



Hour 10

Creating Cool Diagrams

In addition to tables for text and charts for numbers, presenters frequently want to show their audience a visual depiction of a complex idea to explain it more comprehensively. In PowerPoint, this can be accomplished with one of the most useful and yet little-used parts of the Content panel: the diagram object.

In this hour, we'll learn to

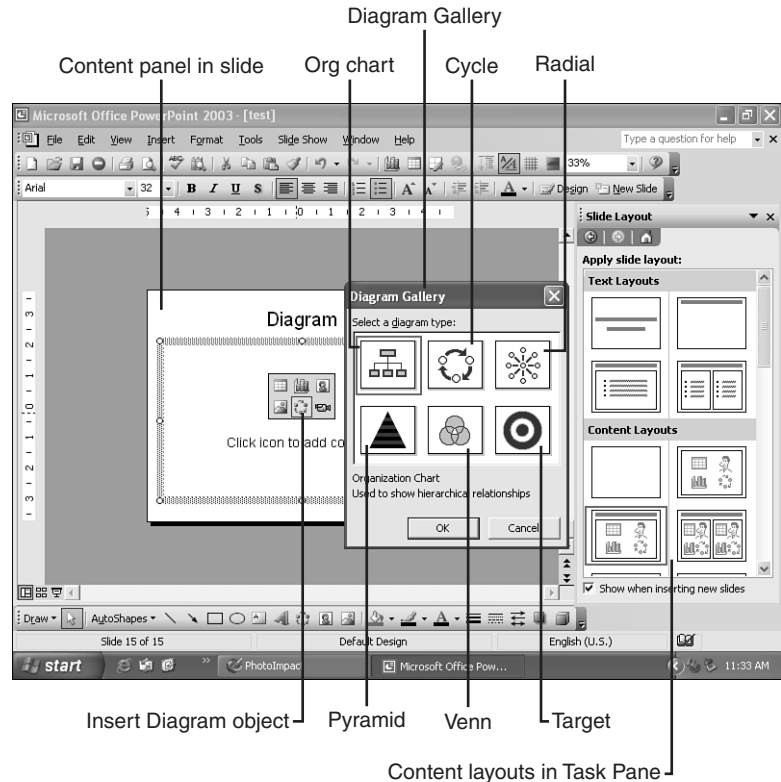
- Use the Org Chart diagram object
- Create the other types of diagrams: Cycle, Radial, Pyramid, Venn, and Target
- Use the Diagram toolbar to add elements and reformat the diagrams
- Use and disable AutoFormat and AutoLayout
- Change diagram types from one to another

Using the Diagram Object

Using the Content layout in the Slide Layout task pane, create a new slide or reapply a Content layout to an existing slide. Click the Insert Diagram Object icon, as shown in Figure 10.1.

FIGURE 10.1

The diagram object is a powerful conceptual tool, and includes the Org Chart and five other interchangeable diagrams.



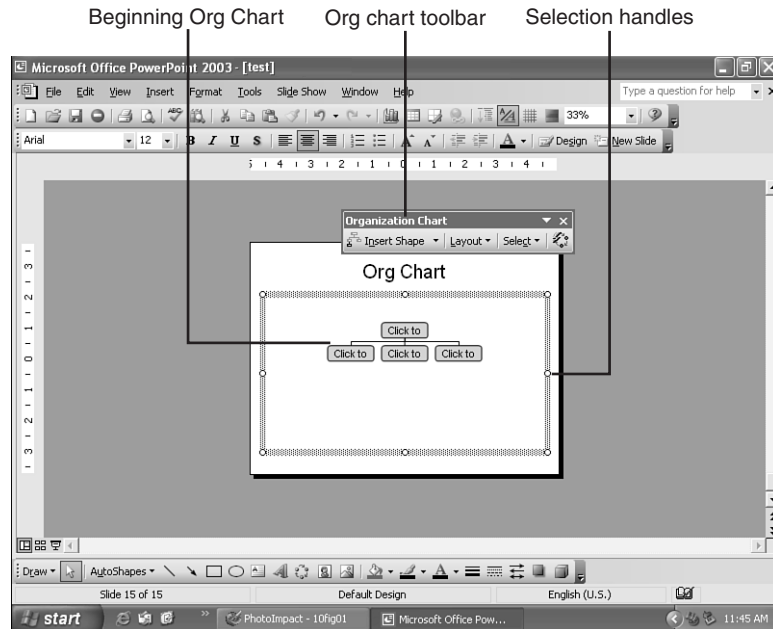
When you hovered your mouse over the icon, you probably noticed that your choice was to create either a diagram or an organizational chart. We'll see the distinction between these terms in a short while, but the Org Chart diagram is essentially a different animal from the other diagrams. To see why, click on the org chart to select it from the Diagram Gallery and then click OK.

Beginning the Org Chart

What you get is a simple two-level organizational chart with one top dog (or big cheese) box and three subordinate boxes (see Figure 10.2).

FIGURE 10.2

The entire org chart is a unit, with a box with selection handles ready to be moved or resized.



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Because we're already familiar with click-in placeholders, we can click in the top box, and add some text, such as **Big Cheese**, as shown in Figure 10.3.



Although most org charts represent hierarchical structures within companies or other groups of people, you can just as easily use it as a flow chart of concepts or ideas.

A great feature of the Diagram object is the capability to animate its elements, to present the material sequentially. To learn more, see "Animating Graphs and Diagrams" in Hour 13, "The Power of Animation."

We'll learn how to create a more free-form or unstructured flow chart in Hour 14, "The Incredible Drawing Toolbar."

