

The Essentials of Technical Communication

THIRD EDITION

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compatible with using biodiesel, diesel still needs to be mixed with gasoline to run entirely on biodiesel.

reduce our dependence on fossil fuels. If we find an alternative, we will lessen our dependence on fossil fuels. The three approaches are: 1. Food crops and is not efficient. 2. Fuel cells are efficient procedure. Fuel cells are very efficient, but we still need to develop them. Therefore the most reliable fuel is gasoline. The renewable is not specifically food crops. Algae are easy to mass produce, yet Biodiesel could have an impact

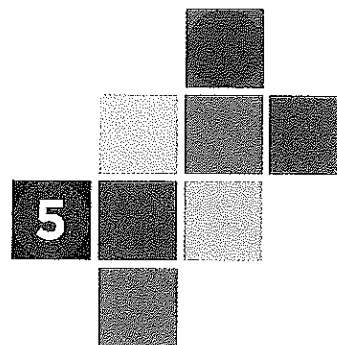
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<http://auto.howstuffworks.com/>

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energy.gov/afdc/fuels/biodiesel



Designing Documents

Effective writing is more than just choosing the right words. And it's more than just correct sentences organized in logical paragraphs. To be effective, your document must also look like it will be easy to read and easy to understand.

You have many choices about how a page or screen will appear to your readers. For example, you could integrate illustrations, include audio and video, incorporate links to pages or sites with more information, invite comments from your readers, or encourage readers to share your information through e-mail or social media. It is also easy to overwhelm and confuse your readers with these elements. This chapter will help you make the careful choices that allow for easy reading and navigation of your pages and screens.

Quick Tips

On the job, you will probably write and receive more e-mail messages than any other kind of document. And ordinarily you will be writing your messages and your readers will be receiving your messages on mobile devices. If you design your e-mail messages for quick and easy reading, your recipients will be able to decipher your intended meaning efficiently and respond readily and appropriately to your instructions, questions, and requests regardless of their location. Here are five simple guidelines to follow:

1. **Keep your messages brief.** E-mail is especially effective for brief messages that the recipient will read and reply to quickly. Long, scrolling messages with extensive detail are often better relegated to attachments that could be accessed and studied later.
2. **Use short paragraphs.** Short paragraphs separated by white space encourage quick reading and make it easy for your recipient to perceive and retrieve the chief points of your message.

3. **Use the subject line to specify your message.** A clear and specific subject line will preview your message for your recipients, making their reading easier and aiding their understanding. You will also be helping recipients to sort and find your messages later, especially if you write a separate message for each topic you address. If your message includes a sizable attachment that might be slow to access from a wireless mobile device, identify it here in brackets—[BIG DOC], [BIG PIC], [AUDIO], or [VIDEO]—so that your recipients know whether to look at it immediately or wait for a more convenient time.
4. **Use headings to identify the sections of your message.** Headings make it easier for your recipient to skim your message for its chief points and assist in later retrieval of specific information in your message.
5. **Ask simple yes/no questions.** Make it easy for your recipient to reply to your message with the briefest possible answer. For example, ask, "Should I . . . ?" instead of "How would you like me to handle this situation?" If a series of yes/no questions are necessary, number the questions.

UNDERSTANDING THE BASICS OF DOCUMENT DESIGN

Readers judge a document by how it looks as much as by what it contains. In fact, their earliest impression comes from the appearance of the document, not its content. A dense page of long paragraphs will often discourage or annoy readers even before they begin reading. A page designed to help readers locate important information, however, may add to the persuasiveness of your position or convince your readers to put a little more effort into finding what they need and understanding what they find.

Effective document design is built on principles of visual perception—on how human beings perceive and interpret visual information. For example,

- **Contrast:** Different items must be visibly different, especially more important and less important items.
- **Alignment:** Related items must be aligned with each other, and every item must be aligned with some other item (or risk looking misaligned).
- **Proximity:** Related items must be positioned close together.
- **Size:** Greater size implies greater importance.
- **Repetition:** Repetition of design creates unity and builds familiarity.

The following five guidelines will help you adapt the principles of perception to plan your document's visual design:

- Know what decisions are yours to make.
- Choose a design that fits your situation.
- Plan your design from the beginning.

message. A clear and specific message for your recipients, making understanding. You will also be able to read your messages later, especially if you address the topic you address. If your message might be slow to access from your recipients, you might want to put it in brackets—[BIG DOC], [BIG DOC]—so your recipients know whether to read it at a convenient time.

if your message. Headings make it easy for your recipient to reply to your message for its chief points and organization in your message. It is easy for your recipient to reply to your message. For example, ask, "You like me to handle this situation," and then, if necessary, number the questions.

DOCUMENT DESIGN

has by what it contains. In fact, the content of the document, not its content, discourages or annoys readers even when readers locate important information. Your position or convince your readers that they need and understanding

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and builds familiarity.

the principles of perception to

- Reveal your design to your readers.
- Keep your design consistent.

Know what decisions are yours to make. Many companies have a standard format or template for reports, letters, proposals, e-mail messages, and websites. Before you develop your document, determine the pertinent design requirements. Don't change the format arbitrarily just to be different. If you think the template you are supposed to use isn't appropriate for your audience and your message, find out who makes decisions on such design issues and make a case for the changes that you would like to see.

Keep in mind also that you don't have to use exotic or sophisticated software applications to apply basic principles of document design. The typical word processing program has all the functions you will likely need to create a visually effective document.

Choose a design that fits your situation. Don't make your document any more complex than the situation requires. You typically don't need a table of contents or a glossary for reports that are under five pages. Add appendices or multimedia only if this material is necessary and will be useful for your readers.

You'll impress readers most by providing just the information they need in a way that makes it easy for them to find it and understand it. Most people read technical and business documents selectively. They scan the document, looking for sections that are relevant to their needs. They try to grasp the main points quickly because they are busy and have far too much to read. Remember that your readers don't get paid to read documents: they get paid to make decisions and take actions. The more time needed to read your document, the less productive is their paid time on the job. And always keep in mind that they could be reading your document on their smartphones, tablets, or laptops while traveling to and from the job site, while sitting in meetings, and while multitasking in their offices.

For example, users working with a software application are unlikely to read the entire user's manual. They resort to the manual or to online help when they have a specific problem or need instructions for a specific task and can't figure it out by trial and error. They want to get to the right page or screen immediately. They want the instructions to stand out on the page or screen. Look at Figures 5-1 and 5-2. Notice how the numbered steps make for quick reading and easy understanding relative to the long and confusing paragraph of instructions.

Plan your design from the beginning. Before you start writing, carefully consider how you will organize and display your information. Ask questions like the following:

- How will your readers use the document? Will they read it from beginning to end? Will they want to skim it and grab the main points without reading more? Will they want to jump to a specific topic? Even if they read the document through once, will they want to come back later and find a specific point quickly?

