

3 THE *LIBREOFFICE* DRAWING TOOLS

LEARNING OUTCOMES

In Lesson 2 you learned how to work with a longer document (the Term Paper). You practiced inserting page numbers, formatting text, using the indent markers, creating sections and columns of text, finding and replacing text, moving and copying text, and putting borders around blocks of text. You also learned how to create a list, such as a Table of Contents, with dot leaders to connect the eye visually to the items in the list.

After completing lessons 1 and 2, you should be beginning to think of yourself as reasonably proficient at word processing, but there is still much to learn. In this tutorial you will be introduced to features of *LibreOffice* that are especially useful when working with images (pictures, charts, and so forth)

The set of *LibreOffice* drawing tools that are accessible from within *Writer*, are extensive, easy to use, and powerful in the sense that they enable anyone to create good quality images or designs for a multitude of practical applications. Teachers, in particular, should familiarize themselves with these drawing tools, not only for their own purposes, such as the preparation of handouts for class, but also so they can teach the tools to their students so that they, too, can use them for project work of all kinds.

Lesson 3 thus will cover the following:

- The tools available for drawing
- Drawing, moving, rotating, resizing, and otherwise editing simple shapes and lines
- AutoShapes
- Selecting one or more objects at once—overlapping, ordering, aligning, and rotating objects
- Using colors, patterns, and other visual effects
- Grouping and ordering objects
- Fontwork

A caveat before you begin: You'll find it easiest to use the tutorial if you follow the directions carefully. On computers there are always other ways of doing things, but if you wander off on your own be sure you know your way back!

3.1 GETTING STARTED

This tutorial is designed to give you practice working with the drawing tools that are built into the various *LibreOffice* applications, including *Writer*. Drawings that you create in one *LibreOffice* application such as *Writer*, can be easily copied and pasted into other *LibreOffice* applications, such as *Impress* or *Calc*.

The only way to learn the skills required to get the most out of the drawing tools is to use them. This lesson will get you started in that direction, introducing you to most all the drawing tools and showing you how to work with them. But if you want to become proficient, you will need to work with them as much as possible and experiment with ideas of your own for applying the tools in the creation of art work of all kinds

Perhaps you already have a natural flair for drawing, in which case you will especially love these tools. But even if you think you don't have a flair for drawing, you may discover, as you become adept in the use of the drawing tools, that you have more artistic ability than you ever dreamed.

One more thing before you proceed. As you work your way through the exercises in this lesson you will frequently come across tools and skills that are not touched on. This is because they are beyond the scope of these *Essentials* tutorials. But if they strike your interest, don't hesitate to check them out; try them and see how much more you can learn.

For this lesson it will be useful to have a separate folder, inside your Data Files folder, for all the drawing-based documents you're going to create.

On your computer, go to your **USB drive (Removable Disk) > Work Files for LibreOffice > Data Files** folder, and, in the dialog box, click on **New folder** and name the new folder **Drawing Documents**

3.2 OVERVIEW OF THE *LIBREOFFICE* DRAWING TOOLS

Let's start by taking a few moments to check out some of the options available in *Writer* that enable you to work with drawing tools of various kinds. Bear in mind, however, that this tutorial covers only the *Essential* features of the *LibreOffice* suite of applications. So in this lesson you will learn about many of the more frequently used, and indispensable, drawing tools, all of which are accessed in the *View* menu > *Toolbars* option (Fig. 3.1).

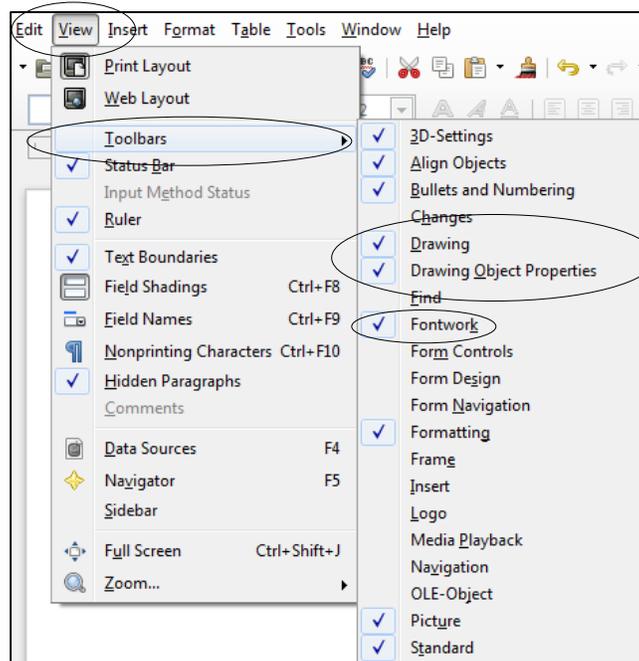


Fig. 3.1 The Toolbars you need for this lesson

Let's take a look at each of these various toolbars before you get to use them yourself. The important thing for you to bear in mind is that none of these tools are difficult to use and anyone, especially teachers, will find them invaluable for many, many applications in and out of the classroom. Your students will love them, and love you for encouraging them to learn how to use them.

Working with Shapes and Lines

If you are drawing lines and shapes of any kind you'd use the tools in the *Drawing* toolbar (Fig. 3.2).



Fig. 3.2 The set of lines and basic shapes in the Drawing toolbar

Aside from basic lines and shapes, the Drawing toolbar provides *symbol* shapes, *callout* shapes, *block arrow* shapes, *flowchart* shapes, and *star* shapes.

In order to work with those lines and shapes—change the line or border color or the area style or filling of a shape, rotate the shape, and so on—you would use the tools in the *Drawing Object Properties* toolbar (Fig. 3.3).



Fig. 3.3 Working with existing lines and shapes

Grouping and Aligning objects on the page

When using the drawing tools to create shapes and other objects, you may well want to align some or all of them and perhaps group them together so that they become one object. To do this you would use the *Select* tool in the Drawing toolbar to select or “gather” the objects you want to group together. Having done that, you would then select from the several *alignment tools* available in the Align Objects toolbar to align them according to your design (Fig. 3.4).

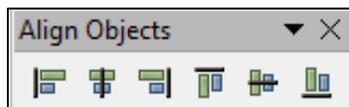


Fig. 3.4 Aligning selected groups of objects on the page

If you wanted to convert several objects into a single object, you would use the *Group/Ungroup* tools to “combine” them as one. This is very useful when you have a complex set of objects (perhaps an architectural drawing, for example) that you need to move around *en bloc* on the page, or transfer to another page or another document, and so forth.

Working with your own Pictures

If, on the other hand, you are working with a *picture* that you already have stored on your disk—such as a photograph or a diagram or a chart—you'll use the *Picture* toolbar (Fig. 3.4).



Fig. 3.5 The set of tools for working with photographs and other prepared images

The Picture tools enable you to create *watermarks*, for example, convert a picture to *grayscale*, make adjustments to *color density*, *brightness*, and *contrast*, adjust the *transparency* of a picture, and *rotate* and *flip* it in various ways.

Bullets and Numbering

In *Writer* you will sometimes have lists of items in your document. If you want to use bullets or have a numbered list, or if you needed to create different levels, or change the level of a list item; or if you needed to adjust the numbering of the list, you would use the Bullets and Numbering toolbar (Fig. 3.6).

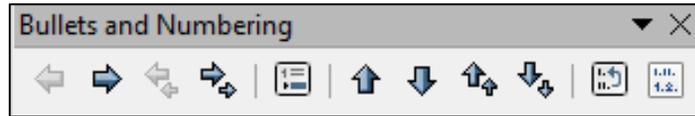


Fig. 3.6 The Bullets and Numbering toolbar

Fontwork

LibreOffice lets you create eye-catching text-based graphics, which can come in handy when you want to create signs, posters, and displays of various kinds. You'll find this toolbar, called *Fontwork*, in the View > Toolbars menu, too (Fig. 3.7).

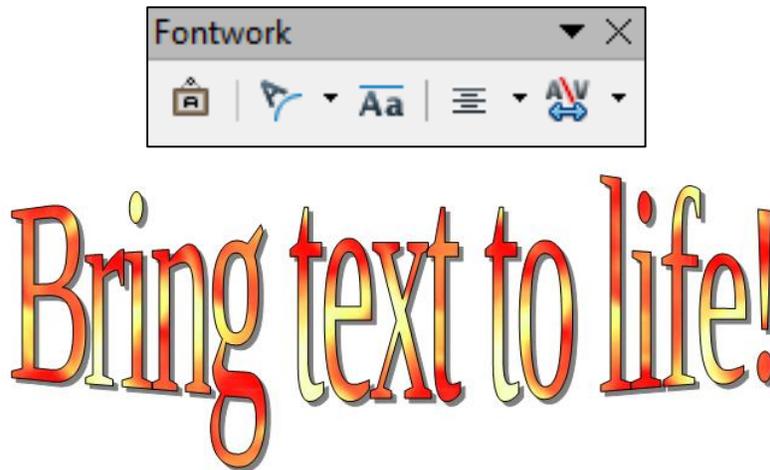


Fig. 3.7 Fontwork toolbar with a Fontwork example

3D-Settings

Any shape you draw can be rendered as a 3-dimensional (3D) object, a process called *extrusion*. Fig. 3.8 shows the 3D-Settings toolbar, also accessed from the View > Toolbars menu.

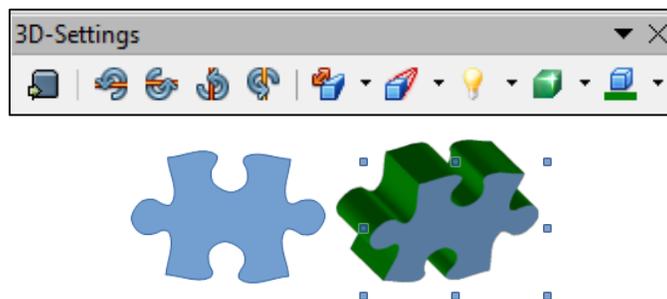


Fig. 3.8 The 3D-Settings toolbar with example of an extruded puzzle shape

Changing the Page Orientation

In *Writer* there are two possible orientations for a page—*Portrait* and *Landscape* (Fig. 3.10).



Fig. 3.9 Portrait or Landscape page orientation

You want Landscape orientation for most of the exercises that follow. The default in *LibreOffice* is Page Orientation, but here is how you select one or the other.

From the **Format** menu select **Page...**, in the **Page dialog box** click on the **Page** tab, then in the **Paper format** section click on the radio button to select **Landscape** (Fig. 3.10)

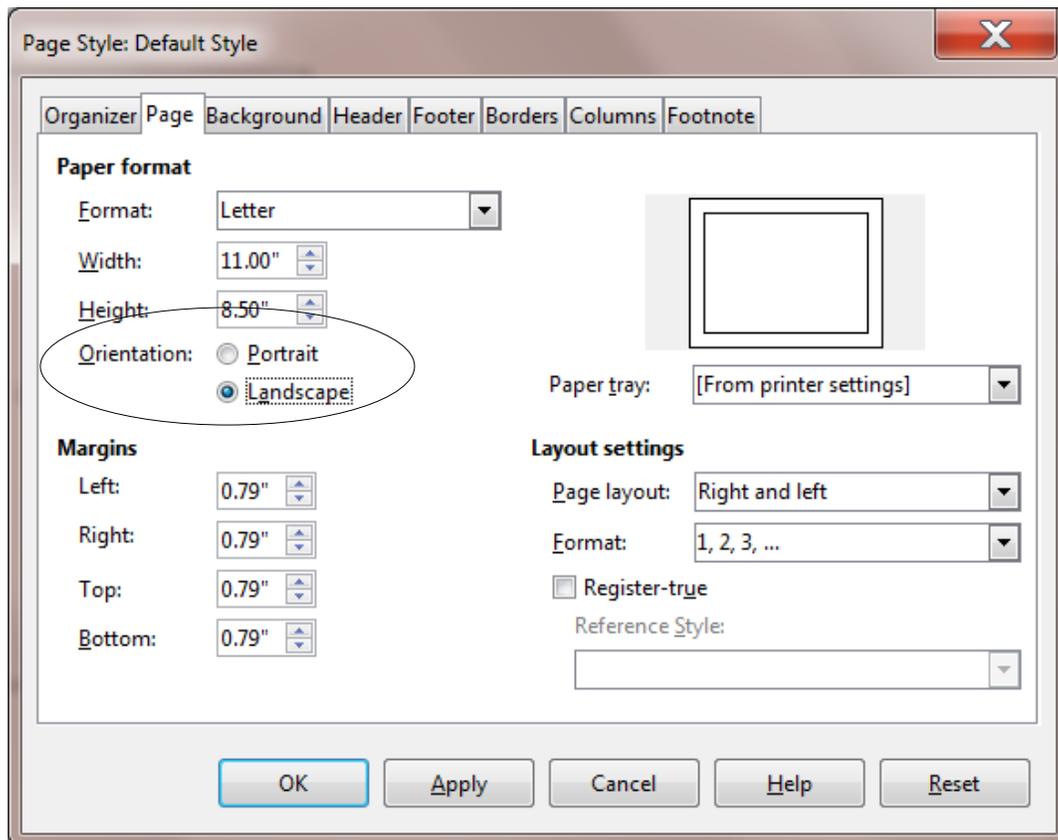


Fig. 3.10 Selecting Portrait or Landscape Page Orientation

Landscape orientation turns the page on its side. This mirrors the orientation of the computer screen and often makes it easier for you when you are working with drawing objects, though there will be many occasions when you will want to work in Portrait orientation, too.

