

Adding Pictures and Shapes to a Worksheet 13

LESSON SKILL MATRIX

Skills	Exam Objective	Objective Number
Inserting Pictures	Insert images.	5.3.3
Adding Shapes, Lines, Text Boxes, and WordArt	Insert text boxes.	5.3.1
	Change text to WordArt.	2.2.9
Deleting, Copying, and Moving Graphics		
Formatting Graphics	Change object colors.	5.3.6
	Position objects.	5.3.8
Adding Graphic Enhancements Using Picture Tools	Add styles and effects to objects.	5.3.5
	Add borders to objects.	5.3.4
	Modify object properties.	5.3.7
Using SmartArt Graphics	Insert SmartArt.	5.3.2



© kate_sept2004 / iStockphoto

KEY TERMS

- artistic effect
- clip art
- duotone
- graphic
- handle
- metadata
- saturation
- shape
- SmartArt graphic
- text box
- WordArt



© kate_sept2004 / iStockphoto

Tailspin Toys creates unique toys and games aimed at childhood education. The company is also highly involved in charitable giving and fundraising for community organizations, especially to support the local food pantry. Tailspin Toys works with the pantry to run various fundraising activities throughout the year, as well as to provide educational opportunities to train volunteers and the public to assist with feeding the hungry and ending hunger in the community. They also collect donated food for distribution to the needy. Throughout this lesson, you will add graphics to a worksheet that reports on fundraising activities. You'll learn to manipulate those graphics using Excel's many tools to place, resize, reposition, and reformat photos, clip art, shapes, SmartArt, and WordArt.

SOFTWARE ORIENTATION

The INSERT Tab's Illustration and Text Tools

Excel isn't just for crunching numbers or storing rows and rows of records. It contains a robust set of tools for turning data into charts; concepts and processes into diagrams; and adding photos, clip art, shapes, and other drawn content to make worksheets more interesting and more quickly understood. In this lesson, you focus on diagrams, images, shapes, and text-based graphics such as WordArt and text boxes, which are used to enhance a worksheet and help those viewing it to understand its content.

Most of the graphical elements you can add to an Excel worksheet are generated from the INSERT tab, shown in Figure 13-1, in the Illustrations and Text groups. Everything from pictures, clip art, SmartArt, shapes, text boxes, and WordArt are found in these two clusters of buttons. Once you've inserted the graphical element you need, tools are presented to allow you to format, size, and position them to meet your needs.

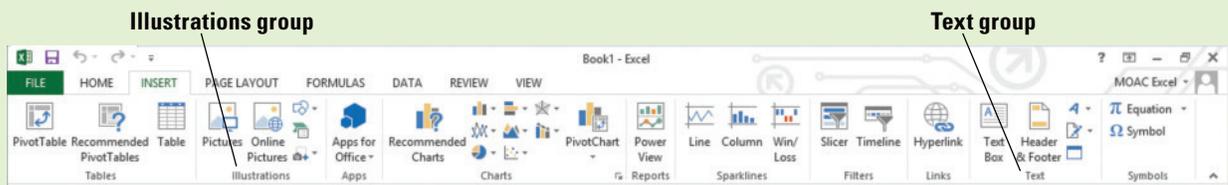


Figure 13-1

The INSERT tab's Illustrations and Text groups

Bottom Line

INSERTING PICTURES

As the saying goes, “A picture’s worth a thousand words,” and in the case of Excel, pictures can be worth a thousand cells filled with text and numbers. Adding everything from photos to clip art is easy in Excel, helping you take a mind-numbing worksheet packed with numbers and text and turn it into something interesting to look at, compelling to read, and easy to navigate.

Inserting a Picture from a File

A **graphic** is an art-related object, such as a drawing (including clip art), image, or shape. Perhaps the most common graphical item added to a worksheet, aside from pie charts and bar graphs, is the picture. Using the Pictures button on the INSERT tab, it’s quick and easy to add any picture you have stored on your computer (or on a network drive to which you have access), simply by navigating to the folder where that picture is stored and selecting it via the Insert Picture dialog box.

STEP BY STEP

Insert a Picture from a File

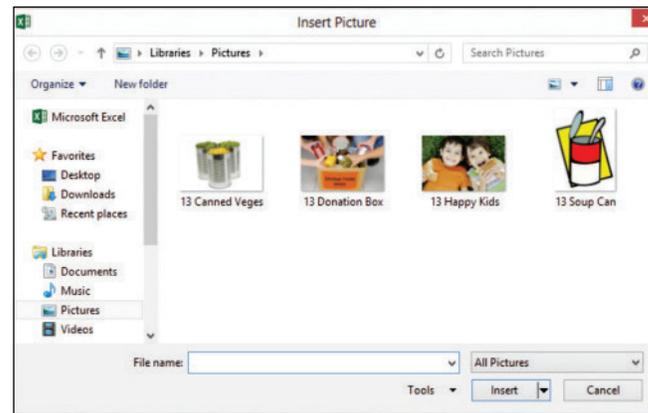


GET READY. LAUNCH Excel and open a new, blank workbook. Download the image files for this lesson and SAVE them in the **My Pictures** folder. Alternatively, you can create a subfolder in your student data folder named **Lesson 13 Images** and save the images in that subfolder.

1. On the INSERT tab, in the Illustrations group, click the **Pictures** button. The Insert Picture dialog box opens (see Figure 13-2).

Figure 13-2

The Insert Picture dialog box



©toddtalman /iStockphoto, ©mangostock /iStockphoto, ©Zurijeta /iStockphoto, ©mikesss /iStockphoto

2. Navigate to the folder that holds the image files for this lesson. Double-click the **13 Happy Kids** image, or click it once and then click the **Insert** button. The picture is inserted into your worksheet.



Troubleshooting

If you don’t see your picture file listed in the Insert Picture dialog box after navigating to the folder where the picture is stored, click the All Pictures drop-down list to the right of the File Name box. Excel displays all pictures that it supports, such as BMP, JPG, PNG, TIFF, and more.

3. SAVE the workbook in the Lesson 13 folder as **13 Insert Pictures Solution**.

PAUSE. LEAVE the workbook open to use in the next exercise.

CERTIFICATION
READY? 5.3.3

How do you insert an image into a worksheet?

When you insert a graphic into Excel, the upper-left corner of the graphic aligns with the active cell. However, the graphic appears on top of the worksheet grid. Although the graphic might cover up content in the grid, it doesn’t affect that content and is not actually inserted into any cell in the worksheet. You can move the graphic in the worksheet without affecting any existing data or other inserted graphics.

If you decide you want to use a different photo, select the current picture and on the **FORMAT** tab, in the **Adjust** group, click the **Change Picture** button. In the **Insert Pictures** dialog box, choose an alternate image to replace the selected picture on your worksheet.

Inserting an Online Picture

Pictures and **clip art** (drawings and illustration files) can increase the appeal of many worksheets. You can easily obtain royalty-free images from Office.com or search Bing's image library, both through a simple keyword search. In lieu of that, you can browse your own SkyDrive (which is part of Office 365) to insert an image you've stored there. It's all done through the **Online Pictures** button in the **INSERT** tab's **Illustrations** group.

STEP BY STEP

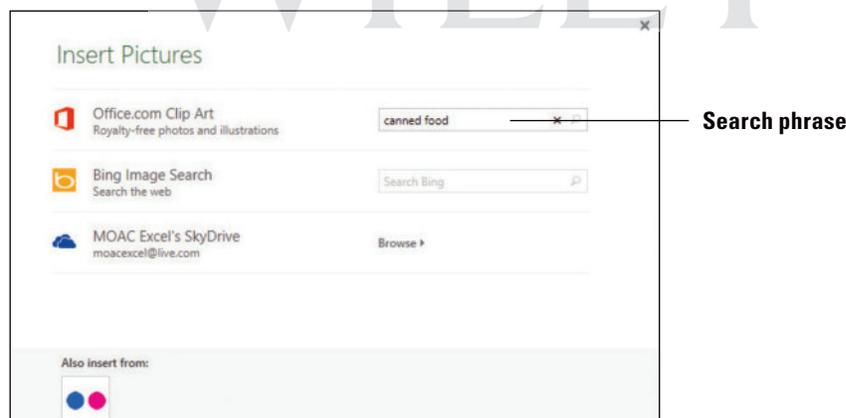
Insert Office.com Clip Art

GET READY. USE the workbook from the previous exercise.

1. Click in cell **J1**.
2. On the **INSERT** tab, in the **Illustrations** group, click the **Online Pictures** button. The **Insert Pictures** dialog box appears.
3. To the right of **Office.com Clip Art**, click in the **Search** box. Type a keyword or phrase, such as **canned food** (see Figure 13-3).

Figure 13-3

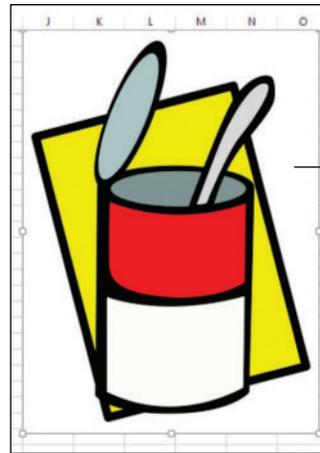
Entering a search phrase in the online version of the **Insert Pictures** dialog box



4. Click the magnifying glass icon at the right end of the search box or press **Enter** to begin the search. Excel searches the online Office clip art database for images containing the keywords "canned food" in their metadata.
5. The dialog box displays the images that meet the search criteria. To insert one of the images, click on it and then click the **Insert** button in the dialog box. You can also double-click the desired image to insert it into your worksheet. When an image is inserted, the dialog box closes automatically. Figure 13-4 shows a clip art image inserted into the worksheet.

Figure 13-4

A clip art image inserted into a worksheet



Clip art image

©mikesss /iStockphoto

6. SAVE the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

After searching for an image, if none of the images returned by Office.com meet your needs, type new search criteria into the search box and press the Enter key to initiate a new search.

Metadata is information stored about images—keywords that describe the content of the image, the name of the photographer, the type of image, the date the image was taken or last edited, and so on. Any image search, through Office.com or a web browser's image search feature, relies on the metadata stored about each image to return results when a user searches for an image to meet his needs.

STEP BY STEP

Insert an Image via a Bing Image Search

GET READY. USE the workbook from the previous exercise.

1. On the INSERT tab, in the Illustrations group, click the **Online Pictures** button. The Insert Pictures dialog box appears.
2. Click in the Search Bing box to the right of Bing Image Search.
3. Type a keyword or phrase, such as **children eating lunch** to search the Internet via the Bing web browser for images containing those keywords in their metadata.
4. Click the **magnifying glass icon** at the right end of the search box or press **Enter** to begin the search.
5. The dialog box displays the images that meet the search criteria. To insert one of the images, click on it and click the **Insert** button in the dialog box. You can also double-click the desired image. Once an image is inserted, the dialog box closes automatically. Notice that the image was inserted over the top of the clip art image.
6. Click the newly inserted image to select it, and then press the **Delete** key on your keyboard.

Take Note Most images you find on the Internet are copyrighted, even if you don't see a copyright symbol or copyright text associated with the image. If you intend to use an image you find on the Internet, you need to contact the image owner and seek permission. As an alternative, you can search for "public domain images" to find images that are not restricted by copyright, or purchase images from any number of stock image websites.

PAUSE. LEAVE the workbook open to use in the next exercise.

