# Simply Put

*A guide for creating easy-to-understand materials*

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

# What's in this guide?



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# Communication that is Clear and Understandable

Communicating a broad range of health messages to a wide variety of audiences can be challenging. Differences among audiences make it necessary to avoid the one-size fits-all mindset when developing effective health communication materials. Culture and literacy skills are two important factors, among others, to consider when designing health communication materials that will capture the intended audience's attention.

According to the National Assessment of Adult Literacy (NAAL), released in 2006 by the U.S. Department of Education, 30 million adults struggle with basic reading tasks. The NAAL also found that only 12 percent of consumers have proficient health literacy skills[1]—suggesting that nearly nine out of ten adults may lack many of the skills necessary to sufficiently manage their health. Low health literacy can affect a person's ability to locate health care providers and services, fill out health forms, share personal health information with providers, manage chronic diseases and engage in self-care.

**One-third of U.S. adults have trouble reading and acting on health related information**

Source: National Center for Education Statistics, 2003 National Assessment of Adult Literacy

It is important to remember; however, that even those with higher health literacy skills want health information that is understandable, meaningful to them, and easy to use.

**In This Guide:**

The guidance in Simply Put helps you transform complicated scientific and technical information into communication materials your audiences can relate to and understand. The guide provides practical ways to organize information and use language and visuals. This guide will be useful for creating fact sheets, FAQ's, brochures, booklets, pamphlets, and other materials, including web content.

# Where this Guide Fits into an Overall Communication Plan

Developing a communication plan involves many steps. This guide will help you accomplish just one of them – designing your health communication materials.

There are several things to do before you start:

- Identify the intended audience and define the key health problem/s or interest/s.
- Get to know the intended audience to help determine their key characteristics, including gender, race/ethnicity, location, beliefs, behaviors, culture, literacy skills, and current knowledge about the identified topic.
- Determine key messages. Be sure to test them with the intended audience to ensure they will be received appropriately.
- Determine the best way to communicate messages to the audience (i.e., print, audio, video).
- Decide how to distribute the materials to the audience (i.e., mail, brochure display, web page).

**Steps for Developing Health Communication Materials That Are Evidence-Based and User Friendly**

1. Identify intended audience and define/research the key health problems or interests
2. Engage the intended audience- determine what their needs, beliefs/values, and interests are, and their level of knowledge of the identified health topic
3. Determine key concepts and messages based on knowledge of the audience
4. Design a draft of the material
5. Pretest materials with intended audience
6. Tweak draft according to feedback from the audience
7. Publish and distribute materials
8. Evaluate the audiences' satisfaction and understanding

An early step in the development process is determining whether the intended audience needs or wants the information your material will provide. This ensures that funds and staff time will be used wisely. Learning about the interests, needs, and values of the intended audience allows for more targeted materials. Knowing the best ways to reach your audience will help to decide on the most effective format and design for your materials.

Once you have developed a draft of your material, be sure to pretest it with the intended audience. Pretesting helps ensure that the message you send is the message your intended audience receives, rather than some other interpretation. Make appropriate revisions to your materials according to the findings of the pretest.

The final steps in developing health communication materials are to market it and distribute it, and re-evaluate its effectiveness in communicating key messages to your intended audience. This guide does not discuss all of these steps, but Appendix B contains a list of resources to help you through many aspects of communication planning.

# Make your Message Clear

Creating materials that lead to increased knowledge or a change in beliefs, attitudes, or behaviors requires messages that are clear, relevant, and appropriate for the intended audience. This section gives tips for deciding what to say and how to say it so the audience will understand, remember, and act on your message.

## 1. Give the most important information first

To quickly engage the audience:

- Give the most important information first
- Tell them what actions to take
- Explain why it is important to them

**For example:**
Always wash hands with soap and warm water for 20 seconds before and after handling food. Food and water can carry germs that may make you and your family sick.

## 2. Limit the number of messages

Give your audience no more than three or four main ideas per document or section of your document.

**Focus on what your audience needs to know and do.** Skip details that are only nice to know. If you are writing a brochure on how to prevent Lyme disease, you don't need to tell the audience how and when Lyme disease was discovered. Tell them what to do to prevent it instead.

**Stick to one idea at a time**

**Stick to one idea at a time.** Develop one idea fully before moving to the next idea. People are confused when materials skip back and forth between topics.

**Avoid lengthy lists.** Create short lists (3-7 items) with bullets, not commas. People with limited reading skills tend to forget items in longer lists. If you have a long list, break it into subheads.

## 3. Tell audiences what they need to do.

**Clearly state the actions you want your audience to take.**
Use concrete nouns and an active voice. Active voice is where the subject does the action.

**Say:** Follow these rules to avoid getting sick from food:

- Cook meat until it is not pink in the middle.
- Wash your hands after touching raw meat.

- Wash fresh fruits and vegetables before eating them.
- Keep hot food hot and cold food cold.

**Not:** Following safety precautions can reduce food-borne disease transmission.

**Highlight the positive.**
Tell your audience what they should do rather than what they should not do.

**Use:** Wear your helmet every time you ride your bicycle.

**Instead of:** Do not ride your bicycle without wearing a helmet.

**4. Tell your audience what they will gain from understanding and using the material .**
Tell your audience how your materials will benefit them. Answer the question, "What's in it for me?"

**For example:** You will learn what to do to have a healthy pregnancy and ways to prevent possible complications.

**5. Choose your words carefully.**

**Keep it short.** Use words with one or two syllables when you can. Keep most sentences, if possible, between eight to ten words and limit paragraphs to three to five sentences.

**Communicate as if you were talking to a friend.** A conversational style has a more natural tone and is easy to understand.

**Write as if you were talking to a friend**

**Say:** You could get sick if you are near the chemical.

**Not:** Exposure to the chemical could cause adverse health effects.

**Respect and value your audience.** Don't talk down or preach. People are less likely to act on information if they are made to feel bad about their current behavior or health situation.

**Use a tone that encourages the audience.** Emphasize small, practical steps. Offer concrete examples of successful action steps.

**Limit use of jargon, technical, or scientific language.** Define necessary jargon or technical terms first. Then explain them in language your audience will understand.

> **Say:** high blood pressure
> **Not:** hypertension
>
> **Say:** birth control
> **Not:** contraception

**Choose words with a single definition or connotation.** People with limited literacy skills may not be able to figure out the meaning from the context.

> **For example:** "Poor workers" could mean workers with poor performance or workers with limited income.

**Be consistent with word use**

**Be consistent with word use.** Pick the most familiar words and use them throughout your text.

> **For example:** Mad cow disease and bovine spongiform encephalitis may be the same thing, but your audience may think they are two different diseases.

**Use analogies familiar to your audience.** When making comparisons, use references that your audience will recognize.

> **Say:** Feel for lumps about the size of a pea.
>
> **Not:** Feel for lumps about 5 to 6 millimeters in diameter.

