

Drawing in PowerPoint

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Before You Begin

The object of this paper is to explain how to use the tools on the drawing toolbar in PowerPoint.

This process will develop and use the following skills:

- Drawing objects such as lines, arrows, rectangles and ovals using the Shapes command in the Illustration Group on the Insert tab of PowerPoint 2007.
- Controlling the attributes of drawing objects, such as line width/style/color, fill color, arrow width/style/color, gradients and fill and 3D effects.
- Using drawn objects and the text tool to annotate a diagram.
- Using callouts to add commentary to a graphic.
- Using grids and guides to align drawn objects.
- Aligning or distributing drawing objects using Drawing Tools tab.
- Drawing and selecting shapes.
- Grouping and ordering drawn objects.
- Modifying Shapes by rotating, flipping, or stretching.
- Using callouts to annotate a picture.
- Adding 3D or drop-shadow effects to drawn objects.
- Using WordArt.

Mouse skills and basic familiarity with PowerPoint, and Windows XP is required. We will be using the Office 2007 PowerPoint and Windows Vista with Service Pack 1 installed.

Learning objectives:

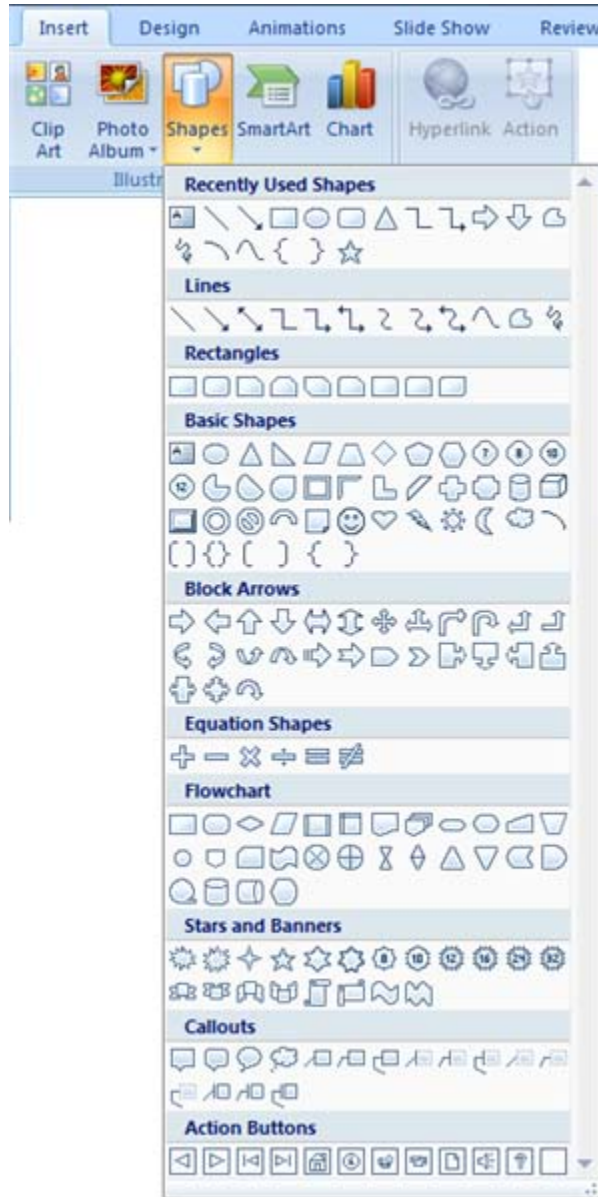
- ✓ Understand how to use the tools in the Illustrations Group on the Insert tab, and on the Drawing Tools tab in PowerPoint 2007.
- ✓ Understand how to work with Shapes and Shape connectors.
- ✓ Understand how to modify the attributes of drawing objects and apply effects.
- ✓ Understand how to use grids and drawing guides to align graphics.
- ✓ Understand how to group/ungroup, order, align, nudge, and otherwise control the location of drawn objects.
- ✓ Understand how to work with WordArt and Text objects.

