

# 🔗 Module 11 - Illustrating with Pictures and Information Graphics

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# General Notes

## Chapter Summary: Illustrating with Pictures and Information Graphics

This chapter introduces the importance of information graphics in today's world and how they can effectively communicate information visually. PowerPoint is a useful tool that allows users to create professional information graphics using various features, such as shapes, pictures, diagrams, and charts. The chapter focuses on teaching students how to work with these features to create effective and engaging graphics for their presentations.

### Student Learning Outcomes (SLOs):

1. SLO 2.1: Students will learn how to work with shapes, styles, effects, and colors to create visually appealing graphics (p. P2-79).
2. SLO 2.2: Students will learn how to work with Microsoft 365 Creative Content to enhance their graphics (p. P2-91).
3. SLO 2.3: Students will learn how to enhance pictures, search for pictures, and compress picture file size (p. P2-98).
4. SLO 2.4: Students will learn how to create a table to organize information in a grid format of columns and rows (p. P2-110).
5. SLO 2.5: Students will learn how to format a table by applying styles, colors, and effects (p. P2-115).
6. SLO 2.6: Students will learn how to create SmartArt graphics to show processes and relationships (p. P2-121).
7. SLO 2.7: Students will learn how to format a SmartArt graphic by applying styles, colors, and effects (p. P2-124).
8. SLO 2.8: Students will learn how to create charts to show relationships between data values and emphasize data in different ways (p. P2-129).
9. SLO 2.9: Students will learn how to format a chart by applying preset styles or customizing individual chart elements (p. P2-134).

# SLO 2.1: Working with Shapes, Styles, Effects, and Colors

- PowerPoint provides options through galleries, drop-down lists, and dialog boxes
- The Ribbon is dynamic and adapts to screen size
- The **More** button on a gallery shows the complete gallery
- The **Shapes** gallery can be found on the *Home*, *Insert*, and *Shape Format* tabs
- Shapes are grouped into categories:
  - Recently Used Shapes
  - Lines
  - Rectangles
  - Basic Shapes
  - Block Arrows
  - Equation Shapes
  - Flowchart
  - Stars and Banners
  - Callouts
  - Action Buttons

## Shapes and Text Boxes

- Shapes can emphasize key points
- Different features can be used to draw and adjust shapes:
  - Crosshair: used to draw the shape
  - Sizing handles: used to change shape size
  - Rotation handle: used to angle shapes
  - Adjustment handle: used to change curves or points
- A text box can be used to add text anywhere on a slide without using placeholders

## HOW TO: Draw One or More Shapes

1. Click the **Insert** tab
2. Click the **Shapes** button to display the *Shapes* gallery
3. Select a shape in the *Shapes* gallery and your pointer becomes a crosshair

4. Click and drag the crosshair on your slide to draw the shape
5. Resize or move the shape as necessary
6. To draw more than one of the same shape, right-click a shape in the *Shapes* gallery and click **Lock Drawing Mode**
7. Repeat to draw more of the same shape
8. Press **Esc** to turn off *Lock Drawing Mode*
9. To constrain a shape to keep horizontal and vertical dimensions the same, press **Shift** while you drag the crosshair on your slide

## HOW TO: Change a Shape

1. Select the shape to be changed
2. Click the **Edit Shape** drop-down arrow on the *Shape Format* tab, *Insert Shapes* group
3. Select **Change Shape** and click a different shape from the *Shapes* gallery
4. Click a blank area on the slide to deselect the shape
5. Click **Undo** on the *Home* tab, *Redo* group to return to your original shape

## HOW TO: Draw a Text Box

1. Click the **Insert** tab
2. Click the **Text Box** button in the *Text* group and your pointer changes to an insertion point
3. Create a text box using one of the following methods:
  - Click the slide background to place your insertion point where you want the text to appear
  - Click and drag to change the pointer to a crosshair and draw a text box
4. Resize and move the text box as necessary

## Tips

- Press **Ctrl+D** to duplicate a selected shape
- Add text to shapes and format the text as you do with text in a placeholder
- A shape that you draw cannot be edited as you can shapes you draw with tools from the *Shapes* gallery unless you convert your drawing to a shape
- If you want to use the drawing features and the *Draw* tab is not displayed, click the **File** tab, select **Options**, and then check **Draw** on the right list to add that tab. Click **OK**

# Style Galleries and Effect Options

- Style galleries provide preset effects for shapes, pictures, and objects.
- You can customize all effects using the related buttons such as Shape Effects, Picture Effects, or Text Effects to access drop-down galleries.
- You can apply one or more effects without using styles from a gallery.
- The following are the Effect Options available in Table 2-1:

Effect	Options
Shadow	Outer, Inner, and Perspective
Reflection	Control how close the reflection is to the object
Glow	Provides a colored area that fades into the background color on your slide. Glow colors are based on the current theme colors, but other colors are available. The size of the Glow is measured in points.
Soft Edges	Creates a feathered edge by gradually blending into the background color. The size of the blending area is measured in points from the edge of the object inward. The larger the point size, the less you see of the object. The Soft Edges effect is not available for text.
Bevel	Adds light and dark areas to create a dimensional appearance. Objects or text can look raised or inset.
3D Rotation	Includes Parallel, Perspective, and Oblique options that create an illusion of depth by rotating an object from front to back.

Transform    Changes the shape of words. It is not available for shapes or pictures.

- All shapes have a fill and outline color.
- You can emphasize a shape outline by making it wider with a contrasting color or deemphasize it by making it thinner.
- You can show no outline or match its color to the shape to make the outline disappear.
- Clicking the Shape Outline drop-down arrow in the Shape Format tab of the Shape Styles group allows you to choose additional variations for a shape or line.
- You can select More Lines at the bottom of each drop-down list to open the Format Shape pane where you can customize line options.

