A callout '1' points to the data source in cell F15. A callout '2' points to the Sparkline Color drop-down menu, and a callout '3' points to the orange color selection in the Theme Colors palette.

	A	B	C	D	E	F	G	H	I	J	K
1		2019	2020	2021	2022	Trend					
2	Advertising	5065	5080	6125	6340						
3	Dues and subscriptions	2349	2108	2154	2689						
4	Repairs and maintenance	14560	12302	11080	10450						
5	Supplies	1284	1487	1583	2629						
6	Technology	21350	22432	27690	28412						
7	Utilities	7831	7930	7888	7925						
8											
9		2019	2020	2021	2022	Trend					
10	Advertising	5065	5080	6125	6340						
11	Dues and subscriptions	2349	2108	2154	2689						
12	Repairs and maintenance	14560	12302	11080	10450						
13	Supplies	1284	1487	1583	2629						
14	Technology	21350	22432	27690	28412						
15	Utilities	7831	7930	7888	7925						
16											

Select Cell F15 and, on the Sparkline tab, use the Sparkline Color drop-down menu to change the Color to Orange.

Creating Sparklines

	A	B	C	D	E	F
1		2019	2020	2021	2022	Trend
2	Advertising	5065	5080	6125	6340	
3	Dues and subscriptions	2349	2108	2154	2689	
4	Repairs and maintenance	14560	12302	11080	10450	
5	Supplies	1284	1487	1583	2629	
6	Technology	21350	22432	27690	28412	
7	Utilities	7831	7930	7888	7925	
8						
9		2019	2020	2021	2022	Trend
10	Advertising	5065	5080	6125	6340	
11	Dues and subscriptions	2349	2108	2154	2689	
12	Repairs and maintenance	14560	12302	11080	10450	
13	Supplies	1284	1487	1583	2629	
14	Technology	21350	22432	27690	28412	
15	Utilities	7831	7930	7888	7925	

Point to the separator to the right of Column F and drag the separator until Column F is approximately double in width.

Creating Sparklines

File Home Insert Page Layout Formulas Data Review View Developer Help Acrobat **Sparkline**

High Point First Point
 Low Point Last Point
 Negative Points Markers

Sparkline Color ▾
 Marker Color ▾

Axis ▾
 Group
 Ungroup
 Clear ▾

Clear Selected Sparklines
 Clear Selected Sparkline Groups

Clear options for Sparklines

F2 X ✓ fx

	A	B	C	D	E	F	G	H	I	J	K
1		2019	2020	2021	2022	Trend					
2	Advertising	5065	5080	6125	6340						
3	Dues and subscriptions	2349	2108	2154	2689						
4	Repairs and maintenance	14560	12302	11080	10450						
5	Supplies	1284	1487	1583	2629						
6	Technology	21350	22432	27690	28412						
7	Utilities	7831	7930	7888	7925						
8											
9		2019	2020	2021	2022	Trend					
10	Advertising	5065	5080	6125	6340						
11	Dues and subscriptions	2349	2108	2154	2689						
12	Repairs and maintenance	14560	12302	11080	10450						
13	Supplies	1284	1487	1583	2629						
14	Technology	21350	22432	27690	28412						
15	Utilities	7831	7930	7888	7925						

Worksheet 12

Create Custom Number Formats

Creating custom number formats

The screenshot shows the Microsoft Excel interface. The Home ribbon is active, and the Number format dropdown menu is open, highlighted with a red box. A red arrow points to the 'Number' option in the dropdown menu. The spreadsheet shows the following data:

	A	B	C	D	E	F	G	H
1		123.16		983758				
2		1150.5		56320				
3		-764.899		190673				
4		1004.93		71005				
5		-32.45		8150				
6								
7								
8								

The right side of the ribbon shows the following number formats:

- General: No specific format
- Number: 1150.55
- Currency: \$1,150.55
- Accounting: \$1,150.55
- Short Date: 2/23/1903
- Long Date: Monday, February 23, 1903
- Time: 1:12:00 PM
- Percentage: 115055.00%
- Fraction: 1150 5/9
- Scientific: 1.15E+03
- Text: 1150.55

More Number Formats...

Creating custom number formats

1

2

3

15

	A	B	C	D	E	F	G
1		123.16		983758			
2		1150.5		56320			
3		-764.899		190673			
4		1004.93		71005			
5		-32.45		8150			
6							
7							
8							

File Home Insert Page Layout Formulas Data Review View Developer Help Acrobat

Cut Copy Paste Format Painter Clipboard

Calibri 11 A A B I U Font

Wrap Text Merge & Center Alignment

B1 123.16

Number 123.16

Currency \$123.16

Accounting \$123.16

Short Date 5/2/1900

Long Date Wednesday, May 2, 1900

Time 3:50:24 AM

Percentage 12316.00%

Fraction 123 1/6

Scientific 1.23E+02

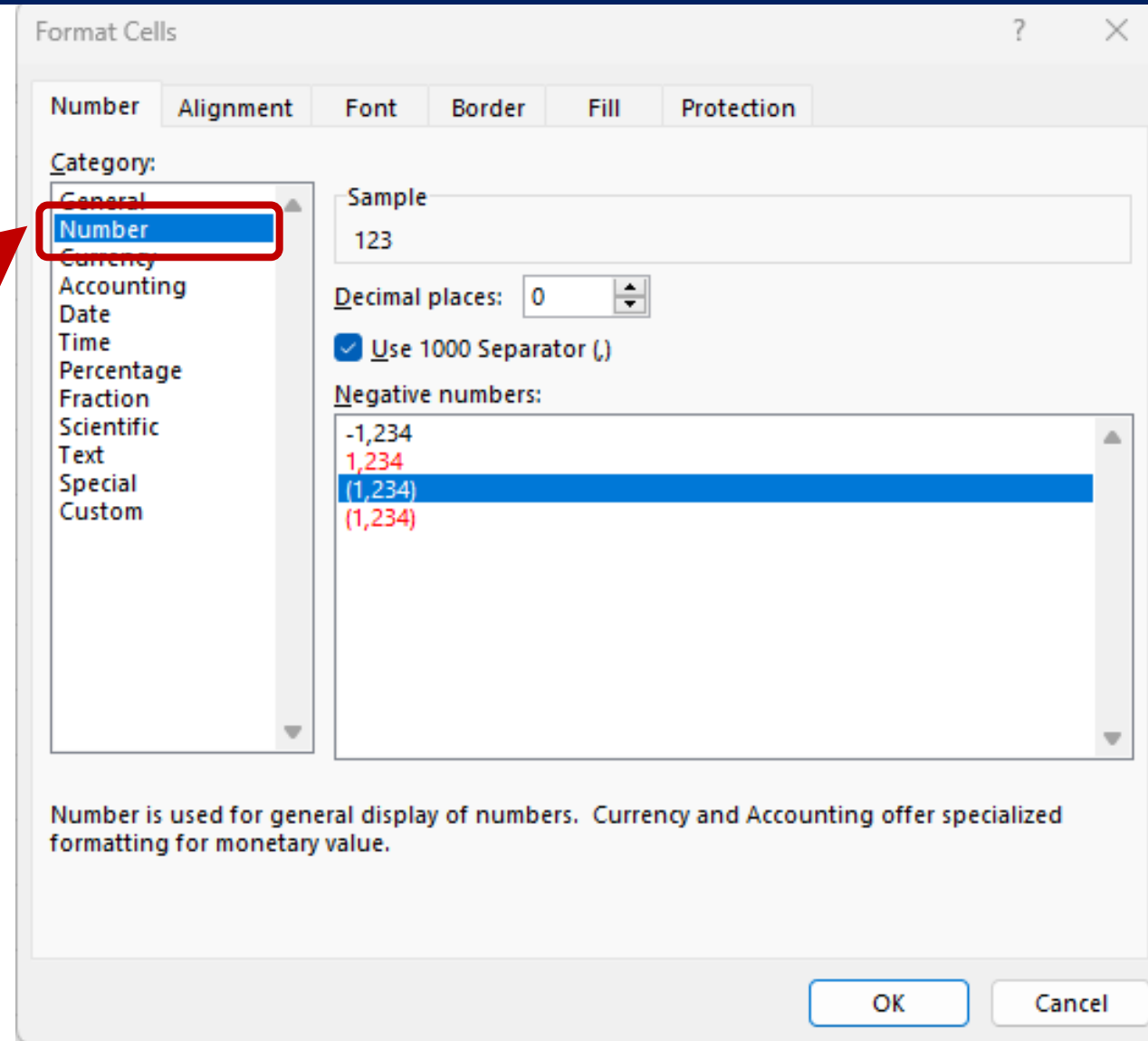
Text 123.16

More Number Formats...

Select Cells B1:B5 and, on the Home tab, click the Number Format drop-down menu. Then click More Number Formats.

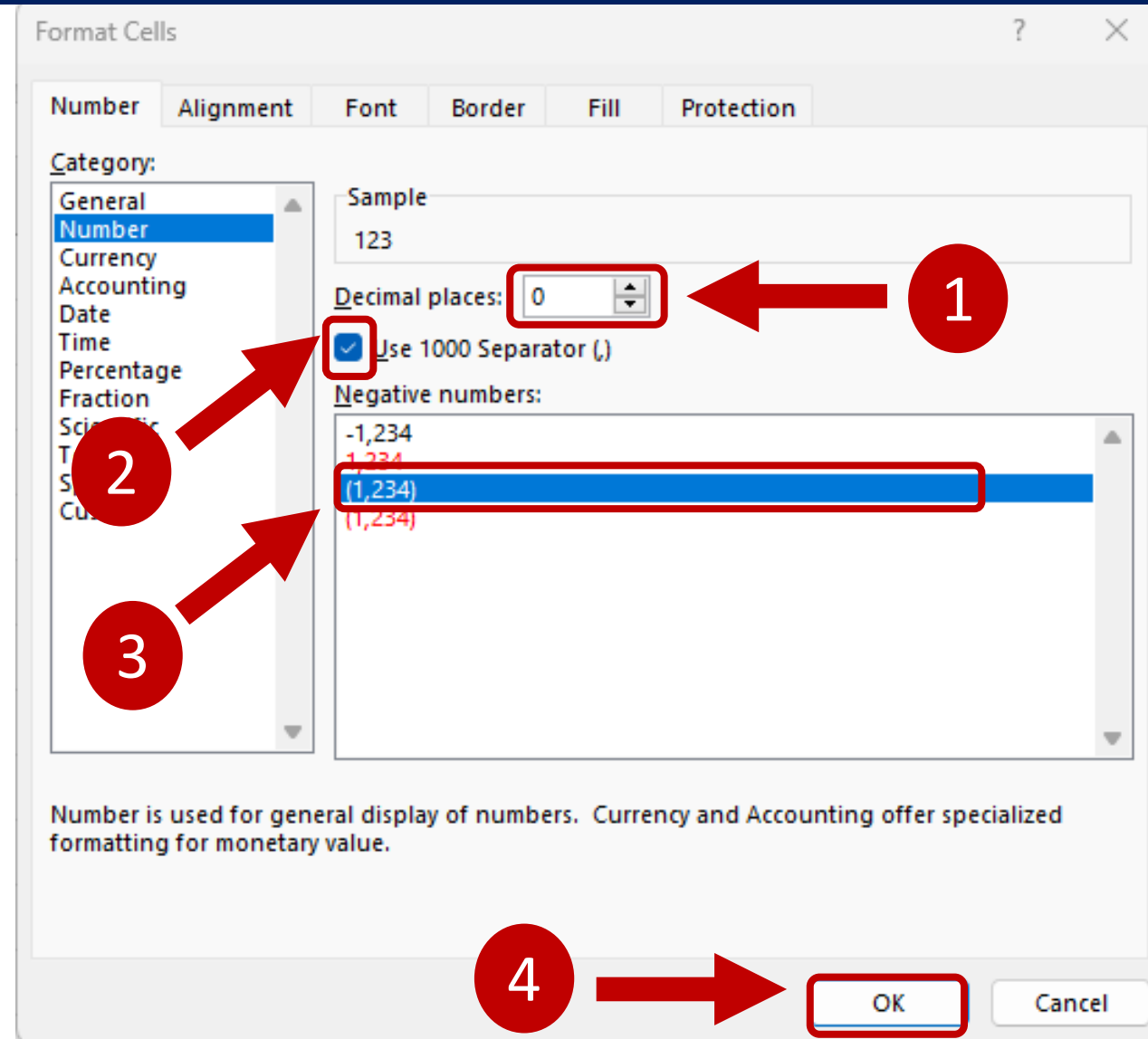
Creating custom number formats

Click Number.