- How familiar are your readers with the subject of the document? How much support will they need in understanding and navigating the information you offer?
- How familiar are your readers with the kind of document you are writing? Do they come to the document with certain expectations about how the information will be organized and exhibited?
- Will your readers view this document on paper or on a screen?
- Will your readers be stationary or mobile?
- Will your readers be focused or distracted in their attention to your document?

If, for example, readers are likely to skim your document, adding a table of contents, a subject index, and headings on every page will help them find information quickly. (The rest of this chapter includes techniques for developing effective designs to help people find what they need.)

If readers don't know much about the topic of the document, a glossary of keywords and abbreviations might be necessary. Illustrations or videos could also be important because such readers won't have a store of pictures in their minds on which to call for support. Links to pertinent interactive resources or social media sites might keep these readers attentive and engaged.

If readers are unfamiliar with a particular kind of document, they might benefit from a simple and explicit design that avoids distracting variations or unnecessary decorative elements. Experienced readers, however, might have rigid design expectations: for example, hiring managers assume that letters of application will

All managers must report on the achievement of sales targets by their full-time and part-time salespeople, specifically the number of salespeople meeting weekly, monthly, and quarterly sales targets. These figures are based on the official sales targets issued by the vice president of Merchandising and the number of full-time and part-time salespeople identified by Human Resources as assigned to each department at the beginning of the reporting period. To submit reports, start by logging in to your digital profile in Corporate Measures (<http://www.corporatemeasures.com/login/managers>). Then, in the Manager section, select Weekly, Monthly, or Quarterly Sales Report, as appropriate. Next, in the Department section, locate each department managed during the reporting period and choose the pencil icon to edit the information for that department. Then, in the list of information for each department, scroll to Sales Targets. Then enter the appropriate figures for both full-time and part-time salespeople. Finally, in the adjacent text box, explain anything new or different during this reporting period that might be related to the achievement of sales targets (e.g., special promotions, changes in aisle displays, suggestive selling techniques).

FIGURE 5-1 Instructions in Ineffective Paragraph Style

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All managers must report on the achievement of sales targets by their full-time and part-time salespeople, specifically the number of salespeople meeting weekly, monthly, and quarterly sales targets.

These figures are based on

- a. official sales targets issued by the vice president of Merchandising
- b. the number of full-time and part-time salespeople identified by Human Resources as assigned to each department at the beginning of the reporting period

To submit reports,

1. Log in to your digital profile in CorporateMeasures (<http://www.corporatemeasures.com/login/managers>).
2. In the Manager section, select Weekly, Monthly, or Quarterly Sales Report as appropriate.
3. In the Department section, locate each department you managed during the reporting period and choose the pencil icon to edit the information for that department.
4. In the list of information for each department, scroll to Sales Targets.
5. Enter the appropriate figures for both full-time and part-time salespeople.
6. In the adjacent text box, explain anything new or different during this reporting period that might be related to the achievement of sales targets (e.g., special promotions, changes in aisle displays, suggestive selling techniques).

FIGURE 5-2 Instructions in Effective List Style

adopt a standard format of business correspondence (with return address, salutation, signature, etc.) and are usually annoyed with applications that violate their expectations.

If the document is going to be read on a screen, you may have both more constraints and more choices than if the document were printed on paper. Illustrations and color will be easier and less expensive to include in a digital document than in a paper document. Readers can also typically adjust the size of text on a screen to their level of comfort, which could easily disrupt your intended spatial relationship of words and images on the screen.

If readers are mobile, your document could be competing for their attention with all the distractions in their changing environment. In this case, headings,

lists, illustrations, and white space will help readers to keep track of their location in your document and to recognize key items of information.

Reveal your design to your readers. Research on how people read and process information shows that readers must see how information is organized in order to make sense of it. That is, as you read, you try to do two things at the same time: you try to make sense of the passage you're reading and you try to make sense of how this passage fits with previous passages and what it contributes to the entire document. The more difficult it is to do one or the other, the more difficult the document is to read.

Tables of contents and headings reveal the organization, scope, and direction of your document and give readers a clear overview or map with which to proceed. Using headings (at least one on every page or screen) in a memo, e-mail message, or brief report will show the structure and logic of the discussion and help readers recognize, remember, and retrieve your major points. Longer documents definitely need headings and a table of contents that lists the headings. In digital documents, a table of contents typically links to the pages listed.

Keep your design consistent. Consistency in design makes for easy reading. When you have considered your audiences, the information you have to deliver, and the ways that people will read and use your document, you must develop a page or screen design that will work for your situation. Once you have decided on the appropriate design, don't change it for arbitrary reasons. You want your readers to proceed confidently and comfortably through the document. You want them to know immediately when they are beginning a new section or when they are in another part of the same section because they recognize the differences in the design of the headings at each level.

To achieve this consistency, identify the different types of information in your document and use the styles function of your word processing program to duplicate the design. First, think about all the types of information you will need to display, such as paragraphs, quotations, lists, examples, equations, formulas, and various levels of headings. Second, plan a design that always shows the same type of information in the same way throughout your document. The design could include the type size, the typeface (or font), the placement of an element on the page or screen, whether the text has a border (also called a "line" or a "rule") over or under it, whether the text and headings are bold or italic, the amount of space that comes before and after a heading, the style of the text that follows each kind of heading, and so forth. Third, use the style function of your word processing program to label and fix the design of each type of information.

Figure 5-3 shows a letter using document design to reveal the content and the relationships among the sections. This example shows how any document, including routine letters and memos, will benefit from the use of a consistent design.



FIGURE 5-3

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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention

March 18, 2011

Dear Colleague,

April is STD Awareness Month, an annual observance to raise public awareness about the impact of sexually transmitted diseases (STDs) on the lives of Americans and the importance of discussing sexual health with healthcare providers and sex partners. This letter summarizes CDC activities and resources that we hope will complement and support your local activities.

CDC's Public Health Grand Rounds on Chlamydia

The Division of STD Prevention (DSTDP) participated in a series of presentations for the CDC Public Health Grand Rounds on Chlamydia last May. A forthcoming article in the Morbidity and Mortality Weekly Report (MMWR) will reprise these presentations.

The GYT: Get Yourself Tested Campaign

CDC is again partnering with MTV, the Kaiser Family Foundation, Planned Parenthood Federation of America, and others to bring attention to the epidemic of STDs in the United States. This year the GYT website is offering resources for providers to help them better serve teen and young adult patients. The GYT provider site addresses young people's common STD-related misconceptions and offers simple answers to patients' questions. The website features CDC's 2010 STD Treatment Guidelines, reference guides and charts (e.g. STD basics, who should be tested for what, where, and when); resources for talking to patients about sexual history and STD testing; training resources; and GYT materials for your office or clinic. You are invited to a March 24th webinar to learn about this year's updates to the GYT campaign (prior registration is required).

