

ENGLISH 2950
Project 3
Visual Communication

- For Project #3 please find a webpage that you believe is ineffective. Using what you learned from your reading of Chapters 8 and 9 (*A Concise Guide to Technical Communication*), and your viewing of the documentary film *Art & Copy*, write a one page assessment of the site, discussing three or four changes you think would make it more effective. Attach a printed hard copy of the webpage with your assignment.

Page Layout and Document Design

Creating Visually Effective Documents

Formatting the Page Effectively

Using Typography Effectively

Providing Effective Search Options

Designing Electronic Documents

Creating and Using Style Sheets and Tools

Checklist for Page Layout and Document Design

Exercises

The Collaboration Window

The Global Window

Creating Visually Effective Documents

Like all decisions related to technical communication, page layout and document design are based on informed choices. You make decisions about fonts, format, headings, page size, and other aspects based on the document's audience and purpose. For example, imagine that you are asked to produce a brochure for a physician's office. The brochure's audience is patients who have a heart condition and may need a specific type of heart surgery. The brochure's purpose is to explain the procedure, answer frequently asked questions, and review the risks while reassuring patients.

Before you would even begin to think about what to write or how to format the document, you would do an audience and purpose analysis (see Chapter 2). If you learned that the brochure also needed to include a list of tasks, such as a checklist of actions patients need to take, you might also conduct a task analysis (explained in Chapter 3). Your analysis would yield important information. For example, you might learn that patients are frightened and that patients are often older and may have difficulty reading small type. These facts would be important not only as you wrote the copy but also as you thought about designing the document. Frightened patients might prefer to read a document that is soothing to look at. You could choose a comforting typeface, pleasant graphics, and a warm color for the paper. Also, because your audience has trouble reading small type, you would make sure the font is large enough to be read easily.

As you can see, document design, like all technical communication, puts audience and purpose first. In designing your document, consider the features discussed in this chapter.

How Page Design Transforms a Document

To appreciate the impact of page design, consider the fact sheets shown in Figures 8.1 and 8.2. The information presented in Figure 8.1 resists interpretation. Without design cues, we have no way of chunking this information into organized units of meaning. Figure 8.2 shows the same information after a design overhaul.



8.1

Examples
of
effective
page
design

How Readers View a Page

When you design information, consider how most readers look at a page. Generally, they view it first as a whole unit, scanning the page quickly to get a sense of the overall layout, look, and structure. Readers try to make sense of the document and determine its "road map." They ask questions such as these:

- What is the main title?
- What are the primary headings?
- Where are the tables and charts?

Mold is a public health problem. Molds are simple organisms that are found virtually everywhere, indoors and outdoors. The potential health effects of indoor mold are a growing concern. Mold can cause or worsen certain illnesses (e.g., some allergic and occupation-related diseases and infections in health care settings). There is not conclusive evidence, however, about whether indoor mold is associated with a multitude of other health problems, such as pulmonary hemorrhage, memory loss, and lack of energy.

The Centers for Disease Control has accomplished much on the problem. The CDC has a mold Web site (<http://www.cdc.gov/nceh/airpollution/mold>) that provides information on molds and health and links to resources. In conjunction with the Council of State and Territorial Epidemiologists, the CDC has created an inventory of state indoor air quality programs which is available at http://www.cdc.gov/nceh.airpollution/indoor_air.htm. The CDC assists states in responding to mold-related issues, including offering technical assistance with assessment, cleanup efforts, and prevention of further mold growth and unnecessary exposure. The CDC is strengthening state, local and tribal capacity to respond to mold-related issues, including: determining the extent to which state programs establish coordinated responses to indoor mold exposures, working with federal and other organizations to coordinate plans related to indoor air and mold, developing a coordinated public response strategy, and identifying resources for developing and implementing responses. The CDC is also developing an agenda for research, service, and education related to mold. As a first step, the CDC contracted with the Institute of Medicine (IOM) to conduct a study on the relationship between damp or moldy indoor environments and the manifestation of adverse health effects and to provide recommendations for future research. The CDC's mold-related agenda is expected to address subjects such as the following: characterizing environmental conditions that allow mold growth indoors and the association between indoor mold and disease or illness; improving the capacity of state, local, and tribal health departments to prevent, investigate, and control mold exposures; and conducting and supporting research to define the association between damp or moldy indoor environments and harmful health effects.

The next steps the CDC will take include assisting states and others in responding to mold issues and developing an agenda for research, service, and education related to mold as described above. For more information, visit <http://www.cdc.gov/nceh/airpollution/mold>.

