UNIT I

Excel 2010

Creating a Chart

You can create Excel charts from your worksheet data automatically. In a worksheet, you select the cells that contain the data you want to chart, then use commands in the Charts group on the Insert tab to specify the chart type you want to add. Any changes you make to the worksheet data are automatically reflected in the chart. You can change the chart type to explore different options until you find the type that best illustrates your data. First-quarter sales results for the Canoe Kit just became available at Outdoor Designs. Serena has provided you with a worksheet that shows sales for each month by region. You need to create a chart based on the worksheet data.

STEPS

1. **Start Excel, open the file I-1.xlsx from where you store your Data Files, then save it as I-Canoe Kit Sales by Region**

2. **Select the range A4:D8**

   The range A4:D8 contains the data you want to chart. Notice that you selected the row and column labels but not the column totals. For most charts, you should avoid including totals when selecting worksheet cells.

3. **Click the Insert tab**

   The Charts group on the Insert tab contains buttons for inserting common types of charts, including Column, Line, Pie, Bar, Area, and Scatter. The Line chart type is good for showing trends in data over time.

TROUBLE
There are two Line buttons on the Insert tab; be sure to click the one in the Charts group.

4. **Click the Line button in the Charts group**

   The Line chart menu opens and displays two subcategories, 2-D Line and 3-D Line. The thumbnails provide a visual guide for what each chart subtype looks like.

QUICK TIP
Depending on your screen resolution, your vertical (value) axis might show different values or number intervals.

5. **Click the Line option (first thumbnail under 2-D Line), as shown in Figure I-2**

   A line chart is inserted into the current worksheet, as shown in Figure I-3. The region names from the worksheet are on the chart's horizontal axis, and sales amounts are on the chart's vertical axis. Colored lines representing the sales data for January, February, and March appear in the chart. The double-line border and sizing handles around the chart indicate that the chart is selected. Notice that the Chart Tools Design, Layout, and Format tabs are all available on the Ribbon; these contextual tabs become available when a chart is selected.

6. **Click the Change Chart Type button in the Type group on the Chart Tools Design tab**

   The Change Chart Type dialog box opens. This dialog box lets you apply dozens of different chart types to a selected chart. The left pane displays each chart category. The Line category is currently selected because the selected chart is a line chart.

7. **Click the Column category in the left pane, click the Clustered Column option, as shown in Figure I-4, then click OK**

   The chart in the worksheet changes to a clustered column chart, with three data series (blue, red, green) representing January, February, and March sales for each region. See Figure I-5.

8. **Click the Save button on the Quick Access toolbar**

   The chart is saved as part of the workbook file.

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Moving and Resizing a Chart and Chart Objects

You can easily move a chart if it obscures your worksheet data, or resize it if it is too large or too small. You can also move or resize many of the individual components of a chart—sometimes called **chart objects**—such as the chart background or the legend. To move a chart object, select it and drag it to a new location. To resize a chart object, drag one of its sizing handles. Note that some chart objects (such as the chart axis) cannot be moved and that others (such as the chart title) cannot be resized by dragging. To improve the overall appearance of the worksheet, you decide to move the chart below the worksheet data and make it bigger. You also decide to move the legend so that it is aligned with the top edge of the chart.

STEPS

1. **If the chart is not selected, click the chart border to select it**
2. **Point to the top edge of the chart so that the pointer changes to ✥, drag the chart so that its upper-left corner is aligned with the upper-left corner of cell A11, then release the mouse button**

   The chart is now directly below the worksheet data. As you dragged the chart, a dimmed image of the chart moved with the pointer.

3. **Scroll down until you can see row 29**
4. **Position the pointer over the chart's lower-right sizing handle so that the pointer changes to ⤡, drag the sizing handle down so that the chart's lower-right corner is aligned with the lower-right corner of cell H29, as shown in Figure I-6, then release the mouse button**

   The chart enlarges to the new dimensions. If you drag a corner sizing handle, you increase or decrease a chart's height and width simultaneously. To increase or decrease only the height or width of a chart, drag a side, top, or bottom sizing handle.

5. **Click the chart legend**

   Sizing handles appear around the edge of the legend, indicating that it is selected. Note that the sizing handles on the legend—and on all chart objects—are circular at the legend corners and square on the border midpoints. This is different from the sizing handles on the chart itself, where they are groups of dots.

6. **Point to any border of the legend (but not to a sizing handle) until the pointer changes to ✥, then drag the legend up to the position shown in Figure I-7**

   The legend is now positioned to the right of the upper-right corner of the chart.

7. **Save your changes to the worksheet**

QUICK TIP
To move a chart, point to an edge but not to a sizing handle; pointing to a sizing handle allows you to resize the chart rather than move it.

QUICK TIP
If you make a mistake when moving or resizing a chart, click the Undo button on the Quick Access toolbar, then try again.

QUICK TIP
To delete a chart or chart object, select it, then press [Delete].