Using the Zoom tool

The Zoom tool lets you zoom in on a page (so you can check out the details) or zoom out (so you can see the big picture of a page or the document as a whole). While using the *LibreOffice* drawing tools, you will often want to *zoom in* on an object you are working on, and it is also useful at times to *zoom out* so you can check out the big picture. For this reason it is good to know where to find the Zoom tools (Fig. 3.11).

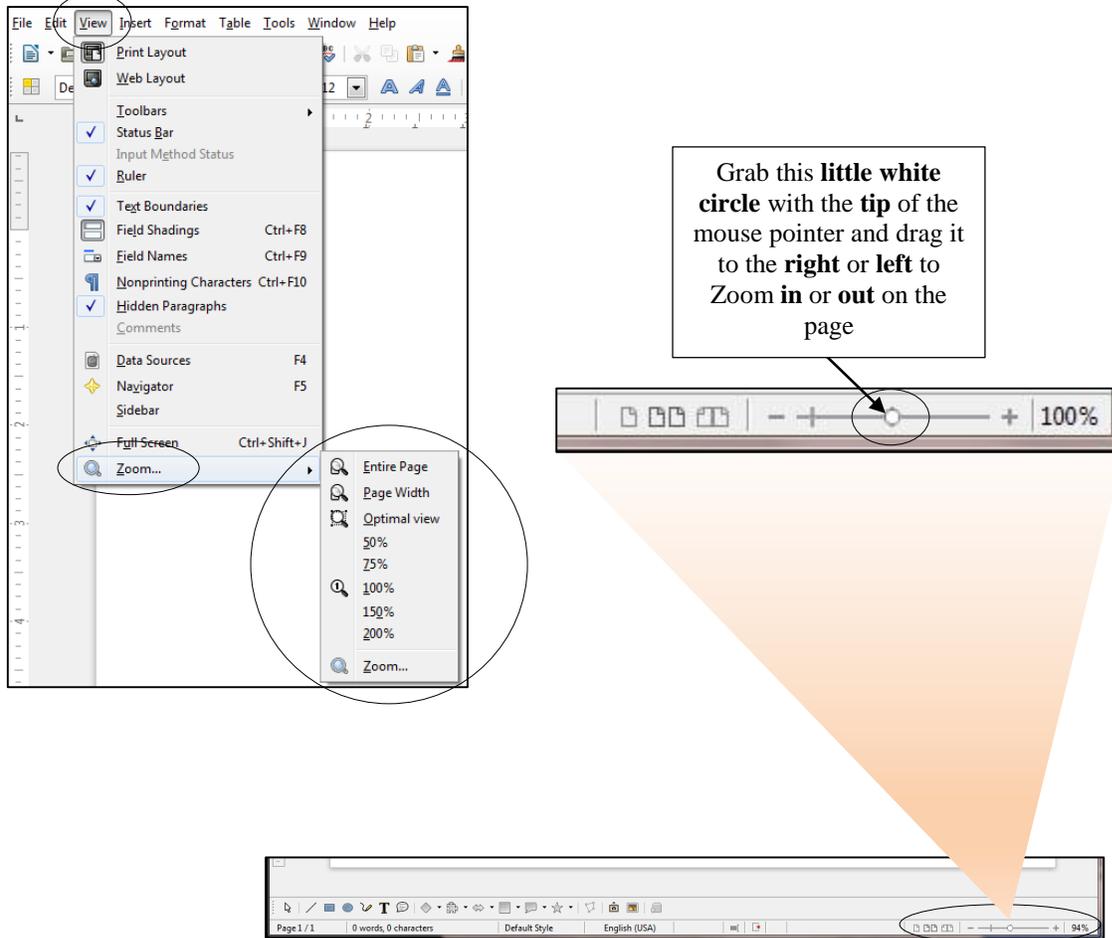


Fig. 3.11 The Zoom tools

As you can see in Fig. 3.11, you can Zoom in and out using the various selections in the *View menu > Zoom...* options. Alternatively, you can Zoom in and out very discretely using the *slider* in the Status bar at the *bottom right* of the *Writer* page (check the second illustration in Fig. 3.11).

Try out each of these **Zoom options** now to see how they work

When you're done, make sure you leave the Zoom setting at **100%**

In the sections that follow, you will practice zooming in and out of the pages you are working on, and you also will use most of the tools in the various drawing toolbars.

Time to get to work.

3.3 DRAWING, MOVING, ROTATING, RESIZING, AND OTHERWISE EDITING BASIC SHAPES AND LINES

Let's start by learning how to use the basic drawing tools to work with simple shapes and lines.

In the **View menu > Toolbars menu** click on the **Drawing** option to bring the **Drawing toolbar** onto the *Writer* screen (Fig. 3.12)

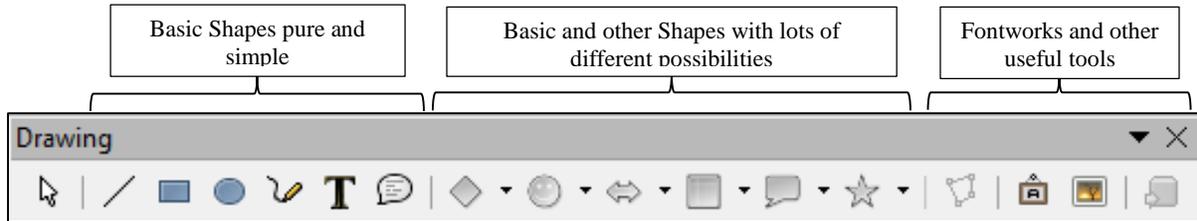


Fig. 3.12 Drawing toolbar (annotated)

Look at the bottom of your *Writer* screen, which is where the Drawing toolbar is located.

Slide your mouse pointer along the toolbar and read the descriptions about each of the drawing tools (Fig. 3.12 above summarizes the sections of tools)

As you can see, there are *dozens* of shapes to choose from, including the simplest shapes such as lines, rectangles, ellipses, and freeform lines, which you will practice using in this section of the tutorial. In the next section you will practice using more elaborate (yet still basic) *geometric* shapes, as well as a variety of *symbol* shapes, *block arrows*, symbols for *flowcharting* (very useful for anyone in the management or design fields), *callouts*, and *stars* and banners useful for creating certificates of excellence, graduation, and so forth. But let's keep it simple for now.

In the **Drawing toolbar**, click on the **Rectangle** shape (Fig. 3.12 above)

Immediately, *LibreOffice Writer* brings up the Drawing Object Properties toolbar, which offers a range of options (*Object Properties*) for the rectangle you want to draw even before you've drawn it (Fig. 3.13)!



Fig. 3.13 The Drawing Object Properties toolbar

Because the Drawing tool bar and Drawing Object Properties toolbar pop up at the bottom of the *Writer* window, it will be easiest to complete the exercises that follow if you *zoom out* on the page. This will allow you to view the whole page on the screen without the toolbars getting in the way.

Use the **zoom** slider in the **lower right corner** of the *LibreOffice* window (Fig. 3.11 on the previous page) to **zoom out** to **at least 84%** (the first hash mark to the **left of center** in the slider)

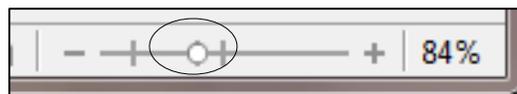


Fig. 3.30 The *LibreOffice* Zoom tool set at 84%

There, now you can see what you're doing.. You could, if you wanted to, move the toolbars (by grabbing them with the mouse pointer and dragging) to the top of the window, amongst the other

toolbars, or even to either side of the page, but it is convenient to leave them where they are now.

Go ahead and draw a **rectangle** of any size or shape on the page

Notice that the rectangle has a set of *handles* around it, which allow you to change the shape of the rectangle on the fly by grabbing any handle and dragging on it (Fig. 3.14).

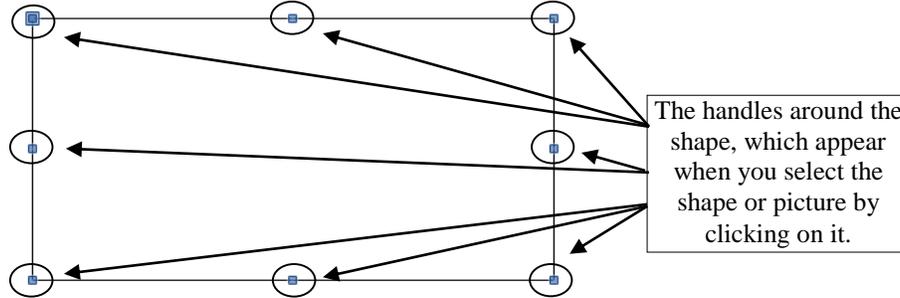


Fig. 3.14 The set of handles around shapes and other images

You're working with a rectangle, so you won't need the simple line or arrow tools at the left of the toolbar. But you may want to have a different size (thickness), color, or style of *border* on the rectangle.

With the rectangle selected (it has the **handles** around it), in the **Drawing Object Properties toolbar**, take a look at the various tools for working with drawing objects (Fig. 3.15)

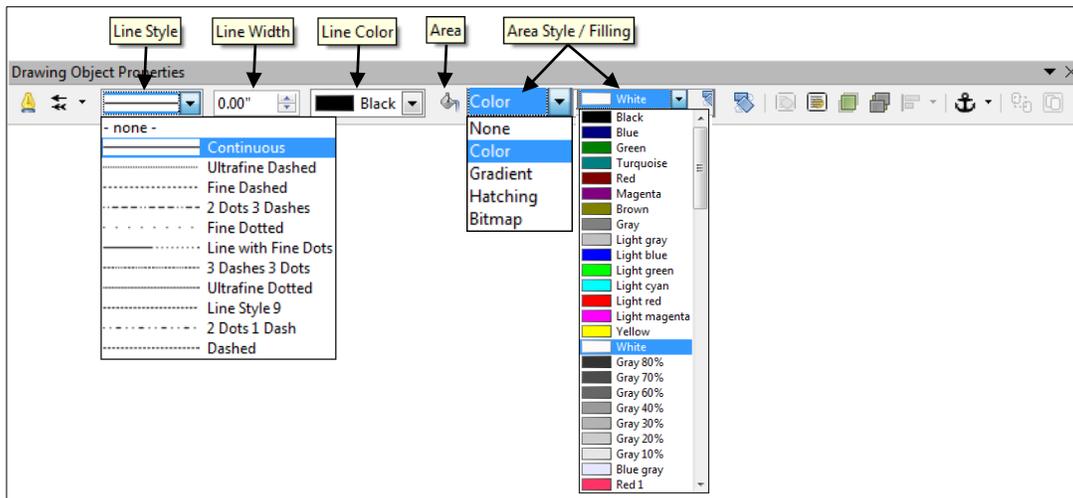


Fig. 3.15 The Drawing Object Properties toolbar (annotated)

Let's quickly check out each of these tools. Refer to the illustration above (Fig. 3.15) as you read the sections that follow.

Line Style

A line can be continuous, or it can be dashed or dotted in different ways. The same applies to the border around a rectangle or any other shape.

With the **rectangle selected** (it has the **handles** around it), try out each of these **Line Styles** before proceeding with the tutorial

Line Width

A line can be thick or thin—or even invisible! The same applies to the border around a rectangle or any other shape.

