Scientific writing is *similar* to other writing styles because you begin with a clear understanding of the message you want to convey, the purpose of the paper, and the audience who will read the paper. It is also similar in that you use a systematic approach to the steps of Prewriting and Planning followed by Drafting, Revising, Editing, and finally Evaluating. Remember to:

- Work from an outline.
- Pay close attention to flow. Paragraphs must have leading sentences and transitions to the next paragraph.

Scientific writing also *differs significantly* from creative prose.

- Although passive voice (“The patient's chart contains the health care professional's documentation.”) is common, use active voice (“Health care professionals document care in the patient's chart.”) when possible/appropriate.

- Use the specific correct term for something used consistently. Don't get fancy and try to find several synonyms for a particular word. This only serves to confuse the reader into thinking that you are describing different things.

- Keep sentences relatively short and to the point.

- Use level headings to indicate sections.

- For seriation, use (a), (b), etc.

- Avoid jargon, colloquialisms, and “cuteness.”

- Use “I” only when absolutely necessary and appropriate.

- Watch parallel structure (the patient – s/he, patients – they).

- Leave your work for a day or two, then reread, and edit.

- Ask someone else to read your paper. It need not be someone from your own discipline. The flow of ideas and wording should be clear even if the concepts are unfamiliar.
Citations, References, and Bibliographies

Introduction:

Any thought which is not your own or common knowledge must be cited. A good paper consists of a balance between thoughts referenced to others and those that are your own.

The two main purposes of citing a reference are to give credit to the original author and to enable the reader to locate the full document from which you excerpted the ideas.

Definitions:

Citation: the individual item in a reference list or the notation of a reference within the paper. All citations in the text of the paper must be found in the reference list with the exception of personal communications.

Reference list: the compilation of citations in the back of the paper. All citations on the list must be referenced in the paper.

Bibliography: a list of citations for further reading. These are different works than those cited in the paper (and reference list).

Footnote: an explanation or side comment about something in the text of the paper.

Paraphrasing and Quotations:

Paraphrasing requires more than just reordering words or phrases. The idea must be presented in your own words but with the meaning of the original. If borrowed ideas and originals are mixed in one sentence, put the borrowed part first and cite that author immediately following the paraphrased portion.

Use direct quotes sparingly and in short excerpts. It is acceptable to alter the case of the first word and the ending punctuation if necessary for the sentence to flow correctly. Use an ellipsis (...) to indicate missing words from the middle of a quote. Use square brackets [ ] to indicate words you have added to the original author's quote. Page numbers must be included in the citation of the direct quote.

Primary and Secondary Sources:

Citations should always be from the primary source (the original author). If this is not possible, the citation must reflect the secondary nature of the reference. For example, if you read about Socrates in a textbook, you might reference it as follows:

Socrates (as cited in Smith, 1988) believed that...

Note: in the reference list, only the Smith source would appear, not Socrates. You did not actually read Socrates own writing.
Age of References:

Commonly, references need to be five or fewer years old. The exceptions are when there are no other references on the subject in existence or when there are classic works.

“Voice” for academic writing:

Improper:

In this review, I will show that the literature on treating juvenile murderers is sparse and suffers from the same problems as the general literature on juvenile homicide (Benedek, Cornell, & Staresina, 1989; Myers, 1992) and violent juvenile delinquents (Tate, Reppucci, & Mulvery, 1995). Unfortunately, I have found that most of the treatment results are based on clinical case reports of a few cases referred to the author for evaluation and/or treatment (e.g., see Agee, 1979).

Suitable:

The literature on treating juvenile murderers is sparse and suffers from the same problems as the general literature on juvenile homicide (Benedek, Cornell, & Staresina, 1989; Myers, 1992) and violent juvenile delinquents (Tate, Reppucci, & Mulvery, 1995). Most of the treatment results are based on clinical case reports of a few cases referred to the author for evaluation and/or treatment (e.g., see Agee, 1979...).

