ADVANCE FEATURES OF EXCEL

CHAPTER-03

Introduction

It can be difficult to interpret Excel workbooks that contain a lot of data. **Charts** allow you to illustrate your workbook data **graphically**, which makes it easy to visualize **comparisons** and **trends**.

Optional: Download our **practice workbook**.

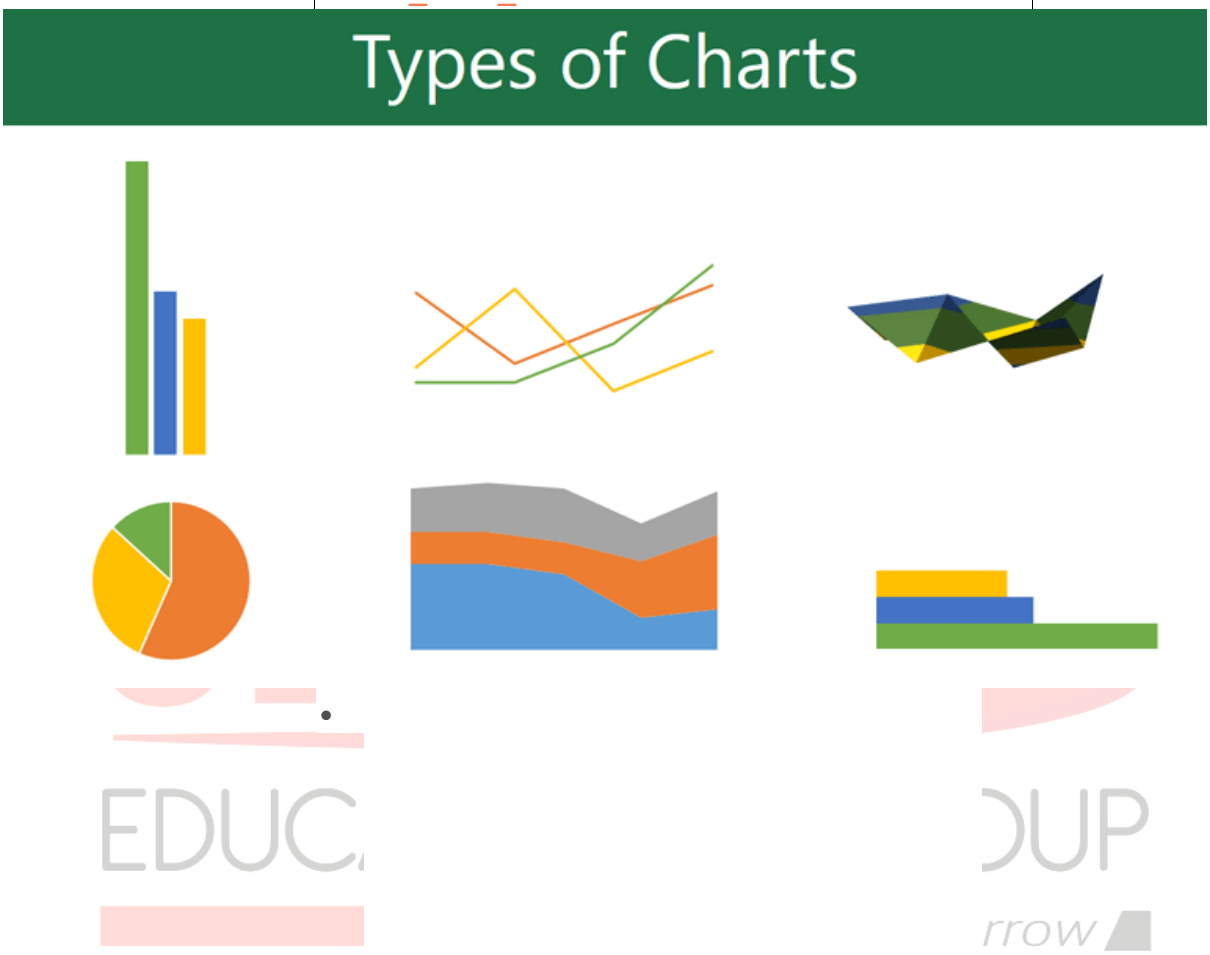
Watch the video below to learn more about charts.

Understanding charts

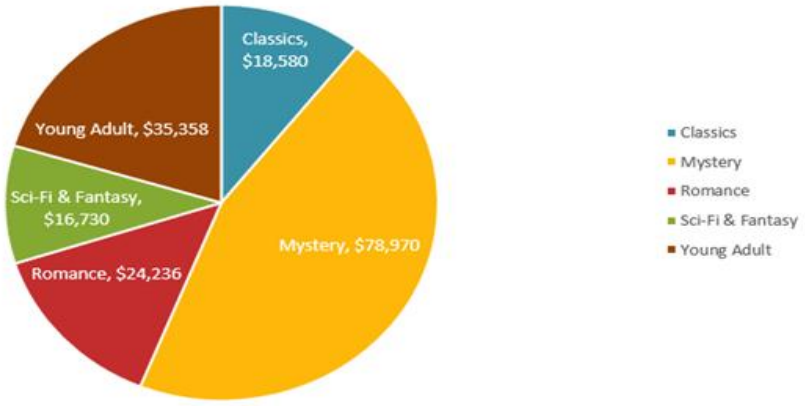
Excel has several different **types of charts**, allowing you to choose the one that best fits your data. In order to use charts effectively, you'll need to understand how different charts are used.

Click the arrows in the slideshow below to learn more about the types of charts in Excel.

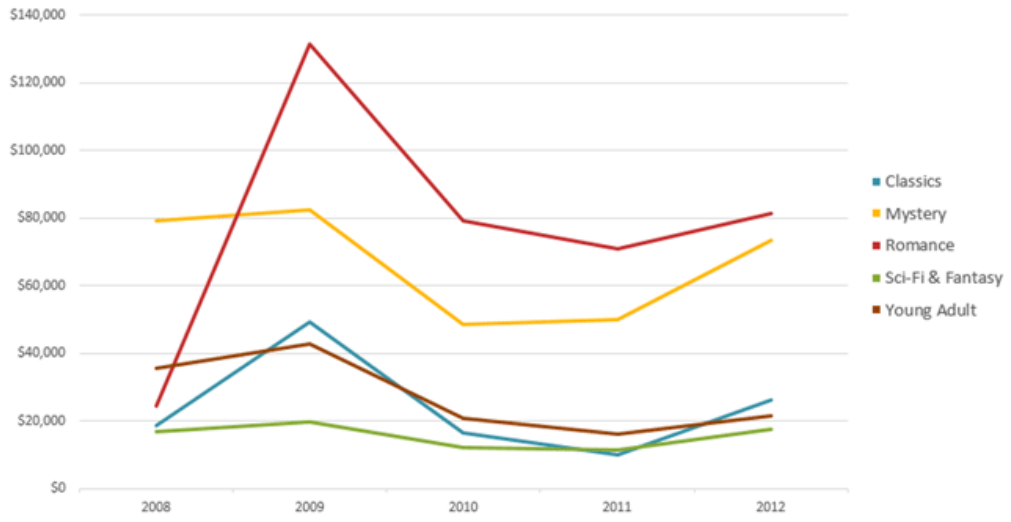
arrow_back_ios



Pie



Line



Excel has a variety of chart types, each with its own advantages. Click the arrows to see some of the different types of charts available in Excel.

Column charts use vertical bars to represent data. They can work with many different types of data, but they're most frequently used for comparing information.

Line charts are ideal for showing trends. The data points are connected with lines, making it easy to see whether values are increasing or decreasing over time.

Pie charts make it easy to compare proportions. Each value is shown as a slice of the pie, so it's easy to see which values make up the percentage of a whole.