Creating custom number formats

Then change the default Decimal places from two to zero and check the box for Use 1000 Separator. Then, click the third option for how to treat Negative numbers. Finally, click OK.



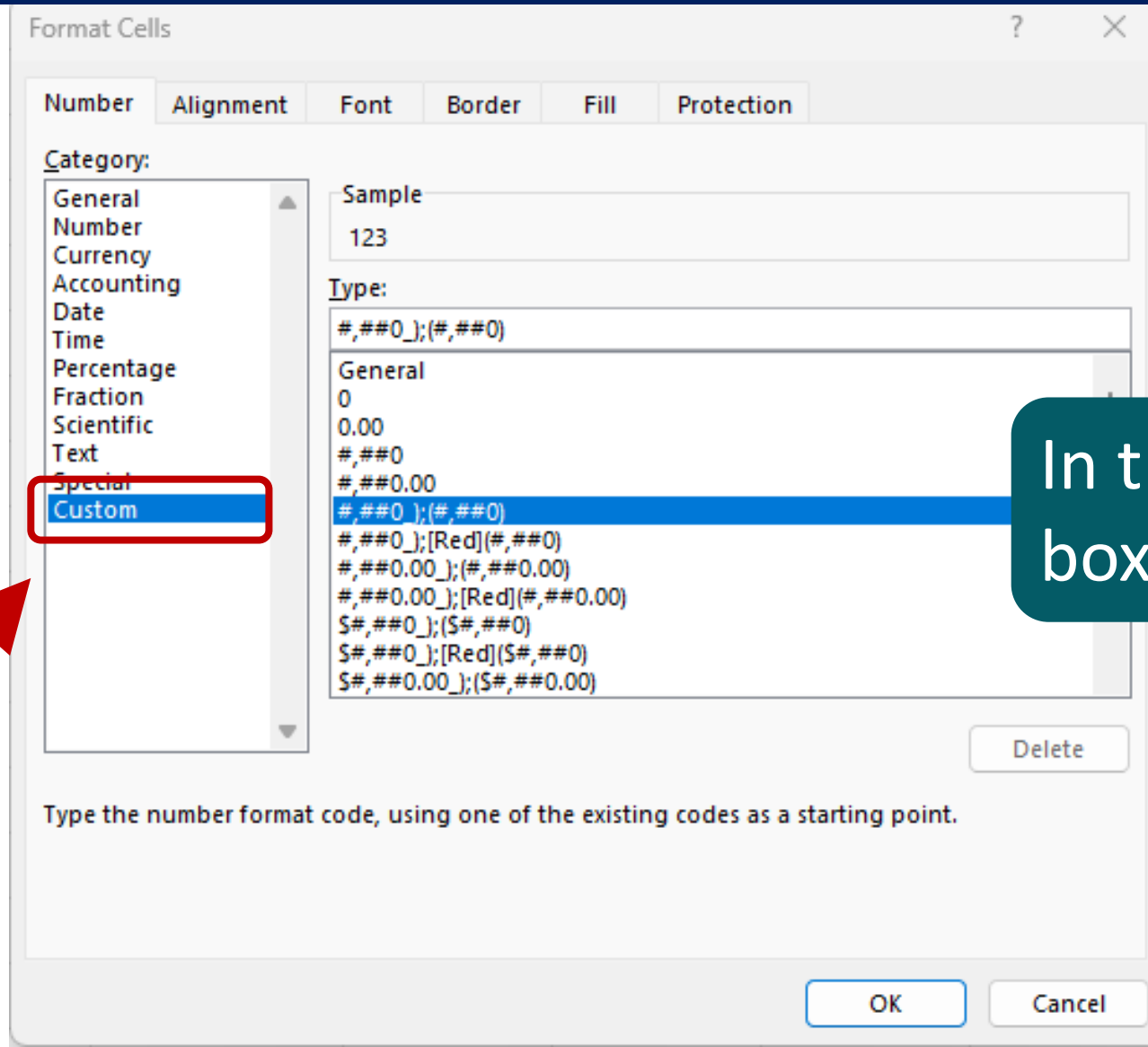
Creating custom number formats

The screenshot shows an Excel spreadsheet with columns A through H and rows 1 through 16. Cells B1 through B5 are selected and highlighted with a red border. A right-click context menu is open over these cells. The menu items are: Search the menus, Cut, Copy, Paste Options, Paste Special..., Smart Lookup, Insert..., Delete..., Clear Contents, Quick Analysis, Filter, Sort, Get Data from Table/Range..., New Comment, New Note, Format Cells..., Pick From Drop-down List..., Define Name..., and Link. The 'Format Cells...' option is highlighted with a red box and a red arrow labeled '2'. A red arrow labeled '1' points to the right-click action on the selected cells.

	A	B	C	D	E	F	G	H
1		123		083758				
2		1,151		320				
3		(765)		190673				
4		1,005		71005				
5		(32)		8150				
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

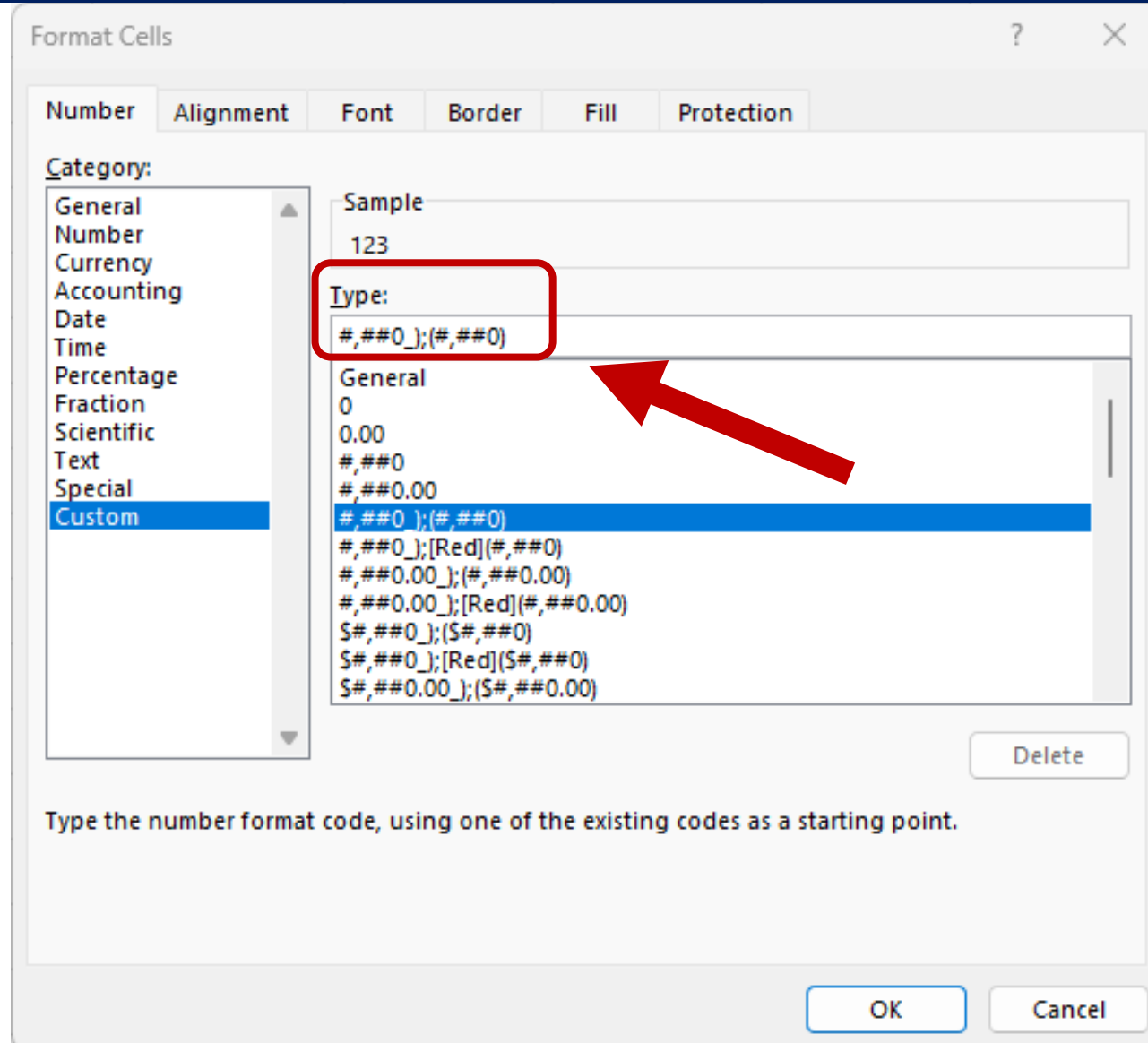
Select Cells B1:B5 and right-click. In the drop-down menu, click Format Cells.

Creating custom number formats



In the Format Cells dialog box click Custom.

Creating custom number formats



Creating custom number formats

`#,##0_);(#,##0)`

The screenshot shows an Excel spreadsheet with column B containing the numbers 123, 1,151, (765), 1,005, and (32). A red box highlights this column. A red arrow points from the custom format code on the left to the 'Custom' category in the 'Format Cells' dialog box. The dialog box shows the 'Number' tab selected, with the 'Type' field containing the custom format code `#,##0_);(#,##0)`. The 'Sample' field shows the number 123. The 'Delete' button is visible at the bottom right of the dialog box.

Category	Sample	Type
General	123	#,##0_);(#,##0)
Number	123	General
Currency	123	0
Accounting	123	0.00
Date	123	#,##0
Time	123	#,##0,00
Percentage	123	#,##0_);(#,##0)
Fraction	123	#,##0_);[Red](#,##0)
Scientific	123	#,##0.00_);(#,##0.00)
Text	123	#,##0.00_);[Red](#,##0.00)
Special	123	\$#,##0_);(\$#,##0)
Custom	123	\$#,##0_);[Red](\$#,##0)
		\$#,##0.00_);(\$#,##0.00)

Creating custom number formats

`+#,###0;-#,###0`

1

The screenshot shows the 'Format Cells' dialog box with the 'Number' tab selected. The 'Category' list on the left has 'Custom' selected. The 'Type' list on the right contains the format code '+#,###0;-#,###0' at the bottom, which is highlighted. A red circle with the number '2' is positioned over the 'OK' button at the bottom right of the dialog. A red arrow points from the 'OK' button towards the right side of the image.

Format Cells

Number Alignment Font Border Fill Protection

Category:

- General
- Number
- Currency
- Accounting
- Date
- Time
- Percentage
- Fraction
- Scientific
- Text
- Special
- Custom

Sample: +123

Type:

- +#,###0;-#,###0
- @
- [h]:mm:ss
- [_(\$* #,###0);_(\$* (#,###0);_(\$* "-");_(@_)]
- [_(* #,###0);_(* (#,###0);_(* "-");_(@_)]
- [_(\$* #,###0.00);_(\$* (#,###0.00);_(\$* "-??");_(@_)]
- [_(* #,###0.00);_(* (#,###0.00);_(* "-??");_(@_)]
- [_(\$* #,###0);_(\$* (#,###0);_(\$* "-??");_(@_)]
- [_(* #,###0);_(* (#,###0);_(* "-??");_(@_)]
- 0.0,"K"
- [\$-en-US]dddd, mmmm d, yyyy
- [\$-en-US]h:mm:ss AM/PM
- +#,###0;-#,###0


Delete

Type the number format code, using one of the existing codes as a starting point.