- The Format Shape pane has convenient options to change many settings, including line options for solid and gradient lines, effects, size, and properties.
- Theme colors are arranged in a grid of columns and rows with the first four colors on the top row representing background and text colors.
- Applying theme colors to shapes and text will automatically change them if you select a different presentation design theme with different theme colors.
- Gradient colors blend two or more colors together.
- Using the Format Shape pane, you can select from preset colors or customize your gradient colors by changing the colors used and how they blend.
- The following are steps to change gradient colors using the Format Shape pane:
  1. Select a shape and click the Shape Fill drop-down arrow in the Shape Format tab of the Shape Styles group.
  2. Select Gradient to choose from a gallery of light and dark variations of the current fill color that blend the colors in different directions.
  3. Click More Gradients at the bottom of the gallery to open the Format Shape pane to customize the colors.
  4. Select Gradient fill and apply Fill options such as preset gradients, type, direction, and angle.
  5. Customize gradient stops to control color blending.
  6. Check Rotate with shape to maintain the color settings when a shape or text is rotated so it angles on the slide.
  7. Select No line or Solid line under Line options to control if an outline shows around a shape or text.

# Notes on PowerPoint Outline Weight and Style

## Shape Outlines and Lines

- All shapes from the Shapes gallery have a fill and outline color.
- The outline of a shape can be emphasized by making it wider with a contrasting color, or it can be deemphasized by making it thinner, matching its color to the shape or making it disappear.
- The options for shape outlines also apply to lines (straight or curved).
- To modify the outline of a shape or line:
  1. Select the shape or line.



2. Click the Shape Outline drop-down arrow [Shape Format tab, Shape Styles group].
3. Choose from additional variations.
  - Options for shape outlines can be found at the bottom of the drop-down list.
  - Clicking More Lines will open the Format Shape pane where customizations can be made.
4. Customize the Line options from the Format Shape pane.
  - Line options include Solid line and Gradient line.
  - Different options appear depending on the selected line.
  - Different tabs under Shape Options include Effects and Size & Properties.

## Colors in PowerPoint

- Theme colors in the Theme Colors gallery are named to indicate their use as a background or accent color for the presentation design theme being used.
- Theme colors applied to shapes and text will automatically change if a different presentation design theme with different theme colors is selected.
- When Standard colors or custom colors are used, they remain in effect even if theme colors change.
- Color selection is important to create slides that are easy to read with colors appropriate for the topic.
- Colors can be used for various objects in a presentation, such as shapes and text.
- The same techniques for choosing colors apply to fill and outline colors.

## Solid and Gradient Colors

- To change solid colors and apply theme styles or presets:
  1. Select a shape or line.
  2. Click the Shape Fill button [Shape Format tab, Shape Styles group] to open the Theme Colors gallery.
  3. Colors are arranged in a grid of columns and rows.
    - The first four colors on the top row represent background and text colors.
    - The remaining six colors on the top row represent accent colors.

- Colors in columns below the top row show lighter and darker variations of the top-row colors.
  - Below the Theme Colors is a single row of Standard Colors arranged in the order of a rainbow.
- 4. Point to a color to see its name and click to apply the color.
- 5. Apply a Theme Style or Preset Style to a selected shape by clicking the More button on the Shape Styles gallery [Shape Format tab, Shape Styles group].
  - Point to a theme style to see its name and click to apply the style.
- Gradient colors blend two or more colors together.
- To change gradient colors using the Format Shape pane:
  1. Select a shape or line.
  2. Click the Shape Fill drop-down arrow [Shape Format tab, Shape Styles group].
  3. Select Gradient to choose from a gallery of light and dark variations of the current fill color that blend the colors in different directions.
  4. Click More Gradients at the bottom of the gallery to open the Format Shape pane to customize the colors.
  5. Select Gradient fill and apply Fill options such as:
    - Preset gradients: Theme color variations.
    - Type: Linear, Radial, Rectangular, or Path.
    - Direction: Options change based on the selected Type.
    - Angle: The percentage changes with each Type and Direction.
  6. Select Gradient stops and change their settings to control color blending:
    - Delete a stop: Click the Remove gradient stop button or drag the stop down to remove
    - Add a stop: Click the Add gradient stop button or click the gradient bar where you want the stop to appear.
    - Color: Select the stop and then change the color.
    - Position: Enter a different percentage or drag the stop on the gradient bar to change its position.
    - Transparency: Click the arrows to change the percentage. When Transparency is 0%, the color is opaque (solid). As the percentage increases, the color becomes increasingly transparent and more of the slide background color shows through.

- Brightness: Click the arrows to change the percentage. As the percentage decreases from 100%, the color softens.
7. Check Rotate with shape to maintain the color settings when a shape or text is rotated so it angles on the slide.
  8. Select No line or Solid line under Line options to control if an outline shows around a shape or text.
  9. Click the X at the top of the pane to close the Format Shape pane.

## Custom Colors

- The Colors dialog box provides many solid color options on the Standard tab and options to mix a unique color on the Custom tab.
- Colors that you select or mix are not affected by any changes made to theme colors.
- To select a color:
  1. Select a shape or line.
  2. Click the Shape Fill drop-down arrow [Home tab, Drawing group or Shape Format tab, Shape Styles group].
  3. Click More Fill Colors to open the Colors dialog box.
  4. Select the Standard tab.
  5. Colors are arranged in a honeycomb shape with colors blending from white to black below.
  6. Click a color to apply it.
  7. Notice the New color that appears on the right above the Current color.
  8. Adjust the Transparency as needed by changing the percentage or dragging the slider.
  9. Click OK to apply the new color.

## Customizing Colors

### RGB Color Model

- Typically used for computer displays
- Colors are formed by blending values of the three numbers for Red, Green, and Blue
- Highly saturated colors at the top have higher number values (255 maximum)
- Use these numbers to match color values in different shapes or objects such as a business or college logo

## Hex (Hexidecimal) Color Code

- Another way to define a color for computer display
- Generated from the numbers you enter for Red, Green, and Blue
- Often used by web designers because Hex color codes are supported in all browsers
- The Hex color is expressed in six numbers or letters with two each representing the intensity of red, green, or blue in the color

## Custom Tab

- Use this tab on the Colors dialog box to select a color more precisely
- Colors are arranged like a rainbow
- Drag a crosshair horizontally to select a different color
- Drag up or down to change the color intensity
- Move a slider to adjust how light or dark the color appears
- Drag up to add white and increase the luminosity
- Drag down to add black and decrease the luminosity
- Adjust the transparency as needed
- Click OK to apply the new color