STEP BY STEP Insert an Image from Your SkyDrive

GET READY. USE the workbook from the previous exercise. You must have an account at SkyDrive.com. Accounts are free to set up and use. SkyDrive is Microsoft's cloud solution for sharing and collaboration. If you installed Office 2013 on your own computer, you most likely became an Office 365 subscriber, which gave you space within the SkyDrive cloud. You can use this space to store files of all kinds, including pictures.

1. Connect to your SkyDrive account, navigate to the **Pictures** folder, and upload the Lesson 13 images. If a Pictures folder doesn't exist, create it and then upload the images.
2. Click in cell **Q1**.
3. On the **INSERT** tab, in the Illustrations group, click the **Online Pictures** button. The Insert Pictures dialog box appears.
4. Click the **Browse** link to the right of the SkyDrive option. Your SkyDrive folders, including a Public folder, appear.
5. Double-click the **Pictures** folder or whichever folder contains the picture you want to insert. The folder opens, displaying the images it contains (see Figure 13-5).

Figure 13-5

Any image stored in your SkyDrive folders is available for insertion in an Office document.



©toddtalman /iStockphoto, ©mangostock /iStockphoto, ©Zurijeta /iStockphoto, ©mikesss /iStockphoto

6. Scroll through the images, select the **13 Canned Veges** image, and then click the **Insert** button. You can also double-click the desired image.
7. Once an image is inserted, the dialog box closes automatically.
8. **SAVE** the workbook and **CLOSE** the file.

PAUSE. LEAVE Excel open to use in the next exercise.

ADDING SHAPES, LINES, TEXT BOXES, AND WORDART**Bottom Line**

Nothing directs a worksheet user's attention to key information faster than an arrow or line that literally points to important data. Microsoft offers **shapes** in several Office products, which are editable lines, circles, arrows, stars, and more used to draw the user's focus to a particular part of the worksheet. You can add text to shapes to provide additional information to someone trying to understand complex data, making the worksheet data more friendly and accessible. You can also insert a standard **text box**, a box that may contain text or graphics and that you can insert anywhere in a worksheet. A text box may be used to explain complex content or provide the history or source of data, or create an eye-catching title through the use of WordArt.

Adding Shapes

Excel, like Word and PowerPoint, offers the capability to insert and modify shapes in worksheets. The Shapes feature offers eight different categories of shapes, along with a group entitled Recently Used Shapes so you can quickly draw the same shapes over and over. The categories—Lines, Rectangles, Basic Shapes, Block Arrows, Equation Shapes, Flowchart, Stars and Banners, and Callouts—provide the capability to draw nearly any shape.

STEP BY STEP Add a Shape

GET READY. LAUNCH Excel if it's not already running.

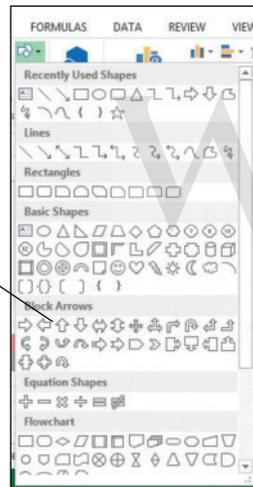


1. OPEN **13 Add Shapes** from the data files for this lesson.
2. On the INSERT tab, in the Illustrations group, click the **Shapes** button. A menu of shape categories appears, as shown in Figure 13-6.

Figure 13-6

The Shapes list

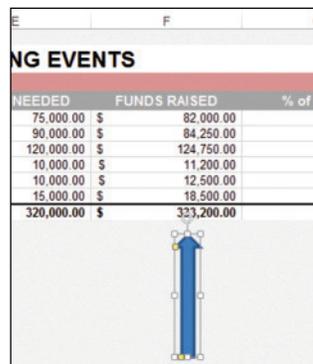
Up Arrow icon



3. In the Block Arrows section, click the **Up Arrow** shape. The Up Arrow shape is probably located on the first line in the Block Arrows section, third from the left.
4. Move the mouse pointer onto the worksheet, just below the FUNDS RAISED column. The mouse pointer appears as a crosshair. Draw the shape by clicking and dragging down and a little to the right. The shape appears as you drag.
5. When the shape is the desired size (both size and proportions can be changed later, so don't worry about being perfect), release the mouse button. Your block arrow should look similar to Figure 13-7.

Figure 13-7

A block arrow drawn in a worksheet



6. Click any blank cell.
7. SAVE the workbook in the Lesson 13 folder as **13 Add Shapes Solution**.

PAUSE. LEAVE the workbook open to use in the next exercise.

When inserting a shape, the direction you drag from the starting point controls the size of the shape and its proportions. You can, by controlling the angle, create a nearly perfect square or a very round, almost circular ellipse. But why do it by eye? Instead, hold down the Shift key as you drag, and you draw a shape that's equal in width and height. This applies to any shape, but is essential for squares and circles. The trick to successful use of this technique is to release the mouse button and then the Shift key.

When a shape is drawn, it has white handles on its perimeter. For graphics, a **handle** is a white box on the side and/or corner of the graphic that you click and drag to increase or decrease the size of the graphic. You can also click inside a graphic and drag to move it, and change the color of its fill and/or outline, assuming the default blue isn't what you need. You'll learn the specifics of these formatting changes later in this lesson.

Drawing Lines

Lines can be used to point to something or to create a visual connection between two shapes or two areas of the worksheet. You can draw them at any angle, at any length, and once drawn, format their appearance.

STEP BY STEP

Draw Lines

GET READY. USE the workbook from the previous exercise.

1. On the INSERT tab, in the Illustrations group, click the **Shapes** button.
2. In the Lines section, click the **Arrow line** (see Figure 13-8).

Figure 13-8

The arrow line in the Shapes list

Arrow line icon



3. Move the mouse pointer onto the worksheet (it appears as a crosshair), and click over the left side of cell **D22** and drag diagonally up and to the right, toward cell **D19**.

Take Note When drawing straight lines, with or without arrowheads, to constrain the line to a 45° or 90° angle, hold the Shift key as you drag to draw the line. Release the mouse button before releasing the Shift key to maintain the angle after the line is completed.

4. When your line is complete, release the mouse button and click a blank cell. A finished line is shown in Figure 13-9.

Figure 13-9

An arrow line in the worksheet

T DATE	CONTACT	FUNDS
1/21	Walter Harp	\$
1/20	Johnson Apacible	\$
1/23	Toni Poe	\$
- 8/18	Sharon Salavaria	\$
0/8	Stuart Munson	\$
- 12/15	Barbara Zighetti	\$
6		\$



5. SAVE the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

Use the following methods, depending on the type of line you choose to draw:

- To draw a straight, elbow, or curve line, click and drag the mouse in the direction you want the line to follow.
- To draw a freeform line, hold the mouse button down, so that you're drawing the line in the path of the mouse.
- To draw a freeform shape, continue dragging and drawing the line as you would for a freeform line, but come back to your line's starting point to close the shape (the shape then fills with the default blue).
- To draw a line with an arrowhead at one end, drag toward the spot that the line should point to.

Adding Text to a Shape

Shapes of all kinds can be turned into geometric text boxes by typing text directly into the shape. Once in place, the text can be formatted to any font, size, or color, and positioned within the shape using the same alignment tools that align text in your worksheet cells. All of this makes it possible to place eye-catching annotations right on the worksheet, offering short phrases or longer descriptions or instructions for use, right along with the data.

STEP BY STEP

Add Text to a Shape

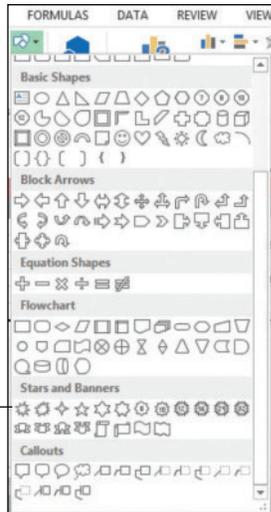
GET READY. USE the workbook from the previous exercise.

1. On the INSERT tab, in the Illustrations group, click the **Shapes** button.
2. In the Stars and Banners section, click the **Explosion 1** shape (see Figure 13-10).

Figure 13-10

The Explosion 1 shape in the Shapes list

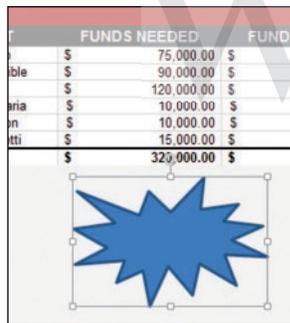
Explosion 1 icon



3. Click and drag the mouse pointer under the FUNDS NEEDED column, so the shape looks similar to Figure 13-11.

Figure 13-11

Drawing the Explosion 1 shape



4. With the shape still selected, type **Goal Exceeded!**. The text begins in the upper left of the shape and wraps within the shape if the width is too small to display all text on one line. Don't press **Enter** unless you want to force the text onto a new line to create a new paragraph or to place words or phrases on separate lines.
5. To format the text in the shape, select the text by clicking just to the left of the "G" in Goal and dragging through all text. Note that when you're within the shape that contains text, the mouse pointer turns to an I-beam cursor.
6. With the text selected, use the formatting tools on the Mini Toolbar or on the HOME tab to bold and center the text, and change the font size to 14. Grab a sizing handle on either side of the shape and pull to the left, right, or down a bit until all text appears, as shown in Figure 13-12.



**Cross
Ref**

You learned how to format text in Lesson 6, "Formatting Cells and Ranges."

Figure 13-12

A shape with text added

	FUNDS NEEDED	FUNDS RAISED
Goal	\$ 75,000.00	\$ 82,000.00
...	\$ 90,000.00	\$ 84,250.00
...	\$ 120,000.00	\$ 124,750.00
...	\$ 10,000.00	\$ 11,200.00
...	\$ 10,000.00	\$ 12,500.00
...	\$ 15,000.00	\$ 18,500.00
Total	\$ 320,000.00	\$ 333,200.00

7. **SAVE** the workbook.

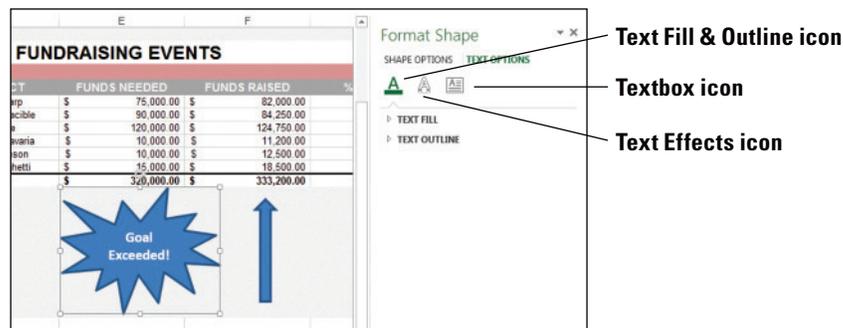
PAUSE. LEAVE the workbook open to use in the next exercise.

When you select text within a shape, you can use the formatting tools on the Mini Toolbar or on the HOME tab to change the font, font size, text color, and alignment of the text.

You can apply special effects to a shape by right-clicking the shape and choosing Format Shape from the shortcut menu. The Format Shape pane appears on the right side of the workspace. Click the Text Options tab, and use the Text Fill & Outline, Text Effects, and Textbox icons shown in Figure 13-13 to apply various special effects, using the commands that appear below the icons as you select each one.