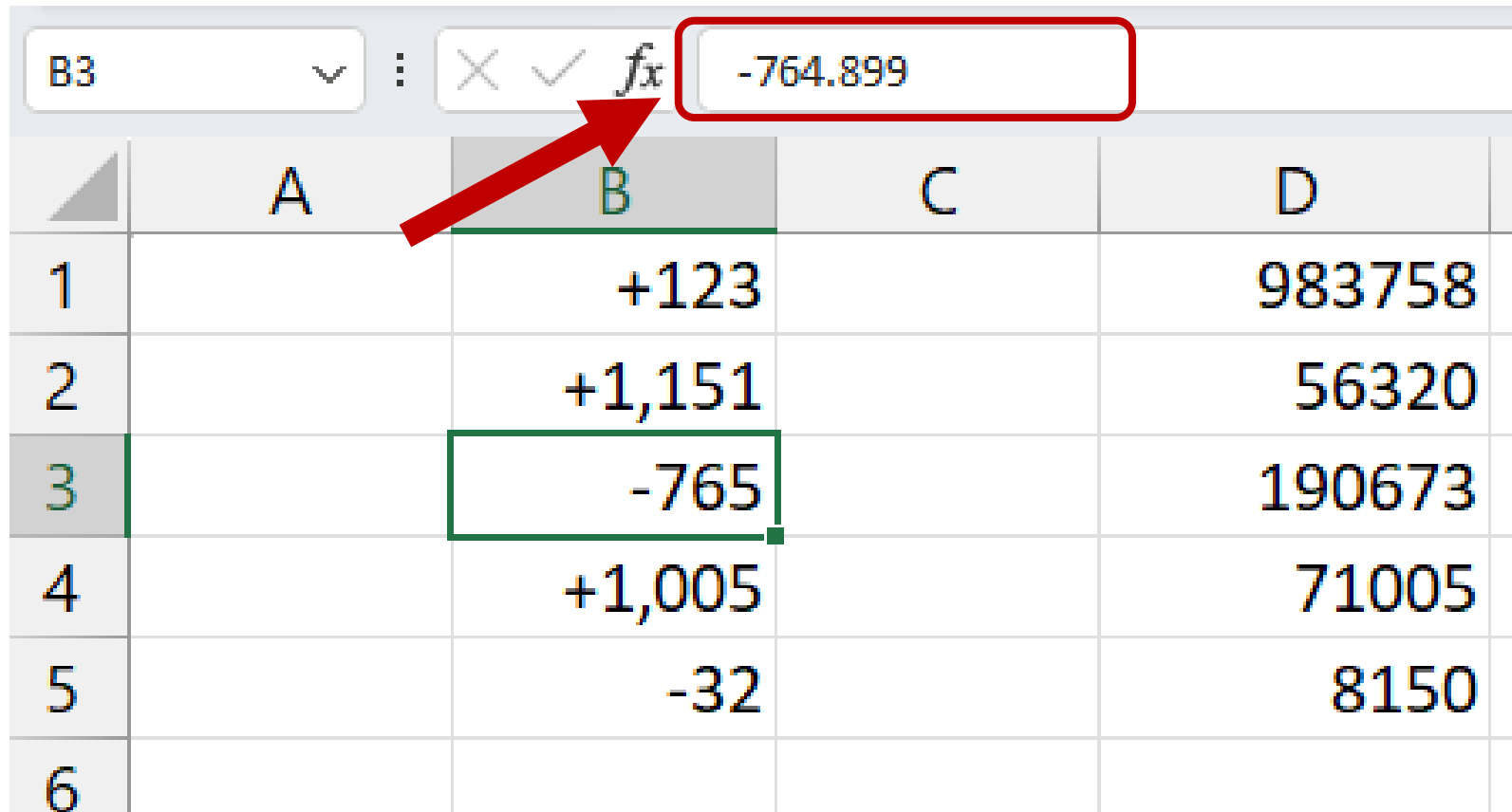
2

OK Cancel

Creating custom number formats

	A	B
1		+123
2		+1,151
3		-765
4		+1,005
5		-32

Creating custom number formats



	A	B	C	D
1		+123		983758
2		+1,151		56320
3		-765		190673
4		+1,005		71005
5		-32		8150
6				

Formula Bar: B3 : X ✓ fx -764.899

Click in Cell B3 and look in the Formula Bar to see the real, unformatted number.

Creating custom number formats

Select Cells D1:D5 and right-click. Select Format Cells. In the Format Cells dialog box, click Custom.

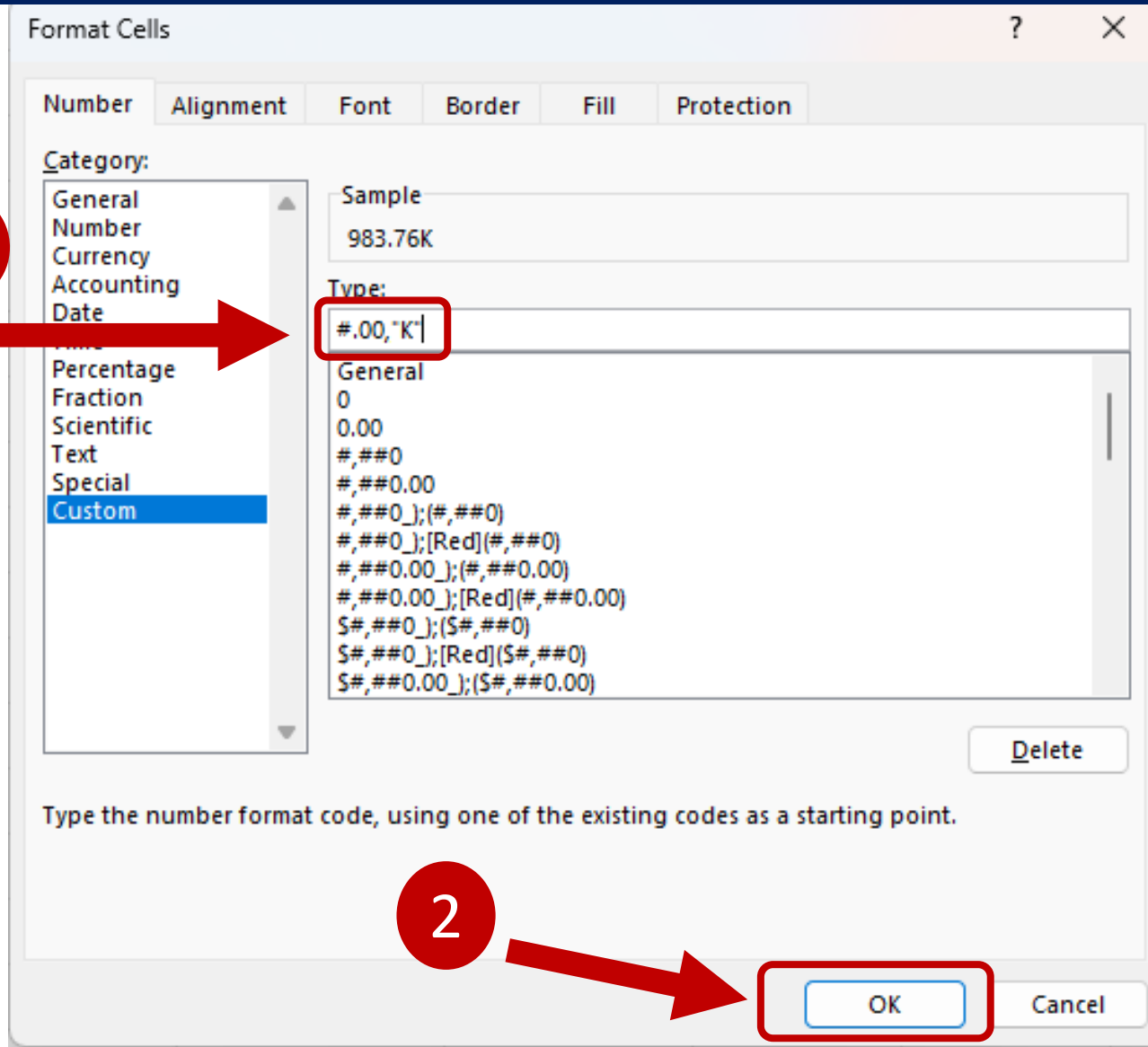
The image illustrates the steps to create a custom number format in Excel. It shows a spreadsheet with cells D1:D5 containing the numbers 983758, 56320, 190673, 71005, and 8150. A right-click context menu is open over these cells, and the 'Format Cells...' option is highlighted. The 'Format Cells' dialog box is also open, with the 'Number' tab selected and the 'Custom' category chosen. The 'Type' field in the dialog box is empty, indicating that a new custom format is being created.

Category	Type
General	Sample
Number	983758
Currency	
Accounting	
Date	
Time	
Percentage	
Fraction	
Scientific	
Text	
Special	
Custom	

Creating custom number formats

#.00,"K"

In the Type box enter:
#.00,"K"
Then, click OK.



Creating custom number formats

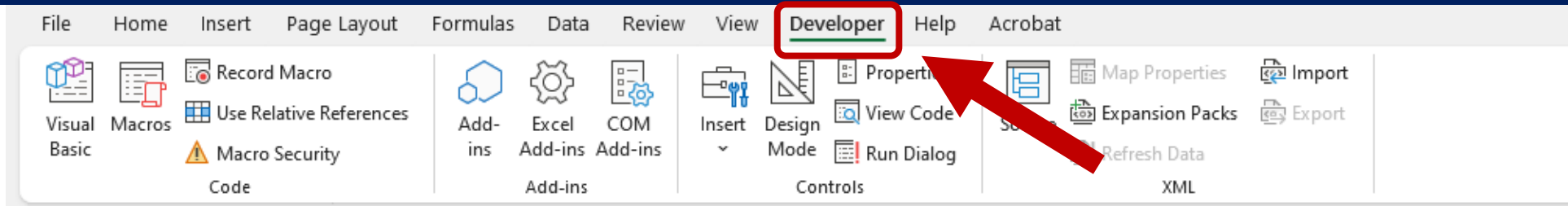
	A	B	C	D
1		+123		983.76K
2		+1,151		56.32K
3		-765		190.67K
4		+1,005		71.01K
5		-32		8.15K

Click in one of the newly formatted cells to see the unformatted number in the Formula Bar.