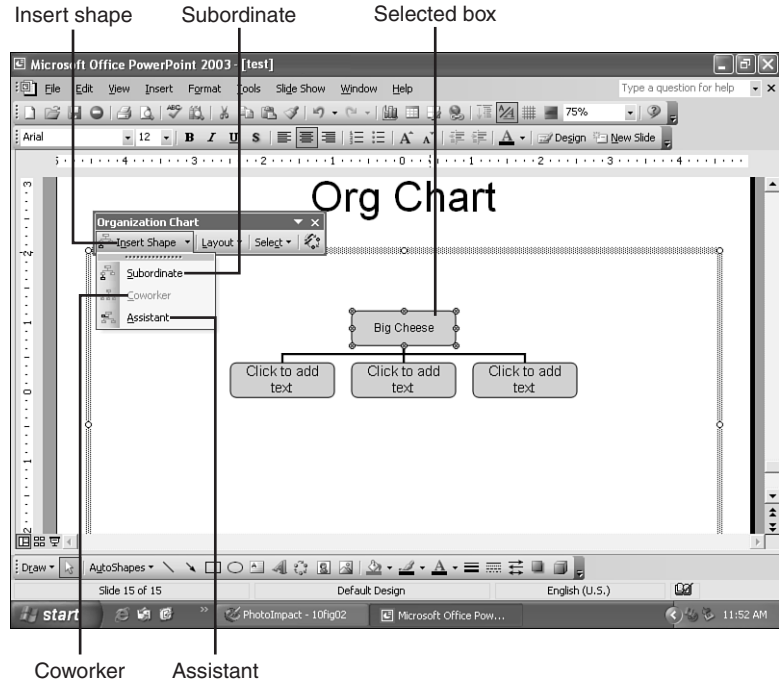
After the text is added, we can click on the border of the top box so that the box is selected.

Using the Org Chart Toolbar

Now we can take a closer look at the Org Chart toolbar. Click the drop-down arrow beside Insert Shape to see the choices, as shown in Figure 10.3.

FIGURE 10.3

The Org Chart toolbar enables you to add another shape in relative rank or importance to the selected shape.



From each of these terms, there are three clearly defined roles for the shapes you can insert:

- Subordinate—Directly below (reports to and takes direction from) the selected shape to which it is added
- Co-worker—Equal to the selected shape to which it is added (and is directed from the same higher-ranked shape)
- Assistant—Connected to the selected shape in some subordinate capacity but reports to no one else

Remember that these don't have to represent people—they can be any concepts that must be arranged in a hierarchical order to make sense.



With the top box selected in Figure 10.3, you can see that one of these options is grayed out. In an org chart, there can be only one top box—so the selection for co-worker is not available.

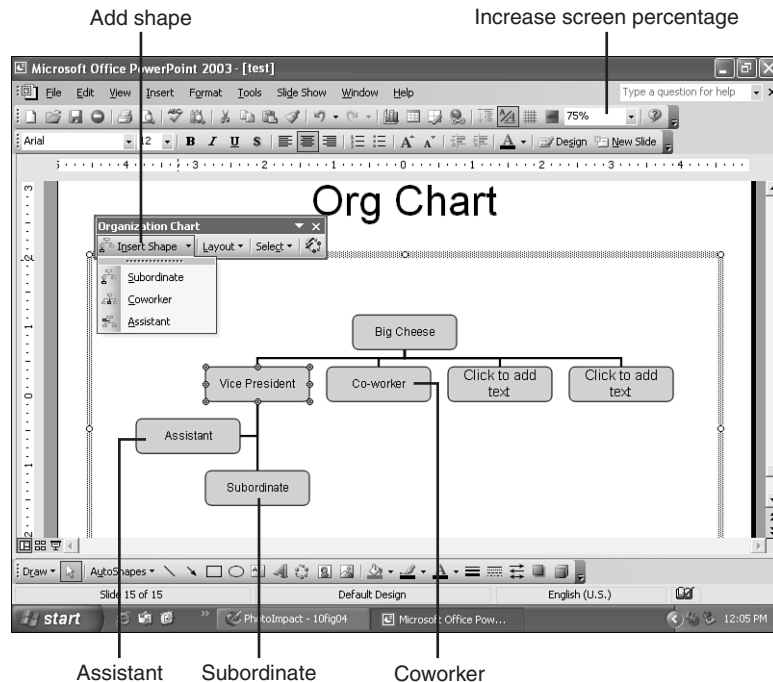
Click one of the subordinate boxes and provide that box with another subordinate, a co-worker, and an assistant, as shown in Figure 10.4.



To zoom in on the org chart, we increased our view by screen percentage from the top menu (see Figure 10.4).

FIGURE 10.4

Build your org chart from top tier down by selecting boxes and inserting the appropriate relative shape.



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In this way, you begin to construct your org chart. But it's just the tip of the iceberg.

Changing the Org Chart Layout

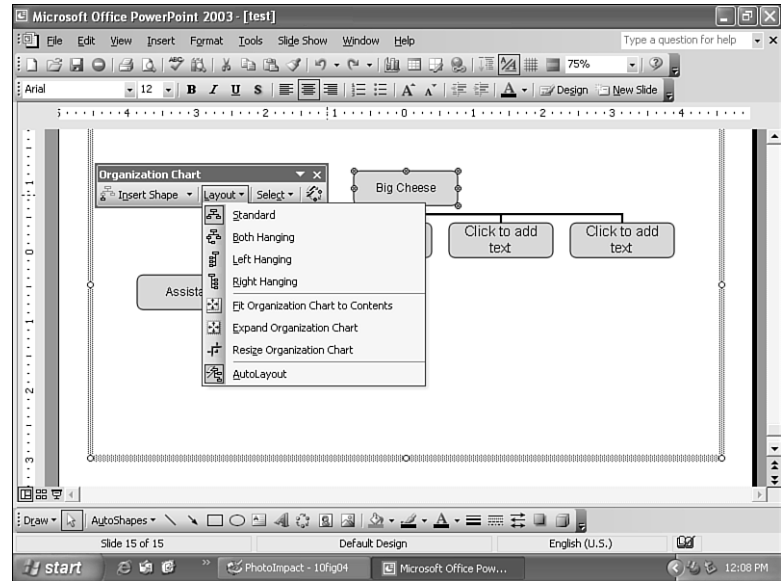
With a shape selected, click the drop-down arrow beside Layout, as shown in Figure 10.5.

Let's review some of the options for realignment and resizing:

- **Standard**—This is the basic top-down structure you start with and return to.
- **Both hanging**—Branches continue to generate on the left and right in a downward direction.

FIGURE 10.5

The Layout panel enables you to rearrange the part of the org chart directly connected to the selected shape. It also makes it possible for you to resize the entire chart by different parameters and apply or reapply the AutoLayout to straighten things out.



- Left hanging—Branches continue to generate on the left and a downward direction.
- Right hanging—Branches continue to generate on the right in a downward direction.
- Fit Org Chart to Contents—Be careful; this will put a constrictive border around your chart. It's mainly used to add other elements to the slide.
- Expand Org Chart—This gives you perpendicular lines to enable you to readjust the entire chart dimensions without enlarging the boxes.
- Resize Org Chart—This enables you to resize the chart along with the boxes and fonts within them with your selection handles.
- AutoLayout—This applies or reapplies an automatic set of placeholders to reposition objects in the slide.