With the **rectangle selected** (it has the **handles** around it), try out some **border thicknesses** as well as the **0 (zero) thickness** option before proceeding with the tutorial

Line Color

A line or border can be any color. The same applies to the border around a rectangle or any other shape.

With the **rectangle selected** (it has the **handles** around it), try out some of the **border Color options** before proceeding with the tutorial

Area

The Area tool gives you access to all the various options when it comes to filling a shape with color, or creating a shadow on the shape, and so forth.

With the **rectangle selected** (it has the **handles** around it), take a look at each of these **Area options**, and try some of them for yourself before proceeding with the tutorial

Area Style / Filling

As you probably noticed when you checked out the Area tool above, the area of a shape (inside area, not including the border) can be filled with a range of colors, but it can also be filled with several *Styles* of fill, such as Gradients, Hatching, and Bitmap (Fig. 3.16).

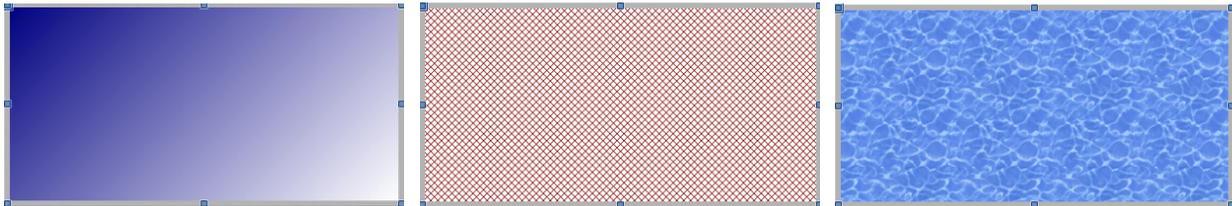


Fig. 3.16 Gradients, Hatching, and Bitmap options for Area Style / Filling

With the **rectangle selected** (it has the **handles** around it), try out each of these **Area Style / Filling options** before proceeding with the tutorial—have fun with it!

Drawing lines

Let's start with drawing lines.

In the **Drawing toolbar** (at the bottom of the *Writer* window) click on the **line tool** to select it, then use the mouse to draw a straight **line** anywhere **on the page**

It doesn't get any simpler than that.

Working with lines

Complete the following tasks to learn how to work with different styles of lines.

Click anywhere **off** the line you just drew and notice that the **handles** (little squares) at each end of the line **disappear**; the *LibreOffice* Drawing toolbar also disappears because it is only useful as long as a drawing object is selected

So... You can only edit or move a drawing object of any kind if the handles are showing. The handles indicate that the object is *selected*. Clicking ON the object selects it; clicking OFF the object deselects it.

Position the mouse pointer anywhere **on** the line and notice how the cursor changes to a **crosshair** (), which tells you that the mouse is correctly positioned on the line so that when you click the mouse it will select the line

Click anywhere **on** the line now, and notice that the **handles** (little squares) **reappear** at each end, and both the **Drawing toolbar** and the **Drawing Object Properties toolbar** *reappear*, waiting for you to decide what you want to do with the selected Drawing object (the selected line)

Now, with the handles showing, you can edit the line you just drew.

Work your way across the **Drawing Object Properties toolbar**; try out the **Line Styles**, the **Line Widths**, and the **Line Color**

These are all the options you have when it comes to a simple line. Take your time; have fun with it and make yourself familiar with the various options available.

When you are done checking out all the different design options for the line, hit the **Backspace** key or the **Del** key to delete the line from the page

Working with rectangles and ellipses

Creating and editing lines is simple enough. How about shapes such as rectangles and ellipses—or squares and circles?

In the **Drawing toolbar** click on the **ellipse (oval)** tool, and use the mouse to **draw** the **ellipse (oval)** object on the page

Notice the small handles that surround the shape, which you use to change the object's shape.

Grab any of the **handles** and **stretch** them this way and that to change the shape; notice that the **corner handles** allow you to stretch the shape **diagonally** as well as **up, down, left, or right**—whereas the **handles at the middle of each side** only allow you to stretch the shape **up, down, left, or right**

Rotating Objects

To rotate an object that you have drawn on the screen, you need to use the *Rotate* tool in the *Drawing Object Properties* toolbar (Fig. 3.17).

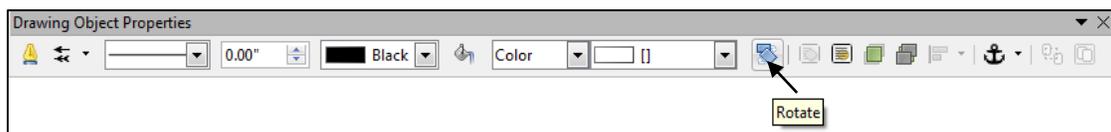


Fig. 3.17 Rotating a shape

Let's try this now.

First, click on the Oval object to select it, then, in the **Drawing Object Properties** toolbar, use the mouse to click on the **Rotate tool** (see Fig. 3.17 above)

This changes the appearance of the ellipse shape into an object that can be rotated on a central axis (Fig. 3. 18).

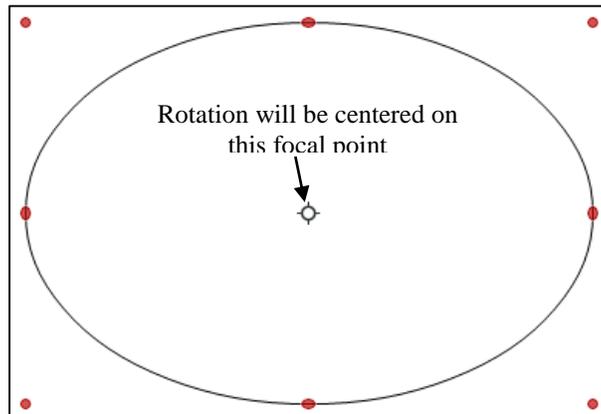


Fig. 3.18 A drawing object that can be rotated

Notice that the handles have changed from a *blue* color to a *red* color and that in the *center* of the ellipse there is a *focal point* around which the ellipse object can rotate (Fig. 3.17 above).

Position the mouse pointer on any of the **corner red handles** (Fig. 3.17 above) and **drag** in a clockwise or counter-clockwise circular motion to **rotate** the object

Now position the mouse pointer on any of the **side red handles** and **drag** in a clockwise or counter-clockwise circular motion to again **rotate** the object

Notice that the *side handles* allow rotation of the shape from side to side or up and down; whereas the *corner handles* allow full rotation of the object on the screen. Take a couple of minutes to check out these *Rotation* tools in the Drawing Object Properties toolbar.

While you have the shape selected, in the **Drawing Object Properties toolbar**, some of the **Line Styles**, **Widths**, and **Colors**

Also try out some of the **Area Style / Filling options**, including **Gradients**, **Hatching**, and **Bitmaps**

When you are done checking out these **Drawing Object Properties tools**, hit the **Backspace** key or the **Del** key to delete the shape from the page

As you see, there are dozens—well, actually thousands at least—of different options that you can apply to any shape that you draw on the screen.

Drawing a perfect square or circle

Drawing rectangles and ellipses is easy. What about drawing a square or a circle? If you want to draw a “perfect” square or a “perfect” circle, you just hold down the *Shift key* at the same time as you draw with the rectangle tool or the ellipse tool. Try this now.

In the **Drawing toolbar** select either the **Rectangle** or **Oval** tool, hold down the **Shift** key, and draw the shape in any size

Notice that the shape will always be a perfect square or circle *as long as you hold down the Shift key*. After you've drawn the square, if you let go of the Shift key you can then go ahead and use the handles to make the rectangle no longer square or to change the circle to an ellipse.

Try this now—**let go of the Shift key** and change the shape of your circle or rectangle

So the shape will always be a perfect circle or square as long as you hold down the Shift key. Remember this neat trick. It'll work with other software, too.

Moving drawing objects

Creating lines and other shapes is simple enough. But once you have an object drawn, how about editing it and moving it around on the page? To do either of these things, the line or rectangle or ellipse or other drawing object must first be selected (which means clicking on it so that you can see the handles around it). First let's practice moving an object around on the page without changing its shape.

Click on the **object you have on the screen** to select it (you see the handles around the shape), slide the mouse pointer over the object and notice that the pointer changes to a **crosshair** any time the pointer is **anywhere within the perimeter** of the object or **on** the object if it's a simple line—the crosshair tells you that you can move or edit the object

Now, hold down the **left mouse button** and **drag** to move the object anywhere you like on the page

Resizing drawing objects

How about resizing drawing objects—changing their size and shape? To do this, once again the line or rectangle or other drawing object must first be selected so you can see the handles.

Make sure the **object** from the previous exercise is still selected—you should be able to see the handles around it

If you want to change the *size* of the object without losing the object's *shape*, you must use a combination of the Shift key and one of the four *corner* handles (not the 4 handles in the middle of each side). Try this first.

Hold down the **Shift** key, then position the mouse pointer on one of the small handles in any **corner** of the shape (**not** one of the 4 handles in the middle of each side or the rotate handle), hold down the **left mouse button** and **drag** in or out to stretch or squeeze the object you have on the screen

Notice that the object keeps its basic shape; when you hold down the Shift key only the size changes. If you're not concerned about distorting the object's shape you can drag on any of the handles without holding down the Shift key. Try this now.

Position the mouse pointer on any of the white handles, hold down the **left mouse button** and **drag** to stretch or squeeze the ellipse anyway you want

The same thing applies to irregular shapes such as polygons in general or freeform drawings like squiggly lines (yes, there's a squiggly line tool, too! It's called the *Freeform Line* tool). When you

click on the shape, it shows the handles around it. By holding down the Shift key and grabbing one of the handles in the corners, you can make the shape smaller or larger *without otherwise distorting it*. By grabbing any of the handles around the shape *without* simultaneously pressing the Shift key, you can distort the shape by making it thinner or fatter, taller or shorter—whatever.

Try this now.

Make sure the **object you have on the screen is selected**—you should be able to see the handles around it—then hit the **Backspace** key or the **Del(ete)** key to delete it

In the **Drawing toolbar** select the **Freeform Line** tool (Fig. 3.19), then **write (scribble) your name** anywhere on the page



Fig. 3.19 The Freeform Line tool

With your name (the object on the page) highlighted, hold the **Shift** key down, then position the mouse pointer on any of the **corner** handles, hold down the **left mouse button** and **drag** to stretch or squeeze the object anyway you want—it will keep its basic shape; only the **size** of your name will change

Now try it again, but this time without holding the **Shift** key, and notice the **difference**—use all the handles and notice the difference there, too, between using the **corner handles** or the **handles at the middle of each side**

When you are done playing around with your signature, hit the **Backspace** key to delete it from the page

Editing (changing) straight lines or arrows

First of all, an arrow is a type of line, except that it has an arrow head on one end or on both ends. You can draw an arrow by clicking on the Arrow Style tool in the Drawing Object Properties toolbar (Fig. 3.20).

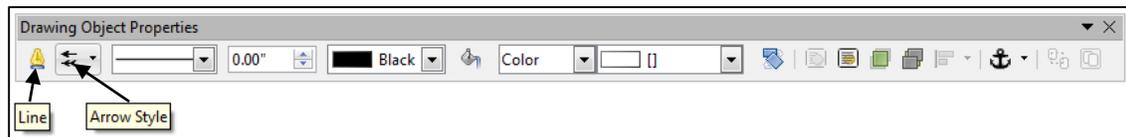


Fig. 3.20 The Line tool and the Arrow Style tool in the Drawing Objects toolbar

Click on the **Arrow Style** tool, select any style, then **draw an arrow** on the page

If you want an arrowhead on both ends of the line, you need to bring up the Line dialog box. There are two ways to do this.