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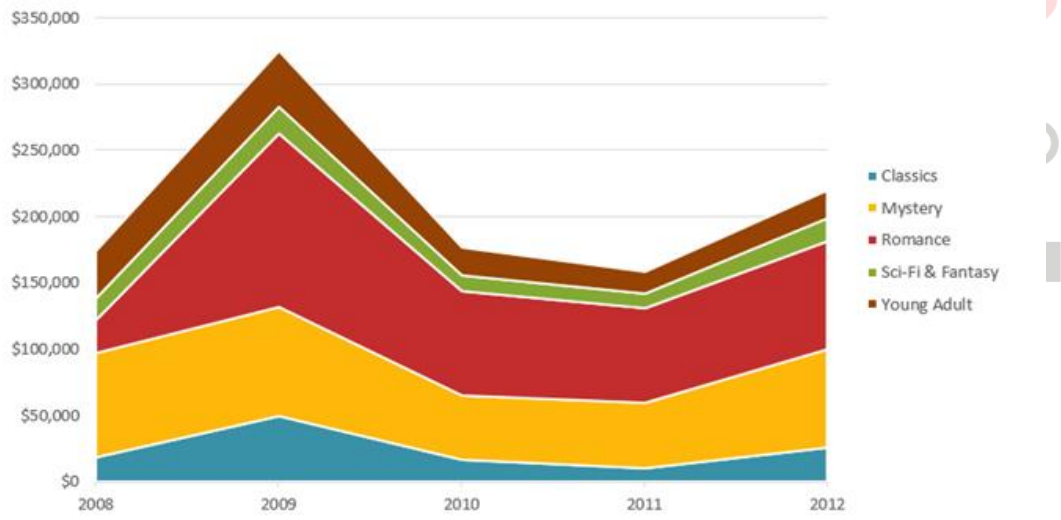
Bar

Area



Bar charts work just like column charts, but they use horizontal rather than vertical bars.

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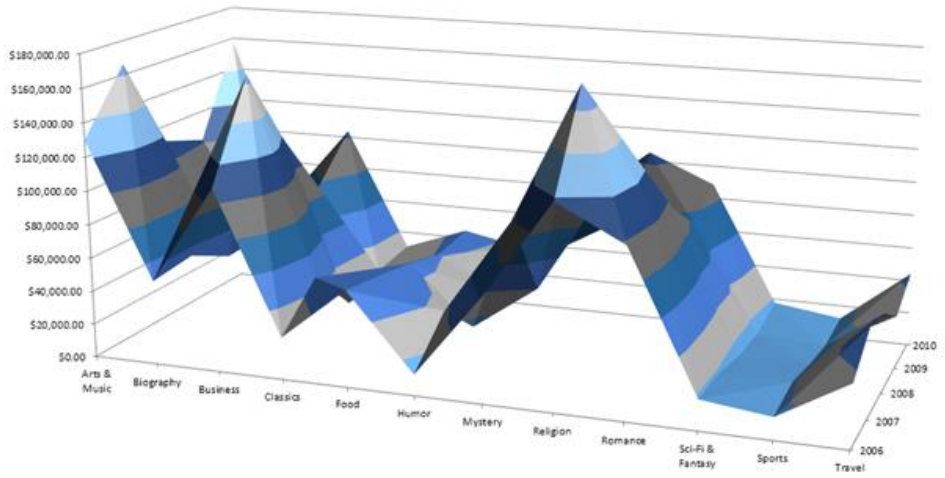
Area charts are similar to line charts, except the areas under the lines are filled in.

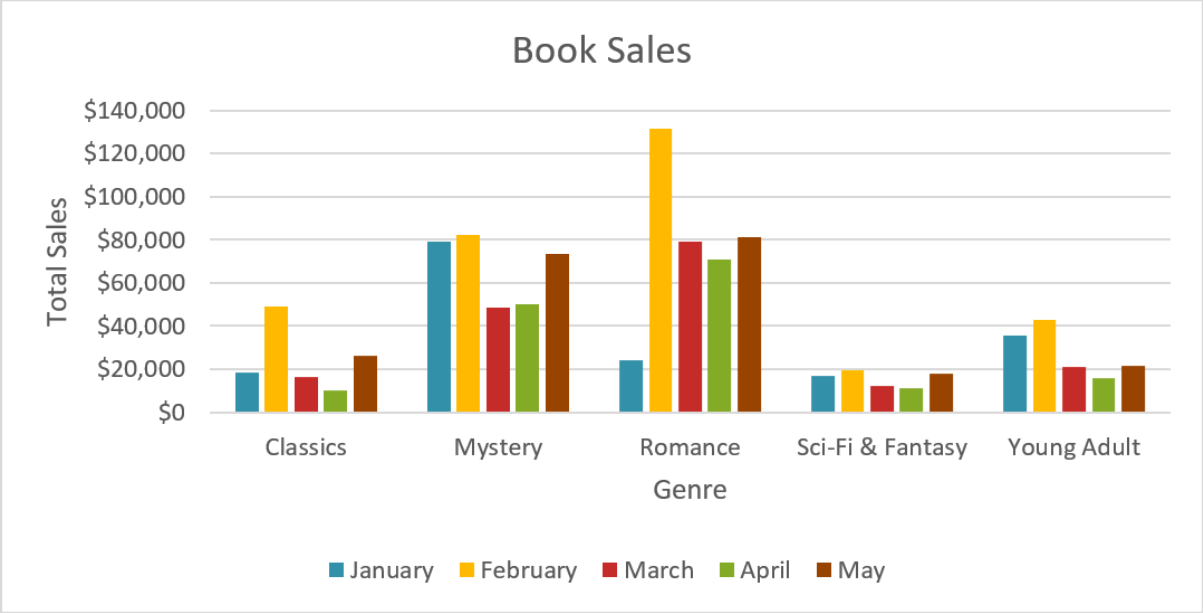
Surface



- Surface charts allow you to display data across a 3D landscape. They work best with large data sets, allowing you to see a variety of information at the same time.

In addition to chart types, you'll need to understand how to **read a chart**. Charts contain several different elements, or parts, that can help you interpret the data.

Click the buttons in the interactive below to learn about the different parts of a chart.



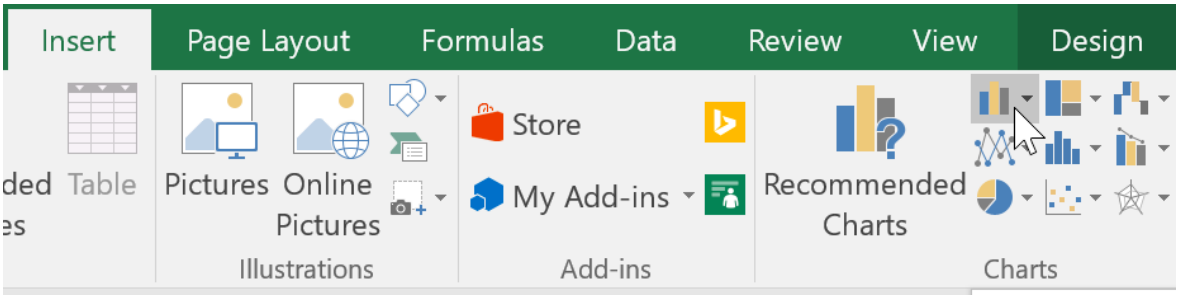
To insert a chart:

1. Select the **cells** you want to chart, including the **column titles** and **row labels**. These cells will be the source data for the chart. In our example, we'll select cells A1:F6.

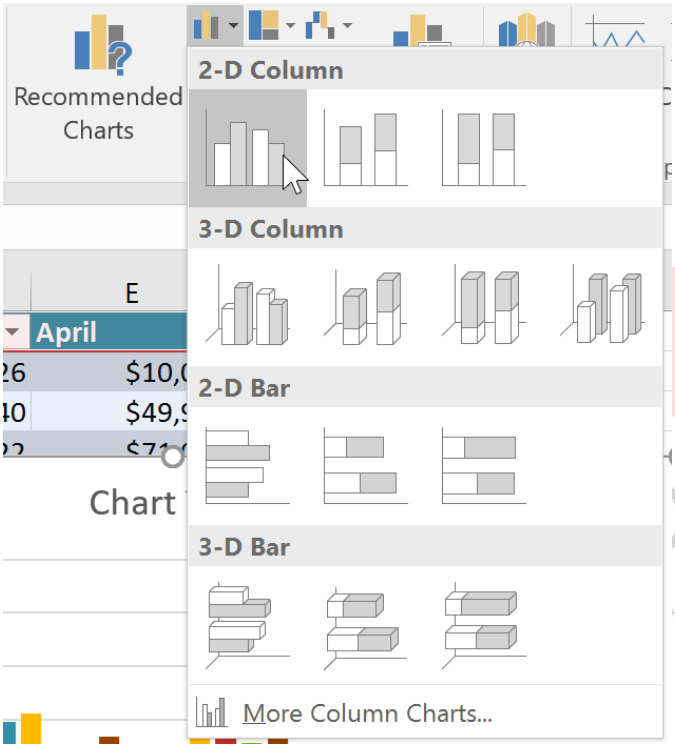
2. From the **Insert** tab, click the

	A	B	C	D	E	F	G
1	Genre	January	February	March	April	May	
2	Classics	$18,580	$49,225	$16,326	$10,017	$26,134	
3	Mystery	$78,970	$82,262	$48,640	$49,985	$73,428	
4	Romance	$24,236	$131,390	$79,022	$71,009	$81,474	
5	Sci-Fi & Fantasy	$16,730	$19,730	$12,109	$11,355	$17,686	
6	Young Adult	$35,358	$42,685	$20,893	$16,065	$21,388	
7							
8							