Thesis Statements

Topic

Why nurses in a privately funded nurse-manager teen center, affiliated with a midwestern university hospital, are key people to provide high-risk adolescents with education and counseling on sexuality and reproductive issues.

Why Is My Point Important?

The teen center described can serve as a model for comparable sites and populations in the nation.

How Will I Present It?

By showing how a nurse-managed teen center in a large midwestern community is helping to educate teenagers on sexuality and reproduction issues through special programs, classes, individual counseling, and referrals.

What Is My Point?

To educate a high-risk population in which AIDS and venereal disease are on the increase, along with the number of unwed teenage mothers, many of whom deliver infants with crack addiction, potential HIV infection, and other disorders.

Thesis

The rise of life-threatening illnesses, such as AIDS, among inner-city adolescents has demonstrated their lack of education or understanding in this area as well as other health problems related to sexuality and reproduction. Through creative programs, counseling, and referral, nurse practitioners and staff in a nurse-managed teen center have developed a model to reach this population, with encouraging results to date.

Your thesis may be expressed in one or more sentences depending on the topic's complexity. Although some editors may be interested in a broad-based article such as the one proposed above, other editors may prefer limiting the content to a particular service or program within the teen center. (That reason shows why letters of query and proposals are important. See Lesson 5.) Suggested are two topics with a narrower focus that should allow for adequate substance and exposition:

1. Nurse-managed teen center implements innovative interactive video program on family planning for inner-city girls and boys.
2. Nurse-managed center spearheads interdisciplinary AIDS education program with promising results for inner-city teens and families.

Understand Readability Scores

Each readability test bases its rating on the average number of syllables per word and words per sentence. The following sections explain how each test scores your file's readability.

**Flesch Reading Ease test**

This test rates text on a 100-point scale. The higher the score, the easier it is to understand the document. For most standard files, you want the score to be between 60 and 70.

The formula for the Flesch Reading Ease score is:

$$206.835 - (1.015 \times ASL) - (84.6 \times ASW)$$

where:

- **ASL** = average sentence length (the number of words divided by the number of sentences)
- **ASW** = average number of syllables per word (the number of syllables divided by the number of words)

**Flesch-Kincaid Grade Level test**

This test rates text on a U.S. school grade level. For example, a score of 8.0 means that an eighth grader can understand the document. For most documents, aim for a score of approximately 7.0 to 8.0.

The formula for the Flesch-Kincaid Grade Level score is:

$$(.39 \times ASL) + (11.8 \times ASW) - 15.59$$

where:

- **ASL** = average sentence length (the number of words divided by the number of sentences)
- **ASW** = average number of syllables per word (the number of syllables divided by the number of words)
http://www.harrymclaughlin.com/SMOG.htm

SMOG
Simple Measure Of Gobbledygook

By G. Harry McLaughlin

My readability formula SMOG estimates the years of education needed to understand a piece of writing. SMOG is widely used, particularly for checking health messages.

To use a free online software tool which calculates SMOG and three other readability measures click here.

SMOG was published in 1969 BC [Before Computers] so I made calculating a text’s readability easy by offering an approximate formula — count the words of 3 or more syllables in 3-10 sentence samples, estimate the count’s square root, and add 3.

The precise formula for SMOG yields an outstandingly high 0.985 correlation with the grades of readers who had 100% comprehension of test materials. Here is the formula generalized for more than 30 sentences:

\[ 1.0430 \times \sqrt{\frac{\text{number of polysyllables}}{\text{number of sentences}}} + 3.1291 \]

The standard error of the estimated grade level is 1.5159 grades, comparable to that of other readability formulae. For a pdf file of the original paper click G. Harry McLaughlin (1969) SMOG grading: A new readability formula, Journal of Reading, 12 (8) 639-646.