May 2004

Figure 8.1 Ineffective Page Design. Notice that the entire page is in the same font and does not provide the reader with any guidance as to how the information is structured. A quick scan of this page imparts little new knowledge, if any.

By asking themselves these questions, your audience is trying to determine the *visual hierarchy* of the page based on its layout and design. The main items of importance should be in the primary headings and the secondary items in the second level of headings.

As you create your document, determine which subject areas constitute the main (first), second, or third level of headings. (More than three levels of headings can confuse your audience.) Make sure that headings at the same level use the same font and the same grammatical structure.



Mold

WHAT IS THE PUBLIC HEALTH PROBLEM?

Molds are simple organisms that are found virtually everywhere, indoors and outdoors. The potential health effects of indoor mold are a growing concern. Mold can cause or worsen certain illnesses (e.g., some allergic and occupation-related diseases and infections in health care settings). There is not conclusive evidence, however, about whether indoor mold is associated with a multitude of other health problems, such as pulmonary hemorrhage, memory loss, and lack of energy.

WHAT HAS CDC ACCOMPLISHED?

- CDC's Mold Web site (<http://www.cdc.gov/mold>) provides information on molds and health and links to resources. In conjunction with the Council of State and Territorial Epidemiologists, CDC has created an inventory of state indoor air quality programs, which is available at http://www.cdc.gov/nceh/airpollution/indoor_air.htm.
- CDC assists states in responding to mold-related issues, including offering technical assistance with assessment, cleanup efforts, and prevention of further mold growth and unnecessary exposure.
- CDC is strengthening state, local, and tribal capacity to respond to mold-related issues, including (1) determining the extent to which state programs establish coordinated responses to indoor mold exposures; (2) working with federal and other organizations to coordinate plans related to indoor air and mold; (3) developing a coordinated public response strategy; and (4) identifying resources for developing and implementing responses.
- CDC is developing an agenda for research, service, and education related to mold. As a first step, CDC contracted with the Institute of Medicine (IOM) to conduct a study on the relationship between damp or moldy indoor environments and the manifestation of adverse health effects and to provide recommendations for future research. CDC's mold-related agenda is expected to address subjects such as the following:
 - Characterizing environmental conditions that allow mold growth indoors and the association between indoor mold and disease or illness;
 - Improving the capacity of state, local, and tribal health departments to prevent, investigate, and control mold exposures;
 - Conducting and supporting research to define the association between damp or moldy indoor environments and harmful health effects.

WHAT ARE THE NEXT STEPS?

CDC will continue to assist states and others in responding to mold issues and develop an agenda for research, service, and education related to **mold** as described above.

For more information, visit <http://www.cdc.gov/mold>.

May 2004

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
SAFER • HEALTHIER • PEOPLE™

Figure 8.2 Effective Page Design. Notice that the first sentence of each paragraph has been recast as a question designed as a major heading. Note the use of bullets, white space, internal enumeration, and an identifying masthead at the top of the page, all of which make the material easier to read and remember. On the Web site, you will also notice the effective use of hyperlinks and color.

Source: Centers for Disease Control and Prevention, <http://www.cdc.gov/nceh/airpollution/mold/pib.pdf>.

Look back at Figure 8.2 for an example of a page that provides a clear visual hierarchy. Even if you view it from far enough away that you can't make out the actual words, you can still see that the page has a structure: main headings and explanatory text.

Electronic Pages

Readers view electronic pages much as they do the printed page. For instance, they skim the page looking for headings, tables, charts, main topics, and visuals, seeking the visual hierarchy. But with electronic pages, there are some important differences.

Web pages are often cluttered with too many links, flashing icons, and bright colors, more so than on a printed page because these features are easy to place on a Web site. If there are too many distracting features, however, readers often end up feeling disoriented or overwhelmed.

Computer screens are shaped very differently from the printed page, so items at the edge of the screen can get lost or become hard to track with the human eye.

Electronic text can be fuzzier than ink on paper. Also, electronic text is actually made up of tiny pixels and can appear to be moving or "buzzing" on the screen. Both of these characteristics make it harder to read information on a computer screen.

With these items in mind, make sure that electronic pages are designed for simplicity and ease of use. Keep text to a minimum, and don't overdo the fancy icons and flashing fonts.

