Technological Media

Artists try to communicate ideas through their art, and as they do so, they constantly seek out new media. In recent times, technological advances have allowed artists to create new and exciting forms of art. In this lesson, you will learn about photography, film, video, and computer art.

Photography

Photography is *the technique of capturing optical images on light-sensitive surfaces.* Photographs are all around us. Newspapers, magazines, and books are full of them. Almost everyone has a collection of snapshots that they've taken. It is hard to imagine that photography started out as an expensive, difficult process only 150 years ago.

Although anyone can point a camera and click the shutter, photography as art requires more than simply recording images. As photographic media and processes have improved, some photographers have begun exploring photography's potential as art. They have gone beyond simply taking pictures of interesting images. Works by Dorothea Lange **(Figure 3.18)** and other photographers are carefully composed just as a painter composes an artwork. This artistic composition makes photography a fine art like painting or sculpting.

In recent years, some artists have combined painting and photography to create a new kind of visual expression. Look closely at **Figure 3.19** on page 58. Notice how the artist has modified a black-and-white photograph of an automobile in front of a house. The finished work combines familiar images from the real world altered according to the photographer's artistic vision.

▲ **FIGURE 3.18** Dorothea Lange did more than take a snapshot of this family. By moving her camera to get just the right angle and waiting for the right moment, her photograph reveals a lot about her subjects. What does the expression on the mother's face tell you? What emotions do the children convey with their body language?

Dorothea Lange. *Migrant Mother.* 20.3 × 25.4 cm (8 × 10"). Courtesy of the Library of Congress, Washington, D.C.

FIGURE 3.19 **FIGURE 3.19** This work is based on a black-and-white photo taken by the artist. After printing it, she covered the areas she wished to stay black-and-white with rubber cement to protect them. Then she dipped the photo into an acid bath that changed the unprotected portions into tints and shades of brown. The final step was the addition of color, using paints designed for use on photographs.

Jessica Hines. *Dream Series.* Hand-colored black-and-white photograph. 40.6 x 50.8 cm (16 × 20″). Private Collection.

The Media of Photography

The idea of capturing an image on film is very old. Attempts to do so date back to the Renaissance, but the first permanent photograph was not made until the nineteenth century. L. J. M. Daguerre invented a process of creating silvery, mirrorlike images on a copper plate. This was called a *daguerreotype*. Daguerreotype was a time-consuming and very expensive process. In the 1850s, the wet plate method was invented. It used glass coated with chemicals to record the image, which was then transferred to paper or cardboard. As with contemporary photographs, the wet plate photos used *negatives*, the reverse image of the object photographed. Today, newer and better methods of making film have been invented. The process is simpler and less expensive. Photographers have many media and processes available to affect the look of a finished photograph.

Film

A movie, or motion picture, like any work of art is created for others to enjoy. However, when you watch a movie, you may not be aware of all the work that went into making it. Filmmaking is a collaborative process involving many different artistic and technical professionals.

The Media of Film

Filmmaking only became possible about 100 years ago, after photography began to catch on with amateur hobbyists and professional artists. This encouraged the development of different types of film and the invention of the film camera. Unlike still cameras, motion picture, or film, cameras have a mechanism that moves the film through the camera. The film is stopped very briefly to be exposed. Each frame of film is a still image. The illusion of image motion is created by a rapid succession of these still images or photographs. Early films suffered from jumpy action, flickering light, and other flaws. As cameras, film, film printers, and projectors improved, so did the visual quality of movies. Cinematographers—artists who use movie cameras—now have the ability to choose from many different film media and production processes to create visually exciting artistic films.

Video

Videotape records and stores images and sounds as magnetic impulses. Patterns of light beams and wavelengths of sound are translated into electric waves, which are then imprinted magnetically on the videotape. Video technology, however, is rapidly evolving. Today, videotape is being replaced by digital videotape and other digital systems. A **digital system** is *a system that processes words and images directly as numbers, or digits.* This is improving not only the flexibility of video but also the sound and image quality.

The Media of Video

Video is a remarkable development because, unlike film, it does not require special processing or printing. With a video camera, a person can record an event and immediately view the results. Video artists record the sights, sounds, and scenes of nature; or they create totally new environments with moving and still images and sound. This technology allows an artist to create a visual story or communicate a message, just like an artist who paints on canvas. Also, video can be combined with computer software and systems to create artwork never before possible. Amazing artistic results can be achieved when video images and sounds are edited and manipulated using computers.

Computers

Thanks to advances in digital technology, today's computers are becoming faster, smaller, and more versatile. Tiny computers, called *microprocessors,* can now operate computer programs that once required a computer the size of your classroom! These powerful computers are used by visual artists to create digital art.

Using Computers to Create Art

Computer programs, or software, are designed to instruct the computer to perform various functions. There are numerous programs available for artists. (For more information on software and hardware used in the art classroom, refer to the Digital Media Handbook, pages 445–454.) With paint or draw programs, artists can draw, paint, manipulate, and design images. The artwork in **Figure 3.20** was created with a software program. Other digital technologies, such as digital cameras and scanners, can be used with the computer to provide even more exciting ways to stimulate an artist's imagination.