National HIV and STD Testing Resources

CDC continues to update its interactive STD and HIV testing locator on the National HIV and STD Testing Resource website www.findSTDtest.org. If you have not already done so, please check to be sure your clinic(s) are included in the database and that the information about them is current. Since the findSTDtest.org website will be promoted throughout April as a source for STD testing locations, we want to ensure that the information is accurate. Please contact Rachel Kaohur (rik4@cdc.gov) if you need assistance updating your information.

STD Awareness Resource Site

CDC's STD Awareness Resource Site (formerly the STD Awareness Month website) has been updated for 2011 and provides our STD prevention partners with information and tools to support your local STD Awareness Month activities all year round. Included on this site are resources for developing STD-related health communication and social marketing campaigns. Additionally, there is a media kit that includes sample press releases, public service announcement scripts, and tips for media outreach. Widgets to

FIGURE 5-3 Letter That Uses Document Design Principles

provide zip-code-based locator information for STD testing sites are available for download.

STD Prevention Materials

CDC is providing approximately 5,000 GYT clinic kits to state and local health departments. These kits will arrive by the end of March to the addresses provided by those who ordered them. If you have not ordered kits or need additional kits, you can download the kit materials and additional electronic resources now at the [GYT Toolkit tab](#) on the GYT website.

CDC STD Fact Sheets are available for [download](#) and local printing and are designed to print in either black and white or in color.

The following printed materials are available for shipment to you without charge through our [online ordering page](#):

- STD "The Facts" brochure series. This award-winning series of brochures is available in English or Spanish, and is written in plain language. The brochures are available to health departments and other partners and may be ordered in quantities up to 500 per brochure. Electronic copies in PDF format can also be found on the STD Awareness Resource Site.
- *A Guide to Taking a Sexual Health History*. This practical guide is a good resource to share with healthcare providers in your community, especially if you are making them aware of STD Awareness Month activities. Five copies of this guide are included in each GYT clinic kit.
- The *2010 STD Treatment Guidelines* will be available soon for ordering in hard copy, wall chart, and pocket guide formats.

The Division of STD Prevention's Twitter account

The Twitter account [@CDCSTD](#) now has over 2,700 followers, is following more than 200 individuals and organizations, and is included in nearly 200 lists. It is now verified and listed as an official HHS Twitter account.

I look forward to hearing from you about your successes with your STD Awareness activities, not only in April, but throughout the year. Many thanks for your hard work and persistent efforts toward reducing the burden of sexually transmitted diseases on the American people.

Sincerely,

/Gail Bolan/

Gail Bolan, MD
Director, Division of STD Prevention
National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention

FIGURE 5-3 *continued*

DESIGNING EFFECTIVE PAGES AND SCREENS

Visually effective pages and screens are designed on a grid so that readers know where to look for information. Using space inside the text, around the graphics, and in the margins will keep pages uncluttered and information easy to locate. The right line length and margins will also help people read easily. The following suggestions will help you develop visually effective pages and screens:

- Use blank space to frame and group information.
- Set the spacing for easy reading.
- Use a medium line length.
- Use a ragged right margin.
- Position words and illustrations in a complementary relationship.

Use blank space to frame and group information. Don't think of blank space as wasted or empty space. Space is a critical element in design for both paper and screens because it makes information easier to find and read. Look at Figures 5-4 and 5-5. Which do you think is easier to read?

You can incorporate blank space into documents in several ways. A critical location for blank space is at the margins. Here, blank space serves to enclose and contain the information and keep the page or screen from looking crowded and chaotic. Clear and generous margins make your information look organized and coherent.

If your document will be read on paper, also think about how it will be bound. If you are putting your work in a binder, be sure to leave room for the binding so that holes don't punch through the text. Similarly, think about whether a reader will want to punch holes in a copy later or put the work in a binder. On a standard 8½ by 11-inch page, use the following margins:

top margin	1 inch
bottom margin	1 inch
left margin	1 inch, if material is not being bound 1½ inches, if material is being bound
right margin	1 inch

If you are going to photocopy on both the front and back of the page, leave space for the binding in the left margin of odd-numbered pages and in the right margin of even-numbered pages. Word processing programs allow you to choose mirror margins so that they alternate for right-hand (odd-numbered) pages and left-hand (even-numbered) pages. If you cannot set alternating margins, set both the right and the left margins at about 1½ inches to allow for binding two-sided copies.

The space in the margins is important, but it's not enough. Graphic designers call margins *passive space* because margins only define the block of the page or screen for readers. Graphic designers know that *active space*—the space inside the

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TO: All Department Heads

SUBJECT: New Media Request Procedures

A recent study of our media center request procedures indicates that we are not fulfilling media requests as efficiently as possible. A number of problems surfaced in the study. First, many requests, and particularly special requests (e.g., poster printing, laminating, close captioning of audio/videocasts, audio/video editing) are submitted in the evening after the media center has closed for the day or in the early morning before it has opened. As a result, the media center has an enormous backlog of orders to fill before it can begin servicing the orders submitted after 8:30 A.M., when it officially opens. This backlog may throw the center two or three hours behind schedule. Media requests submitted throughout the day cannot be completed promptly. By 2:00 P.M., requests submitted may not be filled that same day. If special orders arrive unexpectedly, even a routine copy request may take two business days to complete.

To remedy the situation, we will change to the following media request procedure beginning Monday, February 3. The media center will close at 3:00 every afternoon. Two employees will work at the center from 3:00 until 5:00 to complete all routine orders by 5:00. If you submit requests by 3:00, the center will have them ready by 5:00. In short, all requests will be filled the day they are submitted. However, do not leave requests after 3:00, as these will not be processed until the following day. However, we guarantee that if you submit your request between 8:00 and 3:00, you will have it fulfilled that day.

Special requests—including over 100 copies of one item, single/multiple copies of any document over 50 pages, front/back copying of one item up to 50 copies, poster (large-scale) printing, laminating, jobs involving trimming or folding, close captioning of audio/videocasts, and audio/video editing—will require that notice be given to the media center at least one day in advance (more time for unusual projects such as audio/videocasts in excess of five minutes or close captioning in multiple languages). That way, the center can prepare for your request and be sure to have it ready for you.

A copy of the special request form is attached to this message. Please complete this form and e-mail it to Lydia Schlosser at the media center (at mediarequest@crsu.edu) so that she can schedule all special jobs. If you submit a special request without having completed the form, your project will be completed after all other special requests are completed.

Allow plenty of time for routine jobs—at least two hours, and three if possible. Beginning February 3, give all media requests to the receptionist in the media center. Be sure you attach complete instructions. Give your name, employee number, e-mail address, and department. Describe the project in detail, such as the number of copies required, paper color, collating and binding for multipage copies, color or black and white printing.