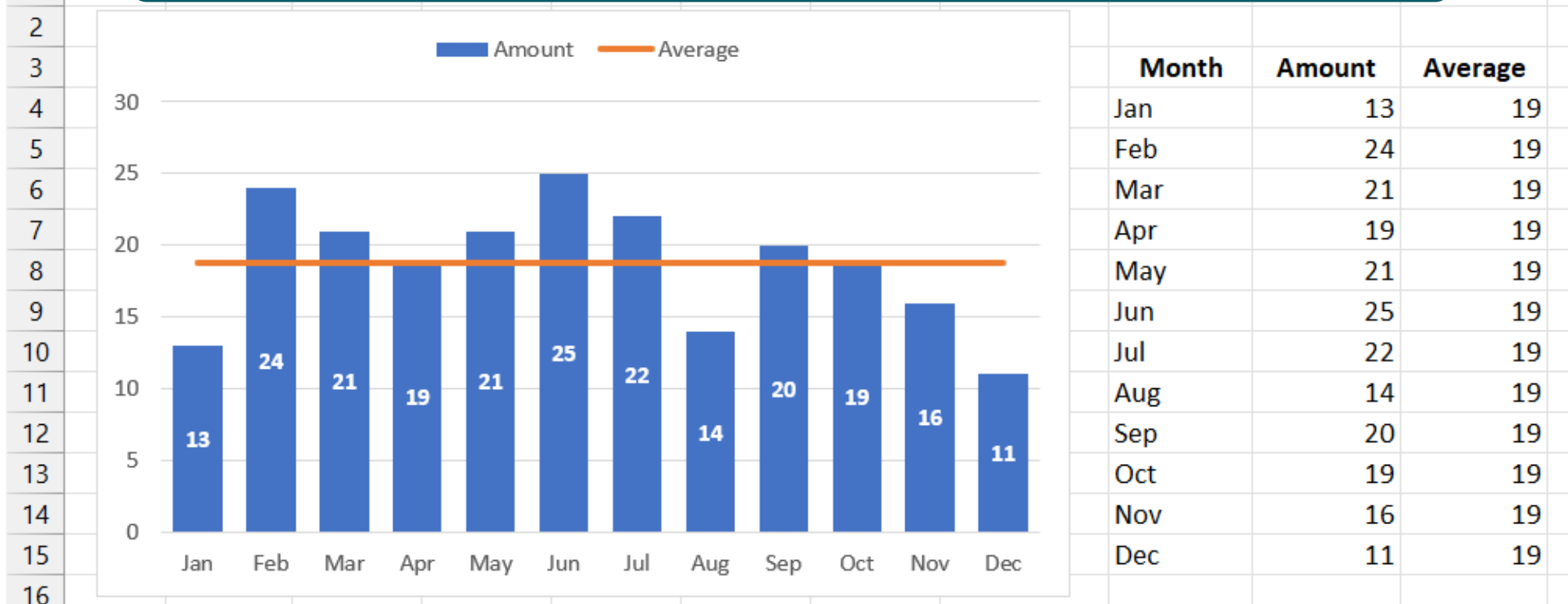
Worksheet 13

Create Interactive Checkboxes

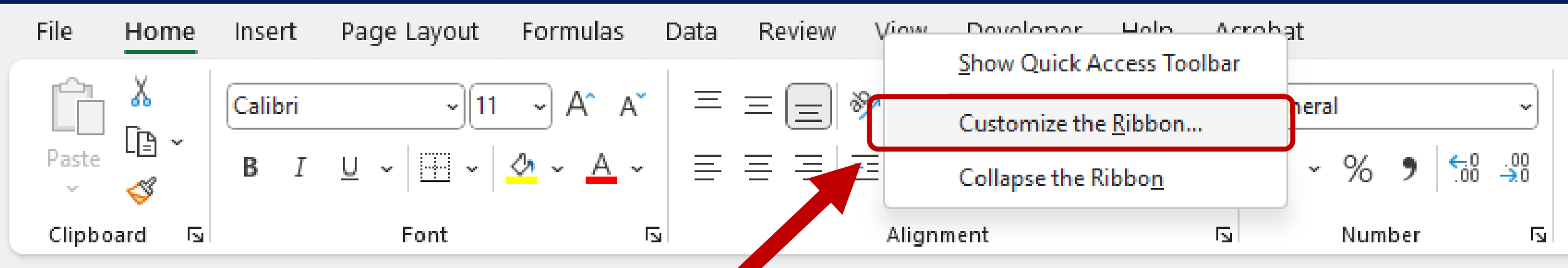
Creating interactive Check Boxes



Check to see if you have the Developer tab.



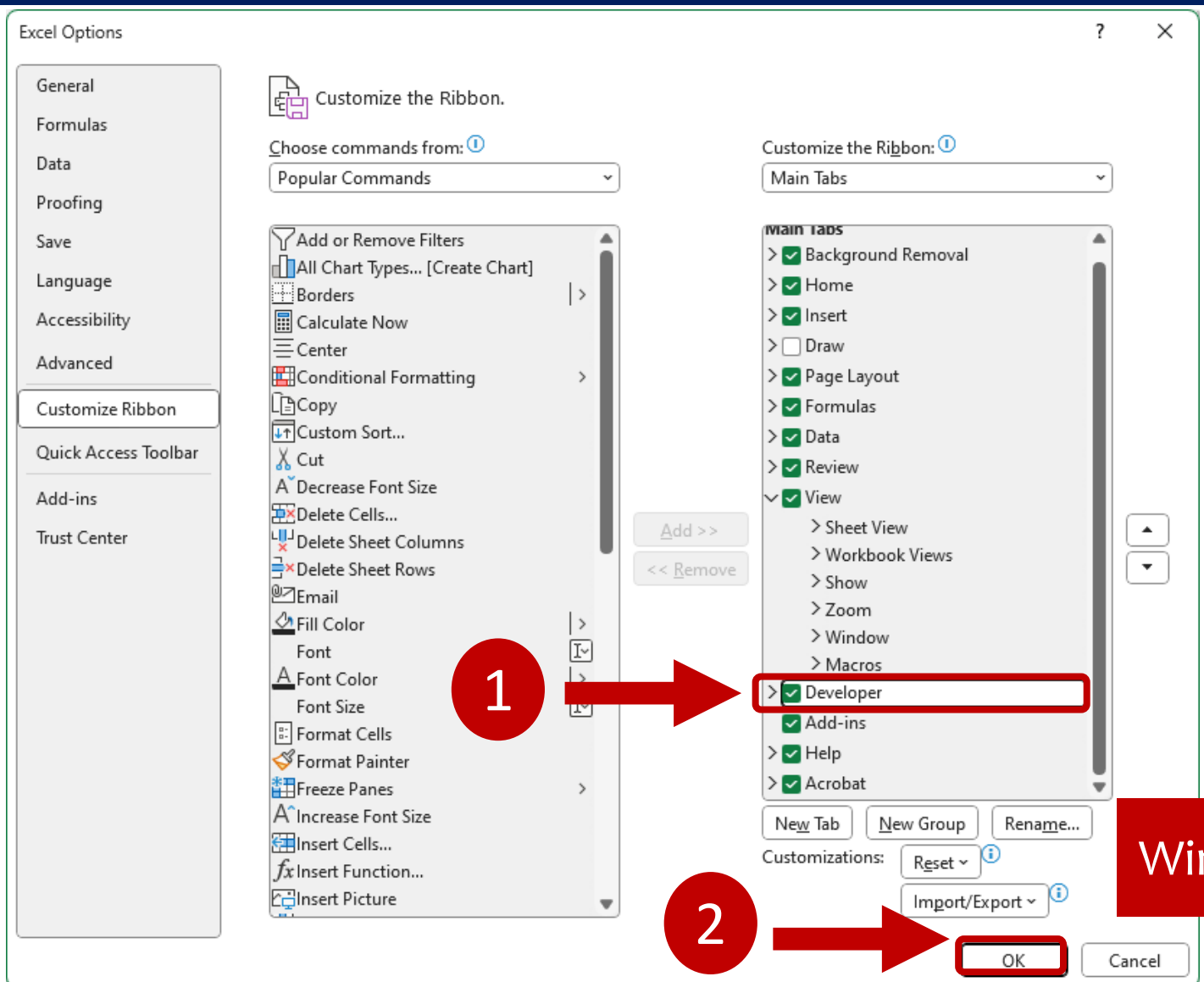
Creating interactive Check Boxes



To add the Developer tab, right-click any tab in the Ribbon and, in the drop-down menu, click Customize the Ribbon.

Windows only – Mac Instructions will follow

Creating interactive Check Boxes



On the right side, under Customize the Ribbon (Main Tabs) select Developer and click OK.

Windows only – Mac Instructions will follow

Creating interactive Check Boxes

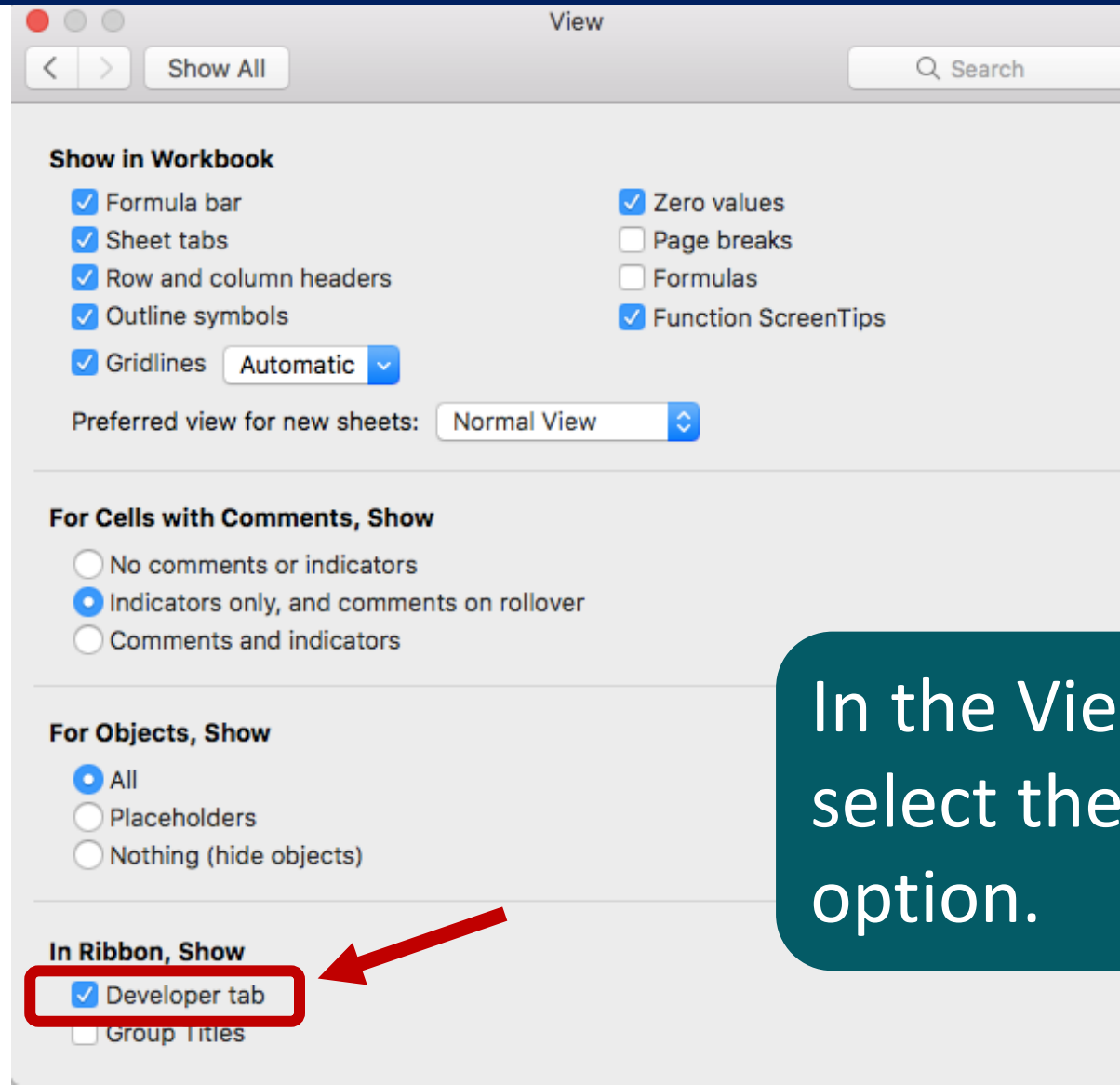


The screenshot shows the Microsoft Excel application interface. The 'Excel' menu is open, with 'Preferences...' highlighted. The 'Excel Preferences' dialog box is open, with the 'View' tab selected. The spreadsheet background shows a table with columns B and rows 1-8.

	B
1	Revenues 2054
2	Cost of goods sold 987
3	Operating expenses 879
4	
5	
6	
7	
8	

Click Excel in the ribbon. In the drop-down menu, click Preferences. In the Excel Preferences dialog box, click View.

Creating interactive Check Boxes



In the View dialog box, select the Developer tab option.