## Eyedropper Tool

- Use this tool to create a Fill or Outline color in PowerPoint that exactly matches a color in a picture or other object
- The Eyedropper is a pointer that looks like a pen
- Click the Shape Fill drop-down arrow or Shape Format tab to select Eyedropper
- Move the pointer (now an eyedropper) around in the picture and a live preview of each color appears
- Click to select a color and it is applied to the selected shape
- Press Esc to cancel the Eyedropper without selecting a color

## Picture, Texture, or Pattern Fills

- You can fill shapes with more than colors
- Click the Shape Fill drop-down arrow on the Shape Format tab to select Picture, Texture, or Pattern Fills
- Select Picture from the drop-down list to open the Insert Pictures dialog box
- Browse or search for a picture and click Insert

- Select Texture from the drop-down list to open the gallery
- Click a texture to fill the shape or click More Textures to open the Format Shape pane
- Select Picture or texture fill and then click the Insert button to choose from the From a File, Stock Images, Online Pictures, or From Icons buttons to search for textures that are saved as a picture
- Select a shape and right-click to select Format Shape from the context menu to open the Format Shape pane
- Click Fill to display Fill options
- Select Pattern fill
- Click a pattern to fill the shape
- Change Foreground and Background colors as needed
- Click other patterns to see how different these colors look in different patterns
- Close the Format Shape pane

## WordArt Styles and Text Effects

### Applying WordArt Styles

- Click the WordArt button on the Insert tab to open the WordArt Styles gallery or click the gallery More button if it is already open
- Point to a style and a ScreenTip shows its name
- Click to select a style
- A text box displays on your slide with sample text that you edit to create a WordArt object
- Use the Font group on the Home tab to apply the following character formatting:
  - Select a different font or attribute such as Bold or Italic
  - Change the Font Size by entering a point size or using the Increase Font Size and Decrease Font Size buttons
  - Click the Character Spacing button to control the distance between letters by expanding or cond

- Using text in a large size, Tight character spacing conserves space yet keeps the text easy to read.
- Use commands in the WordArt Styles group on the Shape Format tab to customize your text.
- Text Fill, Text Outline, and Text Effects are commands similar to the Shape commands.

## Applying Text Effects

- Select a WordArt object or text in a placeholder or text box.
- Click the More button on the Shape Format tab to open the WordArt Styles gallery.
- Point to a style to see a live preview applied to your text.
- Click a style to apply it.
- Use the WordArt Styles group on the Shape Format tab to change colors and add special effects:
  - Click the Text Fill button to select Theme or other color options.
  - Click the Text Outline button to select Theme or other color options as well as line Weight and Dashes.
  - Click the Text Effects button and select from Shadow, Reflection, Glow, Bevel, 3D Rotation, or Transform effects and then choose the option you prefer.
- Select a WordArt object or text box and right-click to open the context menu. Click Format Shape to open the Format Shape pane.
- Select Shape Options to change Fill or Line options.
- Select Text Options to change Text Fill or Text Outline options.

## Applying a Transform Effect

- Select a WordArt object (or any text).
- Click the Text Effects button on the Shape Format tab to open the WordArt Styles gallery.
- Select Transform from the drop-down list to open the Transform gallery.
- Point to an effect to see a live preview applied to your text.
- Click an effect to apply it.
- Adjust your text as needed using sizing and adjustment handles.

- Transform effects are unique to text and are used to warp a word or phrase to different shapes or to follow a path.
- Transform effects provide one or more gold adjustment handles that control the slant of letters or the curve of text.

## SLO 2.2 - Working with Microsoft 365 Creative Content

### Accessing Royalty-Free Content in Microsoft 365

- Microsoft 365 provides access to an ever-growing collection of royalty-free pictures and other graphic content.
- Most of this content is available through the same dialog box that is opened when you click Icons [Insert tab, Illustrations group] or click Pictures [Insert tab, Images group] and select Stock Images.
- Different content collections are listed as links across the top of this dialog box.
- There is a Search bar to find specific content and categories are shown as buttons.
- Before using this creative content for commercial purposes, be sure to read Microsoft's information in Help about how you can use these royalty-free images in Microsoft programs such as Microsoft Office and SharePoint.
- The images are not licensed for use outside of Microsoft's products, so review Microsoft's End-User License Agreement that provides more detail.

## Inserting and Formatting Icons and Illustrations

### Icons

- Icons are Scalable Vector Graphics or SVG files (.svg) that are single-color images.
- You can use the Graphic Format tab to change color, apply styles, or change size.
- Icons are useful for providing an abstract effect rather than using a picture that provides a realistic image.

## How to Insert Icons

1. Click the Icons button [Insert tab, Illustrations group] and the dialog box opens with Icons selected.
2. Scroll down to see more icons, type a word to search, or click a category name under the Search bar to refine your results.
3. Select one or more icons.
4. Click the Insert button.
5. The icon appears in a small size in the center of your slide.
6. Move and resize the icon as needed.

## Illustrations

- When an icon or illustration from the dialog box is selected on your slide, the Graphics Format tab appears with commands like the Shape Format tab to control fill and outline colors as well as effects.
- Like other shapes, you can drag handles or enter specific dimensions to resize the icon or illustration.

## How to Apply Icon Colors, Styles, and Effects

1. Select an icon on your slide and drag sizing handles to resize.
2. Click the Graphics Fill drop-down arrow to open Theme Colors.
3. Point to a color to see a live preview applied to your icon and a ScreenTip that shows the color name.
4. Click to select a color and the icon displays as a solid color with no outline.
5. Click the Graphics Outline drop-down arrow and select a contrasting color so the outline displays.
6. Click the Graphics Outline drop-down arrow again to change line Weight or Dashes.
7. Click the More button to display style Presets appearing in accent colors.
8. Point to a style to see a live preview applied to the icon and select a style that blends well with your presentation.
9. A ScreenTip shows the style name.
10. Click the Graphics Effects button, select an effect, and click an option from the gallery.
11. If you try an effect you don't like, click Undo.



## How to Change Illustrations

1. Click the Change Graphic button [Graphic Format tab, Change group] to replace your icon with a different one.
2. Select from available sources: From a File, From Stock Images, From Online Sources, or From Icons.