Pick-up procedures also change February 3. All jobs, after they are complete, will be placed in each department's mail box. No jobs will be left outside the media center after closing time. No jobs will be left with the receptionist. Large orders that will not fit mail boxes will be delivered to your office. Electronic projects will be delivered to the e-mail address listed on the request form.

If you have questions about this new procedure, please contact Lydia Schlosser (by voice or text) at 742-2500.

FIGURE 5-4 Memo That Violates Format Guidelines

TO: All Department Heads
DATE: January 23, 2014
FROM: Lydia Schlosser
SUBJECT: New Procedures for Ordering Jobs from the Media Center

EFFECTIVE DATE: MONDAY, FEBRUARY 3, 2014

To handle orders more quickly and efficiently, the Media Center is changing its procedures. Please inform everyone in your department and ask them to follow these new procedures.

Special Orders versus Routine Requests

Decide if you have a special order or a routine request. A special order is

- over 100 copies of one item
- single/multiple copies of any document over 50 pages
- front/back copying of one item up to 50 copies
- poster (large-scale) printing
- laminating
- jobs involving trimming or folding
- close captioning of audio/videocasts
- audio/video editing

Procedure for a Routine Request

1. Attach complete instructions to your request. Include
 - your name, employee number, e-mail address, and department
 - project details such as number of copies
 - special instructions such as collating and binding for multipage copies
2. Give all routine requests to the receptionist in the Media Center.
3. Allow 2 hours for your order to be filled.

NOTE: Routine requests submitted between 8:00 A.M. and 3:00 P.M. will be processed by 5:00 P.M. on the same day.

Procedure for a Special Order

1. Fill out the attached Special Order form.
2. E-mail the completed form to mediarequest@crsu.edu at least one day in advance of the day you need the job completed (two days in advance for unusual projects such as audio/videocasts in excess of five minutes or close captioning in multiple languages).

NOTE: This will allow us to schedule your job with the appropriate staff and equipment and complete your job promptly.

The Copy Center will close at 3:00 P.M. Orders submitted after that time will be processed the next business day.

Copy Pick-Up Procedures

Jobs will be delivered to your department's mailbox. If the order is too large for the mailbox, it will be delivered to your office. Electronic jobs will be delivered to your e-mail address.

If you have questions, call or text Lydia Schlosser at 742-2500.

FIGURE 5-5 A Revision of Figure 5-4

text—makes the real difference in designing effective pages or screens. Blank space helps readers to find information quickly, keep track of the location of information, process the information in identifiable chunks, and retrieve the information later.

Here are three techniques to bring active space to your pages and screens:

- Use headings frequently (and at least once per page or screen). Put each heading above the text or to the left of the text with an extra line of space before the heading to separate it visually from the preceding text.
- Use bulleted lists for three or more parallel points. Use numbered lists for steps in instructions. Lists are often indented inside the text, and each item may be separated from the others by blank space.
- Separate paragraphs with extra blank space, or indent the first line of each paragraph. In digital documents, make your paragraphs even shorter than you would in paper documents so that there is notable space even on the small screens of mobile devices. On a smartphone or tablet, one instruction or one short sentence may make an appropriate paragraph.

Space the lines of text for easy reading. It's customary in paper documents to use single spacing. (For a brief letter or memo of a single paragraph, double spacing is appropriate.) When you use single spacing, insert an extra line between paragraphs.

Drafts of documents submitted for review and editing are often double-spaced to give writers and editors more room in which to write corrections and notes. When you use double spacing in drafts, you need to have some way to show where new paragraphs begin. Either indent the first line of each paragraph or add an extra line between paragraphs.

For documents that will be read on screens, use single spacing, with an extra line inserted between paragraphs. Double spacing is rarely used for continuous text on the screen because it increases the need for scrolling through the document: a typical screen displays only a portion of what a paper page does, especially the screens on mobile devices.

Adjust the line length to the size of the page or screen. The number of words that fit on a line depends in part on the size and style of type that you are using. Long lines of text fatigue readers and make them lose their place in moving from the right margin back to the left margin of the next line. Short lines are also difficult to read because readers are almost continuously shifting their eyes from the right margin to the left margin of the next line with little time for moving across each line. Figure 5-6 illustrates the problems with both long and short lines of text.

Use a ragged right margin. Although text is almost always lined up on the left margin, it is sometimes also aligned on the right margin, creating a tidy rectangle of text. The text of this book, for example, aligns on both the left and the right

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ost always lined up on the left :gin, creating a tidy rectangle n both the left and the right

Long lines of type often prove challenging for people to read. The problem is that readers find it difficult to get back to the correct place at the left margin. They may find themselves inadvertently skipping a line or rereading the same line. If they make this mistake more than once or twice, they may get tired or annoyed and stop reading altogether. The smaller the type, the harder it is for most people to read long lines of type.

Very short lines
of type can look
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difficult because
readers must
work harder to
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coherent groups.

FIGURE 5-6 Line Length

Very long lines and very short lines are hard to read.

margins. Most of the examples in the figures in this chapter, however, align on the left but not on the right. The technique of making all the text align exactly on both the left and the right margin is called *justifying the text*. If the text aligns on the left but not on the right, it has a *ragged right margin*.

Justified type gives a document a formal appearance, whereas ragged right type gives a document a friendly, informal feeling. Justified text is often more difficult for readers because every line is the same length, thus eliminating a visual signal that helps readers both to keep track of each line and to locate the next line of text. Digital documents ordinarily have ragged right margins in order to make reading on screens of various sizes as easy as possible.

Position words and illustrations in a complementary relationship.

The visual and verbal information in your document must reinforce each other, working together to communicate your message. Position each illustration as close as possible to the text that relates or refers to it. Keep in mind also that readers will typically examine the illustrations on a page or screen before giving their attention to the words in captions, headings, and paragraphs. Make sure the text adjacent to each illustration supports the message of the illustration and doesn't lead to misinterpretation. Notice, for example, how the position of the diagram in Figure 5-7 could cause readers to think it displays the kind of extension cord that ought to be discarded instead of the kind with desired safety features. A quick fix here would be to change the neighboring heading to "Look for Key Safety Features" so that the words truly complement the diagram.



CPSC Safety Alert

Household Extension Cords Can Cause Fires

Choose the right extension cord for the job, and use it as specified. Extension cords can overheat and cause fires when used improperly. Overheating is usually caused by overloading or connecting appliances that consume more watts than the cord can handle. Damaged extension cords can also cause fires. Extension cords should only be used temporarily. Protect young children by keeping them away from extension cords and unplugging the cords when not in use.