**Avoid unnecessary abbreviations and acronyms.** Provide the acronym first and then spell the word (s) out in parentheses when using a familiar abbreviation or acronym. Apply this rule also when creating content that will be spoken in video or audio materials.

> **For example:** In the early stages of infection, HIV (human immunodeficiency virus) often causes no symptoms.

Provide the term before the acronym when using unfamiliar abbreviations.

> **For example:** Breathing secondhand smoke is a known cause of sudden infant death syndrome (SIDS).

**Limit use of statistics and use general words like most, many, half.** If you must use statistics, try putting them in parentheses.

> **Say:** Researchers found that almost all Americans (90%) believe the possible harm from vaccines is very small.

**Not:** Researchers found that 90% of Americans believe the risk from vaccines is very small.

Mathematical concepts, such as risk, normal, and range, may not have meaning to your audience. If possible, use words such as "chance" or "possibility" instead.

**Use:** Most Americans believe the chances that something bad can happen to them after getting a vaccine is small.

**Instead of:** Most Americans believe there are very few risks associated with vaccines.

**Limit the use of symbols.** What is meaningful and natural for one audience may be confusing or misleading to others. Pretest any use of symbols.

**Use symbols sparingly**

**For example:** The following symbols may not be familiar to or have the same meaning for everyone:


**Limit use of quotation marks.** Choose other formats to show who is speaking when writing dialogue.

**For example:**

**Jane:** How hard can it be to stop smoking?

**Ann:** Most people have a very hard time quitting. I had to try three times before I quit for good.

# Text Appearance Matters

The way your text looks greatly affects readability. Choosing the appropriate font style and size is important in creating health communication materials that are easy to read.

1. **Use font sizes between 12 and 14 points.**
   Anything less than 12 points can be too small to read for many audiences. Older people and people who have trouble reading or seeing may need larger print.

2. **For headings, use a font size at least 2 points larger than the main text size.**

**Examples of font sizes:**

This is 8 point.
This is 10 point.
This is 12 point.
This is 14 point.
This is 16 point.
This is 18 point.

3. **Font Style**

**For the body of the text, use fonts with serifs, like the one used in this line.** Serif fonts are usually easier to read than sans-serif fonts. This is because the serif makes the individual letters more distinctive and easier for our brains to recognize quickly. Serifs are the little "feet" on letters.


Use sans serif fonts in headings and subheadings. Sans serif is more readable when your type must be small or when used on a web site.

**Keep the following style tips in mind:**

**Do not use ALL CAPS**

- Do not use FANCY or ***script*** lettering.
- Use both upper and lower case letters. Do not use ALL CAPS. ALL CAPS ARE HARD TO READ.
- Use grammatically correct punctuation.
- Use **bold type** to emphasize words or phrases.
- Limit the use of *italics* or underlining. They are hard to read.
- Use dark letters on a light background. Light text on a dark background is harder to read.

**Limit use of light text on a dark background.**

# Visuals Help Tell Your Story

Visuals can improve your communication materials when used correctly. This section provides tips to help you choose effective, appealing visuals. Pictures help grab an audience's attention and help tell a story. Be sure to test visuals to ensure there are acceptable with the intended audience.

## 1. Choose the best type of visual for your materials

Photos are best for illustrating life events

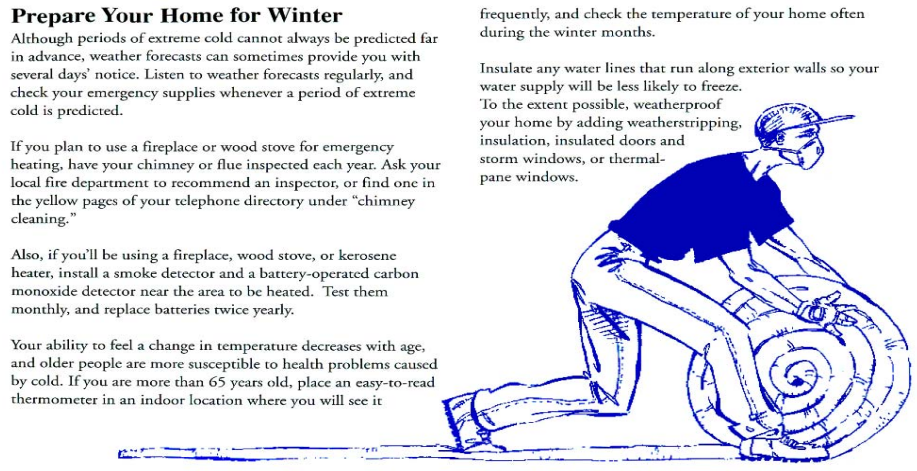
**Photographs work best for showing "real life" events, people, and emotions.** Photographs tend to be more compelling to audiences. When choosing a photo, be sure any background images will not distract your audience from the image you wish to highlight.

**Simple illustrations or line drawings may work best in some instances**. An illustration or drawing can simplify complexities and highlight key components of an idea. Drawings work best for:

- showing a procedure (drawing blood)
- depicting socially sensitive issues (drug addiction)
- explaining an invisible or hard-to-see event (airborne transmission of tuberculosis).

**Use simple drawings and avoid unnecessary details.** Steer clear of abstract illustrations that could be misinterpreted. Simple drawings are useful for showing desired actions or to address abstract subjects. They can be useful among disparate audiences, especially mixed cultural groups.

**Cartoons may be good to convey humor or set a more casual tone.**
Use cartoons with caution; not all audiences understand them or take them seriously.



**Prepare Your Home for Winter**

Although periods of extreme cold cannot always be predicted far in advance, weather forecasts can sometimes provide you with several days' notice. Listen to weather forecasts regularly, and check your emergency supplies whenever a period of extreme cold is predicted.

If you plan to use a fireplace or wood stove for emergency heating, have your chimney or flue inspected each year. Ask your local fire department to recommend an inspector, or find one in the yellow pages of your telephone directory under "chimney cleaning."

Also, if you'll be using a fireplace, wood stove, or kerosene heater, install a smoke detector and a battery-operated carbon monoxide detector near the area to be heated. Test them monthly, and replace batteries twice yearly.

Your ability to feel a change in temperature decreases with age, and older people are more susceptible to health problems caused by cold. If you are more than 65 years old, place an easy-to-read thermometer in an indoor location where you will see it frequently, and check the temperature of your home often during the winter months.

Insulate any water lines that run along exterior walls so your water supply will be less likely to freeze.
To the extent possible, weatherproof your home by adding weatherstripping, insulation, insulated doors and storm windows, or thermal-pane windows.

## 2. Use visuals to help communicate your messages

**Present one message per visual.** When you show several messages in one visual, audiences may miss some or all of the messages.

Present one message per visual

**Label visual with captions**. Be sure visuals and captions are placed near related text.

**Use visuals that help emphasize or explain the text.**
Consider the space available and potential use of the visual. Steer clear of visuals that merely decorate or are too abstract.