## Converting an Icon to a Shape and Modifying as a Drawing Object

- Because icons have a solid color, the Graphics Format tab provides only solid fill and outline colors for the entire image.
- To work with the shapes separately, click the Convert to Shape button to change the icon into a Microsoft Office drawing object with multiple shapes within a group.
- Then use the Shape Format tab to change colors,

## Illustrations in PowerPoint

- .svg files
- Created by layering and combining simple shapes
- Appear in shades of gray and a yellow accent color
- Accent color may change depending on the PowerPoint theme used

## Inserting Illustrations

1. Click the Icons button [Insert tab, Illustrations group]
2. Click Illustrations to display the collection
3. Scroll down to see more illustrations, type a word to search, or click a category name under the Search bar to refine your results
4. Select one or more illustrations
5. Click the Insert button

## Formatting Illustrations

- Edit the illustration
- Move and resize the illustration as needed
- Click a Graphics Style to apply a different color with or without outlines

- Try different settings for Graphics Fill, Graphics Outline, and Graphics Effects
- Change an illustration to a Drawing object using Convert to Shape, ungroup it, and color individual parts of the object

# Inserting and Formatting Cutout People and Stickers

## Cutout People

- Available as part of Microsoft's Creative Content
- Use the Picture Format tab to edit
- .png file format to preserve transparency
- Picture background is removed so only the person in the picture remains
- Cutouts with blank signs can be customized with your wording

## Stickers

- Available as part of Microsoft's Creative Content
- Use the Picture Format tab to edit
- Cartoon-like images
- Most have a transparent background while some have a white edge around the image
- Carefully consider your audience before using them

# Inserting and Adjusting 3D Models

## 3D Models

- More complex computer graphics
- Used for computer-generated imagery (CGI) in gaming, animated films, and for computer-aided design in manufacturing, architectural design, and 3D printing
- Microsoft provides an online collection of 3D models
- Can use a control on the image to rotate or tilt
- Select Pan & Zoom to show a close up or distant view of your image or adjust the area of the image that displays
- Cannot edit 3D models in PowerPoint
- Try Microsoft's Paint 3D application to create 3D models

- Can search for additional 3D models on the web

## How to Insert and Adjust a 3D Model

1. Select the slide where you will insert the 3D Model
2. Click the 3D Models button [Insert tab, Illustrations group] to open the Online 3D Models dialog box
3. Locate a 3D Model using one of these methods:
  - Click one of the thumbnails to open a category of 3D Models
  - Enter a search word and press Enter to see available 3D Models
  - Click a 3D Model thumbnail and choose Insert
4. Select the 3D Model and adjust its size as appropriate by using the resize handles or entering Height and Width measurements [3D Model tab, Size group]
5. Change the view of the selected 3D Model using one of these methods:
  - Click the More button [3D Model tab, 3D Model Views group] to open the gallery of rotation views and select a different view option
  - Click and drag the 3D control that appears at the center of the 3D Model to tilt the image or rotate it in any direction
  - Use the rotation handle at the top of the 3D Model shape to rotate in a clockwise or counter clockwise movement
6. Click the Pan & Zoom button [3D Model tab, Size group] and a Zoom button ( magnifying glass) appears on the right
7. Click the Zoom button and drag down as the 3D Model becomes smaller to appear more distant
8. Restore the view, if necessary, by clicking the top of the Reset 3D Model button [3D Model tab, Adjust group]
9. Click the Zoom button and drag up to zoom in and the 3D Model appears closer
10. Click the 3D Model and drag within its frame to display a different area using Pan
11. Use the Zoom button to increase or decrease the area displayed within the frame
12. Restore the view, if necessary, by clicking the top of the Reset 3D Model button [3D Model tab, Adjust group]
13. Position the 3D Model as needed on your slide

# SLO 2.3 - Modifying Pictures and Searching Other Sources

## Picture Styles and Effects

- **Picture Format tab:** becomes available when a picture is selected on a slide.
- **Picture Styles:** provide a preset gallery of options, such as framing pictures or adding a reflection.
- **Picture Effects:** similar to Shape Effects, have many options you can adjust.
- For consistency, apply similar styles or effects for pictures on multiple slides.
- To remove a picture style or other effects, select the picture and click the Reset Picture button.
- To apply or modify picture effects:
  - Select a picture and click the Picture Effects button.
  - Select an effect in the drop-down list to see a gallery of options.
  - Point to an effect option to see a live preview applied to your picture.
  - Select Options at the bottom of each gallery to open the Format Picture pane to fine-tune a specific effect.
  - Right-click a picture and select Format Picture from the context menu to open the Format Picture pane.

## Cropping a Picture

- **Crop button:** trims unwanted areas of a selected picture by dragging black cropping handles on the corners and sides of the picture.
- Move a cropping handle and not a sizing handle.
- Crop pictures as needed to be sure they have a strong focal point.

## Change Picture Colors

- PowerPoint's Color feature enables you to vary picture colors.
- To change picture colors:
  - Select a picture you want to change.

- Click the Color button to open a gallery of color options.
- Select one or more options from the groups, including Color Saturation, Color Tone, and Recolor.
- Click Picture Color Options at the bottom of the gallery to open the Format Picture pane with the Picture Color options displayed to further adjust a picture.

## Picture Transparency

- PowerPoint provides two ways to adjust picture transparency.
- Use Transparency to soften picture colors for a background image or when more muted colors are needed so text is easy to read.
- To apply transparency to a picture:
  - Select a picture you want to change.
  - Click the Transparency button to open a gallery of transparency options.
  - Select one of the transparency options.
  - Click Picture Transparency Options to enter a specific Transparency percentage.
- The Set Transparent Color feature removes just one color in a picture, so it is most effective when removing a large, single-color area.

## Notes on Inserting Stock Images and Online Pictures

### Ways to Insert Pictures

- There are three ways to insert pictures:
  1. Insert a picture from a file.
  2. Use stock images from Microsoft's Creative Content collection.
  3. Search online for pictures from a variety of sources.

### Inserting Stock Images

- To use stock images:
  1. Click the Pictures button [Insert tab, Images group] and select Stock Images.
  2. Enter a search word or select categories and scroll through the content.
  3. Select one or more pictures and click Insert.