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Applying Chart Layouts and Styles

When you create a chart, it has default layout and style settings for the chart type applied. A **chart layout** is a predefined arrangement of chart elements, such as the legend and chart title. A **chart style** is a predefined set of chart colors and fills. Instead of modifying individual chart elements, such as moving the legend or changing the color of a data series, you can instantly change the way chart elements are positioned and whether certain elements are displayed or hidden by choosing a different layout. Chart layouts are available from the Chart Layouts gallery on the Chart Tools Design tab. You can change fill colors and textures by choosing a chart style from the Chart Styles group on the Chart Tools Design tab. You can also get a different view of your data by reversing the rows and columns. You decide to experiment by switching the rows and columns of the chart to see the effect. You also want to improve the appearance of your chart by applying a different chart layout and style.

STEPS

QUICK TIP
The Chart Tools Design tab is a contextual tab; it is available only when a chart is selected.

1. **Click the Chart Tools Design tab, if necessary**
   The Chart Tools Design tab displays commands for changing the appearance of a chart.
2. **Click the Switch Row/Column button in the Data group**
   See Figure I-8. The chart now shows only three clusters of data series (instead of the original four), one for each month. Each data series now represents the revenue for each region (instead of each month), so there are four data points for each cluster instead of three. The horizontal axis labels now list the three months of the first quarter (instead of the regions). This view of the data shows more clearly the overall growth trend for each month.
3. **Click the More button in the Chart Layouts group**
   The Chart Layout gallery displays an assortment of thumbnails of different layouts. Some have gridlines, some have data labels, and a few have chart and axis titles. You want a layout that has a chart title and axis titles.
4. **Click Layout 9 (third layout in third row)**
   Your chart now has placeholder text for a chart title, a vertical axis title, and a horizontal axis title. You need to replace the placeholder text for these titles with appropriate text for your chart.

TROUBLE
When you click the Chart Title placeholder and type text for your chart title, notice that the text you type appears only in the formula bar (not in the Chart Title placeholder). This can be confusing, but don't be alarmed—the chart title text will appear when you press [Enter].

5. **Click Chart Title, then type Q1 Canoe Kit Sales by Region, then press [Enter]**
   The title "Q1 Canoe Kit Sales by Region" appears above the chart. You can also edit chart titles and axis titles using the formula bar.
6. **Click Axis Title in the vertical axis, type Sales, then press [Enter]**
   The vertical axis label now reads "Sales," clarifying that each data series represents sales figures.
7. **Click Axis Title in the horizontal axis, type Month, then press [Enter]**
   The horizontal axis label changes to "Month." The chart and axis titles make it easier to interpret the meaning of the chart. Compare your screen to Figure I-9.
8. **Click in the Chart Styles group, click Style 26 (second style in fourth row), then save your changes**
   The new style is applied to the chart, as shown in Figure I-10. This style has a three-dimensional appearance and makes your chart more visually appealing.

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Customizing Chart Objects

When you create a chart, each chart object has default layout settings applied. For instance, the clustered column chart with the chart layout you applied positions the chart title above the chart and positions the legend to the right of the chart. You can easily change the positioning and attributes of individual chart objects by choosing from additional preset options on the Chart Tools Layout tab, or by making custom choices in the Format dialog box. Chart elements that can be modified include the chart title, axis titles, legend, data labels, axes, gridlines, plot area, and data table. A **data table** in a chart is a grid containing the chart's underlying worksheet data, which is added below the x-axis in certain types of charts. You decide to position the chart title so that it is inside the plot area. You also want to position the legend at the bottom of the chart to make more room for the data series, and change the orientation of the vertical-axis title so that it is easier to read. You also decide to explore other options to improve the chart's appearance.

STEPS

1. **Click the Chart Tools Layout tab**
   The Chart Tools Layout tab contains buttons and commands for changing the layout of a selected chart. You use this tab to work with individual chart elements.

QUICK TIP
A trendline is a line that connects high or low points in a data series and shows a trend. To add a trendline to a chart, click Trendline in the Analysis group, then click an option.

2. **Click the Chart Title button in the Labels group, then click Centered Overlay Title**
   The chart title is now positioned in the chart just above the largest data series. This arrangement increases the size of the plot area without requiring you to enlarge the chart.

3. **Click Axis Titles in the Labels group, point to Primary Vertical Axis Title, then click Horizontal Title**
   See Figure I-11. The vertical axis title changes from a vertical to a horizontal position.

QUICK TIP
A Format dialog box is available for every chart object and offers many options beyond the presets available on the Ribbon. To open the dialog box for any chart object, right-click it, then click Format [object].

4. **Right-click the legend, click Format Legend, click the Bottom option button in the Format Legend dialog box, as shown in Figure I-12, then click Close**
   The legend now appears below the chart, and the chart expands to fill the empty space on the right.

5. **Click the Data Labels button in the Labels group, then click Outside End**
   Labels for each worksheet value in cells B5 through D8 now appear above each data marker. Unfortunately, the values are too big to fit in the chart and the labels overlap, making them look cluttered and difficult to read.