Formatting the Page Effectively

The term *page* is imprecise when you consider electronic documents. What constitutes a page? On the computer screen, a page can go on forever. Also, *page* might designate a page of a report, but it can also refer to one panel of a brochure or part of a quick reference card. The following discussion focuses primarily on traditional paper (printed) pages. See "Designing Electronic Documents" later in this chapter for a discussion of pages in electronic documents.

The design and layout of a page play an important role in how your audience will react to and interact with the information. If a page is organized poorly, readers won't be able to find what they need. And if a page or document is unattractive, readers won't be enticed to explore it. Readers expect each page to be visually appealing, logically organized, and easy to navigate.

Page and document design is an art that takes practice. More and more software is being developed to help people with page layout and document design, but all the software in the world won't help unless you know something about how readers deal with text on a page.

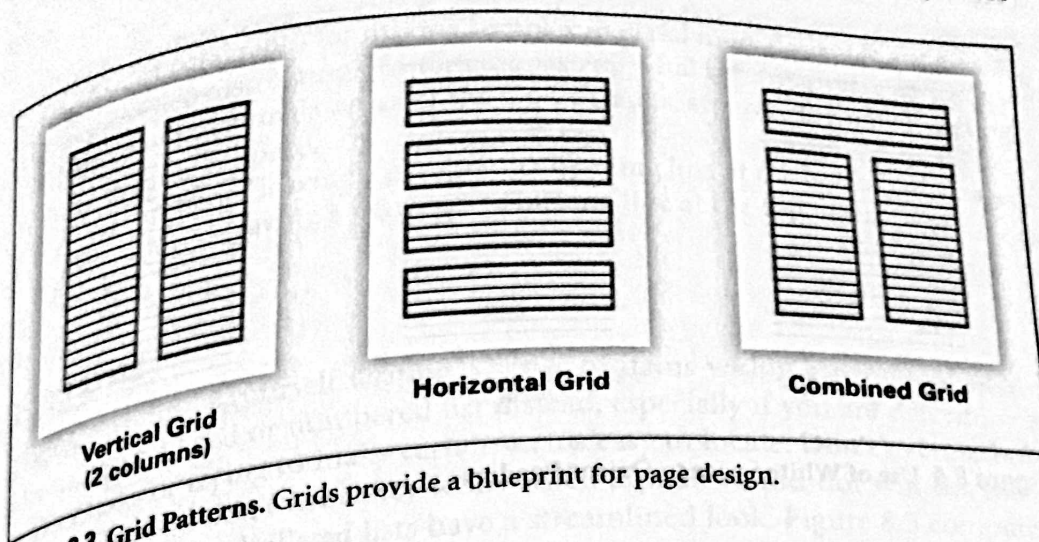


Figure 8.3 Grid Patterns. Grids provide a blueprint for page design.

Using a Grid Structure

Grids help readers make sense of material, because they create an underlying structure for the page. Figure 8.3 shows a sampling of grid patterns.

A two-column grid is commonly used in manuals. Brochures and newsletters typically employ a two- or three-column grid. Grids are used as frameworks or outlines to provide a coherent visual theme to a document. This consistent layout allows readers to anticipate what they will find on the next page. For instance, when reading a standard newspaper, you expect to find columns. When looking through a brochure, you expect the information to maintain a consistent look and feel throughout. Many page layout programs allow you to create grids easily and quickly. For instance, when using Microsoft Word, you can select “brochure” after you have selected “new document.” Word will automatically provide a template that has a proper grid structure.

Creating Areas of Emphasis Using White Space

Sometimes, it’s what’s *not* on the page that makes a difference. Areas of text surrounded by white space draw the reader’s eye to those areas, partially because the white space breaks up the regular visual pattern.

Well-designed white space imparts a shape to the whole document, a shape that orients users and lends a distinctive visual form to the printed matter by keeping related elements together, isolating and emphasizing important elements, and providing breathing room between blocks of information (see Figure 8.4).