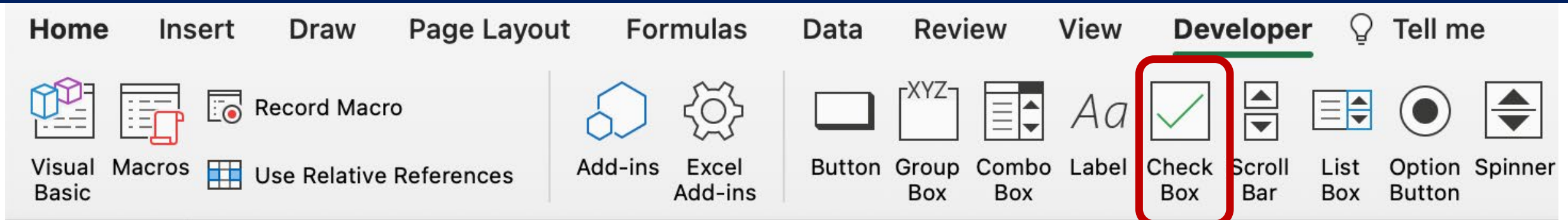
Creating interactive Check Boxes

On the Developer tab, in the Controls group, click Insert. In the drop-down menu, under Form Controls, click Check Box.

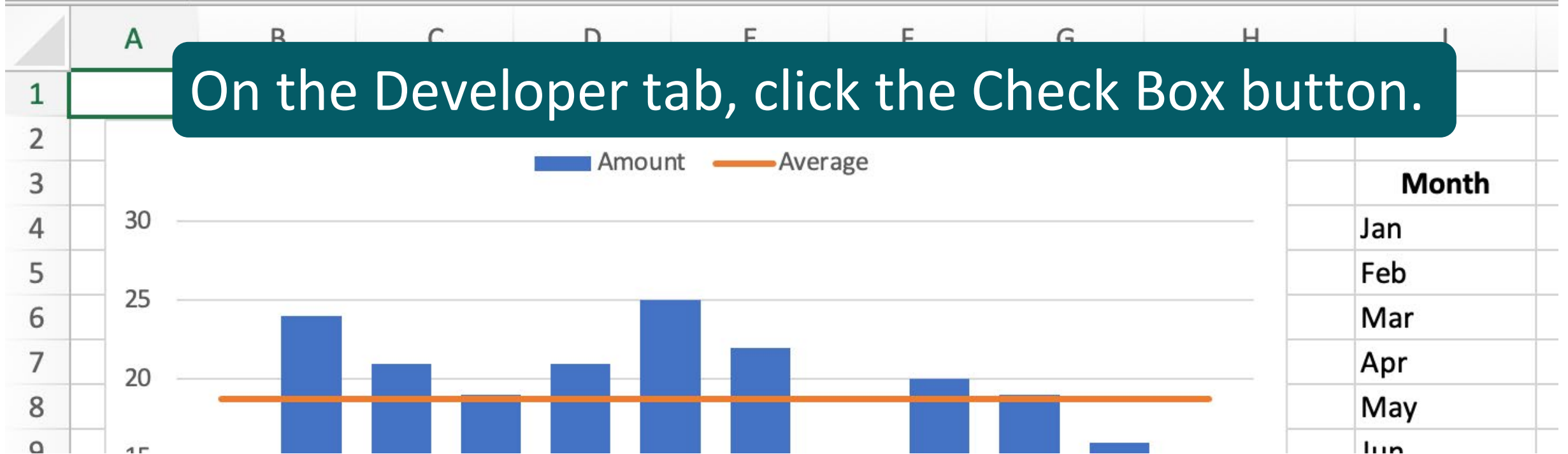
Month	Amount	Average
Jan	13	19
Feb	14	19
Mar	19	19
Apr	20	19
May	16	19
Jun	11	19
Jul	14	19
Aug	14	19
Sep	20	19
Oct	19	19
Nov	16	19

Windows only – Mac Instructions will follow

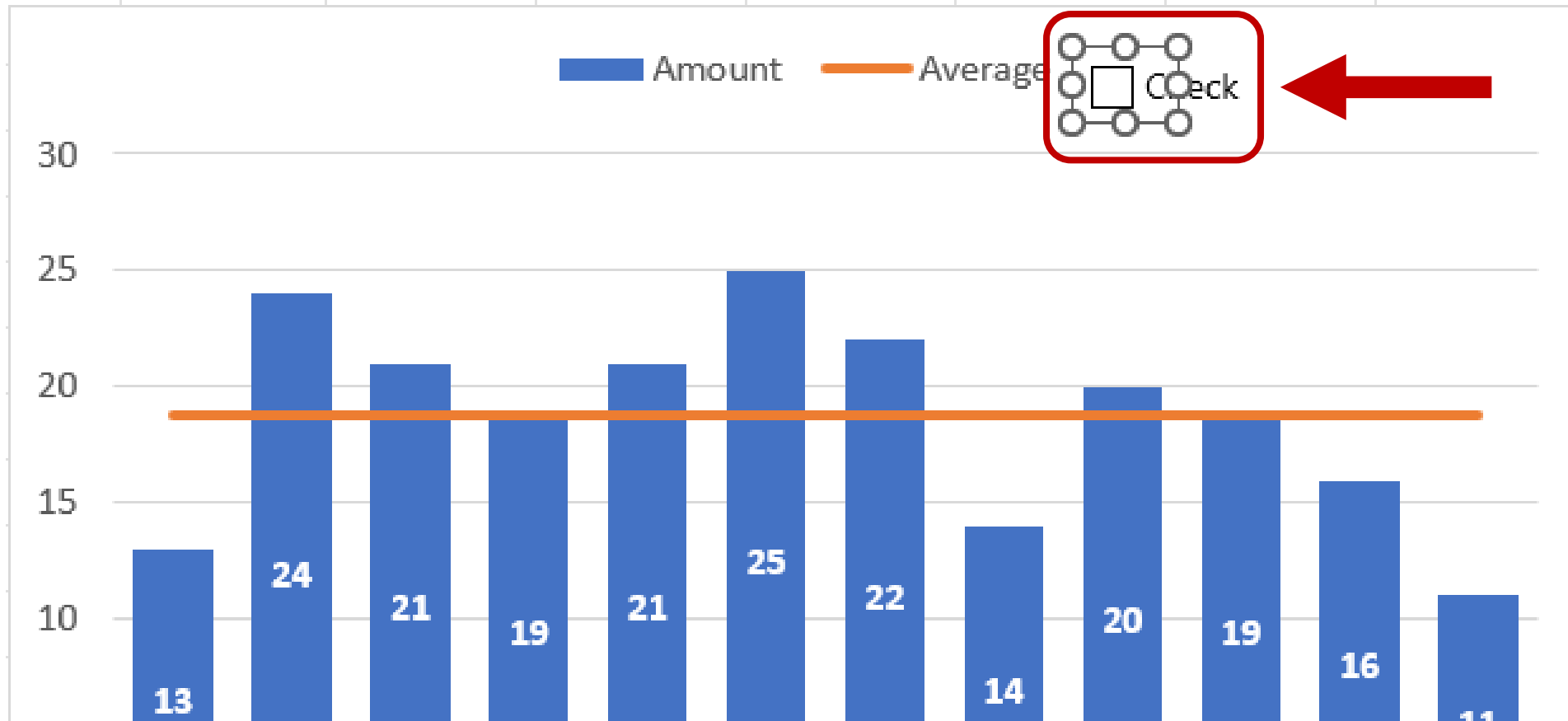
Developer tab, click Button icon



On the Developer tab, click the Check Box button.