Overheating or Damage

- Overheating can occur at the plug, at the socket, or over the entire length of the cord. Hot plugs and sockets are often caused by deteriorated connections to the cord's wires.
- Look for visible signs of excessive wear or damage to the plug, sockets or insulation. Replace damaged extension cords.

Prevent Overloading

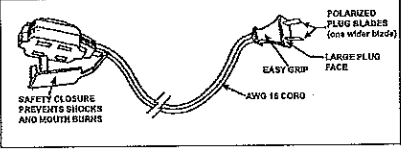
- If any part of the extension cord is hot while in use, it is a warning sign that it may be overloaded. Check if the extension cord is properly rated for the products that are plugged into it. Also, inspect the cord along its entire length to ensure it has not been damaged.
- Do not overload your extension cord by using it to power appliances beyond its capacity. You can check its capacity, or rating, by looking at the tag on the cord or its packaging.

Protect Extension Cords from Damage

- Do not run extension cords under carpets, through doorways or under furniture.
- Only use an extension cord outdoors if it is marked for outdoor use.
- Never alter a cord to change its length or perform inadequate repairs such as taping up damaged insulation. Do not trim, cut or alter the plug blades in any way.
- Unplug an extension cord when it is not in use. The cord is energized when it is plugged in and can overheat if shorted.

Discard Older Extension Cords

- Discard cords that are old and/or are missing important safety features, including safety closures, polarized blades and a large plug face that covers the outlet's slots and is easy to grasp to unplug.
- Extension cords should be at least 16 AWG, unless they are 18 AWG with fuse protection. AWG refers to the size of the wires in the cord. The wire size is imprinted on the cord's surface.



Check cords to make sure they have been listed by a recognized national testing laboratory, such as Underwriters Laboratories (UL), Intertek (ETL) or CSA-International (CSA).

Publication 5032 009810 042012

U.S. CONSUMER PRODUCT SAFETY COMMISSION • (800) 638-2772 • www.cpsc.gov • www.SaferProducts.gov

FIGURE 5-7 Ineffective Word-Illustration Relationship

The diagram and adjacent heading communicate opposite messages instead of reinforcing each other.

HELPING READERS LOCATE INFORMATION

To help your readers find what they need and make sense of what they find, you must plan a useful structure for your document and make that structure evident to your readers. In the previous sections of this chapter, we showed you how to use

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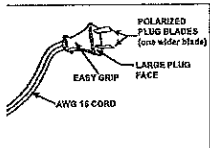
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page layout and fonts to make your document clear and easy to use. In this section, we explain how to give your readers signs of your document's overall structure.

On the job, readers of technical and business documents rarely examine every page; instead, they read selectively. They may glance over the table of contents to see what the document is about and then pick and choose the sections to read by finding headings that match their needs and interests. They may go straight to the search function for digital documents (or the index of paper documents) to locate a specific topic. They may skim through the document, stopping only when a heading or example or illustration strikes them as important. They may go back to the document later to retrieve or verify specific facts. Long reports or proposals may be divided among several readers, with each reviewing the section pertinent only to his or her field (e.g., accountants checking the budget, engineers examining the schematics, managers assessing the timeline) before coming together to discuss the subject of the document or sharing comments and questions through a wiki or e-mail list.

Following are four ways to help your readers find information easily:

- Use frequent headings.
- Write descriptive headings.
- Design distinctive headings.
- Use page numbers and headers or footers.

Use frequent headings. Frequent headings help readers know where they are in a document at all times. In a report, for example, you want a heading for every section and subsection, with at least one heading on every page or screen. You want to keep each topic short (one to three paragraphs) and give each topic a heading.

Write descriptive headings. *Headings* are the short titles that you use to label each section and subsection of your document. Even brief documents, such as letters and e-mail messages, can benefit from headings. Compare Figures 5–8 and 5–9 to see how useful headings are in a brief message.

Headings are the roadmap to your document, identifying the key topics and revealing the direction of thought.

These five suggestions will help you write useful headings:

- Use concrete language.
- Use questions, verb phrases, and sentences instead of nouns alone.
- Use standard keywords if readers expect them.
- Make the headings at a given level parallel.
- Make sure the headings match any list or table of contents in the document.

Use concrete language. Generic headings such as "Introduction" or "Conclusion" give no indication of the topic you are discussing. Make your headings specific to your document. Make your headings reveal the subject and claims of your document. Readers should be able to read only your headings, without any of the accompanying text, to get a clear sense of your overall message.



UNITED STATES OF AMERICA
FEDERAL TRADE COMMISSION
WASHINGTON, D.C. 20580

Division of Advertising Practices

Mary K. Engle
Associate Director

February 19, 2013

Petty Tsay Rader, Esq.
Munchkin, Inc.
16689 Schoenborn Street
North Hills, CA 91343

Re: *Munchkin, Inc.*, FTC File No. 122-3165

Dear Ms. Rader:

As you are aware, the staff of the Division of Advertising Practices of the Federal Trade Commission investigated Munchkin, Inc. for possible violations of Sections 5 and 12 of the Federal Trade Commission Act, 15 U.S.C. §§ 45, 52. Our investigation concerned Munchkin's advertising (including labeling) for the Sesame Street® Chilly Ring Teether, which is filled with a blend of water and propylene glycol. Our inquiry focused on Munchkin's statement that the product is "water-filled," among others. Upon careful review of the matter, including non-public information submitted to the FTC, we have determined not to recommend enforcement action at this time. The factors we considered in making this determination included the limited nature of the advertising containing the claims at issue and Munchkin's voluntary action to modify all advertising (including labeling) to ensure compliance with the FTC Act. In particular, the company has stopped characterizing its product as "water-filled."

We appreciate Munchkin's cooperation in resolving this matter. The staff encourages Munchkin to exercise caution in future advertising when describing the contents or otherwise characterizing the safety of a product.

This action is not to be construed as a determination that a violation of law did not occur, just as the pendency of an investigation should not be construed as a determination that a violation has occurred. The Commission reserves the right to take such further action as the public interest may require.

Very truly yours,

Mary K. Engle
Associate Director
Division of Advertising Practices

FIGURE 5-8 Letter That Lacks Headings



UNITED STATES OF AMERICA
FEDERAL TRADE COMMISSION
WASHINGTON, D.C. 20580

Division of Advertising Practices

Mary K. Engle
Associate Director

February 19, 2013

Re: *Munchkin, Inc.*, FTC File No. 122-3165, Closing of Investigation

Dear Ms. Rader:

As you are aware, the staff of the Division of Advertising Practices of the Federal Trade Commission (FTC) investigated Munchkin, Inc., for possible violations of Sections 5 and 12 of the Federal Trade Commission Act, 15 U.S.C. §§ 45, 52. Our investigation concerned Munchkin's advertising (including labeling) for the Sesame Street® Chilly Ring Teether, which is filled with a blend of water and propylene glycol. Our inquiry focused on Munchkin's statement that the product is "water-filled," among others.

