Graphics

Creating Graphics

Objectives

- Understand Vector and Bitmap graphics.
- Create, save, and close a graphics file.
- Open an existing graphics file.
- Use drawing tools.
- Select stroke and fill options.
- Change the view.
- Modify the drawing area.
- Print an image.

Raster/Bitmap Vs. Vector Graphics

- There are two basic types of graphics used in computers:
  - ***Raster*** or ***Bitmap*** – use colored dots called pixels, arranged in a grid to define an image.
    - Each pixel has a specific location and color assigned to it.
    - To edit a bitmap image, you edit the color and position of the individual pixels.

    USES - Photos for print or web.

    RESIZING - Dots get bigger, but then image looks fuzzy!

    FILE SIZE - if image is as large as computer screen it is very large. If file is small that means less dots or tiny image.

Raster/Bitmap Vs. Vector Cont.

- Vector – consist of lines and curves, called vector paths, that are defined by mathematical objects called vectors.
  - To edit a vector image, you change the individual vectors.

  USES - illustrations to be printed such as T-shirts, logos

  RESIZING - when object gets bigger mathmatical formula changes. So object looks exactly the same

  FILE SIZE - file is small because computer doesn't have to save all those dots!

Raster Example:

IMAGE ENLARGED

Vector Example:

Image actual size:

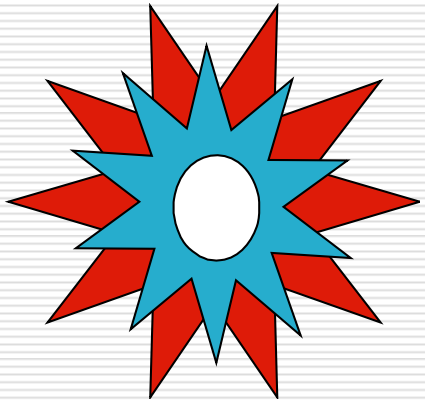
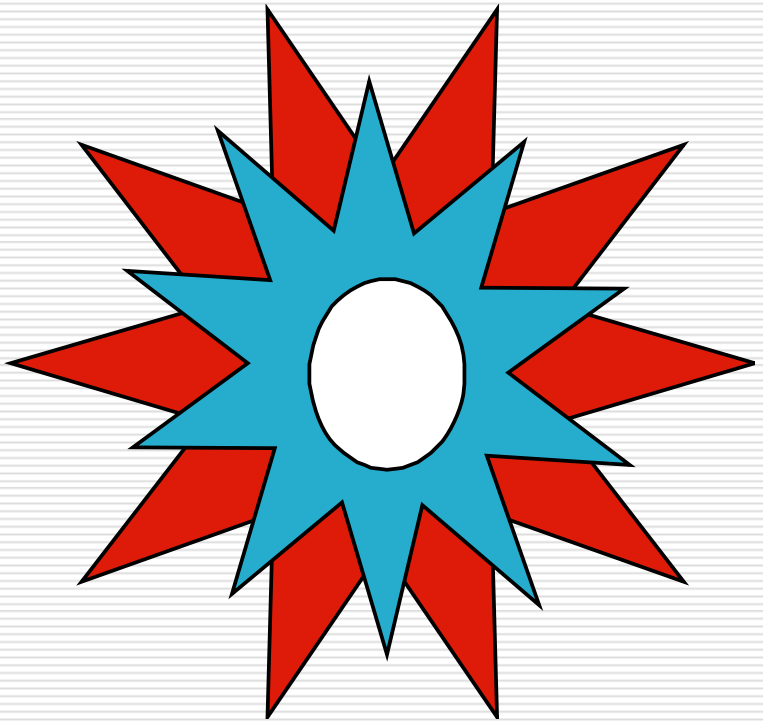


Image Enlarged:



Create a Graphics File

- You can create a new graphics file by
  - Clicking the New command on the File menu, or
  - Clicking the New button on the Standard toolbar.
- Some programs set default attributes for the new file, and some open a dialog box asking you to set the attributes or will remember the attributes that were used the last time the program was opened..
- When the new file is created, the program interface will show menu bars, toolbars and/or toolboxes, a drawing area, and other elements that vary by program.