Use white space to orient your readers. In the examples in Figure 8.4, notice how the white space pulls your eye toward the pages in different ways. In example 1,

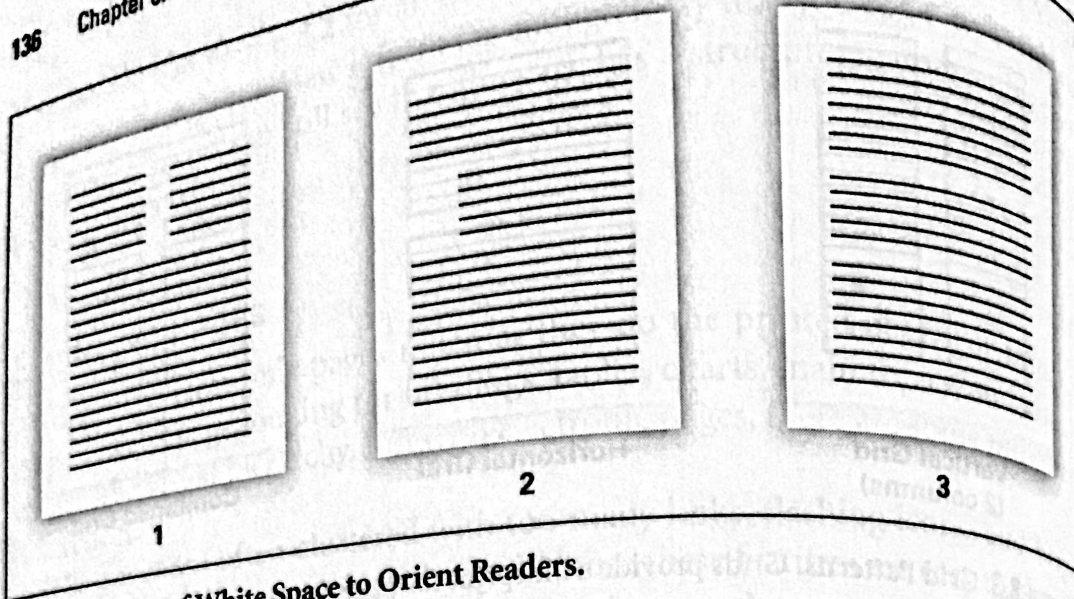


Figure 8.4 Use of White Space to Orient Readers.

your eye moves toward the “gutter” (the white space between the columns). In example 2, the white space draws you to the middle paragraph. In example 3, white space falls between each paragraph but is equally placed. Each example causes the reader to look at a different place on the page first. White space can keep a page from seeming too cluttered, and pages that look uncluttered, inviting, and easy to follow convey an immediate sense of user-friendliness.

Providing ample margins. Small margins crowd the page and make the material look difficult. On your 8½-by-11-inch page, leave margins of at least 1 or 1½ inches. If the manuscript is to be bound in some kind of cover, widen the inside margin to 2 inches.

Choose between unjustified text (uneven or “ragged” right margins) and justified text (even right margins). Each arrangement creates its own “feel.” Justified text seems preferable for books, annual reports, and other formal materials. Unjustified text seems preferable for more personal forms of communication such as letters, memos, and in-house reports.

Tailoring each paragraph to its purpose. Users often skim a long document to find what they want. Most paragraphs, therefore, begin with a topic sentence forecasting the content.

As you shape each paragraph, follow these suggestions:

- Use a long paragraph (no more than 15 lines) for clustering material that is closely related (such as history and background or any body of information best understood in one block).

Choosing Fonts for Readability

It is important to use font sizes that are easy to read. In some cases, there are standard guidelines that work well, such as using 12-point type for most papers, letters, and print correspondence. For electronic documents like Web pages, you should work with a Web designer to ensure that the fonts you use will be the same fonts that show up on your readers' browsers. Also, you can follow guidelines to ensure that your Web site can be accessed by visually impaired readers. Keep in mind, too, that a vast majority of the population in the United States is aging, and with aging comes the need for larger type sizes. For more about accessibility and Web sites, visit <http://www.w3.org/WAI/Policy>.

- Do not go below 12-point type for most body text. (You can use 10 point, but 12 is better.) In some typefaces, 12 point will be a bit small, so base your decision on how the font looks when printed or displayed.
- Make headings at least 2 points larger than body text.
- Double-space between lines of text.
- Use italics, boldface, and capital letters sparingly.

For overhead transparencies or computer displays in oral presentations, consider even larger sizes: 18- or 20-point type for body text, 20 points or larger for headings. On choosing type for computer displays, including Web pages, see the section "Designing Electronic Documents" later in this chapter.

Providing Effective Search Options

Nowadays when you think of search options, online searching via Google may be the first thing that comes to mind. But traditional features such as a table of contents and an index are key aids for readers who are searching for information on a particular topic.

Table of Contents and Index

The page layout and design process often involves creating a table of contents and an index (see Figure 8.8), especially for large reports, books, or similar publications. Even more than headings, tables of contents and indexes become the primary access points by which a reader will enter your text. Generally, readers start by checking the index. Next, they try the table of contents. If they still cannot locate the information, they begin paging through the material at random, hoping to find something.

