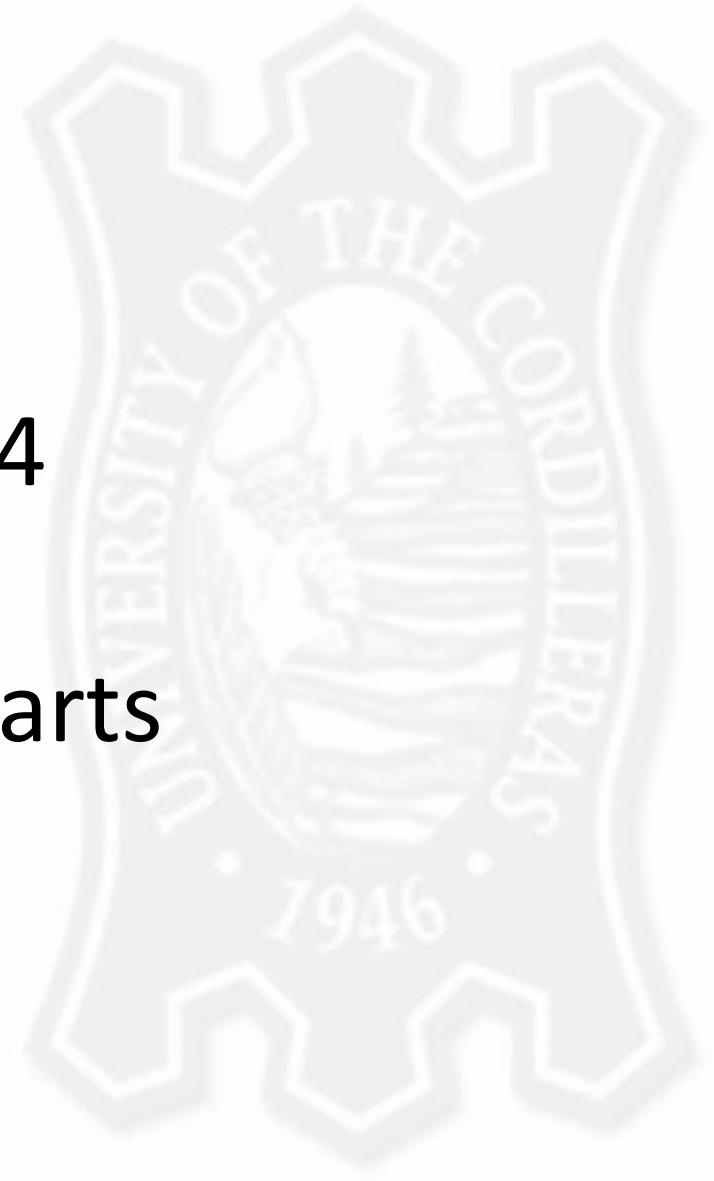


Excel Tutorial 4

Working with Charts and Graphics



**College of
Information Technology
and Computer Science**

**CENTER OF EXCELLENCE
in Information Technology**

Objectives

- Create an embedded chart
- Work with chart titles and legends
- Create and format a pie chart
- Work with 3D charts
- Create and format a column chart

Objectives

- Create and format a line chart
- Use custom formatting with chart axes
- Work with tick marks and scale values
- Create and format a combined chart
- Insert and format a graphic shape
- Create a chart sheet

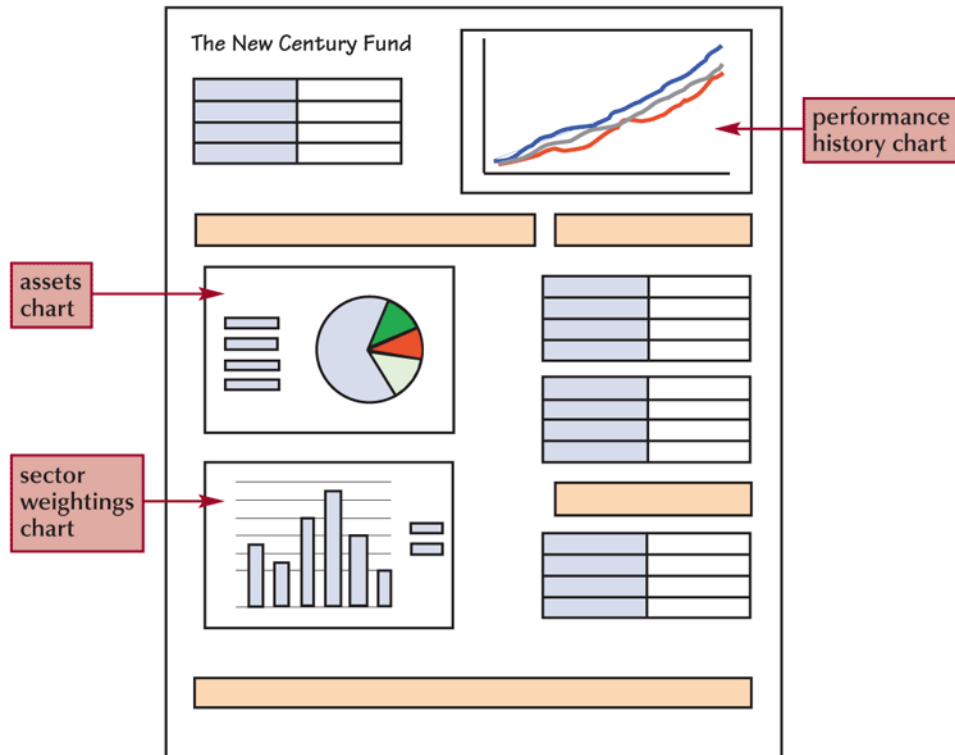
Creating Charts

- A **chart**, or **graph**, is a visual representation of a set of data
- Select the data source with the range of data you want to chart
- In the Charts group on the Insert tab, click a chart type, and then click a chart subtype in the Chart gallery
- In the Location group on the Chart Tools Design tab, click the Move Chart button to place the chart in a chart sheet or embed it into a worksheet

Creating Charts

Ajita's proposed summary report

Figure 4-1

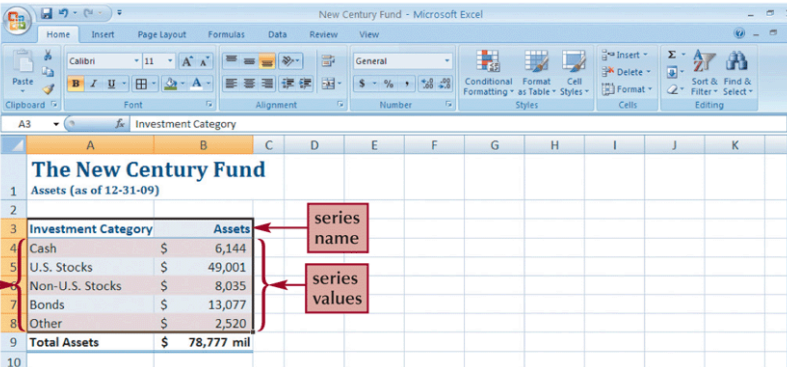


Selecting a Data Source

- The **data source** is the range that contains the data you want to display in the chart
 - Data series
 - Series name
 - Series values
 - Category values

Figure 4-2

Data source selected for the assets chart



The screenshot shows an Excel spreadsheet titled 'New Century Fund - Microsoft Excel'. The active sheet is 'Investment Category'. The data is as of 12-31-09. The table has two columns: 'Investment Category' and 'Assets'. The data rows are: Cash (\$ 6,144), U.S. Stocks (\$ 49,001), Non-U.S. Stocks (\$ 8,035), Bonds (\$ 13,077), and Other (\$ 2,520). The total assets are \$ 78,777 mil. Annotations with red boxes and arrows identify the data source components: 'category values' points to the 'Investment Category' column, 'series name' points to the 'Assets' column header, and 'series values' points to the numerical values in the 'Assets' column.