Graphics Program Window

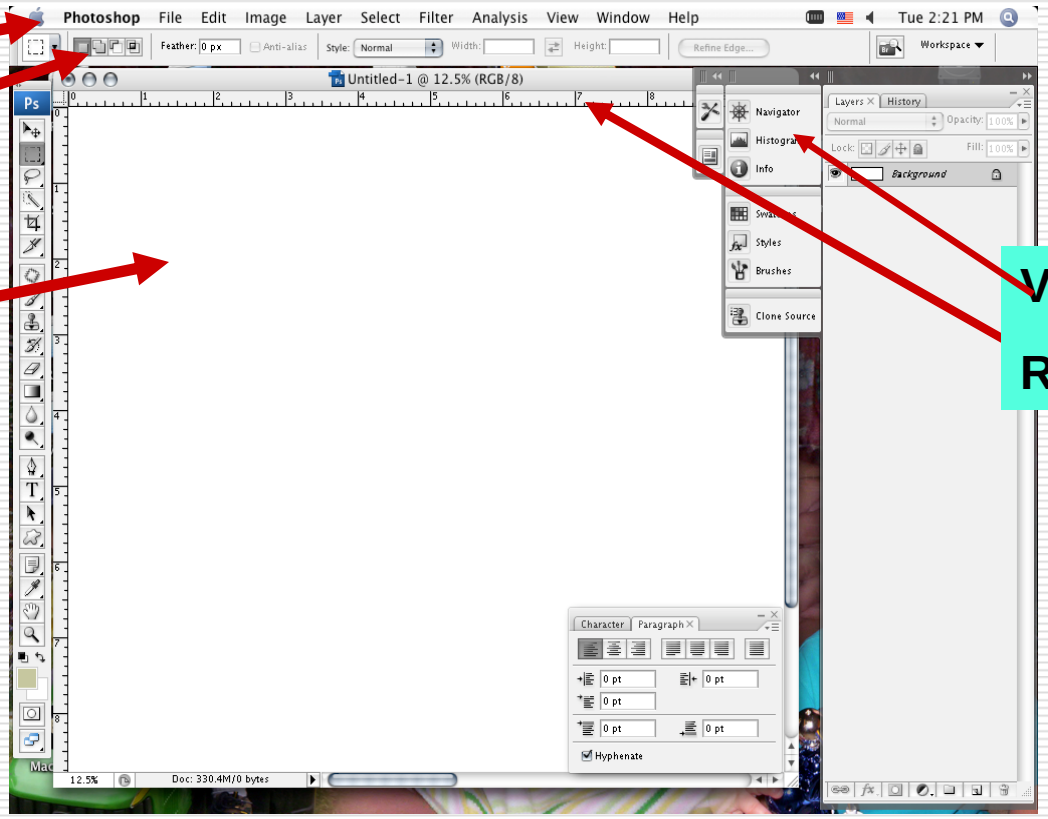
This figure shows elements found in most graphics programs.

Menu bar

object toolbar

Toolbox

Drawing Area



Various Pallets

Rulers

Save a Graphics File

- To save a file for the first time:
  - the File menu, then click Save As.
  - Specify a folder and filename in the dialog box.
    - Such as your name folder on your desktop.
    - Choose a filename that describes the file to make it easier to find it when you want it again.