Most computer programs can automatically generate a table of contents or an index. You insert markers (tags) in the document, and the software will look for the information in these tags and compile it into a table of contents or an index. The key to a successful table of contents and index, however, is not in the computer software but in knowing what categories, words, and topics your audience

TABLE OF CONTENTS		
PART A—CALCULATOR SIDE	PART B—WORD SIDE	
Time-Speed-Distance	3 The CR "Wind" Dice	30
Fuel Consumption	4 Addition - Subtraction	33
Conversions	5 Wind Solution on the CR	37
Weight of Fuel and Oil	6 Flight Planning with Forecast Winds	41
Altitude	7 Finding Winds in Flight	44
Density Altitude	8 True Course (Track) and Ground Speed	46
True Altitude	9 True Heading and True Air Speed	51
True Air Speed	10 Off-Course Correction	53
The CR Corner	11 Radius of Action	55
Mach Number	12 Wind Components for Takeoff and Landing	57
Temperature Rise		
"Old" Method - True Air Speed		
Pressure Pattern		
Slide Rule Use		
Time and Distance to Station		



Index

for *Netiquette* by Virginia Shea
published by Albion Books

- abbreviations
- Acceptable Use Policy
- Acknowledgments
- Adams, Douglas
- advertising
- advocacy newsgroups
- Agre, Phil
- Agre, Phil
- Albion Books
- Albion Books
- Albion Books
- alt.barney.dinosaur.die.die.die
- alt.fan.douglas-adams
- alt.feminism
- alt.flame.ball-of-flame
- alt.flame.roommate
- alt.flame.roommate
- alt.flame
- alt.tasteless

Figure 8.8 Table of Contents and Index.

Source: <http://www.acespilotshop.com/images/products/jeppesen/jeppesen-cr-2-computer-manual-table-of-contents.jpg>; <http://www.albion.com/netiquette/book/IX0963702513.html>

will search for when using these tools. Most of us have had the frustrating experience of trying to look something up in an index and discovering that the term we use is not the term the index uses.

It is best to have your table of contents reviewed by an editor (for problems with parallelism or gaps in coverage) and to have your index prepared by a professional indexer. Many companies have technical writers on staff who specialize in these areas. You can also hire freelance editors and indexers to do these jobs.

For examples and further discussion of tables of contents, see Chapter 12.

Running Heads and Feet

Running heads and feet in a printed document help readers stay oriented to the particular part of the book or manual. Figure 8.9 provides examples of each. The head would be the same on each page of this particular chapter, and the foot lets readers know the title of the book. Microsoft Word and similar programs let you create running heads and feet easily.

Electronic Searching

Readers search paper documents by using the table of contents, index, running heads and feet, and skimming the document to find the information they need. With electronic documents, searching can be done in many ways. Most programs