6. **Click the Data Labels button in the Labels group, then click None**
   The data labels are removed.

7. **Click the Gridlines button in the Axes group, point to Primary Vertical Gridlines, then click Major Gridlines**
   Vertical gridlines now appear in the chart, enclosing the monthly sales for each region. This effect helps to visually separate each region's monthly sales.

QUICK TIP
Data tables are helpful when your chart contains data from another worksheet or location.

8. **Click the Data Table button in the Labels group, then click Show Data Table with Legend Keys**
   See Figure I-13. A data table is inserted, with a legend in the first column that identifies the data series in each row. Data tables are helpful when you want to show both the chart and the underlying worksheet data. Because this worksheet already contains the data for the chart, you don't need the data table here; it makes the worksheet look cluttered.

9. **Click the Data Table button in the Labels group, click None, then save your changes**

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Enhancing a Chart

You can choose from a large variety of styles and effects to improve the appearance of a chart and increase its visual appeal and effectiveness. In addition to using the Format dialog box to modify any selected chart object, you can choose from a variety of commands and galleries on the Chart Tools Format tab to make further enhancements and adjustments. For instance, you can apply a shape style to a chart title or axis title and then adjust the fill, outline, and shape effect to your liking. You can apply WordArt styles to any text to make it stand out. You can also align and reposition multiple objects. To format an object, you first must select it. You can select an object by clicking it or by using the Chart Elements list arrow on the Chart Tools Format tab. [redacted] Serena asks you to change the color of the Northeast data series and to add visual effects to the chart and axis titles to make the chart more visually appealing.

STEPS

1. **Click the Chart Tools Format tab**

   The Chart Tools Format tab is active. You can apply special styles and effects to selected chart objects using the Format dialog box or the Chart Tools Format tab.

QUICK TIP
To select a single data marker, double-click the data marker.

2. **Click any one of the purple Northeast data markers in the chart**

   Sizing handles and a border surround all the data markers in the Northeast data series. Clicking a single data marker selects all the data markers in that series. You decide to change the selected data series color to orange.

QUICK TIP
You can open the Format dialog box for any chart object from either the Layout tab or the Format tab.

3. **Click the Format Selection button in the Current Selection group on the Chart Tools Format tab**

   The Format Data Series dialog box opens, providing options you can select to enhance and change the appearance of the selected data marker. You need to adjust the Fill setting.

4. **Click Fill in the left pane under Series Options, click the Solid fill option button; click the Color list arrow, click the Orange, Accent 6 color, as shown in Figure I-14, then click Close**

   The Format Data Series dialog box closes, and the Northeast data series color is now orange.

TROUBLE
If you have trouble locating the Chart Elements list, look directly above the Format Selection button in the Current Selection group; the text Series "Northeast" should be displayed in the Chart Elements box.

5. **Click the Chart Elements list arrow in the Current Selection group, click Chart Title, then click the More button in the Shape Styles gallery**

   The Shape Styles gallery displays several shape styles that you can apply to the selected chart title.

6. **Click the Intense Effect - Blue, Accent 1 style, as shown in Figure I-15**

   The chart title is now formatted with a three-dimensional blue background and white font. You decide to add a shadow special effect so that the title matches the style of the data series.

QUICK TIP
To remove formatting that you have applied to a chart object, select the object, then click the Reset to Match Style button in the Current Selection group on the Chart Tools Format tab.

7. **Click the Shape Effects button in the Shape Styles group, point to Shadow, then click the Offset Bottom style in the Outer category**

   The chart title now has a shadow along its bottom edge, enhancing the impression that it is three dimensional.

8. **Click the vertical axis title (Sales), then click the Intense Effect - Blue, Accent 1 style in the Shape Styles gallery**

9. **Click the horizontal axis title (Month), click the Intense Effect - Blue, Accent 1 style in the Shape Styles gallery, then save the worksheet**

   Compare your screen to Figure I-16.

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Creating a Pie Chart

Column charts are great for comparing values across categories, but they are not very useful for comparing percentages or parts to a whole. For instance, the column chart does not convey the West region's percentage of total first-quarter sales. A pie chart is an effective tool for comparing the relative values of parts to a whole. Just like any other type of chart, you can add it to a worksheet, or you can add it on a separate chart sheet. A **chart sheet** is a sheet in a workbook that contains only a chart; it contains no worksheet cells. Serena wants you to create a pie chart on a separate chart sheet that compares total first-quarter revenues of the Canoe Kit by region.

STEPS

1. **Select the range A5:A8, press and hold [Ctrl], then select the range E5:E8**
   You selected two nonadjacent ranges (the region names and total first-quarter sales for each region); this is the only worksheet data you want reflected in the pie chart. You want to create a pie chart that shows each region's percentage of total sales.

