Rules for the Use of Numbers in Scientific Writing*

The Cain Project in Engineering and Professional Communication

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Abstract

Adapted from Burnett, RE (1997) Technical Communication, 4th ed. Wadsworth: Washington, D.C

1 RULE 1: Generally, use words for numbers one through nine, and numerals for all other numbers, both cardinal and ordinal. However, use numerals if both single-digit and higher ordinal numbers are used in a single sentence.

Cardinal	Ordinal
I washed the plate three times.	The third plate grew cells.
I washed the plate 12 times.	The 12th plate grew cells.
	The 3rd and 12th plates grew cells.

Table 1

2 RULE 2: Use words at the beginning of the sentence. If this is awkward, rewrite the sentence. If a chemical term contains a numeral, you cannot spell it out, so you must reword the sentence.

Original: 12 patients participated in the study.
Revised: Twelve patients participated in the study.
Original: 133 patients were interviewed.
Revised: We interviewed 133 patients.
Original: 2-mercaptoethanol was the mutagen in our experiment.
Revised: The mutagen in our experiment was 2-mercaptoethanol.

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3 RULE 3: Use numerals for physical quantities—distances, lengths, volumes, areas, etc. Leave a space between the numeral and the unit, except in the case of o and % (see example below and in RULE 4).

20o C	17 in	3.2 L
100 micro-liters	1,200 sq ft	220 volts

Table 2

4 RULE 4: Use numerals for all percentages and decimal fractions.

A rejection rate of 7% is too high.

The average reading on the machine was 2.54.

5 RULE 5: Decimal fractions less than one are set with an initial zero if the quantity expressed is capable of equaling or exceeding 1.00. If the quantity never equals 1.00, then no zero is used.

Ratio of 0.93 (not .93)

P < .07 (not 0.07, although this may be accepted in some disciplines)

6 RULE 6: Use figures to indicate age.

Age 38	18 months old
2-year-old	men in their 70s

Table 3