Figure 8
Source: M

0 hr ARPS forecast valid Tue, 14 Mar 2006, 6am CST (12Z) Surface Temperature

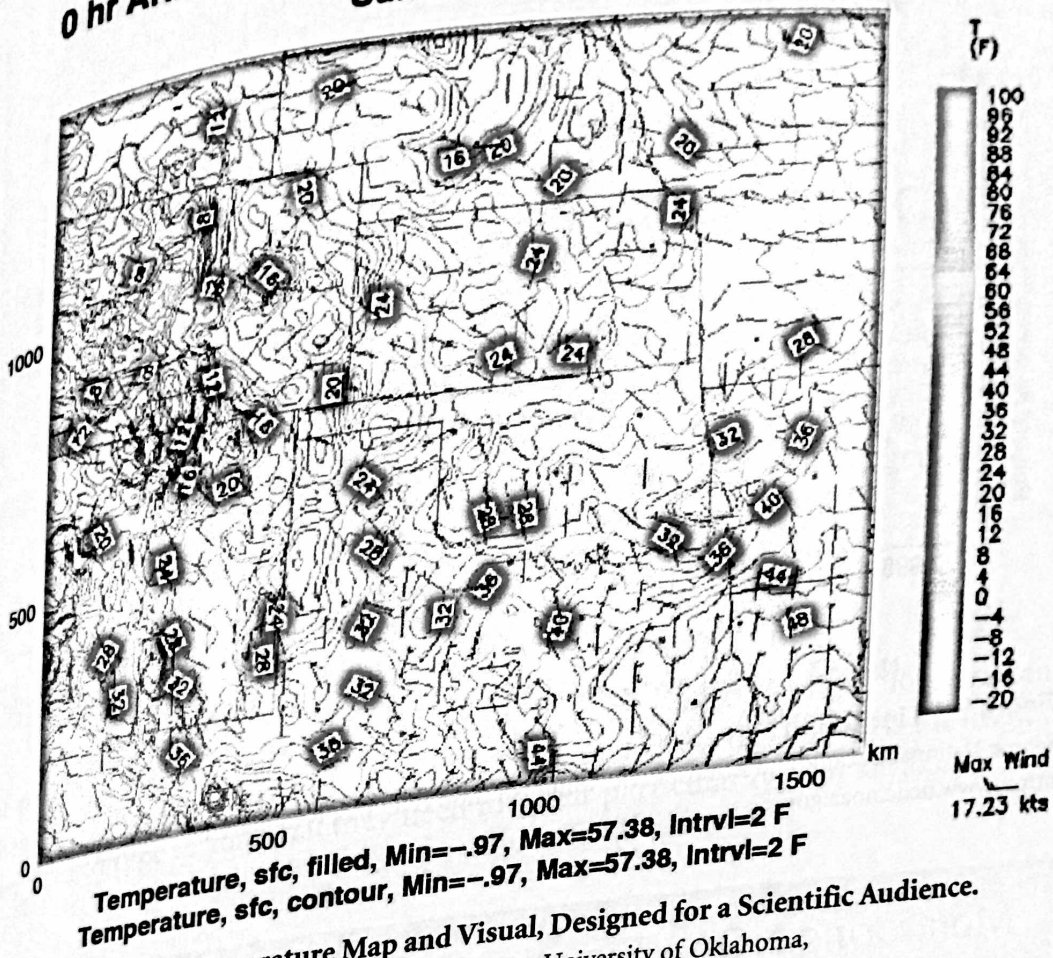


Figure 9.2 Surface Temperature Map and Visual, Designed for a Scientific Audience.
Source: Center for the Analysis and Prediction of Storms, University of Oklahoma,
<http://downdraft.caps.ou.edu/wx/p/r/spmeso/fcst/montage/t.png>.

In short, a visual's content must be familiar to the audience, and the type of visual must also be understandable.

Text into Tables

A table is a powerful way to illustrate dense textual information, such as specifications, comparisons, or conditions. Figure 9.4 shows a page from an instruction manual for a weather radio. In its purely textual form, this information is hard to follow, because readers have to jump back and forth between the sentences to compare the different conditions. But in a table format, parallel information can be listed in the same column and row, as shown in Figure 9.5.

The table shown in Figure 9.6 explains the various types of kayak paddles and provides an overview of the specifications for each. This tabular information is much more accessible than any text-based equivalent. Readers can select the general type