2. **Click the Insert tab, click the Pie button in the Charts group on the Insert tab, then click the Pie in 3-D option**
   See Figure I-17. A 3D-style pie chart now appears in the worksheet and covers part of the column chart. The pie chart shows that the purple pie wedge (representing the Northeast region) is slightly bigger than the others, and the blue pie wedge (representing the Northwest region) is the smallest. You decide to move the pie chart to a new chart sheet in the workbook, so that it can be viewed separately from the column chart.

3. **Click the Move Chart button in the Location group on the Chart Tools Design tab**
   The Move Chart dialog box opens.

4. **Click the New sheet option button, type Q1 Canoe Kit Sales % in the New sheet text box as shown in Figure I-18, then click OK**
   The pie chart moves to a new chart sheet called "Q1 Canoe Kit Sales %".

QUICK TIP
You can pull out, or explode, a pie slice from a pie chart to emphasize a particular value. Click the pie chart, click a pie slice, then drag it away from the pie.

5. **Click the More button in the Chart Layouts group, then click Layout 1**
   Each pie slice in the chart now contains a label for the region and for the region's percentage of total sales. A chart title placeholder is displayed above the chart.

QUICK TIP
To add text to a chart sheet, click the Chart Tools Layout tab, click the Text Box button, click the location where you want to add the text, then type your desired text. Format the text using buttons on the Mini toolbar or Home tab.

6. **Click the Chart Title placeholder, type Q1 Canoe Kit Sales by Region, then press [Enter]**

7. **Click Northeast on the purple pie slice, notice that the labels on all the slices are now selected, then right-click the pie slice**
   The Mini toolbar and a shortcut menu open. You can use the Mini toolbar to apply formatting to selected text or objects.

8. **Click the Increase Font Size button on the Mini toolbar seven times to increase the font size to 20, click the File tab, then click Print**
   A preview of the chart sheet is displayed in the preview area in Backstage view. Notice that the orientation is set to Landscape, the default setting for chart sheets. Compare your screen to Figure I-19.

9. **Click the Home tab, then save your changes**

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Creating Sparklines

In addition to charts, you can also add sparklines to a worksheet to communicate patterns or trends visually. **Sparklines** are tiny charts that fit in one cell and illustrate trends in selected cells. There are three types of sparklines you can add to a worksheet. A **line sparkline** is a miniature line chart that is ideal for showing a trend over a period of time. A **column sparkline** is a tiny column chart that includes a bar for each cell in a selected range. A **win/loss sparkline** shows only two types of bars: one for gains and one for losses. Table I-2 provides descriptions and example of sparkline types. You should place sparklines close to the cells containing the data they illustrate. You decide to create sparklines next to your worksheet data to illustrate sales trends in the quarter for each of the regions.

STEPS

1. **Click the Sheet1 sheet tab, click the Insert tab, then click cell F5**
   This is where you need to insert a sparkline for the range B5:D5, the data series for the West region sales from January to March.

2. **Click the Line button in the Sparklines group**
   The Create Sparklines dialog box opens. You need to select the cells for which you want to create a sparkline: the range B5:D5.

TROUBLE
If the Create Sparklines dialog box is blocking the range you want to select, drag it out of the way.

3. **Select the range B5:D5, compare your screen to Figure I-20, then click OK**
   Cell F5 now contains a sparkline that starts in the bottom left of the cell and slants upward to the upper right corner, indicating an increase from cell B5 to C5 to D5. At a glance, the sparkline communicates that sales increased steadily from January to March. You can add markers on the line to indicate values for each cell in the selected range.

QUICK TIP
To change the color of sparklines or sparkline markers for selected cells, click the Sparkline Color arrow or the Marker Color arrow in the Style group, then click the color you want.

4. **Click the Markers check box in the Show group**
   The sparkline now displays three small square markers. The left marker represents the West region's January sales (B5), the middle marker represents the West region's February sales (C5), and the far-right marker represents the West region's March sales (E5). You want to change the sparkline to a different color.

5. **Click the More button in the Style group, then click Style 12 (last style in second row)**
   The sparkline color is now red, and the sparkline markers are black.

QUICK TIP
To change the sparkline type to either column or win/loss, select the cells containing the sparkline, then click the Column button or the Win/Loss button in the Type group.

6. **Drag the cell F5 fill handle to cell F9**
   Cells F6:F9 now contain red sparklines with black markers that show sales trends for the other regions, as well as the total sales, as shown in Figure I-21. Notice that the sparkline in cell F7 shows a downward trend from the second to third marker. All other sparklines show an upward direction. You can see how sparklines make it easy to see at a glance the sales performance of each region for the quarter.

7. **Enter your name in cell A2, then save your changes**

TROUBLE
If the chart is selected when you preview the worksheet in Backstage view, only the chart will appear in the Preview pane. Click any cell in the worksheet outside of the chart to preview and/or print the worksheet with the chart.

8. **Click the File tab, click Print, preview the worksheet, close the worksheet, exit Excel, then submit your completed worksheet to your instructor**

Select the best answer from the list of choices.