FTC will take no action now

Upon careful review of the matter, including nonpublic information submitted to the FTC, we have determined not to recommend enforcement action at this time. The factors we considered in making this determination included the limited nature of the advertising containing the claims at issue and Munchkin's voluntary action to modify all advertising (including labeling) to ensure compliance with the FTC act. In particular, the company has stopped characterizing its product as "water-filled."

Munchkin will exercise caution in future advertising

We appreciate Munchkin's cooperation in resolving this matter. The staff encourages Munchkin to exercise caution in future advertising when describing the contents or otherwise characterizing the safety of a product.

FTC could take action later

This action is not to be construed as a determination that a violation of law did not occur, just as the pendency of an investigation should not be construed as a determination that a violation has occurred. The commission reserves the right to take such further action as the public interest may require.

Very truly yours,

Mary K. Engle
Associate Director
Division of Advertising Practices

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FIGURE 5-9 Revision of Figure 5-8

Use questions, verb phrases, and sentences instead of nouns alone. The best way to write headings is to put yourself in your readers' place. Will readers come to your document with questions? If so, then questions will make good headings. Will they come wanting instructions for doing tasks? If so, then verb phrases that match the actions they need to take will make good headings. Will they come seeking knowledge about a situation? If so, then statements of fact about that situation will make good headings.

In addition, avoid headings that are individual nouns or strings of nouns: such headings are often perceived as ambiguous. For example, a heading such as "Evaluation Questionnaire Completion" makes it impossible to predict the kind of information that this section will offer. Much clearer would be headings such as "How Do I Complete the Evaluation Questionnaire?" or "What Is the Deadline for Completing the Evaluation Questionnaires?" or "Who Must Complete the Evaluation Questionnaire?" Figure 5-10 shows how effective it can be to use questions, verb phrases, and statements as headings.

Use standard keywords if readers expect them. You may be working on a document for which readers expect to see a certain set of headings in a certain order,

Questions are useful as headings in a brochure.

What does the gypsy moth look like?
How can we protect trees from gypsy moths?
How often must we spray?
What is the chemical composition of the pesticide?

Verb phrases are useful in instruction manuals.

Verb phrases can be gerunds, like these:

Choosing the right kind of graph
Importing the data
Preparing the image
Adding a title

Verb phrases can be imperatives, like these:

Make your attendance policy clear.
Explain your grading scale.
Announce your office hours.
Supply titles of required textbooks.
Review assignments and due dates.

Short sentences are useful in memos and reports.

Our workload has doubled in the past year.
We are also being asked to do new tasks.
We have logged 500 hours of overtime this year.
We need three more staff positions.

FIGURE 5-10 Different Structures You Can Use for Effective Headings

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You may be working on a doc-
 of headings in a certain order,

Project Summary	Facilities and Equipment
Project Description	Personnel
Rationale and Significance	Budget
Plan of Work	

FIGURE 5-11 Keywords as Headings in a Proposal

as in a standard proposal format. In that case, organize your material in the order and with the headings that your readers expect. Figure 5-11 shows the headings you might use in a standard proposal format.

Make the headings at a given level parallel. Like the items in a list, headings at any given level in a document should be parallel. Parallelism is a very powerful tool in writing because it helps readers to recognize the similarity among the listed items. See for yourself the difference parallelism makes by comparing the two sets of headings in Figure 5-12.

Make sure the headings match any list or table of contents in the document. To check how well your headings tell your story and how well you've maintained parallel structure in headings, use your word processing program to create an outline view or a table of contents for your draft document. Readers can use the table of contents to locate a particular section. They know they're in the right place if the heading for that section matches the wording in the table of contents. This function is especially important in digital documents, where readers almost always navigate by jumping directly from a heading in the table of contents to a screen of information. If the heading on the screen they come to doesn't match the heading that they clicked on in the table of contents, they may be unsure of their location. Their confusion will quickly lead to irritation and a loss of trust in your attention to accuracy.

Design distinctive headings. Headings do more than outline your document. They also help readers find specific parts quickly, and they show the relationship among the parts. To help readers, headings have to be easily distinguished

Nonparallel Headings	Parallel Headings
Graph Modifications	Modifying a graph
Make data changes	Changing the data
To insert or delete columns	Inserting or deleting columns
How to adjust color or gradients	Adjusting the color or gradients
Titles and legends can be added	Adding titles and legends

FIGURE 5-12 Nonparallel and Parallel Headings

Headings that use the same sentence structure—parallel headings—are easier for users to follow.

active Headings

from the text and each level of heading has to be easily distinguished from all other levels. Figure 5-13 is a good example of a document with four levels of headings. You can see how the writer uses boldface to distinguish all headings from the text and then uses type size, capitalization, and position on the page to distinguish each level of heading from the other levels.

These seven suggestions will help you design distinctive headings:

- Limit the number of heading levels.
- Create a pattern for the headings and stick to it.
- Match size to importance.
- Put more space above a heading than below it.
- Keep each heading with the section it covers.
- Use headings frequently.
- Consider using numbers with your headings.

Limit the number of heading levels. Don't make the hierarchy of levels more complicated than it needs to be. Headings are supposed to be an aid to reading, not an obstacle. The more levels of headings you use, the more that readers must do to keep the hierarchy straight in their minds. Paper documents don't need more than four levels of headings. If you have more than four levels, consider dividing the material into two major sections or two separate documents. Digital documents don't need more than two levels of headings: readers scrolling through documents displayed on various sizes of screens will easily lose track of different levels of headings.

Create a pattern for the headings and stick to it. Although your choices depend in part on the technology you are using, you almost certainly have several options for showing levels of headings. Figure 5-13 demonstrates a variety of ways to show different levels of headings. You can combine these to create the pattern for your headings. For example, you can change size, position, and capitalization to show the different levels of headings.

Match size to importance. Changing the type size is one way to indicate levels of headings. If you use different type sizes, make sure that you match the size to the level of importance. If the headings are different sizes, readers expect first-level headings to be larger than second-level headings, second-level headings to be larger than third-level headings, and so on, as shown in Figure 5-13. The lower-level headings can be the same size as the text, but no level of heading should be smaller than the text. That would violate readers' expectations. If you use different type sizes for different heading levels, don't make the differences in type sizes excessive.

Put more space above a heading than below it. Headings announce the topic that is coming next in your document. Therefore, you want the heading to lead the reader's eye down the page or screen into the text that follows. One way to do that is to have more space, on the page or screen, above the heading rather than below it. In this way, the heading and its accompanying text constitute a visible chunk of information.

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Controlling Soil-Borne Pathogens in Tree Nurseries

Types of Soil-Borne Pathogens and Their Effects on Trees

Simply stated, the effects of soil-borne pathogens . . .