U.S. Percentage Area Wet or Dry January 1996 - February 2003

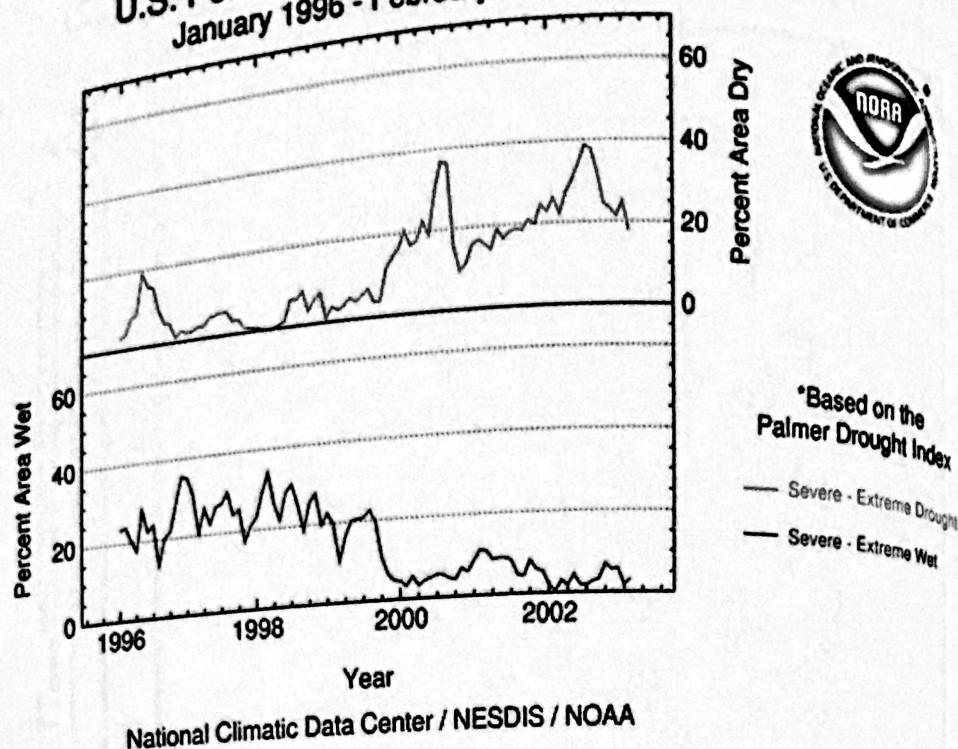


Figure 9.3 Line Graph for a General Audience.

Source: National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center, <http://www.ncdc.noaa.gov>.

Monitoring NOAA Signals

There are three different monitoring options: Mute, Standby and Speaker

 *Note: For all three of the following functions, the **OFF-ON** switch must be in the "On" position*

1. By switching the **MUTE/STANDBY/SPEAKER** switch to "Standby," your Oregon Scientific All Hazards Monitor will automatically sound the Emergency Alert Signal when it is broadcast, the speaker will automatically be turned on, and the red LED indicator will light.
2. By sliding the **MUTE/STANDBY/SPEAKER** switch to "Mute" the "ALERT" icon and red LED indicator will flash; however, the speaker will remain silent.
To listen to the Emergency Broadcast Message, you must manually slide the **MUTE/STANDBY/SPEAKER** switch to "Speaker."
3. By sliding the **MUTE/STANDBY/SPEAKER** switch to "Speaker," all NOAA current broadcasts will be audible.

Figure 9.4 Information from a Weather Radio Manual in Text Format.

Source: Oregon Scientific Inc., Portland.

Graphics and Visual Information

The Power of the Picture

When to Use Visuals

Different Visuals for Different Audiences

Text into Tables

Numbers into Images

Illustrations

Diagrams

Symbols and Icons

Wordless Instruction

Photographs

Maps

Visualization and Medical Imaging

Software and Web-Based Images

Using Color

Avoiding Visual Noise

Visuals and Ethics

Cultural Considerations

Checklist for Visual Communication

Exercises

The Collaboration Window

The Global Window

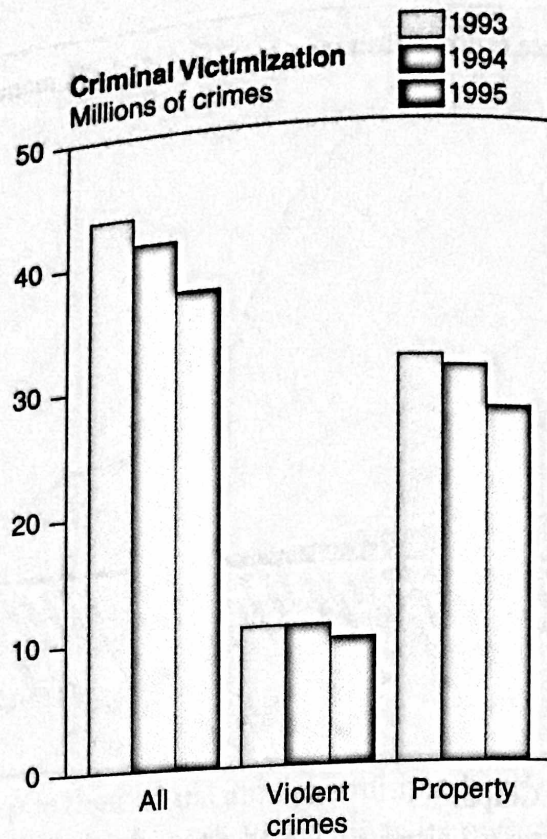


Figure 9.11 Multiple-Bar Graph.

Source: Bureau of the Census.

Pie chart. Pie charts are among the most common charts and are easy for almost anyone to understand. Pie charts display the relationship of parts or percentages to the whole. In a pie chart, readers can compare the parts to each other as well as to the whole (to show how much was spent on what, how much income comes from which sources, and so on). Figure 9.13 shows a pie chart created with a personal finance program. This chart makes it very clear that for this household, groceries are the largest annual expense. Figure 9.14 is an exploded pie chart created in a spreadsheet program. Exploded pie charts help call out, or highlight, the various pieces of the pie. Once you have created a chart like this, you can easily save it as an image and include it in a word-processing file (for a report) or as part of a Web page.