As you work with the Layout panel, remember your Undo option if you don't get the results you want.

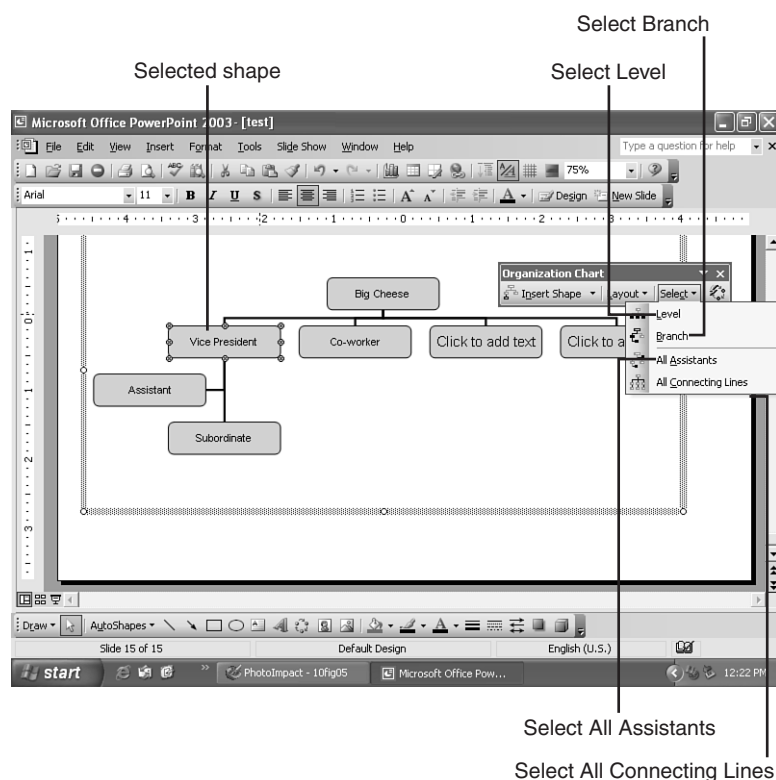
The differences between these options might be confusing at first. Refer to Figure 10.14 (the Cycle diagram) to compare expanding a diagram (or org chart), and resizing it (along with its contents) .

Selecting Portions of the Org Chart

With an intermediate shape selected, click the drop-down list next to Select, as shown in Figure 10.6.

FIGURE 10.6

With a shape selected, the select drop-down list enables you to select a set of related shapes for repositioning, formatting, and other revisions.



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You now have four choices:

- Level—Selects boxes equal in hierarchy to the selected box
- Branch—Selects boxes lower in hierarchy to the selected box
- All Assistants—Selects all boxes connected to selected box with no relation to other boxes
- All Connecting Lines—Selects all the lines connected to the selected box



To select shapes individually, you can also use the Shift key to click either a set of boxes or a set of lines. You can also use your mouse to drag a box around a set of shapes to select them.

To select another set or start over, click in a blank area.

Moving and Formatting the Selection

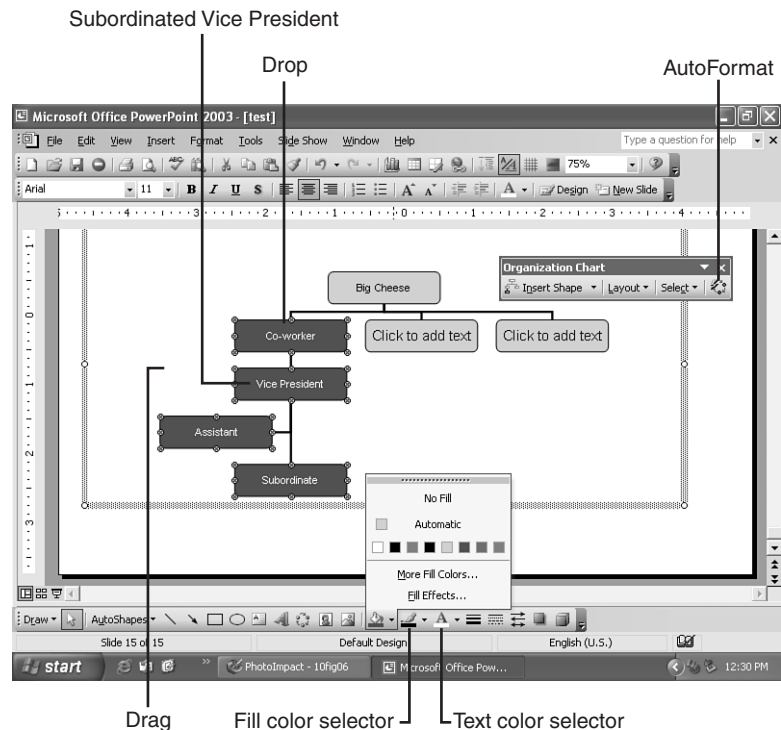
If you remember other tasks we've already performed with selections, you know that we can use selections to either move the selected objects or reformat them.

Suppose that our corporate division (or the idea we're flowcharting) is being restructured, and the vice president shape has been demoted and became a subordinate of his co-worker. We would simply select that branch and drag and drop it on the co-worker, as shown in Figure 10.7.

We could also set that branch off with a different fill color (using the Fill Color selector on the Drawing toolbar), and change the font color to white (using the Text Color tool).

FIGURE 10.7

The same concept of selecting shapes to move them and reformat them applies in the org chart.





You can also implement other font changes—such as bold and size—to the selected boxes.