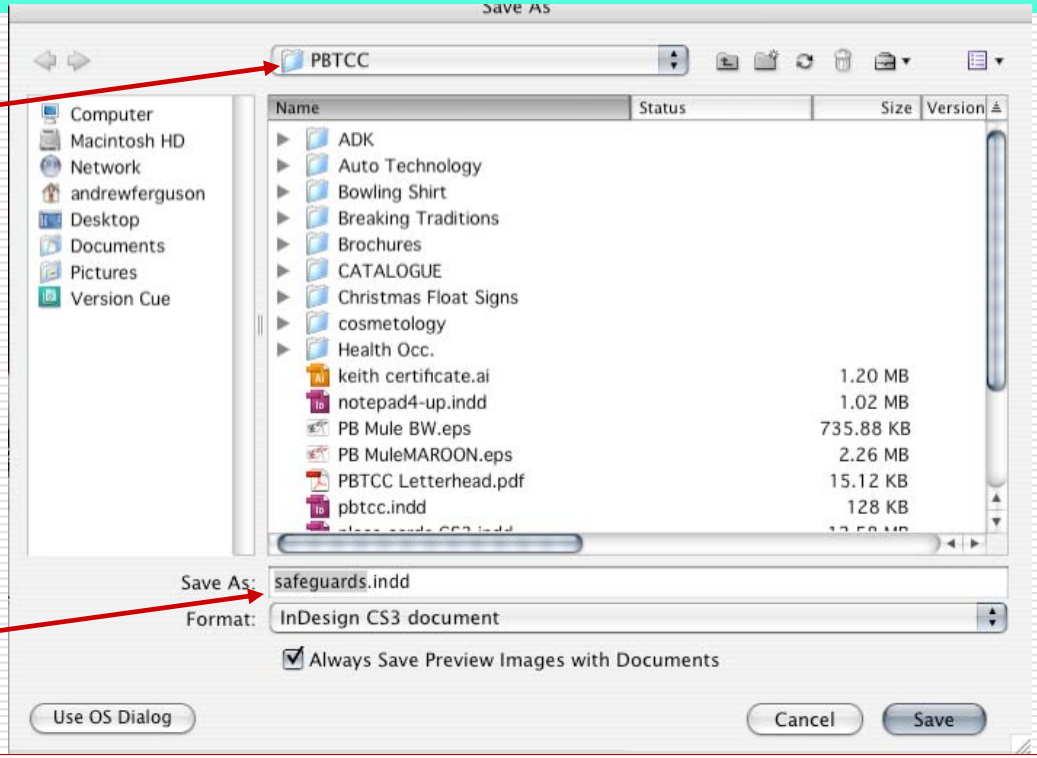
    - After your initial SAVE AS you only need to do a general Save (command>S). The program will remember the name and location of the file.

The Save As Dialog Box

This figure shows a typical *Save As* dialog box. You locate the folder in which to save the file in the *Save in* list box. Specify a name for the file in the *File name* box. The default file type will usually be set in the *Save as type* box.

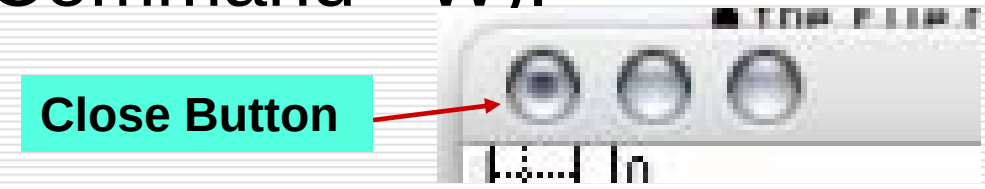
Save location

Enter name and file type.



Close a Graphics File

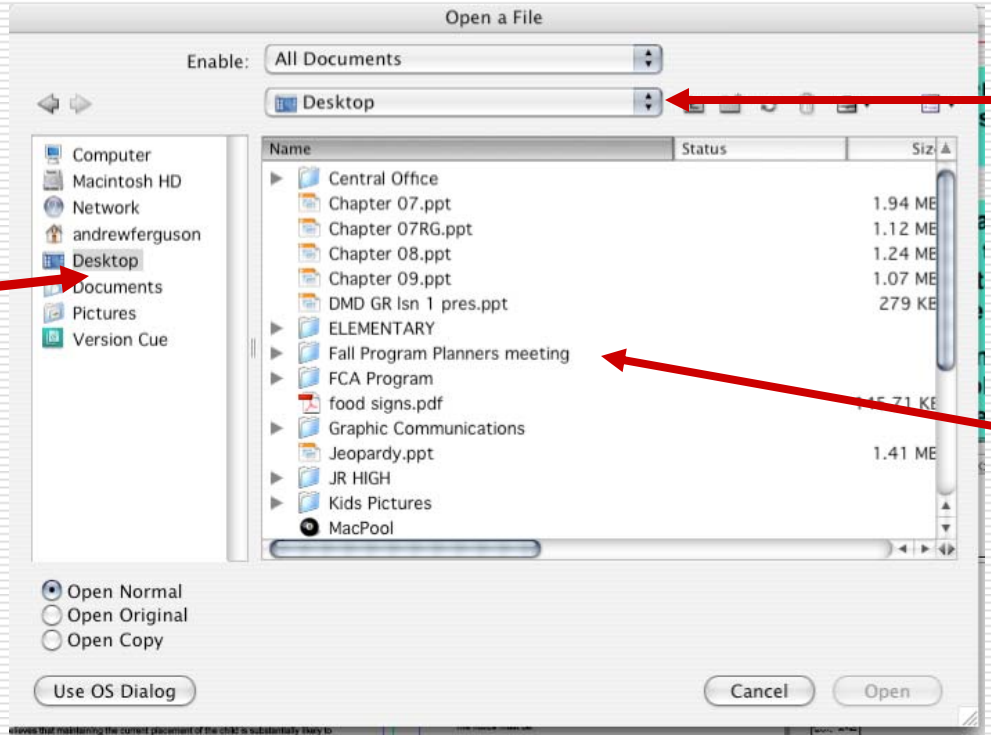
- When you have finished working on a graphics file, always close the file.
- You can close it using the Close button in the document window or the Close command on the File menu (Command >W).