**For example:** Images A and B are both meaningful. Image A would work better with public health professionals. Image B works better as an illustration for the general public. Both documents use visuals that are audience appropriate.

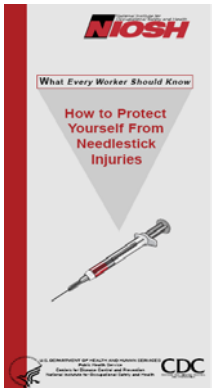



Image A


Image B

**Show the actions you want your audience to take.** Avoid choosing images that show what the audience should **not** do.

**For example:** If you are telling people to choose healthy snacks, such as fruit, Image A is effective because it shows them what to eat. It reinforces your message. Image B shows them what they should not eat, but on its own it gives them no visual link to what they should eat. Also, "X" is not universally known to mean "no".

Image A

Image B

## 3. Make visuals culturally relevant and sensitive

Use images and symbols familiar to your audience

**Use images and symbols familiar to your audience.**

No Smoking

Not all cultures understand that this image means "no smoking"

Include illustrations that are inclusive and appealing to people who may have physical challenges or constraints.

If you show people in your visuals, try to make them of the same racial or ethnic group as your intended audience. Select images that are familiar and that the audience will be able to relate to. For materials designed for diverse audiences, show people from a variety of ethnic, racial, and age groups. Photographs may help certain audiences identify with your message.

## 4. Make visuals easy for your audience to follow and understand.

**Place visuals near the text to which they refer.** Audiences may not be able to connect a drawing placed in the top, right-hand corner of a document to text found in the lower, left-hand corner. Be sure all visuals connect directly to written messages.

Place visuals near the text to which they refer.

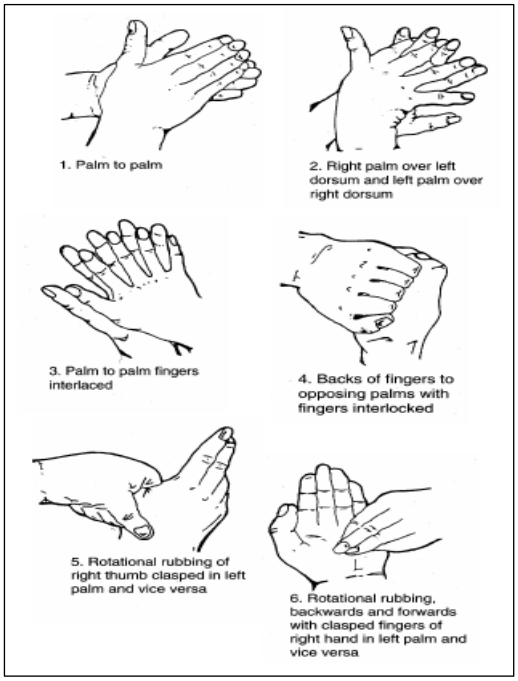
**Use brief captions that include your key message.** Some people may read only your captions. Make them count by including your key message. Use brief, complete sentences with correct punctuation. A caption can tell exactly what the visual is trying to convey. The caption also repeats a sentence found in the body of the document to reinforce the message.

*Wear gloves to keep from spreading germs.*

Some captions are successful because they use a narrative to involve the audience.

*Captain Santos helps a child put on his bicycle helmet correctly.*

**When showing a sequence, number the images.**



**Use cues like arrows and circles to point out key information in your visuals.**

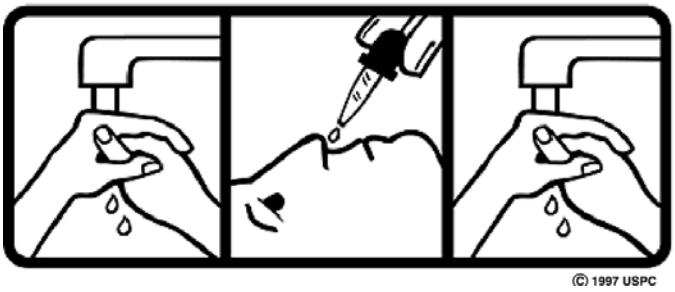
**For example:** The image below is from a brochure on how to avoid injuries at a construction site. The arrow highlights the hard hat, the most important item in the image.

*Always wear a hard hat at the job site.*

## 5. Sometimes drawings alone can help your audience understand.

**Pictographs are pictures that represent words or ideas.** Pictographs can convey information quickly and help a person understand and remember the intended message(s). They are most effective when focusing on a specific action and require thorough pre-testing to ensure effectiveness.

**Pictographs can convey a lot of information quickly**




This pictograph communicates, without text, how the medication should be taken.

### Photos can also work as pictographs

**For example:** The most effective pictographs involve a person performing an action. This helps people understand what actions need to be taken.


## 6. Use realistic images to illustrate internal body parts or small objects

**Use realistic images for context.** To highlight internal body features, show the entire body for context. Audiences may not understand the intended meaning of the visual if taken out of context.

**For example:** Image B provides context to more effectively show plaque build-up within the heart blood vessel. This may not be as clear with Image A.

Image A

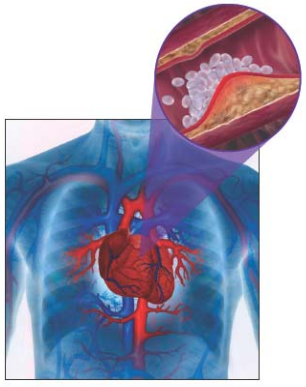


Image B

**For a sense of scale, draw small objects larger to show detail**. Also show something familiar to give your audience a sense of scale.

**For example:** The mosquito depicted below is drawn several times larger than actual size to show what it looks like. Then it is shown next to a penny to demonstrate how big it really is.

Enlarged to show detail


Shown to scale

## 7. Use high quality visuals

**Visuals should have a sharp resolution, true color and contrast, and good composition.** High-quality visuals make your messages more credible. Furthermore, adults may not even pick up your materials if they contain childish or "cutesy" visuals. Seek professional design help in creating materials that attract and inform your audience.

### Need help creating effective visuals?

The Centers for Disease Control's Public Health Image library has a variety of images relating to public health. http://phil.cdc.gov/Phil/default.asp

Other visual resources are listed in Appendix D.

# Layout and Design

Present your information and visuals in ways that make your materials easier to understand and more appealing to your audience.

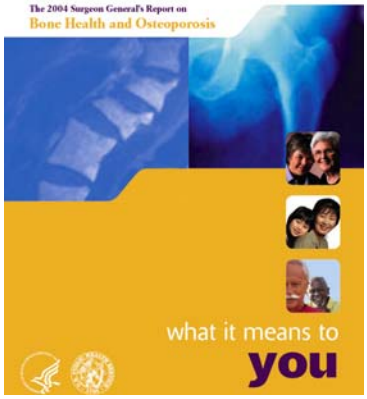
## 1. Design an effective cover

**Make the cover attractive to your intended audience.** If the cover does not include images and colors your intended audience likes, they may not pay attention to it.