Inserting a Shape

The Office 2007 programs share the same shapes that can be inserted and manipulated in the same manner. To insert a shape click the Insert Tab on the ribbon and click the drop-down beneath the Shapes command in the Illustrations Group. You will see an array of possible shapes that you may insert. These shapes are inserted as vector-based graphics (as opposed to bit mapped graphics, like photos), which means they can be resized without deforming them.

Hint: AutoShapes

These shapes were called "AutoShapes" in PowerPoint 2003 and prior versions. Now they are simply "Shapes." You can find many more "AutoShapes" however by searching on the keyword "AutoShape" when inserting ClipArt.



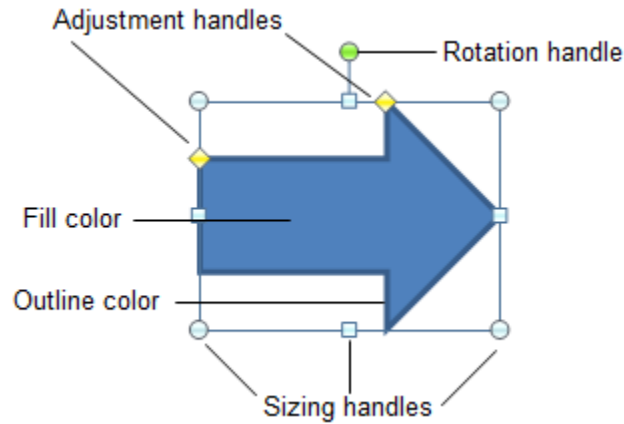
As you can see the shapes are categorized by type. Except for lines, the shapes on this drop-down support labels typed directly on them, though for many reasons you

may wish to add labels to them with the Text Box tool rather than type directly on them.

Let's begin by creating a blank slide. Draw a right-pointing block arrow on it by clicking the Right Arrow on the Shapes drop-down, moving your cursor onto the slide (it will assume a cross-hair shape), holding down the left mouse button and dragging diagonally.

Hint: Rotation

Use the Rotate tool on the Drawing Tools tab to flip a shape horizontally or vertically. The "More rotation options..." choice will allow you to rotate the object precisely.

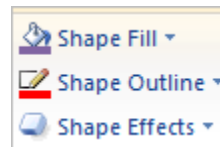


Hint: Selection

You can select an object by clicking it. When selected, the objects sizing, adjustment and rotation handles will appear. You can select multiple objects by holding down the Ctrl or Shift key and clicking on them individually. Another way to select multiple objects is to hold down the mouse button and drag around a group of objects. Finally, you can use the Selection Pane, found on the Select drop-down on the Home tab.

The object can be resized by dragging the sizing handles. If you hold down the Shift key and drag one of the round corner handles you will increase or decrease the object's size without changing its aspect ratio, so that it will remain correctly proportioned. Dragging one of the square side or top handles, or the round corner handles without holding the Shift key, will stretch the object horizontally or vertically, changing its aspect ratio. The shape of the object can be changed by dragging the yellow diamond-shaped Adjustment handles, without changing its container's size, and therefore not changing the size of its "footprint" on the slide. Our arrow has two Adjustment handles, one to control the shape of the arrow "stem" and one to control the shape of the arrow "head." The object can be rotated by moving your cursor over the round green Rotation handle and dragging in a circular motion. Holding down the Shift key while rotating will rotate the object in 15° increments.

To modify the Fill color (or Outline color or Shape effects), select the object (by clicking it, causing the sizing and other handles to appear, and then click the "Drawing Tools" tab that will automatically appear at the top of the screen. On the Format tab, in the Shape Styles group you will see tools for controlling Shape Fill, Shape Outline and Shape Effects.

