n addition to structure and style, the use of audience-centered visuals is one of the four essential elements in technical communication. THE IMPORTANCE OF USING AUDIENCE-CENTERED VISUALS Visuals are important in print or digital documents, in oral presentations, and in multimedia programs for several reasons: they help readers interpret and remem- ber complex information; they show how items look or work; and they show how items are organized or actions are performed. Because they focus and organize complex information into more simplified form, visuals make data easier for readers to interpret and remember. Visuals work because readers want more than just raw information: they want the information presented so they can understand it at a glance. Consider, for example, how the following passage might be better presented using a visual: Visuals help readers interpret and remember complex information Technical data in prose form can be hard to interpret WHEN TO USE VISUALS Visuals should be used to enhance your document, not just to decorate it. There may also be organizational reasons for using visuals; for example, some companies may always expect photographs, charts, and graphs as part of an annual report. Certain industries, such as the financial sector, routinely use visuals (such as a line graph showing recent fluctuations in the Dow Jones Industrial Average). As discussed below, you may choose to use visuals to support the text of your document, or you may choose to use visuals on their own. Using Visuals to Support Text In many cases, visuals are an excellent way to support, but not replace, essential discussion in the actual text. For example, you may be writing about an impor- tant financial trend, describing features about the world economy, and making a case for financial reforms. A series of graphs or charts would augment, not substitute for, the text. In a situation like that, visuals would add to your discussion. Be sure to refer to each visual by number ("see Figure 1") in the text. Explain what the visual means; supply a caption for it; and place the visual as close as pos- sible to the text it supports. Use visuals to enhance, not decorate Explore the Concept with the Case Study on Visuals at mytechcommlab Use supporting visuals when you want to add to important textual discussion 123 Use visuals on their own when textual discussion is not necessary CHAPTER 8 Using Audience-Centered Visuals Using Visuals on Their Own In some cases, visuals may work well on their own, as when they make your point more clearly than text can. In situations like these, merely refer to the visuals that show readers what they need to see. For instance, to show how customers who have purchased your company's new plasma televisions break out by age group, don't list the percentages in a lengthy paragraph. Simply supply a chart or graph that conveys this data visually. When you use stand-alone visuals, make sure they tell the whole story you want readers to understand and that you introduce them clearly. If you need to explain how the visual should be interpreted, do so briefly in the figure's caption. TYPES OF VISUALS The most commonly used types of visuals are tables, graphs, charts, illustrations, diagrams, photographs, videos, symbols, and icons. The following sections describe each type. Tables Tables display organized data or information across columns and rows for easy comparison. Tables can be used to display quantitative information (numeric tables) or qualitative information (textual tables), or sometimes both. For specific advice on creating tables, see the annotations to Tables 8.1 and 8.2 and the Strate- gies on page 126. Numeric Tables. Numeric tables simplify complex quantitative information. Although text may be used in headings to organize the table, the primary purpose of the table is to show numbers and their relationships. Note in

Table 8.1 how the data are compared in a variety of ways and how a tally of the numbers and an explanatory caption further help readers understand and interpret the data. Textual Tables. Textual tables simplify complex qualitative information. Numbers may be used to help organize the textual information, but the primary purpose of the textual table is to show written information and relationships. Note how Table 8.2 simplifies written information that would be difficult to explain in paragraph form and uses a footnote to explain a nuance to Numeric tables focus on quantitative information Textual tables focus on qualitative Charts Charts depict relationships via shapes, arrows, lines, and other design elements. The terms "chart" and "graph" are often used interchangeably; technically, how– ever, a chart displays relationships (quantitative or cause–and–effect) that are not plotted on vertical and horizontal axes. Commonly used charts include flowcharts, pie charts, and organization charts. For more specific advice on creating charts, see the annotations to Figures 8.8 through 8.10 and the Strategies on page 131. Flowcharts. A flowchart traces a process or procedure from beginning to end, moving from top to bottom or from left to right and using connector bars to show relationships, as in Figure 8.8. Pie Charts. Easy for almost anyone to understand, pie charts are circular dia– grams that display the status of each "piece" of the "pie"—the percentage of the whole pie (which totals 100%) that each piece represents. Readers can compare the differently colored (or shaded) pieces to each other as well as to the whole. Figure 8.9 shows a basic pie chart comparing major food sources of trans fat for American adults. Organization Charts. An organization chart shows the hierarchy and relation– ships between different departments and other units in an organization, using a top–down series of boxes connected by arrows, as in Figure 8.10. Watch the Video on Creating Graphs and Charts at mytechcommlab Flowcharts show processes and procedures Pie charts show proportions among the segments Organization charts show relationships between departments or units SPECIAL CONSIDERATIONS WHEN USING VISUALS Once you are aware of the variety of visuals at your disposal, select those most appropriate for your audience and purpose, and consider how to integrate them within your document. Selecting Appropriate Visuals When selecting visuals for any document, first ask yourself this question: Who is my audience and what do they need to know? Generally speaking, expert audiences tend to prefer numerical tables, complex graphs and charts, and diagrams that they can interpret for themselves. Nonexpert audiences tend to prefer basic tables, graphs, and charts, uncomplicated illustra– tions and diagrams, and other visuals that direct their focus and interpret key points for them. If your audience is a combination of experts and nonexperts, you should err on the side of the nonexperts. Also be aware that your audience may include international readers or North American readers from different cultural backgrounds. When choosing icons or symbols, use those that are internationally recognized (when in doubt, check the International Organization for Standardization's Web site at). Also keep your visuals (including text within visuals) simple and basic and avoid images and colors that might unintentionally offend people from other cultures. If you are knowingly writing to members of a particular culture or nationality, search the Internet for more background on that audience Consider how each visual advances your purpose. For example, don't decide to use a bar chart just because you like its professional appearance; make sure the information or data you want to present is best served via a bar chart. Following are additional suggestions for fitting a visual to its purpose: ● To simplify complex numerical data or textual information,

use a table. To get your audience to draw conclusions from facts and figures, use a graph or a chart that shows comparisons. Place visuals close to their related topic in the text ● To show how parts make up the whole, use a pie chart. ● Toshowhierarchyandrelationshipsinanorganization,useanorganizationchart. ● To show steps in a process from beginning to end, use a flowchart. ● To show what something looks like, use an illustration or photograph. ● To show how parts fit together or operate, use a diagram or a photograph depicting a process. Placing, Cross–Referencing, and Presenting Visuals Place your visuals where they best serve the needs of your readers: as close as possible to the related discussion if they are central to that discussion or in an appendix if they are peripheral to your discussion. Introduce your visuals within the text by referring to them by number (Figure 1, Table 4, etc.), and explaining what they mean (e.g., "As Figure 3.4 shows . . ."), making sure that the Figure and Table numbers match the cross–references in the text. Make your visuals user–friendly in their pres– entation by framing them with plenty of white space, eliminating visual "noise" (excessive lines, bars, numbers, and inessential information), and sizing each visual for the right proportion and emphasis on the page. Using Color in Visuals Color focuses reader attention and helps readers identify various elements of a visual. Most of the software you will use to create visuals (e.g., Excel, PowerPoint) automatically adds color to charts and graphs. In an illustration or diagram you can highlight particular areas by using color against a more subdued background. When color is not available, try using grayscale shades. In some visuals, however, grayscale may not be effective: for example in a pie chart with numerous "slices" (see Figure 8.9), using slight gradations of gray may cause the slices to blend too closely. Likewise, in a multiple bar chart or multiple line chart (see Figures 8.5 and 8.7) you will want to sharply differentiate bars and lines. For more information on using color, see Chapter 9. Color helps focus your reader's attention information