14. **Which of the following axis titles would most likely be shown on a vertical axis in a chart?**
    a. Years
    b. Costs
    c. Months
    d. Countries
15. **In a chart, a sequence of related numbers that shows a trend is called a(n) _____.**
    a. legend
    b. data marker
    c. axis
    d. data series
16. **You just finished a 10-week math class, in which you had a quiz every week. You want to create a chart that shows each quiz score for each week. Which of the following charts would NOT be a good choice for your chart?**
    a. Pie chart
    b. Bar chart
    c. Column chart
    d. Line chart
17. **Which of the following tabs on the Ribbon do you use to add a chart title?**
    a. Chart Tools Design tab
    b. Chart Tools Layout tab
    c. Chart Tools Format tab
    d. Insert tab
18. **Where should you place a sparkline in a worksheet?**
    a. In a chart below its underlying data
    b. In a separate chart sheet, away from its underlying data
    c. In a single cell adjacent to the cells containing its underlying data
    d. In a group of cells below its underlying data

Skills Review

1. **Understand and plan a chart.**
    a. Open the file I-2.xlsx from where you store your Data Files, then save it as **I-Recycling Revenue**.
    b. Examine the worksheet data, then consider what Excel chart types would best present this type of information.
    c. Is the worksheet designed in such a way that it will be easy to create a chart? Why or why not?
2. **Create a chart.**
    a. Select the range A4:D9.
    b. Display the tab on the Ribbon that contains commands for inserting charts.
    c. Insert a 3-D Clustered Column chart.
    d. Save your changes to the workbook.
3. **Move and resize a chart and chart objects.**
    a. Drag the chart so that the upper-left corner of the chart is aligned with the upper-left corner of cell A12.
    b. Use the lower-right corner sizing handle to align the lower-right corner of the chart with the lower-right corner of cell G28.
    c. Move the legend so that its top edge aligns with the top of the tallest data marker in the chart.
    d. Save your changes.
4. **Apply chart layouts and styles.**
    a. Open the Chart Tools Design tab, if necessary.
    b. Use a button on the Design tab to reverse the columns and rows and get a different view of the data. Examine the chart and identify what new meaning this new structure conveys.
    c. Apply the Layout 3 chart layout to the chart.
    d. Replace the placeholder chart title with **Recycling Revenue, 2011-2013**.
    e. Apply Style 26 chart style to the chart.
    f. Save your changes.
5. **Customize chart objects.**
    a. Display the Chart Tools Layout tab.
    b. Add a horizontal-axis title to the chart. Replace the placeholder axis title with **Years**.
    c. Add a vertical-axis title that is rotated. Replace the placeholder axis title with **Revenue**.

Skills Review (continued)

d. Add major gridlines for the vertical axis.

e. Save your changes.

6. **Enhance a chart.**
   - **a.** Display the Chart Tools Format tab.
   - **b.** Select one of the West data markers in the chart.
   - **c.** Open the Format Data Series dialog box.
   - **d.** In the Format Data Series dialog box, select the Fill category, specify a solid fill, choose Orange, Accent 6 from the Color palette, then close the dialog box.
   - **e.** Use the Chart Elements list arrow to select the chart title, then apply the Moderate Effect – Orange, Accent 6 shape style.
   - **f.** Apply the Offset Top Shadow shape effect to the title.
   - **g.** Apply the Moderate Effect – Orange, Accent 6 shape style to the vertical-axis title and the horizontal-axis title.
   - **h.** Save your changes.
7. **Create a pie chart.**
   - **a.** Select cells A5:A9, then press and hold [Ctrl] while selecting cells E5:E9.
   - **b.** Insert a pie chart, choosing the Exploded pie in 3-D option.
   - **c.** Move the pie chart to a new sheet in the workbook. Name the sheet **Revenue by Region**.
   - **d.** Apply the Layout 6 chart layout to the chart.
   - **e.** Increase the font size of the percentage amounts on the pie slices to 24.
   - **f.** Click the chart title placeholder, type **Recycling Revenue by Region, 2011-2013**, then press [Enter].
   - **g.** Save your changes.
8. **Create sparklines.**
   - **a.** Click the Sheet1 sheet tab to return to the worksheet.
   - **b.** Add a line sparkline to cell F5 that is based on the data range B5:D5.
   - **c.** Specify to add data markers to the sparkline.
   - **d.** Apply Style 31 to the sparkline.
   - **e.** Use the fill handle to copy the sparkline in cell F5 to the range F6:F10.
   - **f.** Enter your name in cell A30. Save your changes.
   - **g.** Preview the worksheet in Print Preview. Change the scaling settings to Fit Sheet on One Page, then save your changes. View the chart sheet in Print Preview. Close the workbook, exit Excel, then submit your completed workbook to your instructor. Compare your completed worksheet and chart sheet to Figures I-23 and I-24.