Soil-borne fungi

At one time, it was thought that soil-borne fungi . . .

Basidiomycetes. The Basidiomycetes are a class of fungi whose species . . .

Phycomycetes. The class of Phycomycetes is a highly diversified type of fungus. It is the . . .

Plant parasitic nematodes

Nematodes are small, unsegmented . . .

Treatments and Controls for Soil-Borne Pathogens

FIGURE 5-13 Four Levels of Headings in a Report

If you are going to use a rule with the heading, consider putting it *above* the heading rather than below it. A rule above the heading creates a "chunk" that includes both the heading and the text that it covers. A rule above the heading also draws the reader's eye down into the text that follows instead of up and away from that text.

Keep each heading with the section it covers. Don't leave a heading at the bottom of a page when the text appears on the next page. Make sure you have at least two lines of the first paragraph on the page with the heading. In some cases, you may want each topic to be on a separate page so that the heading and all the text of a topic appear together. Most word processing programs have functions that help you keep headings from being stranded at the bottom of a page and that allow you to set up your document so that all headings of a certain level start on a new page.

Consider using numbers with your headings. In many companies and agencies, the standard for organizing reports and manuals is to use a numbering system with headings. Figure 5-14 shows two such numbering systems: the alphanumeric system and the decimal system.

A numbering system allows you to refer precisely and concisely to a section of the report by the number of its heading (e.g., Section II.A.3.b or Section 4.3.7). This function could be especially important if the document is subject to review by multiple readers from different divisions or remote locations. If you add or delete a section later, however, you must be sure to revise the numbering of the report. In addition, a lot of readers find numbering systems confusing and, for example, would fail to recognize immediately that a section numbered 6.8.23 would come after a section numbered 6.8.2.3. If you use a numbering system with your headings, include the numbers before the entries in your table of contents.

TITLE		
I. FIRST-LEVEL HEADING	alphabetic system	
A. Second-Level Heading		
1. Third-level heading		
2. Third-level heading		
B. Second-Level Heading		
II. FIRST-LEVEL HEADING	alphabetic system	
A. Second-Level Heading		
1. Third-level heading		
a. Fourth-level heading		
b. Fourth-level heading		
2. Third-level heading	alphabetic system	
B. Second-Level Heading		
TITLE		
1 FIRST-LEVEL HEADING		decimal system
1.1 Second-Level Heading		
1.1.1 Third-level heading		
1.1.2 Third-level heading		
1.2 Second-Level Heading		
2 FIRST-LEVEL HEADING	decimal system	
2.1 Second-Level Heading		
2.1.1 Third-level heading		
2.1.1.1. Fourth-level heading		
2.1.1.2. Fourth-level heading		
2.1.2 Third-level heading	decimal system	
2.2 Second-Level Heading		

FIGURE 5-14 Two Types of Numbering Systems

Use page numbers and headers or footers. In addition to clearly worded and visually accessible headings, page numbers and running headers and footers are important aids to efficient reading.

Number the pages. Page numbers help readers keep track of where they are and provide easy reference points for talking about a document. Always number the pages of drafts and final documents that people are going to read on paper.

If the document is going to be read on screens, inserting page numbers could be unnecessary. In websites, for example, readers jump from topic to topic and page to page instead of proceeding in a specified order from start to finish. In addition, word processing programs keep track automatically of the number of pages and typically display this information in the bottom margin of the document window as a reference point for writers and readers. If readers are likely to print your digital document, however, they will certainly appreciate your inclusion of page numbers. In slides prepared for oral presentations, you will help your audience to track your progress and to stay attentive if you identify the slides with a numbering notation like this:

Slide 1 of 10

Short manuscripts and reports that have little prefatory material almost always use Arabic numerals (1, 2, 3). The common convention is to center the page number below the text at the bottom of the page or to put it in the upper outside corner (upper left corner for left-hand pages, upper right corner for right-hand pages). Always leave at least two lines of space between the text and the page number. Put the page number in the same place on each page. Page numbers at the bottom of the page often have a hyphen on each side, like this:

-17-

As reports grow longer and more complicated, the page-numbering system also may need to be more complex. If you have a preface or other material that comes before the main part of the report, it is customary to use lowercase Roman numerals (i, ii, iii) for that material and then to change to Arabic numerals for the body of the report.

In addition, the title page doesn't show the number but is counted as the first page. The page following the title page is number 2 or ii.

You also have to know whether the document will be printed on one side of the paper or both. If both sides will carry printing, you may have to number several otherwise blank pages in word processing files. New chapters or major sections usually start on a right-hand page. The right-hand page always has an odd number. If the last page of your first chapter is page 9, for example, and your document will be printed double-sided, you have to include a blank page 10 so that the first page of your second chapter will be a right-hand page 11 when the document is printed, copied, and bound.

The body of a report is usually paginated continuously, from page 1 to the last page. For the appendices, you may continue the same series of numbers, or you may change to a letter-plus-number system. In that system, the pages in Appendix A are numbered A-1, A-2, and so on. The pages in Appendix B are numbered B-1, B-2, and so forth. If your report is part of a series or if your company has a standard report format, you will need to make your page numbering match that of the series or standard format.

Numbering appendices with the letter-plus-number system has several advantages:

- It separates the appendices from the body. Readers can tell how long the body of the report is and how long each appendix is.
- It indicates that a page is part of an appendix and identifies which appendix. It makes pages in the appendices easier to locate.
- It allows the appendices to be printed separately from the body of the report. Sometimes the appendices are ready before the body of the report has been completed, and being able to print the appendices first may save time and help you meet a deadline.
- It allows the pagination of either an appendix or the body to be changed without requiring changes in the other parts.

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Include headers or footers. In long documents, it helps readers if you give identifying information at the top or bottom of each page. Information at the top of the page is a *header*; information at the bottom of the page is a *footer*. Organizations often have standard practices regarding the information to be displayed in headers and footers. A typical header for a report might show the author's name, the title of the report, and the date. It might look like this:

Lisa Miller Feasibility Study November 2014

In this case, the page numbers would likely appear in the footer.

A typical header for a letter might show the name of the person receiving the letter, the page number, and the date. It might look like this:

Dr. Emilia Rodriguez -2- November 16, 2014

or

Dr. Emilia Rodriguez
Page 2
November 16, 2014

Note that headers and footers rarely appear on the first pages of documents because first pages already carry identifying information like the title, author, recipient, and date. Word processing programs allow you to start headers and footers on the second page.

