



Chapter 9

Print Graphics



Lessons

- **Lesson 9.1:** Obtaining Digital Images
- **Lesson 9.2:** Preparing Graphics for Publication
- **Lesson 9.3:** Inserting Image Files in a Document



Learning Outcomes

- **9.1:** Use keywords to locate stock photos for projects
- **9.2** Recognize the usefulness and limitations of screen captures and scans in print documents
- **9.3** Source clip art from online collections
- **9.4** Understand the difference between royalty-free and rights-managed image licensing
- **9.5** Resize raster images in a raster editing program
- **9.6** Use limited resampling to manage resolution and file size
- **9.7** Choose an appropriate file type for print graphics
- **9.8** Know the difference between embedded and linked graphics
- **9.9** Distinguish between floating and inline graphics
- **9.10** Utilize text wrapping features for placed graphics



Obtaining Digital Images

- The following types of images can be used in a desktop publishing file destined for a printer:
 - Digital photographs
 - Screen captures
 - Scans
 - Original vector artwork
 - Clip art

Sourcing Digital Photographs

- **Stock photos** are images made available for use in creative and commercial projects, typically for a fee, but sometimes for free
- The most common place to access stock photos is from an online stock photo company
- Stock photo Web sites are extensive, so they are usually cataloged using keywords
- Most digital stock photos are available at different resolutions, sizes, and file types
- Stock photo suppliers make free, low-resolution versions of images available to use on a trial basis; these usually include a **watermark**, a pale image or text embedded in the image, to discourage unauthorized use

Creating Screen Captures

- **Screen captures** are a snapshot of a computer screen generated by the operating system or other dedicated software
- Do not use a screen capture of another piece of art or photo you find online
- Screen captures are useful in software tutorial documentation and other materials where showing the actual computer display is essential to the topic
- The final output may not be as sharp as something like a high resolution photograph

Scanning Hard Copies

- You can scan a hard copy document to create a digital file
- Do not use scans of hard copy images as a shortcut or because the actual digital file is too costly or protected by copyright
- A scanner acts like a digital photocopier by taking a picture of a printed document and transferring the image to a digital file
 - The higher the resolution, the more detail in the digital image and the bigger the file sizes
 - Images destined for a printer should be scanned at least at 300 dpi
 - Use a higher resolution for images you intend to enlarge beyond their original size

Acquiring Vector Images and Clip Art

- Digital vector images are a common type of image file used in print products
 - Most original vector images (sometimes called line art) used in print products come from graphic artists
 - Hiring a graphic artist can be expensive
- **Clip art** is ready-to-use artwork made available for use in creative and commercial projects, sometimes for free and sometimes for a price
 - Clip art collections are searchable using keywords
 - Styles vary from cartoonish, to realistic drawings, to abstract designs
 - There are many online resources for original, high-quality clip art

Acquiring Vector Images and Clip Art (continued)

- Some clip art is available as both raster and vector:
 - Raster clip art files are not fully scalable without compromising image quality
 - If you purchase line art to use in a print product, it is best to stick with a vector file format that you can resize freely without worrying about pixilation
- Many software programs make clip art collections available through their applications
 - Many people are familiar with it, so some originality and impact is lost when you use it in your work
 - There are potential copyright problems; most pre-packaged clip art is protected against commercial use

Creative Commons



- The Creative Commons is an organization that offers copyright holders a way to grant blanket permission for others to use their copyrighted work with certain restrictions
- How can a movement like the Creative Commons reduce copyright violation online?



Understanding Licensing

- A **license** is a legal agreement that gives permission and states detailed conditions for using a copyrighted image
- Royalty free means the buyer pays a one-time fee to use the image for an unlimited number of products and for an unlimited length of time without paying any additional fees for each additional use
- A **rights-managed** license is a type of licensing agreement that gives a buyer permission for a specific, limited use of a copyrighted image
- It is up to you to ensure that you (and any online companies you use) follow ethical and legal guidelines for images you gather and use in your projects

Staying Legal



- What are some ways you can be sure you are following legal and ethical guidelines when you source images online?
- How do you know an online source for images is trustworthy and not distributing pirated material?