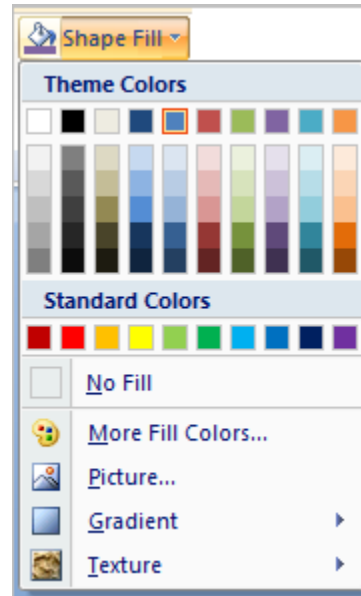


Click the drop-down next to the attribute you wish to modify and select from a palette the new attribute you wish to apply. These palettes are rather complex, and

can lead to a bewildering array of possibilities, so keep it simple at first. To change the color of our arrow from its default (derived from the Color Theme of our presentation, which is probably “Office” if you have not changed the out-of-the-box default of the program) to red click the drop-down next to “Shape Fill” and select red from the palette. Note that More Colors..., Pictures..., Gradients..., or Textures can also be chosen from this drop-down.

Hint: Setting the default Shape Effect

If you apply various effects to a shape and you want to re-use those effects on all shapes, right-click the shape and choose “Set as Default Shape.”.



The Shape Outline and Shape Effect drop-down palettes are similarly complex.

Exercises

The Three Lines Exercise

Hint: Drawing straight lines and perfect squares and circles

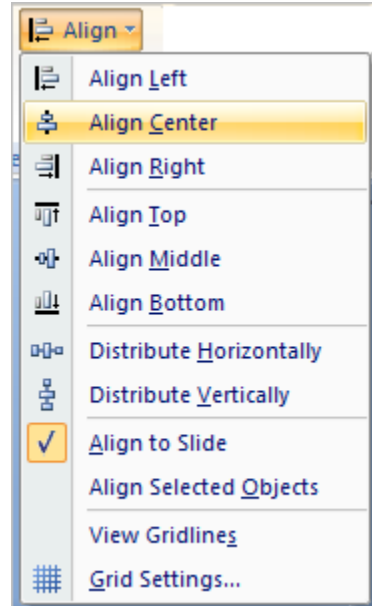
To draw a perfectly straight line, a perfect square or a perfect circle, hold down the Shift key before drawing.

Let's begin simply. Create a blank content slide and draw three horizontal lines, at top, middle and bottom of slide but not closely aligned. When we say draw, we mean to select the line tool, hold down the left mouse button where you want the line to begin, and release the mouse button at the end of the line.

To control a line's attributes, it must first be selected.

Select each line and make them a different thickness by using the line style tool. Make the lines three different colors by using the Line color tool. Give each of the lines a different dash style by using the Dash style tool.

On the Drawing Tools tab note that there is an Align tool. Click its drop-down. Now, align the three lines on a center and distribute them vertically.



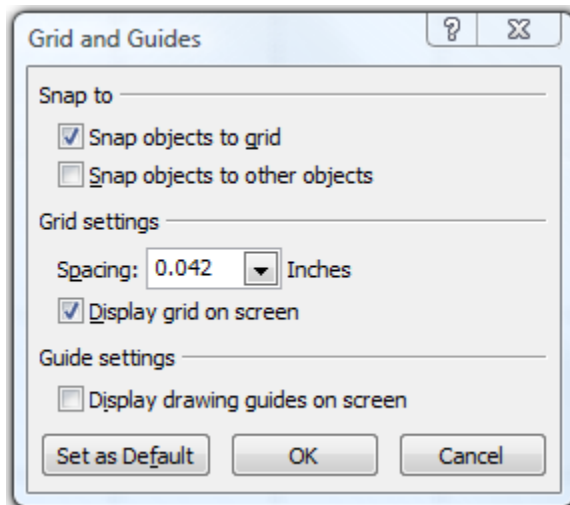
Note the difference between aligning to the Selected Objects and aligning to the Slide itself.