Investment Category	Assets
Cash	\$ 6,144
U.S. Stocks	\$ 49,001
Non-U.S. Stocks	\$ 8,035
Bonds	\$ 13,077
Other	\$ 2,520
Total Assets	\$ 78,777 mil

Selecting a Chart Type

Categories of Excel chart types

Figure 4-3

Chart Type	Description
Column	Compares values from different categories. Values are indicated by the height of the columns.
Line	Compares values from different categories. Values are indicated by the height of the line. Often used to show trends and changes over time.
Pie	Compares relative values of different categories to the whole. Values are indicated by the areas of the pie slices.
Bar	Compares values from different categories. Values are indicated by the length of the bars.
Area	Compares values from different categories. Similar to the line chart except that areas under the lines contain a fill color.
XY (Scatter)	Shows the patterns or relationship between two or more sets of values. Often used in scientific studies and statistical analyses.
Stock	Displays stock market data, including the high, low, opening, and closing prices of a stock.
Surface	Compares three sets of values in a three-dimensional chart.
Doughnut	Compares relative values of different categories to the whole. Similar to the pie chart except that it can display multiple sets of data.
Bubble	Shows the patterns or relationship between two or more sets of values. Similar to the XY (Scatter) chart except the size of the data marker is determined by a third value.
Radar	Compares a collection of values from several different data sets.

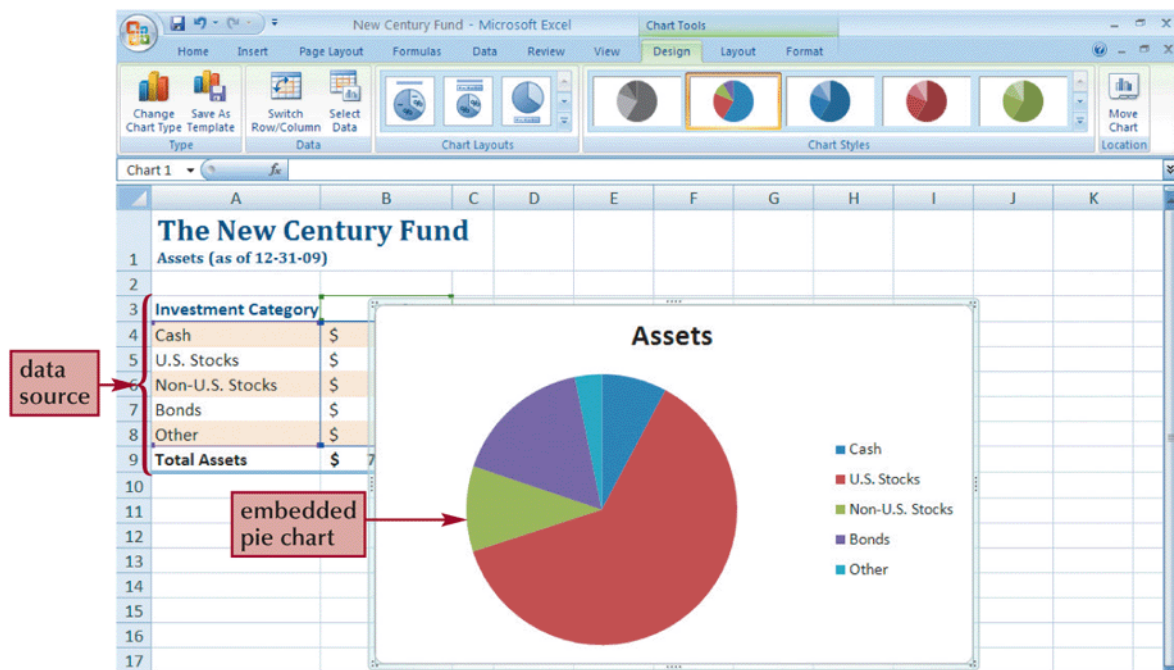


Selecting a Chart Type

- Click the **Insert** tab on the Ribbon
- In the Charts group, click the **Pie** button