Open an Existing Graphics File

Once a file has been created and saved, you can use File>Open (Command>O) to open and edit the file. A dialog box similar to the one shown here will appear.

You can also select the location of the file you are looking for here.



Locate the drive and the folder containing the file here.

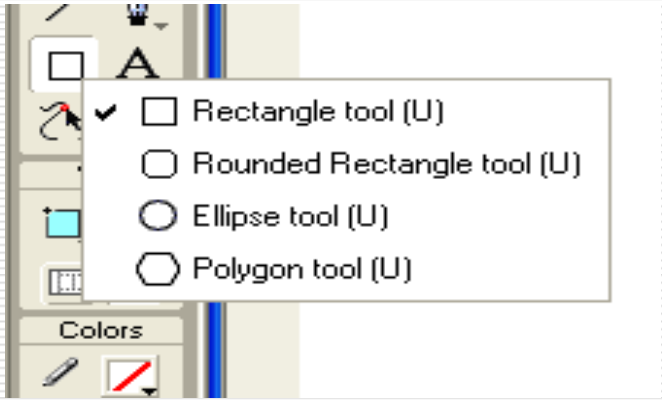
Filenames will display here. Click a filename to select it, then click Open.

Use Drawing Tools

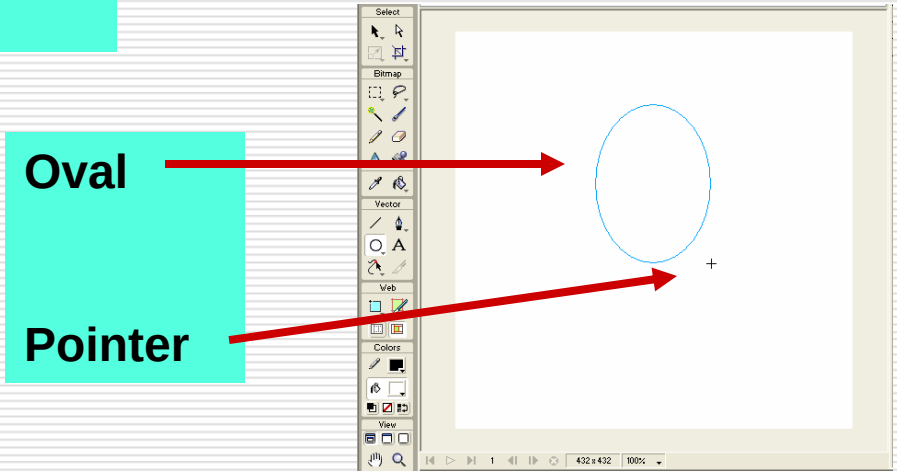
- Graphics programs have drawing tools that you can use to insert objects into the drawing window.
  - You can create basic shapes such as rectangles, ovals, and polygons.
  - You can create lines and arrows and draw freehand objects.
- The tools to do this are usually located on a Drawing toolbar or in a Toolbox area.
- Click on a tool to select it, then click and drag in the drawing area to create the object.

Drawing Shapes and Lines

This figure shows a section of a Drawing toolbox. Some tools have multiple options, usually indicated by a small triangle or arrow in a corner of the button. Move the pointer over the Rectangle tool, and a hidden toolbar showing all options is displayed.