Make the cover attractive to your intended audience

**Show the main message and audience.** Health communication materials, such as brochures, web pages, flyers, posters, should be designed so that people are able to grasp your main idea and know who the material is speaking to just by looking at it.

**For example:** Cover A is much more effective than Cover B in getting the attention of your audience and in telling them what they can expect to find inside.




Cover A

Bone Health
and
Osteoporosis

Cover B

## 2. Organize your messages so they are easy to act on and recall

**Present one complete idea on one page or two facing pages.** If people have to turn the page in the middle of your message, they may forget the first part of the message.

**Place the most important information at the beginning and restate it at the end of the document.** It is best to state your main message first, expand on your message with straight-forward language and then repeat the main message at the end, usually with a call for change or action.

### 3. Organize ideas in the order that your audience will use them

**For example:**

What to do if you find a chemical spill:

1. Leave the area right away.
2. Remember where the spill is so you can avoid it.
3. Report the spill to the police or fire department.
4. Warn others to stay away from the area.

**Use headings and sub-headings to "chunk" text.** Headings are a cue to upcoming message content. Use headings that express a complete idea, rather than just a word or two.

Use headings and sub-headings to "chunk" text

**For example:** Heading A communicates much more information than Heading B.

**Heading A:** Wear your seatbelt — it could save your life.

**Heading B:** Seat Belts

**Questions can be successfully used as subheadings.** People can skim the questions to see what applies to them or are of greatest interest. Also, questions can make your materials more interactive. People tend to think about answers.

Make sure that you ask questions that lead your audience in the right direction. If they are not interested in the question at the beginning of a section, they may not read the information that follows.

**Leave more space above headings and subheadings than below them**. This gives a stronger visual link between the heading and the text that follows.

**Leave lots of white space**

White space is the absence of text or visuals on a page. It keeps a page from being cramped, overwhelming, or amateurish. Many professional graphic designers recommend 10 to 35 percent white space per page for print materials.

Leave at least 1⁄2 inch to 1 inch of white space around the margins of the page and between columns. Limit the amount of text and visuals on the page.

**For example:** Document A is easier to read than Document B because it has more white space.


Document A


Document B

White space takes on an added importance on the web because more of a strain is placed on the eyes than with print material. Information on web design principles can be found at http://www.usability.gov/pdfs/chapter6.pdf.

## 4. Make the text easy for the eye to follow

### Break up text with bullets

Break up text with bullets

**For example:** The bullets used in Example A make the items in the list easier to read than in Example B. People are encouraged to participate when the bullets are boxes that can be checked off.

**Example A**

Children should get six shots by age 2:
- ☐ measles, mumps, rubella
- ☐ *Haemophilus influenzae* type b
- ☐ polio
- ☐ diphtheria, tetanus, pertussis
- ☐ hepatitis B
- ☐ varicella

**Example B**

By age 2, children should get shots against measles/mumps/rubella; *Haemophilus influenzae* type b; polio; diphtheria, tetanus, pertussis; hepatitis B; and varicella.

### Use right edge "ragged" or unjustified for the best readability.

Do not justify the right margin.

Right-justified margins cause uneven spacing between words. Uneven spacing can confuse unskilled readers. Compare the samples below.

*Sample 1*

This column does not have a right-justified margin. The spaces between words are even. The jagged right edge also makes it easier to distinguish one line from the others.

*Sample 2*

This column has right-justified margins. The spaces between words are uneven and the lines are all the same length. This can confuse readers, especially unskilled readers, and make it harder to differentiate one line from the others.

**Use columns.** Columns with line lengths of 40 to 50 characters are easiest to read. Compare Paragraphs A, B, and C below.

**Paragraph A**

This column is only 20 to 25 characters long and is hard to read. Your eyes jump back and forth too much and quickly get tired.

**Paragraph B**

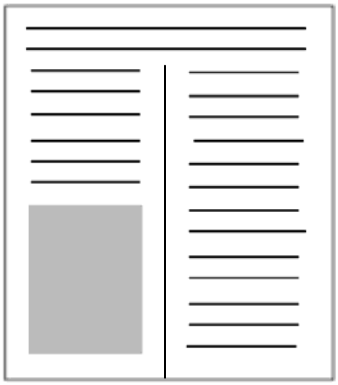
This column is the best length. It is 40 to 50 characters long. Your eye can return to the beginning of the next line easily, and it doesn't jump back and forth very much. Try to design your materials like this one

**Paragraph C**

This paragraph is hard to read because the lines are too long. After reading one line, your eyes have to move back across the entire page to find the start of the next line. Paragraphs that run across the whole page also look very dense and don't allow for much white space on the page.

**Place key information in a text box.** Text boxes make it easier to find the most important information on the page.

**For example:** The eye is drawn to the shaded box on this sample page.



5. **Invite your audience into the text.**
Interaction is an effective way to increase the success of your teaching materials. When the audience interacts with the information provided, they are more likely to remember and act upon the information. Below are a few ideas on ways to engage your audience.

When your audience interacts with the information, they are more likely to remember and act upon the information.

**Ask questions.** Write a short question and leave a blank line to write in the answer.

**For example:**

| |
|---|
| What is your best weight? Write it here. My best weight is _____ pounds. |

**Ask your audience to problem solve.** Pose a problem and ask your audience to write or say how the problem can be resolved.

**For example:**

| |
|---|
| What are you going to do when you are craving a cigarette? Write down some ideas here.<br>1. _____<br>2. _____<br>3. _____ |

**Include word/picture association opportunities.** Ask the audience to circle one among several pictures to associate an abstract concept such as “physical activity” with a concrete action.

**For example:**
Circle what you will do to get aerobic exercise

.

# Consider Culture

Culture affects how people understand and respond to health messages. The best way to ensure that your materials are culturally appropriate is to engage members of the target audience early on in the communication planning phase. They can assist in identifying messages and images that are likely to work best within their culture.

1. **Use terms that your audience uses and/or is comfortable with.**

   **For example:** If your audience of elderly people with diabetes usually goes to the health department to see a doctor, ask them if they say "clinic," "doctor's office," or something else to ensure that the words being used in your materials will be familiar to the intended audience.

   If you need to identify a group of people by race or ethnicity, use a term preferred by that group. Preferred terms may vary even within an ethnic or racial group. Ask a sample audience.

The best way to make sure your materials are culturally appropriate is to talk with members of the audience you are trying to reach

   **For example:** One group may want to be identified as "African American," while another group may prefer to be identified as "Black."

   OR

   One group may want to be identified as "Native American," while another prefers "American Indian."

2. **Target messages to each cultural or ethnic group or subgroup.**
   Groups may have different needs, values, and beliefs that will affect how they interpret your message. Minority groups often have subgroups that differ greatly from one another. What is effective for one minority group or subgroup may not work at all for another.