Hint: Grouping

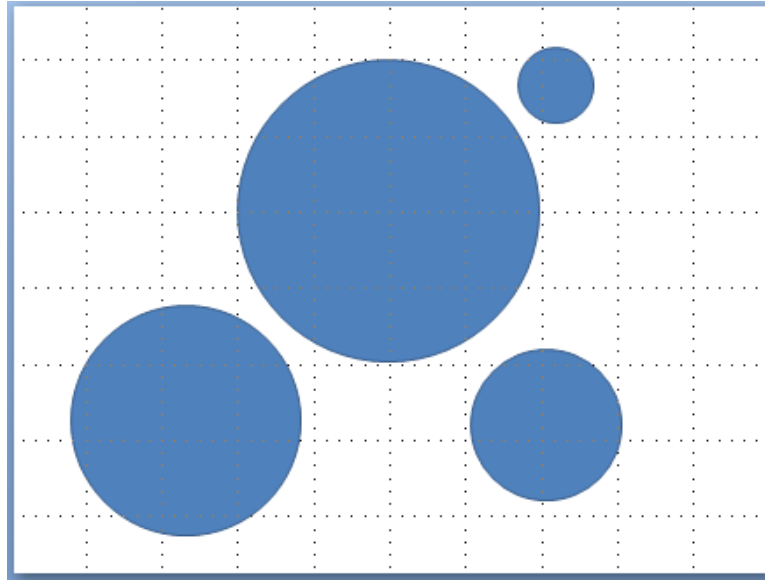
To group objects, select one, then hold down Ctrl and select (click) all the others. After they are all selected, right-click the selection (or use the Draw menu) and choose Grouping > Group. The objects will be grouped as a single object and you can now move it around or duplicate it as a single object. Ungroup in the same way. Ctrl-G is the shortcut key for grouping.

The Target Exercise

On a new, blank slide turn on the Grid display by right-clicking the slide and choosing Grid and Guides... Set the spacing to 1/24" and be sure "Snap objects to grid" is checked.



Draw four perfect circles on the slide, but keep them separate, do not obscure one by another. Make your first circle 1x1 grid unit, your second 2x2 grid units, your third 3x3 grid units and your fourth 4x4 grid units, so that you have four increasingly large perfect circles.



**Hint: Grouping
Objects: Placeholder
insertion vs.
Insertion command**

It is important to realize that if you insert pictures using the Insert command in the Illustrations Group on the ribbon, you can group them by selecting them and choosing Group. If you insert them by using an image placeholder on a slide, you cannot.

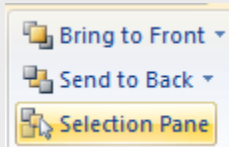
Color each of the circles differently. Now drag each smaller circle over the largest circle, beginning with the 3x3 circle down to the 1x1 circle. Note, to keep the smaller circles from moving behind the larger circles as you drag them, right-click them first, before moving them, and choose "Bring to Front." To center the circles one upon another, click the center (smallest) circle first, and then, holding down the Ctrl key click each of the other circles increasing in size. Selection handles will appear around each circle. Now, if not already selected, click the Drawing Tools tab, the Align drop-down. Be sure "Align Selected Objects" is checked, and select "Align Center" and then "Align Middle." Now, with all four circles still selected click the Group drop-down and select Group. You now have a single object to work with, rather than four independent objects. Now you are ready to center the target on the slide. Click the Align drop-down again and be sure "Align to Slide" is checked. Click "Align Center" and then "Align Middle" to perfectly center the target on the slide.

Now let's add a caption. On the Insert tab choose Text box, click beneath the target and type "Target Practice." Make it 36 pt, and apply a WordArt style to it. Finally, select both the target and the caption objects and align them on their middles. Don't forget, with the WordArt, it is the overall container you are aligning to the target, not just the letters themselves.

To finish our project let's format the background of this slide choosing a gradient fill of the Path type based on the standard color for your color theme. Finally, let's get a little fancy and select your target, click the Drawing Tools tab, and the Shape Effects drop-down. Choose the 3-D Bevel Effect. Now turn off Grids and Guides. Done. Your target should look something like this:

Hint: Selecting hidden objects

If you cannot see a graphic because it is hidden by other graphics in a stack, click the Selection Pane button (on the Picture or Drawing Tools tab) and select it from a list of all graphics on that slide.