You may have seen SMOG conversion tables compiled by one Harold C. McGraw. They are slightly inaccurate because they are based on the approximate formula I offered for ease of calculation. Tables for texts of fewer than 30 sentences are statistically invalid as well, because the formula was normed on 30-sentence samples.

A sketch of how SMOG came to be devised was published in a Plain Language at Work Newsletter. Decades ago I suggested how readability formulas could be improved in Temptations of the Flesch and Proposals for British Readability Measures.

Please enjoy the rest of this site by clicking

Home Page

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Tests Document Readability

This free online software tool calculates readability: Coleman Liau index, Flesh Kincaid Grade Level, ARI (Automated Readability Index), SMOG. The measure of readability used here is the indication of number of years of education that a person needs to be able to understand the text
easily on the first reading. In general, these tests penalize writers for polysyllabic words and long, complex sentences. Your writing will score better when you: use simpler diction, write short sentences. It also displays complicated sentences (with many words and syllables) with suggestions for what you might do to improve its readability.

<table>
<thead>
<tr>
<th>Number of characters (without spaces)</th>
<th>524.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of words</td>
<td>103.00</td>
</tr>
<tr>
<td>Number of sentences</td>
<td>5.00</td>
</tr>
<tr>
<td>Average number of characters per word</td>
<td>5.09</td>
</tr>
<tr>
<td>Average number of syllables per word</td>
<td>1.75</td>
</tr>
<tr>
<td>Average number of words per sentence</td>
<td>20.60</td>
</tr>
</tbody>
</table>

**Indication of the number of years of formal education that a person requires in order to easily understand the text on the first reading**

- **Gunning Fog index**: 16.78

**Approximate representation of the U.S. grade level needed to comprehend the text**:

- **Coleman Liau index**: 12.71
- **Flesh Kincaid Grade level**: 13.07
- **ARI (Automated Readability Index)**: 12.83
- **SMOG**: 15.73
- **Flesch Reading Ease**: 38.08

List of sentences which we suggest you should consider to rewrite to improve readability of the text:

- However, the procedure can vary according to the age of the individual, the severity of the illness, the preferences of the nurse, the location of the examination, and the agency’s priorities and procedures.

<table>
<thead>
<tr>
<th>SMOG Grade</th>
<th>Educational Level</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 6</td>
<td>low-literate</td>
<td>Soap Opera Weekly</td>
</tr>
<tr>
<td>7</td>
<td>junior high school</td>
<td>True Confessions</td>
</tr>
<tr>
<td>8</td>
<td>junior high school</td>
<td>Ladies Home Journal</td>
</tr>
<tr>
<td>9</td>
<td>some high school</td>
<td>Reader's Digest</td>
</tr>
<tr>
<td>10</td>
<td>some high school</td>
<td>Newsweek</td>
</tr>
<tr>
<td>11</td>
<td>some high school</td>
<td>Sports Illustrated</td>
</tr>
<tr>
<td>12</td>
<td>high school graduate</td>
<td>Time Magazine</td>
</tr>
<tr>
<td>13 - 15</td>
<td>some college</td>
<td>New York Times</td>
</tr>
<tr>
<td>16</td>
<td>university degree</td>
<td>Atlantic Monthly</td>
</tr>
<tr>
<td>17 - 18</td>
<td>post-graduate studies</td>
<td>Harvard Business Review</td>
</tr>
<tr>
<td>19+</td>
<td>post-graduate degree</td>
<td>IRS Code</td>
</tr>
</tbody>
</table>
Display the reading level for a document

The Flesch Reading Ease scale is a system that can be used to indicate the relative complexity of written text using an analysis based on the average number of syllables per word and words per sentence. Higher scores correspond to text that is easier to understand, while lower scores correspond to text that is more difficult to understand. Most documents should have a score between 60 and 70.

1. On the Word menu, click Preferences.
2. Under Authoring and Proofing Tools, click Spelling and Grammar.
3. Select the Check grammar with spelling check box.
4. Select the Show readability statistics check box, and then click OK.
5. On the Tools menu, click Spelling and Grammar.