- Review Microsoft's terms of use for these images before using them for commercial purposes.
- Each picture has a More information and actions box on the lower right that displays the picture's size and web source when clicked.
- A text box below the picture provides licensing information, which can be edited as needed.

## Inserting Online Pictures

- To search for and insert an online picture:
  1. Click the Pictures button [Insert tab, Images group] and select Online Pictures.
  2. Use the Bing search box to find pictures organized by topics, or search on OneDrive.
  3. Filter search results by selecting Creative Commons only or by using the Filter icon.
  4. Click to select one or more pictures, and then click the Insert button.
- Each picture's Alt Text statement briefly appears at the bottom of the picture.
- A caption below the picture provides a link to the picture's source and to Creative Commons information.
- The Alt Text can be edited using the Alt Text button [Picture Format tab, Accessibility group].
- Be careful to select appropriate images for academic or business presentations.

## Other Online Searches

- Images listed with the CC license can also be found through the Creative Commons site or search engines like Google.
- For commercial use, contact the creator or website directly.

## Compressing Pictures

- Compress single pictures or all pictures at once to reduce a presentation's file size.
- Select an appropriate resolution option for the image quality needed: High fidelity, HD (330 ppi), Print (220 ppi), Web (150 ppi), E-mail (96 ppi), or

default resolution.

- To compress picture file size:
  1. Select a picture.
  2. Click the Compress Pictures button [Picture Format tab, Adjust group] and open the Compress Pictures dialog box.
  3. Deselect Apply only to this picture if you want the compression to apply to all pictures in the presentation.
  4. Select Delete cropped areas of pictures if you have cropped pictures.
  5. Select the appropriate resolution.
  6. Click OK to close the dialog box.

# Creating a Table in PowerPoint

## Introduction

- Tables show data in an organized and easy-to-read format.
- The intersection of a column and a row is a cell.
- Border lines and shading show the table structure.
- PowerPoint tables can be created from a content placeholder or by using options on the Insert tab.

## Insert and Draw Methods

- There are three ways to create a table in PowerPoint:
  - Using the Table button to visually select columns and rows by dragging over them.
  - Using the Insert Table command to create a table by entering a specific number of columns and rows.
  - Drawing the table area and dividing it into columns and rows.
- To create a table-like feature, an Excel Spreadsheet can be inserted.

## Inserting a Table and Selecting Columns and Rows

1. Display the slide where you want the table.
2. Click the Insert tab.
3. Click the Table button to open the drop-down list.
4. Drag across and down to select the number of columns and rows needed.
5. Release the pointer to insert the table.

# Inserting a Table and Entering the Number of Columns and Rows

1. Display the slide where you want to insert the table.
2. Click the Insert tab.
3. Click the Table button to open the drop-down list.
4. Click Insert Table, and the Insert Table dialog box opens.
5. Specify the number of columns and rows.
6. Click OK to close the Insert Table dialog box and insert the table.

## Drawing a Table

1. Display the slide where you want the table.
2. Click the Insert tab.
3. Click the Table button to open the drop-down list.
4. Click Draw Table, and the pointer changes to a pen.
5. Drag the pen to draw the outside border of the table in the size you want.
6. Click the Draw Table button to activate the pen again.
7. Drag the pen inside the table to insert horizontal and vertical lines that divide the table into rows and columns.
8. Press Esc to turn off the pen tool.

## Move and Select

- To move from cell to cell, use the arrow keys or the Tab key.
- To select individual cells, columns, rows, or the entire table, point within the table.

## Selecting Cells, Columns, Rows, and the Table

- Select a cell by pointing inside the left border and clicking.
- Select a column by pointing above the column's top border and clicking or by moving your insertion point to any cell in the column and clicking the Select button.
- Select a row by pointing outside the table to the left of a row and clicking or by moving your insertion point to any cell in the row and clicking the Select button.
- Select multiple cells, columns, or rows by dragging across adjacent cells or pressing Shift as you click additional adjacent cells.



- Select an entire table by dragging across all cells in the table or by moving your insertion point to any cell in the table and clicking the Select button.

## Insert and Delete Rows and Columns

- Rows and columns can be added or deleted as needed.

### Inserting and Deleting Rows and Columns

- Click a table cell next to where you want to add a row or column.
- Click the Insert Above or Insert Below buttons to add a row or the Insert Left or Insert Right buttons to add a column.
- Click a table cell where you want to delete a row or column.
- Click the Delete button and select Delete Rows or Delete Columns.
- Alternatively, right-click a row or column and insert or delete a row or column by selecting the appropriate option from the mini toolbar or context menu.

## Merge and Split Cells

- The Merge Cells command combines two or more cells in a row or column.
- The Insert and Delete Rows and Columns
- Click a table cell next to where you want to add a row or column.
- Click the Insert Above or Insert Below buttons [Layout tab, Rows & Columns group] to add a row.
- Click the Insert Left or Insert Right buttons [Layout tab, Rows & Columns group] to add a column.
- Click a table cell where you want to delete a row or column.
- Click the Delete button and select Delete Rows or Delete Columns [Layout tab, Rows & Columns group] (Figure 2-87).
- Another way to insert or delete a row or column is to right-click it and select the appropriate option from the mini-toolbar or context menu.

## Adjust Sizing

- You often need to resize tables to display information appropriately.
- To resize a table, select it and enter sizes in the Height and Width boxes [Layout tab, Table Size group], or click and drag table sizing handles as you would to resize a shape.

- To autofit the text within a column, point to a column border and double-click when your pointer changes to a splitter.
- To resize a column, cell, or row, point to a cell, column, or row border. When your pointer changes to a splitter (Figure 2-88), click and drag to increase or decrease the size of the column, cell, or row.
- To distribute column width or row height evenly, select the columns or rows to be changed and click the Distribute Columns or Distribute Rows button [Layout tab, Cell Size group].
- To maintain column width proportions, press Shift as you drag table sizing handles or select Lock Aspect Ratio [Layout tab, Table Size group] before entering Height or Width sizes.

## SLO 2.5 - Formatting a Table

### Formatting a Table

- Format text in a table like any other text, change fonts, and text effects.
- Change cell margins and text direction.
- Shading and borders may appear decorative but can make a table easier to interpret.
- Shading individual rows or columns can draw the reader's attention.
- PowerPoint provides preset styles using color combinations derived from theme colors.
- Customize effects to create a unique design.