Figure 13-13

Special effect icons for formatting shapes



Adding a Text Box

Shapes with text in them can function as a text box, but give you the freedom to make that box appear as a circle, a star, an arrow, a banner, or any polygon. If all you need is a basic white box that contains text, however, there's no need to draw a shape and then have to format it and add text to it. Instead, insert a Text Box and type the text into it.

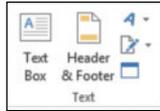
STEP BY STEP Add a Text Box

GET READY. USE the workbook from the previous exercise.

1. On the INSERT tab, in the Text group, click the **Text Box** button, as shown in Figure 13-14.

Figure 13-14

The Text group of tools on the INSERT tab

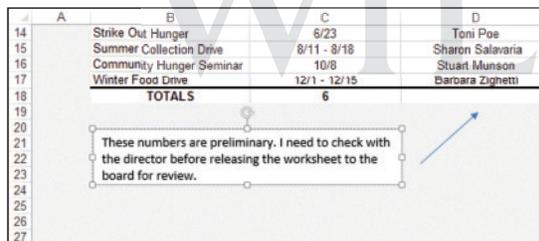
**CERTIFICATION READY?** 5.3.1

How do you insert a text box into a worksheet?

2. Move the mouse pointer onto the worksheet over cell **B20**. The mouse pointer turns into a vertical cursor.
3. Click and drag to cell **C24** to draw a small box. If you draw a box that's too big or too small for the text you will type into the box, you can resize the box after typing the text.
4. The text box contains a blinking cursor. Type **These numbers are preliminary. I need to check with the director before releasing the worksheet to the board for review.** See Figure 13-15.

Figure 13-15

Entering text into a text box



5. Click in cell **A1** to make the text box non-active and to prepare for the next exercise.
6. **SAVE** the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

You can use the formatting tools on the HOME tab or on the Mini Toolbar to format text in a text box.

Using WordArt

Looking for a way to add text to your worksheet and catch everyone's eye? **WordArt**, a Microsoft Office feature that combines words and artistic effects, may be just what you need. Utilizing an extensive series of preset colored fills, drop shadows, outlines, and 3D looks, WordArt makes it easy to create a specialized text object quickly. You can use them to add phrases like "Great job!" next to high sales numbers or to include staff or product names and short titles on your worksheet, unbound by the limited formatting tools available through the Font group on the HOME tab.

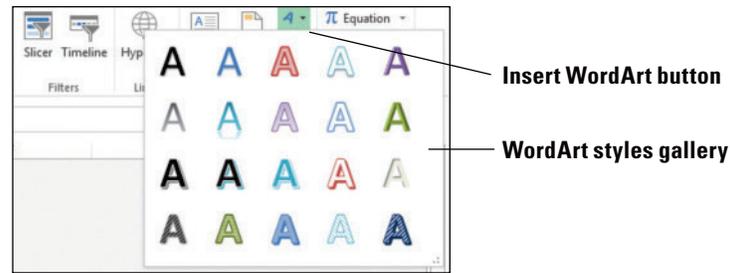
STEP BY STEP Use WordArt

GET READY. USE the workbook from the previous exercise.

1. On the INSERT tab, in the Text group, click the **Insert WordArt** button. The WordArt styles gallery appears, as shown in Figure 3-16.

Figure 13-16

The WordArt styles gallery



1. Select the **Fill - Blue, Accent 1, Shadow** style.
2. A box of sample text appears on the worksheet. Triple-click in the box to select all sample text and type **Great Fundraisers!**. Notice in Figure 13-17 that the style you chose in Step 2 is applied to the sample text.

Figure 13-17

WordArt in a worksheet



**CERTIFICATION
READY?** 2.2.9

How do you create WordArt
in Excel?

3. SAVE the workbook as **13 Add Shapes Solution** and CLOSE the file.

PAUSE. LEAVE Excel open to use in the next exercise.

You can change your WordArt style, simply by selecting the WordArt object on your worksheet and then displaying the WordArt Styles gallery on the **FORMAT** tab. Choose a different style, and the text you typed appears in that new style. If you want to get rid of the style entirely and just use plain text, choose **Clear WordArt** from the WordArt Styles gallery on the **FORMAT** tab.

If you need to correct a typo, or add or remove text, you can edit your text at any by selecting some or all of the WordArt text and typing the correction. You can also move and resize the graphic at any time, so placement and size are entirely up to you. You learn more about how to move and resize graphics of any kind later in this lesson.

DELETING, COPYING, AND MOVING GRAPHICS

Bottom Line

Once you add a graphic to a worksheet, you'll probably want to move it to the perfect spot. You may also want to reuse it in another location, to improve yet another worksheet through the use of interesting and helpful visuals. Conversely, you may want to get rid of it all together. No matter what you want to do, fortunately, moving, copying, and deleting graphics are incredibly simple.

Deleting Graphics

To delete a graphic, just select the graphic and then press the **Delete** key on your keyboard. The same concept applies to nearly any object, such as a shape, line, text box, or WordArt.

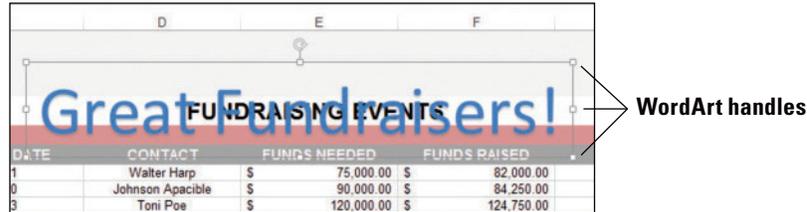
STEP BY STEP**Delete Graphics**

GET READY. LAUNCH Excel if it's not already running.

1. OPEN **13 Delete Copy Move** from the data files for this lesson.
2. On the Fundraising Events worksheet, click the **WordArt** graphic. Handles appear on its edges as shown in Figure 13-18.

Figure 13-18

Handles on the selected graphic



3. Press the **Delete** key on your keyboard. Excel deletes the graphic.
4. Click the **block arrow** graphic and press the **Delete** key.
5. SAVE the workbook in the Lesson 13 folder as **13 Delete Copy Move Solution**.

PAUSE. LEAVE the workbook open to use in the next exercise.

When deleting text boxes, WordArt, and shapes to which you've added text, it's important to select the object and not the text. If your cursor is active in the text, that's what you'll delete when you press the Delete key. You'll remove text rather than the whole object. To be sure your entire object is selected, click once on the object and then click the edge of it, so that the line around the object is solid. If the contents of the object are selected or active for editing, the bounding box will appear as a dashed line.

Moving Graphics

Rarely do we insert a graphic in the exact spot where we need it. This isn't a big deal, however, considering how simple it is to move the graphic to where it belongs, whether you're nudging it just a bit or dragging it to an entirely new spot in the worksheet. You can also move objects to another worksheet or workbook using the Clipboard.

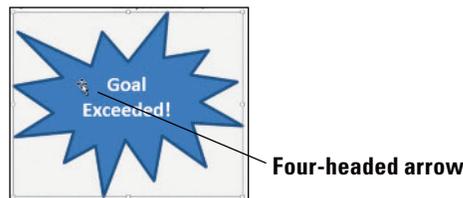
STEP BY STEP**Move Graphics**

GET READY. USE the workbook from the previous exercise.

1. Click the **starburst** shape. Handles appear on its edges.
2. Point the mouse pointer inside the graphic. The mouse pointer should change to a four-headed arrow, as shown in Figure 13-19.

Figure 13-19

The mouse pointer is a four-headed arrow, which indicates you can move the graphic.



3. Click and drag the graphic so it appears under the % of GOAL column. Release the mouse button.

Take Note While the object is selected, you can move it without using the mouse. Just tap the arrow keys on your keyboard to nudge the object in small increments—up, down, left, or right.

- Click and drag the **arrow** shape so it points to the FUNDS RAISED column, as shown in Figure 13-20.

Figure 13-20

The result of moving graphics

	FUNDS NEEDED	FUNDS RAISED	% of GOAL	EVENT TYPE
\$	75,000.00	\$ 82,000.00	109%	Fundraising
\$	90,000.00	\$ 84,250.00	94%	Fundraising
\$	120,000.00	\$ 124,750.00	104%	Fundraising
\$	10,000.00	\$ 11,200.00	112%	Collection
\$	10,000.00	\$ 12,500.00	125%	Education
\$	15,000.00	\$ 18,500.00	123%	Collection
\$	320,000.00	\$ 333,200.00	111%	



- SAVE the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

When selecting the graphic, be careful not to point to a handle by accident, which will resize the graphic instead of moving it.

Another way to move a graphic of any kind, especially if you want to use it on another worksheet instead of the one where it currently resides, is to cut it. Once the object is cut, you can paste it where you want it, moving it from point A to point B.

To cut, click the object and then right-click. Select Cut from the shortcut menu, and the object disappears. You can also select the object and press Ctrl + X, which also cuts the selection.

Then, go to the other worksheet where you want to use the graphic, and either right-click anywhere on the worksheet and select one of the paste options from the shortcut menu or press Ctrl + V. The Paste Options section of the shortcut menu includes icons for Use Destination Theme, Keep Source Formatting, and Picture.

Copying Graphics

You designed a WordArt banner, or formatted a shape with text in it, and it's so great you want to use it in another worksheet, or in a Word document or a PowerPoint presentation. Making a copy of the graphic is easy, as is placing it in a different location where you want it to appear.

STEP BY STEP

Copy a Graphic



Another Way

You can also click the object to select it and then press Ctrl + C to copy it to the Clipboard.

GET READY. USE the workbook from the previous exercise.

- On the Fundraising Events worksheet, click the **text box** to select it.
- Right-click a **border** of the text box and select **Copy** from the shortcut menu.
- Click the **Volunteers** tab.
- Right-click in cell **A1** and under Paste Options in the shortcut menu, select the **Use Destination Theme icon**.
- Triple-click inside the text box to select all text, and then type **Confidential. Do not share this information without permission from a committee chair**. The text box is shown in Figure 13-21.

Figure 13-21

The copied text box with new text



6. SAVE the workbook and CLOSE the file.

PAUSE. LEAVE Excel open to use in the next exercise.



Another Way

You can click in the target spot and press Ctrl+V to paste the object from the Clipboard.

If you need one or more copies of a graphic on the same worksheet, perhaps to create a series of stars to be placed next to several impressive numbers or to adorn a series of charts, click the graphic you want to copy and press Ctrl + D. You can repeat that keyboard shortcut for as many duplicates as you need, and then move each graphic to its desired location.

FORMATTING GRAPHICS

Bottom Line

In addition to moving or copying graphics, you will most likely need to change their appearance at some point. From styles to the use of the mouse and keyboard to change the appearance, placement, and stacking order of overlapping graphics, Excel offers great tools to make your graphics look exactly as you'd imagined them.

Applying Styles to Shapes and Changing Styles

Once you've drawn a shape, the Excel ribbon changes to display DRAWING TOOLS with the FORMAT tab selected. In the steps below, you learn to apply Shape Styles and to customize shapes by choosing your own fill color, outline, and effects.

STEP BY STEP

Apply a Style to a Shape

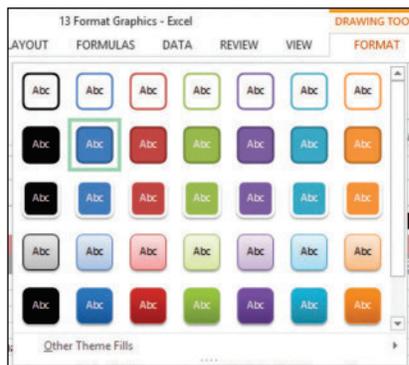
GET READY. LAUNCH Excel if it's not already running.



