

INTRODUCTION

The *Digital Studio Projects* booklet presents 20 studio projects that allow students to explore a variety of digital media. Each project is designed to simulate the kind of practical challenges and tasks encountered in art-related jobs and careers. Today's art students need to hone their problem-solving skills in both digital and traditional media. Developing these skills is important not only for the students' artistic and academic success, but also for their future success in the increasingly technological workforce.

Although the computer cannot—and should not—replace traditional media, it can provide numerous additional visual solutions. In the art classroom, as in the artist's studio, technology can introduce more tools to the traditional artists' toolboxes. The only limitation to possible creations is the art student's imagination

Using digital tools involves new strategies, higher-order thinking skills, and problem solving. As students work on digital studio projects, they construct knowledge, employ teamwork, and improve communication skills.

Using *Digital Studio Projects*

The projects in this booklet correlate to the content presented in Chapters 4 through 11 of *ArtTalk*. Different types of software—primarily draw and paint programs—are required for the projects. In most cases, each project emphasizes a specific tool or special effect offered in these software programs. Although students are usually taught to use one tool at a time, the entire menu of tools may be employed to accommodate the students' artistic needs or interests.

Many of the projects can be developed as part of a larger unit of lessons. For example, you may want to use Digital Studio Project 5, "Name That Company," as the introduction to a group of lessons on developing a company's identity. Other projects in this unit could, for example, involve students in designing product packaging and advertising campaigns.

The project pages include black-and-white examples of art created by the students of George Washington Carver High School in Houston, Texas. Visit art.glencoe.com to find the same student works in color, as well as other student works. These examples can help students recognize some of the possibilities of technology in the hands of creative young people.

Introducing Digital Media in the Art Classroom

Introduce computer use just as you would introduce a traditional art medium in class. You will probably want to begin by reviewing and reinforcing your classroom policies. As appropriate, discuss additional guidelines such as these:

- Show respect for all the computer equipment. Remember that we are responsible for preserving this equipment for present and future use.
- Avoid handling food or drink near the computers.

If you are relatively inexperienced with computers, remember that you have many sources of support. Talk with other teachers, including the technology

specialist. Experiment with computer use for your own learning and enjoyment. Check resources in your school or public library. And remember that your students may be an excellent source of information and assistance.

Supporting Learning for All Students

Students learn best when they are actively involved. Often, the ideas, the successes, and the questions of their classmates are most effective in stimulating participation and in enhancing learning. For this reason, strategies that involve the students in sharing their work, their responses, and their uncertainties should be an important part of computer-centered art lessons.

You may want to integrate some—or all—of the following approaches into your class plans.

Round-Robin Sharing Session In this activity, the entire class moves from one computer to the next, viewing the student work created on each. Encourage students to explain what they have accomplished with their completed works or what they intend to accomplish with their works in progress. Identify in advance the kinds of comments expected from the other students: only positive remarks, or only constructive criticism, for example.

Class Critique Have individual students volunteer to share their work and explain what they intended to convey. Ask the other students to respond to these questions: What do you like about this work? Why? Continue this activity by asking the students: What could be improved in this work? How do you think that improvement could be achieved?

Conclude the activity by letting the student artist respond to his or her classmates' comments. Remember to acknowledge all the other students who assisted the artist, and thank the artist for being courageous enough to share his or her work and thoughts.

Whip Around Use this activity to provide an opportunity for all students to share a question, response, or comment. Move in an established pattern around the room, letting each student speak briefly in turn.

Popcorn Share This is another activity that allows students to share brief answers and explanations, but not in any specific order. The first student who wants to respond stands, speaks for 10 seconds or less, and then sits down. As soon as the first speaker is finished, another student may “pop up” and speak.

Look-and-Click This approach allows you to model a task as students work along with you, repeating each step in order. The procedure works best when you have a teaching station that all the students can see from their own computers. It is particularly appropriate for teaching students how to boot up the computer, how to save, how to print, how to scan, and so on.

Fishbowl For this sharing activity, sit with the students in one large circle. Encourage students to discuss and praise one another's work, share new assignments, conduct critiques, restate forgotten assignment criteria, review classroom management guidelines, and so on.