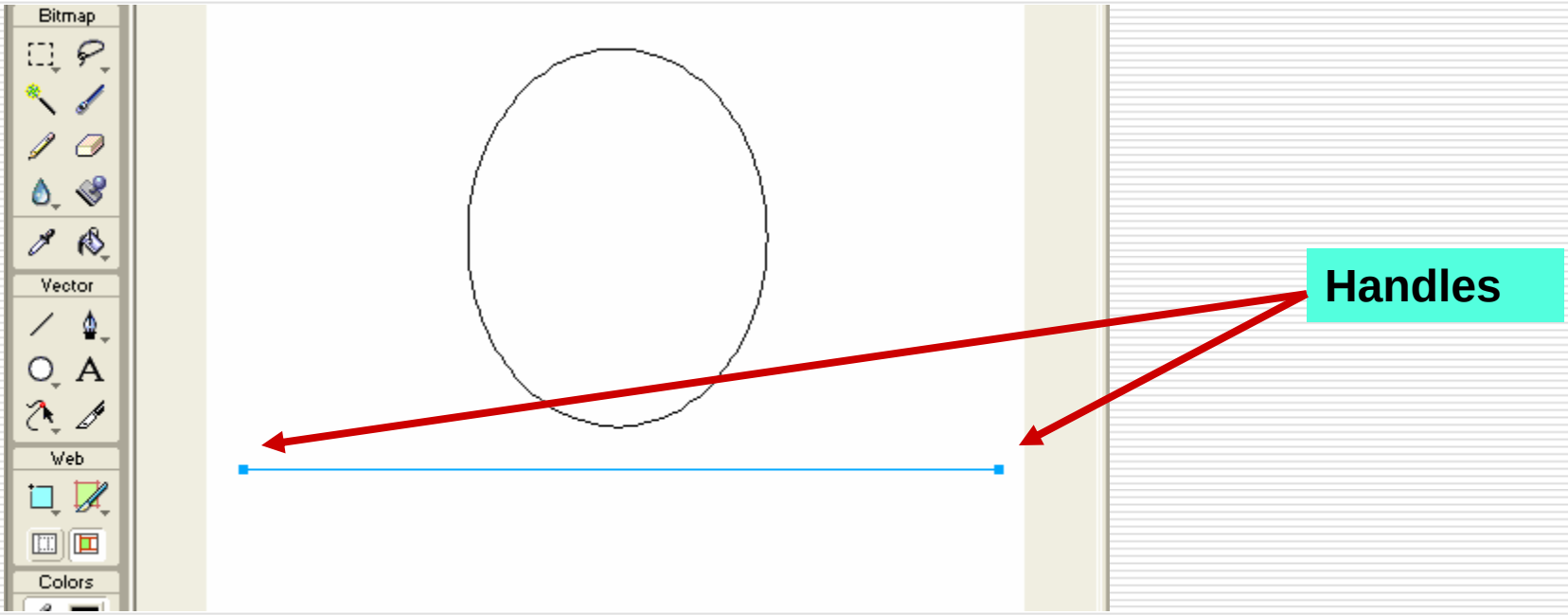


This figure shows a drawing area where an oval has been drawn. The pointer is shown as a crosshair, indicating that another tool has been selected and some other object is about to be drawn.



A Selected Drawn Object

In this figure, a straight line has been drawn below the oval. When you click on a drawn object, selection handles will appear around the border or ends of the object, as shown in the line below. These can be used to reshape or modify an object.

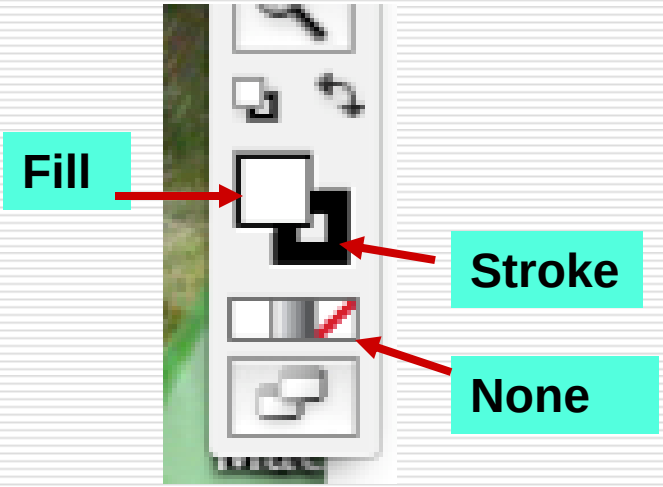


Select Objects in a Drawing

- To edit a drawn object, you must first select it using your selection tool (the black or closed arrow).
- Click the Selection tool, then click on the object to select the object.
  - Selection handles will appear around the edges of the object to show that it is selected.
- Select multiple objects by:
  - Dragging a selection marquee around all objects to be selected, or
  - Holding down the Shift key while you click on each object to be selected.