1. OPEN **13 Format Graphics** from the data files for this lesson.
2. In the Fundraising Events worksheet, click the **starburst** shape to select it.
3. On the DRAWING TOOLS FORMAT tab, in the Shape Styles group, hold your mouse over each of the styles in the Shape Styles mini gallery. Excel previews each style using the selected shape.
4. To see the full list of styles, click the **More arrow** in the lower right corner of the Shape Styles mini gallery. The Shape Styles gallery appears (see Figure 13-22).

Figure 13-22

The Shape Styles gallery



**CERTIFICATION
READY? 5.3.6**

How do you use Shape Fill to change the color of an object?

5. From the gallery, select **Light 1 Outline, Colored Fill - Olive Green, Accent 3**.
6. To change the shape's fill color, in the Shape Styles group, click the **Shape Fill** button. The color palette appears.
7. From the palette under Theme Colors, select **Dark Blue, Text 2**. The object's background color changes to dark blue (see Figure 13-23).

Figure 13-23

Changing the fill color of your shape



8. **SAVE** the workbook in the Lesson 13 folder as **13 Format Graphics Solution**.

PAUSE. LEAVE the workbook open to use in the next exercise.

In addition to a shape's fill color, you can also change a shape's outline and effects. To change a shape's outline, click the Shape Outline button in the Shape Styles group, and then select an outline color from the palette that appears. To make the outline thicker or apply a dashed or other non-solid outline, use the Weight and Dashes commands in the Shape Outline menu and make a selection from their respective submenus.

To apply a shape effect, in the Shape Styles group, click the Shape Effects button and select an effect from the gallery that appears. Examples of effects are Shadow, Reflection, and Glow.

Resizing a Graphic

You can control the size of the graphics you draw, such as the width and height of polygons, the length of lines, and the size of text boxes and WordArt objects, through your original creation of the graphic and how far you click and drag the mouse. Once created, however, it's easy to resize graphics to meet your needs, making them fit where you intend to place them, to make them large enough to house the text you type, and so that they attract the amount of attention you need them to. The same techniques work to resize pictures, too.

STEP BY STEP

Resize a Graphic

GET READY. USE the workbook from the previous exercise.

1. Select the **starburst** shape.
2. Point to the lower-left corner handle. When the mouse pointer turns to a two-headed arrow, drag inward to make the graphic smaller. With the handle still selected, drag outward to make the graphic larger. By pressing the **Shift** key while using a corner handle, you maintain the current width-to-height ratio when resizing a graphic.
3. To change the height of the shape, drag a top or bottom handle. This allows you to stretch the shape vertically.
4. To change the width of the shape, drag a side handle—drag outward to widen it and inward to make it narrower. Adjust your starburst shape so it resembles Figure 13-24.

Figure 13-24

The starburst shape after resizing it



5. **SAVE** the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

To change the length of a line you've drawn, select the line and then point to either of its two handles. When the mouse pointer turns to a two-headed arrow, drag outward to lengthen the line, or drag toward the center of the line to shorten it. To keep the line at a 45° or 90° angle, hold the Shift key as you drag, and release the mouse button before releasing the Shift key.

Certain polygons, such as stars, block arrows, and triangles have more than just the standard white handles on their corners and sides when selected. These shapes also have control handles, which are yellow boxes used to change the depth of sides. Use these yellow handles to make your block arrow pointier or to deepen the sides of your stars, dragging inward to make the angles more acute, or outward to make the angles more obtuse or shallow.

Rotating a Graphic

You can change the rotation of any shape with the mouse using the rotation handle that appears just outside the shape, above the top side handle.

STEP BY STEP

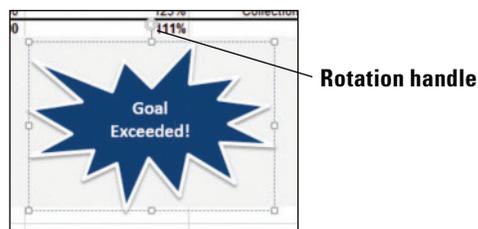
Rotate a Graphic

GET READY. USE the workbook from the previous exercise.

1. Select the **starburst** shape.
2. Point to the rotation handle (see Figure 13-25). The mouse pointer turns to a circular arrow.

Figure 13-25

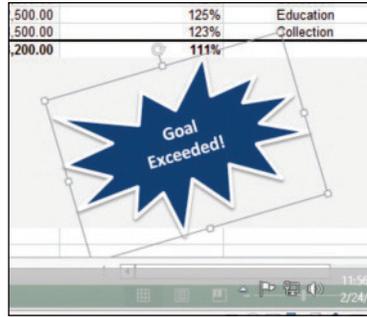
The rotation handle



3. Drag the mouse counterclockwise. As you drag, the mouse pointer changes to a series of arrows in a circle.
4. When the shape is rotated to the desired angle, similar to Figure 13-26, release the mouse button.

Figure 13-26

The starburst shape after being rotated



5. **SAVE** the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

Stacking Overlapping Graphics

When graphics overlap, their stacking order is determined, by default, by the order in which they were drawn or inserted. So if you insert a photo and then draw a block arrow that points from it to a portion of the worksheet, if the objects overlap, the arrow will be on top of the photo. If you want to change this stacking order, use the Arrange group of tools on the DRAWING TOOLS FORMAT tab.

STEP BY STEP

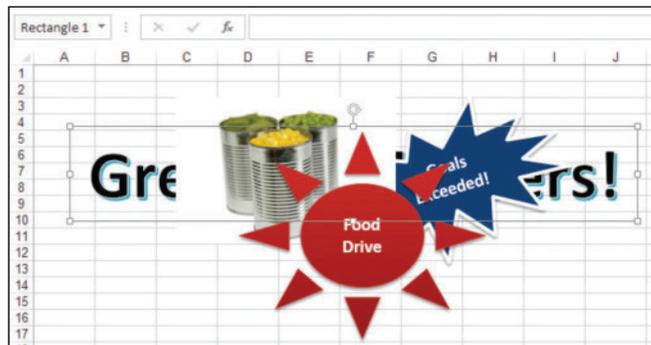
Control Stacking Order when Graphics Overlap

GET READY. USE the workbook from the previous exercise.

1. In the Format Graphics workbook, click the **Overlap** sheet tab. The worksheet contains several overlapping graphics.
2. Select the border of the **WordArt** graphic (Great Fundraisers), which has other graphics stacked on top of it. Figure 13-27 shows the stack of graphics. The WordArt object, which is further down in the stack, is selected.

Figure 13-27

A stack of objects

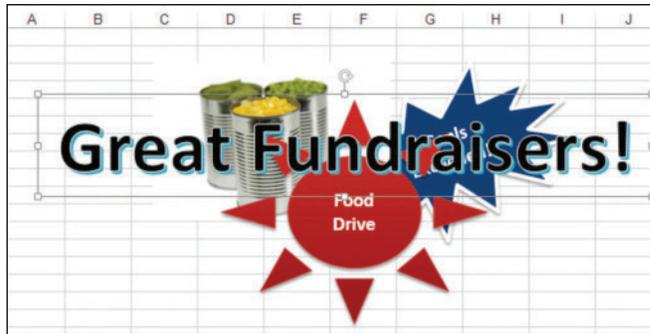


©toddtaulman /iStockphoto

3. On the DRAWING TOOLS FORMAT tab, in the Arrange group, click the **Bring Forward** button. The WordArt graphic moves up one level in the stack.
4. Click the **Bring Forward** arrow button and select **Bring to Front**. The WordArt graphic appears at the top of the stack (see Figure 13-28).

Figure 13-28

The WordArt graphic is now on the top of the stack.



©toddtaulman /iStockphoto

- With the WordArt graphic still selected, click the Send Backward button to move it back one level. The Food Drive shape is now on top.

Take Note You can use the Bring Forward and Send Backward commands repeatedly, so that, for example, a shape can go from sixth place in a stack of six items to third. To use these buttons without having to display the drop-down menu and make a choice there, just click the Send Backward or Bring Forward buttons rather than clicking their button arrows.

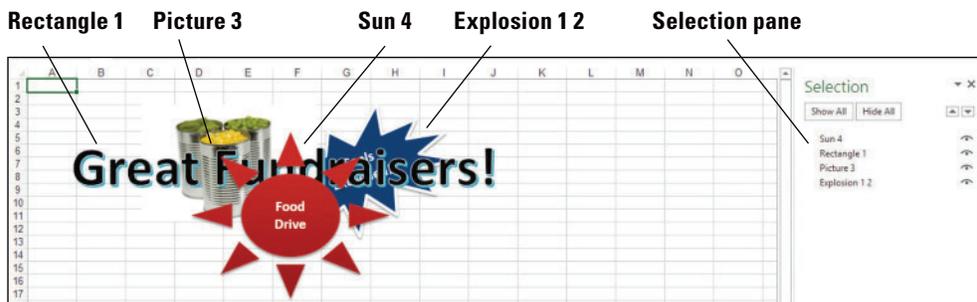
- SAVE the workbook and CLOSE the file.

PAUSE. LEAVE Excel open to use in the next exercise.

What if you can't see the shape that's beneath another graphic on the worksheet? That's where the Selection pane comes in. To display it, select any graphic, and on the FORMAT tab, in the Arrange group, click the Selection Pane button. The pane appears on the right side of the workspace and contains a list of the graphics on the active worksheet. To restack the shapes using this pane, drag them, by name (such as "Rectangle 1") up or down in the list, with the mouse (see Figure 13-29).

Figure 13-29

The Selection pane gives you a list of graphics and lets you drag them up and down in the list to change their stacking order.



©toddtaulman /iStockphoto

CERTIFICATION READY? 5.3.8

How do you align objects so they're distributed evenly in a group?

If your graphics don't overlap, or overlap only slightly, you might want to arrange them in a tidy row or column, or make sure they're distributed evenly in a group. To do this, use the Align button in the Arrange group after having selected all of the graphics you want to align. Select them first (Shift + Click on the graphics you want to include in the alignment) and then click the Align button to choose from aligning them by their sides, tops, bottoms, or centers. The Distribute options are found in the Align drop-down menu, too. If you want to keep them together when copying or moving them, select Group from the Arrange tools right below the Align button.

ADDING GRAPHIC ENHANCEMENTS USING PICTURE TOOLS

Bottom Line

You don't need a separate image-editing application to change the colors, sharpness, and contrast of images you add to a worksheet. Excel provides simple tools for making quick changes to any

photo, drawing, or clip art you might add. In addition, it makes it easy to take a screenshot of any part of the interface and include that as a graphic element.

Making Corrections to a Graphic

One of your photos doesn't look good. Maybe it was taken with a low-quality camera, it's a little blurry, or it's too dark or too light. You don't need to make it perfect, but it needs to be better, sharper, clearer, and more professional looking. Use the Corrections options on the PICTURE TOOLS FORMAT tab to correct lighting and sharpness. You can also use options in the Format Picture pane to make further corrections.