With pie charts, make sure the parts add up to 100 percent. Use different colors or shades to distinguish between parts and the whole, or differentiate by exploding out each pie "slice." Include a key to help readers differentiate between the parts, or label each slice directly. If most of the slices are very small or quite similar in size, consider using a different format, perhaps a bar graph.

Gantt chart. Gantt charts (named for engineer H. L. Gantt, 1861–1919) depict how the parts of an idea or concept relate to each other. A series of bars or lines (time lines) indicates beginning and completion dates for each phase or task in a project. Figure 9.15 is a Gantt chart illustrating the schedule for a manufacturing project.

Visualization and Medical Imaging

Certain techniques from science and medicine can provide powerful and useful visuals for technical communication. Visualization is a process whereby scientists load complex mathematical data into a high-speed computer, and the computer generates an image. The image becomes a tool that can be used to understand the data. For example, images of the surface of Mars are sent back as numbers. Complex software then takes this numeric information and creates an image. The structure of DNA, which is also represented mathematically, can be converted into a visual image that scientists use to envision how DNA works.

Similarly, medical images such as CAT scans, ultrasounds, and photographs of the inside of the body via a laparoscopic camera give us a picture of organs, muscles, and tissue not visible from outside the body. These images, which are often available on the Web, might be appropriate in a medical textbook or in a manual used by physicians to learn about a new imaging product.

Software and Web-Based Images

You can create most of the visuals discussed in this chapter with the wide assortment of computer graphics software, spreadsheets, presentation software, and related products available today. Also, you can find clip art, icons and symbols, medical images, and a vast assortment of other visuals on the Web. (See Chapter 7 for information on copyright and Web-based graphics.)

Consider taking a class in computer graphics. With the continued growth of the Web, the Internet, cable television, personal computing, and other visually based technologies, anyone's career can be enhanced by learning about visuals and computer technology.

Knowing about the following categories of computer software will definitely enhance your abilities as a technical communicator, whether this is your full-time job or just part of your job.

- *Graphics software*, such as Adobe Illustrator or CorelDraw, allows you to draw and illustrate.
- *Photography software*, such as Adobe Photoshop, allows you to work with photographs, scanned images, or other files (such as graphics files taken from the Web). You can manipulate these images to make them fit your document or to make them more appropriate for your audience and purpose. But don't change the items so much that you change the meaning.
- *Presentation software*, such as Microsoft PowerPoint, lets you create slides, computer presentations, and overhead transparency sheets. Other types of presentation software, such as Macromedia Director, are designed to create complex multimedia presentations that include sound and video.



9.3

Creating
graphics
for
Web use



Checklist for Visual Communication

- Does the visual serve a legitimate purpose (clarification, not mere ornamentation)?
- Is this the best type of visual for your purpose and audience?
- Is the level of complexity appropriate for the audience?
- Is the visual titled and numbered?
- Are all patterns in the visual identified by label or legend?
- Are all values or units of measurement specified (grams per ounce, millions of dollars)?
- Is color used tastefully and appropriately?
- Do the visual relationships represent the numeric relationships accurately?
- Are all data sources cited?
- Has written permission been obtained for reproducing or adapting a visual from a copyrighted source in any type of work to be published?
- Is the visual introduced, discussed, interpreted, integrated with the text, and referred to by number?
- Is the visual easy to locate?
- Is the visual uncrowded, uncluttered, and free of "visual noise"?
- Is the visual ethically acceptable?
- Does the document respect users' cultural values?



Exercises

1. Find an article in a newspaper, journal, or magazine that does not include visuals necessary to support the communication purpose or meet the audience's needs. Analyze the article, and identify where visuals would be helpful. Make a list of the visuals you would recommend to the article's author or the publication's editor.
2. From the list you drew up in Exercise 1, select two proposed visuals and create them using the graphics component of a word-processing program or graphics software. In a presentation to your class, explain how additional visuals would improve the usability of your article, and show the visuals you created.
3. **FOCUS ON WRITING.** Looking at printed materials and sites on the Web, find an example of each of the kinds of visuals discussed in this chapter (diagram, table, pie chart, simple bar chart, deviation bar graph, etc.). Critique each visual: Does it convey the information effectively? Would a different type of visual be more effective? Is visual noise distracting? What would you do to make the visual more effective or more appropriate to audience and purpose? Write up your findings as a short memo to your instructor.