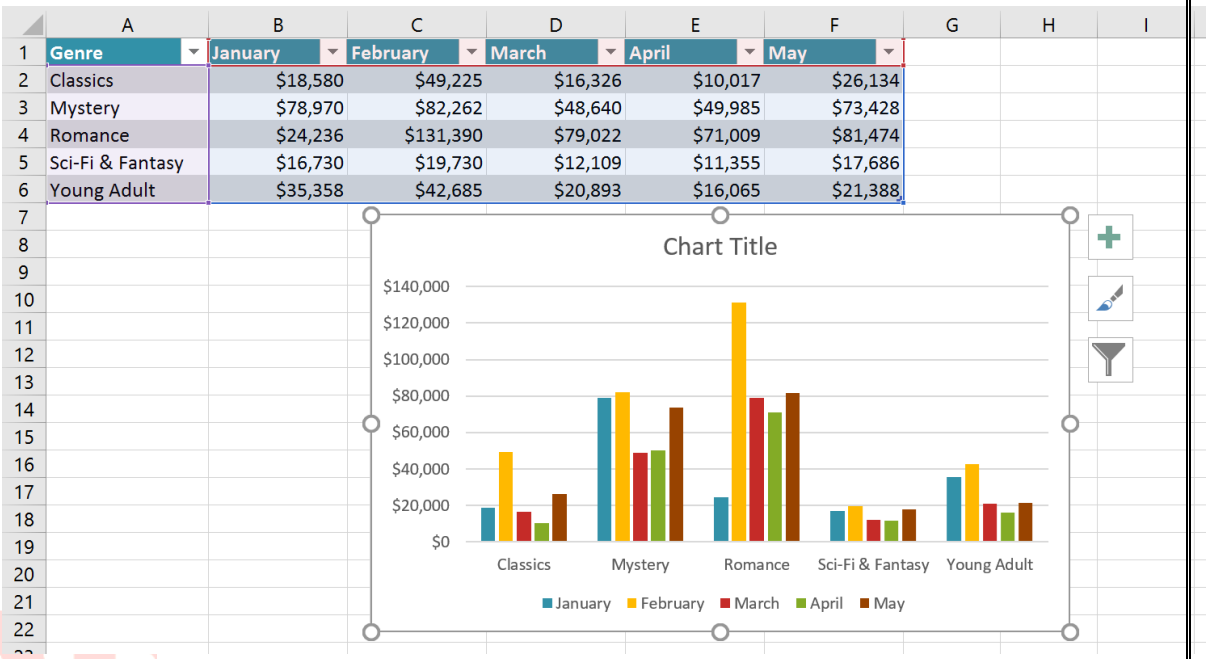
desired **Chart** command. In our example, we'll select **Column**.



3. Choose the desired **chart type** from the drop-down menu.



4. The Selected chart will be inserted into the worksheet.



	Genre	January	February	March	April	May
2	Classics	$18,580	$49,225	$16,326	$10,017	$26,134
3	Mystery	$78,970	$82,262	$48,640	$49,985	$73,428
4	Romance	$24,236	$131,390	$79,022	$71,009	$81,474
5	Sci-Fi & Fantasy	$16,730	$19,730	$12,109	$11,355	$17,686
6	Young Adult	$35,358	$42,685	$20,893	$16,065	$21,388

If you're not sure which type of chart to use, the **Recommended Charts** command will suggest several different charts based on the source data.

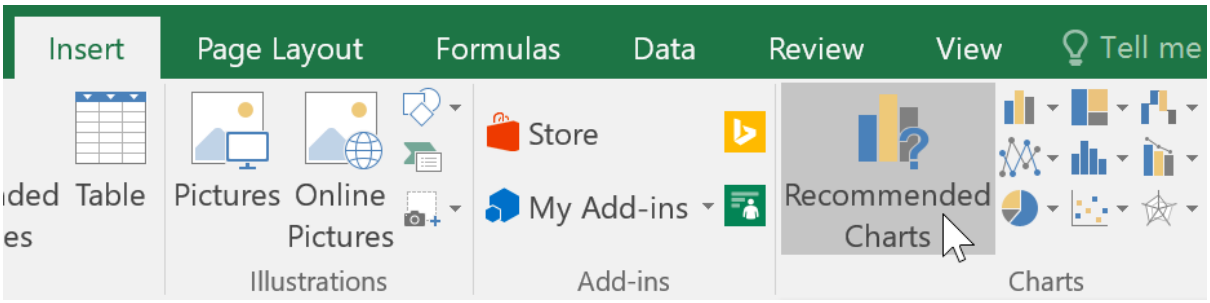
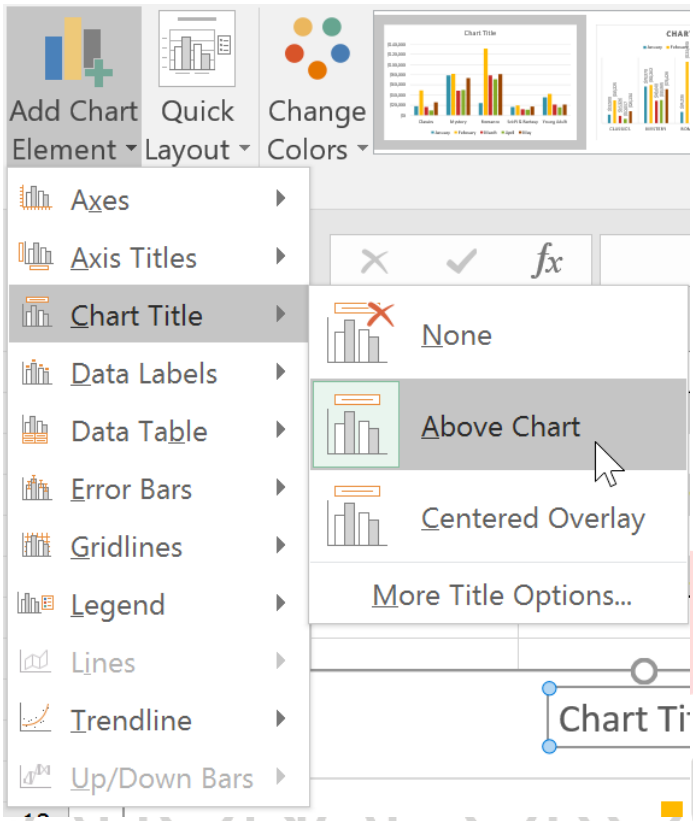


Chart and layout style

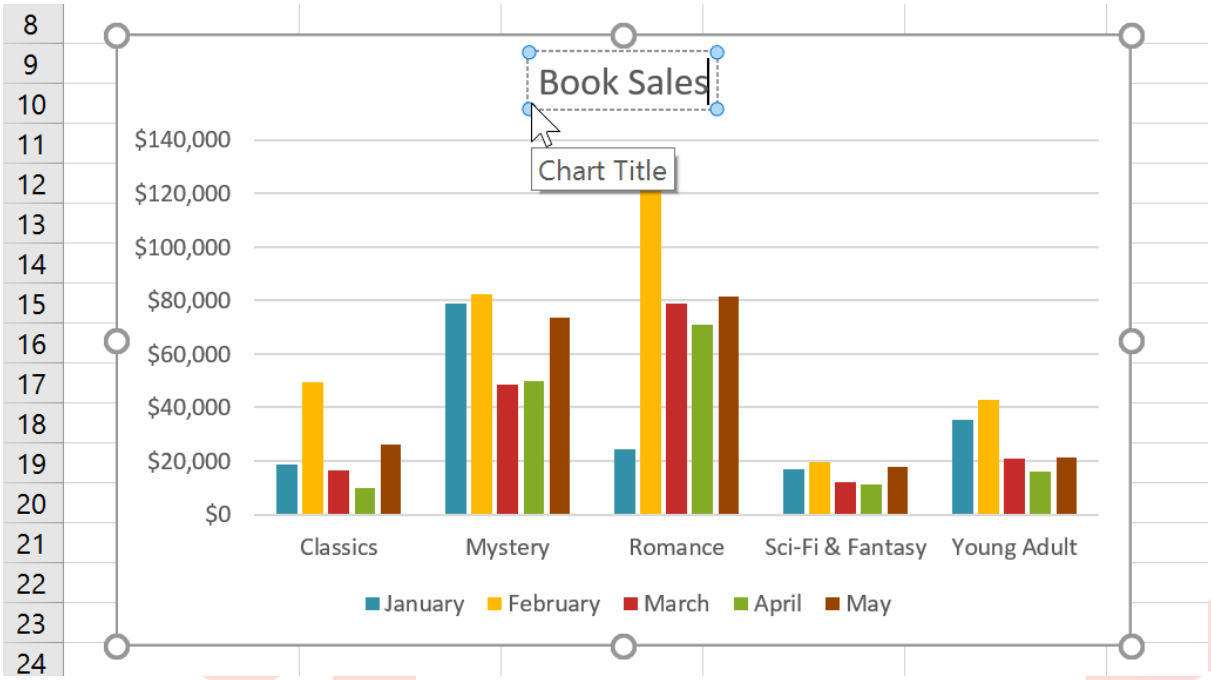
After inserting a chart, there are several things you may want to change about the way your data is displayed. It's easy to edit a chart's **layout** and **style** from the **Design** tab.