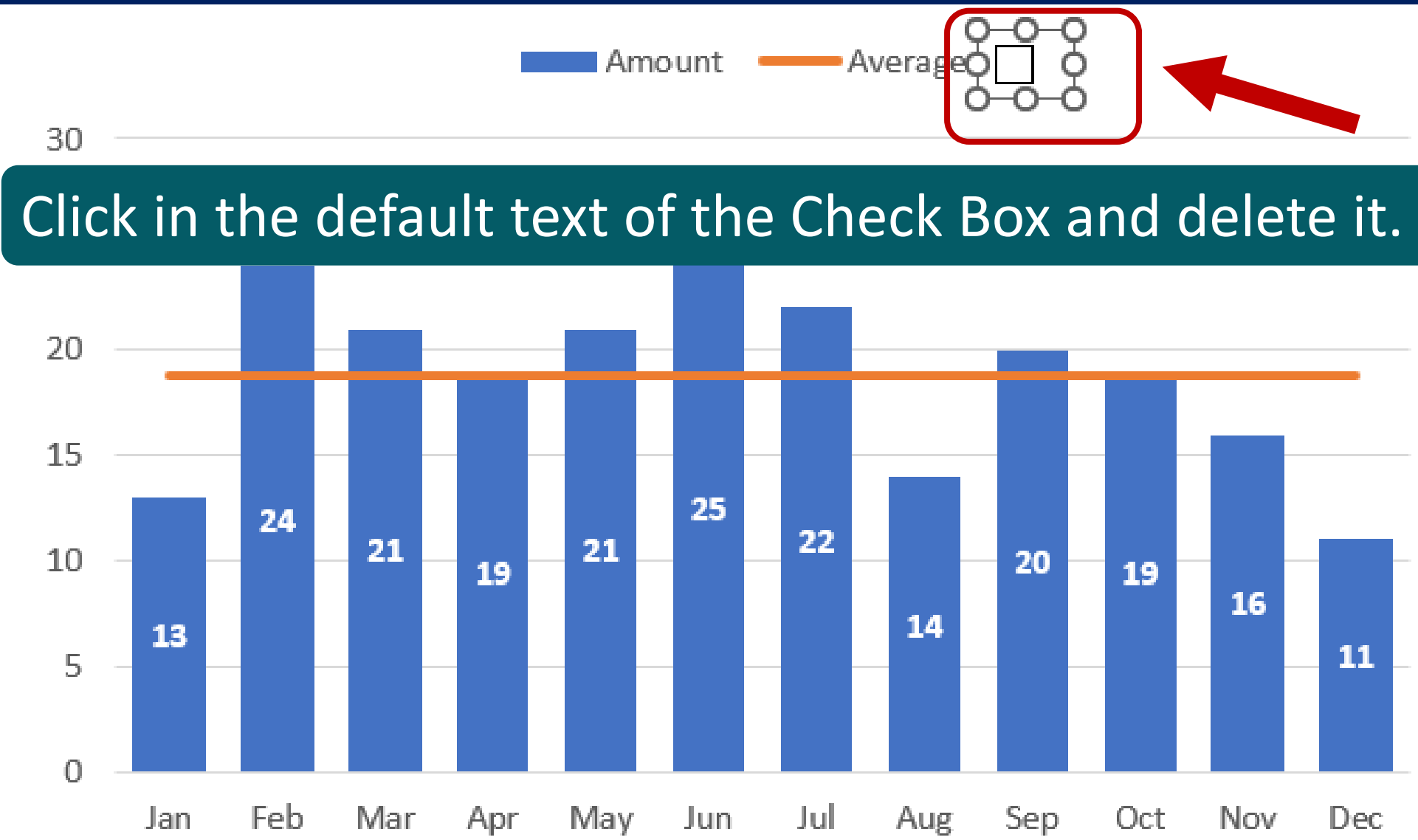


Creating interactive Check Boxes



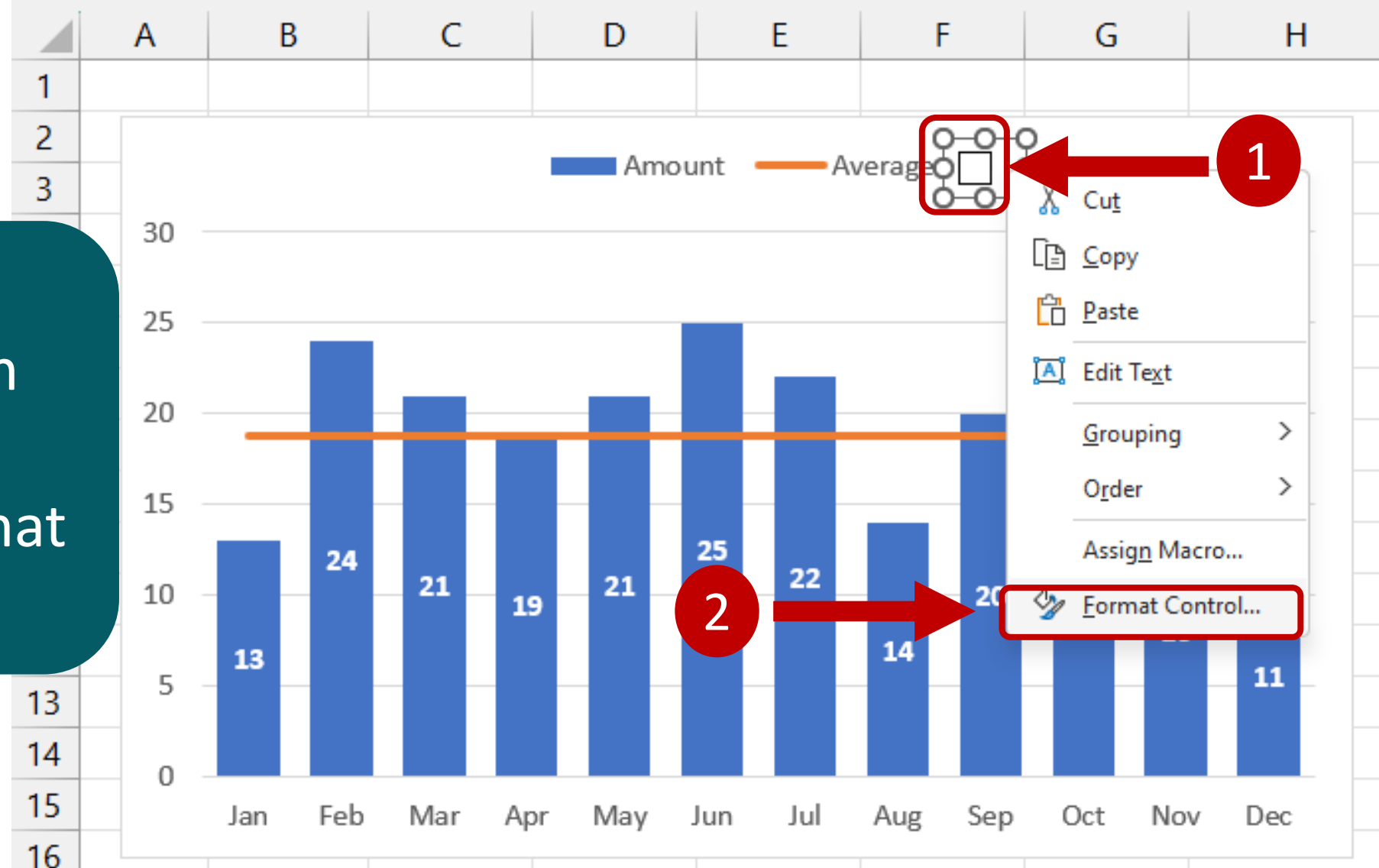
In the chart, click to the right of the word Average in the Legend to add the Check Box.

Creating interactive Check Boxes



Creating interactive Check Boxes

Right-click the check box and, in the drop-down menu, click Format Control.



Creating interactive Check Boxes

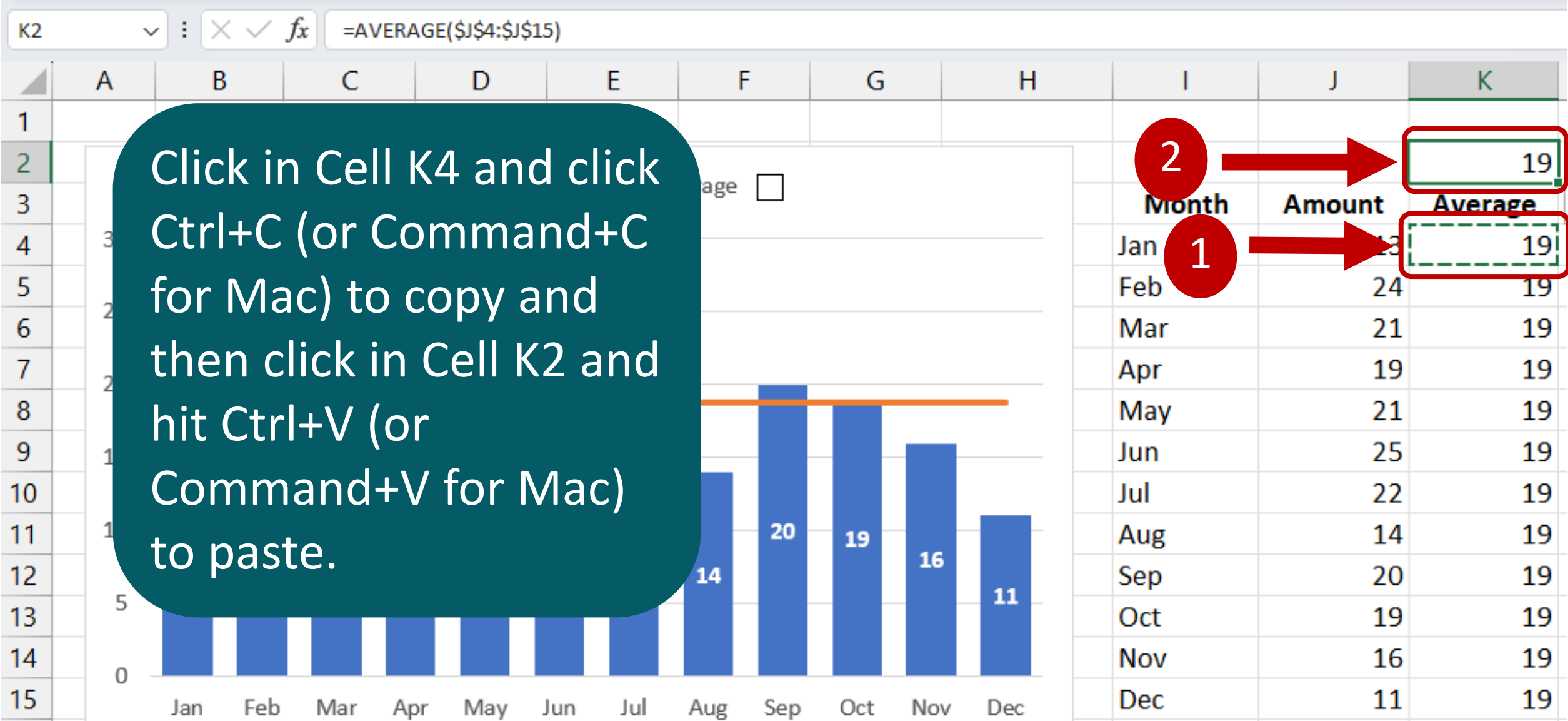
In the Format Control dialog box, click in the Cell link box and then click in Cell K1. Next, click OK.

The screenshot shows the Excel interface with the 'Format Control' dialog box open. The dialog box has several tabs: 'Colors and Lines', 'Size', 'Protection', 'Properties', 'Alt Text', and 'Control'. The 'Control' tab is selected. Under the 'Value' section, the 'Unchecked' radio button is selected. The 'Cell link' text box contains the text '\$K\$1' and is highlighted with a red box. A red arrow labeled '1' points from cell K1 in the background spreadsheet to this text box. At the bottom of the dialog box, the 'OK' button is highlighted with a red box, and a red arrow labeled '2' points to it. The background spreadsheet shows a table with columns 'Month', 'Amount', and 'Average'.

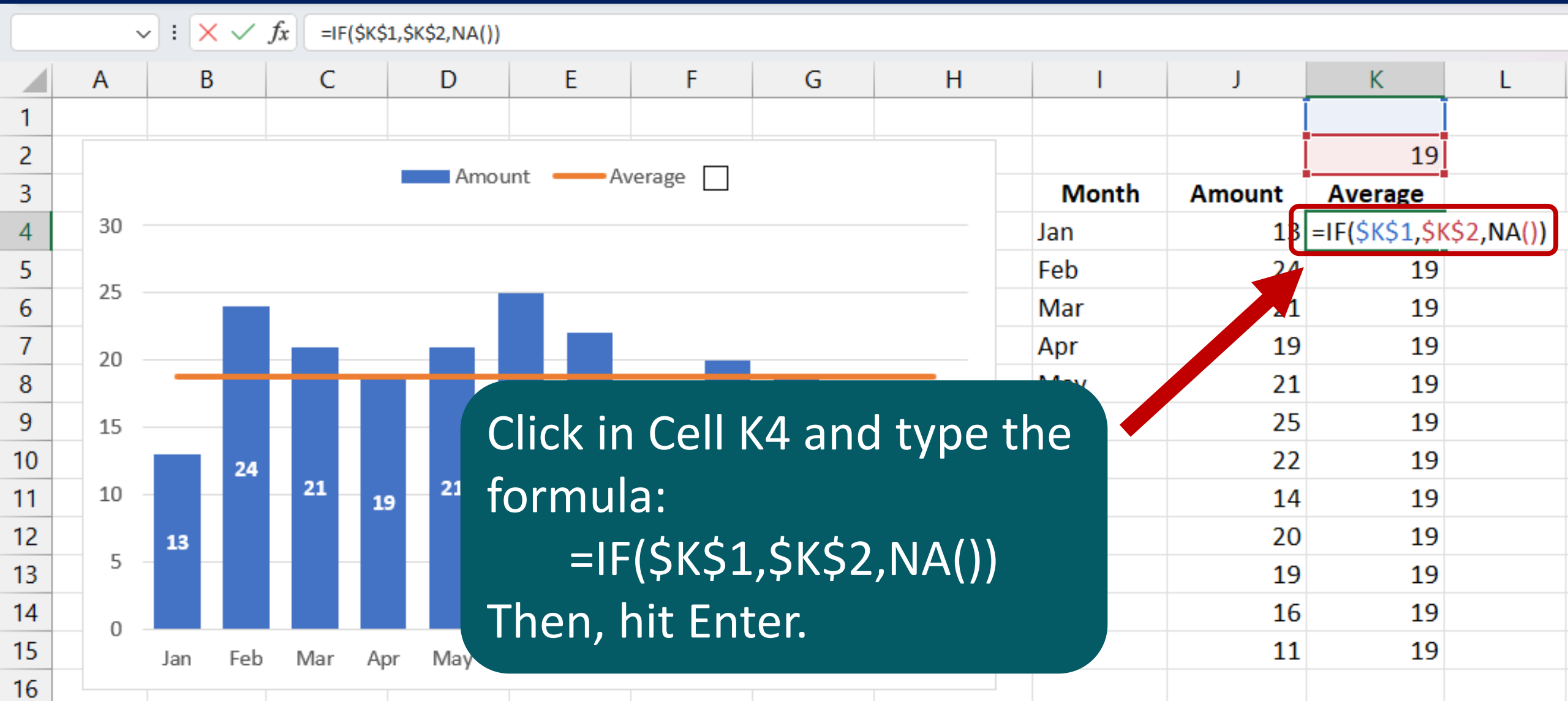
Month	Amount	Average
	13	19
	24	19
	21	19
	19	19
	21	19
	25	19
	22	19
	14	19
	20	19
	19	19
	16	19
	11	19