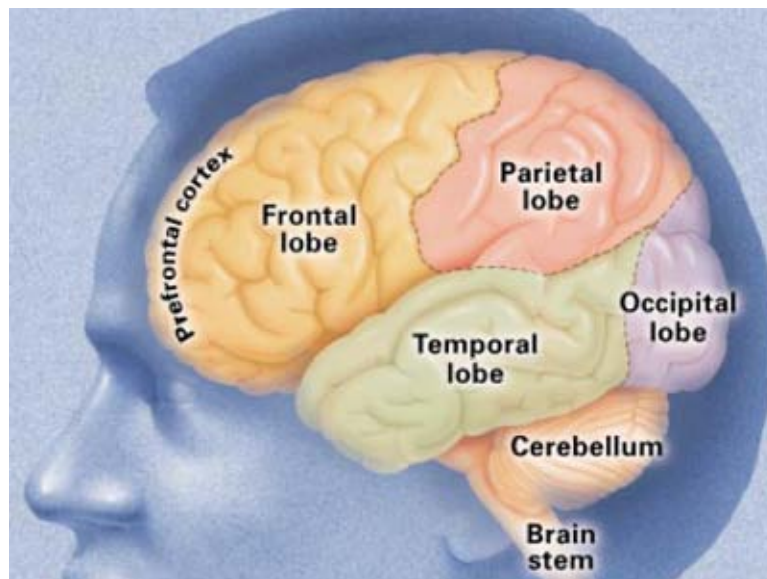


Annotations with Lines and Arrows

Now we will create annotations and captions using the text box and drawing arrows to annotate the picture brain.bmp.

Insert the “brain.bmp” picture onto a blank slide. Format the background of the slide to black. Resize the picture to occupy about half the slide. Label the Frontal lobe, the Parietal lobe, and the Occipital lobe. Draw an arrow to each lobe using the arrow tool. Add a caption with the Text tool, to which you should add some WordArt Effects.

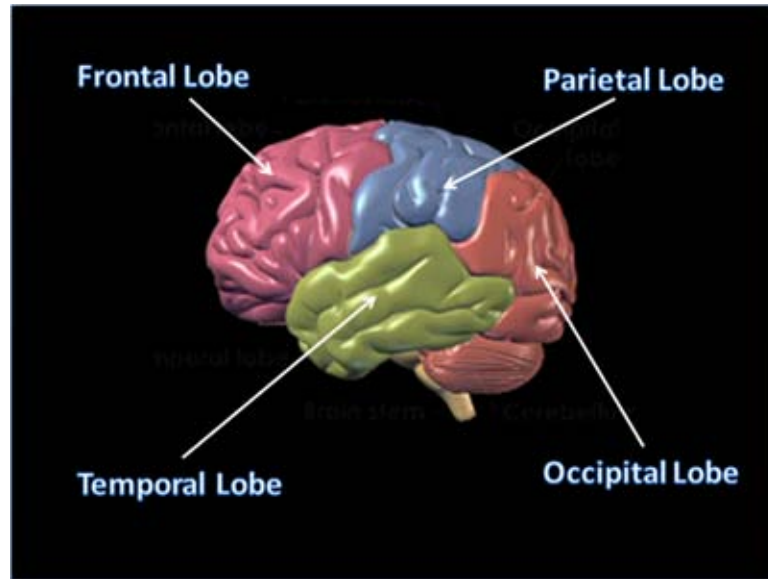
Use the following illustration as a guide:



Hint: Duplicating drawn objects

To duplicate a drawn object, select it and press Ctrl-D. Each time you press Ctrl-D another copy of the object will be made. If you wish to use the commands on the ribbon, clicking the paste command will also duplicate the object once it has been copied to the clipboard. You can also duplicate an object by selecting it and holding down the Ctrl key while you drag it.

It is much easier to apply your line styles and WordArt Effects on the first object you draw, and then duplicate that object, modifying it each time but carrying along the Effects you have applied on each duplication. That way you minimize the amount of work you need to do. Turn on the Drawing Guides to help you keep your labels aligned horizontally and vertically. Your slide should look something like this.



More complex (or larger) arrows need to be made with Block Arrow AutoShapes, rather than with the arrow tool. Since AutoShapes are more complex shapes, more choices are available for controlling their attributes (see below).