Either click, at the **left end** of the **Drawing Object Properties toolbar**, on the small yellow **Line tool** (see Fig. 3.20 above)

Or you can position the **mouse pointer** anywhere along the **arrow line** (you'll see the pointer change to a **crosshair**), hold down the **right mouse button** and, in the **context menu** that pops up, select the first item: **Line...** to bring up the **Line dialog box** (Fig. 3.21)

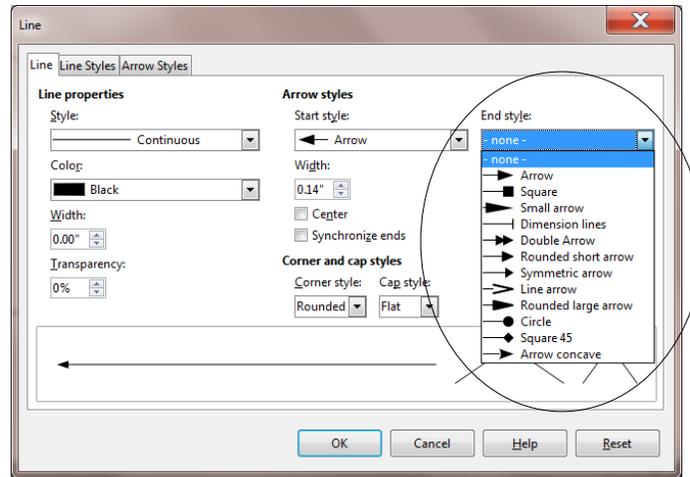


Fig. 3.21 Changing the Arrow Style in the Line dialog box

Now, towards the **top right** of the dialog box, click on the down arrow to drop down the menu of **Arrow End Styles** (see Fig. 3.21 above) and select the same **arrowhead** as you selected for the arrow you just drew on the page

Notice that the Line dialog box also lets you put a shadow on the line or arrow object you've drawn, or you can change the color, size, and shape.

Editing a straight line or a straight line arrow works a little differently than solid shapes such as ellipses, polygons, and so forth, since you only have two handles to worry about—one at either end of the line or arrow. You use either of the handles to lengthen or shorten the line. You also can drag on either handle to rotate it from either end. Let's try this now.

Grab hold of the **handle** at either end of the line or arrow, and **drag the handle** in or out, up or down, from side to side, so you can get a feel for how to change its **length** and **orientation**

Clear the Page of any drawing objects when you are done

3.4 OTHER DRAWING SHAPES

There is a wide selection of predefined shapes that you can use to create your drawings. These shapes are accessed from the Drawing toolbar (Fig. 3.22).

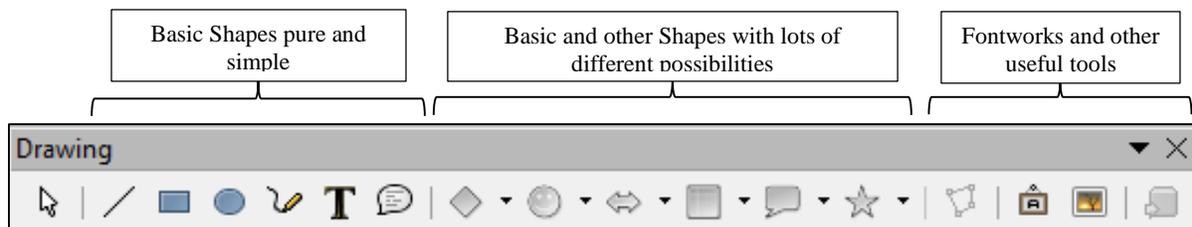


Fig. 3.22 Drawing toolbar (annotated)

Specifically, there are Basic Shapes like rectangles, ellipses, triangles, cylinders, and so forth, most of which would take you quite a while to create from scratch by hand—unless you’re a talented artist, of course.

Then there are shapes designed to help you draw Block Arrows, and shapes to help you create Flowcharts—very useful for planning diagrams. If you want to add “speech” to characters in a diagram, there is a nice selection of Callouts you can use. Finally, when you want to create certificates and such, you can use the Stars and Banners shapes.

For the next exercise, when you have finished the exercise, you are going to Save the file in your Drawing Documents folder (in the Data Files folder) so that you can later send it to your instructor as an attachment in email. So let’s save the blank document you have open on your screen now before we proceed.

In the **File** menu select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 1**, and hit **Save**

Now, in the **Drawing toolbar** at the bottom of your *Writer* page, spend a few minutes checking out the many sets of shapes available to you

When you are ready, complete the following exercises—draw each of the shapes **small enough** so you can fit them all on the page **without overlapping** and **don’t delete any of them** because you’re going to send the file to your instructor when you have completed Lesson 3

When you are done with this particular exercise, your page will look something like (though obviously not exactly the same as) Fig. 3.23.

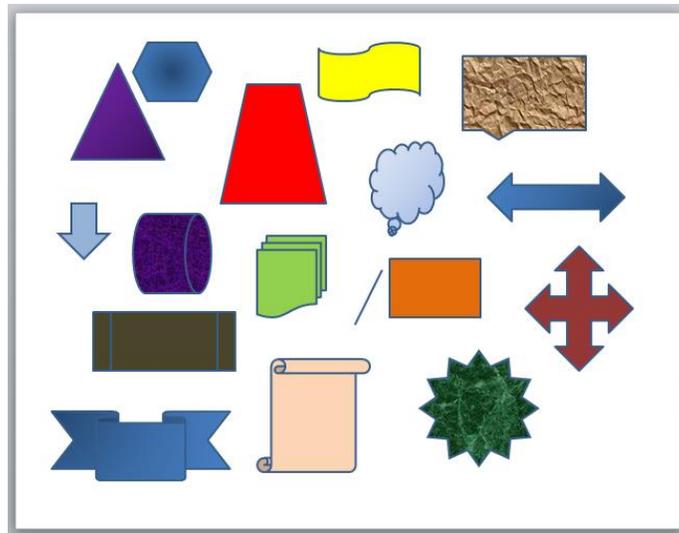


Fig. 3.23

Draw at least **three Basic Shapes** (line, rectangle, ellipse, freeform shape, triangle, hexagon, cube, etc., etc.)

Draw at least **three Block Arrows**

Draw at least **three Flowcharting Shapes**

Draw at least **three Callouts**

Draw at least **three Stars or Banners**

Now use the tools in the **Drawing Object Properties toolbar** to add **Line Styles and Line Colors** to lines and the borders of the various shapes

Fill the **Areas** of **shapes** with a mix of **colors, gradients, and bitmaps**

Save the file (**Practice Drawing 1**), then **Close** the document (later in the lesson you'll be sending it **as an attachment in email** to your instructor)

Tools like these are designed to make your life easier. Why would you go to all the trouble of creating your own shapes by hand when many of them are already designed for you on the computer? You can use these ready-made shapes with a class to help them learn the geometric shapes, for example. This is included as one of the exercises in the SKILLS CONSOLIDATION section at the end of the lesson.

Now you are ready for the next exercise.

3.5 USING COLORS, PATTERNS, AND OTHER VISUAL EFFECTS

Transparencies

As you have already learned, the *Writer* drawing tools give you lots of control over colors, patterns, gradients and other visual effects, such as shadows and 3-D. Let's take a closer look at some of these tools, starting with transparencies.

You need a new document for this next drawing exercise, so in the **File** menu select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 2**, and hit **Save**

Start by drawing a **rectangle** on the blank page and give it an **Area Fill color** of your choice, then draw an **ellipse** that **overlaps** the rectangle and which has a **different Area Fill color** than the rectangle—something like Fig. 3.24

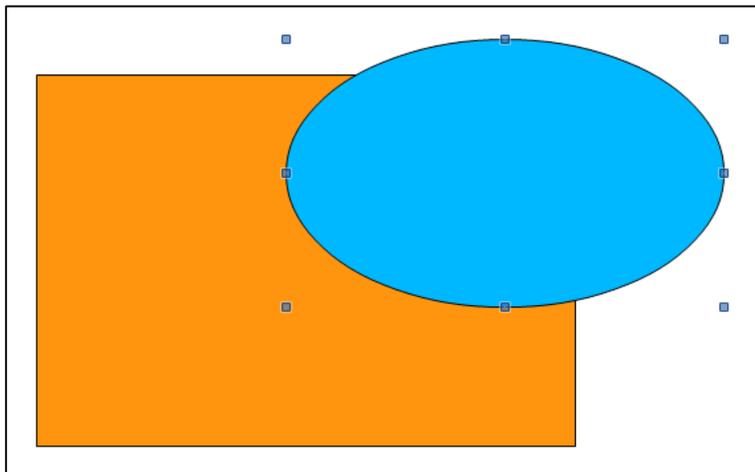


Fig. 3.24 One shape overlapping another

The ellipse, being opaque (a solid color), hides part of the rectangle. But you can adjust the *Transparency* of the Area Fill Color of a drawing object such as the ellipse in this case, thus allowing a drawing object that is hidden behind it to show through. Let's try this.

With the ellipse selected, in the **Drawing Object Properties** toolbar click on the **Area** tool to bring up the **Area dialog box** (Fig. 3.25)

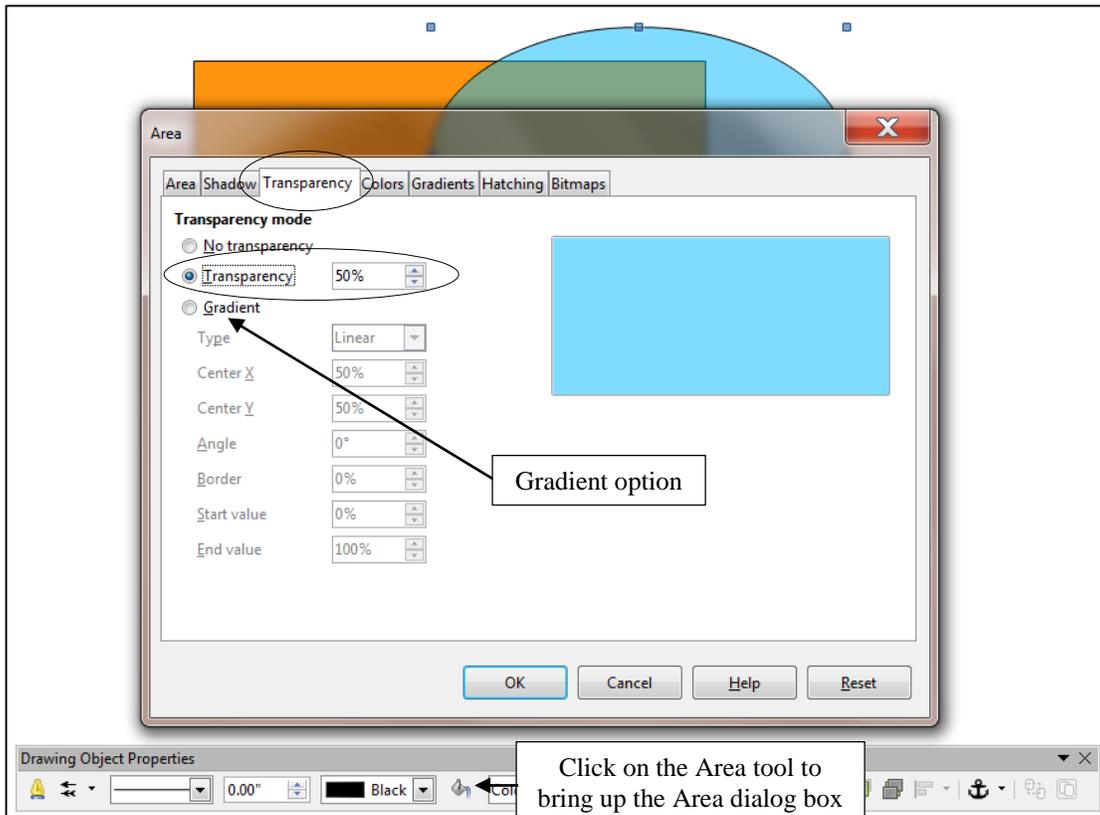


Fig. 3.25 Settings for a semi-transparent shape

Now, in the **Area dialog box** click on the **Transparency tab**, then click, in the **Transparency mode** section, on the **radio button** next to **Transparency** (Fig. 3.24 on the previous page) so that you will have a **50% transparency** for the selected object (the ellipse), then click on **OK**

The ellipse shape now looks like a piece of glass or transparent plastic or sheer material, partially revealing the object that is behind it Fig. 3.26.

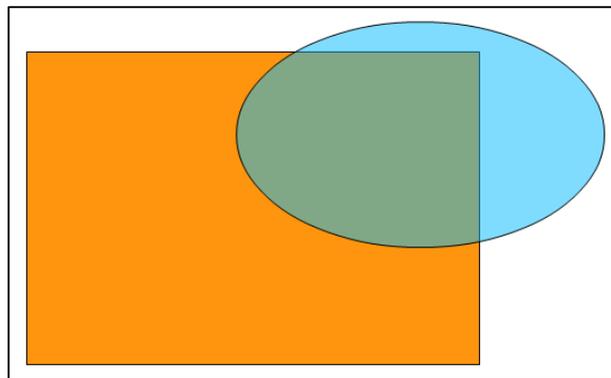


Fig 3.26 The transparent ellipse

Neat, huh? Notice that you can also add gradients to the transparent shape. Try this now.