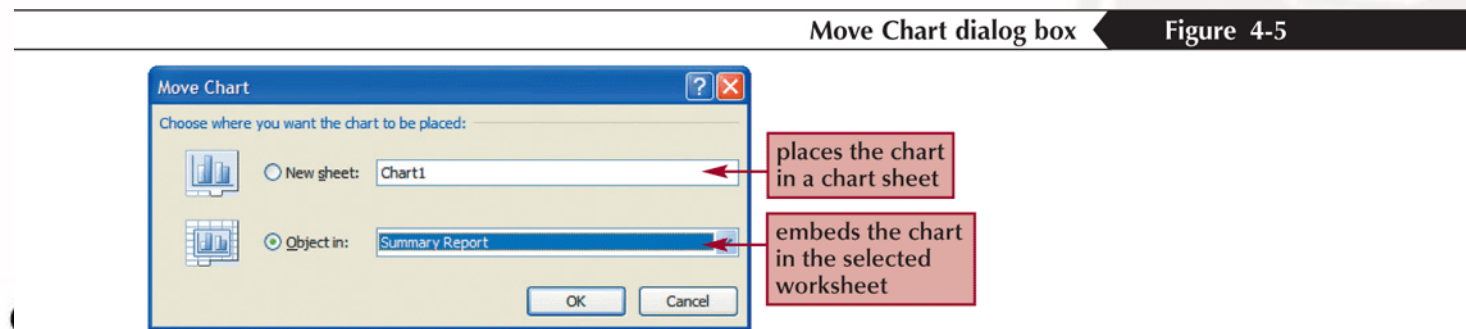
Figure 4-4

Pie chart inserted in the Assets sheet

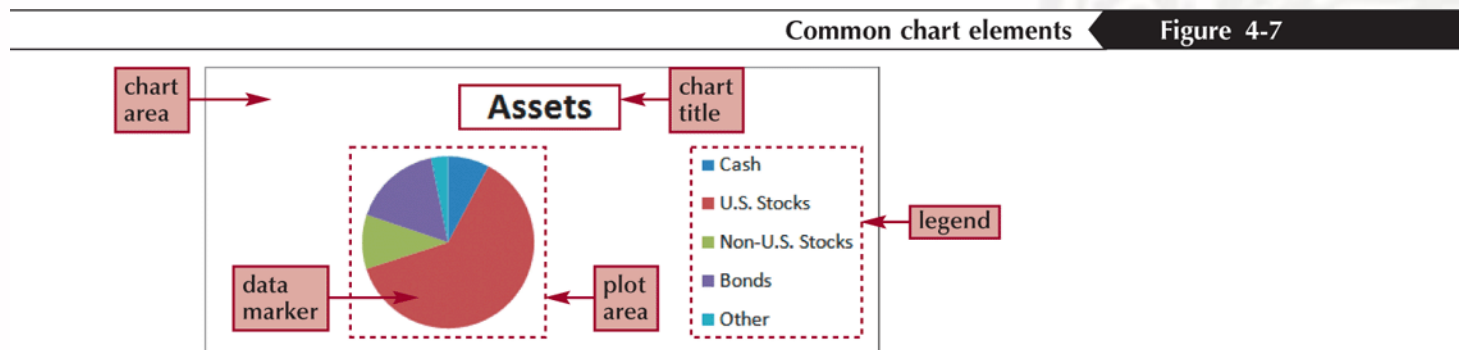


Moving and Resizing Charts

- By default, a chart is inserted as an **embedded chart**, which means the chart is placed in a worksheet next to its data source
- You can also place a chart in a **chart sheet**
- In the Location group on the Chart Tools Design tab, click the **Move Chart** button



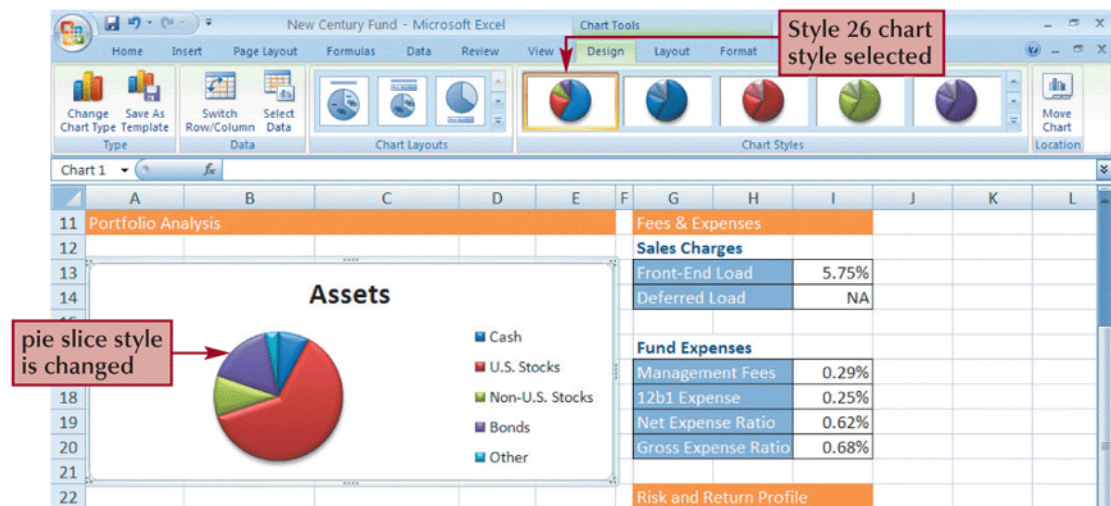
Selecting Chart Elements



Choosing a Chart Style and Layout

Figure 4-8








Style 26 chart style applied



Choosing a Chart Style and Layout

Figure 4-9

Pie chart layouts

Layout	Name	Pie chart with
	Layout 1	Chart title, labels, and percentages
	Layout 2	Chart title, percentages, and legend above the pie
	Layout 3	Legend below the pie
	Layout 4	Labels in pie slices
	Layout 5	Chart title and labels in pie slices
	Layout 6	Chart title, percentages, and legend to the right of the pie
	Layout 7	Legend to the right of the pie



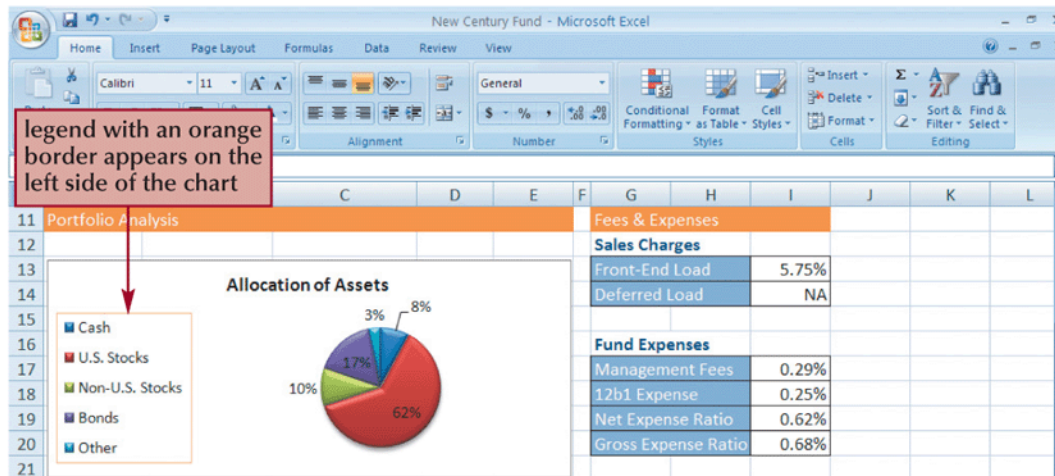
Working with the Chart Title and Legend

- Click the chart title to select it
- Type the chart title, and then press the **Enter** key
- Click the **Chart Tools Layout** tab on the Ribbon
- In the Labels group, click the **Legend** button, and then click the desired legend position

Working with the Chart Title and Legend

Chart legend moved and formatted

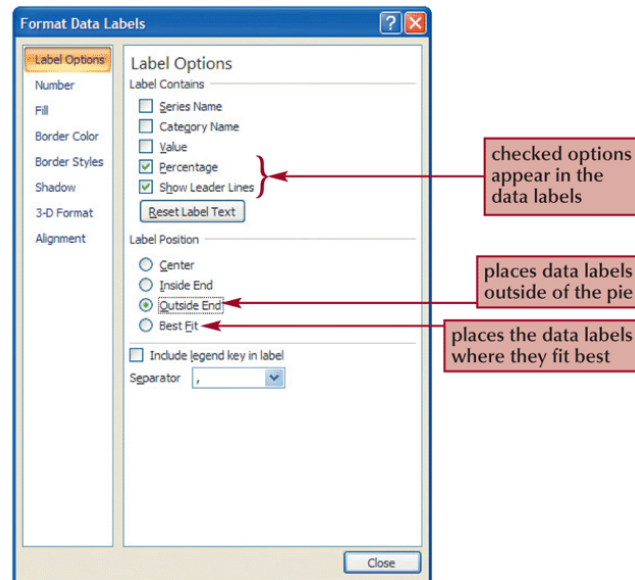
Figure 4-13



Formatting a Pie Chart

- Click the chart to select it
- In the Labels group on the Chart Tools Layout tab, click the **Data Labels** button, and then click **More Data Label Options**