DOCUMENT DESIGN CHECKLIST

- ☐ Is your document clean, organized, and attractive?
- ☐ Is your text easy to read?
- ☐ If your document is supposed to conform to a standard template, does it?
- ☐ Have you left adequate margins? (If necessary, have you left extra room for binding?)
- ☐ Is the spacing between the lines and paragraphs consistent and appropriate?
- ☐ Can the reader tell easily where sections and paragraphs begin?
- ☐ Are words and illustrations positioned appropriately?
- ☐ Have you checked the headings? Are the headings informative? Unambiguous? Consistent? Parallel?
- ☐ Will readers get an overall picture of the document by reading the headings?
- ☐ Is the hierarchy of the headings obvious?
- ☐ Can readers tell at a glance what is heading and what is text?
- ☐ If readers want to find a particular section quickly, will the size and placement of the heading help them?

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DOCUMENT DESIGN CHECKLIST

continued

- ☐ Have you checked the page breaks to be sure that you do not have a heading by itself at the bottom of a page?
- ☐ Are the pages of a paper document numbered?
- ☐ Are there appropriate headers or footers?
- ☐ If you are using a numbering system, is it consistent and correct?
- ☐ Did you test representative readers for their ability to locate information easily?

EXERCISES

1. Visit the websites of two government agencies in your city or state that might employ majors in your field (e.g., the Department of Commerce and the Department of Transportation). What kinds of documents do you find at each site? Do the agencies seem to have a standard template for the design of their documents? From looking at a number of the documents at each site, how would you describe their design? Which agency does a better job of designing documents for its audience and purpose? How would you make the design of each agency's documents more effective?
2. Revise the headings used in Figure 5-3, substituting questions for the original phrases. Revise again, using short sentences for the headings. Which revision do you consider more appropriate for the audience and purpose of this letter?
3. Figure 5-15 is a draft of the instructions for the GrillWizard.
You are a friend and neighbor of the owner and founder of Fierce Products, a new company in Lubbock that manufactures the GrillWizard. Fierce Products is a family-owned company with 45 employees. The owner (whose spouse composed this draft version) has hired you to revise the design of the instructions in order to ensure safe and efficient operation of the product as well as to convey a positive impression of the quality of Fierce Products.
After you revise the design of this document, you will return it to the company owner for final approval. Fierce Products is ready to release the GrillWizard to market. As soon as the instructions are ready, the product will be boxed and shipped. The sooner you submit your revised design, the sooner Fierce Products will start making money.
4. Examine Figure 5-16. How would you revise the design of this document to make it more effective? Which changes will have the greatest impact on the user's ability to read and remember the safety tips?

GrillWizard

Fast and efficient frying and cooking with propane gas. Light the burner and instantly you have a hot 100,000 BTU continuous flame.

The **GrillWizard** will help you eliminate fish and other lingering cooking odors from your home.

The **GrillWizard** is used for fast frying of fish potatoes, onion rings, chicken, vegetables, and donuts. Substitute water for oil and it's also great for shrimp, crab, and lobster boils as well as steaming clams.

This cooker is completely portable with all parts easily assembled and disassembled for compact transportation and storage, yet it weighs only 40 lbs.

When the control valve is open, a full 100,000 BTUs of powerful heat prepares cooking oil in 3 minutes for frying. Adjust the heat with a touch of the control valve.

Operating Instructions

Place grill on level ground. Insert tapered end of tubing into the hole in the base of the grill. (CAUTION: Make sure the cooker is level and the burner is facing up.)

Attach grill connector to propane cylinder.

Completely open propane valve.

Slightly open control valve at grill connector and light cooker at top of tube immediately (CAUTION: **DO NOT stand directly over cooker when lighting burner.**)

Adjust control valve for desired flame height.

When finished cooking, always close both grill connector valve and propane cylinder valve completely.

The **GrillWizard** works with any size of propane tank cylinder and all will give off the same amount of heat. A 20-pound cylinder will provide approximately 6 hours of cooking time if valves are completely opened.

The intense heat produced by the **GrillWizard** allows you to fast fry all foods. The cooking oils of conventional fryers drop in temperature as food is added, but the **GrillWizard** maintains its temperature with just a quick touch of the control valve.

The **GrillWizard** has been designed for easy care. However, keep all dirt and foreign objects out of connectors, hose, valves, and openings. Failure to do so could cause obstruction of gas and greatly diminish the effectiveness of the **GrillWizard**.

CAUTION: If you suspect leaks **DO NOT** light unit before checking.

For outdoor use only.

After washing pan with soap and water, dry thoroughly and coat the entire pan with cooking oil on paper towel to prevent rusting.

FIGURE 5-15 Document for Exercise 3

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Child Safety

Keep Your Little One Safe When You Fly



The Federal Aviation Administration (FAA) recommends that parents secure a child in a child restraint system (CRS) or device based on the child's weight. Parents are encouraged to take this tips sheet with them when they travel by air with small children.

Tips for Parents

- Make sure your CRS or device is government-approved for use on airplanes and has "This restraint is certified for use in motor vehicles and aircraft" printed on it. Otherwise, you may be asked to check the CRS as baggage.
 - While booster seats and harness vests enhance safety in vehicles, the FAA prohibits passengers from using these types of restraints on airplanes during taxi, take-off and landing. These restraints should be checked as baggage. Supplemental lap restraints or "belly belts" are not approved for use in both airplanes and vehicles in the United States.
 - The CARES Child Safety Device is the only FAA-approved harness-type restraint for children weighing between 22 and 44 pounds. It will have "FAA Approved in Accordance with 14CFR 21.305(d), Approved for Aircraft Use Only" on it.
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|---------------------------|----------------------------------|
| • If your child weighs... | Use a... |
| Less than 20 pounds | Rear-facing CRS |
| 20 to 40 pounds | Forward-facing CRS |
| 22 to 44 pounds | <u>CARES child safety device</u> |
| More than 40 pounds | Airplane seat belt |
- Measure the width of your CRS. It should fit in most airplane seats if it is no wider than 16 inches.
 - Ask your airline for a discounted fare. Buying a ticket for your child is the only way to guarantee that you will be able to use a CRS.
 - Reserve adjoining seats. A CRS should be placed in a window seat so it will not block the escape path in an emergency. Do not place a CRS in an exit row.
 - If you do not buy a ticket for your child, ask if your airline will allow you to use an empty seat. If your airline's policy allows this, avoid the busiest days and times to increase the likelihood of finding an empty seat next to you.
 - Arrange for your airline to help you if you need help making a connecting flight. Carrying a CRS, a child, and luggage through a busy airport can be challenging.
 - Pack a bag of toys and snacks to keep your child occupied during the flight.
 - Always use a CRS when driving to and from the airport.
 - Wear your seat belt at all times.



Federal Aviation
Administration

FIGURE 5-16 Document for Exercise 4

Source: US Federal Aviation Administration. *Child Safety: Keep Your Little One Safe When You Fly*. Washington, DC: GPO, 2012. http://www.faa.gov/passengers/fly_children/media/child-safety-tips.pdf