With the ellipse still selected, in the **Drawing Object Properties toolbar** click on the **Area** tool to bring up the **Area dialog box**, click on the **radio button** next to **Gradient** and then select the **Type** of gradient you want from the **drop down list**

Hey presto! Bear in mind that the purpose of this lesson is to show you the many drawing tools in *LibreOffice* and let you practice with them. It's up to you now to use them with creativity and skill to produce art work of all kinds for use in your profession.

Area Fill Effects

Other than plain colors, there are different *gradients* you can use to fill shapes with smoothly graded shades of color; there also is a small selection of *hatching* fills; and you can fill shapes with *bitmaps* that come with *LibreOffice*. Now let's check out a couple of other useful *Area Fill* tools along these lines.

Filling Shapes with Imported Pictures

Bitmaps are essentially digital images, and can include any picture you want—pictures that you may have taken yourself, for example, or which you might find amongst collections of pictures and other art work that are freely available on the web.

Click on the **ellipse** shape to select it, and hit the **Backspace/Del(ete)** key to remove it from the page, then click on the **rectangle** shape to select it

In the **Drawing Object Properties toolbar** click on the **Area** button to bring up the **Area dialog box**

Click on the **Import** button

The Import button brings up the *Import dialog box*, which is essentially the Open button for the operating system you're using on your computer—Windows, Mac OS or otherwise.

In the **Import dialog box**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Miscellaneous Files folder > Practice folder**, then double click on the file named **Bouquet**

Immediately the Bouquet picture is uploaded to the rectangle shape on the *Writer* page (Fig. 3.27).



Fig. 3.27 Filling a shape with a picture imported from your disk

Depending on the shape of your rectangle, the image may be **distorted**, so use the **handles** to stretch the rectangle one way or another till it looks OK

In the **Drawing Object Properties toolbar** click on the **Area Tool** to bring up the **Area dialog box** (Fig. 3.28), and in the **Fill** section scroll to the bottom of the list of bitmaps

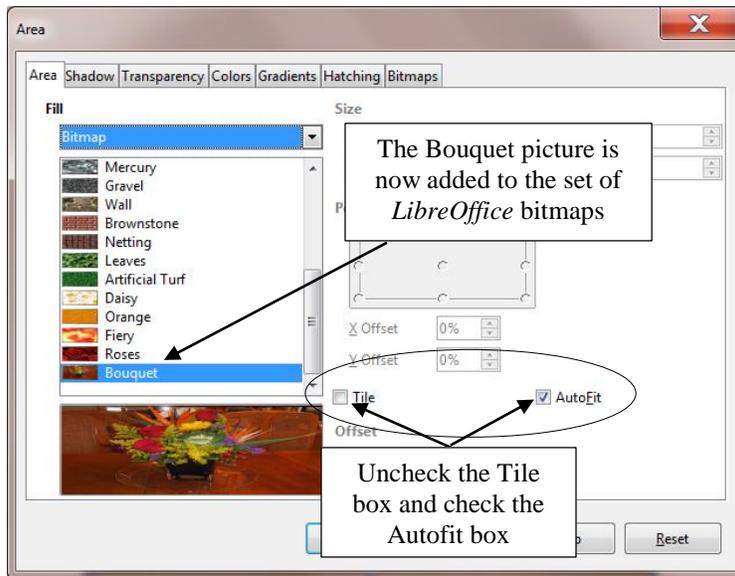


Fig. 3.28 Adding a picture to the set of bitmaps in the Area dialog box

Notice that the Bouquet picture has now been added to the set of bitmaps (Fig. 3.28 above), which means you no longer need to *Import* it again from your disk. You'll be able to easily use it again whether in *Writer*, *Draw*, or any of the other *LibreOffice* applications.

You do not want to **Tile** the picture inside the rectangle and you do want it to **Fit**, so in the **Area dialog box**, remove the **check mark** next to **Tile** and put a **check mark** in the **Autofit** box

Rounding corners and applying a Shadow effect on images

LibreOffice provides drawing tools to round off the corners of images and apply shadow effects. Both are easy enough to use, once you know how. Let's round the corners of the picture first.

Right click on the **Bouquet picture** to bring up its **context menu** (Fig. 3.30)



Fig. 3.29 The picture object's context menu

Click on the **Position and Size...** menu item to bring up the **Position and size dialog box**, then click on the Slant and Corner Radius tab and increase the **Corner radius** setting to **0.20"** and click on **OK** (Fig. 3.31)

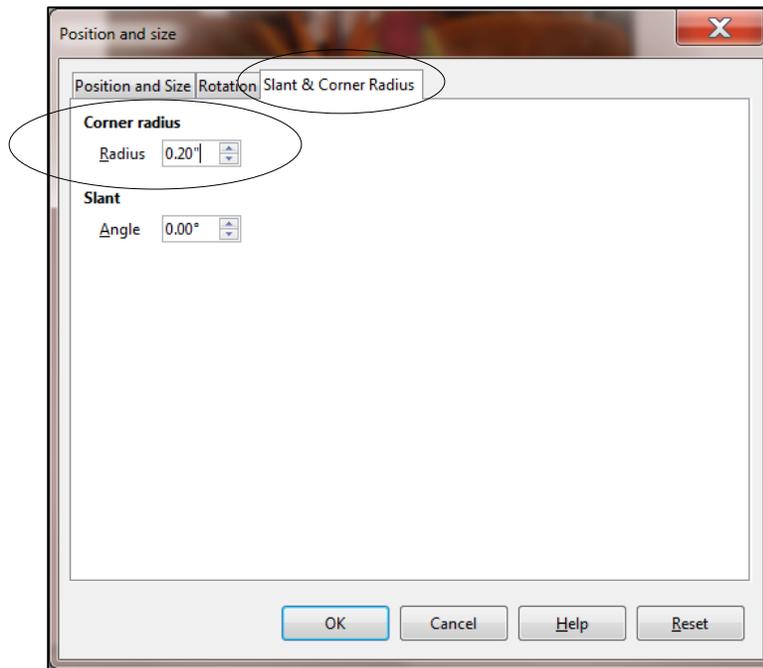


Fig. 3.31 The Position and size dialog box

Next you need to create a shadow effect on the image.

Right click again on the **Bouquet picture** to bring up its **context menu** (Fig. 3.30 on the previous page) and this time click on the **Area...** menu item, then in the **Area dialog box** click on the **Shadow** tab and, in the **Properties** section click to put a **check mark** next to **Use Shadow** and, in the drop down menu of Colors, select **Light Grey**

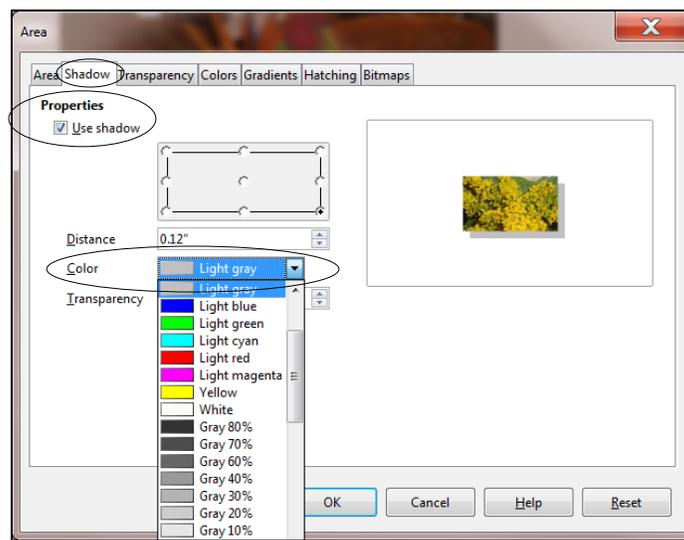


Fig. 3.32 The Shadow tab in the Area dialog box

The final version of the Bouquet image should look like Fig. 3.33.



Fig. 3.33 Final version of the Bouquet picture

Save the file (still **Practice Drawing 2**) before proceeding with the tutorial— (later in the lesson you'll be sending it to your instructor), and **delete** the **Bouquet picture object** from the page

3D Effects

All that remains in this section is to try out the various 3-D Effect tools. These are located in the *3D-Settings toolbar* which is accessed from the *View > Toolbars* menu.

You need a new name for this next drawing exercise, so in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 3**, and hit **Save**

In the **Drawing toolbar** > **Symbol Shapes** draw a **Puzzle symbol** about **3” square** on the page

Select any **border color** for the Puzzle **shape** and any **gradient** for the **fill**, then in the **View menu** > **Toolbars menu** select **3D-Settings** to bring up the **3D-Settings toolbar** (Fig. 3.33 on the next page)

In the **3D-Settings toolbar**, click on the **Extrusion On/Off** tool to **turn on Extrusion**

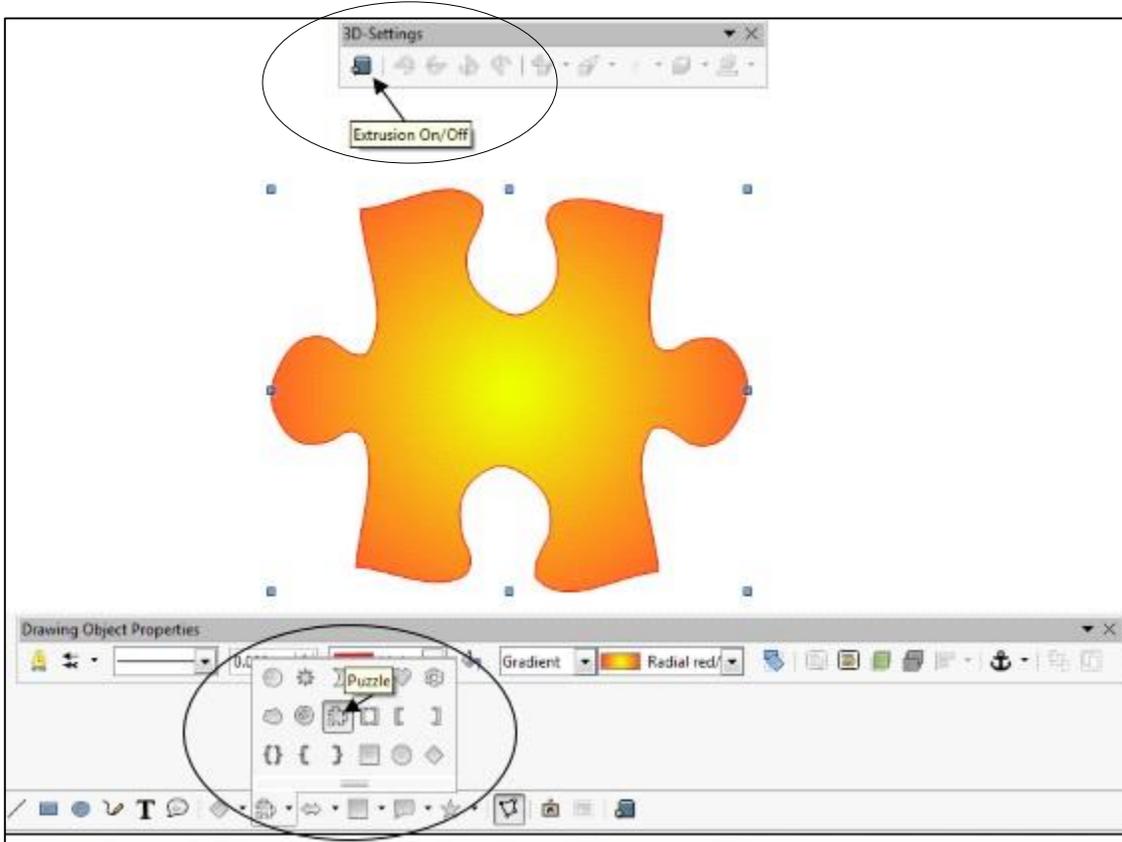


Fig. 3.33 Draw a Puzzle shape on the page

Extrusion is just another word for the process of making a shaped object, such as a rod or a tube—or a puzzle shape—by forcing a material into a mold. On the computer, all this molding and modeling work is digital and is done using mathematics.

Notice the 3d-Settings toolbar now comes to life with the various 3D (digital extrusion) tools now available for you to use on the selected object—the Puzzle shape—which has also been transformed into a basic 3D image (Fig. 3.34 on the next page).