Select Stroke and Fill Options

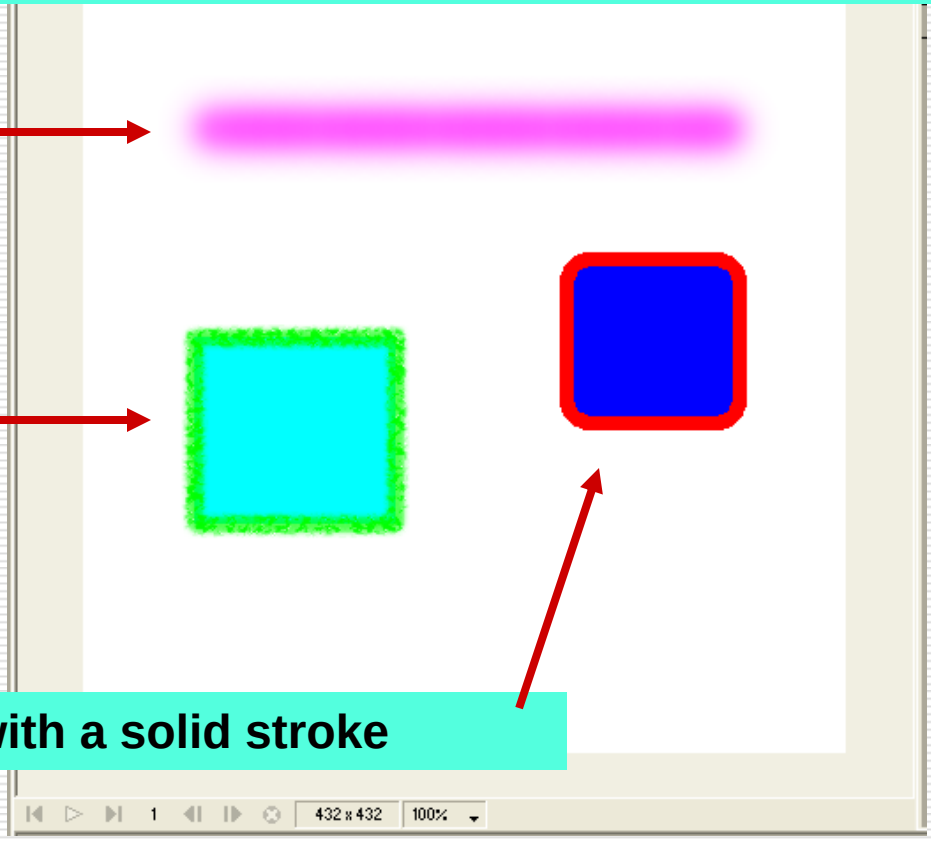
- When you draw an object, it uses the current or default stroke and fill settings.
  - Stroke is the thickness of the outer edge of an object.
  - Fill is the color that fills the inside of the object.



- You can change the stroke and fill for existing objects by selecting the object, then setting the stroke or fill option that you want.