- Excel allows you to add **chart elements**—such as **chart titles**, **legends**, and **data labels**—to make your chart easier to read.

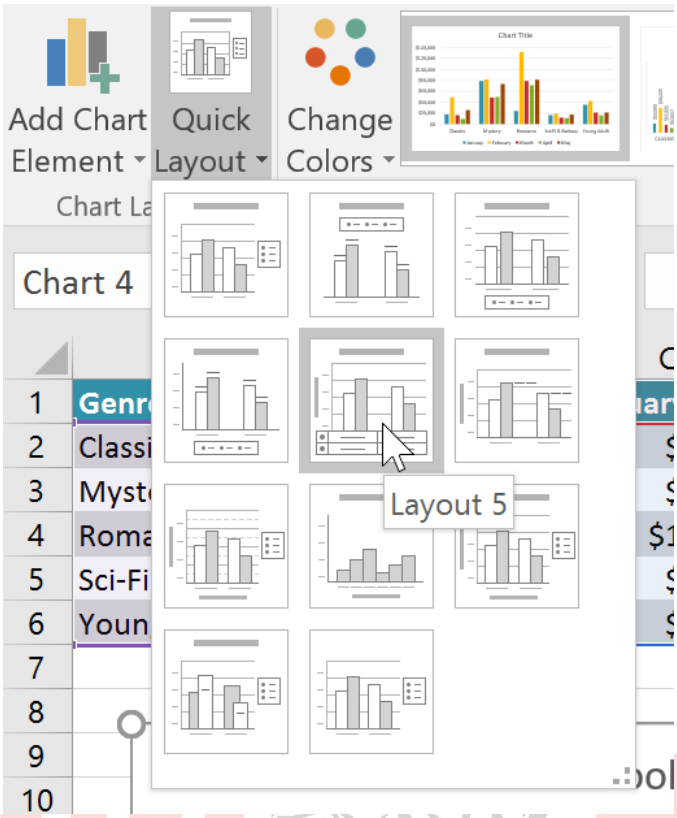
To add a chart element, click the **Add Chart Element** command on the **Design** tab, then choose the **desired element** from the drop-down menu.



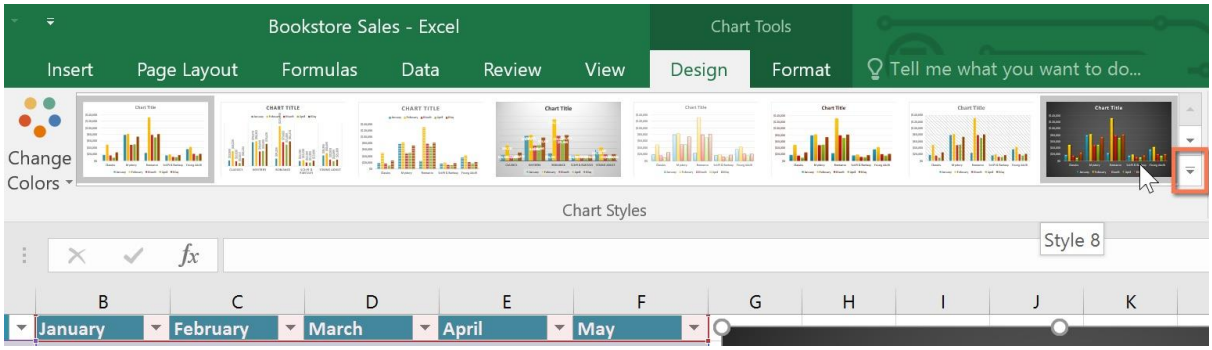
- To **edit** a chart element, like a **chart title**, simply double-click the **placeholder** and begin typing.



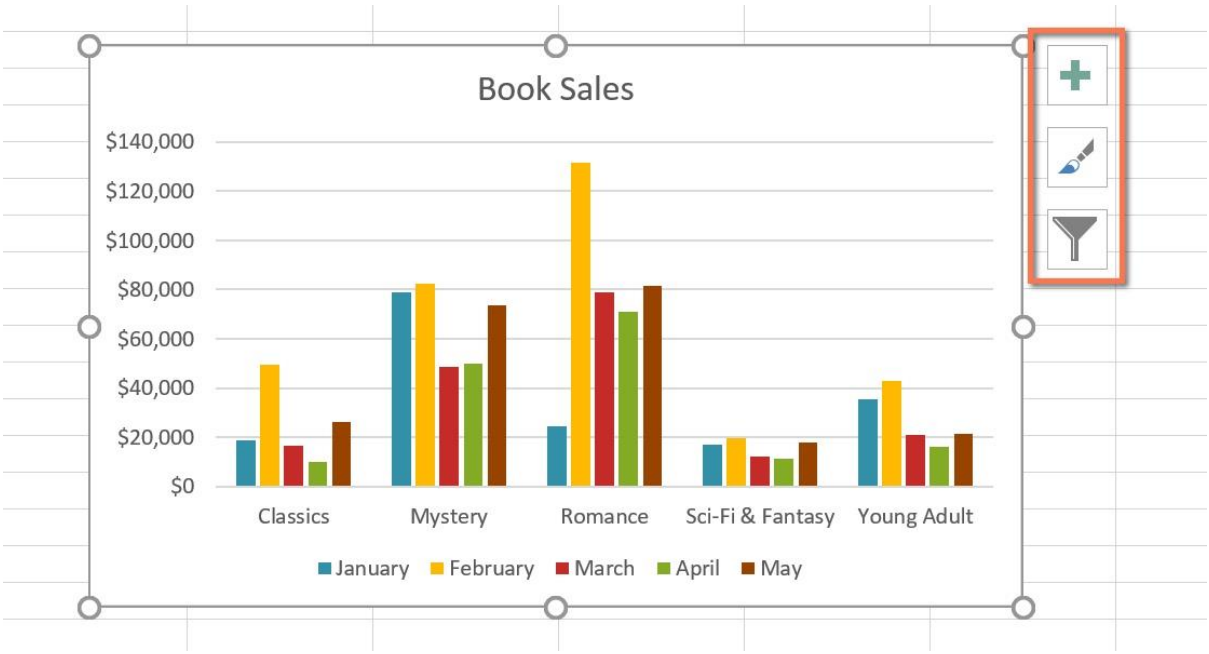
- If you don't want to add chart elements individually, you can use one of Excel's predefined layouts. Simply click the **Quick Layout** command, then choose the **desired layout** from the drop-down menu.



- Excel also includes several **chart styles**, which allow you to quickly modify the look and feel of your chart. To change the chart style, select the **desired style** from the **Chart styles** group. You can also click the drop-down arrow on the right to see more styles.



You can also use the chart formatting shortcut buttons to quickly **add chart elements**, change the **chart style**, and **filter** the chart data.