STEP BY STEP

Make Corrections to a Graphic

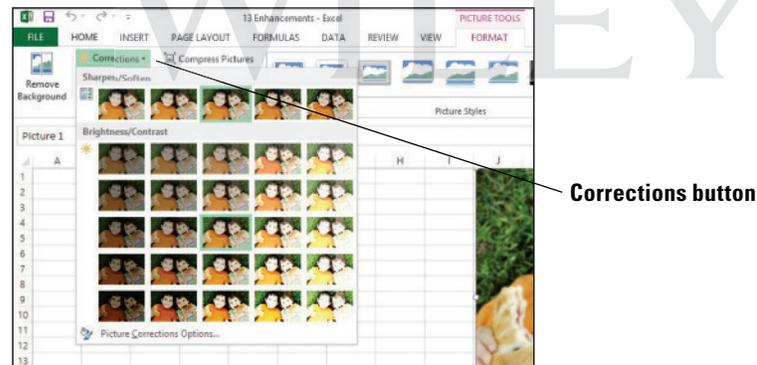
GET READY. LAUNCH Excel if it's not already running.



1. OPEN **13 Enhancements** from the data files for this lesson.
2. In the Correction worksheet, select the photo of two boys.
3. On the PICTURE TOOLS FORMAT tab, in the Adjust group, click the **Corrections** button. The menu shown in Figure 13-30 appears.

Figure 13-30

The Corrections menu provides commands for making quick changes to improve your photo.



©Zurijeta /iStockphoto

4. Using the thumbnails of your selected photo from the Sharpen/Soften corrections section, make a choice that represents the adjustment you're looking for—more sharpness for a blurry picture or perhaps softening for an image that's too sharp or where the exposure was too harsh. At the far right end of the Sharpen/Soften section, select **Sharpen: 50%**. Figure 13-31 shows two side-by-side images—the image on the left before applying 50% sharpening and the image on the right after.

Figure 13-31

Sharpen a blurry photo with one click.



©Zurijeta /iStockphoto

Take Note Excel allows you to hover your mouse over the thumbnails that represent various corrections and see the effect in your selected photo before committing to the change. Point to any thumbnail in the Corrections menu, wait a second, and observe the change in your photo. If you like the effect, click the thumbnail. If not, move on and preview another.

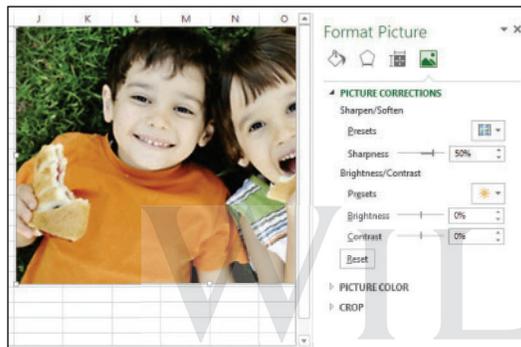
5. To adjust a photo that's too dark or too light, use the Brightness/Contrast settings, also represented by thumbnails showing your selected photo in varying stages of correction. Hold your mouse over each of the settings to see their effect on your photo, but don't select any of the settings.
6. SAVE the workbook in the Lesson 13 folder as **13 Enhancements Solution**.

PAUSE. LEAVE the workbook open to use in the next exercise.

The Format Picture pane, shown in Figure 13-32, lets you make more fine-tuned adjustments to an image. To access the Format Picture pane, at the bottom of the Corrections menu, click the Picture Corrections Options command. The right-most icon across the top of the pane is selected, showing more detailed controls for adjusting brightness and contrast.

Figure 13-32

The Picture Corrections pane



©Zurijeta /iStockphoto

The Presets are the same as what you saw in the Corrections menu for each type of correction. You can drag the sliders below the Presets options to make fine adjustments, such as sharpening or softening the image in small increments, or adding or removing brightness/contrast in equally small amounts, for just the right amount of correction.

The Format Picture pane also includes a Crop setting. Click this option and enter values for desired width and height and the offset (amount and location of cropping), or use the Crop tool, found in the Size group on the FORMAT tab. With the Crop tool, you use crop handles, shown in Figure 13-33, to crop away unwanted portions of the photo.

Figure 13-33

Cropping handles



Cropping handles like this one appear on the sides and all four corners.

©Zurijeta /iStockphoto

You can apply picture corrections to clip art as well, but corrections are intended for use in photos where brightness, contrast, and sharpness may need adjustments.

Using the Color Feature to Enhance Images

To make improvements to a photo's color or to apply special color effects, such as turning a four-color image into a **duotone** (an image with two colors), you need to start with a photo. You can also apply these color adjustments to clip art, but they're intended for use in photos where changing from color to black and white or to greater or reduced levels of color (also known as **saturation**) are more useful.

STEP BY STEP

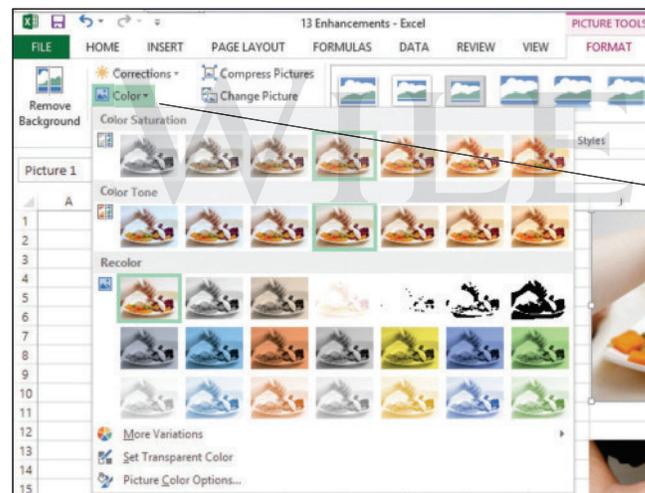
Change the Color of an Image

GET READY. USE the workbook from the previous exercise.

1. Click the **Color** sheet tab and select the top photo, which shows a baby holding a spoon.
2. On the PICTURE TOOLS FORMAT tab, in the Adjust group, click the **Color** button. The menu shown in Figure 13-34 appears.

Figure 13-34

The Color menu offers a series of color adjustments.



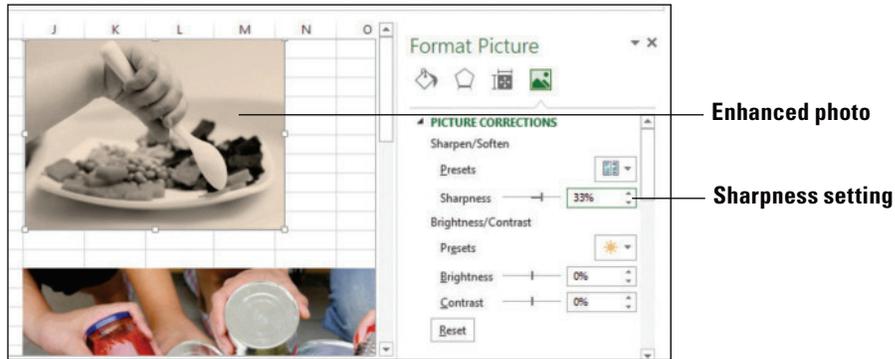
©zest_marina /iStockphoto

3. Hold your mouse over each thumbnail of your photo to see its effect. The options include:
 - **Color Saturation:** This set of options adds or removes color depth. You can use it to fade the colors in an image or to create a more intensely colored image. The lowest level of saturation makes a color photo appear to be black and white or grayscale.
 - **Color Tone:** This adjusts *temperature*, which essentially adds more blue for a cooler, lower-temperature image or more red for a more vibrant, higher-temperature image.
 - **Recolor:** This set of options provides several preset color changes, ranging from grayscale to true black and white (which looks like a bad photocopy) to a variety of *duotones*, which means the image is comprised of two colors—black and one other color.
 - **More Variations:** This is an expansion of the duotone options presented by some of the Recolor presets.
 - **Set Transparent Color:** Use this if you want to remove a particular color from the image. This is handy for photos on a white background, such as product images, allowing you to remove that background and have everything but the product be see-through (making the underlying worksheet visible).
 - **Picture Color Options:** This displays the Format Picture pane and opens a set of sliders for Saturation, Tone, and Recolor, allowing fine adjustments to those settings, rather than relying on thumbnails with set amounts of color added or removed.

4. In the Recolor section of the Color menu, on the first line of the gallery, select **Sepia**. The image takes on brown tones.
5. On the PICTURE TOOLS FORMAT tab, in the Adjust group, click the **Color** button, and then select **Picture Color Options** at the bottom of the menu.
6. In the Format Picture pane on the right, move the Sharpness slider to the right until you reach the **33%** value. Your photo should look similar to Figure 13-35.

Figure 13-35

The enhanced photo



©zest_marina /iStockphoto, ©mangostock /iStockphoto

**CERTIFICATION
READY? 5.3.6**

How do you enhance the color of an image?

7. Close the **Format Picture** pane.
8. **SAVE** the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

Changing a Graphic with Artistic Effects

In order to apply **artistic effects**, which are various artistic mediums and special effects, you need to start with a photo. You can also apply these effects to clip art, but they're designed for use primarily on photos.

STEP BY STEP

Apply Artistic Effects

GET READY. USE the workbook from the previous exercise.

1. In the Color worksheet, select the **donation box photo**.
2. On the PICTURE TOOLS FORMAT tab, in the Adjust group, click the **Artistic Effects** button. The gallery of effects thumbnails is shown in Figure 13-36.

Figure 13-36

Choose from over 20 different artistic effects.



©mangostock /iStockphoto

- Hold your mouse pointer over each effect to see its preview on the photo. Select the **Line Drawing** effect. Figure 13-37 shows the Line Drawing effect applied.

Figure 13-37

The Line Drawing effect applied to the donation box photo



©mangostock /iStockphoto

- You can customize the applied effect using the Format Picture pane. To display the pane, open the **Artistic Effects** menu and select **Artistic Effects Options**. In the Format Picture pane that appears on the right, move the Pencil Size slider to the right to observe its effect on the photo, stopping at the value **28**. Then move the Transparency slider to the right, stopping at the value 51%.
- CLOSE the Format Picture pane.
- SAVE the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

Applying a Picture Style

Picture styles add borders, frames, shadows, and similar effects with one click of any of the Picture Style icons on the PICTURE TOOLS FORMAT tab. Use one or more to make your photos “pop” with the appearance of a picture frame or 3D effect.

STEP BY STEP

Apply Picture Styles

GET READY. USE the workbook from the previous exercise.

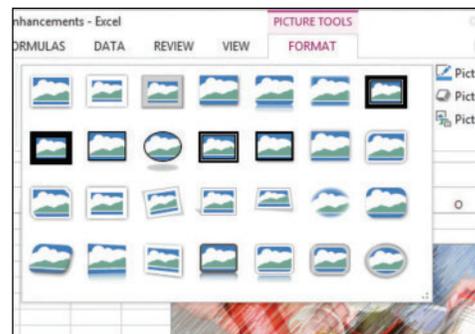
**CERTIFICATION
READY?** 5.3.5

How do you apply a style or other effect to an object?

- In the Color worksheet, select the donation box photo.
- On the PICTURE TOOLS FORMAT tab, in the Picture Styles group, hold your mouse over each of the styles in the mini gallery to see their effect on your photo.
- In the lower-right corner of the mini gallery, click the **More** button to display the Picture Styles gallery (see Figure 13-38).