   Using culturally appropriate images, concepts, and language is not enough. Messages should always be tested with the intended audience.

Sabemos (Spanish for "we know" is a bilingual, culturally appropriate toolkit developed by HHS/CDC to support the efforts of Hispanic parents and community leaders in protecting children from secondhand smoke. The kit was developed based on research acquired during focus groups with parents and leaders from the Hispanic community and key informant interviews. The findings from were used to develop key messages and tools for community leaders working with Hispanic/Latino populations.

# Translations Take your Message Further

It is best to develop your materials in the language of your intended audience. However, translating them from English (or another language) is often necessary due to time limitations and/or available resources. This section will provide tips to help ensure that translations of your materials are both culturally and linguistically appropriate.

1. **Messages that work well with an English-speaking audience may not work for audiences who speak another language.** Find out about your audience's values, health beliefs, and cultural perspectives. You can do this by conducting individual interviews, focus groups, or other kinds of audience research, including secondary research (i.e., literature reviews).

2. **Design material for minority populations based on subgroups and geographic locations.** All members of a minority population are not alike. Mexican Americans, for example, may respond differently than Cuban Americans to certain words, colors, and symbols. Likewise, Korean women living in New York City may view a health issue very differently from Korean women living in Los Angeles.

Messages that work well with an English speaking audience may not work for audiences who speak another language

3. **Get advice from community organizations in the areas you wish to reach.** Local groups that work regularly with your audience can give you valuable insight about your audience. They can also recruit participants for surveys or focus group testing and help you gain the trust of your audience.

4. **Carefully select your translator.** Choose a qualified translator who is familiar with your intended audience. A qualified translator is typically a native speaker of the target language, has ten or more years experience in translation, and is preferably certified by a recognized institution. A qualified translator will produce documents that reflect the message and content of the source document. It is important to keep in mind that if the source document is not written clearly or in plain language the translated document will maintain this same attribute. When materials are used for intended audiences with more than one linguistic variation (for example, Mexican-American and Cuban-American) have multiple translators check the translation.

5. **Avoid literal translations.** Allow your translator to select from a wide range of expressions, phrases, and terms used by the audience. This flexibility will result in more culturally appropriate material.

6. **Use the back-translation method.** Once the material has been translated to the intended language, translate it back to English. (This step should be done by someone other than the original translator.) Check to see if the meaning and tone of the message have stayed the same.

7. **Field test draft materials with members of your intended audience**. Field testing will allow you to get feedback from your members of your intended audience and to make changes based on their comments and suggestions.

**Beware of these common pitfalls:**

- Do not translate English slang phrases or idioms literally.
- Do not translate into a dialect unless it is used by your audience.
- Do not omit foreign language characters or accent marks when publications are written in languages that use those elements. Missing characters or punctuation marks can change the meaning of a word or sentence. Make sure your word processing software and desktop publishing software have all the punctuation used in the intended audience's language.
- If you list a phone number to call for more information, make sure staff fluent in the intended language is available. Or add a qualifier; such as, "Spanish speakers are available between 1:00 to 5:00 pm EST."

# Testing for Readability

Readability formulas are useful tools. They provide a general idea of how hard a document will be to read based on the average syllables per word and average words per sentence. However, they do not measure a persons' level of comprehension. Comprehension levels are often two or more grades below reading or education level. Comprehension drops even more when a person is under stress.

Readability formulas do not take into consideration the effects of layout or design elements. They cannot predict how well your audience will accept or act upon your message. The use of readability formulas alone does not guarantee well-written, understandable text. They should be used only in conjunction with other means of assessing effectiveness.

1. **Reduce reading level before using formulas.**
   There are several basic techniques to lower the reading level of your document. Begin by reducing the number of words per sentence and by using one and two syllable words when possible. Reducing these numbers can improve reading ease.

   Also look for the number of times passive voice is used in your document. Change to active voice when possible. Active voice improves readability.

   **For example:**
   This sentence is written in passive voice:
   "Heart disease and lung cancer are caused by smoking."

   Using active voice is better:
   "Smoking causes heart disease and lung cancer."

   **If you think the reading level of your document is too high because of long names of organizations, diseases, or other proper nouns, use a readability formula without those words.** It may be that the readability is at the right level, except for the long words. If this is the case, revise your text to remove longer words

   **If you find that the reading level is still too high even when you don't count the long words, write in "plain language" or use "everyday" language that people are most likely to understand.** For ideas on substituting easier words and phrases, take a look at the reference library found at www.plainlanguage.gov/howto/wordsuggestions/index.cfm

   **One of the best ways to see how a "plain language" approach can improve a document is to look at examples of documents before and after they were edited into plain language.** For before and after examples go to:
   www.plainlanguage.gov/examples/before_after/index.cfm

## 2. Testing a document's readability level.

The best way to judge if your material will be understood is to pre-test it with a sample group from your audience

**There are several ways to determine reading level.** You can test a document's reading level by hand or by using computer software. Also, you can achieve consistency in your evaluations by using the same readability formulas through every draft stage. The Flesch-Kincaid Readability Test, the Fry Readability Graph, the Gunning 'FOG' Readability Test (FOG), and the Simple Measure of Gobbledygook Readability Formula (SMOG) are several good tools. See Appendix C for help in using them.

**Several word processing software programs, including Microsoft Word® and Corel WordPerfect®*, include reading level assessment capabilities.** Plain language experts, however, do not consider these computer tests reliable or valid for readability analysis and recommend:

- free-standing software, including Readability Calculations* or Readability Plus* from Micro Power & Light (www.micropowerandlight.com)
- a website using SMOG formula: www.harrymclaughlin.com/SMOG.htm*
- additional tools are listed in Appendix C.

Readability tests are only one useful tool for assessing readability of written materials.

However, remember that readability tests are only one useful tool in assessing readability. The best way to judge if your material will be an effective communication tool is to pre-test it with a sample group from your intended audience.

**Material testing and analysis are important considerations.** For health communication efforts to succeed, learn what your audience knows or thinks about a subject, and anticipate how they may interpret new ideas. For example, by conducting usability testing focus groups or individual interviews with people from your intended audience before your first draft, you can gauge what they already understand about the topic. And you can test several possible approaches to presenting information. This testing should begin before you write the first word and continue until the final draft.

**Find more information on how to conduct usability testing.**
Most programs need more than one research method, including pre- and post-testing methods. Many of these methods are thoroughly described in Making Health Communication Programs Work, U.S. Department of Health and Human Services, and in Methodological Review: A Handbook for Excellence in Focus Group Research, M. Debus.

Usability testing is also defined by the Plain Language Association INternational at www.plainlanguagenetwork.org/plaintrain/Testing.html

* Note: Mention of the software products does not constitute an endorsement by the CDC

# Appendix A: Checklist for Easy-to-Understand Print Materials

**Message Content**

- ☐ Have you limited your messages to three to four messages per document (or section)?
- ☐ Have you taken out information that is "nice to know" but not necessary?
- ☐ Is the most important information at the beginning of the document?
- ☐ Is it repeated at the end?
- ☐ Have you identified action steps or desired behaviors for your audience?
- ☐ Have you post-tested your materials?