Flowchart Shapes and Connectors

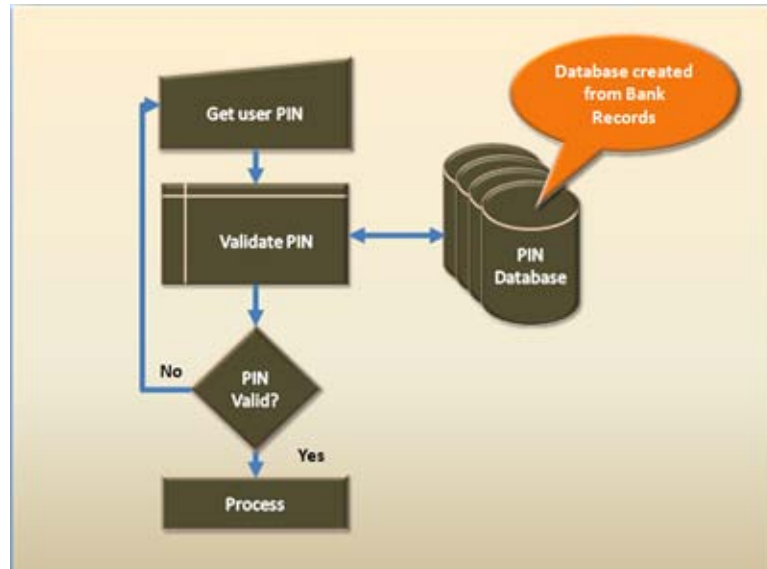
Draw the following flowchart using the Flowchart AutoShapes and Connectors.

To save time when drawing a complex figure using multiple shapes and line connectors, first quickly draw the shapes and add captions, but do not connect them with lines. Second, align the shapes using Guidelines and the Align Tool. Third apply Shape Effects to one of the objects until it looks like you want. Then double click the Format Painter to apply the effects to all the shapes. Fourth, connect two of the shapes with a line connector. Fifth, connect the shapes with line connectors. Note the behavior of the flowchart shapes when connecting them with lines. With a line connector selected, when you hover over a shape handles on its sides will glow red. When drawing the line to another shape, another set of red handles will glow, as an aid in connecting lines from center to center. Sixth, format a line connector and then use the Format Painter to format all connections. Finally, add callouts or other narrative.

Hint: Drawing Connectors

When selecting a line connector, if you intend to use it more than once, right-click it and choose “Lock Drawing Mode” to re-use it without having to select it each time.

You can draw the elbow connector between shapes, or you can click its starting point, and then move the resulting line to its end point and drag the adjustment handle (the yellow diamond) to size the line.



It is useful to align and distribute your objects *before* you connect them. If you attach connector lines to these glowing red handles, and then move the shapes, the lines will remain attached, and extend as needed. They will also attach to the objects perfectly, not falling short or overlapping.

Callouts - Callouts are special in that they have an adjustment handle at their point, which you can drag to extend to the part of another object you are annotating within the text of the callout.

Curved Lines. To draw curved lines, select the Curve tool:



Click here you want to start your line, then click each time you want the line to curve (clicking regularly for a smoothly curving line). To end the line, double click. If you wish to close the line, double click at its starting point. The shape will fill with the default fill color.

Action Buttons – Action buttons form a special class of shapes on the Shape Command tool. They differ from other shapes in that an Action Settings dialog box will appear after they are drawn. The Action Settings dialog allows for linking to another slide, a URL, another document, running a program, playing a sound, and so on. Any object, however, can be associated with these actions. The action buttons invoke this dialog box automatically, but it can be manually invoked by selecting any object and choosing Action from the Insert tab.

Hint: Drawing Polygons

The standard polygons already have a pre-defined shape, but if you want to draw your own polygon, use the FreeForm tool.