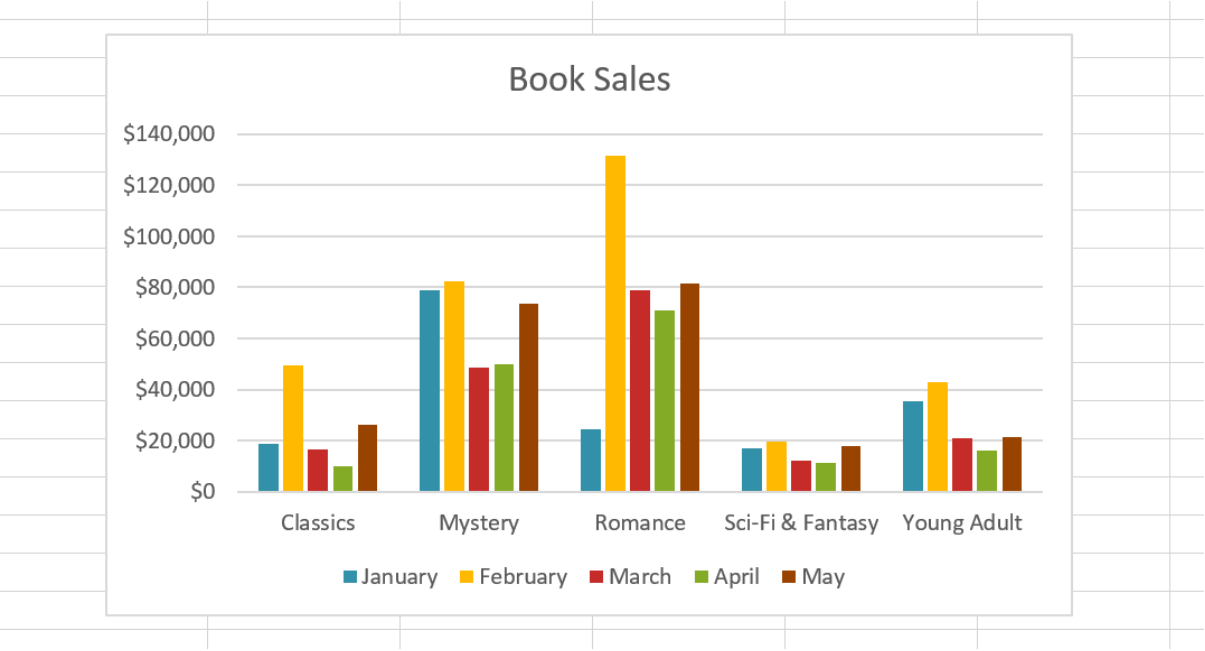


Other chart options

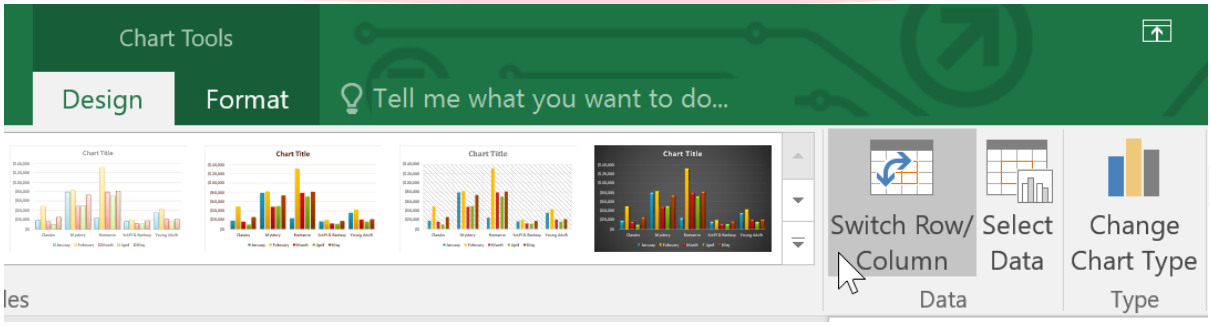
There are many other ways to customize and organize your charts. For example, Excel allows you to **rearrange** a chart's data, change the **chart type**, and even **move** the chart to a different location in a workbook.

To switch row and column data:

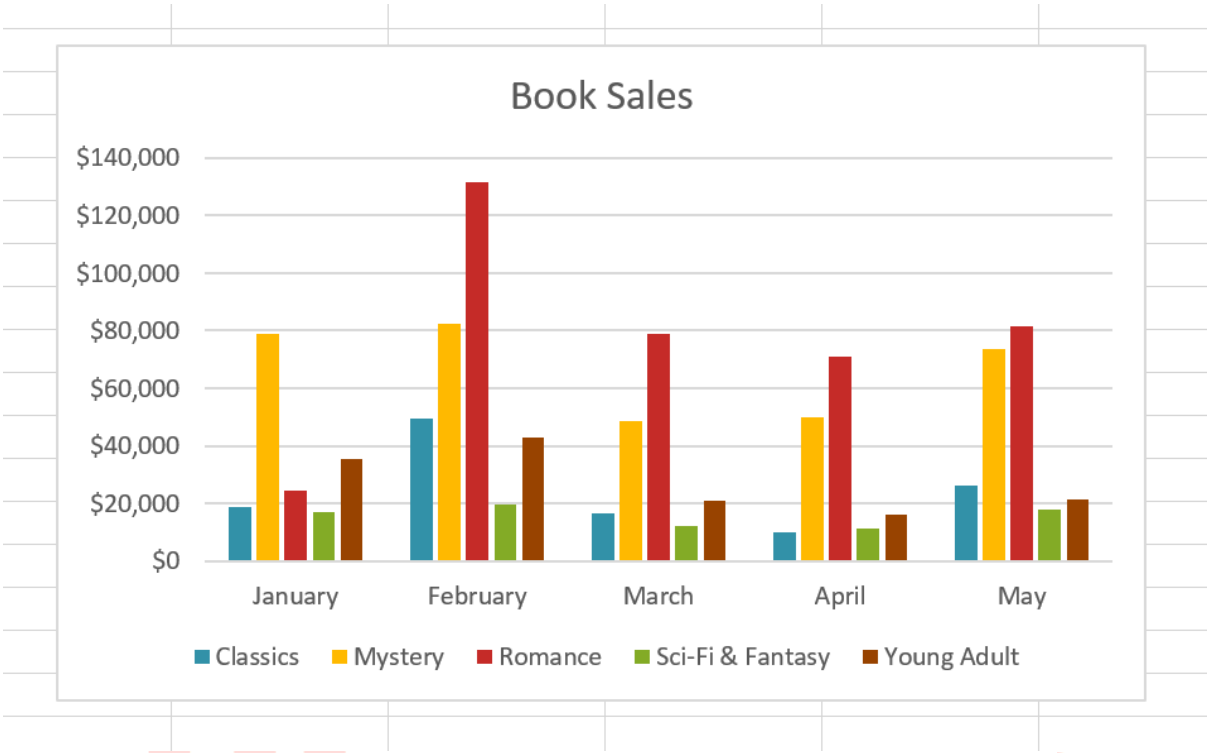
Sometimes you may want to change the way charts **group** your data. For example, in the chart below Book Sales data is grouped **by genre**, with columns for **each month**. However, we could switch the rows and columns so the chart will group the data **by month**, with columns for **each genre**. In both cases, the chart contains the same data—it's just organized differently.



1. Select the **chart** you want to modify.
2. From the **Design** tab, select the **Switch Row/Column** command.



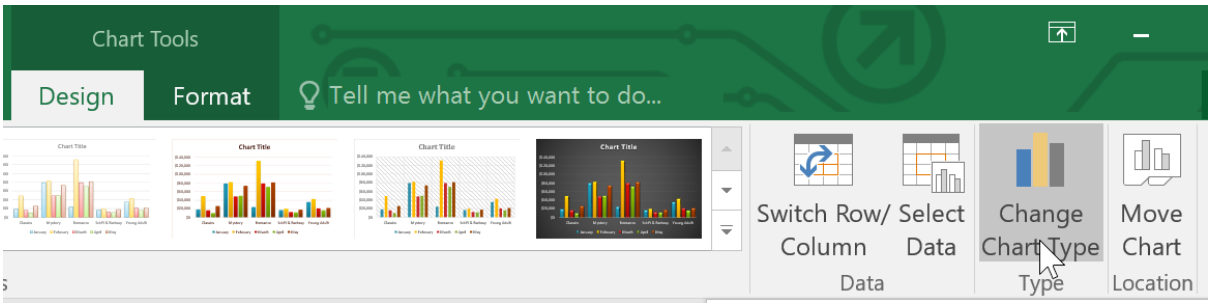
3. The rows and columns will be **switched**. In our example, the data is now grouped by month, with columns for each genre.