Prepping Raster Files

- Save a working copy of your files and place the original, unaltered versions in a safe place
 - The working copy is best saved in the native file format of the image editing program you are working in
 - The native file format supports the full range of application features and offers the most editing flexibility if you need to make additional adjustments later
- Develop an image processing workflow

Prepping Raster Files (continued)

- Resizing Raster Images
 - The resolution adjusts as the document size of the image changes
 - Images for print products should have a resolution of 300 ppi
 - After you change the physical dimensions of the image, check the resolution—it should be between 240 and 300 ppi

Prepping Raster Files (continued)

- Resampling Raster Images
 - High megapixel cameras produce high pixel count images, large file sizes, and very big print dimensions
 - Reducing the document size to usable dimensions drives the resolution way over 300 ppi
 - When a raster image is resampled, the number of pixels in the image is changed according to interpolation
 - Upsampling is an increase in pixels
 - Downsampling is a reduction of pixels; decreases the file size



Prepping Raster Files (continued)

- Choosing a Raster File Type for Final Files
 - Two of the most common raster file types are native file formats and TIFF
 - If the raster editing program you use is part of the same suite of applications as the layout program you use, you may consider keeping the file in the native file format
 - Native raster files are lossless and preserve all editing features

Prepping Vector Files

- Vector files do not present the same resolution challenges that raster graphics do as they are fully scalable without distortion
- Developing a workflow for preparing vector graphics can be useful
- Verify your strategy with the print vendor
- The main variable to determine is the final file format
 - The most widely used file format for vector graphics in print publishing is .eps
 - Many desktop publishers are saving vector graphics in their native file format or PDF and using them in layout applications

Inserting Image Files in a Document

- A **linked graphic** appears in a layout as a low resolution screen image, but all of its data remains in the individual image file rather than being incorporated into the layout file
- An **embedded graphic** appears in a layout at full resolution and all of its associated data is copied into the layout file
- An image is placed either as an inline graphic or a floating graphic:
 - **Inline graphics** (sometimes called anchored graphics) move with the text in a document
 - **Floating graphics** are independent of the text

Inserting Image Files in a Document (continued)

- **Text wrapping** is a feature that controls how text flows around a graphic or other object in a layout
- The area between a graphic and the text is called the **standoff**

Here is an example of text and an image that are wrapped so that both the image and the text are merged. Notice that the text lines change to accommodate the lines of the graphic.



Here is an example of text and an image that are wrapped so that the image breaks up the text. Notice how difficult it is to read the text.



Punctuality



- Imagine that you are creating a presentation for an important client
- A co-worker is responsible for providing you with the image files for the presentation
- The files were due to you first thing this morning, but you haven't received them yet
- The presentation needs to be finished by the end of the day
- What will you do?



Key Concepts

- Keyword searches can help identify stock photos and clip art in extensive online collections
- Screen captures are appropriate for certain material, but their low resolution makes them less than ideal for print products
- Scanning is a useful option for digitizing hard copy documents that are unavailable in electronic format
- Understanding licensing structure is critical to using sourced images legally
- Royalty-free licenses grant almost unlimited permission to use an image for a one-time fee



Key Concepts (continued)

- Rights-managed licenses grant limited permission to use a copyrighted image, allowing the copyright holder to control how an image is used, and sometimes granting the buyer a certain level of exclusivity
- Preparing raster images for print products usually includes sizing the image in an image editing program
- Resolution of a raster image is inversely correlated to its document size; as images shrink, resolution rises and vice versa
- The target resolution for raster images used in print products is normally between 240 and 300 ppi
- Downsampling should be undertaken with caution since it impacts image quality, but it can be useful to manage resolution and file size in high-pixel photos

Key Concepts (continued)

- Native file formats and TIFF are the most common file types for raster images used in print products. Native file formats and .EPS are the most typical vector file types for print products
- Linked graphics appear in a layout as a low resolution screen image to be positioned, but the bulk of the image data is maintained in the individual image file until it is called by the software program for printing
- Embedded graphics increase file sizes because they bring all of their image data into the layout file
- Inline graphics are anchored and move with text on a page; floating graphics move independently of text
- Text wrapping is a useful feature for flowing text around objects, particularly floating graphics