Figure 13-38

The Picture Styles gallery



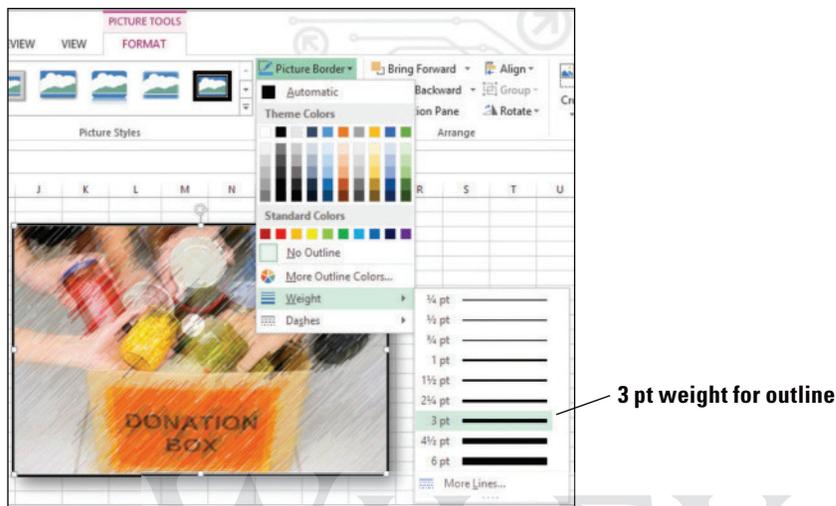
©mangostock /iStockphoto

**CERTIFICATION
READY? 5.3.4**

How do you apply a border to an object?

Figure 13-39

Modifying a picture border



©mangostock /iStockphoto

6. **SAVE** the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

You can change the color of a picture border, make the border thicker or thinner, and change the border from a solid line to a dashed or dotted line.

To change a picture's effects, click the Picture Effects button arrow and choose an effect from the palette that appears.

To apply a picture layout, click the Picture Layout button and make a selection from the palette of 30 layouts of pictures, captions, connectors, and so on.

Resetting a Picture to Its Original State

You've applied corrections, you've changed colors, and you've chosen an artistic effect for a photo in your worksheet, and you've resized an image, too. Now you regret one or more of those changes and want to go back to its original state. What to do? Well, you could delete and re-insert the image, but it's much easier to use the Reset Picture button, found on the PICTURE TOOLS FORMAT tab in the Adjust group.

STEP BY STEP

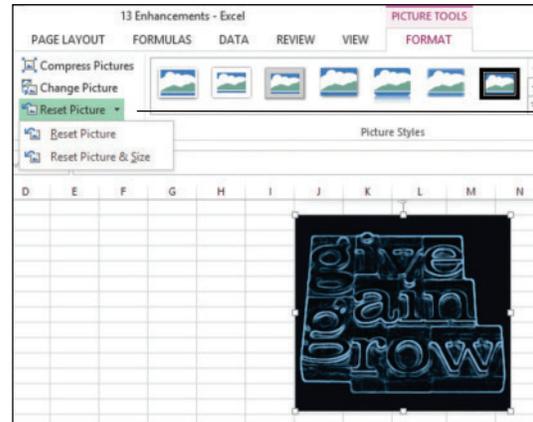
Reset a Picture

GET READY. USE the workbook from the previous exercise.

1. On the Color worksheet, scroll down and select the third photo (Give, Gain, Grow).
2. On the PICTURE TOOLS FORMAT tab, in the Adjust group, click the **Reset Picture arrow** button. Two options appear (see Figure 13-40).

Figure 13-40

The Reset Picture options



Reset Picture menu options

©marekuliasz /iStockphoto

3. Select **Reset Picture & Size** to remove all changes made since insertion.
4. **SAVE** the workbook.

PAUSE. LEAVE the workbook open to use in the next exercise.

The Reset Picture option removes corrections, color, styles, and effects.

If instead of reverting or resetting the picture to its pre-correction and pre-color adjustment status you want to permanently apply the changes you've made to the image size and quality, click **Compress Pictures** in the **Adjust** group. A dialog box appears through which you can choose which of the changes you want to keep. This compression reduces the size of your worksheet file, which is especially useful if you inserted a very high-resolution photo and then reduced its size and removed color from it.

Using Picture Properties

Picture Properties tell Excel how you want it to deal with the graphics you add to your worksheets, how they should relate to the worksheet itself, whether or not they'll print with the worksheet content, and whether or not the text in shapes or text boxes can be edited after insertion. This section walks you through Picture Properties options.

STEP BY STEP

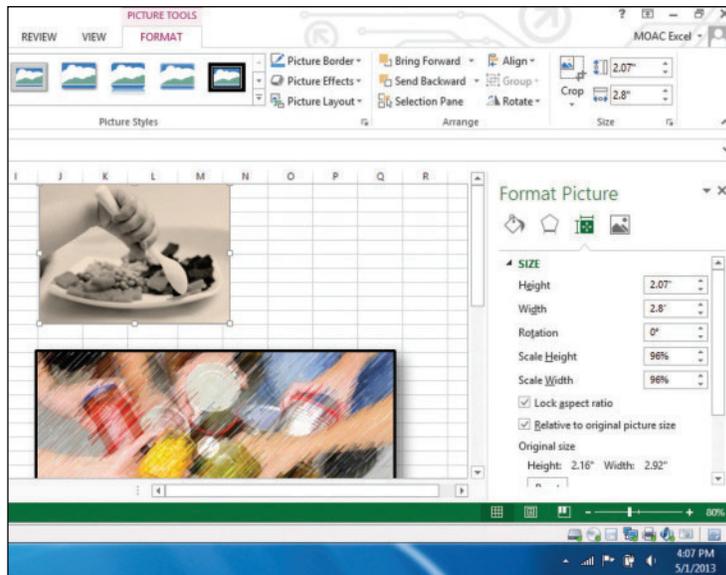
Modify a Picture's Properties

GET READY. USE the workbook you modified in the previous exercise.

1. Click the **Color** sheet tab.
2. Right-click the **baby feeding photo** and select **Size and Properties** from the shortcut menu. The **Format Picture** pane appears on the right side of the workspace, as shown in Figure 13-41.

Figure 13-41

Control the relationship between the worksheet and your graphic using the Format Picture pane.



©zest_marina /iStockphoto, ©mangostock /iStockphoto

**CERTIFICATION
READY?** 5.3.7

How do you modify an object's properties?

3. Scroll down if necessary and click the **PROPERTIES** category.
4. Select the **Move and size with cells** option. This option associates the object with the cells it overlays.
5. Close the **Format Picture** pane.
6. Grab the column border between column headings J and K, and then drag to the right to widen column J. Notice that the picture becomes wider as well.
7. On the Quick Access Toolbar, click the **Undo** icon to undo the column width setting.
8. **SAVE** the workbook and **CLOSE** the file.

PAUSE. LEAVE Excel open to use in the next exercise.

The picture properties are described as follows:

- **Move and size with cells:** This option is off by default, but if selected (by clicking the option button), if you change the width of columns or the height of rows, the adjacent graphic changes as well. Moving cells from one section of the worksheet to another or to another worksheet or workbook takes the graphic along for the ride.
- **Move but don't size with cells:** This option, which is on by default, only connects the graphic with adjacent data. Changes to cell sizes won't impact the size of the graphic.
- **Don't move or size with cells:** This option, also off by default, makes the graphics entirely independent of the worksheet content and leaves them behind if content is moved, and doesn't cause any automatic resizing in response to the resizing of worksheet cells.
- **Print object:** This checkbox is selected by default, and simply means that if you choose to print the worksheet or set a print area that contains the graphic, the graphic is printed.
- **Locked:** Selected by default, this option pins the graphic to its current location until and unless the Locked option is unchecked. Note, however, that this option doesn't take effect unless you also have the worksheet protected. To protect the worksheet, go to the HOME tab and use the Format button menu and choose Protect Sheet. The resulting dialog box gives you your protection options.
- **Lock text:** This option pertains only to shapes that contain text or to Text Box objects and it prevents changes to the text.

Using a Screenshot to Capture and Crop Images

There are many reasons you might take a screenshot and place it in an Excel worksheet. For example, you might want to show a portion of a Word document that contains relevant information, or provide a picture of a PowerPoint slide. Whatever your reason, it's easy to take and insert a screenshot of any aspect of your workspace, even the workspace of another open application or your Windows desktop and make it a graphical element in your worksheet.

STEP BY STEP

Capture a Screenshot

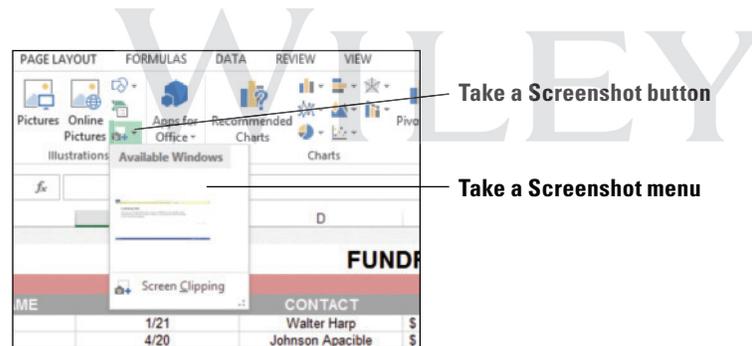
GET READY. LAUNCH Excel if it's not already running.



1. OPEN **13 Screenshot** from the data files for this lesson.
2. OPEN **13 Fundraising Flash** from the data files for this lesson. This is a Microsoft Word document. You will capture a screenshot of some content in this document and insert it into an Excel worksheet. Click **Enable Editing** if the message appears.
3. On the taskbar, click the **Excel icon** to switch to the Excel workbook. Click in cell **A1**.
4. On the **INSERT** tab, in the **Illustrations** group, click the **Take a Screenshot** button arrow. The screenshot menu appears, as shown in Figure 13-42.

Figure 13-42

The Take a Screenshot menu



5. Your options include the windows of other applications currently open (in this case, Word), or to implement **Screen Clipping**, which allows you to draw a box around any space within any open application and make that the inserted graphic. Select **Screen Clipping**.
6. The Word document appears. Drag the mouse pointer, which looks like a crosshair, over the text and release the mouse button. The screenshot appears automatically in the Excel document.
7. Figure 13-43 shows the inserted screenshot, which is a section of a Word document pertaining to the year's fundraising events.

Figure 13-43

Bring in useful information by adding a screenshot of a relevant document.

EVENT NAME	EVENT DATE	CONTACT	FUNDS NEEDED	FUNDS
Winter Carnival	1/21	Walter Harp	\$ 75,000.00	\$
Spring Banquet	4/20	Johnson Apacible	\$ 90,000.00	\$
Strike Out Hunger	6/23	Toni Poe	\$ 120,000.00	\$
Summer Collection Drive	8/11 - 8/18	Sharon Salavaria	\$ 10,000.00	\$
Community Dinner Seminar	10/8	Stuart Munson	\$ 10,000.00	\$

Screenshot from Word

8. SAVE the workbook in the Lesson 13 folder as **13 Screenshot Solution** and CLOSE the file. CLOSE the Word program.

PAUSE. LEAVE Excel open to use in the next exercise.



Workplace Ready

USING GRAPHICS IN EXCEL AND OTHER OFFICE APPLICATIONS

The Excel Picture tools enable you to insert, modify, and use more creative and professional-looking graphics in your workbooks.

Microsoft incorporated Picture tools across the Microsoft Office suite, so images you format in one application are portable and editable in another. For example, screenshots you use in an Excel document can be copied and pasted to PowerPoint and Word.

The Picture tools also promote more consistent and professional image branding. In a business setting, you can use the tools to refine images for company logos, brochure photos, employee photo ID pictures, and so on. You can edit photos in Excel and insert them into Word and PowerPoint. You can also add them to emails in Outlook. An individual can edit family photos to create albums, calendars, cards, and many other items that once needed a separate graphics application to create them.

Consider all the possibilities that picture-editing features have to offer. Be creative and enjoy mastering the possibilities.