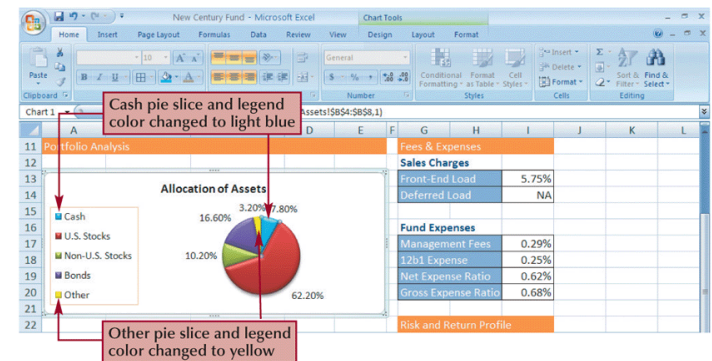
Figure 4-14 Label Options in the Format Data Labels dialog box



Setting the Pie Slice Colors

- In pie charts with legends, it's best to make the slice colors as distinct as possible to avoid confusion
- Click the pie to select the entire data series, and then click the slice you wish to change
- Change the fill color

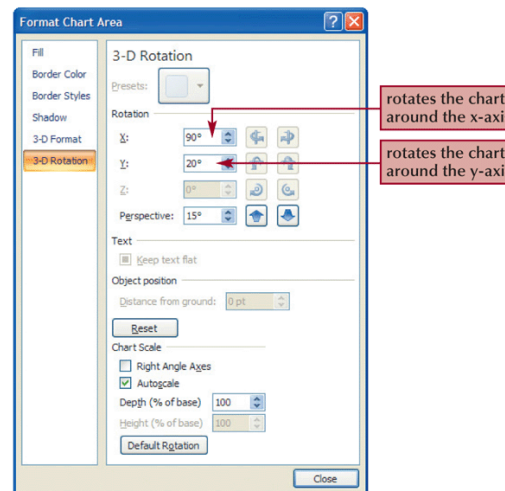
Figure 4-16 Pie slices with new colors



Working with 3D Options

- To increase the 3D effect, you need to rotate the chart
- Click the **Chart Tools Layout** tab on the Ribbon, and then, in the Background group, click the **3-D Rotation** button

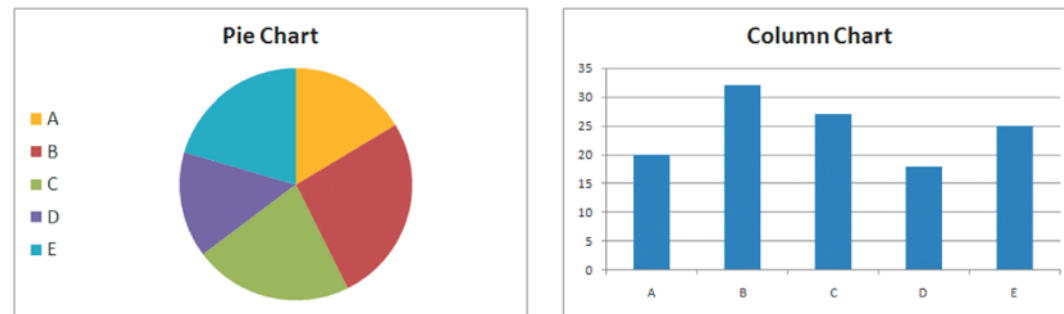
Figure 4-18 Format Chart Area dialog box



Creating a Column Chart

- A **column chart** displays values in different categories as columns; the height of each column is based on its value
- The **bar chart** is a column chart turned on its side, so each bar length is based on its value

Figure 4-21 Same data displayed as a pie chart and a column chart

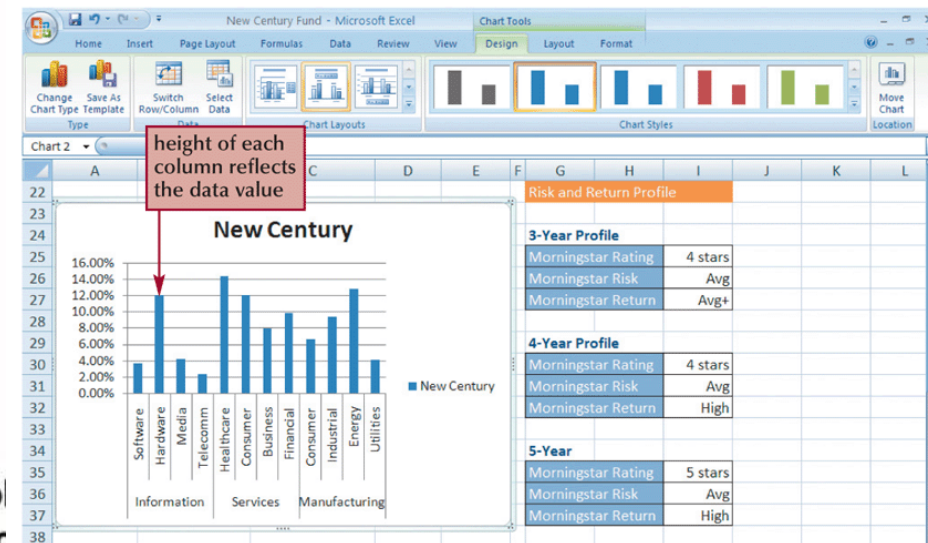


Creating a Column Chart

- Select the range
- Click the **Insert** tab on the Ribbon
- In the Charts group, click the **Column** button and then choose the chart subtype