**Text Appearance**

- ☐ Does your document have lots of white space? Are margins at least 1⁄2 inch?
- ☐ Is the print large enough (at least 12 points)? Does it have serifs?
- ☐ Have you used bold, italics, and text boxes to highlight information?
- ☐ Have you avoided using all capital letters?
- ☐ Is text justified on the left only?
- ☐ Did you use columns with a line length of 40 to 50 characters of space?
- ☐ Have you post-tested your materials?

**Visuals**

- ☐ Is the cover attractive to your intended audience? Does it include your main message and show who the audience is?
- ☐ Are your visuals simple and instructive rather than decorative?
- ☐ Do visuals help explain the messages found in the text?
- ☐ Are your visuals placed near related text? Do they include captions?
- ☐ If you read only the captions, would you learn the main points?
- ☐ Have you post-tested your materials?

**Layout and Design**

- ☐ Is information presented in an order that is logical to your audience?
- ☐ Is information chunked, using headings and subheadings? Do lists include bullets?
- ☐ Have you eliminated as much jargon and technical language as possible?
- ☐ Is technical or scientific language explained?
- ☐ Have you used concrete nouns, an active voice, and short words and sentences?
- ☐ Is the style conversational?
- ☐ Have you post-tested your materials?

**Translation**

- ☐ Are the language and content culturally appropriate?
- ☐ Are the visuals culturally appropriate?
- ☐ Have you had the piece back translated?
- ☐ Is the translator fluent in the same linguistic variation as the intended audience?
- ☐ Have you post-tested your materials?

**Understandability**

- ☐ Have you tested the complexity of the language used in your material for comprehension?
- ☐ Have you pre-tested your materials with members of your intended audience?
- ☐ Have you post-tested your materials with members of your intended audience

# Appendix B: Resources for Communication Planning

Here are some additional resources for doing effective communication planning.

1. CDC's National Center for Health Marketing offers clear and audience-centered products and services at www.cdc.gov/healthmarketing/

2. CDCynergy— This is an interactive CD-ROM health communication planning tool, developed by CDC. It includes the following:

- an on-line workbook for developing a communication plan
- information and examples to guide you in making choices about audiences, messages, channels, implementation, and evaluation
- a glossary of health communication terms
- a quick training guide to using the software

For more information about CDCynergy, visit our website at www.cdc.gov/healthmarketing/cdcynergy/

3. Making Health Communication Programs Work— "Pink Book"- The "Pink Book" provides comprehensive instruction on communication planning, from formative research to communication principles to product evaluation. It is available at http://www.cancer.gov/pinkbook.

# Appendix C: Formulas for Calculating Readability

## Using SMOG

Perhaps the quickest way to check a reading level manually is to use the SMOG estimating formula. G. Harry McLaughlin created SMOG (Simply Measure of Gobbledygook) in 1969 to estimate they years of education needed to understand a piece of writing.

**Here's a quick way to estimate reading level.**

• Simply count the number of words with three or more syllables in three chains of 10 sentences in difference parts of your draft.
• Then look up the approximate grade level in this chart.
• The SMOG formula can predict the grade level difficulty within 1.5 grades in 68 percent of passages.

| Total Polysyllabic Word Counts | Approximate Grade Level |
|---|---|
| 0-2 | 4 |
| 3-6 | 5 |
| 7-12 | 6 |
| 13-20 | 7 |
| 21-30 | 8 |
| 61-42 | 9 |
| 43-56 | 10 |
| 57-72 | 11 |
| 73-90 | 12 |
| 91-110 | college-level |

Developed by Harold C. McGraw, Office of Educational Research, Baltimore County Schools, Towson, MD.

McLaughlin worked with programming expert Alain Trottier to produce a free SMOG calculator. The online calculator can service 30 to 2000 words at this link: www.harrymclaughlin.com/SMOG.htm.

### Using Fry Formula

In 1977, Dr. Edward Fry created one of the most widely used readability formulas. Fry calculates the grade reading level by averaging the number of sentences and syllables per hundred words.

**Steps for you to follow:**

• Randomly choose three samples from your document with 100 words each.

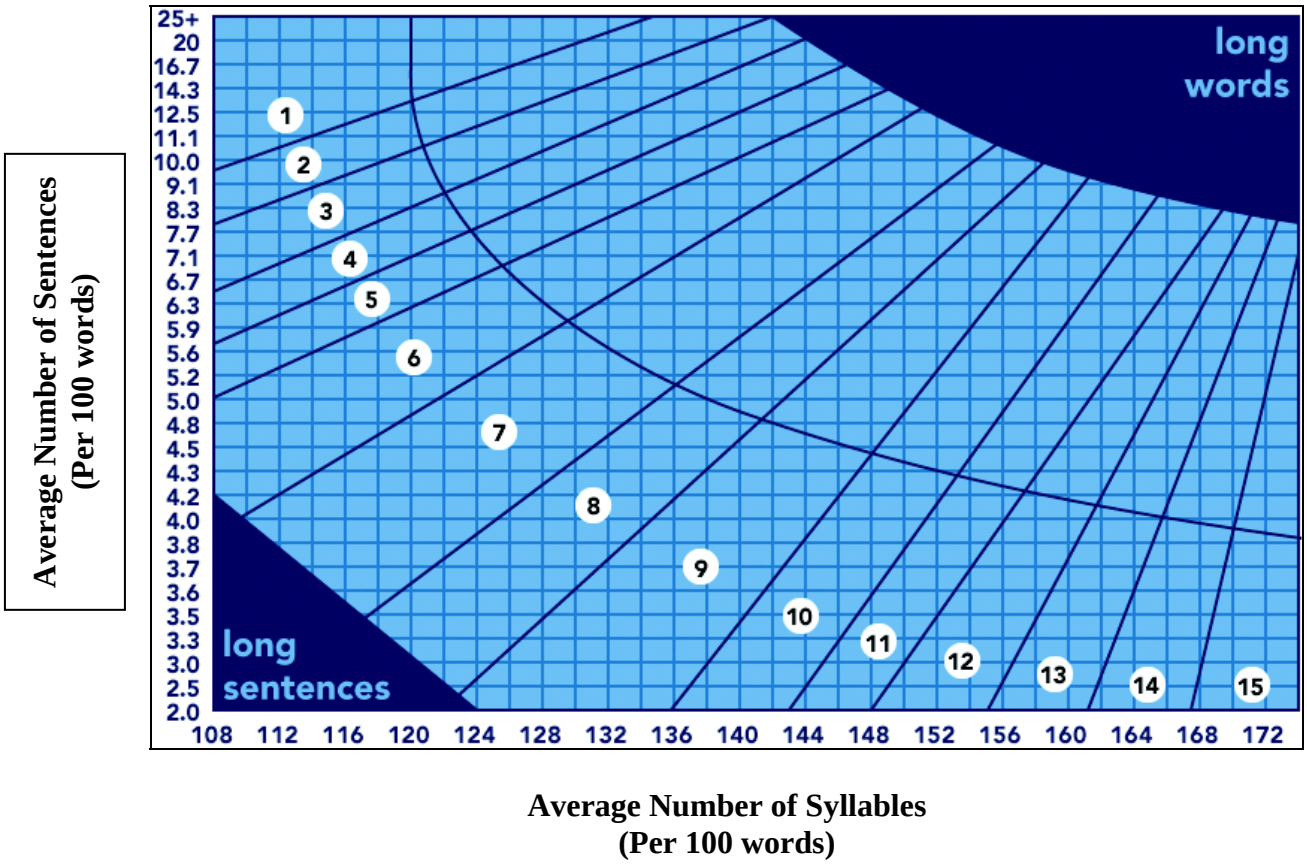
• Count the number of sentences in the hundred words, estimating length of the fraction of the last sentence to the nearest 1/10th.