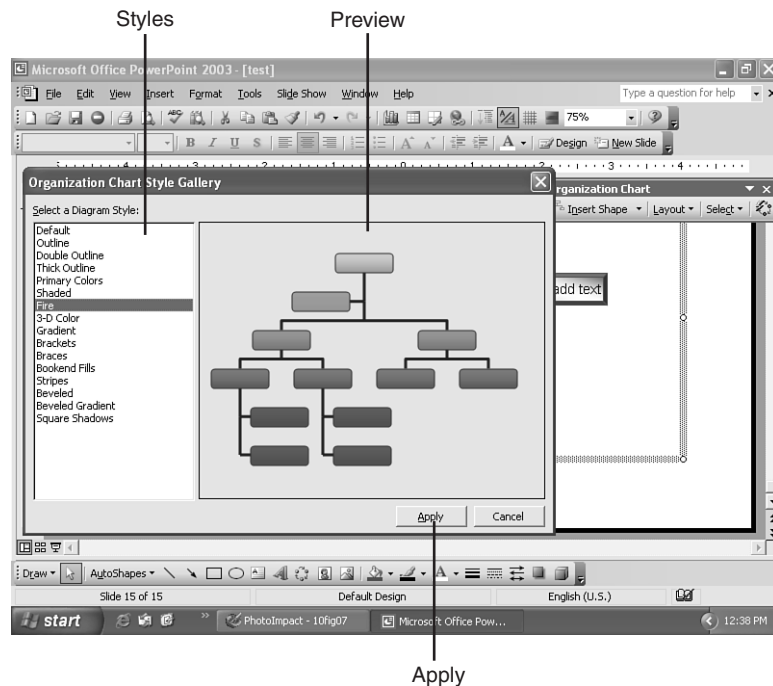
And you can use the Shift+click method to select all the lines of a branch and use the Line Color and Thickness tools on the Drawing toolbar to change how they look.

Applying Styles to the Org Chart

Obviously, with a large org chart, this sort of manual formatting takes time and planning. The last icon in the Org Chart toolbar greatly simplifies that process by applying a unique style to the entire org chart.

Clicking the last icon (AutoFormat—shown in the preceding figure, Figure 10.7) brings up the Org Chart Style Gallery (see Figure 10.8).

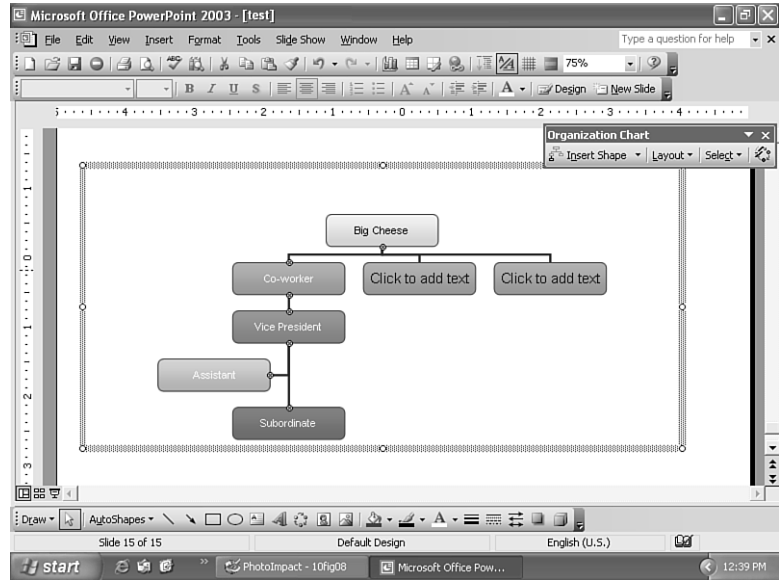
FIGURE 10.8
The AutoFormat Style Gallery is the quickest and easiest way to reformat the look of your org chart.



Selecting one of the choices gives you a preview of the effect. Clicking Apply implements your selection, as shown in Figure 10.9.

FIGURE 10.9

The Org Chart Gallery gives you a selection of colored styles and looks to apply to the entire chart.



Applying a style overrides any individual formatting choices you might have made. But you can then reapply formats to work with the style (dark fonts and so on).



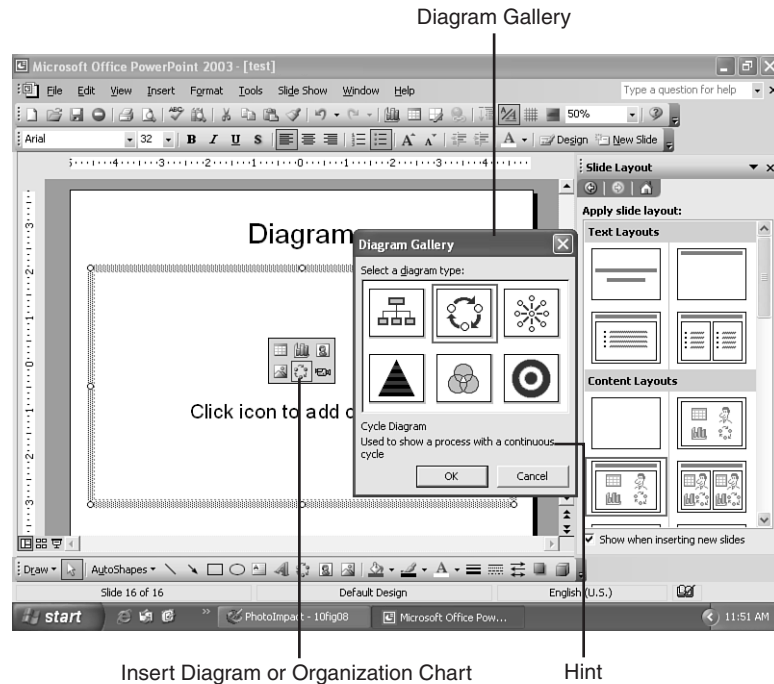
Undo in the diagram and org chart is cumulative, so you can reverse up to 99 steps, including the Style Gallery, with the Ctrl+Z key combination or the Undo icon.

Using the Other Conceptual Diagrams

If we create another Content layout slide and click once again on the Insert Diagram or Organization Chart icon, we can go through and review the rest of the Diagram Gallery.

As we go through and click on the different diagrams, we get a description of the types of concepts they are useful in visualizing, as shown in Figure 10.10.

FIGURE 10.10
The Diagram Gallery contains hints on which diagram to use for specific concepts or tasks.