Column chart moved and resized in the Summary Report worksheet

Figure 4-22

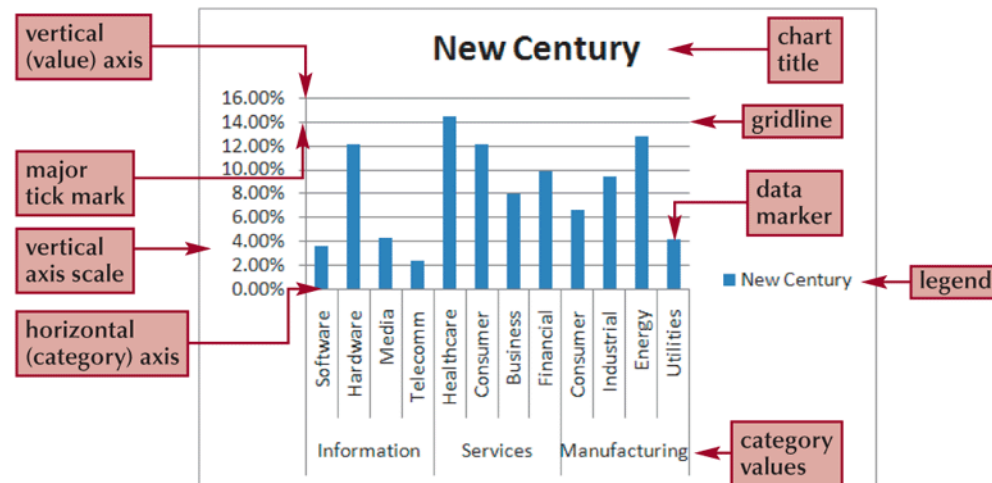


Formatting Column Chart Elements

- Click the **Chart Tools Layout** tab on the Ribbon

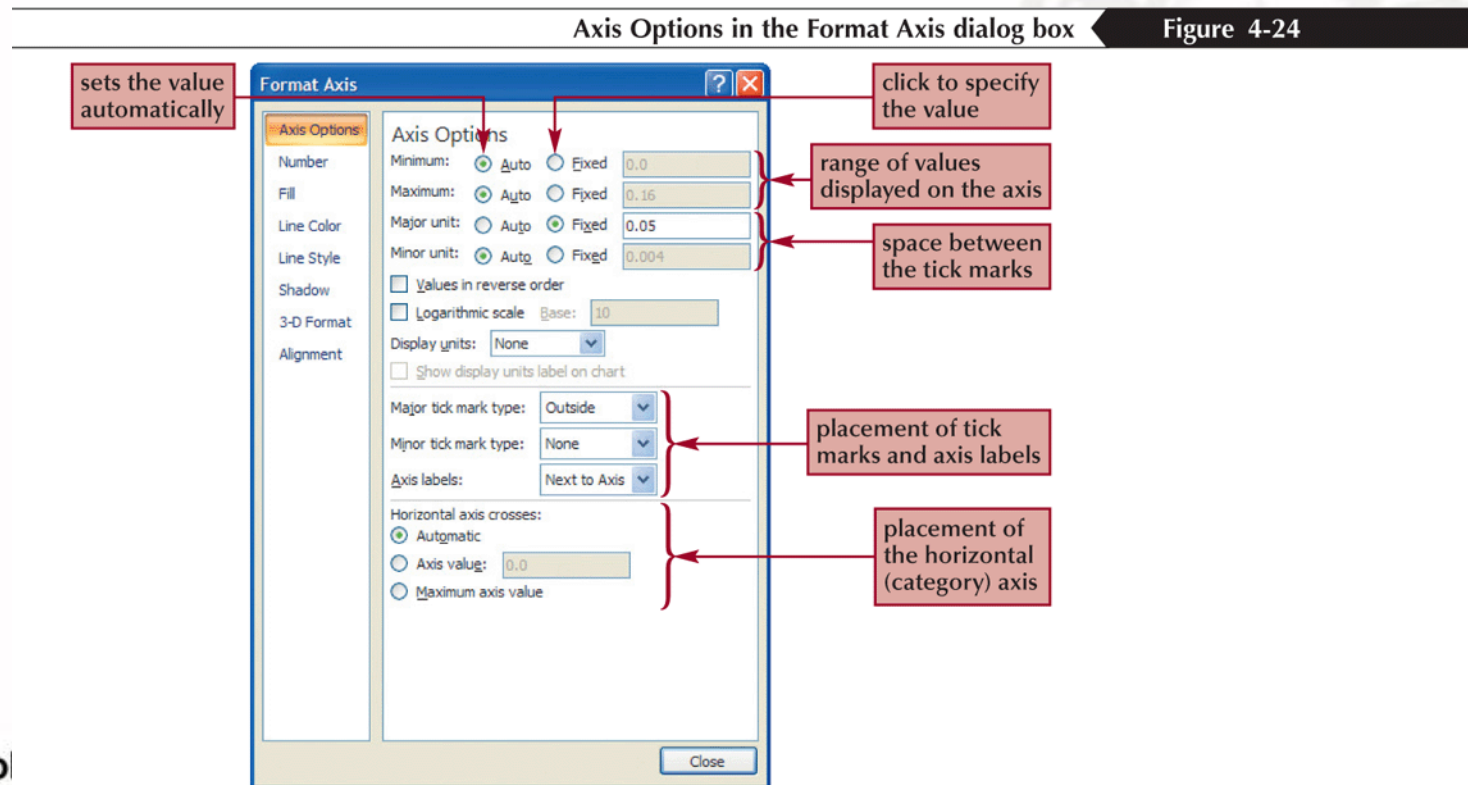
Figure 4-23

Elements of the column chart



Formatting the Chart Axes

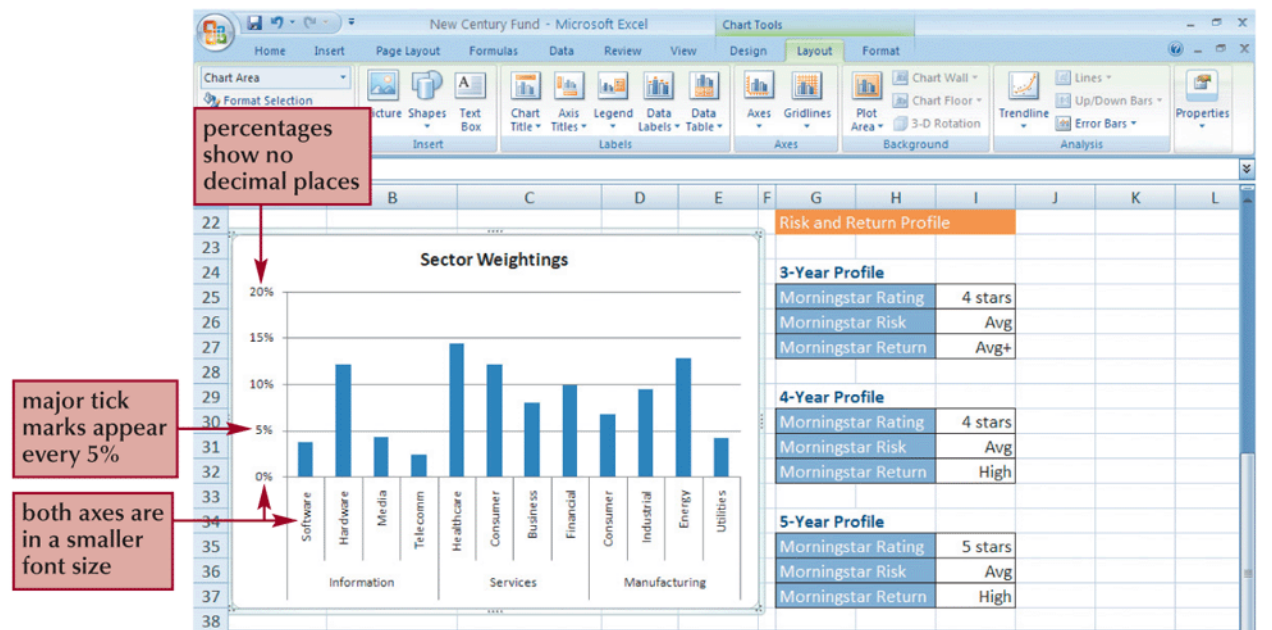
- Click the **Chart Tools Layout** tab on the Ribbon