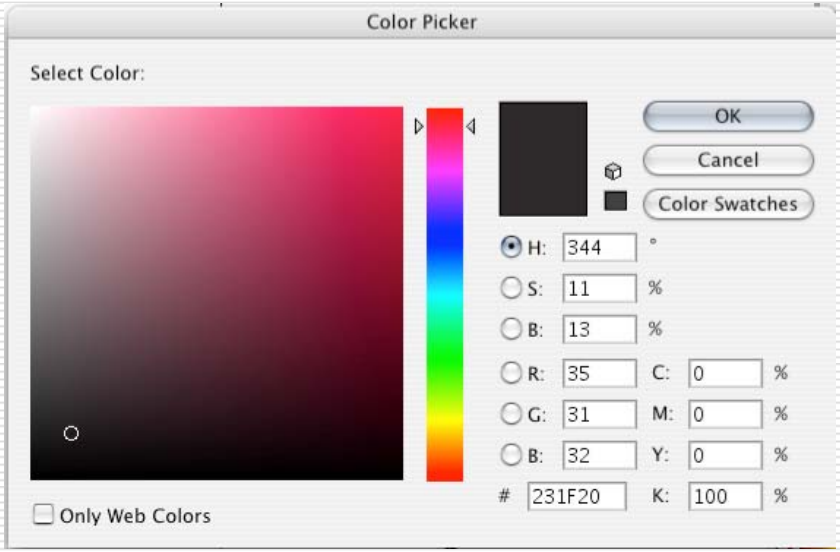
Stroke and Fill Examples

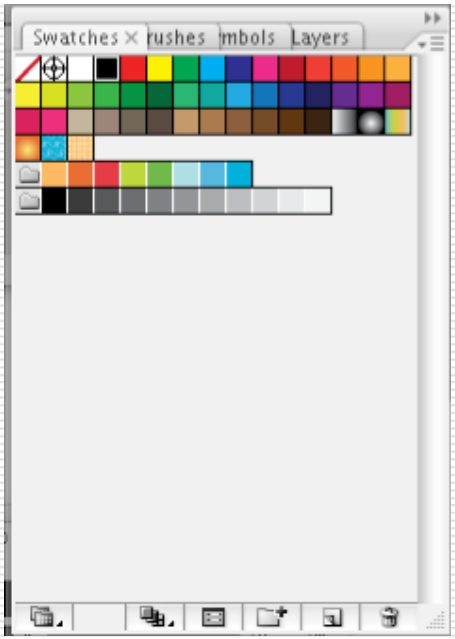
This figure shows various examples of different effects that you can apply using stroke and fill options.



A Color Palette

All graphics programs have a color palette where you can select stroke and fill colors.





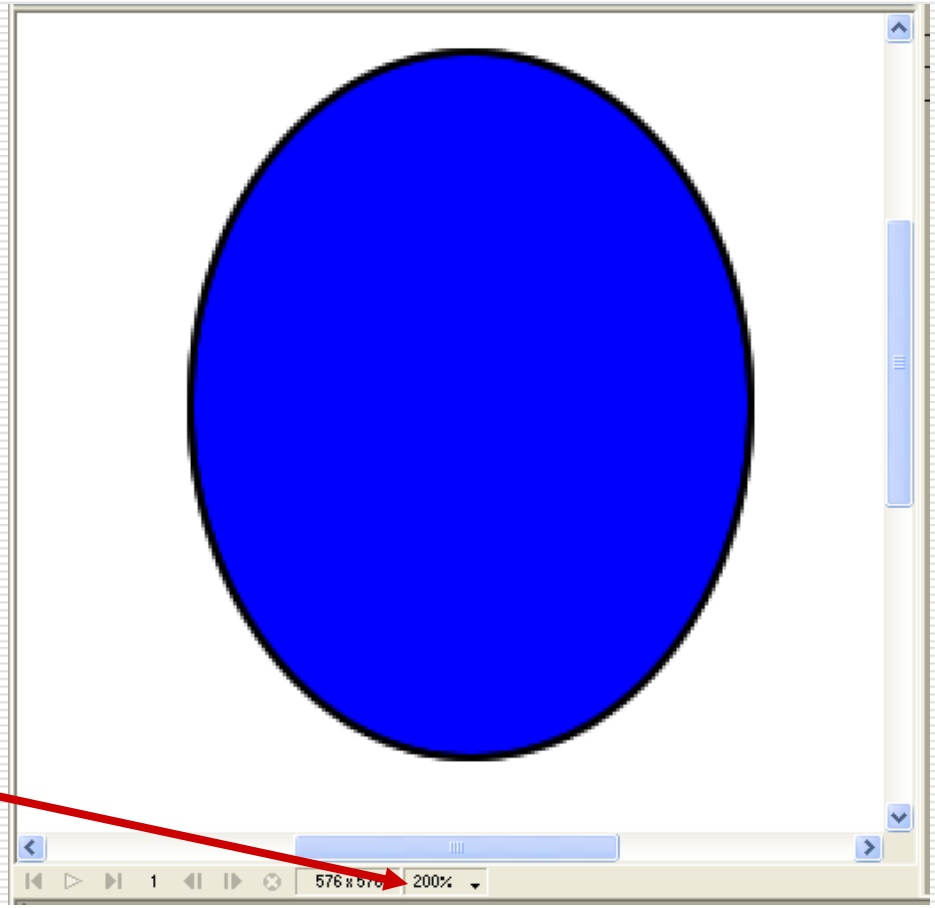
Change the View

- Graphics programs usually offer different views that you can select to view your drawing.
  - Standard, full-screen, and preview are typical examples.
- You can also show or hide elements that you need or don't need at the moment, such as guides, toolbars, menu bars, panels, etc.
  - This frees up space for enlarging the drawing area without unneeded elements taking up space.
- Most options used to change the view are found on the View menu.