©mangostock /iStockphoto

USING SMARTART GRAPHICS

Bottom Line

Explaining complex procedures and relationships using Excel worksheet data can be challenging. A **SmartArt graphic** is a visual representation of information and ideas, such as an organization chart, a flow chart, or a process or Venn diagram. Using SmartArt, you can tell your worksheet's story visually, through a combination of shapes and simple strings of text.

Creating a Flowchart

Flowcharts show a series of events and decisions and how activity flows through that process. From designing software to making profitable sales to developing a budget, any activity can be depicted through a flowchart. Excel's SmartArt feature makes it easy to build one through an interactive set of shapes and text tools.

STEP BY STEP

Create a Flowchart

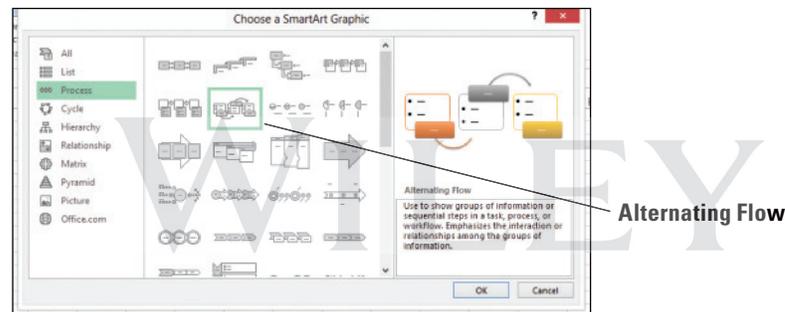
GET READY. LAUNCH Excel if it's not already running.



1. OPEN **13 SmartArt** from the data files for this lesson.
2. At the bottom of the workbook, click the **New sheet** icon to create a new sheet. Rename it **Process** and move it to the end of the row of worksheets.
3. On the INSERT tab, in the Illustrations group, click the **Insert a SmartArt Graphic** button. The Choose a SmartArt Graphic dialog box opens.
4. The list of SmartArt categories appears on the left side of the dialog box. Click the Process category.
5. From the options, select the flowchart that best suits your needs for the process you want to depict. Chosen in Figure 13-44 is the Alternating Flow, which pairs a colored box with the name of a step in the process with a bulleted list of the tasks related to the process.

Figure 13-44

Each diagram is previewed and explained to help you make a choice.



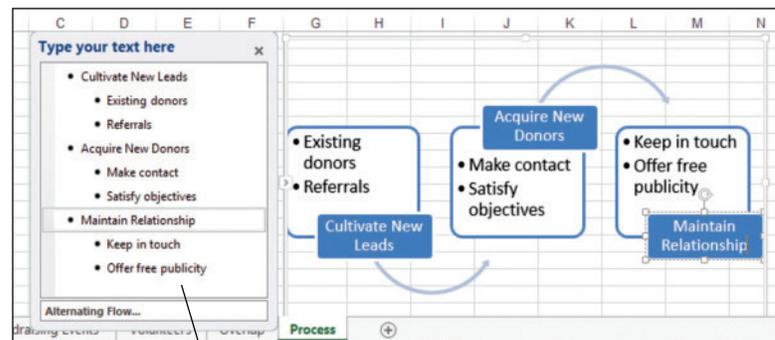
CERTIFICATION READY? 5.3.2

How do you insert a SmartArt graphic into a worksheet?

6. Click **OK** to begin building the flowchart.
7. On the left edge of the SmartArt graphic, click the **arrow control** to open the Text pane. In the Text pane, enter the names of each step in the process (the top-most bullet) and the tasks related to each one (the sub-bullets under each main bullet). Excel builds the flowchart as you type text. See Figure 13-45 for the text to be entered.

Figure 13-45

The Alternating Flow chart combines shapes, bulleted lists, and arcs that show relationships between steps in the process.



Clicking the arrow control opens the Text pane.

8. SAVE the workbook in the Lesson 13 folder as **13 SmartArt Solution**.

PAUSE. LEAVE the workbook open to use in the next exercise.

Each SmartArt diagram starts with a default number of objects. You can add more objects quickly by clicking the Add Shape button in the Create Graphic group on the DESIGN tab (under SMARTART TOOLS). If your diagram also requires text beyond the label that will appear in the shape you're adding, an Add Bullet button is available as well.

Creating an Organization Chart

In organizations, someone's in charge, someone reports to someone else, departments or groups have leaders and staff, and so on. Creating an organization chart to show the relationship between departments or groups within a company is easily accomplished through an organization chart, built through the SmartArt feature's Hierarchy category.

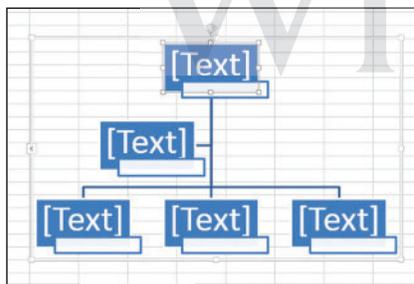
STEP BY STEP Create an Organization Chart

GET READY. USE the workbook from the previous exercise.

1. Insert a new worksheet, naming the tab **Organizational Chart**.
2. On the INSERT tab, in the Illustrations group, click the **SmartArt** button. The Choose a SmartArt Graphic dialog box opens.
3. In the list of SmartArt categories on the left side of the dialog box, click the **Hierarchy** category.
4. Select the Name and Title Organization Chart and click **OK**. Figure 13-46 shows the chart, which pairs a colored box intended to contain the person's name and a smaller text box for the person's job title. The boxes are connected by lines to show relationships and structure.

Figure 13-46

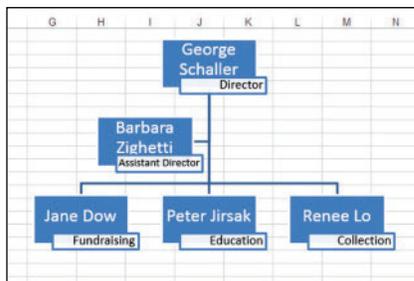
The Name and Title Organization Chart in SmartArt



5. Using the Text pane, type the names of the people to be included in the chart. Enter job titles for each person by clicking the white box underneath the larger color-filled name box. Type the job title for each person, one per box. The completed chart is shown in Figure 13-47.

Figure 13-47

The final chart



6. **SAVE** the workbook and **CLOSE** the file.

CLOSE Excel.

Organization charts allow for moving people up or down on the company ladder. Using the Promote and Demote buttons on the DESIGN tab in the Create Graphic group, click on one of the people in the chart and click Promote to move them up in the structure or Demote to move them down.

You certainly aren't stuck with the default colors of any SmartArt diagram. You can recolor the entire diagram using the Change Colors button (on the DESIGN tab in the SmartArt Styles group), or recolor individual parts by selecting them and then using the Shape Fill button on the FORMAT tab.

SKILL SUMMARY

In this lesson you learned how:	Exam Objective	Objective Number
To insert pictures and other objects.	Insert images.	5.3.3
To add shapes, lines, text boxes, and WordArt.	Insert text boxes.	5.3.1
	Change text to WordArt.	2.2.9
To delete, copy, and move graphics.		
To change the color of shapes and other graphics.	Change object colors.	5.3.6
To reposition shapes and other graphics.	Position objects.	5.3.8
To use picture tools to enhance graphics and other objects.	Add styles and effects to objects.	5.3.5
	Add borders to objects.	5.3.4
	Modify object properties.	5.3.7
To insert and modify SmartArt graphics.	Insert SmartArt.	5.3.2

Knowledge Assessment

Multiple Choice

Select the best response for the following statements.

- The Shape Styles group is found on which tab?
 - INSERT
 - DRAWING TOOLS FORMAT
 - HOME
 - STYLES
- Which object resizing handle do you use to resize a shape or picture proportionally?
 - Top center
 - Left or right side
 - Corner
 - Rotate
- Which button do you click to apply a shadow to a shape or line?
 - Shape Effects
 - Picture Effects
 - Artistic Effects
 - 3D Effects
- When you type text into a shape, which paragraph alignment is applied by default?
 - Center
 - Full Justify
 - Right
 - Left

5. Which button gives you access to the Office.com Clip Art collection?
 - a. Online Pictures
 - b. Pictures
 - c. Online Clip Art
 - d. Clip Art
6. If you want to move a shape up one level within a stack of overlapping graphics, which button do you click?
 - a. Restack
 - b. Bring to Front
 - c. Rearrange
 - d. Bring Forward
7. Which of the following is not found in the Illustrations group on the INSERT tab?
 - a. WordArt
 - b. Shapes
 - c. Online Pictures
 - d. Screenshot
8. Where does the Format Picture pane appear by default?
 - a. As a free-floating pane
 - b. On the right side of the workspace
 - c. On the left side of the workspace
 - d. Centered across the bottom of the workspace
9. The Crop tool is found on which ribbon tab?
 - a. DRAWING TOOLS FORMAT
 - b. INSERT
 - c. PICTURE TOOLS FORMAT
 - d. HOME
10. When drawing lines, how do you change their thickness?
 - a. Right-click the line and choose Thickness.
 - b. In the Shape Outline menu, select Weight.
 - c. You must set the thickness before drawing the line.
 - d. In the Shapes menu, select the Thicker Line option.

Fill in the Blank

Complete the following sentences by writing the correct word or words in the blanks provided.

1. The Illustrations group is found on the _____ tab.
2. When you select a graphic, _____ are found on the corners and sides.
3. In Excel, a(n) _____ is a picture of any part of the screen in an open application.
4. Locking a graphic works only if your worksheet is _____.
5. Press and hold the _____ key as you draw an object to make the width and height equal.
6. Online pictures can be found in the Office 365 _____.
7. Combine graphics with captions and connectors with the _____ button's options.
8. _____ apply various borders, shadows, and other effects with a single click.
9. Text can be added to a text box or a(n) _____.
10. A(n) _____ is a visual representation of information and ideas, such as an organization chart, a flow chart, or a process or Venn diagram.

Competency Assessment

Project 13-1: Adding Text to a Shape

Practice adding graphics to a worksheet to enhance the document.

GET READY. LAUNCH Excel.



1. OPEN the **13 Cruises** data file for this lesson.
2. On the INSERT tab, in the Illustrations group, click the **Shapes** button.
3. In the Basic Shapes section, click the **Sun** shape.
4. Draw the shape to the right of the Mexico section. The star should be roughly the same height as all of the rows in the Mexico section.
5. With the shape selected, click the **DRAWING TOOLS FORMAT** tab, open the **Shape Outline** menu, and select **No Outline**.
6. Right-click the shape and select **Edit Text**. Type **ON SALE** inside the shape.
7. Bold and center the text.
8. Click and grab a corner handle and adjust the size of the graphic so you can see all of the words.
9. SAVE the workbook as **13 Cruises Solution** and CLOSE the file.

LEAVE Excel open for the next project.

Project 13-2: Enhancing a Photo

Practice using your photo-enhancement skills.

GET READY. LAUNCH Excel if it is not already running.



1. OPEN the **13 Enhance Photo** data file for this lesson.
2. Select the photo.
3. On the PICTURE TOOLS FORMAT tab, in the Adjust group, open the **Color** menu and select **Set Transparent Color**.
4. Click the **white background** of the photo. The background becomes transparent, blending into the blue background behind it.
5. With the photo still selected, open the **Artistic Effects** menu in the Adjust group.
6. Select the **Crisscross Etching** effect.
7. With the photo still selected, on the PICTURE TOOLS FORMAT tab, in the Picture Styles group, select the **Drop Shadow Rectangle** style.
8. SAVE the workbook as **13 Enhance Photo Solution** and CLOSE the file.