Formatting the Chart Axes

Figure 4-25

Formatted chart axes

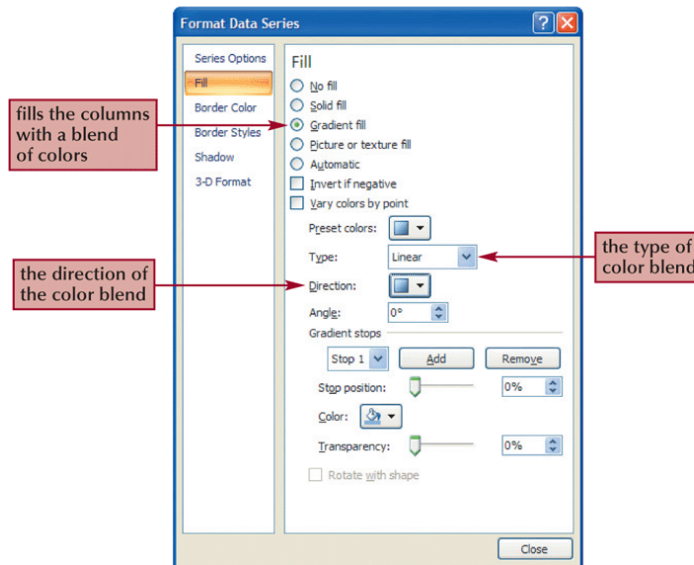


Formatting Chart Columns

- Click any column in the Sector Weightings chart
- In the Current Selection group on the Chart Tools Layout tab, click **Format Selection**

Fill options set in the Format Data Series dialog box

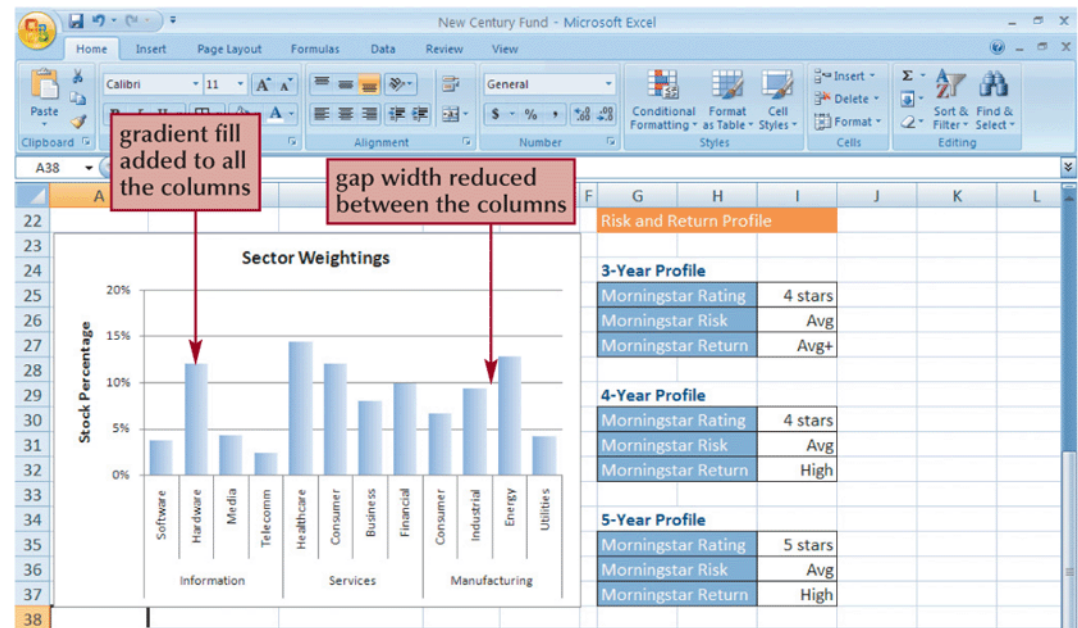
Figure 4-26



Formatting Chart Columns

Figure 4-27

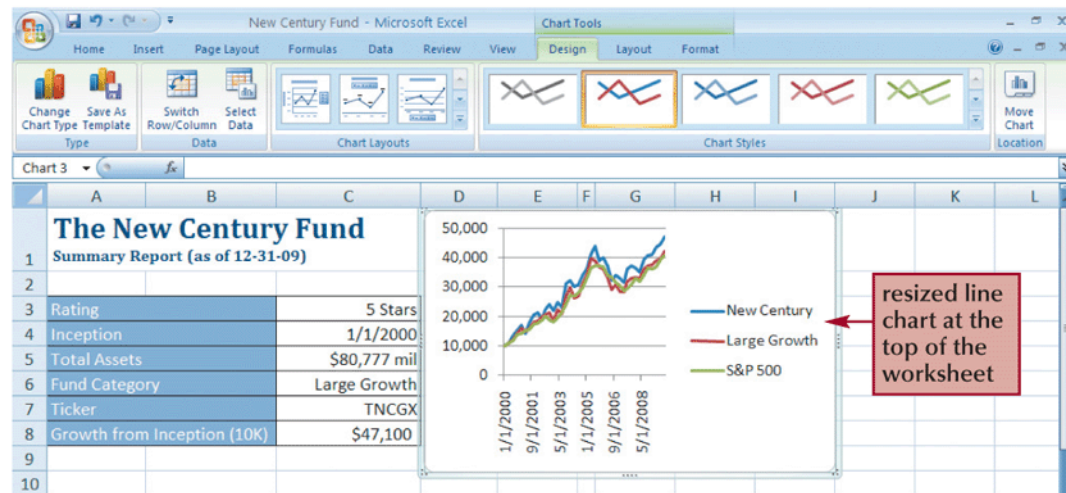
Formatted chart columns



Creating a Line Chart

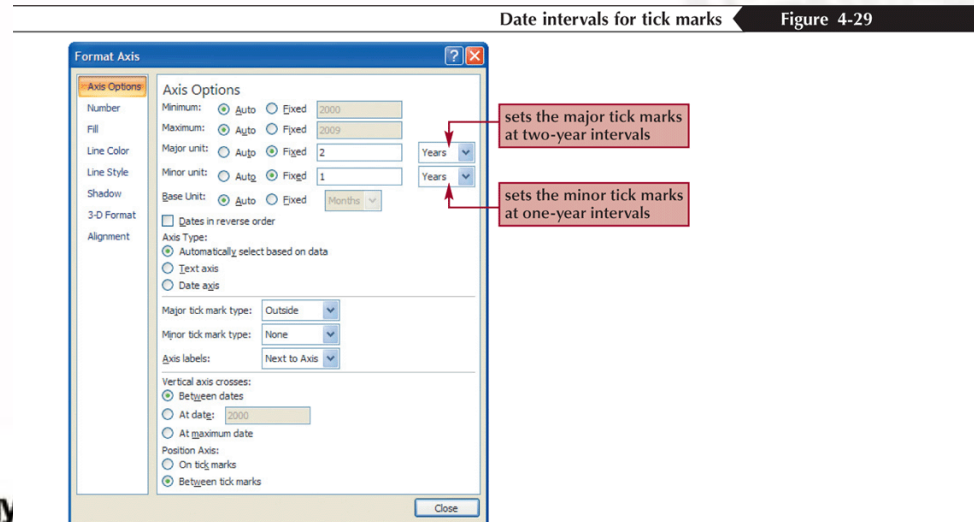
- Select the range
- Click the **Insert** tab on the Ribbon
- In the Charts group, click the **Line** button, and then click the **Line** chart