Creating interactive Check Boxes

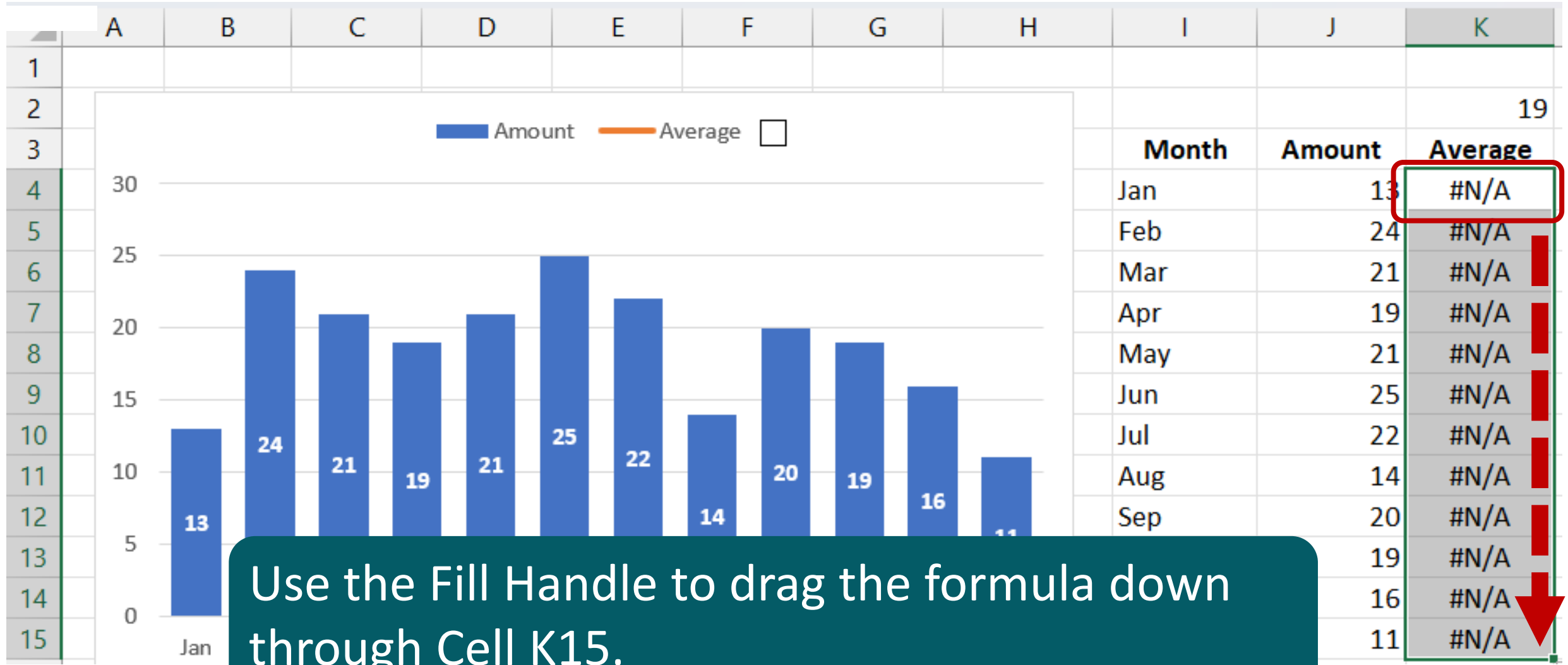
Click in Cell K4 and click Ctrl+C (or Command+C for Mac) to copy and then click in Cell K2 and hit Ctrl+V (or Command+V for Mac) to paste.



Creating interactive Check Boxes

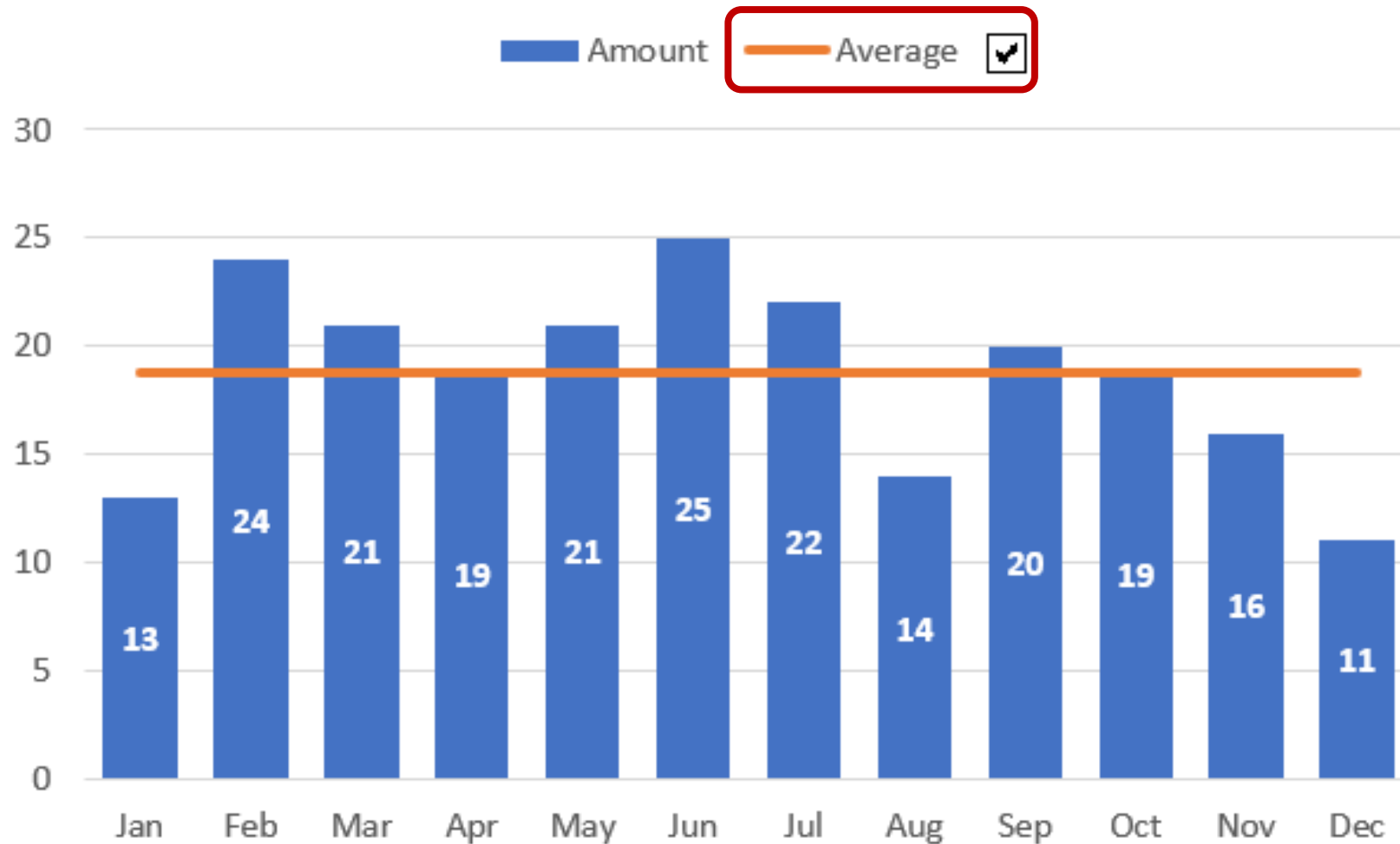


Creating interactive Check Boxes



Use the Fill Handle to drag the formula down through Cell K15.

Creating interactive Check Boxes



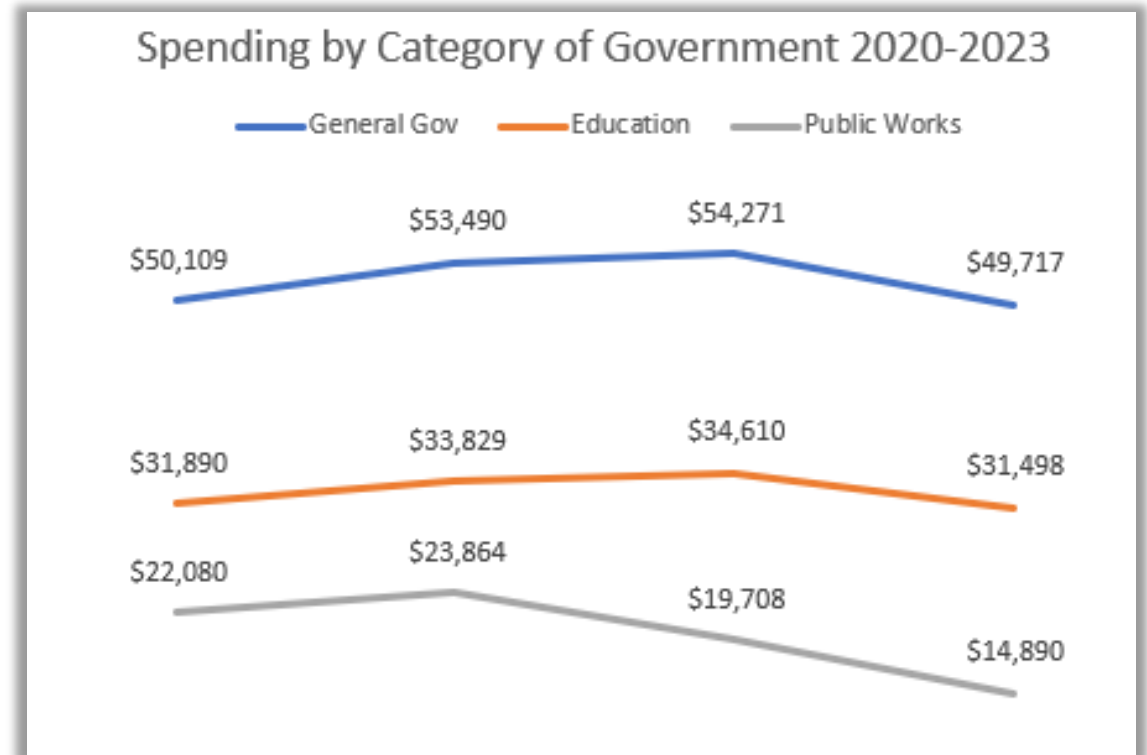
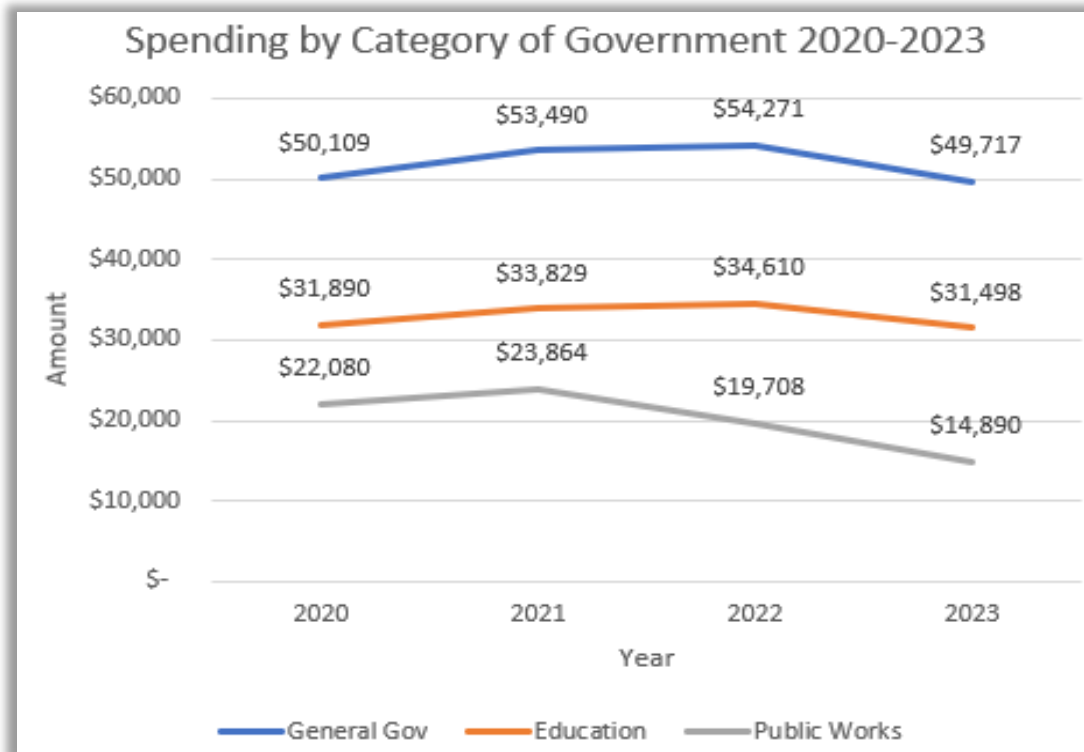
Toggle the Average line Check Box on/off.