To change the chart type:

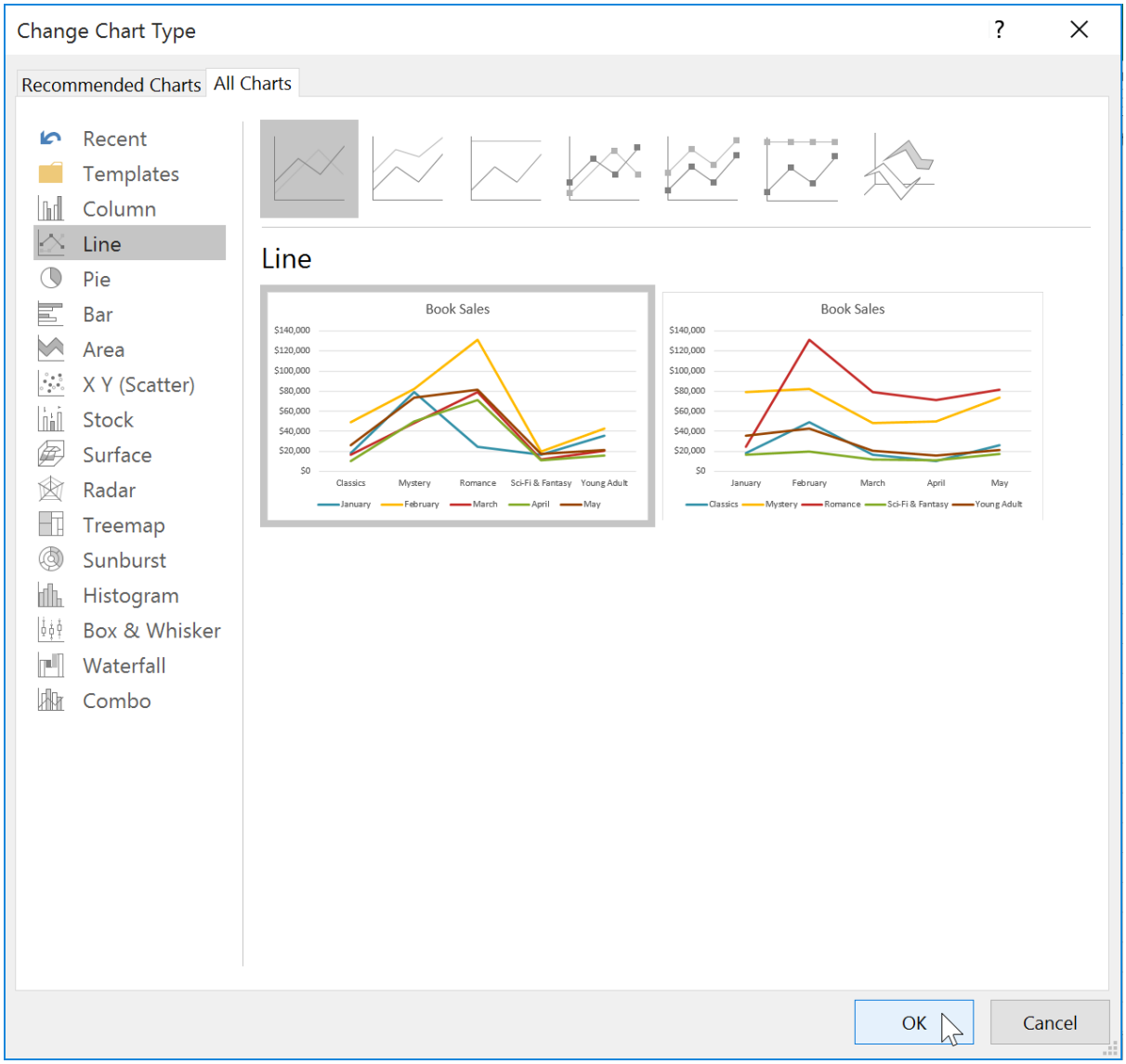
If you find that your data isn't well suited to a certain chart, it's easy to switch to a new chart type. In our example, we'll change our chart from a column chart to a line chart.

1. From the **Design** tab, click the **Change Chart Type** command.



2. The **Change Chart Type** dialog box will appear. Select a new chart **type** and **layout**,

then click **OK**. In our example, we'll choose a **Line** chart.

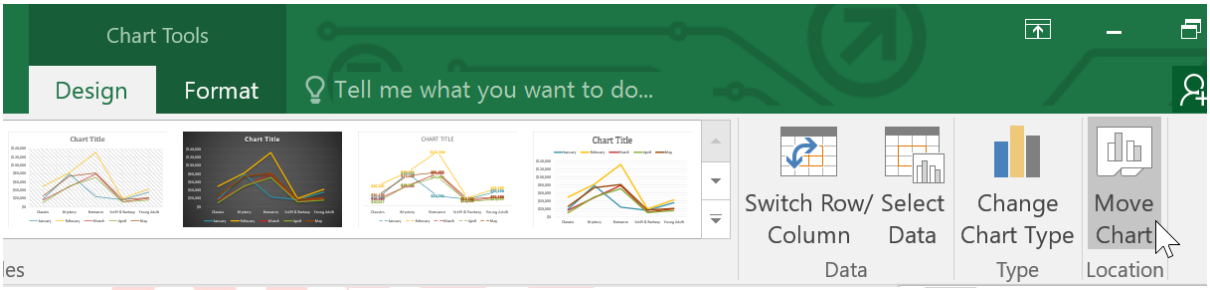


3. The selected chart type will appear. In our example, the line chart makes it easier to see trends in sales data over time.

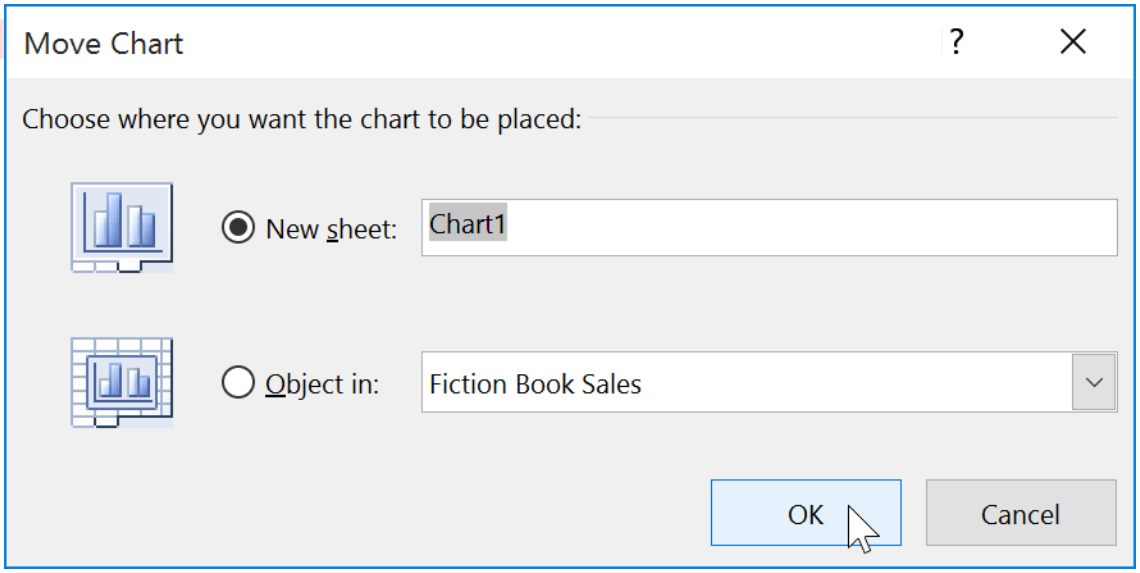
To move a chart:

Whenever you insert a new chart, it will appear as an object on the same worksheet that contains its source data. Alternatively, you can **move** the chart to a **new worksheet** to help keep your data organized.