Jigsaw Activity This approach works well with groups of students who are required to complete a specific reading assignment. Have each group member read just one segment of the assignment—one chapter of a book, one section of a chapter, or one portion of a magazine article, for example. Students should read their assigned segments thoughtfully, writing an informal outline and preparing charts or illustrations that help explain the content. Then have the group members meet and share their understanding of their assigned sections in order, thus putting all the pieces of the puzzle together.

Chalk Talk This activity allows students to take a new approach to sharing answers and ideas. Begin by writing a thought-provoking question on the board. Have students read the question silently and then volunteer to respond, by writing a phrase or sentence on the board. Encourage a variety of responses, all without conversation. When students want to add a response to another student's comment or question, have them draw a line between the two written remarks. Conclude the activity by summarizing the "discussion." Chalk talks work well for exploring art exhibit themes, brainstorming ideas for portfolios, and exploring students' responses to specific works of art.

Making Computers Available

Increasing numbers of schools have art classrooms fully equipped with computers for students' use. However, even schools with limited access to student computers can enrich learning with the meaningful use of technology.

The One-Computer Classroom

If your school provides only one computer in the art classroom, you may want to use computer time as a reward for students who complete quality work early. This "free time" can allow students to experiment with new approaches. You might suggest that students explore digital media to create the kinds of works they have just made from traditional media; encourage them to compare and contrast the two outcomes.

Another approach to the one-computer classroom is to create learning centers, with the computer area as one of the centers. Have students work in small cooperative groups in different areas of the room. Rotate the groups around the centers, so that each group—and every student—has time to work on the computer.

The School's Computer Lab

If the art classroom has no computers, sign up for a regular time in the school's technology lab. If your school has a technology specialist, take the time to discuss your goals and ideas with this teacher. You may be able to work together to present the projects to your students. Perhaps the specialist can introduce the technology and the software program of each lesson, while you oversee the creative process.

The Classroom with a Variety of Computers

It is not unusual for a classroom to have a wide variety of computers, including very old machines and perhaps some that are brand new. In this case, you may

want to institute a first-come-first-served policy; students will avoid being tardy to assure a place at one of the newer computers. Or, you might set a schedule by which students rotate around the classroom, so that everyone has an opportunity to work at every computer.

It may be possible to designate older machines for specific uses, such as scanning or downloading digital pictures. Each old machine should be clearly labeled so that students remember its intended use.

Having older computers in the classroom means that, inevitably, something will go wrong with one—or more—of the machines. These problems can be a learning experience for you and your students, who will recognize that troubleshooting and solving problems are important parts of life.

Grant Writing to Fund Technology

Grants can fund the purchasing of technology equipment. If you are not experienced in writing grants, you may want to contact your school district office for advice and assistance. A district guidebook may be available, or training may be offered. Form a team of teachers on your campus; go through the training together and then write the grant proposal as a team. Many school programs would not exist without funding agencies that, in response to grant proposals, generously contributed to their development.

Purchasing Equipment

When you have the opportunity to purchase equipment for your classroom or department, consider what you want to accomplish with your classes. Keep in mind the needs of students, both now and in the future.

Hardware

Any kind of computer is a start. Find out what your school district will support and then proceed.

Suggestions for a start-up computer system would include the following:

- a computer with a fast processing speed
- a keyboard
- a mouse

These are optional additions:

- a printer (color laser)
- a digital camera
- a pressure sensitive (graphics) tablet
- a scanner
- storage devices for saving and transferring student work

Your choice of storage devices will be determined by your storage needs. These are some of the possibilities, with their storage capacities:

- a floppy disk drive with floppy disks (1.4 MB)
- a Zip drive and Zip disks (100 MB)

- a CD burner and CDs (700MB)
- a Jaz drive and Jaz disks (available in either 1 GB or 2 GB)
- a DVD drive and disks (4.7 GB)

As you are ordering, check to see that all your purchases are compatible. Read the product information carefully before you complete the purchase.