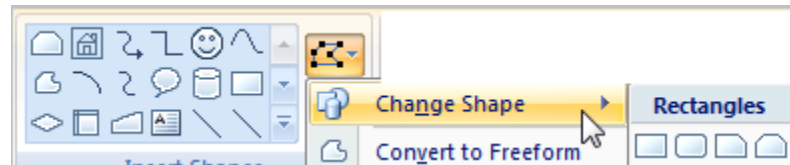


Click the mouse to begin, release the mouse button and click each time you wish to make a new line segment. Double click to close the shape over the start point. The shape will not fill with a fill color.



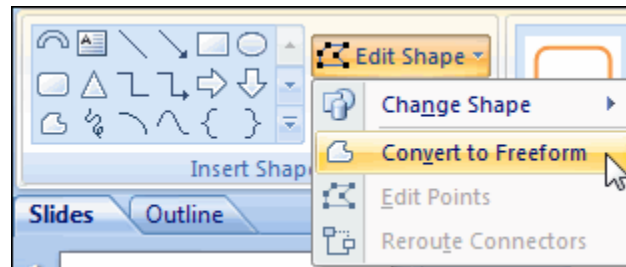
The Action Buttons on the Shapes command palette are rather crude looking, and it would probably be better to find pre-existing art work or draw your own for a more professional looking presentation.

Changing a Shape – If you decide, after you have applied formatting to a shape, that you would rather use a different shape, it is easier to Edit it than to redraw it. To do so, select the shape and click the Edit button pm the Fpr,at tab of the Drawing Tools tab and select a new shape. The new shape will inherit the text and any other formatting of the old shape.

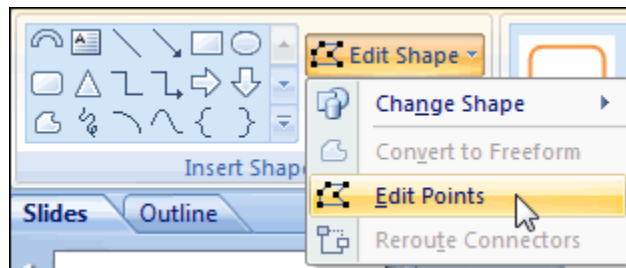


Editing Shapes

If you have a need to modify a shape in ways that cannot be done by manipulating the yellow diamond controls, select the shape, click the Drawing Tools Format tab, click the Edit Shape drop-down and choose Convert to Freeform.”



Now, click Edit Shape again and this time Edit Points.



The points will appear as black handles and the lines between them in red. Drag the points as desired to edit the shape.

Drawing 3-D Objects

This can be very difficult and confusing. Once you have created the 3-D object you want, you might wish to save it for re-use.

To draw a sphere:

- 1. Choose the oval tool, hold down shift and click the slide.*
- 2. Click the formatting tab and make the height and width of the oval the same, say two inches.*
- 3. Right-click this circle and choose "Format Shape"*
- 4. Click 3-D Format and set top and bottom bevel settings for both height and width to 72 points (ie, 36 points for each inch of height and width of the circle).*

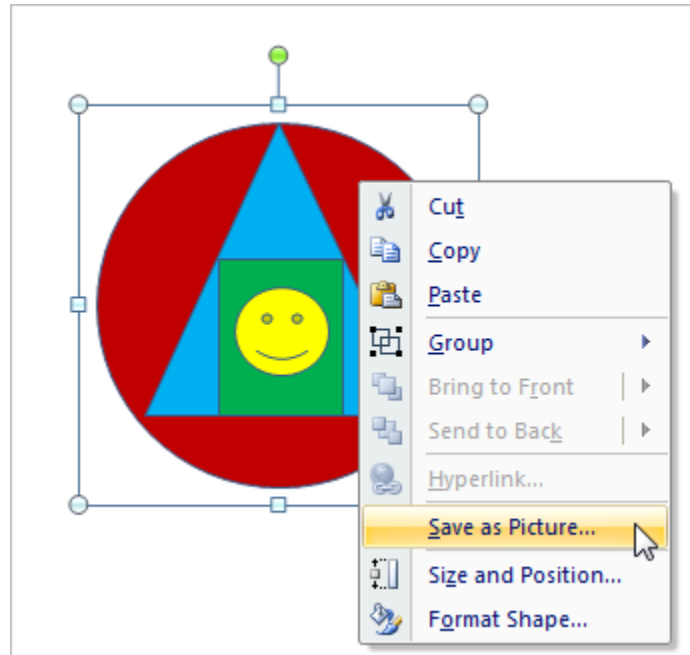
Custom Clip Art

If you cannot find the clip art you want, you can draw and save your own to the Clip Organizer. Here's how.