Here is a good way to think about the five diagram types:

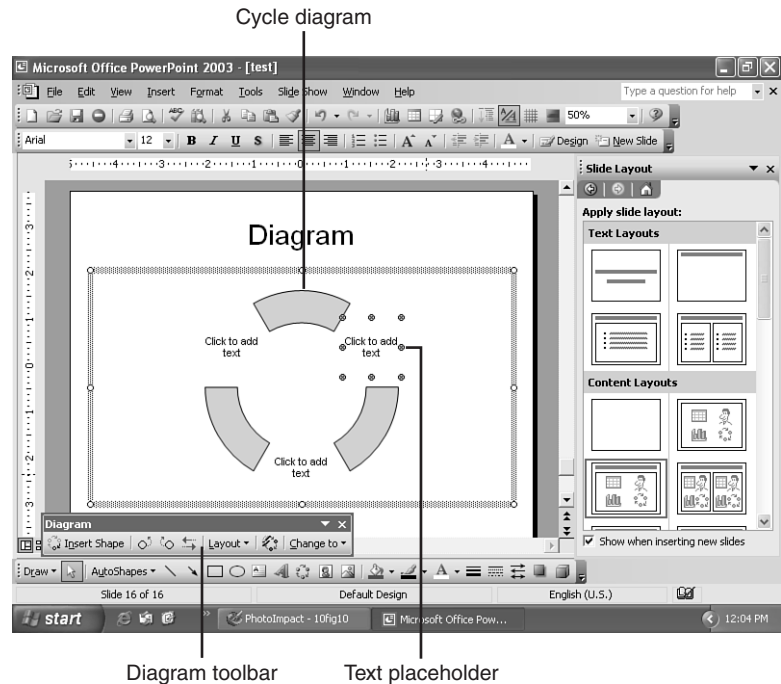
- Cycle—One element leads to another in a recurring circular pattern (recycling waste).
- Radial—One element from the center of a circle directly impacts other elements on the circumference (teams with a leader).
- Pyramid—Concepts build on each other from the base to the apex (core values up to individuality).
- Venn—Concepts have independent spheres, but also overlap in areas of mutual interest or effect (teams working together on a common task).
- Target—Concepts emanate from a core to the edge of a circle, with varying degrees of importance or effect—generally leading to an important goal or objective (less important objectives leading to the main goal).

Let's see exactly how these diagrams work. We'll select the first one (Cycle) and click OK.

A three-step Cycle diagram appears in our slide, with the now-familiar Click to Add Text placeholders and graphical elements. The first placeholder is already selected and waiting for a description of the first element, as shown in Figure 10.11.

FIGURE 10.11

The text placeholder between the graphic cycle elements awaits a description. Click and begin typing to add your text.



Notice that a toolbar similar to the Org Chart toolbar is also available, but with slightly different options. We'll explore those in the following section.

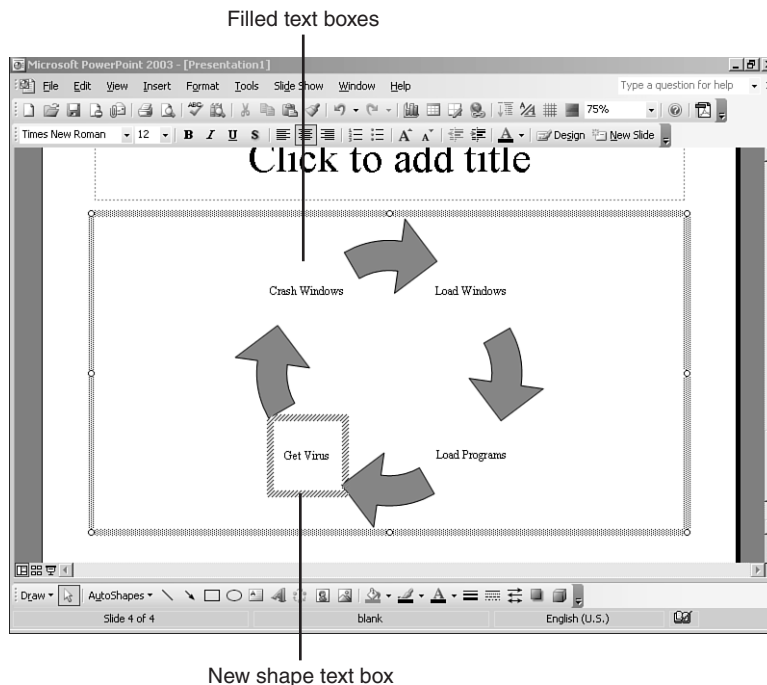
Adding Our Concepts

Let's create a familiar cycle: Load Windows—Install Programs—Crash Windows (see Figure 10.12). We just add this text to our placeholders in the circular order until we finish.

But what if we need another concept? We click the Insert Shape button on the Diagram toolbar, and another shape is created after the selected shape. Now we can add another familiar element to the Windows cycle, "Get Virus" (see Figure 10.12).

FIGURE 10.12

Click the Insert Shape button on the Diagram toolbar to add another element to the cycle and then type your descriptive text.



To put a carriage return within the text box and move some text to a new line, use Shift+Enter.

Moving Shapes with the Diagram Toolbar

If you look at the next two areas of the Diagram toolbar, they involve repositioning your shapes (or actually the text descriptions) around the cycle. Using the buttons, you can

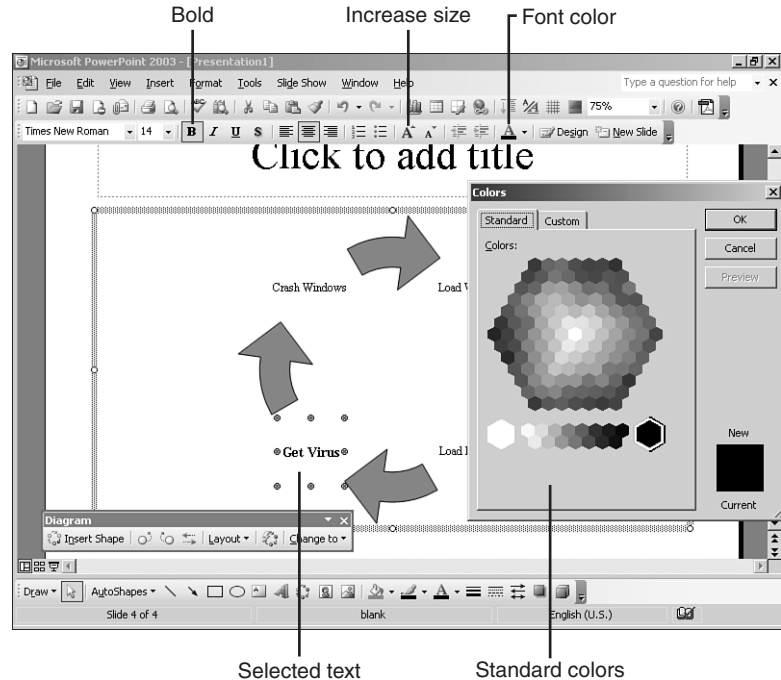
- Move selected text to the next position in the cycle
- Move text to the previous position in the cycle
- Reverse the order of the cycle

This is pretty straightforward stuff. And by now, so is reformatting the diagram.