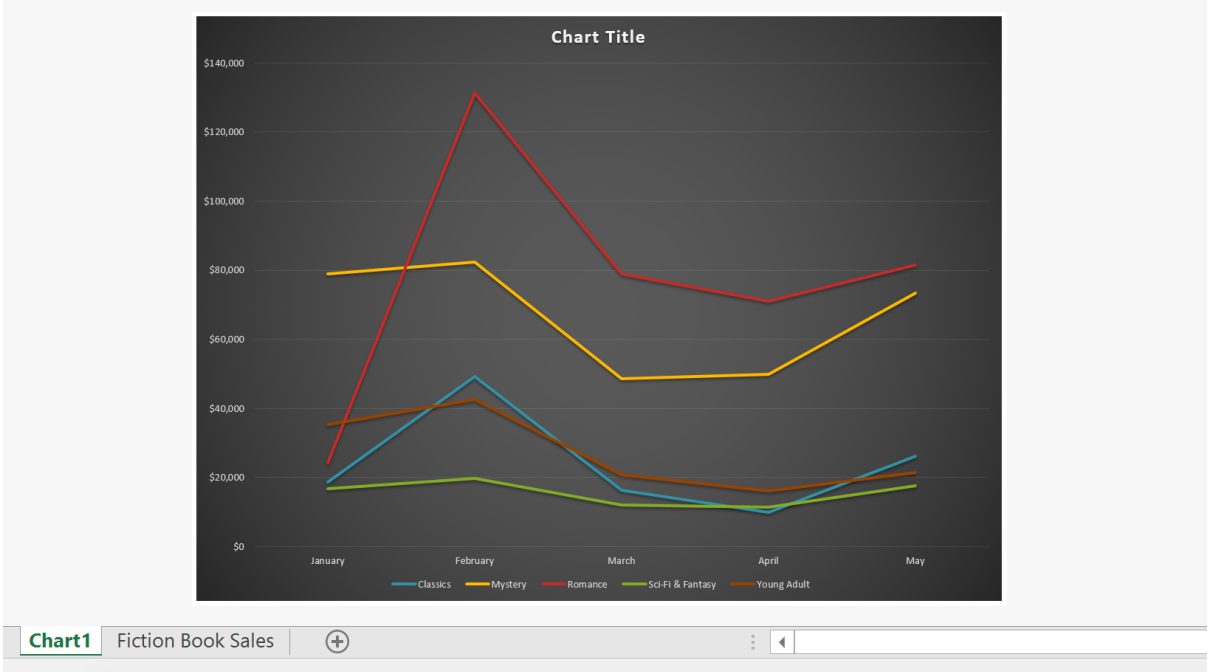
1. Select the **chart** you want to move.
2. Click the **Design** tab, then select the **Move Chart** command.



3. The **Move Chart** dialog box will appear. Select the **desired location** for the chart. In our example, we'll choose to move it to a **New sheet**, which will create a new worksheet.
4. Click **OK**.



5. The chart will appear in the selected location. In our example, the chart now appears on a new worksheet.



Keeping charts up to date

By default, when you add more data to your spreadsheet, the chart may not include the new data. To fix this, you can adjust the **data range**. Simply click the chart, and it will highlight the data range in your spreadsheet. You can then click and drag the **handle** in the lower-right corner to change the data range.

B	C	D	E	F
January	**February**	**March**	**April**	**May**
$18,580	$49,225	$16,326	$10,017	$26,134
$78,970	$82,262	$48,640	$49,985	$73,428
$24,236	$131,390	$79,022	$71,009	$81,474
$16,730	$19,730	$12,109	$11,355	$17,686
$35,358	$42,685	$20,893	$16,065	$21,388

If you frequently add more data to your spreadsheet, it may become tedious to update the data range. Luckily, there is an easier way. Simply format your source data as a **table**, then create a **chart based on that table**. When you add more data below the table, it will automatically be included in both the table and the chart, keeping everything consistent and up to date.

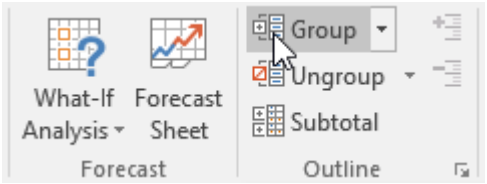
Watch the video below to learn how to use tables to keep charts up to date.

To group rows or columns:

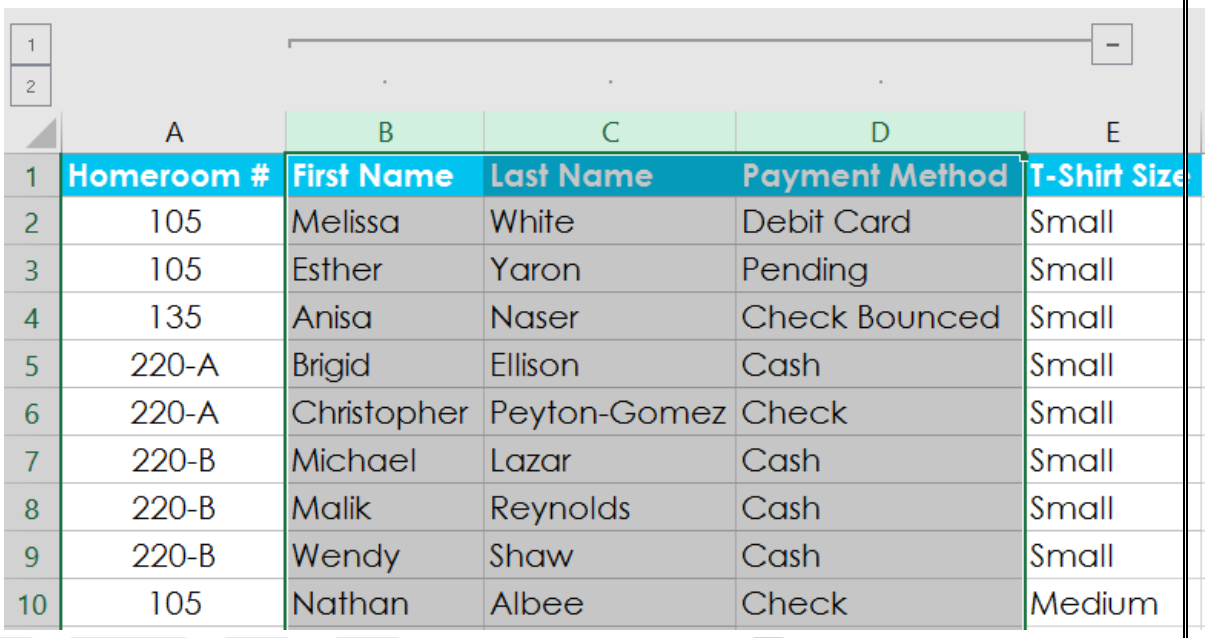
1. Select the **rows** or **columns** you want to group. In this example, we'll select columns **B**, **C**, and **D**.

	A	B	C	D	E
1	Homeroom #	First Name	Last Name	Payment Method	T-Shirt Size
2	105	Melissa	White	Debit Card	Small
3	105	Esther	Yaron	Pending	Small
4	135	Anisa	Naser	Check Bounced	Small
5	220-A	Brigid	Ellison	Cash	Small
6	220-A	Christopher	Peyton-Gomez	Check	Small
7	220-B	Michael	Lazar	Cash	Small
8	220-B	Malik	Reynolds	Cash	Small
9	220-B	Wendy	Shaw	Cash	Small
10	105	Nathan	Albee	Check	Medium

2. Select the **Data** tab on the **Ribbon**, then click the **Group** command.

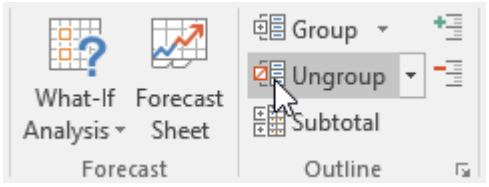


3. The selected rows or columns will be **grouped**. In our example, columns **B**, **C**, and **D** are grouped.



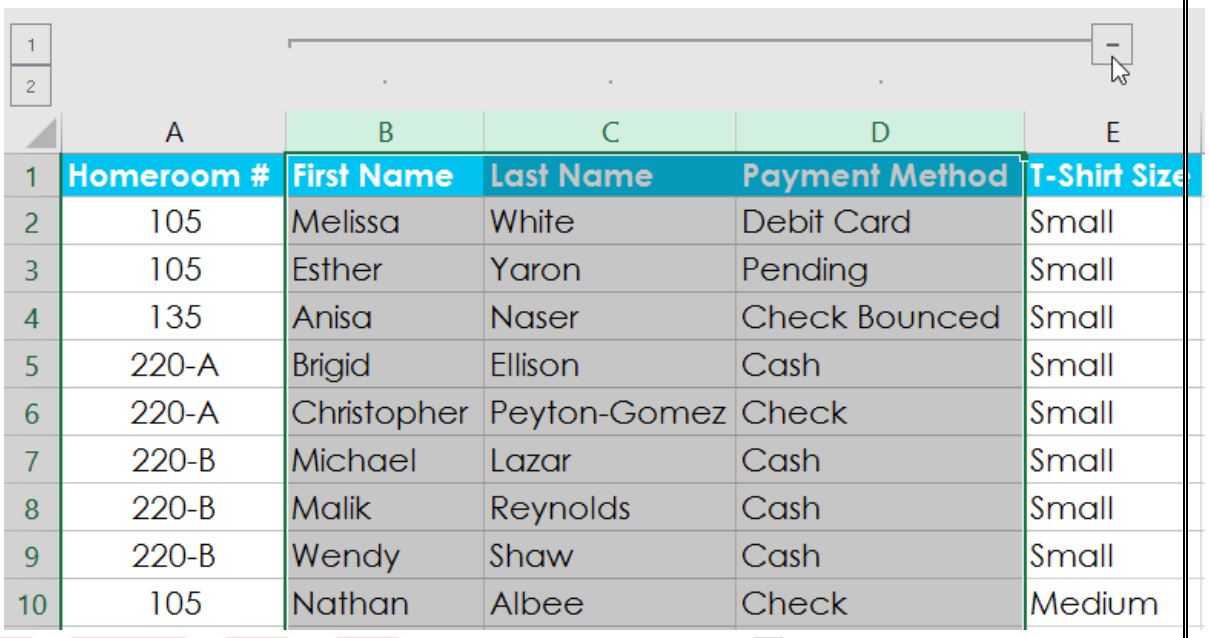
	A	B	C	D	E
1	Homeroom #	First Name	Last Name	Payment Method	T-Shirt Size
2	105	Melissa	White	Debit Card	Small
3	105	Esther	Yaron	Pending	Small
4	135	Anisa	Naser	Check Bounced	Small
5	220-A	Brigid	Ellison	Cash	Small
6	220-A	Christopher	Peyton-Gomez	Check	Small
7	220-B	Michael	Lazar	Cash	Small
8	220-B	Malik	Reynolds	Cash	Small
9	220-B	Wendy	Shaw	Cash	Small
10	105	Nathan	Albee	Check	Medium