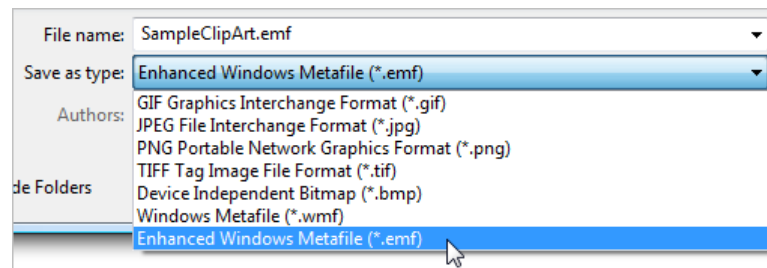
First, draw your clipart:



Be sure to group it before saving it. Now, right-click your grouped masterpiece and choose Save As Picture...

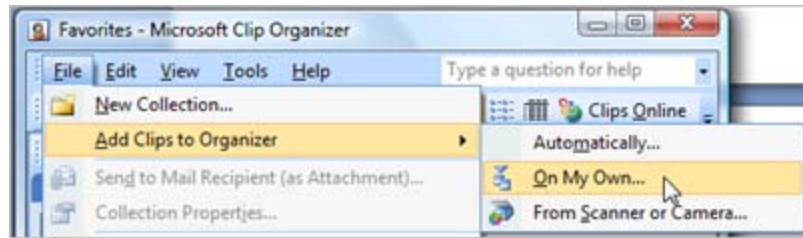


Change the Save As Type file format to EMF = Enhanced Windows Metafile.



You will note that it is possible to save the file in several other formats, jpg, png, tif and so one. These other formats, however, are bit mapped formats, not vector-based formats. The advantage of vector-based formats is that an actual picture is not saved, simply a group of data that describes the picture. Therefore when a vector-based graphic is resized, it does not distort or pixilate, as a bitmapped graphic does.

Now that you have your emf file, open the Microsoft Clip Organizer (you will find it on the Start button > Microsoft Office > Microsoft Office Tools submenu). Choose File > Add Clips to Organizer > On My Own... Navigate to your clip art and click Add. After it is added, you can right-click it and Edit Keywords to add descriptive keywords to help you search for it later.



Now you can re-use it as often as you wish in any presentation you wish by simply finding it in the clipart task pane:

Help Resources

PowerPoint

You can get help from the **Help** menu at any time while you are using PowerPoint. To open the online Help, select **Microsoft PowerPoint Help** from the **Help** menu. If you have an Internet connection, you can also point to **Office on the Web** on the **Help** menu and choose from several resources that may be of interest to you. You can also go to <http://www.microsoft.com/powerpoint> for all of the latest information.

Academic Technology

Our web help resources are available at:

<http://www.palomar.edu/atrc>

To get personal help with any of these procedures call or write:

Terry Gray, ext. 2877, tgray@palomar.edu

Direct Blackboard questions to: onlineclasses@palomar.edu , ext. 2862

Academic Technology Training

We offer specific training courses in PowerPoint, FrontPage, Blackboard, and many other technology topics. Our schedule is published at:

<http://www.palomar.edu/atrc/attraining.htm>

All faculty and staff are pre-enrolled in a Blackboard course titled "Academic Technology Training." To find it, login to Blackboard using your Palomar College ID (username is username to the left of the @ sign in your email address—do not include the "@palomar.edu" part; password is your Palomar email password). In the My Courses areas you will see a list of courses you are enrolled in. Click on "Academic Technology Training" to enter the course. The PowerPoint materials can be found in the "Presentation Skills" area of the course, in the "Workshops" content area.