FIGURE I-23

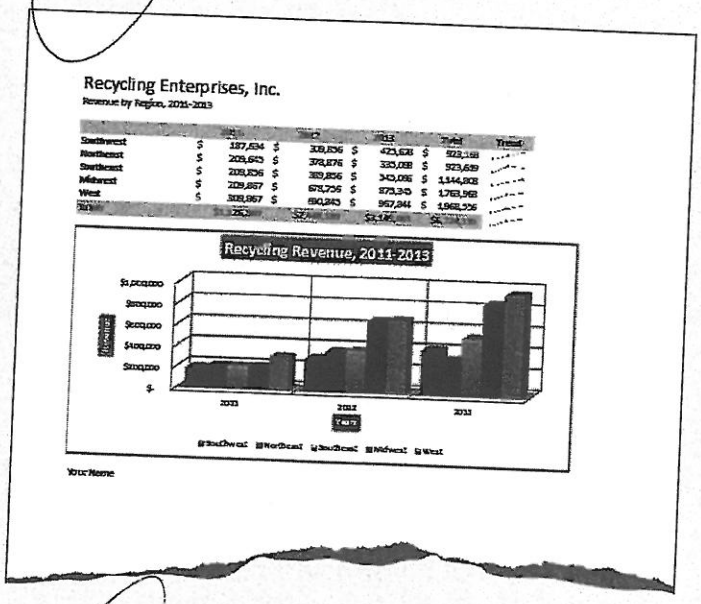
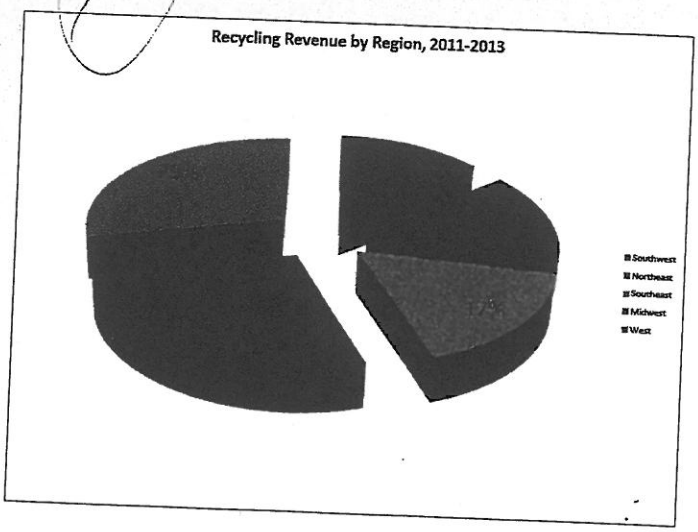


FIGURE I-24



Independent Challenge 1

You work for a landscaping services company called Landscapes for Good Living, located in the midwest. The company offers landscaping services, including brick paving, landscape design, sodding and seeding, landscape lighting, and irrigation. Frank Langdon, the general manager, has created a worksheet that contains revenue data for the five categories of services that the company offers. He has asked you to create a chart using the worksheet data to show the results for each quarter.

a. Open the file I-3.xlsx from where you store your Data Files, then save it as **I-Landscape Revenue**.

b. Create a stacked area chart based on the data in the range A4:E9.

c. Move the chart so that it is positioned directly below the worksheet data, then enlarge it so that the bottom-right corner of the chart is aligned with cell G30.

d. Switch the rows and columns, so that May, June, July, and August are on the x-axis.

e. Apply the Layout 3 chart layout to the chart, then apply a chart style that you like.

f. Replace the placeholder chart title with **Revenue, May-August**.

g. Add a rotated vertical-axis title **Revenue**. Add a horizontal-axis title with the text **Months**. Apply a shape style that you like to the vertical and horizontal axis titles.

h. Apply a shape style that you like to the chart title.

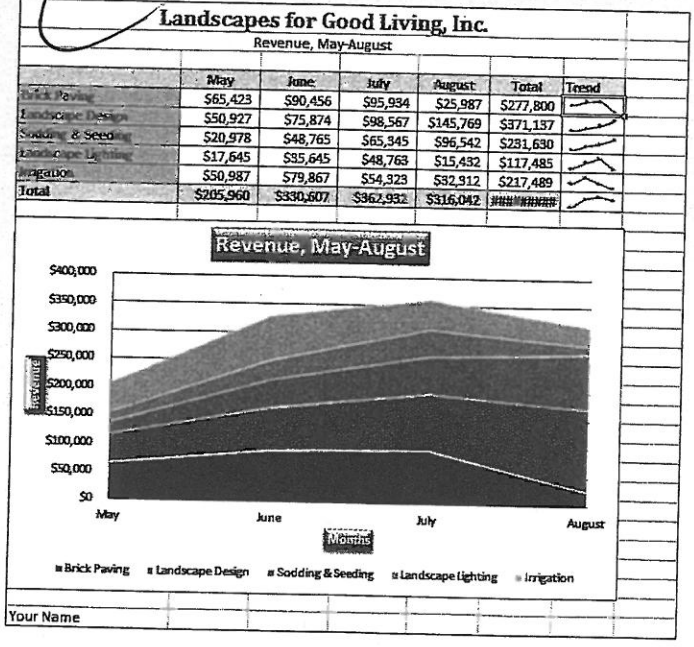
i. Add line sparklines to the range G5:G10. Include markers in the sparklines. Apply a sparkline style of your choosing to the sparklines.