### PowerPoint's Designer Feature

- Suggests different slide layouts for tables.
- Click the Design Ideas button [Home tab, Designer group] to open the Design Ideas pane with several slide background designs or different table styles.
- Apply one of these layouts before customizing your table.

### Table Style Options and Effects

- Table styles are influenced by the features checked for Table Style Options [Table Design tab].
- Fill colors that emphasize table cells vary depending on the selected option.

- On the Table Design tab, the Table Styles gallery provides options for a table's design.
- The first style on each row of options displays in black and white while the other six styles are in theme accent colors.

## How to: Apply a Table Style and Options

1. Click anywhere in the table you want to format.
2. Click the More button [Table Design tab, Table Styles group] to see the complete gallery.
3. Point to a style to see a live preview. ScreenTips identify each style name.
4. Click a style to apply it.
5. Adjust Table Style Options as needed.
6. Check Header Row and Banded Rows [Table Design tab, Table Style Options group].
7. Deselect Banded Rows and select Banded Columns [Table Design tab, Table Style Options group].
8. To remove table formatting, click the More button [Table Design tab, Table Styles group] and click Clear Table.
9. To emphasize the table or cells within the table, such as a heading row, apply effects to selected areas.

## How to: Apply Table Effects

1. Select the table, or the cells, to format.
2. Click the Effects button [Table Design tab, Table Styles group].
3. Select one of the following effects: Cell Bevel, Shadow, Reflection.
4. Point to an option to see a live preview. ScreenTips identify each option name.
5. Click an option to apply it.

## Shading and Border Colors

- After applying a built-in table style, change colors to emphasize content or match other aspects of the presentation.
- Select the cells to change and click the Shading drop-down arrow [Table Design tab, Table Styles group] to select a different color.

- Use the Borders button [Table Design tab, Table Styles group] to add lines to separate cells and outline the edge of the table.
- Remove borders from selected cells by clicking the Borders button and selecting No Border.

## Table and Cell Alignment

- Center the table using the Align button [Layout tab, Arrange group].
- Within cells, text is aligned on the left by default.
- Right-align numbers to make them more easily interpretable.
- Center text vertically in cells with single lines of text.
- Top alignment generally works best when cells contain a varied amount of text.
- Bottom alignment works well for column headings with more than one line of text.
- Use alignment buttons [Layout tab, Alignment group] to control horizontal and vertical alignment within cells.

## Cell Margins and Text Direction

- Add space between the border lines of a cell and the text in the cell to improve readability of the table.
- Click the Cell Margins button [Layout tab, Alignment group] to change the spacing.
- Click Custom Margins to open the Cell Text Layout dialog box to enter other

## SLO 2.6 - Creating a SmartArt Graphic

SmartArt graphics are a helpful tool for illustrating concepts such as processes, cycles, or relationships in a clear manner, making it easy for the audience to see connections and sequences.

## SmartArt Layouts

There are nine types of SmartArt graphic layouts available, which are organized by type in the "Choose a SmartArt Graphic" dialog box. Each type serves a specific purpose as outlined in Table 2-3:

Type	Purpose
List	Shows non-sequential or grouped information
Process	Displays sequential steps in a process or workflow
Cycle	Displays a continuing sequence or concepts related to a central idea
Hierarchy	Illustrates a decision tree or top-to-bottom relationship such as an organizational chart
Relationship	Shows concepts that are connected such as contrasting, opposing, or converging
Matrix	Illustrates the relationship of four parts to the whole
Pyramid	Illustrates proportional or interconnected relationships
Picture	Shows pictures as integral parts of many different diagrams
Office.com	Shows diagrams from layouts on Office.com

When you select a layout, PowerPoint provides information about using that specific layout. The SmartArt Design tab provides options for the overall layout and styles of the SmartArt graphics, while the Format tab provides options to customize shape and text styles, fill colors, outline colors, and effects.

## How to Create a SmartArt Graphic

You can create a SmartArt graphic using one of the following methods:

1. Create a new slide and click the Insert a SmartArt Graphic icon on the content placeholder.
2. Display the slide where you want to insert the SmartArt graphic and click the SmartArt button [Insert tab, Illustrations group].
3. Select a SmartArt type from the list on the left.
4. Click a layout in the gallery to select it.
5. Click OK to close the dialog box and insert the SmartArt graphic.

When you insert a SmartArt graphic using the SmartArt button on the Insert tab, the initial size of the SmartArt frame may be different than if you inserted the SmartArt graphic using the content placeholder on a new slide with a Title and Content layout. You may need to resize the frame for your content to fit appropriately on your slide.

If the layout you choose has picture placeholders on the shapes, click each picture icon to open the Insert Pictures dialog box. Choose from the options available to locate the picture you want to use and click Insert. The picture is sized automatically and shaped to fit the current picture placeholder.

## Adding Text

Click the Text Pane button [SmartArt Design tab, Create Graphic group] to open a pane beside your layout. As you type in the pane, SmartArt text appears as a bulleted list and in the SmartArt shapes on the slide. Text becomes smaller in the shapes as you enter more text, so it is important to use only a few words. You can resize or move the Text pane.

Alternatively, you can type directly into each SmartArt shape. Text resizes as you type so be concise to avoid text becoming too small for easy reading. Pressing Tab does not move your insertion point between shapes. You can paste copied text, but you cannot drag text into a SmartArt shape.

If you already have bulleted text on your slide, you can quickly change that text to a SmartArt graphic. Select the bulleted text placeholder or click anywhere in the placeholder that you want to convert to a SmartArt graphic, and then click the Convert to SmartArt Graphic button [Home tab, Paragraph group]. The gallery displays layouts for listed information. Click a layout to apply it. Alternatively, you can click More SmartArt Graphics to open the Choose a SmartArt Graphic dialog box, select from all layouts, and then click OK to close the dialog box and insert the SmartArt graphic.

List layouts often work well if you have two levels of bulleted text: Level 1 (the first line) and Level 2 (text indented to a sublevel). The two levels of text are arranged differently based on the selected SmartArt layout.