Pro Tips for Charts

6 Chart Mistakes to Avoid

Mistake #1: Excessive Labeling

Excessive labeling clutters and distracts from the data.
Label only key data points



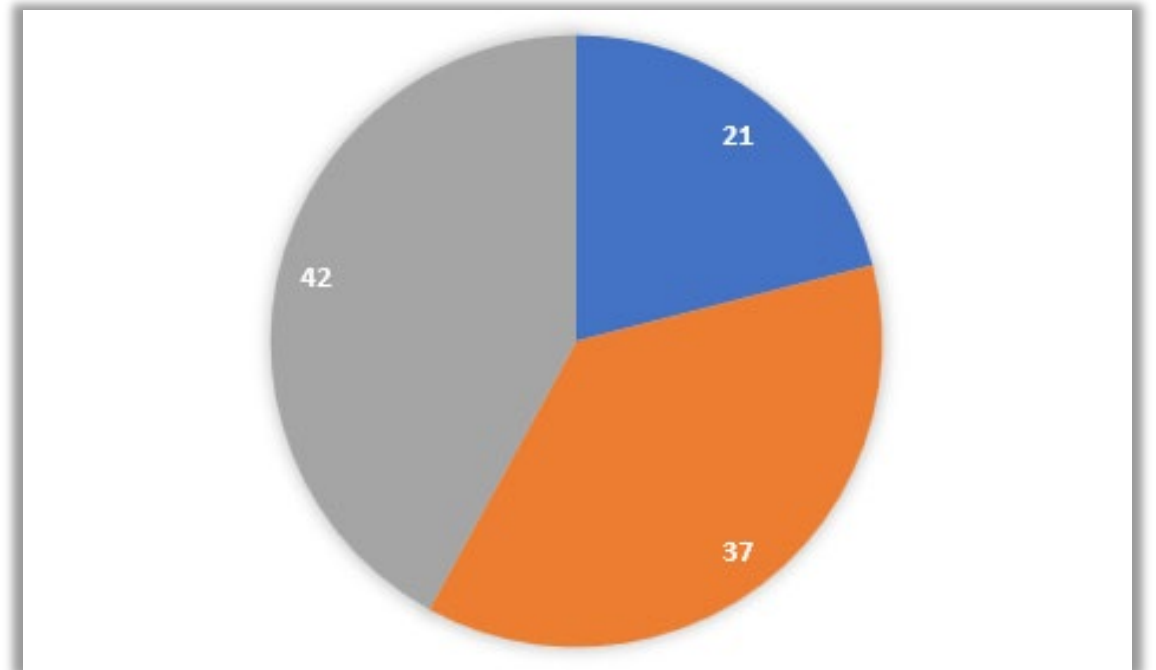
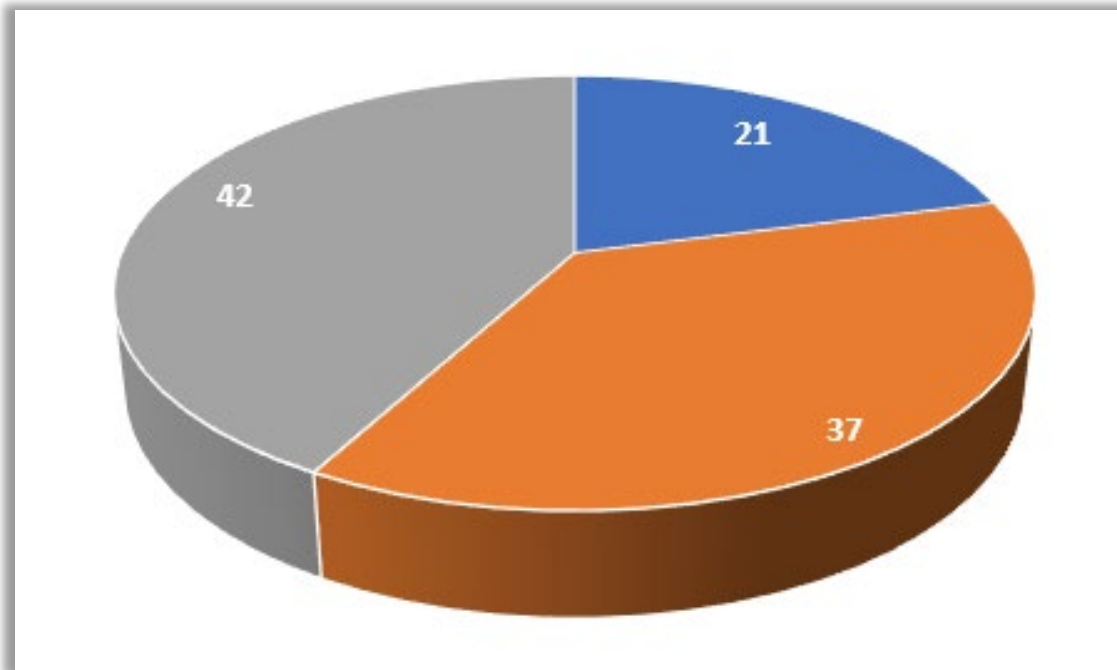
Mistake #2: Dark Backgrounds

Dark backgrounds can distract the viewer from the chart message and don't work well for handouts.



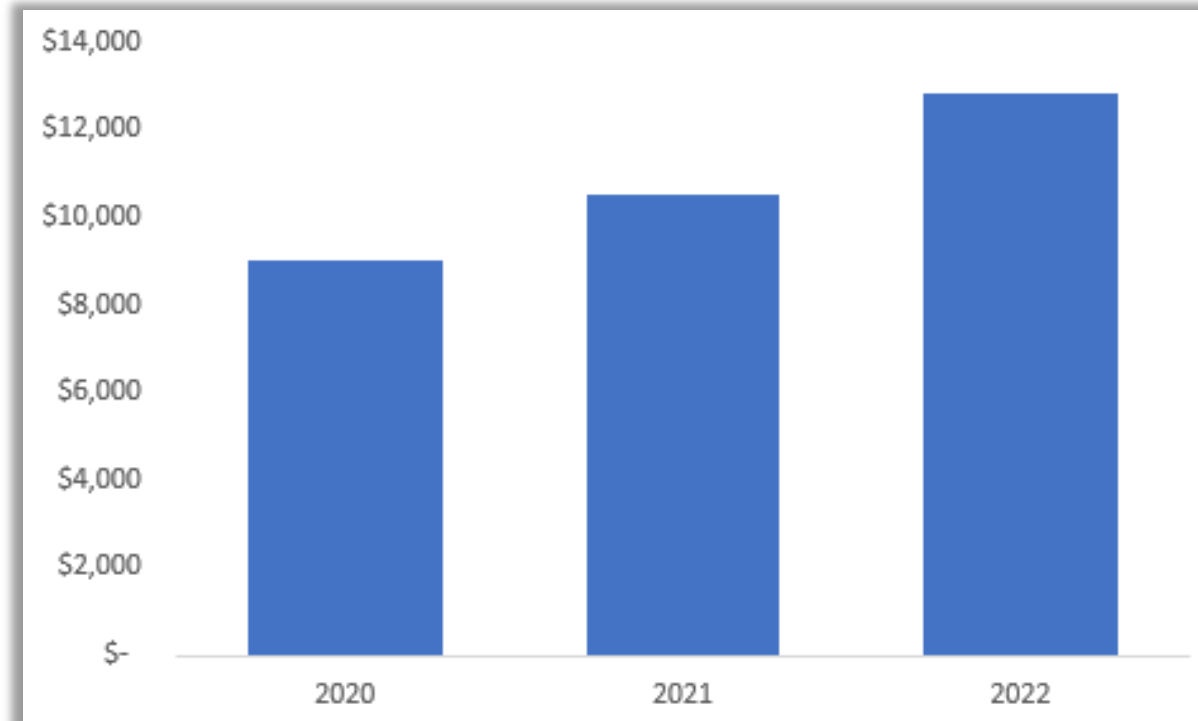
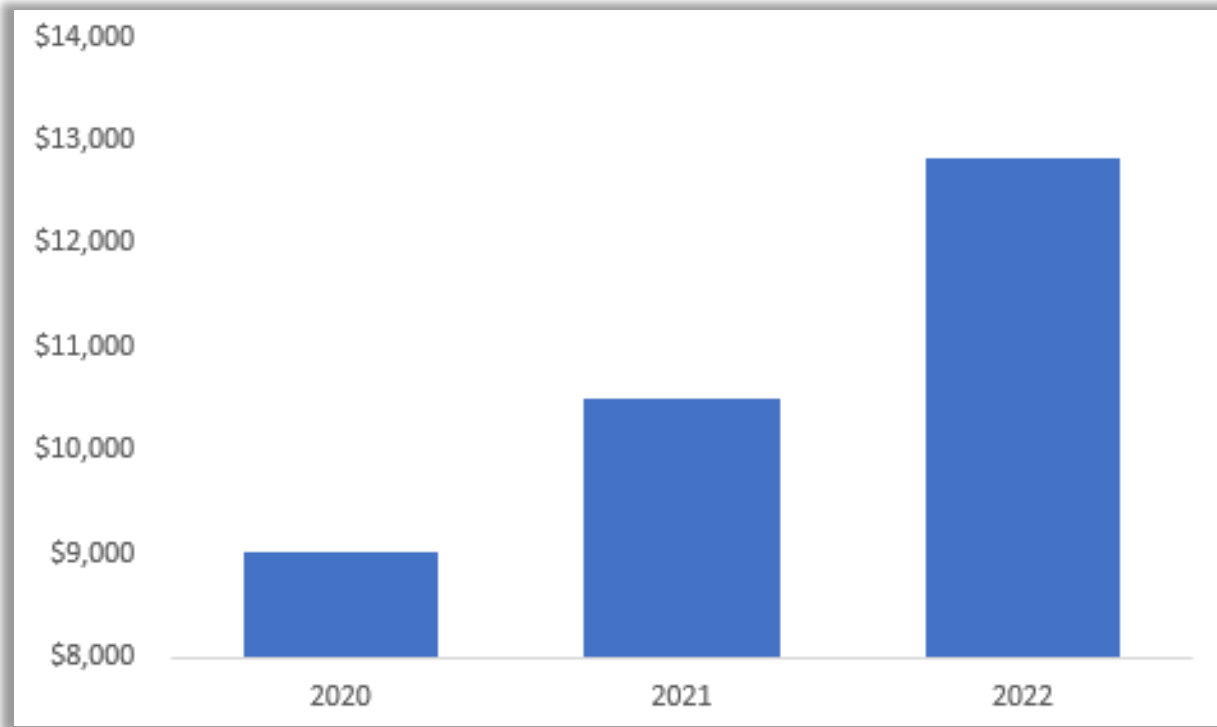
Mistake #3: 3D Effects

3D effects can distort and mislead. Notice the orange segment looks bigger than the gray segment



Mistake #4: Starting Axis Above Zero

Starting the vertical axis above zero in a column chart can distort the truth.



Mistake #5: Angled Axis Labels

You don't want the viewer to have to turn their head to read chart labels. If axis labels don't fit horizontally, use a bar chart.



Mistake #6: Generic Titles

Titles are often wasted on stating the obvious. Consider using the title to communicate the key message instead.