j. Create a 2-D Exploded pie chart by selecting the noncontiguous ranges A5:A9 and F5:F9. Move the pie chart to a separate chart sheet named **Revenue by Service Type**. Apply the Layout 2 chart layout to the pie chart. Change the chart title to **Revenue by Service Type**. Increase the font size of the percentage amount labels on each pie slice to 20.

k. Open Sheet1, then type your name in cell A32. Format the worksheet data and worksheet title using fonts, font sizes, borders, alignments, and shading to make the worksheet look professional and easy to understand. Choose formatting options that are complementary to the colors and style of the chart.

l. Preview the Sheet1 worksheet in Print Preview. Change the scaling settings to Fit Sheet on One Page, then save your changes. Figure I-25 shows one possible solution for the worksheet and chart.

FIGURE I-25



Advanced Challenge Exercise

- Open the Revenue by Service Type chart sheet.
- Click one of the data labels on the pie chart (such as 10%) to select all the data labels.
- Click the Chart Tools Format tab, click the More button in the WordArt Styles group, then click the Fill - White, Drop Shadow style.
- Right-click the legend, then click the Increase Font Size button on the Mini toolbar four times to increase the legend font to 14.
- Click the Chart Tools Layout tab, click the Text Box button, click in the lower right corner of the chart sheet, then type your name.

m. View the chart sheet in Print Preview. Close the workbook, exit Excel, then submit your completed workbook to your instructor.

Independent Challenge 2

You work for Thelma Watson, the general manager of an online bakery retailer. Thelma has created an Excel worksheet showing product sales for June and the revenue generated by each product category. She has asked you to create a chart in the worksheet that shows the percentage of total sales each category represents.

a. Open the file I-4.xlsx from where your Data Files are located, then save it as **I-June Product Sales**.
b. Create a pie chart using the data in the range A4:B9. Choose the Pie in 3-D style.
c. Move the chart below the worksheet data.
d. Resize the chart so that its lower-right corner is aligned with the lower-right corner of cell G29.
e. Change the value in cell B9 (the number of pies sold) to **5,275**. Observe the change in the chart.
f. Apply the Layout 1 chart layout to the chart. Apply a chart style that you like.
g. Display the Chart Tools Layout tab, then use the Chart Elements list box to select the Chart Area. Click the Format Selection button in the Current Selection group to open the Format Chart Area dialog box. Select Fill, then specify to add a solid fill, choosing settings in the dialog box that you think will look good. Experiment by choosing different settings, then close the dialog box to view the settings. Repeat this process until you are satisfied with how the chart area looks.
h. Increase the size of the labels and percentage amounts in each pie slice to 12.
i. Format the worksheet data and worksheet title using fonts, font sizes, borders, alignments, and shading to make the worksheet look professional, visually pleasing, and easy to understand. Choose formatting options that are complementary to the colors and style of the chart. Make any other formatting enhancements to the chart and to the worksheet data to make it attractive and more professional looking. Enter your name in cell A31 in the worksheet.
j. Preview the worksheet and chart in Print Preview. Close the workbook, exit Excel, then submit your completed workbook to your instructor.

Independent Challenge 3

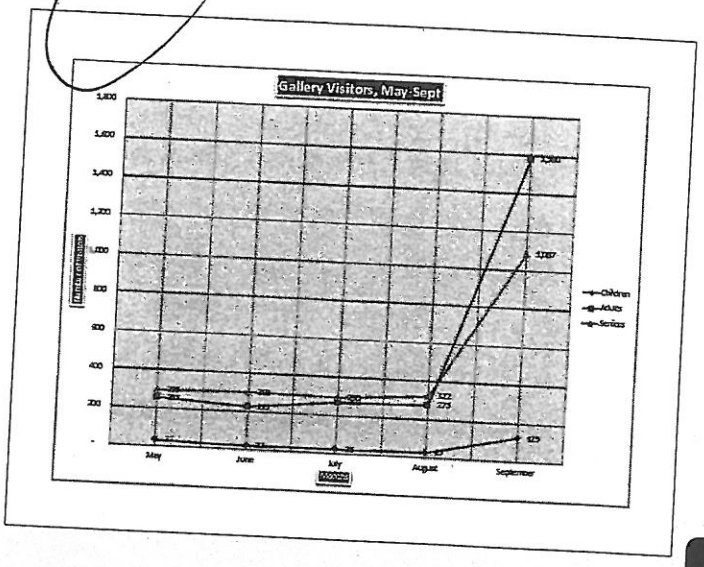
You work for Stephen Briggs, the manager of an art gallery. In September, the gallery opened an exhibit of paintings from a private collector that included never-before-seen masterpieces by several famous artists. Museum attendance increased dramatically in that month due to the high public interest in the exhibit and a strong marketing campaign. Stephen is preparing to meet with the museum's board of directors to discuss the increased attendance. He has asked you to create a chart that shows the number of people who visited the museum from May through September. He also needs the chart to show a breakdown of children, adults, and seniors who attended. The data you need to create the chart has already been put into a worksheet.