LEAVE Excel open for the next project.

Proficiency Assessment

Project 13-3: Creating a SmartArt Organization Chart

Create a SmartArt graphic that lists goals for a non-profit organization.

GET READY. LAUNCH Excel if it is not already running, and open a new, blank workbook.

1. On the INSERT tab, in the Illustrations group, click the **Insert a SmartArt Graphic** button.
2. In the Choose a SmartArt Graphic dialog box, in the List category, select **Vertical Arrow List** and click **OK**.
3. In the Text pane, click in the top-most Text bullet position.
4. Type **Short-term Goals**.
5. Click in the next bullet position, and type **Acquire four new donors**.
6. In the next bullet position, type **Publicize spring fundraiser**.
7. In the next major bullet position, type **Long-term Goals**.
8. Click in the next bullet position, and type **Raise \$1 million**.
9. In the last bullet position, type **Build new warehouse**.
10. Close the text box on the left.
11. On the SMARTART TOOLS DESIGN tab, in the SmartArt Styles group, click the **Intense Effect** style in the mini gallery.
12. SAVE the workbook as **13 Goals Solution** and CLOSE the file.

LEAVE Excel open for the next project.

Project 13-4: Stacking, Moving, and Deleting Graphics

Use the skills you learned in this lesson to work with a stack of graphics.

GET READY. LAUNCH Excel if it is not already running.



1. OPEN the **13 Stack and Move** data file for this lesson.
2. Click the photo of canned vegetables.
3. On the PICTURE TOOLS FORMAT tab, in the Arrange group, click the **Bring Forward** button arrow and select **Bring to Front**.
4. Point inside the graphic, and then click and drag it horizontally to column **L**.
5. Click the **blue starburst** graphic.
6. On the DRAWING TOOLS FORMAT tab, in the Arrange group, click the **Bring Forward** button twice to bring the graphic to the top of the stack.
7. Select the graphic, right-click an edge of the graphic, and select **Cut** from the shortcut menu.
8. Click in cell **A23** and then press **Ctrl + V**.
9. Click the border of the **Great Fundraisers!** WordArt graphic and press the **Delete** key on your keyboard.
10. SAVE the workbook as **13 Stack and Move Solution** and CLOSE the file.

LEAVE Excel open for the next project.

Mastery Assessment

Project 13-5: Combining WordArt and Photos in a Fundraising Report

Add a WordArt title, a photo, and a shape to a worksheet to create a more interesting fundraising report.



GET READY. LAUNCH Excel if it is not already running.

1. OPEN the **13 Fundraising Report** data file for this lesson.
2. Insert a WordArt graphic with the **Fill - White, Outline - Accent 1, Shadow style**.
3. Replace the placeholder text with **Fundraising Report**.
4. Position the resulting WordArt above the worksheet, centering it horizontally, by eye.
5. Insert the **13 Donation Box photo** below the table.
6. Resize the photo proportionally smaller, so that it fits within the gray-shaded area below the table.
7. Insert a 24-point star to the right of the photo. Insert the text **GREAT WORK!** in the star. **BOLD** and **CENTER** the text, and change the font size to **36 points**. You might need to enlarge the star and reposition it after adding and formatting the text.
8. Remove the outline from the star shape.
9. Rotate the star shape clockwise, slightly.
10. SAVE the workbook as **13 Fundraising Report Solution**.

LEAVE the workbook open for the next project.

Project 13-6: Enhancing the Graphics in a Fundraising Report

Modify the graphics in the fundraising report.

GET READY. USE the workbook from the previous project.

1. Modify the WordArt graphic to change the text fill color to **Red, Accent 2, Darker 25%**.
2. Remove the **outline** from the WordArt graphic text.
3. Apply a **Shadow, Outer, Offset Diagonal Bottom Right** text effect to the WordArt graphic.
4. Apply a **Drop Shadow Rectangle** picture style to the donation box photo.
5. SAVE the workbook as **13 Fundraising Report Solution 2** and CLOSE the file.

CLOSE Excel.

Circling Back 3

The CFO and the president of the Graphic Design Institute need you to modify the Contributions and Student Roster workbooks. You will add a few advanced formulas to the Contributions workbook in addition to creating charts that show contributions from organizations and individuals. You will also add graphics to the Student Roster workbook, protect the worksheet, and share it via email.

Project 1: Using Advanced Formulas

In this project, you will add some formulas that use advanced functions to the Contributions workbook. The formulas you will work with are COUNTIF and AVERAGEIF.



GET READY. LAUNCH Excel if it is not already running.

1. OPEN **Contributions Adv Functions** from the student data files.
2. Click in cell **B40**.
3. On the FORMULAS tab, in the Function Library group, click the **Insert Function** button.
4. In the Search for a function box, type **COUNTIF** and click **Go**.
5. In the Select a function box, select **COUNTIF** and click **OK**.
6. In the Function Arguments dialog box, for Range, click the **Collapse Dialog** button, and then select **C4:C32**. The word *Amount* appears in the dialog box because this range was named in a previous exercise. Click the **Expand Dialog** button.
7. In the Criteria box, type **<1000** and click **OK**. The steps use the COUNTIF function to create a formula that counts the number of contributions that are less than \$1,000.
8. In B41, type **=COUNTIF(C4:C32,">=10000")** and press **Enter**. This formula counts the number of contributions that are equal to or greater than \$10,000.
9. In B42, type **=AVERAGEIF(C4:C32,"<1000")** and press **Enter**. This formula averages the dollar amount of contributions that are less than \$1,000.
10. In B43, type **=AVERAGEIF(C4:C32,">=10000")** and press **Enter**. This formula averages the dollar amount of contributions that are equal to or greater than \$10,000.
11. SAVE the workbook as **Contributions Adv Functions Solution** in the Circling Back folder, and then CLOSE the file.

LEAVE Excel open for the next project.

Project 2: Creating Charts

The CFO has requested that you add some charts to the Contributions workbook to help readers see at a glance the relative amount of contributions to each of the Graphic Design Institute funds. You should create a chart for dollar amounts from organizations and from individuals.

GET READY. LAUNCH Excel if it is not already running.



1. OPEN **Contributions Chart** from the student data files.
2. In the left margin, above the groups, collapse the groups by clicking the **2**.
3. Select **B10:C26**.
4. On the INSERT tab, in the Charts group, click the **Pie Chart button arrow** and select **3-D Pie**. A 3-D pie chart appears.
5. Right-click an edge of the chart frame and select **Move Chart**. In the Move Chart dialog box, select **New Sheet** and click **OK**. The chart appears on a new sheet named *Chart1*.
6. Move the **Chart1** sheet to appear after Sheet1.
7. On the Chart1 sheet, triple-click in the **Chart Title** placeholder and type **Contributions by Organizations**.

8. Select the title text, and using the tools on the HOME tab, in the Font group, change the font size to **24** and BOLD the text.
9. Click the chart, on the right, click the **Chart Elements** button (the plus sign), and then select **Data Labels**.
10. Click the **Chart Styles** button (the paint brush), and then select **Style 3**.
11. Click a data label in the pie chart to select all data labels. On the HOME tab, in the Font group, in the Font Size list, increase the font size of the data labels to **16**.
12. Reapply the **24-point** font size to the chart title.
13. Create the same type of chart for the data in **B31:C43**. Use **Contributions by Individuals** as the chart title.
14. Double-click one of the **data labels**. In the Format Data Labels pane that appears on the right, click the **Label Options** icon to display those settings, if necessary, and select **Outside End** under Label Position. Click and move each of the three data labels near the top of the pie chart to prevent overlapping. The labels should have leader lines that connect to their wedge of the pie chart.
15. Move **Chart2** to the end of the series of worksheets.
16. SAVE the workbook as **Contributions Chart Solution** in the Circling Back folder, and then CLOSE the file.

LEAVE Excel open for the next project.

Project 3: Adding Graphics to a Worksheet

In this project, you add a text box to the Student Roster workbook to warn people that they're reading confidential information. You also create a SmartArt graphic that reminds readers of the various disciplines taught at the Graphic Design Institute.

GET READY. LAUNCH Excel if it is not already running.



1. OPEN **Student Roster Graphics** from the student data files.
2. On the INSERT tab, in the Text group, click the **Text Box** button.
3. Beginning in F2, draw a text box approximately three columns wide and four rows in height. In the text box, type **Confidential Information**.
4. Highlight the text. Using the tools on the HOME tab in the Font group, change the font color to **Red** and the font size to **24**. In the Alignment group, click the **Center** button to center the text.
5. On the right of Sheet1, click the **New sheet** button (the plus sign).
6. Ensure you're on Sheet2. On the INSERT tab, in the Illustrations group, click the **Insert a SmartArt Graphic** button. Select the **Basic Block List** graphic, and then click **OK**.
7. In the five graphic boxes, starting in the upper-left corner, type the following text:
 - Visual Arts**
 - Graphic Design**
 - Typography**
 - Digital Media**
 - Photography**
8. Click an edge of the SmartArt graphic to display the frame. Right-click the frame and select **Format Object**. In the Format Shape pane that appears on the right, click the **Size & Properties** icon, and then click **Size**. Change the Height setting to **3.75**, press **Tab**, and then change the Length setting to **6.75**. Press **Enter**. Close the Format Shape pane.
9. To move the graphic, click and hold the bottom edge of the frame, and drag up to the top of the spreadsheet. Click and hold the left edge of the frame and drag to the left, so the frame aligns with the border between columns B and C.
10. With the SmartArt still selected, click the **SMARTTOOLS DESIGN** tab. In the SmartArt Styles group, click the **Change Colors** button and in the Colorful section, select **Colorful - Accent Colors**.

11. SAVE the workbook as **Student Roster Graphics Solution** in the Circling Back folder.

LEAVE the workbook open for the next project.

Project 4: Securing and Sharing Workbooks

You need to share the student roster with others, and the file should be as secure as possible to avoid unauthorized viewing. In this project, you protect the worksheet that includes students' names, and then you send the worksheet to an associate.

GET READY. USE the workbook you saved in the previous project.

1. Click **Sheet1**.
2. On the REVIEW tab, in the Changes group, click **Protect Sheet**.
3. In the Password to unprotect sheet box, type **CB!sr01**. Click **OK**.
4. You are prompted to confirm the password. Type **CB!sr01** again and click **OK**.
5. SAVE the workbook as **Student Roster Protected Solution** in the Circling Back folder.
6. Check the Quick Access Toolbar for the **Email** tool. If it is not visible, on the right side of the Quick Access Toolbar, click the **Customize Quick Access Toolbar** button. Select **Email**.
7. On the Quick Access Toolbar, click **Email**. An email window appears.
8. In the To field, type **[your instructor's email address]**. Leave the name of the file in the Subject line.
9. In the email message window, type **The latest student roster is attached for your records. I will send you the password to access the student list in the workbook via an instant message**. Press **Enter** twice, and then type your name and title.
10. In the email message window, click the **Send** button.
11. SAVE the workbook and CLOSE the file.
12. (Optional) If you to want to reset the Quick Access Toolbar to the default settings, which will remove any buttons you added to the toolbar, click the **Customize Quick Access Toolbar** button, and then select **More Commands**. In the Excel Options dialog box, click the **Reset** button, select **Reset only Quick Access Toolbar**, click **Yes**, and click **OK**.

CLOSE Excel.