Figure 4-28 Moved and resized line chart



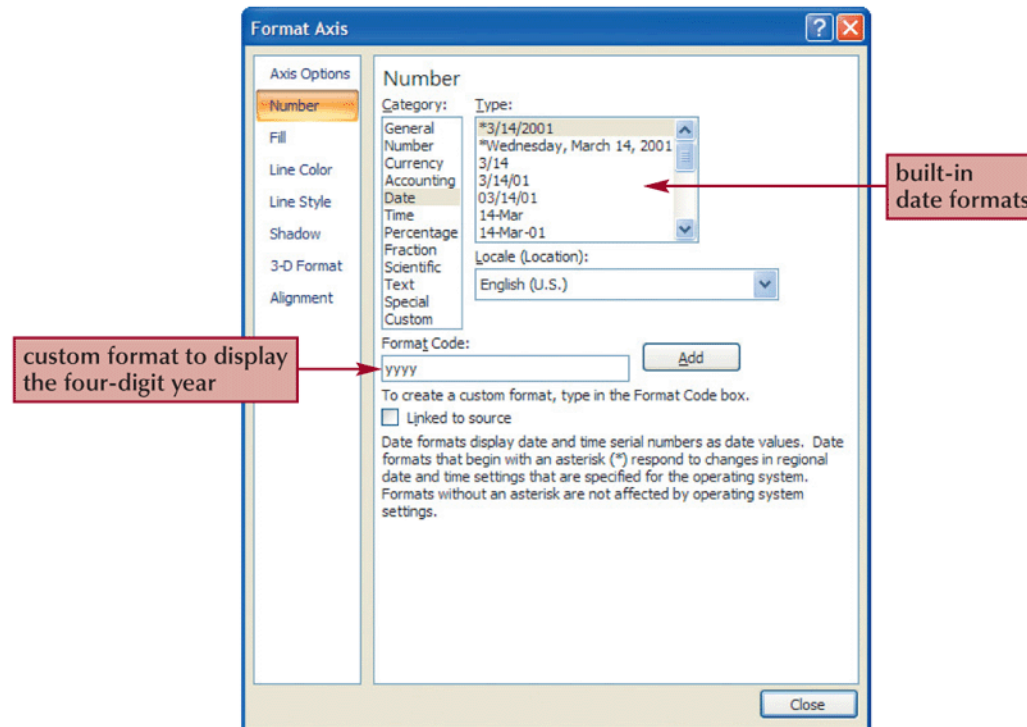
Formatting Date Labels

- Click the **Chart Tools Layout** tab on the Ribbon
- In the Axes group, click the **Axes** button, point to **Primary Horizontal Axis**, and then click **More Primary Horizontal Axis Options**



Formatting Date Labels

Figure 4-30 Number options



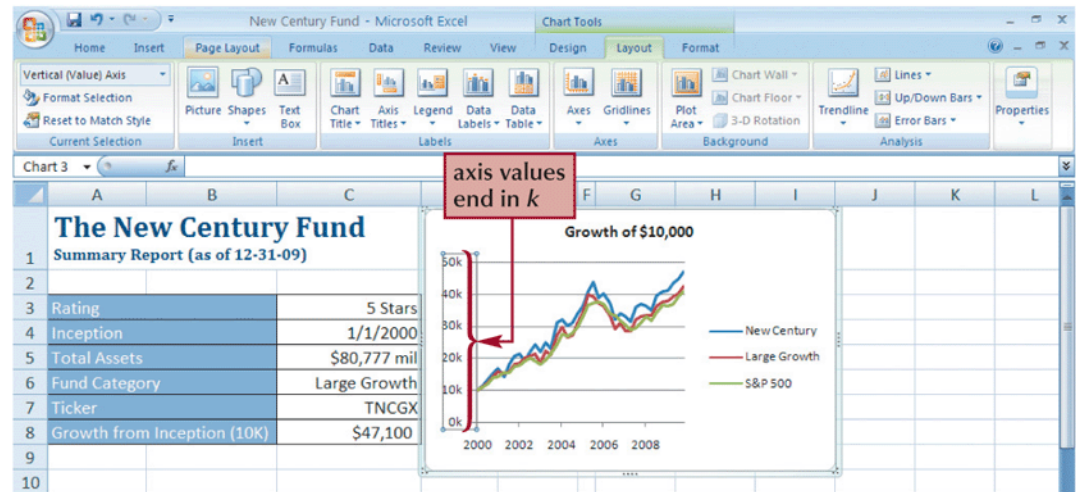
Setting Label Units

- In the Axes group on the Chart Tools Layout tab, click the **Axes** button, point to **Primary Vertical Axis**, and then click **More Primary Vertical Axis Options**
- Click the **Display units** arrow and then make your selection

Setting Label Units

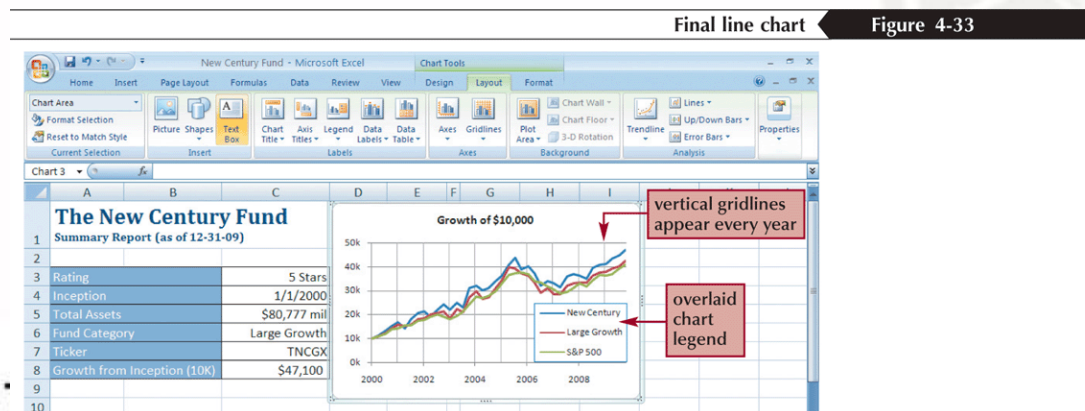
Figure 4-32

Formatted labels in the vertical axis



Overlaying a Legend

- In the Labels group on the Chart Tools Layout tab, click the **Legend** button, and then click **More Legend Options**
- Click the **Show the legend without overlapping the chart** check box to remove the check mark