To make Get Virus stand out, for example, we simply select that text element, click the appropriate formatting item on the PowerPoint toolbar (increase text size, bold, or text color) and apply it to the selected text, as shown in Figure 10.13.

FIGURE 10.13

Selecting a text box in the diagram lets you use the normal formatting features of PowerPoint to change its font color or make it stand out.



To see how you can change the look of individual elements in your diagram, see the section titled “Turning Off AutoFormat,” later in the hour.

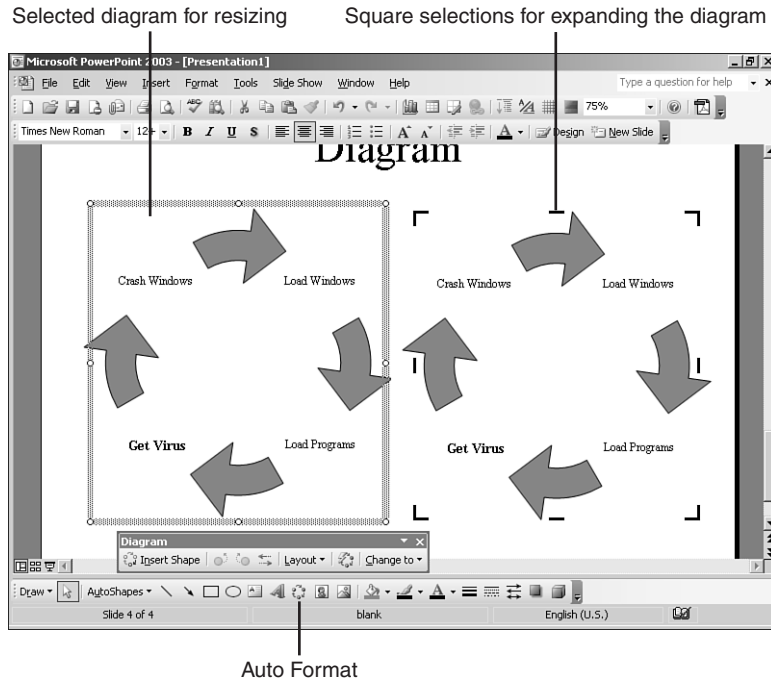
Moving or Resizing the Diagram

Like the layouts in the org chart (refer to Figure 10.5), layouts for the diagram object have two basic modes: resizing the diagram perimeter to fit other items on the slide, and resizing the diagram along with its elements and text (see Figure 10.14).

Resizing is fairly conventional: You simply click in the middle of the cycle to get your selection handles, and then either move or resize the diagram. Its elements follow along.

FIGURE 10.14

Resizing the diagram (left) makes every element larger as it gets larger. Expanding the diagram (right) simply moves the borders outward to provide more space.



Expanding the diagram moves the borders outward so that there is more space around the elements.

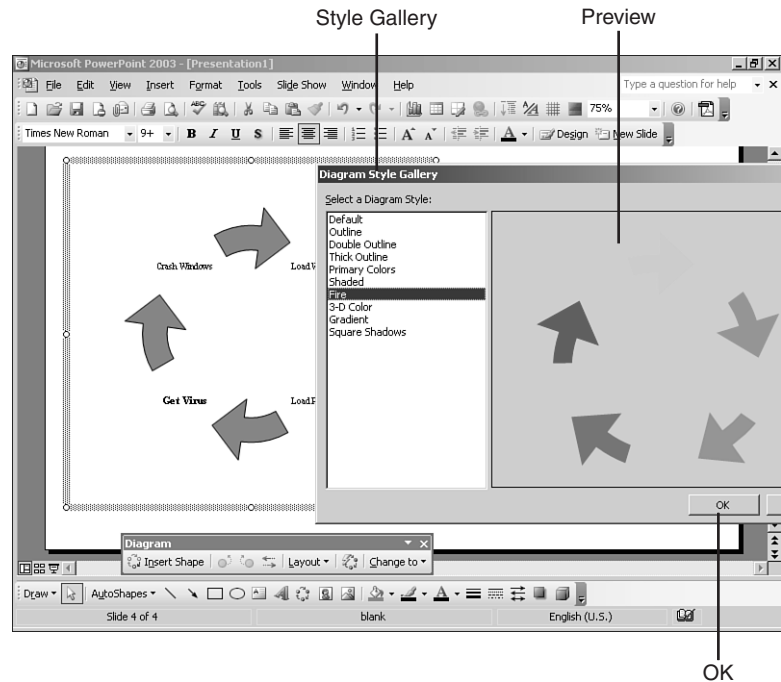
These commands are tricky. It will take trial and error to get the results you want, so keep your Undo button handy.

Using the Diagram Styles

Clicking the AutoFormat button (the little cycle icon on the Diagram toolbar shown in Figure 10.14) brings up a Style Gallery for the cycle, shown in Figure 10.15.

FIGURE 10.15

By selecting one of the looks in the Style Gallery, you can instantly revitalize your cycle by applying a new style (Fire shown here) .



Changing Your Concept Diagram

Now we get to the really amazing part of the diagram object—which is particularly amazing if you have a boss or a critic. What if, for example, such a person said, “That’s good, I like it, but I’d rather see these concepts as a circle with something at its root that affects all these other elements identically.”