After Word finishes checking spelling and grammar, it displays information about the reading level of the document.
Writing for APA Format

Introduction:

When the faculty requires that a paper be submitted using APA format, they are referring to the document style specifications delineated by the American Psychological Association. In most cases, the critical component is that references or citations be done in the APA style. The page layout criteria are not as important for your school papers.

The reference text to guide you in writing APA style is the *Publication Manual of the American Psychological Association*. As of 2009, the 6th edition is the most current.

Key Components:

Several major components must be followed when citing references in the APA style.

1. Inside the text, references are done using the author name(s) and year of publication. For example:

   APA format is one of over 20 different citation styles (Berman, 2009).

   or

   Berman (2009) states that APA format is one of over 20 different citation styles.

All authors are to be listed unless there are six or more. In that case, use (Firstauthor et al., year).

For one or two authors, use all names each time. For three to five authors, include all authors the first time and (Firstauthor et al., year) after that. Use the ampersand (&) in the citation and reference list; use "and" within a sentence.

If the name of the author appears as part of the sentence, the year follows in parentheses and it is *not* necessary to include the year again when the author’s name is repeated in the same paragraph and cannot be confused with any other citations in the same paragraph. *But,* any
parenthetical references (i.e., the citation appears in parentheses) in the same paragraph should include the year.

However, if the full citation appears in parentheses first, subsequent citations should always present the year along with the author’s last name.

If there is more than one reference in a citation, use the same sequence as on the reference list - alphabetical, then chronological - with a semi-colon between (Berman, 2009, 2010; MacIntyre, 2008).

2. "A direct quote must include the page number of the source" (Berman, 2009, p. 45). A paraphrased reference (as above in 1) does not require page numbers inside the text.

If a direct quote is longer than 40 words (rare), it is typed set apart from the regular text. Indent the entire quote five spaces from the left margin; do not use quotation marks or dots (...) to indicate the beginning or end of the quote. The right margin remains ragged and at the regular right edge.

3. True classics such as the bible or Greek works do not need to be cited. Indicate in the first reference to the work in the text which version was used.

**Reference List:**

Every work cited in the paper must appear in the reference list except personal communications.

In addition, there can be no references listed that are not cited in the paper.

The sequence of reference components and typing conventions has several standards.

1. The sequence for a journal article is author(s), year, article title, journal title, volume, issue (if required), pages.

2. The sequence for book references is author, year, book title, city, publisher. When citing an authored chapter in an edited book, the chapter information goes first (author, year, chapter
title) then the book information ("In" editor, book title, pages of the chapter), city, publisher. If
the reference is to an edition multiple, one parenthesis includes both edition and page numbers

3. Articles should have the DOI (digital object identifier) number included. This is a 10-
digit number, beginning with 10 e.g. doi: 10.1111/j.1365-2834.2008.00864.x You can search for
the doi at http://www.crossref.org/guestquery/ To check the doi for a list of references, register
for a free account here: http://www.crossref.org/SimpleTextQuery/

4. Refer to the APA manual for exact details regarding names, underlining, spacing, periods,
etc. Note: never re-order or alphabetize the authors of a reference. New to the 6th edition: if a
source has more than seven authors, list the first six, then three ellipsis points, and then the last
author (see sample reference list).

5. A common area of difficulty for students is capitalization. Only the first letter of the first
word of a journal article or book title and the first letter of the first word of the subtitle, if
present, is capitalized. Each word in the title of the journal is capitalized. All proper names are
capitalized as usual.

6. Final copies for publication have the first line of each reference at the left margin and
subsequent lines indented (hanging indent).

7. Italicize the book title or from the journal title through the volume number, including the
commas and spaces. Issue number, if used, is not italicized.