Adding a Data Series to an Existing Chart

- Select the chart to which you want to add a data series
- In the Data group on the Chart Tools Design tab, click the Select Data button
- Click the Add button in the Select Data Source dialog box
- Select the range with the series name and series values you want for the new data series
- Click the OK button in each dialog box

Adding a Data Series to an Existing Chart

Edit Series dialog box

Figure 4-35

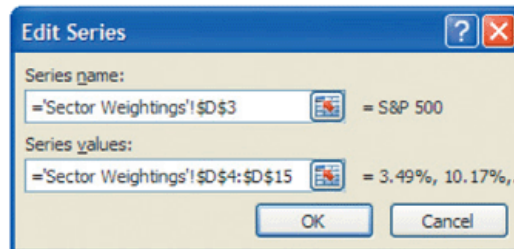
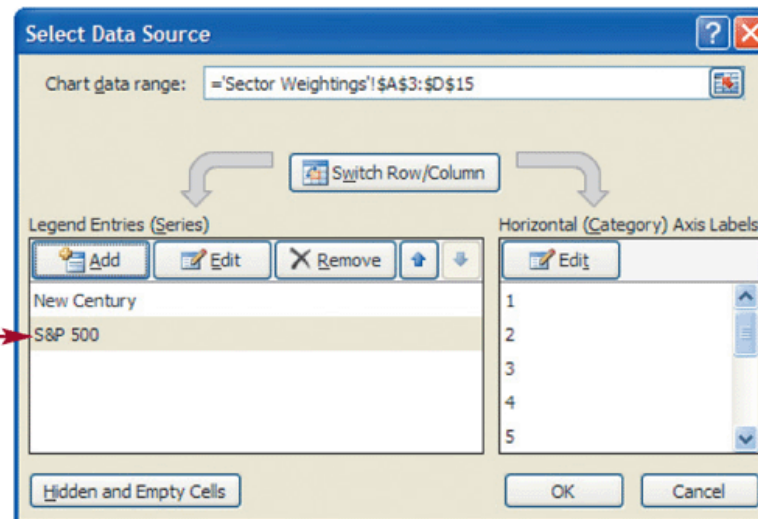


Figure 4-36

Select Data Source dialog box

data series added to the chart



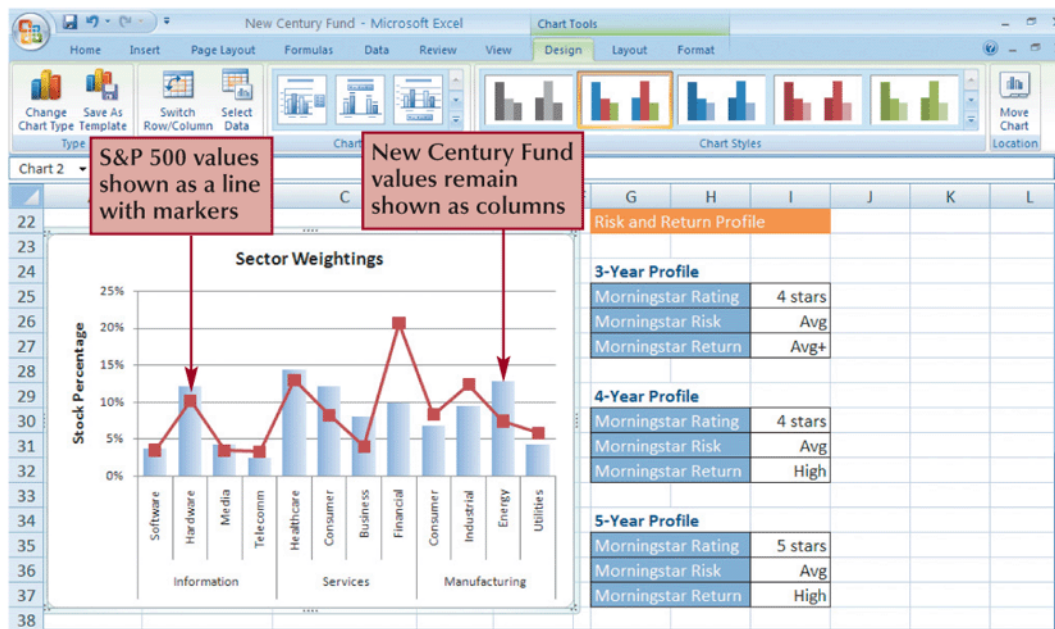
Creating a Combination Chart

- Select a data series in an existing chart that you want to appear as another chart type
- In the Type group on the Chart Tools Design tab, click the Change Chart Type button, and then click the chart type you want
- Click the OK button

Creating a Combination Chart

Combination chart

Figure 4-38

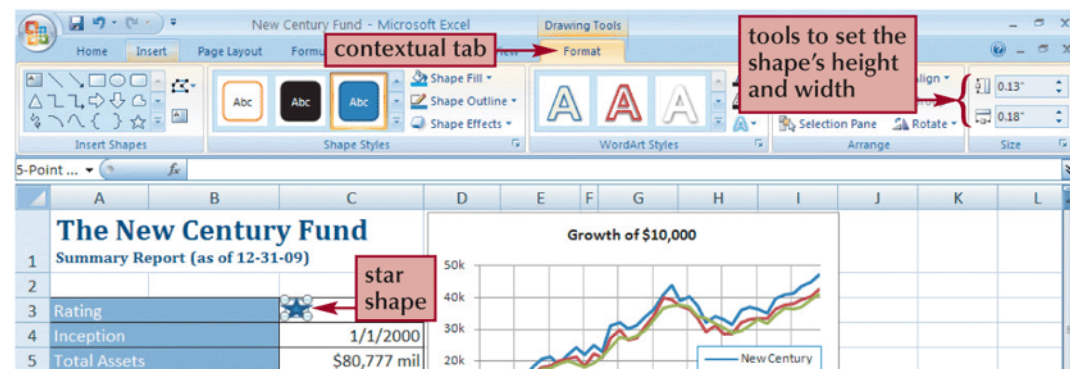


Inserting a Shape

- Click the **Insert** tab on the Ribbon
- In the Illustrations group, click the **Shapes** button, and then choose the shape you want
- Draw the shape in your worksheet

Figure 4-41

Star shape embedded in cell C3



Aligning and Grouping Shapes

- Hold down the **Shift** key and then click each shape to select it
- Click the **Drawing Tools Format** tab on the Ribbon
- In the Arrange group, click the **Align** button, and then click your alignment option
- To group several shapes into a single unit, select the shapes, and then click the **Group** button in the Arrange group on the Drawing Tools Format tab

Aligning and Grouping Shapes

Figure 4-42 Grouped and aligned star shapes