# SLO 2.7 - Formatting a SmartArt Graphic

## Overview

- When a SmartArt graphic is created, it uses the first accent color in the current color theme.
- Before customizing colors and effects, try PowerPoint's Designer feature.
- Once satisfied with the slide layout, use options on the SmartArt Design tab to select styles, change colors, rearrange shape order, add shapes, or change layouts.

## SmartArt Styles

- Provides different effects for emphasizing the diagram shapes.
- The SmartArt Styles gallery in the SmartArt Design tab provides a live preview of the style when pointed to.
- The 3-D group has a dimensional effect.
- To apply a style, select the SmartArt graphic, click the SmartArt Design tab, click the More button to open the SmartArt Styles gallery, point to a style, and click to apply.

## Change Colors

- Provides a quick way to change all the colors in a SmartArt graphic at the same time.
- Color options are arranged in groups.
- The Primary Theme Colors group shows variations of text and background colors.
- The Colorful group shows options with four different theme colors.
- The remaining six groups each show variations of accent colors.
- To change SmartArt colors, select the SmartArt graphic, click the SmartArt Design tab, click the Change Colors button, and select a gallery option to change colors for the entire diagram.

## Change Layouts

- Allows changing the SmartArt graphic layout to better suit the process or relationship being shown.
- To change layouts, select the SmartArt graphic, click the SmartArt Design tab, click the More button to open the Layouts gallery, point to a layout to see a live preview, and click to apply.

## Add Shapes

- The Add Shape button on the SmartArt Design tab inserts shapes in relation to the selected shape.
- Options vary based on the SmartArt layout being used.
- To add shapes, select the shape closest to where you want to add a shape, click the SmartArt Design tab, click the Add Shape drop-down arrow, and select the position where you want to add the new shape.

## Additional Information

- The PowerPoint Designer feature may not be available in all versions of Office 365 or Office 2021.
- Changing the SmartArt graphic first will not retain the colors and effects.
- When choosing styles with dimensional effects, ensure that the diagram is not distorted or difficult to interpret.
- To change the flow of a diagram, click the Right to Left button in the SmartArt Design tab's Create Graphic group.

# SLO 2.8 - Creating a Chart

## Creating a Chart

- Charts help viewers interpret and compare data.
- For most situations, PowerPoint's Chart feature will provide all the options you need.
- If you have large amounts of data, create your chart in Excel and copy it to a PowerPoint slide.



# How to Insert a Chart

- Click the Insert Chart icon on a new slide content placeholder or click the Insert tab and click the Chart button [Illustrations group] to add a chart to an existing slide.
- Choose a chart type to control how data is represented such as in columns, bars, lines, or pie slices.
- When you insert a chart in PowerPoint, a worksheet opens with sample data in rows and columns. A group of data values from each column is a data series; a group of data values from each row is a category.

## Chart Types and Purposes

- There are 17 chart types, including Column, Line, Pie, Bar, Area, X Y (Scatter), Map, Stock, Surface, Radar, Treemap, Sunburst, Histogram, Box & Whisker, Waterfall, Funnel, and Combo.
- Chart types and their purposes are described in Table 2-5.

## Editing Data in the Worksheet

- After you replace the worksheet sample data with your data, you can close the worksheet.
- You can open the worksheet again if you need to make changes.
- To modify the data in Excel, click the Edit Data drop-down arrow and choose Edit Data in Excel to open Excel and display the worksheet.
- Because the worksheet and PowerPoint chart are linked, the changes you make to the worksheet are automatically reflected in the chart.

## Chart Elements and Definitions

- The chart elements vary based on the type of chart used.
- Chart elements are defined in Table 2-6.

## Modifying the Worksheet

- You can adjust column width, add or delete columns and rows, and use Excel to modify data.

# Change Chart Type

- Click the Change Chart Type button [Chart Design tab, Type group] to open the Change Chart Type gallery where you can choose from the many different layouts.

## Conclusion

PowerPoint's Chart feature provides all the options you need to create a chart. It allows you to choose from different chart types, edit data in the worksheet, adjust chart elements, and change chart types. PowerPoint makes it easy to create, edit, and modify charts, making it an efficient tool for presentations.

# Formatting a Chart

## PowerPoint's Designer Feature

- Designer feature suggests different slide layouts for charts
- Layouts in the Design Ideas pane show several slide background designs with the chart positioned differently
- Best to apply one of these layouts before customizing the chart
- Office 365/2021 Note: The PowerPoint Designer feature may not be available in all versions of Office 365 or Office 2021.

## Chart Styles and Colors

- Chart Styles gallery provides preset effects for chart elements, including the chart background
- Click the More button to see styles arranged by number
- Click a style to apply it
- Click the Change Colors button to select Colorful or Monochromatic combinations
- The colors should coordinate with the overall presentation
- Avoid arranging red and green colors together because people who have difficulty recognizing colors are more likely to have problems with red and green colors because they can look beige or gray

# Format Chart Elements

- Select chart elements and apply formatting in several ways
- When a chart element is selected, the related options for that element display when the Format pane opens
- Format shapes by clicking the Shape Fill, Shape Outline, or Shape Effects drop-down arrows
- Format text by clicking the Text Fill, Text Outline, or Text Effects drop-down arrows
- To change the size of the entire chart, the Chart Area, point to any sizing handle and resize by dragging
- You can fill a Chart Area or a Plot Area with a picture to create an interesting background
- Be careful that text is easy to read on the picture and simplify the chart as much as possible
- Vary colors to feature certain chart elements or to make text easy to read

## Legend and Data Labels

- The legend is usually displayed on the right, but you can move it to other positions, display it horizontally above or below the plot area, or delete it
- The colors used to identify each data series must always be easy to interpret and compare
- If you have only one data series, no legend is needed
- Data labels display values for each data series
- Use the Format Data Labels pane to customize labels
- A pie chart has one data series
- Each slice represents a value and the size of the slice illustrates its relationship to the whole
- Data labels are often used instead of a legend because they are easier to interpret
- Format data labels to display on the slices or outside the slices

## Explode a Pie Slice

- You can explode (separate) pie chart slices by dragging the pie slices away from the center

- When all slices are separated, no single slice is emphasized
- Design a pie chart as you want it to look and then drag one slice away from the pie to emphasize that slice