When you use a computer to create art, the art images can be stored as files in the computer's memory or on different kinds of storage devices. Once saved, they may be opened in a new file and reworked. The advantage is that, while the original art is saved, you can try as many variations as you wish, saving each as a new file. This prevents you from losing the original work.

▶ **FIGURE 3.20** This artist has used digital technologies to combine several layers of images into a unified artwork. What ideas do you think he is expressing in this composition?

Jeff Brice. *Untitled.* Digital image.

Many computer applications exist to make the tasks of the artist more efficient. Some of these programs involve desktop publishing, word processing, image editing or manipulation, morphing or transforming images, and 3-D drawing and animation. To create digital drawings and paintings, there are two main types of programs: paint programs and draw programs.

- **Paint programs.** In paint programs, images are stored as bitmaps or a series of tiny dots called *pixels.* Images are made by filling in the dots using a variety of brush tools that imitate other media and drawing tools. An artist also has the ability to edit the image pixel by pixel.
- **Draw programs.** In draw programs, each line or curve drawn is stored as a separate object. An advantage of draw programs over paint programs are the crisp, sharp edges, which are excellent for fonts and straight line images. Because images are recognized as objects rather than individual pixels, they can be "resized"—made larger or smaller—without distortion.

Recently, the differences between paint and draw programs have begun to blur. Many paint programs today do jobs that were once performed only by draw programs and vice versa.

Computer Art Tools

In computer art, the physical tools that the artist actually handles are called *hardware.* Hardware includes equipment such as the monitor, keyboard, printer, and mouse. Along with these pieces of hardware, other external tools include the following:

- **Digital camera.** A digital camera works like a regular camera except that the images are recorded digitally. The camera usually has a viewer that allows you to see each picture you have taken. Most cameras store pictures on removable memory cards, which can be downloaded onto a computer. Pictures can then be printed out or they can be manipulated with special photo-editing software. The digital images can be altered and enhanced in unlimited ways, and each version can be saved as a separate file.

Activity — Traditional and Digital Media

Demonstrating Effective Use of Art Media and Tools in Drawing. Artists use computers as sketchbooks, design tools, and as painting and collage media because they can store and retrieve artwork quickly. Images can be easily combined and altered, which allows the artist to explore many ideas without wasting time or materials. First, try this with traditional media and tools such as drawing paper, pencil, brush, and watercolor. Draw a large rectangle or circle on the paper. Create a design based on a mood or feeling using the pencil and brush. Change length, thickness, and texture of the lines to create variety and make a pleasing composition. Choose a color scheme and add color.

Computer Option. Now, repeat the same activity using a computer paint program. Select a Shape tool, and draw a large open rectangle or circle on the page. Explore the Pencil and Brush tools. Consider a mood or feeling. Arrange a variety of lines, changing length, thickness, shape, and texture to match this mood. Use the Eraser and Zoom tool, if available, to eliminate unneeded marks. When you are satisfied, title and save your project. Now, choose a simple color scheme. Apply color with the Fill or Brush tool. Select the Save As command to retitle. Add a number behind the original title to indicate a new version.

Tool	Description	Type of Program
Zoom tool	Magnifies part of painting or drawing.	Paint or Draw
Brush tool	Paints lines of different thicknesses.	Paint
Pencil tool	Draws lines and curves.	Draw
Fill tool	Adds color to closed objects or shapes.	Paint or Draw
Selection tool	Selects objects.	Draw
Selection tool	Selects specific areas on screen.	Paint
Color picker	Selects colors.	Paint or Draw

FIGURE 3.21
Common on-screen tools. Can you guess the purpose of the tools by their icons?

- **Stylus and graphics tablet.** A stylus and graphics tablet is the electronic equivalent of the pencil and paper. The stylus responds to pressure from the hand to make thick and thin lines—much like a real pencil, pen, or brush—and has an eraser on the end. Recent models are remote and programmable.

- **Scanner.** A scanner is a device that "reads" a printed image. It then translates the image into a language the computer can use to make an image on the screen or print with a printing device.

On-Screen Tools. These tools are located on-screen on a toolbar or pull-down menu. They mimic handheld tools used by conventional artists. On-screen tools include pencils, pens, assorted brushes, and erasers, but they vary from program to program. The table in **Figure 3.21** shows some common on-screen tools and the type of program in which each is found.

Multimedia Art

Combining technologies on the computer is made easier by the development of **multimedia programs.** These are *computer software programs that help users design, organize, and combine text, graphics, video, and sound in one presentation.* You can make reports, presentations, and art portfolios come alive. Multimedia art combines different media to create a new type of art. For example, an artist might scan a photograph into the computer to enhance it. The artist might also add sounds that help evoke a feeling. He or she could add text or quotations to add meaning. The artist might make the art appear to move (animate) or take different forms (morph) as the viewer watches. Multimedia art expands the boundaries of art by including more sensory experiences.

Check Your Understanding

1. What is photography?
2. How are motion picture cameras different from still cameras?
3. What advantage does video have over film?
4. Compare and contrast paint and draw programs.
5. What is the advantage of a multimedia program?