Notice, too, the tools for tilting the image in various directions; tools for adjusting the depth or direction of the 3D modeling; and the tools for controlling the light source on the image, the surface texture, and color.

Your turn; with the **Puzzle shape selected**, take a few minutes now to try out **each of the various 3D-settings tools** to see how they work and to see what effect they have on the object

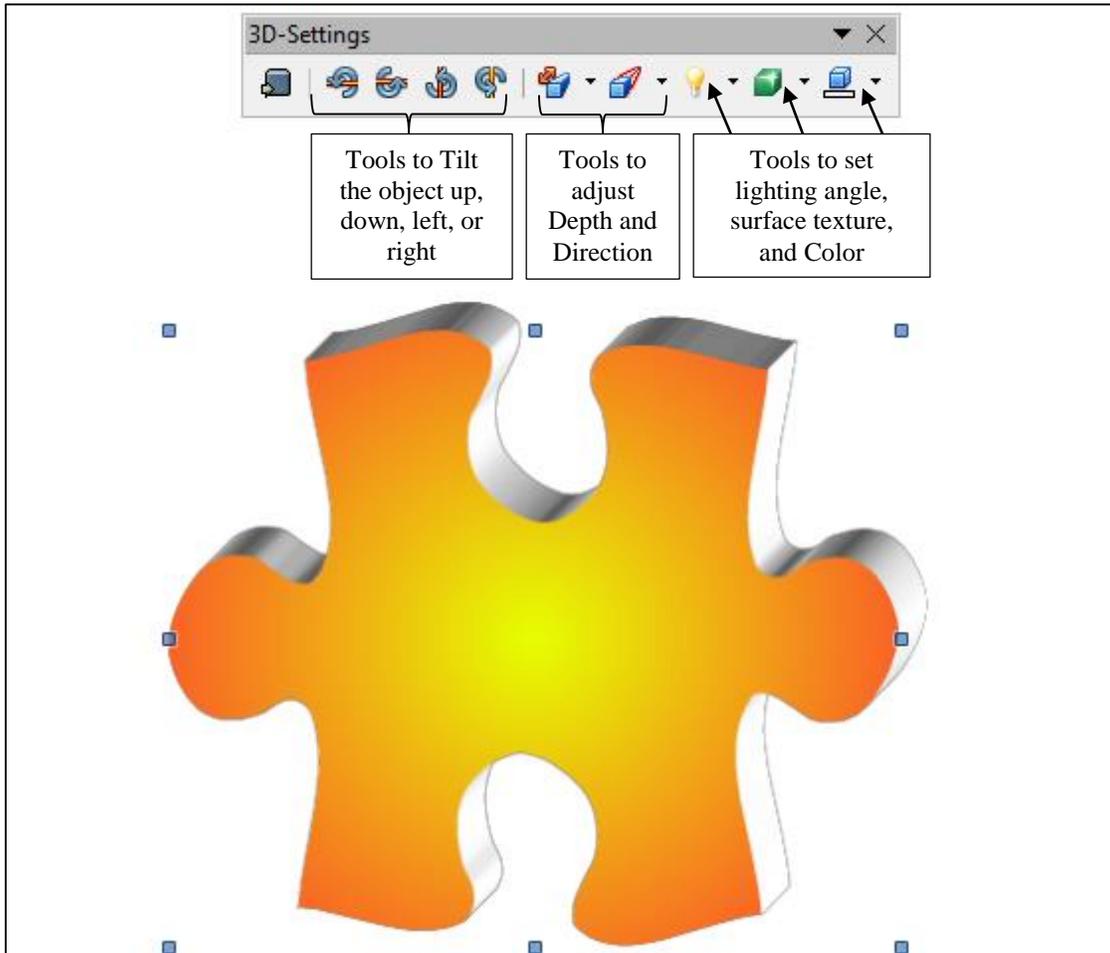


Fig. 3.34 The 3D-Settings toolbar (annotated)

Very simple, very effective, very impressive. Actually, if you were aware of the math that is necessary to create these 3-D effects, you'd be very impressed indeed!

Save the file (still **Practice Drawing 3**) before proceeding with the tutorial, then **delete** the **3D Puzzle** object

The more artistic you are, the more skillfully you will be able to apply these effects. But even if you don't think you are artistic, you'll be surprised what you can come up with.

3.6 GROUPING, ORDERING, AND ALIGNING OBJECTS

You've probably noticed that when you put one shape, or drawing object, on top of another, it stays there, overlapping the other shape, as with the ellipse and rectangle shapes in the previous exercises.

With the Drawing Tools, every object you create is always a separate entity from the other objects on the page, even if they overlap. However, you can *group* objects together if you want, as

we'll see in a moment. When you group them, they effectively become one object for as long as they are grouped. But you also can *ungroup* them whenever you please. This is because all the drawing objects are like pieces of a jigsaw puzzle or a deck of cards. You can group the jigsaw pieces by fitting them together, or you can group the cards in a deck by gathering them into a pack of cards--or you can ungroup them by scattering them to the winds. Let's see how this works in *LibreOffice*.

You need a new name for this next drawing exercise, so in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 4**, and hit **Save**

You are going to draw seven different shapes, one on top of the other, each with a different border color and fill color or gradient. You'll end up with something like Fig. 3.35.

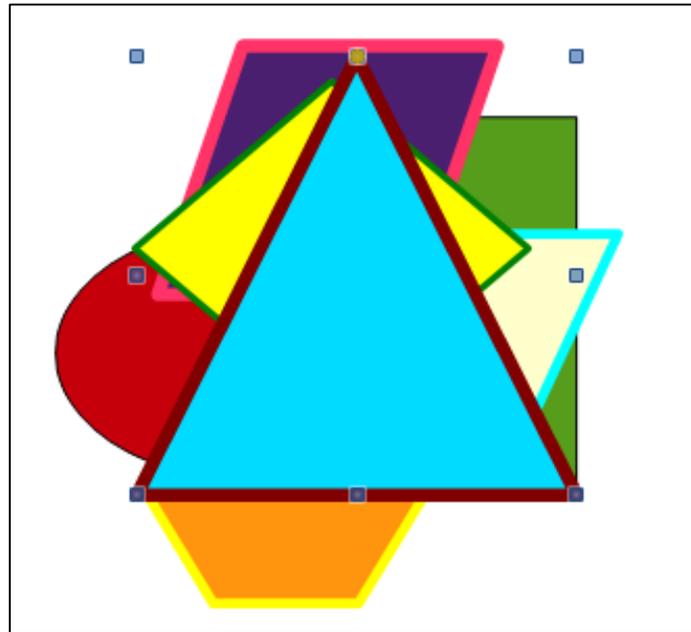


Fig 3.35 Shapes layered on top of one another

In the **Drawing toolbar** click on the **ellipse tool**, draw an **ellipse** (no more than **about 2" in diameter**) on the page and fill it with a **basic color** of your choice

Next, in the **Drawing toolbar** click on the **rectangle tool**, draw a rectangle (no more than **about 2" square**) on the page so that it **overlaps** the ellipse and fill it with a **basic color** of your choice

Now, in the **Drawing toolbar** click on the **hexagon tool**, draw a hexagon (no more than **about 1" on any side**) on the page so that it overlaps the ellipse and/or the rectangle, but **doesn't actually hide** either the **ellipse** or the **rectangle**—make sure you can still see at least a piece of **all three shapes** and fill the hexagon with a **basic color** of your choice

Now use the **Line Width** tool to increase the thickness (**weight**) of the hexagon's border to at least **0.06"**, and use the **Line Color** tool to select a **different color** for the border

Repeat the same steps to draw and fill (using colors or gradients) both the Border and the Fill area of a **parallelogram**¹, **trapezoid**, **diamond**, and **triangle** (again making sure none of the objects actually hides any of the others completely—you should be able to see a piece of all seven (7) shapes when you're done, as illustrated in Fig. 3.35 on the previous page)

So now you should have on your page (screen) seven different shapes with seven different fill colors and various other effects. The reason you need to be able to see at least a piece of each shape is to make it easier for you to do the next exercise.

Save the contents of the page (**Practice Drawing 4**)

Grouping drawing objects

You need a new name for this next drawing exercise, so in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 5**, and hit **Save**

Right now, all the objects are separate—ungrouped. Let's group them into three groups.

First, click anywhere **off all the shapes** so that none of them is selected then, using the mouse, and holding the **Shift** key down, click on the **ellipse** shape and the **rectangle** shape

Now, **right click** on the selected shapes (the ellipse and the rectangle should both have handles around them) and, in the **context menu** that pops up, select the **Group > Group** option (Fig. 3.36)

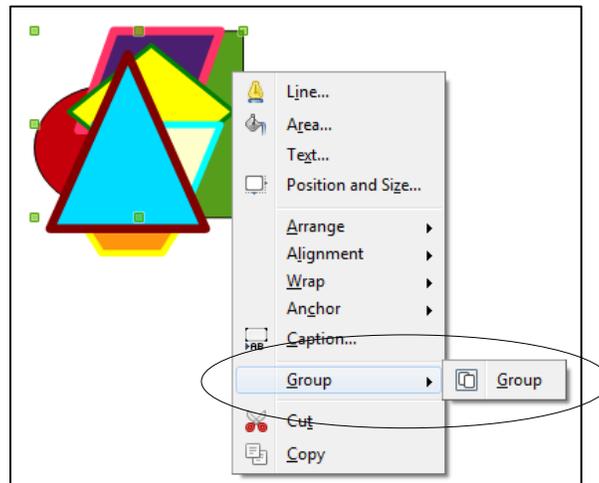


Fig. 3.36 Grouping objects together

Check your drawings now and notice that the ellipse and rectangle shapes have just one common set of handles. Now you can treat them as one object and move them around on the screen as one object, independently of the other objects.

¹ Slide your mouse pointer over the shapes in the **Drawing toolbar** and the system will tell you which is a parallelogram or trapezoid, etc.

Grab the **rectangle shape** with the mouse and slide it over to the **right edge** of the page—notice that the ellipse goes right along with it because they are now grouped together

Complete the following steps to create groups of the other objects.

Again, click anywhere **off all the shapes** so that none of them is selected

Using the mouse, and holding the **Shift** key down, click on the **trapezoid** shape and the **Triangle** shape, **right click** on the selected shapes and, in the context menu select the **Group > Group** option

Next, slide the **trapezoid and triangle shapes** up towards the **top center** of the page and click anywhere **off all the shapes** so that none of them is selected

Using the mouse, and holding the **Shift** key down, click on the remaining 3 independent shapes: the **hexagon** shape, the **parallelogram** shape, and the **diamond** shape, **right click** on the selected shapes and, in the context menu select the **Group > Group** option

Slide this final group of shapes down towards the **left center** of the page

Your page should look something like Fig. 3.36 when you're done.

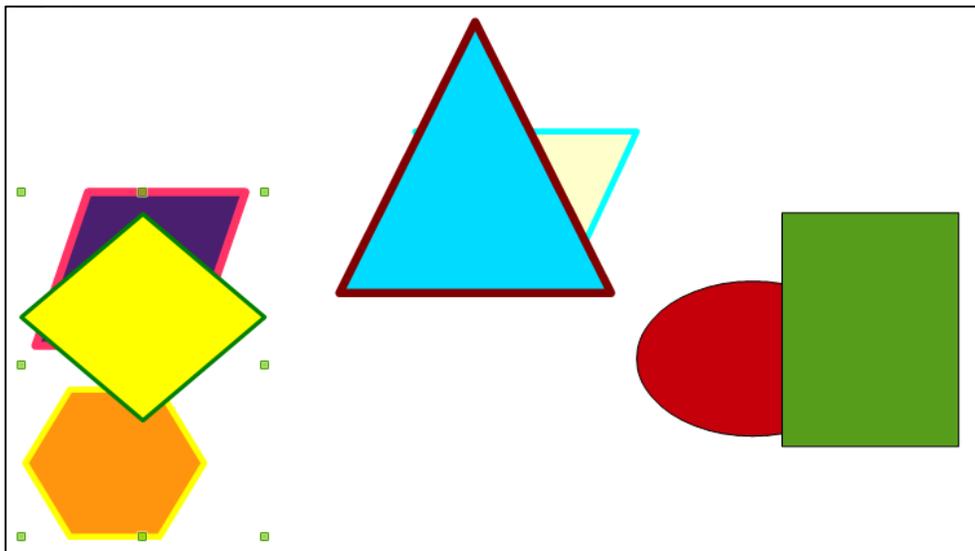


Fig. 3.36 Three separate groups of shapes

Check your drawings, click on **each group in turn**, and **slide them around** on the page

Notice that each group now has just one set of handles and that they move as a group. You can even rotate them as a group.