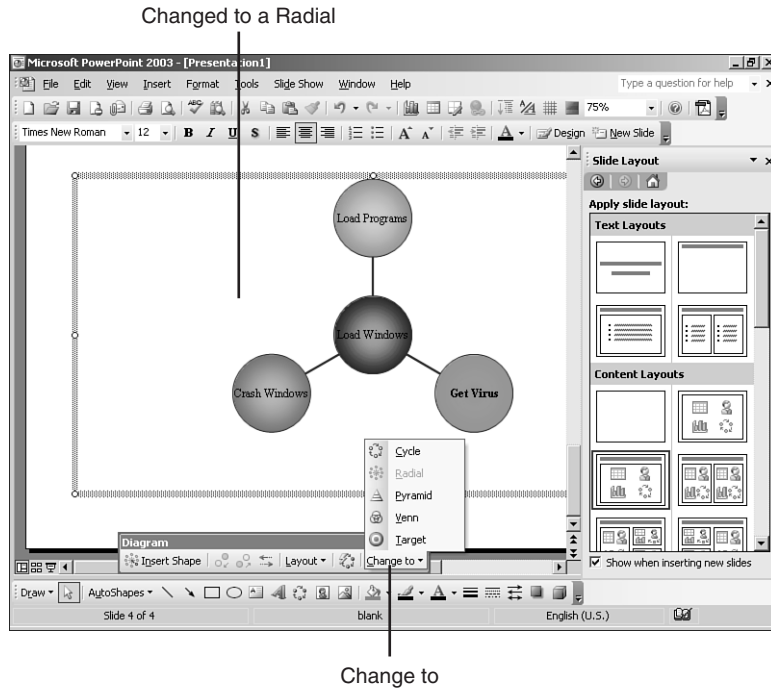
Instead of arguing with the boss or committing homicide, you can simply click the last button on the Diagram toolbar (Change to) and presto! You can change the cycle to any of the other diagrams, as shown in Figure 10.16.



When you change the diagram type, the style settings try to follow along. Readjust them later as you see fit.

FIGURE 10.16

Any of the five basic diagrams (other than the Org Chart) can be changed into one of the others.



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As you might imagine, each of the different diagrams has its own toolbar selections, depending on how the shapes should be distributed.

With the Pyramid diagram selected, as shown in Figure 10.17, the toolbar enables you to move shapes forward and back (to and from the base) .



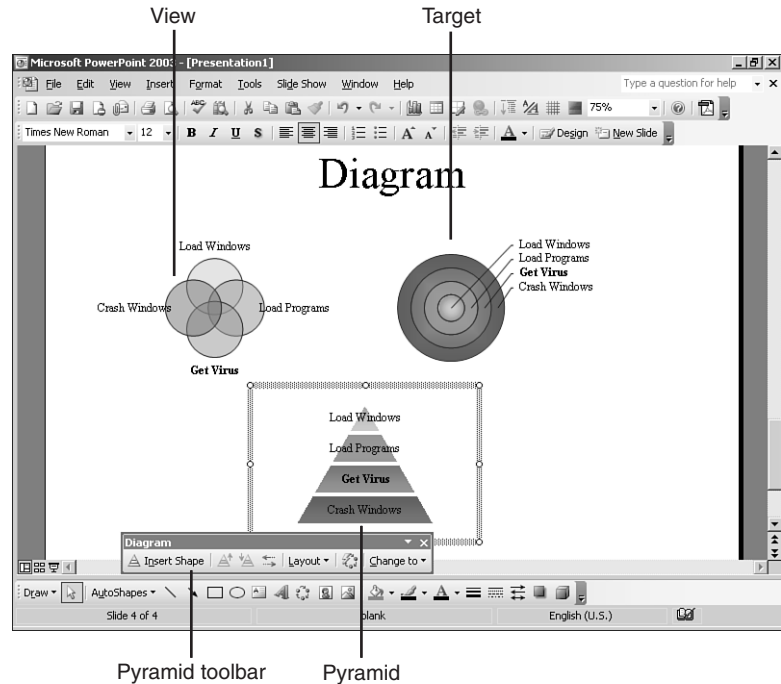
When you copy and paste a diagram, or insert a new diagram into a slide with a diagram or other graphical object, you'll get a *Smart Tag*—a little lightning bolt symbol.

Clicking the Smart Tag is what enables you to turn off AutoLayout so that you can reposition your objects and resize them manually.

If you want to reimplement AutoLayout after you've turned it off, select a diagram and click Change To. To use the Change To feature, you *must* (temporarily) implement AutoLayout.

FIGURE 10.17

Each of the five interchangeable diagrams share the same basic Diagram toolbar.



Turning Off AutoFormat

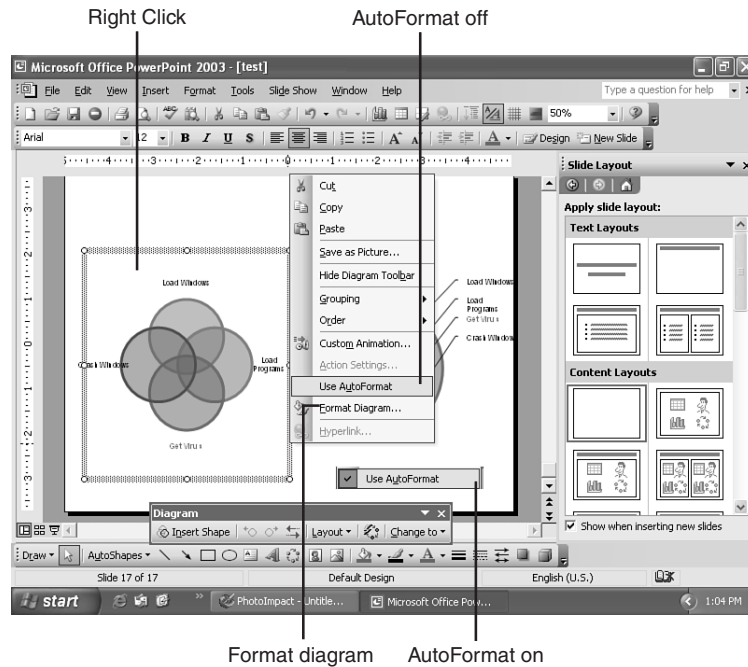
Until now, we worked only with reformatting the text boxes in our diagrams—we left the major formatting choices to the Style Gallery. But if you right-click on the border of your diagram, you can turn off AutoFormat and select Format Diagram, as shown in Figure 10.18.

Now, if you select an individual shape in your diagram, you can choose a new fill color from the Fill bucket tool, a new line color or thickness from the Line portions of the Drawing toolbar, and make some other dramatic changes, as shown in Figure 10.19.

You can also right-click the selected object and choose Format AutoShape, as shown in Figure 10.19, which brings up a very powerful set of options.