Software

Different software programs are designed to do different things. These are a few of the options:

- **Integrated Software Package** This is an excellent starting point. It provides many options within one software program. An integrated software program is relatively inexpensive and includes capabilities for word processing, drawing, painting, spreadsheets, and databases.
- **Draw Program** Draw software allows the artist to work in a vector graphics draw program, which means that paths are created in a connect-the-dots outline. One advantage is that draw images can be scaled to different sizes and still appear to have clear, smooth lines that retain crispness. In this environment, the artist can change, resize, or delete an object by clicking on it with an editing arrow.
- **Paint Program** A paint program is a bit-mapped environment in which the artist creates images with pixels. Using a paint program can be compared to spraying paint on a wall; with the program, pixels, rather than droplets of paint, cover the background. An artist who wants to remove or change an image has to use the eraser tool to take out one pixel at a time. A disadvantage of these programs is that bit-mapped graphics lose definition and appear jagged when they are scaled up.
- **Desktop Publishing Program** This kind of software allows the user to combine words and images, and to design pages for newspapers, yearbooks, and other graphic design products.

As you and your students become more experienced in using the computer, you may want to explore programs for multimedia presentation, three-dimensional design development, animation, Web design, and video manipulation or editing.

Technology Tips

Shortcut Keyboard Commands Shortcut commands allow you to use the computer more efficiently, without pulling down menus or using toolbar icons. To use a shortcut, depress two keys simultaneously to initiate an action. With the Macintosh, use the Command key in combination with a letter key. With Windows, use the Control key in combination with a letter key. The chart on the next page shows some common shortcut commands.

Shortcut Commands

Keys	Action
Command/Control + A	Select all
Command/Control + C	Copy
Command/Control + N	New document/page
Command/Control + O	Open
Command/Control + P	Print
Command/Control + Q	Quit
Command/Control + S	Save
Command/Control + V	Paste
Command/Control + X	Cut
Command/Control + Z	Undo last action

Mouse Movements The mouse can be used very effectively to create contour drawings. Students have learned that they should let their pencils move in a continuous line, following the movements of their eyes. They can employ this same technique in moving the mouse to create contour drawings on the computer.

Pressure-Sensitive Tablets These tablets, also known as graphics tablets, allow the artist to use a stylus just as a pen or pencil is used on paper. As the stylus is moved across the surface of the tablet, the line is recorded on the computer screen. There are many different sizes and types of graphics tablets. Some even offer the option of using your finger in place of a stylus.

Organizing Saved Work Be sure students know how and where to save their work. Develop a consistent system for naming students' works. The name of each work, for example, might include the student's name, a number identifying the student's class period, and a short word or initials identifying the project name. In this case, when Jesse Green in your first period class saves his work for the "Name That Company" project, he would name it J.Green.1.ntc.

Image Editing Filters Chart

Artistic Filters	
Submenu	Results
Colored Pencil	Crosshatched effect
Cutout	Cut-paper or silk-screen print effect
Dry Brush	Edges of image painted using dry brush technique; reduces color range
Film Grain	Grainy texture added to the image
Fresco	Resemblance to a painted mural
Neon Glow	Various types of glows added to objects
Paint Daubs	Painterly effect with the choice of a variety of brushes
Palette Knife	Textured canvas effect
Plastic Wrap	Gray film over the whole image and white highlights around large objects
Poster Edges	Dark line appears around all edges in image
Rough Pastels	Resemblance to pastels; texture, stroke length, and detail can be specified
Smudge Stick	Subtle spotty texture on light areas and smudge on lines and dark areas, making the lines heavier and the edges blurry
Sponge	Resemblance to sponge-painting technique used to accent walls
Underpainting	Creates pale, soft-focused version of the image on a textured background
Watercolor	Resemblance to watercolor painting; simplifies details
Blur Filters	
Submenu	Results
Blur	Softens brushstrokes and effects
Blur More	Increases the above effects by three or four times
Gaussian Blur	A more controllable blur; can be used to get rid of unwanted dots when scanning magazine images
Radial Blur	Blurs image to create appearance of spinning or zooming
Smart Blur	Blurs image more precisely; user can specify blur amount, radius, and so on
Motion Blur	Adds the appearance of motion to a stationary object