Change the Zoom

An Object at 200%

This figure shows a drawing area with an object shown at a 200% zoom. There is also Zoom list in the status bar from which you can choose the setting and type in the percentage you are wanting to zoom.



Pan Around a Drawing

- Panning is shifting the drawing area so that you can see a portion of the image that is not currently visible.

Modify the Drawing Area

- The size of the drawing area, or canvas, is set when you create a new file or open an existing file.
- If you need more space, you can increase the size of the canvas.
  - This does not affect any existing objects; only the size of the canvas is increased.
- You can reduce the size of the canvas if you want to make it smaller.
  - This could result in objects being cropped out of the drawing area.

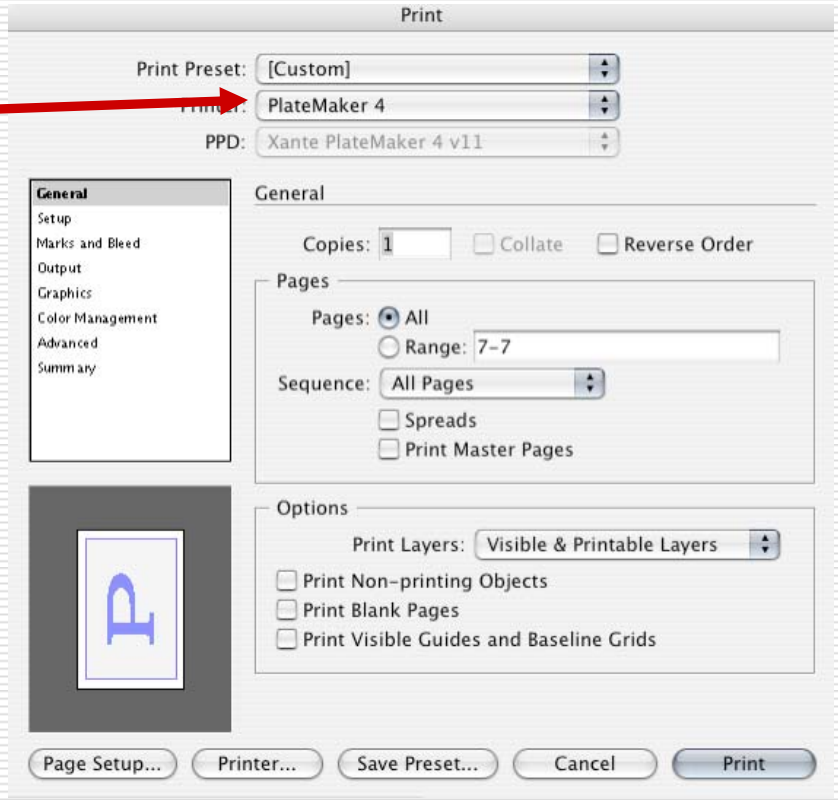
Print a Drawing

- Graphics programs usually have a Print option on the File menu that you can use to get a hard copy of your image.
- Clicking the Print option on the File menu will open a dialog box where you can set printing options (command>P).

The Print Dialog Box

This figure shows a typical Print dialog box. You can select the printer to be used, how many copies to print, and what to print.

Select the printer you want to print to here!



The Print dialog box allow you to select paper size, orientation, and other settings to optimize the print process.

Summary

- You can create new graphics files or open existing graphics files.
- When you save a new file, you give it a name and a storage location. You should save frequently to avoid losing work.
- You can draw basic shapes such as ovals, rectangles, and lines using the drawing tools.
- You can change the color or style of strokes and fills in selected shapes or before you draw a new shape.

Summary (continued)

- You can use different view modes to change the way a file is displayed.
- You can toggle elements on or off depending on whether you want them displayed on the screen.
- You can zoom in on an object to get a closer look, zoom out to get an overall look at the entire drawing, or pan to shift the display to show areas outside the document window.

Summary (continued)

- You can modify the size, color, and resolution settings of the drawing area when you first create a new file or at any time.
- You can print an image to see how it will look on paper.