8. If only an abstract was read and is being cited, insert [Abstract] after the title and before
the period.

10. Reference lists are double-spaced.
12. When citing non-research literature, indicate that it is "background" material. For example: Smith (2008) suggests that...

Page Layout:

APA page guidelines consist of 1-inch margins in all four sides (not counting headers and page numbers), double-spaced. The page number goes in the upper right corner. The right margin is ragged (not justified) and the first line of each paragraph is indented five spaces (one tab). There is no end-of-line hyphenation.

Headings:

APA format strictly specifies the form of headings according to the total number of heading levels that will be used. See 6e p. 62.

Level 1: Centered, Boldface, Uppercase and Lowercase

Level 2: Flush Left, Boldface, Uppercase and Lowercase

Level 3: Indented, boldface, lowercase, ending with a period. Text begins two spaces after the period.

Level 4: Indented, boldface, lower case, italicized, ending with a period. Text begins two spaces after the period.

Level 5: Indented, lower case, italicized, ending with a period. Text begins two spaces after the period.
References


Faculty may delineate the extent to which papers conform to the exact specifications of the *Publication Manual of the American Psychological Association*, 6th edition, 2010 (APA format). Any questions regarding these requirements should be directed to the faculty member. The items checked below are expected to be included in this paper as specified in APA format.

- No end-of-line hyphenation
- Ragged right margin
- Font: Times New Roman size 12 point
- In-text citations (author, year, plus page # if quoted). Refer to APA manual for handling of 1-2, 3-5, 7 or more authors, and repeated citations in same paragraph.
- Long quotes block (left margin indented, no quotation marks)
- Double-spacing
- Paragraphs indented 1 tab
- 1” margins
- Seriation: (a), (b)
- Page numbers upper right
- Title page
- Running head
- Short title
- APA style headings (levels 1-5 prescribed)
- Abstract
APA Style Internet Resources

These web sites are current as of 9/6/12 and are based on the 6th edition of the Manual. There is no guarantee that their content is completely consistent with the APA Manual.


2. Vanguard University. Includes a sample paper and Word template.  


4. Purdue University Online Writing Lab.  
http://owl.english.purdue.edu/handouts/research/r_apa.html

5. APA STYLE Tutorial, 6th Edition Univ Southern Mississippi  
http://www.lib.usm.edu/legacy/tutorials/apatutorial/tutorialindex.html

6. APA Exposed tutorial. PowerPoint slides with 1-hour audio lecture. Harvard University  
http://isites.harvard.edu/icb/icb.do?keyword=apa_exposed

http://library.nmu.eduguides/userguides/style_apa.htm Nursing-specific examples:  


9. Research and Documentation Online  
http://bcs.bedfordstmartins.com/resdoc5e/RES5e_ch09_s1-0008.html

10. APA Research Style Crib Sheet: Russ Dewey, Georgia Southern University Psychology Department  
APA Style Software Packages

1. Reference Point Software [http://refpt.net/APA_features.htm](http://refpt.net/APA_features.htm) $29.95
   Has versions for many releases of Word for PC/Mac; Works, OpenOffice


3. PERRLA [http://www.perrla.com/APADetails.aspx](http://www.perrla.com/APADetails.aspx) $34.95
   30 day free trial

4. StyleEase for APA Style [http://www.stylewriter-usa.com/styleeaseAPA.html](http://www.stylewriter-usa.com/styleeaseAPA.html) $35.00

5. Citation 9 [http://www.citationonline.net/9-home.asp](http://www.citationonline.net/9-home.asp) $99.00
   30 day free trial

6. Thomson Reuters Endnote X6 [http://endnote.com](http://endnote.com) ~$112.75*
   30 day free trial * Student pricing – be sure to get this from CDW-G ([www.cdwg.com/](http://www.cdwg.com/)), JourneyEd ([www.journeyed.com/](http://www.journeyed.com/)) or similar vendor.

These web sites and prices are current as of 9/6/12.