Unprimed stem completion is only moderately predicted by word frequency and length

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Factors that determine unprimed performance in word-stem completion were investigated. Researchers' descriptions of materials used in word-stem completion suggest that normative word frequency, number of alternative completions, and response length are believed to be important. A total of 160 students provided normative responses to each of 914 multiple-completion three-letter word stems, resulting in over 12,000 unique responses. Although the number of alternative responses made correlated well with the number possible, word frequency and length were extremely variable in their relation to response frequency across stems. Creating more precise materials for implicit memory studies appears to require consulting normative response data.

Recently, much speculation, research, and debate has focused on issues of implicit memory (see, e.g., Graf & Masson, 1993; Lewandowsky, Dunn, & Kirsner, 1989, for reviews). Implicit memory is revealed when performance on a task is affected by a previous experience, but the person need not reflect back to that experience to complete the task. This is in contrast to explicit memory, which is revealed by traditional tests of memory that explicitly refer to the previous experience (e.g., cued recall). One of the central issues is to understand what underlies differences between implicit and explicit memory. Two contrasting, dominant viewpoints have been that either separate memory systems are involved (e.g., Tulving & Schacter, 1990), or different types of processing are required (e.g., Roediger, 1990; although Roediger & Srinivas, 1993, and Schacter, 1990, have noted that these viewpoints may be more complementary than competing).

Although there are many well-supported, consistent findings in the literature, there are also many points of disagreement. Differences in research findings have been attributed to inadequate control of subject strategies (e.g., explicit memory contamination of implicit tests; Schacter, Bowers, & Booker, 1989), variation in type of processing at study (e.g., incomplete processing of the entire stimulus; Challis & Brodbeck, 1992), variation in test type

This research was begun while R.J.S. was a postdoctoral fellow on a training grant to the Georgia Institute of Technology, funded by the National Institute on Aging (T31 AG-00175). A large number of students assisted in testing participants and entering, checking, and editing responses; I am grateful to E. Chenoweth, M. Chidester, E. Deahl, C. English, R. Forbes, J. Groark, B. Haas, K. Jones, D. Knight, D. Miller, R. Myers, S. Orey, T. Ralston, S. Salovich, M. Santore, M. Shelek, and K. Sosnow. I am also grateful to my colleagues E. Caldwell and J. Crosbie for technical assistance and encouragement. An earlier draft of the present paper was substantially improved by comments from J. Crosbie, J. Toth, M. S. Weldon, and an anonymous reviewer. Correspondence should be addressed to R. J. Shaw, Department of Psychology, Merrimack College, 315 Turnpike St., North Andover, MA 01845 (e-mail: rshaw@merrimack.edu).

(e.g., perceptual versus conceptual processing at test; Jacoby, 1983; Roediger & Blaxton, 1987), imprecision of testing technique (Jacoby, 1991; Toth, Reingold, & Jacoby, 1994), variation in experimental design (e.g., within-versus between-subject designs; A. S. Brown & Mitchell, 1994; Challis & Brodbeck, 1992), and insufficient sample sizes to detect significant differences (e.g., A. S. Brown & Mitchell, 1994; Chiarello & Hoyer, 1988). It is interesting to note that this list of factors covers most of Jenkins's (1979) tetrahedron of factors (subject, encoding, retrieval, and materials variables) to consider in the study of human memory.

One of the tasks that has been used frequently in implicit memory research is word-stem completion. In that task, people first have the opportunity to encode a list of words. Later, they are given word stems (e.g., the first three letters common to a number of words) and asked to complete them with the first word that comes to mind. Generated words often come from the list, but research participants also complete stems with words that are not on the list.

Typically, the performance of interest in implicit memory is priming—the proportion of the studied words generated at test minus a baseline, or unprimed, completion rate. The baseline is usually estimated by the number of nonstudied target words generated at test by the same research participants (although Park & Shaw, 1992, advocated consideration of item-based baselines along with such subject-based baselines). An interesting problem for researchers wishing to generate a list of words for people to study is that they need to know the baseline before they collect any data. That is, if the experimenter should select targets that everyone would generate by chance to the word stem, no priming could be observed; conversely, priming might not occur for targets that nobody would generate by chance. So the experimenter should select targets that have a moderate baseline. The usual procedure is to rely on luck, and collect baseline data concurrently with priming data. Research participants are primed for half of the target words, and their responses

to the unprimed stems serve as the baseline for the other half of the targets.

Researchers typically do not try to conduct research entirely on the basis of luck, however. Consequently, researchers appear to have assumed that unprimed stem completion rates are determined by normative word frequency (based on Kučera & Francis, 1967, for example), word length, and the number of available alternative completions to the stem (usually based on counting main entries in a dictionary). Graf, Mandler, and Haden (1982), for example, used short words (five or six letters), with "at least four alternatives for completing each stem to form a word of the same length" based on Webster's Pocket Dictionary. They noted that target words were "never the most common completion of the stem" (p. 1243). Light and Singh (1987), for example, described the same general characteristics (with explicit reference to Kučera & Francis as the basis for frequency), citing Graf et al.'s description as the reason. Generally, however, there is little consistency, even within a single researcher, in how materials are described.

There are two problems with collecting baseline data during the experiment. First, it is possible that words generated to nontarget stems are artificially affected by the studied list. Various characteristics of the list may influence the types of words people think of (e.g., short, concrete nouns instead of a random selection of all types of words). For example, in attempting to write down from memory a story written in an unusual style, people try to mimic that style (Bartlett, 1932). It is possible that this occurs in priming experiments, and may act on an unconscious level as well, influencing priming. Consequently, the extent of priming may be underestimated by the typical experimental design. If so, true baseline information should come from people not exposed to an experimental list, but this is not typically done (although see Craik, Moscovitch, & McDowd, 1994, for an exception).