To **ungroup** data, select the grouped rows or columns, then click the **Ungroup** command.



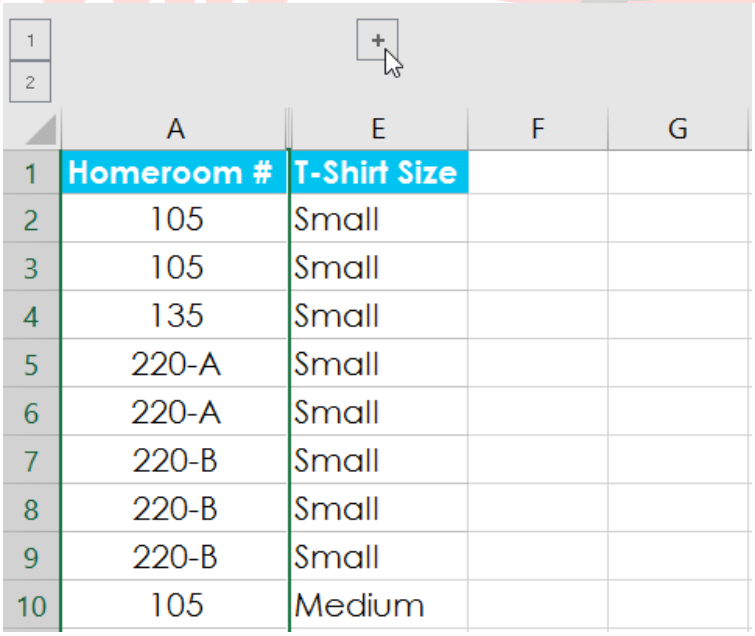
To hide and show groups:

1. To hide a group, click the minus sign, also known as the **Hide Detail** button.



	A	B	C	D	E
1	Homeroom #	First Name	Last Name	Payment Method	T-Shirt Size
2	105	Melissa	White	Debit Card	Small
3	105	Esther	Yaron	Pending	Small
4	135	Anisa	Naser	Check Bounced	Small
5	220-A	Brigid	Ellison	Cash	Small
6	220-A	Christopher	Peyton-Gomez	Check	Small
7	220-B	Michael	Lazar	Cash	Small
8	220-B	Malik	Reynolds	Cash	Small
9	220-B	Wendy	Shaw	Cash	Small
10	105	Nathan	Albee	Check	Medium

2. The group will be **hidden**. To show a hidden group, click the plus sign, also known as the **Show Detail** button.



	A	E	F	G
1	Homeroom #	T-Shirt Size		
2	105	Small		
3	105	Small		
4	135	Small		
5	220-A	Small		
6	220-A	Small		
7	220-B	Small		
8	220-B	Small		
9	220-B	Small		
10	105	Medium		

Creating subtotals

The **Subtotal** command allows you to automatically **create groups** and use common functions like SUM, COUNT, and AVERAGE to help **summarize** your data. For example, the **Subtotal** command could help to calculate the cost of office

supplies by type from a large inventory order. It will create a hierarchy of groups, known as an **outline**, to help organize your worksheet.

Your data must be correctly **sorted** before using the Subtotal command, so you may want to review our lesson on Sorting Data to learn more.

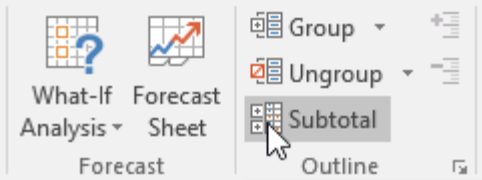
To create a subtotal:

In our example, we'll use the Subtotal command with a T-shirt order form to determine how many T-shirts were ordered in each size (Small, Medium, Large, and X-Large). This will create an **outline** for our worksheet with a **group** for each T-shirt size and then **count** the total number of shirts in each group.

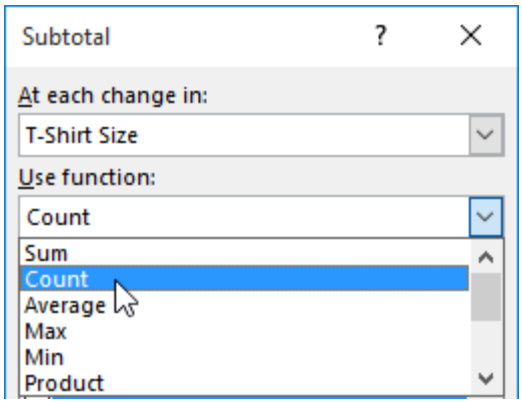
1. First, **sort** your worksheet by the data you want to subtotal. In this example, we'll create a subtotal for each T-shirt size, so our worksheet has been sorted by T-shirt size from smallest to largest.

	A	B	C	D	E
1	Homeroom #	First Name	Last Name	Payment Method	T-Shirt Size
2	105	Melissa	White	Debit Card	Small
3	105	Esther	Yaron	Pending	Small
4	135	Anisa	Naser	Check Bounced	Small
5	220-A	Brigid	Ellison	Cash	Small
6	220-A	Christopher	Peyton-Gomez	Check	Small
7	220-B	Michael	Lazar	Cash	Small
8	220-B	Malik	Reynolds	Cash	Small
9	220-B	Wendy	Shaw	Cash	Small
10	105	Nathan	Albee	Check	Medium
11	105	Christiana	Chen	Check Bounced	Medium
12	105	Sidney	Kelly	Check	Medium
13	110	Matt	Benson	Money Order	Medium
14	110	Gabriel	Del Toro	Cash	Medium

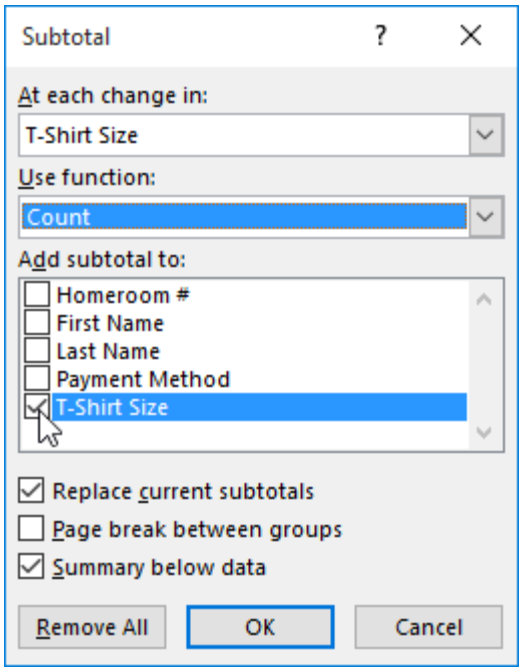
2. Select the **Data** tab, then click the **Subtotal** command.



3. The **Subtotal** dialog box will appear. Click the drop-down arrow for the **At each change in:** field to select the **column** you want to subtotal. In our example, we'll select **T-Shirt Size**.
4. Click the drop-down arrow for the **Use function:** field to select the **function** you want to use. In our example, we'll select **COUNT** to count the number of shirts ordered in each size.



5. In the **Add subtotal to:** field, select the **column** where you want the **calculated subtotal** to appear. In our example, we'll select **T-Shirt Size**. When you're satisfied with your selections, click **OK**.



6. The worksheet will be **outlined** into **groups**, and the **subtotal** will be listed below each group. In our example, the data is now grouped by T-shirt size, and the number of shirts ordered in that size appears below each group.