

# The Smog Readability Formula

Adapted from McLaughlin, G. (1969). SMOG grading: A new readability formula. Journal of Reading, 12 (8). 639-646.

The SMOG conversion tables were developed by Harold C. McGraw, Office of Educational Research, Baltimore Co. Public Schools, Towson, MD.

The SMOG Readability Formula is a simple method you can use to determine the reading level of your written materials. If a person reads at or above a grade level, they will understand 90-100% of the information. Generally, you need to **aim for a reading level of sixth grade or less**. In addition, to ensure that the text is clear and readable, read your draft aloud.

## How to use the SMOG formula:

1. Count 10 sentences in a row near the beginning of your material. Count 10 sentences in the middle. Count 10 sentences near the end. (30 total sentences)
2. Count every word with three or more syllables in each group of sentences, even if the same word appears more than once.
3. Add the total number of words counted. Use the SMOG Conversion Table I to find the grade level.

If your material has fewer than 30 sentences, follow the instructions for "SMOG on Shorter Passages" and use SMOG Conversion Table II.

### *Word Counting Rules:*

- A sentence is any group of words ending with a period, exclamation point, or question mark.
- Words with hyphens count-as-one-word.
- Proper nouns are counted.
- Read numbers out loud to decide the number of syllables.
- In long sentences with colons or semicolons followed by a list, count each part of the list with the beginning phrase of the sentence as an individual sentence.
- Count abbreviations as the whole word they represent.

### SMOG for Shorter Passages (< 30 sentences)

Use this formula and SMOG Conversion Table II for material containing less than 30 sentences, but not less than 10 sentences.

1. Count the total number of sentences in the material.

2. Count the number of words with 3 or more syllables.
3. Find the total number of sentences and the corresponding conversion number in SMOG Conversion Table II.
4. Multiply the total number of words with 3 or more syllables by the conversion number. Use this number as the word count to find the correct grade level from Table I.

SMOG Conversion Table I

(for longer materials)

<u>Word Count</u>	<u>Grade Level</u>
0-2	4
3-6	5
7-12	6
13-20	7
21-30	8
31-42	9
43-56	10
57-72	11
73-90	12
91-110	13
111-132	14
133-156	15
157-182	16
183-210	17
211-240	18

SMOG Conversion Table II

(use on material with < 30 sentences)

<u># of Sentences</u>	<u>Conversion #</u>
29	1.03
28	1.07
27	1.1
26	1.15
25	1.2
24	1.25
23	1.3
22	1.36
21	1.43
20	1.5
19	1.58
18	1.67
17	1.76
16	1.87
15	2.0
14	2.14
13	2.3
12	2.5

11	2.7
10	3.0

## **Another Readability Option**

### **The Flesch-Kincaid Grade Level Index**

While the SMOG Readability Formula is an easy way to determine readability, another option is the Flesch-Kincaid Grade Level Index. This test is automatically calculated on your Microsoft Word documents. After Microsoft Word completes a grammar check (under tools in the tool bar), readability statistics are displayed.

One of the formulas that is similar to the SMOG formula is the Flesch-Kincaid formula. This index computes readability based on the average number of syllables per word and the average number of words per sentence. The score in this case indicates a grade-school level. For example, a score of 8.0 means that an eighth grader would understand the document. Standard writing approximately equates to the seventh- to eighth-grade level.