a. Open the file I-5.xlsx from where you store your Data Files, then save it as **I-Gallery Visitors**. Enter your name in cell A9.
b. Create a 2D line chart of all three customer categories during the months May through September. Choose the 2-D Line with Markers chart type. Choose a chart style that you like.
c. Move the chart to a new chart sheet in the workbook. Name the chart sheet **Gallery Visitors May-Sept**.
d. Apply the Layout 9 chart layout to the chart. Change the chart title to **Gallery Visitors, May–Sept**.
e. Add minor vertical gridlines to the chart. Add an appropriate vertical-axis title that is rotated, then add an appropriate horizontal-axis title.
f. Apply a solid color fill to the plot area, choosing a color you think looks good. (*Hint*: To select the plot area, open the Layout or Format tab, click the Chart Elements list arrow in the Current Selection group, and click Plot Area. Then open the Format Plot Area dialog box and specify a fill color.)

Independent Challenge 3 (continued)

g. Apply a shape style of your choosing to the chart title and axis titles. Figure I-26 shows one possible example of the completed chart.

FIGURE I-26



Advanced Challenge Exercise

- Switch to the Sheet1 worksheet that contains the chart data. Enter **Trend** in cell H3. Notice that the label you entered is formatted like the label in cell G3.
- Click cell H4, click the Insert tab, click the Column button in the Sparklines group, select the range B4:F4, then click OK. Notice the column sparkline that appears in H4.
- Use the fill handle in cell H4 to copy the column sparkline in H4 to the range H5:h7.

h. Save your changes, preview the worksheet and chart sheet, close the workbook, then exit Excel. Submit your completed workbook to your instructor.

Real Life Independent Challenge

Creating a personal budget is a great way to keep your finances in order. In this Real Life Independent Challenge, you will create a personal budget for monthly expenses. For the purposes of this exercise, imagine that you earn $2,500 per month. Your budget needs to include categories of expenses and the amounts for each expense. The total expenses in the worksheet must add up to $2,500. Once you enter all your monthly expenses in the worksheet, you will then create a pie chart that shows the percentage of each individual expense.

a. Start a blank Excel workbook, and save it as **I-My Budget** where you store your Data Files.
b. Enter **My Budget** in cell A1. Format the title so that it stands out. Enter your name in cell A2.
c. Enter the label **Expense** in cell A3, and enter the label **Amount** in cell B3.
d. Enter the following labels for the expenses in cells A4:A12: **Housing**, **Utilities**, **Car Payment**, **Insurance**, **Student Loans**, **Food**, **Entertainment**, **Gas**, **Savings**.
e. Enter appropriate amounts for each expense in cells B4:B12.
f. When you have entered all your expenses in the worksheet, enter the label **Total** in cell A13. Enter a formula in cell B13 that totals all the expense amounts in cells B4:B12. If the returning value in the formula cell does not add up to $2,500, then adjust the numbers in your budget so that the total adds up to $2,500.
g. Insert a pie chart based on the data in your chart. (*Hint*: Remember not to include the Total row when you select the data; select only the heading row, the labels, and expense amounts.) Choose any pie chart option that you like. Move the chart so that it is located below the worksheet data.
h. Apply a chart layout and chart style that you like. If the chart layout that you choose does not include a chart title, add one to the chart using the appropriate options on the Chart Layout tab. Replace the chart title placeholder with the title **My Monthly Expenses**.
i. Save your changes, preview the worksheet with the chart, close the file, then exit Excel. Submit your completed workbook to your instructor.

Visual Workshop

Open the Data File I-6.xlsx, then save it as **I-Charity Challenge Results** where you store your Data Files. Make formatting changes to the worksheet so that it looks like Figure I-27, then add the two charts so that they match the figure, using the commands and techniques you learned in this unit and previous units. You will need to make formatting changes to both charts so that they match the figure. Enter your name in cell A3 as shown. (*Hint*: You will need to merge and center the ranges A1:G1, A2:G2, and A3:G3 so that the company name, worksheet title, and your name match the figure.) Save your changes, preview the worksheet and charts, close the file, then exit Excel. Submit your completed workbook to your instructor.

FIGURE I-27

Haskell-Barnes Insurance, Inc.

Employee Charity Challenge Results

Your Name

	2012	2013	Total	Trend
San Francisco	$ 5,287	$ 5,026	$ 10,313	
Chicago	$ 5,845	$ 6,248	$ 12,093	
Boston	$ 4,576	$ 6,542	$ 11,118	
New York	$ 5,324	$ 7,543	$ 12,867	
Los Angeles	$ 6,342	$ 9,087	$ 15,429	
Total Revenue	$ 27,374	$ 34,496	$ 61,820