Try this now by clicking on any of the three groups, click in the **Drawing Object Properties toolbar** on the **Rotate tool**, and **rotate** the grouped shapes any way you want

This is often very useful when you create a complicated drawing using several objects, like lines and shapes, and you want to move them around a few items at a time, or all together or rotate them

as one object or as several specific objects, and so on. Just group them all together, and Bob's your uncle! You'll have another chance to practice this when you do the Skill Consolidation exercises at the end of the lesson.

Resizing objects

This is easy.

Click on any of **the shapes** to select a group and grab hold of one of the corner handles and drag in to make the group smaller

Do the same thing to reduce the size of the other two groups, then drag the ellipse and rectangle group to the **top right corner** of the page, the trapezoid and triangle to the **lower center**, and the hexagon, diamond and parallelogram to the **top left corner**

Your drawing should now look something like Fig. 3.37.

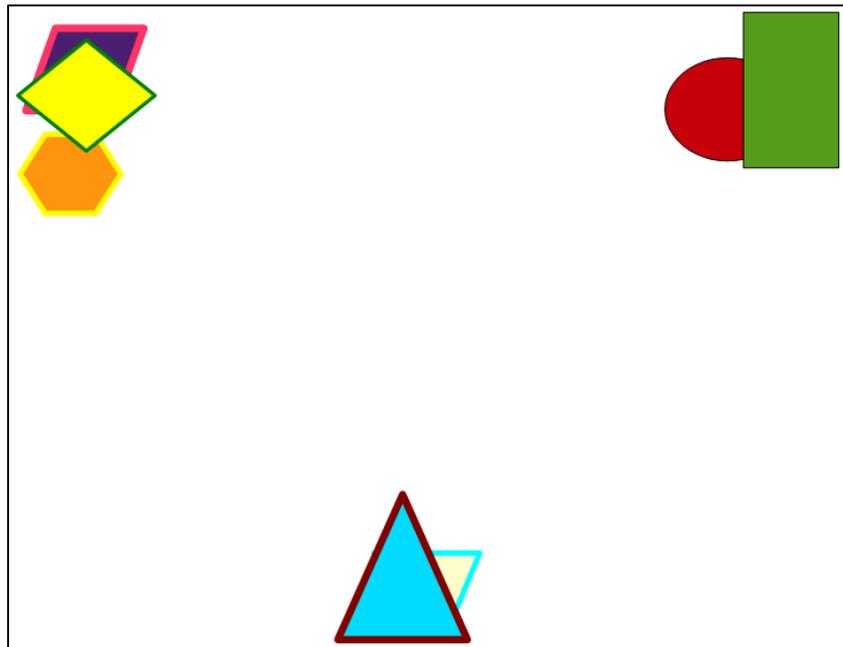


Fig. 3.37 Resized grouped sets of objects

Save the contents of the page (**Practice Drawing 5**)

Ungrouping objects

This is easy, too.

You need a new name for this next drawing exercise, so in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 6**, and hit **Save**

First, click anywhere **off all the shapes** so that none of them is selected

Click on the **ellipse-rectangle** shape, right click on it and, from the context menu, select **Grouping > Ungroup**

Look at the ellipse and rectangle shapes now and notice that all the handles for each shape have reappeared.

Now click anywhere **off the ellipse-rectangle shapes** so that neither of them is selected, then click on **just the ellipse shape** and notice that it is now independent of the rectangle shape

Move the **ellipse** shape away from the **rectangle** shape so there is **no longer any overlap**

Repeat this to **ungroup all** the other objects—be sure to ungroup them all for the sake of the following exercises, then move each of the shapes away from each other so there is **no longer any overlap anywhere**—you should now have 7 separate shapes spread out on the page

Ordering the drawing objects

The order of the shapes right now should still be the same as the order in which you created them. So the rectangle is in the back, the ellipse on top of the rectangle, and so forth. Think of the objects as layered one on top of the other—even if they aren't actually touching. But because you've moved them all around, they may no longer all be touching each other. So let's slide them all back on top of each other in the middle of the page so you can see how the ordering function works.

Rearrange all the shapes so they are **overlapping** each other again in the center of the page (something like in Fig. 3.38)

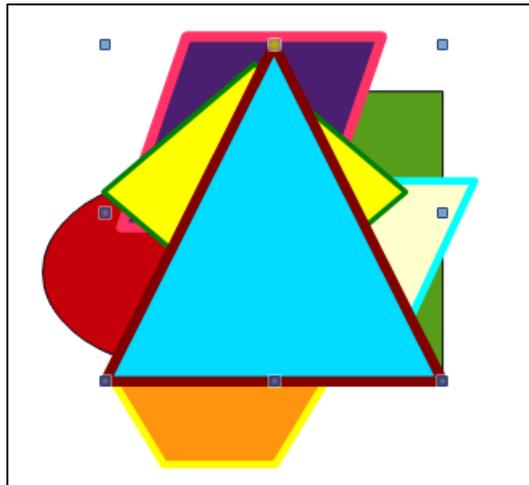


Fig. 3.38 Drawing objects layered on top of each other

Notice how they are all still layered in the order that you originally created them, so the first shape you created (the ellipse) is still on the bottom and the last shape you created (in Fig. 3.38 it's the triangle) is still on top.

You can move (re-order) objects backward or forward in the layers. Time to try this out; then you'll see how it works.

Click to select the **top** shape first (the triangle), **right click** on it, then from the **context menu** select **Arrange > Send Backward**

This drops the top shape back behind the next shape down in the pile of shapes (or deck, if you think of the shapes as a deck of cards). The trapezoid should now be on top.

Select the new **top** shape again, **right click** on it, then from the **context menu** select **Arrange > Send to Back**

Now the top shape (the trapezoid) is moved all the way to the bottom of the deck. You can bring objects forward or send them back, either one layer at a time, or all the way forward or all the way back in one go.

Try this now with **several** of the objects, using **each one of the Order options** till you get the hang of it, then **Save** the file (**Practice Drawing 6**) when you're ready to move on

Aligning Drawing objects

No doubt your page now looks like a work of abstract art! One last task remains in this section of the tutorial. You need to take a moment to check out the *LibreOffice* Align tools, which make it easy for you to *Align* an object or a set of objects (shapes) in the space that contains them. To practice this you can use the set of 7 shapes you were working with in the previous exercise.

At the **left hand end** of the **Drawing toolbar**, click on the **Select** tool, then use the mouse pointer to **drag** from **outside the top left** of the 7 shapes **down across** all the shapes to the **bottom right**

You should now see a single set of handles around the 7 shapes as a whole.

Using the mouse pointer again, grab any of the **handles** and **drag** to make the **set of shapes** as big as you can to **fill the page**

When you're done "stretching" the shapes, your page might look something like Fig. 3.39.

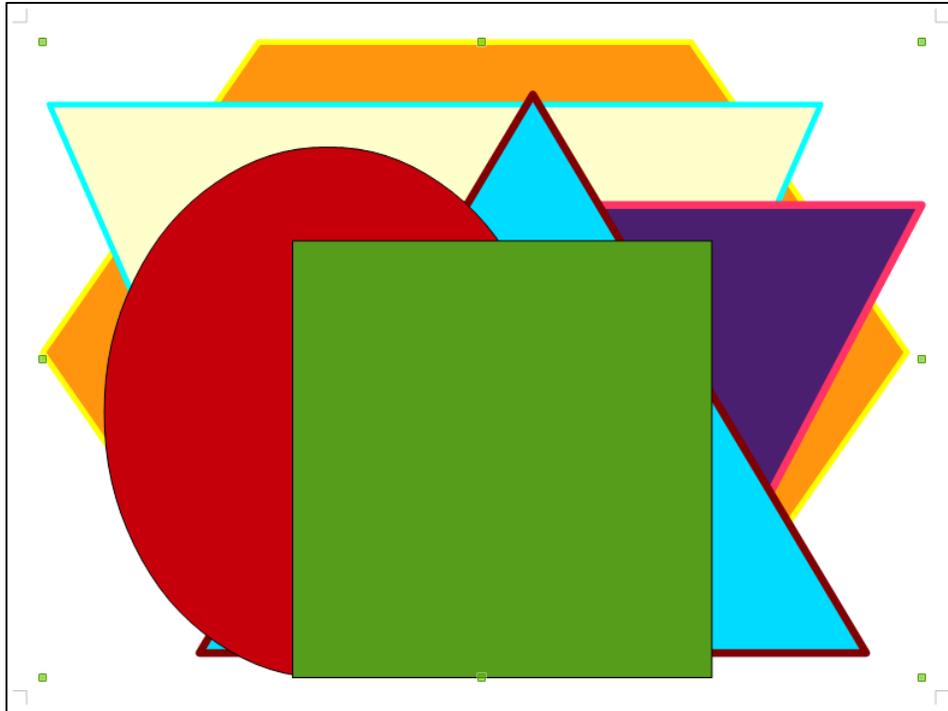


Fig. 3.39 The 7 shapes stretched to fill the page

In the **View menu > Toolbars menu**, click to select the **Align Objects toolbar** (Fig. 3.40)

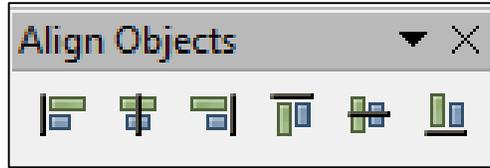


Fig. 3.40 The Align Objects toolbar

Now, with all the shapes still selected, click on **each of the tools** in the **Align Objects toolbar** and watch as the shapes are all aligned, *in relation to the set of shapes as a whole*, **to the left, horizontally centered, to the right, to the top, vertically centered, and to the bottom**

Save the file (**Practice Drawing 6**) when you're ready to move on, then clear **all the shapes** off the page

3.7 USING THE TEXTBOX TOOL AND *Fontwork*

Using the Textbox tool

It will be easiest to start over with a new *Writer* document for this part of the tutorial.

In the **File menu** select **Close** to close **Practice Drawing 6**, then in the **File menu** select **Save As...**, navigate to your **USB (Removable) disk > Work Files for LibreOffice > Data Files folder > Drawing Documents**, name the file **Practice Drawing 7**, and hit **Save**

In the **Drawing toolbar** click on the **Text tool**, then drag with the mouse pointer to create a **textbox** on the page (Fig. 3.41)

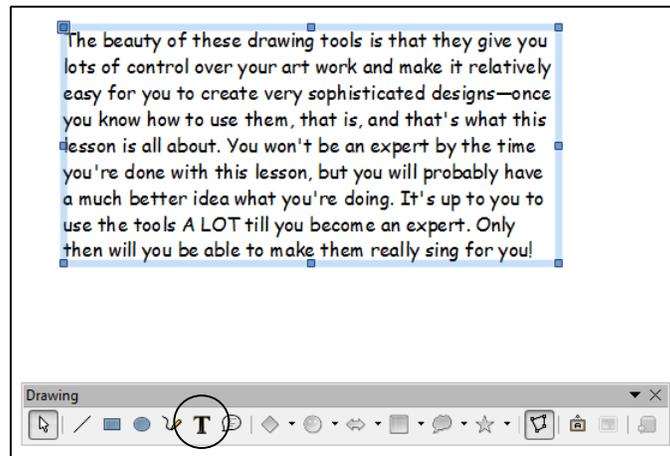


Fig. 3.41 The Textbox tool in the Drawing toolbar

Type (or copy and paste) into the text box **the following text**:

The beauty of these drawing tools is that they give you lots of control over your art work and make it relatively easy for you to create very sophisticated designs—once you know how to use them, that is, and that's what this lesson is all about. You won't be an expert by the time you're done with this lesson, but you will probably have a much better idea what you're doing. It's up to you to use the tools A LOT till you become an expert. Only then will you be able to make them really sing for you!

lesson is all about. You won't be an expert by the time you're done with this lesson, but you will probably have a much better idea what you're doing. It's up to you to use the tools A LOT till you become an expert. Only then will you be able to make them really sing for you!