• Count the total number of syllables in the 100-word passage. Do not count numbers. Do count proper nouns. If you don't have a hand counter available, an easy way is to simply put a mark above every syllable after the first syllable in each word. Then, when you get to the end of the passage, count the number of marks and add 100 to include the first syllable in each word that you did not mark.

• Find the average number of sentences and the average number of syllables for the three samples by dividing the total of all three samples by three.

• Use the graph on the next page to plot the average sentence length and number of syllables. The two lines will intersect at the approximate grade level. If a great deal of variability is found, try putting more sample counts into the average

## Fry Graph* for Estimating Grade Levels




* From: Fry, Edward. Elementary Reading Instruction. 1977, McGraw-Hill

## Using Fry on Short Documents

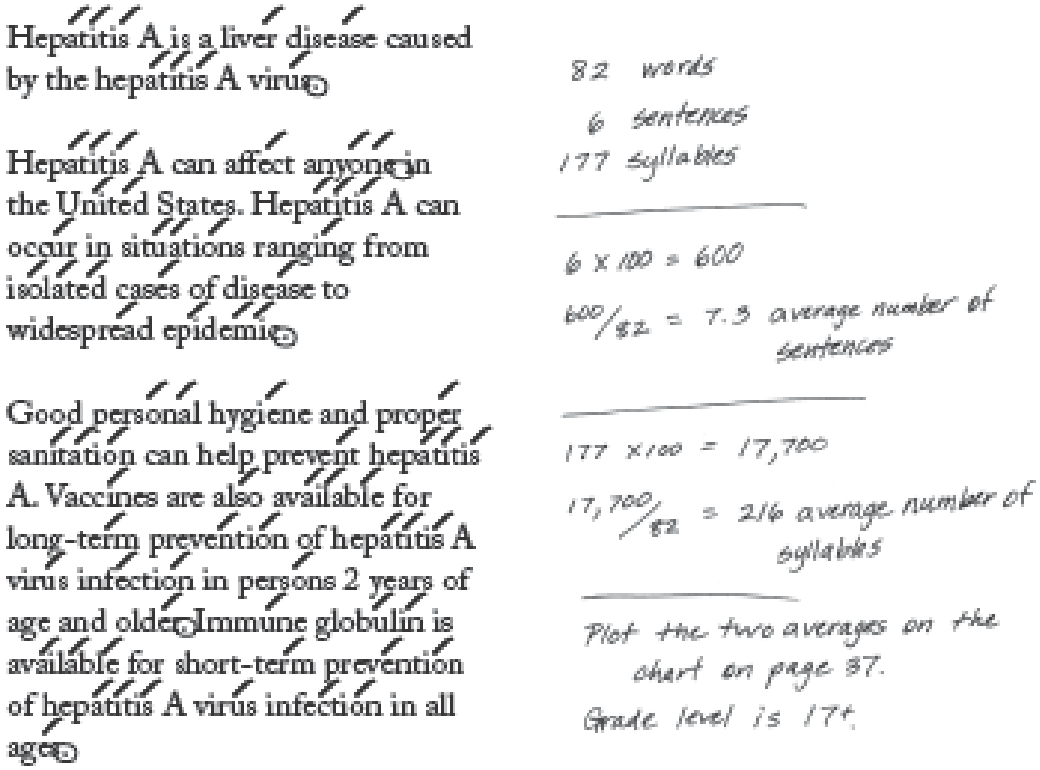
When your document has fewer than 300 words, you can use an adaptation of the Fry method.

1. Count total words, total sentences, and total syllables for the entire text. (Note: hyphenated words count as one word.)

2. Do these calculations:
 - Multiply the number of sentences by 100 and divide by the total number of words. This will give you the average number of sentences per 100 words.
- Multiply the number of syllables by 100 and divide by the number of total words. This will give you the average number of syllables per 100 words.

3. Plot the averages on the Fry graph to find the readability score.

**Here is an example with fewer than 100 words.**



Here are two examples testing 100 words:

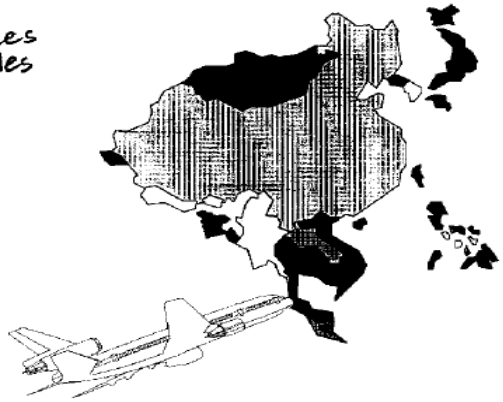
Example 1:

Example 2:

# Planning a trip to Asia?

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

***These tips will help you stay healthy on your trip.***



**Before Before You Go:**
**Talk to Your Doctor**

#1 4 sentences 154 syllables

As soon as you start planning your trip, ask your doctor if you need any of these shots or medicines to avoid getting sick. ***Even if you were born in Asia, you may still need these shots or medicines:***

- Immune Globulin or the vaccine to prevent Hepatitis A
- Booster shots of tetanus or polio vaccine
- Vaccines for Hepatitis B, Typhoid, Rabies, and Japanese B Encephalitis

Check that all your shots like measles, diphtheria, and rubella are up-to-date.

*If you are pregnant, elderly, traveling with a small child, or have a chronic illness, your doctor may have special advice for you.*

**Prevent Illness from Food and Water**

Follow these tips to avoid getting sick from food and water.

- Drink only bottled or boiled water or carbonated drinks.
- Eat only food that is completely cooked.
- Avoid dairy products unless you know they are pasteurized.
- Avoid shellfish and blowfish—these can contain toxins that may not be killed by cooking.
- Do not swim, wade, or wash in fresh water ponds, lakes, or rivers.
- Do not touch dirt or sand with your bare hands or feet.