## Chapter Summary

- 2.1 Work with shapes, styles, effects, and colors (p. P2-79).
  - Change shape size by entering exact height and width sizes or by dragging sizing handles.
  - Use **Lock Drawing Mode** to draw more than one of the same shape.
  - Use **text boxes** to position text anywhere on a slide.
  - PowerPoint's various **style** galleries provide collections of preset effects for shapes, pictures, or other objects.
  - Line **Weight** is the line thickness measured in points.
  - **Sketched** is a line style that creates the appearance of a line or shape drawn by hand.
  - **Dashes** are lines with a combination of dots and dashes.
  - **Arrows** are lines that display arrowheads or other shapes for both ends of the line.
  - When you apply **Theme Colors** to shapes, the colors change when a different theme is applied.
  - **Gradient** colors blend two or more colors together.
  - **Standard** colors do not change when a different theme is applied.
  - Computer screens use the **RGB model** that displays colors by blending values for *red*, *green*, and *blue* values.
  - **Hex** colors are often used by Web designers and are represented by six-digit combinations of numbers and letters for *red*, *green*, and *blue* values.
  - Highly **saturated** colors are intense and vibrant; colors that are not saturated are muddy and dull.
  - **Luminosity** is a measure of lightness that is adjusted by the amount of white or black in the color.
  - The **Eyedropper** is used to match any color on your computer screen.
  - **Text effects** include options such as *Shadow*, *Reflection*, or *Bevel*.
  - The **WordArt** styles gallery shows a collection of preset text effects.

- The **Transform** effect warps text into different shapes or follows a path.
- Fill *WordArt* with solid or gradient colors, textures, patterns, or pictures.
- 2.2 Work with Microsoft 365 Creative Content (p. P2-91).
  - **Icons and Illustrations** are *Scalable Vector Graphics (SVG files)* that are easy to resize, color, and rotate without loss of image quality.
  - The **Graphics Format** tab provides options to customize icons similar to the **Drawing Format** tab options for customizing shapes.
  - The **Convert to Shape** feature changes an *Icon* or an *Illustration* to a drawing object that may consist of several shapes that can be formatted separately.
  - **Cutout People** and **Stickers** are *Portable Network Graphic* files (PNG) and can be modified using the *Picture Format* tab.
  - **3D Models** are computer graphics with the three-dimensional shape of an object that can be seen from any angle by tilting or rotating the object.
  - The **Pan & Zoom** feature enables you to change to a distant or close up view of a *3D Model*.
- 2.3 Enhance pictures, search for pictures, and compress picture file size (p. P2-98).
  - The **Picture Styles** gallery shows a collection of preset picture effects.
  - Remove a picture style by clicking the **Reset Picture** button.
  - Use *Crop* to trim unwanted areas of a selected picture.
  - **Cropping handles** are black handles that appear on the corners and sides of pictures that you drag to remove part of the picture.
  - Increase **Color Saturation** to make picture colors more vibrant; decrease color saturation to make picture colors more muted.
  - **Color Tone** changes a picture's cool or warm tones.
  - Select **Color** and then **Recolor** to change a picture's color to a monotone color.
  - Use **Transparency** to soften an image to use behind text or to make a subtle effect.
  - The **Set Transparent Color** feature can make one color in a picture transparent and works well to remove white backgrounds.

- Microsoft provides a collection of royalty-free pictures called \***Stock Images**\*.
- Use the **Online Pictures** dialog box to search for online pictures and illustrations.
- A **pixel** is the abbreviated term for picture element, a single unit of information about color.
- Use **Compress Pictures** to reduce the file size of your presentation.
- 2.4 Create a table to organize information in a grid format of columns and rows.
  - Insert and delete table *columns* and *rows*.
  - Combine table cells to join them with the **Merge Cells** command; divide table cells to create multiple cells with the **Split Cells** command.
  - Column width usually varies based on content; row height is usually a consistent size.
- 2.5 Format a table by applying styles, colors, and effects (p. P2-115).
  - **Table Styles** provide options for a table's design using theme accent colors.
  - **Table Style Options** control how columns and rows are emphasized to feature areas of the table.
  - Use border lines to separate cells and shading to emphasize cells.
  - Horizontal cell alignment options include *Align Left*, *Center*, or *Align Right*; vertical cell alignment options include *Align Top*, *Center Vertically*, or *Align Bottom*.
- 2.6 Create **SmartArt** graphics to show processes and relationships (p. P2-121).
  - Use **SmartArt graphics** to create diagrams that illustrate concepts such as processes, cycles, or relationships.
  - **SmartArt layouts** are organized by categories.
  - Each layout includes information about how you can use it or the meaning it conveys.
  - Type text directly in each **SmartArt shape** or type text in the \***Text pane**\*.
  - Change bulleted text to a **SmartArt graphic** by clicking the **Convert to SmartArt Graphic** button.
- 2.7 Format a **SmartArt** graphic by applying styles, colors, and effects (p. P2-124).

- **SmartArt Styles** provide a gallery of **Effect Options**.
- The **Change Colors** button provides a gallery of color options arranged in categories.
- The **Add Shape** button inserts shapes in relation to the selected shape.
- Format or individually resize shapes within a *SmartArt* graphic.
- 2.8 Create charts to show relationships between data values and emphasize data in different ways.
  - **Charts** in PowerPoint are linked to **worksheets**. Changes made to the data will automatically appear in the chart.
  - Charts created in Excel can be edited in PowerPoint when they are linked.
  - A group of data values is a **data series**.
  - **Chart Layouts** are arranged in **categories** including *Column*, *Line*, *Pie*, *Bar*, and *Area*.
  - The **Chart Area** displays the entire chart including all \*  
\*chart elements\*\*.
  - The **Plot Area** provides a background for **Data Markers**, the columns, bars, slices, or shapes represent data.
- 2.9 Format a chart by applying preset styles or customizing individual chart elements (p. P2-134).
  - **Chart Styles** provide a gallery of preset effects for chart elements.
  - The **Change Colors** button provides a gallery of colorful or monochromatic colors for chart elements.
  - The **legend** is a key that identifies each data series by color.
  - **Data Labels** display a value for each data marker in a chart.
  - Customize chart elements individually to enhance their appearance.
  - To emphasize a pie slice, **explode** it by separating the slice from the rest of the pie chart.