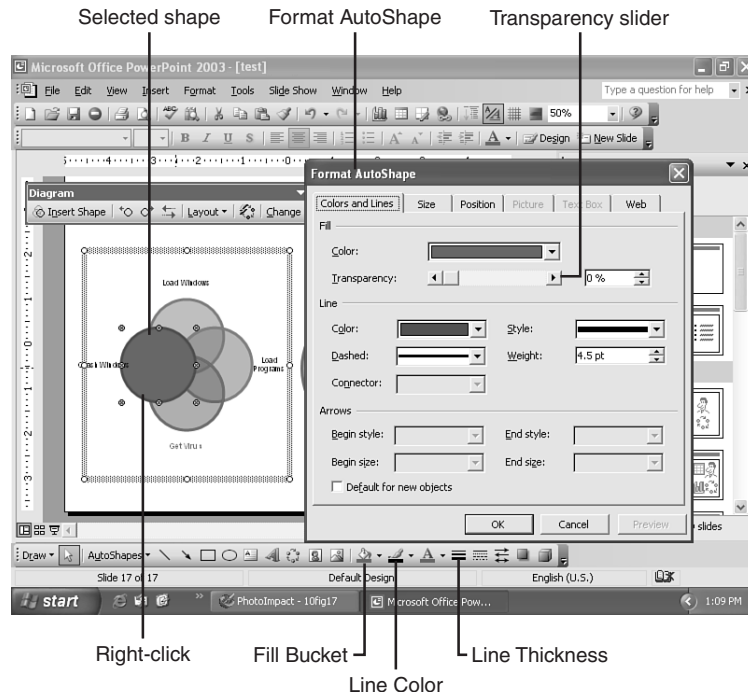
You might have noticed that the elements created by the diagram object are partially transparent by default. By sliding the transparency slider to *lower* the transparency, you make the object more opaque and it stands out from the others!

FIGURE 10.18
Right-clicking a diagram and turning off AutoFormat gives you more control over its elements.



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FIGURE 10.19
With AutoFormat turned off, you can access the Format AutoShape dialog box by right-clicking an individual element and change its fill and border colors—even its transparency.





We've already explored some parts of the Format AutoShape options dialog in other hours. It's very similar to the Format Picture dialog in Hour 9, "Image Is Everything."

Adding a Caption or Title

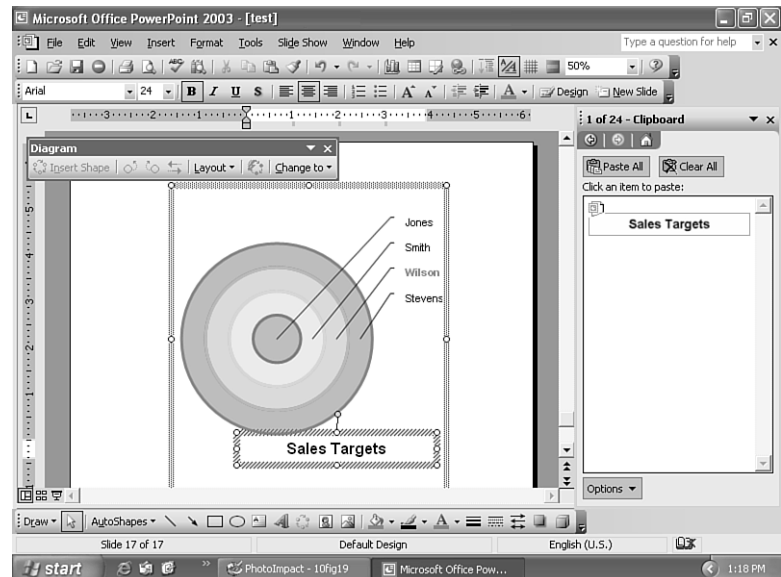
Finally, you can use other PowerPoint tools with your diagrams to a limited extent. (Remember that the diagram object is exactly that: a complete unit of formatting decisions.)

One thing we've already created (in Hour 2, "Diving Into PowerPoint") is a text box. We can create another one, format its text using the Formatting toolbar (bold, centered) and press Ctrl+X to cut it from the slide and put it on our clipboard.

Then, with a diagram selected, we can press Ctrl+V to paste our text box into the diagram. This text can be a descriptive title, which is now part of the diagram and will be resized or moved with it, using the borders and selection handles (see Figure 10.20) .

FIGURE 10.20

A text box when copied to the Clipboard, and pasted into a diagram becomes part of it, enabling you to move and resize it with the diagram object.



Summary

As we have seen, the Org Chart and the five other diagrams give us a very easy way to convey complex ideas in a visual way, which is the essence of PowerPoint.

We examined how each of the diagrams has its own unique flavor and purpose. Along with those, each has a configuration of the Org Chart or Diagram toolbar to fine-tune and format it. We saw how the AutoFormat Style Gallery enables us to instantly make any of these objects stand out, and that by turning off AutoFormat, we could customize our diagram.

This concludes our exploration of content. We will leave media clips for a later hour, so that we will be more advanced in our knowledge when we cover them.

Now we're going to enter the phase of learning how to work more efficiently with all of the tools we've covered, and create presentations that we cannot only show, but also re-edit and reuse with minimum new effort.

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Q&A

Q I liked the old Org Chart that was an add-in program, like Microsoft Graph. Can I still use that Org Chart program in this version of PowerPoint?

A Sorry, but no. If you bring an older org chart into the new PowerPoint, it will be automatically converted into the new Org Chart diagram object. There's been no way to work with the older program since PowerPoint XP.

Q I don't understand the difference between AutoFormat and AutoLayout. Can you help?

A AutoLayout is about where objects fit or exist on the slide; AutoFormat is how they appear. In the Org Chart and Diagram objects, AutoLayout is used to confine or expand the diagram to a spatial area and allow other elements to eventually be added to the slide. When other elements are added in a way that might need to be readjusted, a Smart Tag should appear that enables you to have it done automatically (using AutoLayout) or turn it off so that you can resize and move the objects manually.

The AutoFormat button on the Diagram toolbar opens the Style Gallery, which enables you to apply a complete new look to the diagram. To customize your diagram, you have to right-click its border and turn off AutoFormat to change aspects of individual objects, such as their transparency.

Q Is there any way to put a picture into one of the diagram objects, like in the circles of a radial diagram or the base of a pyramid?

A What are you, a wise guy or something? There doesn't seem to be any way to make an image part of a diagram, as we did with the text box. But you can copy and paste (or insert) an image over part of your diagram to make it look as if it belongs there.

However, be advised that you should test this slide thoroughly because the elements can move out of position, particularly if you eventually show the slide at a different screen resolution.