**Traveler's Diarrhea**: You can get sick from eating food or drinking water that has germs or parasites in it. This is called traveler's diarrhea or TD.

If you get TD, you should take Oral Rehydration Salts to replace lost fluids. You can buy them in food and drug stores almost anywhere in Asia. Most people can treat themselves with these salts, but **talk to a doctor if you:**

- ✓get bloody diarrhea, chills, or fever
- ✓can't keep fluids down or become dehydrated
- ✓are pregnant
- ✓do not get better in 7 days
- ✓want medicine to make you feel better

***Warning: If your child gets TD, see a doctor right away.***

#2 7.9 sentences 142 syllables

26

**Using Lexile Readability Analyzer**

Lexile Analyzer®, produced by MetaMetrics®, allows you to test the readability of your text by generating a Lexile® measure. (A free, limited version is available at www.Lexile.com.) The Analyzer measures sentence length and the familiarity of words used. Your word choice will be compared to word frequencies within a large database of literature.

The Lexile® measure is a text difficulty score followed by an "L". The scale ranges from below 200L for beginning-reader material to above 1700L for advanced text.

| Lexile® Value | Grade Level |
|---|---|
| 300L | 2nd grade |
| 400L | 3rd grade |
| 1300L | 12th grade |

**Using PMOSE/IKIRSCH Document Readability Formula**

Researchers Mosenthal and Kirsch developed a measure for assessing document complexity, called the PMOSE/ IKIRSCH document readability formula. The PMOSE/IKIRSCH formula measures complexity based on three factors:

- The structure of the document,
- The density of the information,
- The relative dependence on information from other documents.

This tool is particularly useful for documents that include forms, tables, graphs, charts, and lists. PMOSE/IKIRSCH measures the readability of information organized in rows and columns. The formula uses the number of rows and columns, the structure, and the number of labels and items to assess the chart or table. Scores range from Level 1 to Level 5 Proficiency. The Proficiency Level can be translated into a grade-level equivalent.

| Proficiency | Grade Level | Equivalent |
|---|---|---|
| Level 1 | Grade 4 | >8 years of schooling |
| Level 2 | Grade 8 | to high school diploma |
| Level 3 | Grade 12 | some education after high school |
| Level 4 | 15 years of schooling | college degree equivalent |
| Level 5 | 16 years of schooling or more | advanced post college degree |

The next page is the Mosenthal and Kirsch's worksheet that you can apply to your text. Please note that the complexity of word choice is not a consideration in this tool.

# The PMOSE/IKIRSCH Document Readability Formula

**Structure**

Score 1 if *simple-list* structure.
Score 2 if *combined-list* structure.
*(also includes pie charts and time lines).*
Score 3 if *intersected-list* structure.
*(also includes bar charts line graphs and maps).*
Score 4 if *nested-list* structure.
*(also includes bar charts and line graphs with nested labels).*

Document Structure Score _____

**Density**

Labels Score 1 if 15 or fewer labels.
Score 2 if 16 to 25 labels.
Score 3 if 26 to 35 labels.
Score 4 if 36 to 46 labels.
Score 5 if more than 46 labels.

Number of Labels Score + _____

Score 1 if 75 or fewer items.
Score 2 if 76 to 125 items.
Score 3 if 126 to 175 items.
Score 4 if 176 to 225 items.
Score 5 if more than 225 items.

Number of Items Score + _____

**Dependency**

Add 1 if document makes reference to information in a related document or as a dependency.

Dependency Score + _____

Total Score = _____

## Document Complexity Level

*(Circle total score below to determine a document's complexity level)*

| 3 4 5 | 6 7 8 | 9 10 11 | 12 13 14 | 15 |
|---|---|---|---|---|
| Very Low | Low | Moderate | High | Very High |

Adapted from: Mosenthal, P. and Kirsch I. (1998). A New Measure for Assessing Document Complexity: The PMOSE/IKIRSCH Document Readability Formula. *Journal of Adolescent and Adult Literacy*, 41:8. pp 638-657

# Appendix D: Resources

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## Web Sites

**AMA Foundation Health Literacy Initiative**
**http://www.ama-assn.org/ama/pub/category/8115.html**
The AMA Foundation is working to raise awareness among health care providers about the link between health and literacy. Their web site includes a toolkit, a train-the-trainers seminar, and a grants program.

**Current Bibliographies in Medicine/Health Literacy** **http://www.nlm.nih.gov/pubs/cbm/hliteracy.html**
This site is part of the National Library of Medicine Database and has a large amount of background information about health literacy.

**Health Literacy Studies/Harvard School of Public Health** **http://www.hsph.harvard.edu/healthliteracy**
This site has information for researchers and practitioners in the public health, medical, and adult education fields. You can find the following health literacy materials: PowerPoint overview, preview of a new video, curricula, literature review, annotated bibliography, and links to related sites. Of special interest to literacy teachers and learners is a listing of links to easy-to-read health information sites, grouped by health topic.

**Medical Library Association Health Information Literacy** **http://www.mlanet.org/resources/healthlit/tfhil_info.html**
This site includes resources for health information professionals and consumers.

**National Institute for Literacy**
**http://novel.nifl.gov**
The National Institute for Literacy (NIFL) is a government-administered group that supports and encourages efforts to provide a high-quality system for adult literacy. The site includes information about NIFL programs and services, as well as provides information about policy, legislation, and programs related to literacy.

**Plain Language Association International**
**http://www.plainlanguagenetwork.org/**
Plain Language Association International is a volunteer professional association that advocates clear writing and provides free online resources to help you use language that is easily understood.

**Writing Reader-Friendly Documents**
**http://www.plainlanguage.gov/index.cfm**
The Plain Language Action and Information Network promotes the use of plain language for all government communications. They offer to all federal agencies limited editing and review services, sponsor occasional seminars about plain language, and offer a half-day introduction to plain language free-of-charge.

## Clip-Art Resources

**Centers for Disease Control and Prevention**
The Centers for Disease Control's public health image library has a variety of images relating to public health.
**http://phil.cdc.gov/Phil/default.asp**

**Johns Hopkins University**
This database of clip-art is from Johns Hopkins Center for Communication Programs' Health Communications Network.
**http://www.hcmn.org/clipart.**

**Multimedia and Web Services Anatomy Clip-Art**
This web site features an electronic gallery of high-quality images from various medical fields.
**http://www.uthscsa.edu/mw/illustration-about.aspx**

**Visuals Online (National Cancer Institute)**
The NCI Visuals Online database contains images of food and people that can be used free of charge. Website:
http://visualsonline.cancer.gov/

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# Simply Put

## *A guide for creating easy-to-understand materials*

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Division of Communication Services
Office of the Associate Director for Communication
Centers for Disease Control and Prevention
Atlanta, Georgia

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