Play with the **handles**, **stretch** the **Text box** up and down and from side to side and notice that you can make the Text Box any shape you want to fit the contents you have put inside it

Now, with the **tip** of the mouse pointer anywhere on the outside border (**but NOT on one of the handles**) hold down the **left mouse button** and **drag** the **text box** to the right or left or up or down—you decide where its final position will be on the page

Save your work (**Practice Drawing 7**)

Teachers need to know how to do handle layout skills such as this, where you have a piece of writing in a text box and where you need to lay it out on a page. You will undoubtedly be putting together handouts for your students, or maybe you'll produce a class magazine or, even better, you will supervise your students producing the class magazine under your direction. For example, the text box is a useful tool for explaining the contents of diagrams, as illustrated in Fig. 3.42.

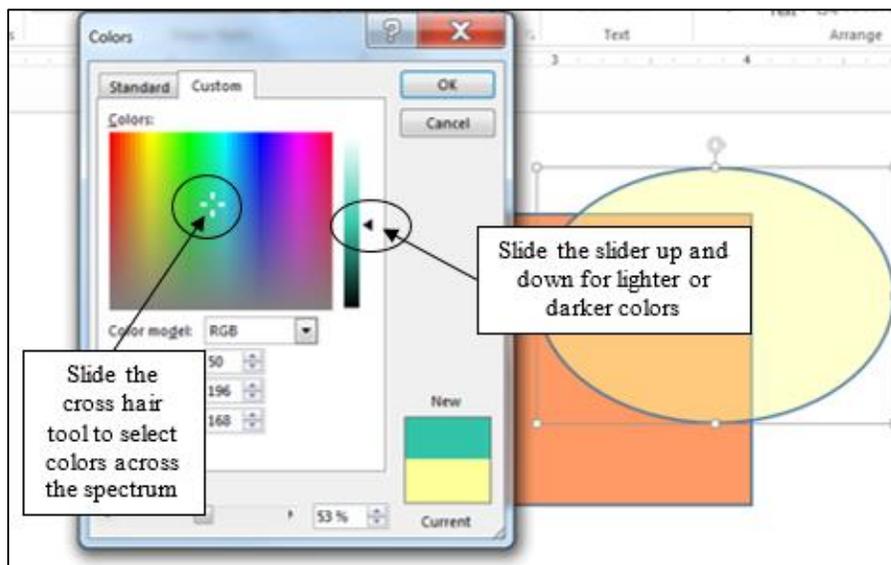


Fig. 3.42 Using text boxes to explain components of a handout or illustration

Using the *Fontwork* tool

Fontwork is a set of graphic fonts that add a touch of flair or pizzazz to your text. The best way to see what this involves is to try it for yourself.

Click to put the cursor at the **beginning** of the text in the **Text Box** (before the words **The beauty of these drawing tools...**), hit **Enter twice** to move the text **down two lines**, then click at the **top left** just inside the text box to put the cursor there

In the **View menu > Toolbars menu**, click on **Fontwork** to bring up the **Fontwork toolbar**, then in the **Fontwork toolbar** click on the **Fontwork Gallery icon** (see Fig. 3.35)

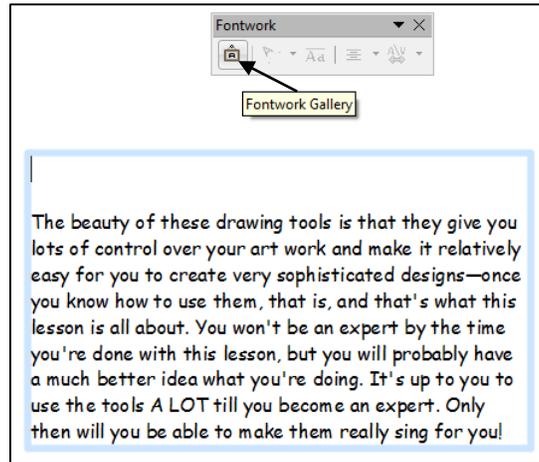


Fig. 3.43 The Fontwork toolbar

This brings up the Fontwork Gallery from which you can choose whichever style of font graphics appeals to you.

Take a look at the various **Fontwork styles** in the Fontwork Gallery, then select one that you like by **double clicking** on it (you can easily change it later if you change your mind)

The *Fontwork* you selected pops up on the screen.

Double click on the Fontwork image and you'll see the boldface word **Fontwork** in the middle of the fontwork design (Fig. 3.44)



Fig. 3.44 Fontwork design before processing

Use the **backspace key** to remove the boldface word **Fontwork** from the middle of the design and in its place type your **First and Last name**, then click **anywhere on the page** and your name will become the text for the Fontwork design

Click on **your name** and you'll see **handles** appear around the edges of the Fontwork design

Now you can use the Fontwork toolbar to make changes to the Fontwork design of your name.

Try out some of the tools in the Fontwork toolbar now to see what effect they have on the design of your name and when you see something that looks good to you, grab any of the handles and reduce the size of the Fontwork text till it can fit inside the space you made for it in the textbox on the page

With the **tip** of the mouse pointer, click on the **edge** of the box, hold down the **left** mouse button, and drag your name so that it's **centered** in the box over the paragraph of text

Fig. 3.45 shows how your name might look when you are done.

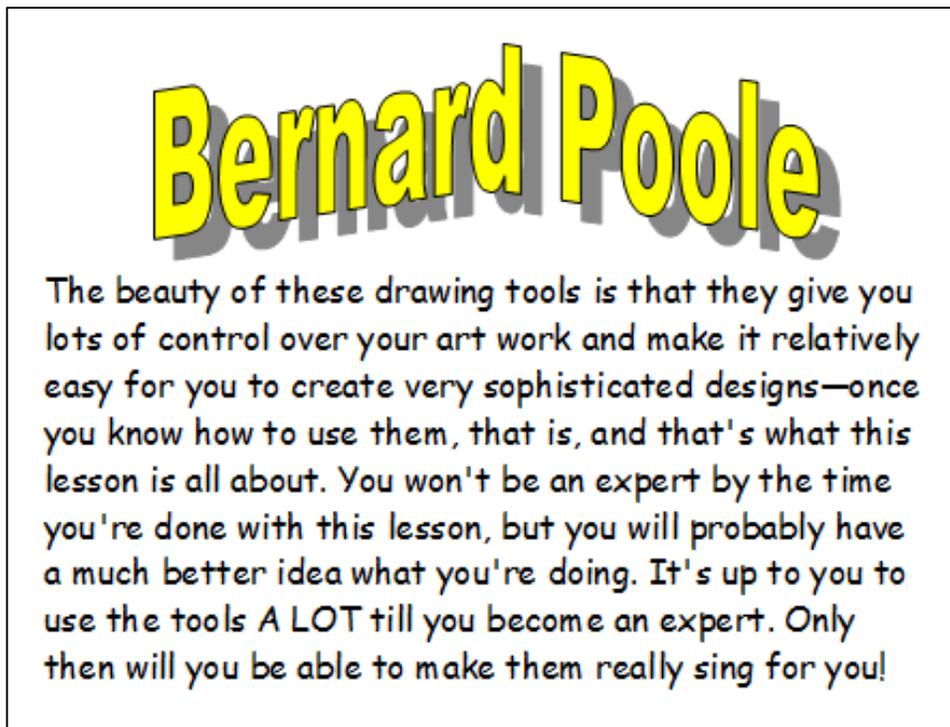


Fig. 3.45 Fontwork example

Using the Fontwork tools, and with very little effort on your part, you can create class handouts, banners, certificates, and other visual materials which can be eye-catching, tasteful, and, above all, instructive.

There are a couple of other things you need to learn about the Fontwork tools.

Click again on the **Fontwork of your name**, then right click on your name and, from the context menu, select the **Area...** tool

In the **Area dialog box**, click to select any **Fill color** for your name, try out some **shadow effects** and **gradients**

Have fun with it; see what you can come up with. Enjoy!

Save the final version of this exercise (**Practice Drawing 7**)

LOOKING BACK

You have practiced using the drawing tools that are built into *Writer*. If this has been the first time you've used these tools, you may have found them awkward at first, since manipulating them involves a new set of skills. But like everything else, the more you use the tools, the more skilled you will become. This lesson is merely an introduction and overview.

The beauty of these drawing tools is that they give you significant amounts of control over any kind of object on a computer screen. Very few people ever actually learn about the kind of skills you have learned in this lesson. Yet there are many, many other computer drawing/graphics skills that you have yet to learn. These tools make it easy to create sophisticated designs—once you know how to use them. That's what this tutorial is all about. You won't be an expert by the time you're done, but you will have at least some idea what you're doing. It's up to you to use the tools till you become an expert, and then you'll make them really sing!

LOOKING FORWARD

Lesson 7 will give you the opportunity to further practice your word processing skills by integrating them with other *LibreOffice* components, including mail merge. But first, in Lessons 4 and 5, you will learn about the *Calc* Spreadsheet component of *LibreOffice*—where you will also learn about the tools for creating Graphs and Charts.

No doubt you find some of the work tedious, especially that process of backing up all your data. This is because you are learning the computing skills. When you become proficient with *LibreOffice*, you will find that you can complete your work quickly and be more productive with regard to many of the activities of your profession. You should indeed by now be striking out on your own, already using *Writer* to support your work in the classroom.

You have a responsibility to establish the best possible learning environment for your students. The best teachers lead by example. If you have worked your way through the first two of these tutorials, you have increased the chances that your students will benefit from an enriched learning experience, because of your increased facility with, and enthusiasm for, the computer. Your use of the computer as a learning tool will overflow into your classroom. Well done!

SKILL CONSOLIDATION

Complete as many exercises as you can so as to reinforce what you have learned in Lesson 3.

1. Make a list of at least 10 handouts or other documents that are relevant to the school environment for the creation of which you would use the drawing tools.
2. Team up with a group of your classmates and use the *Writer* drawing tools to create at least 5 of the documents from the list you drew up in Exercise 1. Save them on disk.
3. Open a new blank page and in Page Setup select **Landscape** orientation. Complete the following tasks:
 - Start a new page and draw a perfect square, fill it with color, and make the line color the same as the fill color.
 - Draw a perfect circle, fill it with a different color from the square, and make the line color the same as the fill color.

- Move the circle on top of the square and adjust the size of the circle so it fits exactly inside the square where the border of the circle touches the border of the square at four points, north, south, east, and west.
 - Group the circle and the square, then rotate the grouped object 45 degrees, so that the shape resembles a diamond.
 - Use the AutoShape of an Octagon to draw an octagon large enough to completely cover the diamond, fill it with a different color from either the square or the circle, and make the line color the same as the fill color.
 - Move the Octagon shape to the back. Select all the objects and center them on the page. Group the objects.
 - Use Word Art to write the following title for the drawing: A Circle inside a Square inside an Octagon. Save the drawing with the name **Geometric Shapes**.
4. Open a new blank page and in Page Setup select **Landscape** orientation. Draw a picture of a house (yours if you want), including the following items (with colors and effects of your choosing):
- Draw the house itself with at least two windows and a front door and a separate roof (you'll need to use the freeform drawing tool for the angled roof so that you can fill it with color and a pattern). The roof must have shingles, the walls must be of brick or siding (unless you want to draw a log cabin!).
 - A front lawn with shrubs and flowers here and there
 - At least two trees
 - The sky with a couple of clouds scudding by...
 - Save the drawing with the name **House**.
5. Open a new blank page and in Page Setup select **Landscape** orientation. Draw a picture of a technology-ready classroom. Use clip art, if you want, for the objects in the classroom, including the items in the list that follows (with colors and effects of your choosing). Arrange the desks and so forth according to your own concept of the ideal classroom. Save the drawing with the name **House**.
- Desks for 20 students
 - At least 6 computer workstations (position them so the teacher can easily see the screens)
 - A desk for the teacher
 - A separate computer workstation for the teacher
 - A reading center
 - Any other items you would want to include in your ideal classroom.
6. Use the AutoShapes menu to draw at least ten (10) Basic Shapes and use an associated Callout to name each of them. Fit everything on one side of an 8 ½" by 11" page. Use either Portrait or Landscape orientation. Color the shapes, fonts and callouts with Fill Colors, Font Colors, and Line Colors.
7. Open a new blank page and in Page Setup select **Landscape** orientation. Then complete the following tasks:
- In the top left corner of the page, draw a self-portrait as best you can, using colors and so forth
 - Add a callout that looks like it's coming from your mind (see figure below)
 - Select all the parts of your drawing and group them together as one object
 - Copy the object, then duplicate it 8 times as illustrated in the figure below

- In the callouts, add the text of any story you like
- Save the strip cartoon with the name **Strip Cartoon**