The second problem with collecting baseline data online is that it is likely to lead to widely varying baselines within the set of words if the assumptions about length and frequency are not correct. It is possible that an experimenter may inadvertently choose a relatively rare word (by Kučera & Francis, 1967, standards) that nonetheless is a common completion for its stem. Within a set of target words, some may have unexpectedly high baselines whereas others have unexpectedly low baselines. When the high-baseline word is the primed response and the low-baseline word is the unprimed response, the amount of priming (the observed difference between these in completion rate at test) will overestimate the actual priming effect. Conversely, when these items are reversed, as in the usual counterbalancing arrangement, priming will be underestimated. Average priming across counterbalancing conditions may accurately reflect the true priming effect, but the variance across these conditions is added to the error term, which reduces statistical power to detect real differences. Normative information prior to conducting an experiment could help researchers develop more consistent materials.

The present paper describes normative responses to a large collection of three-letter stems as a way of providing some initial information about the kinds of words that people generate ad lib., and the actual influences of frequency, length, and number of alternatives. It is hoped that such information will allow for the possibility of exploring the characteristics of priming with reduced experimental error.

Graf and Williams (1987) reported normative response information for 40 different word stems. They gave the 40 stems to each of 100 individuals, without giving them any priming list of words. Although their data are obviously useful, they are limited to only 40 stems, and this may not allow for a sufficient number of target words in every study. Park and Shaw (1992), for example, used 72 different word stems. Indeed, a quick review of other studies using word-stem completion revealed that 40 targets is almost always too few. The present study sought to remedy those limitations by collecting responses to a much larger set of stems, with a larger sample of people, from two different populations. In total, 160 students responded to each of 914 word stems. These 914 stems represent a fairly exhaustive set of possible stems, using the criteria that 8 or more alternative responses have a normative word frequency (Kučera & Francis, 1967) of 1 or more.

METHOD

Participants

Responses of 160 undergraduate students from psychology courses at the Georgia Institute of Technology (GT) and West Virginia University (WVU) were collected. Using individuals from two institutions provided a wider variety of students than either population alone could provide. GT is a highly selective institution, whereas WVU is a large state university with a broader admissions policy. Students from both institutions participated for course credit in introductory psychology courses. These populations were sampled because they are typical of those in implicit memory research.

Individuals whose native language was not English were excluded from the sample. The mean age of participants was 20.6 years (range, 18–40). There were 77 males and 78 females (5 people did not respond to the question of sex), and the majority were sophomores and juniors (100 individuals). Of the 160 participants, 61 were from GT and 99 were from WVU.

Materials

The 914 word stems (see Appendix) were selected to be a fairly exhaustive collection of the types of stems chosen for implicit memory research. All three-letter stems that had at least eight completions in the Kučera and Francis (1967) word frequency corpus were chosen. In counting completions in Kučera and Francis for this purpose, proper nouns, hyphenated words, possessives and contractions, and obviously foreign words (e.g., adieu or adios) were excluded, but multiple verb forms and plurals were included (e.g., trade, traded, and trades counted as three entries). These criteria seemed to match typical practice for administration and scoring of stem-completion tasks. That is, research participants are typically told not to complete stems with the sorts of words that were excluded, and verb forms and plurals are typically counted as separate responses.

To minimize order effects, 10 random orders of the 914 stems were created. Stems were then typed in 4 columns of 26 stems per column on each of 8 pages; one additional page had 3 full columns and 1 short column of only 4 stems. Stems were typed in lowercase

letters in 12-point Courier typeface, with a 2.4-cm underscore after the stem. The 9 pages were shuffled randomly for each subject. Thus, there were 10 orders of stems within pages, but each subject could potentially have a unique order of pages.

Procedure

Participants were tested in groups, ranging from 1 to 24 individuals (depending on the number of individuals who appeared at testing sessions). Participants were given a sheet of instructions, and the experimenter read the sheet while participants followed along. Instructions began with an explanation of what word stems are, using zeb as an example (zeb is not in the set of 914 stems). Participants were asked to complete all the stems if possible, with the very first word that came to mind. They were told not to use responses with hyphens or apostrophes, foreign words, or proper nouns (defined to participants as "the names of people, places ... anything you'd capitalize"). They were asked to think of a new word if one of these came to mind. The instructions emphasized that they should write the first word that came to mind; participants were told that this was not a test of creativity, but simply a study of what words "come into people's minds when they see each stem." They were told that they could skip stems if nothing came to mind, but were encouraged to return to skipped stems at the end. Demographic data were collected after instructions were given, and then participants were given the 914 stems. On average, participants required 63.2 min (range, 40-92 min) to complete the task.

RESULTS

The analysis of the responses involved three phases. First, responses were tabulated, and then word frequency information (from the Kučera & Francis, 1967, norms) was added. Misspellings were excluded through a complex process described below. Second, the distribution of responses across alternatives was analyzed for the roles of number of alternatives, word frequency, and word length. Third, results from the 40 stems in common with those of Graf and Williams (1987) were compared with the earlier norms.

Tabulation of Corpus

After all the responses were typed into a computer file for each participant, the files were checked for accuracy. Each file was checked three times, by three different individuals. One reason for this enormously time-consuming procedure was that handwriting was often difficult to interpret, and use of three checkers ensured that agreement was reached on interpreting poor penmanship. A second reason for triple checking was simply that the total number of responses to be checked was so large that errors would necessarily be made. An additional, final check used a computer program that looked for duplicate stems in each subject's file.

Once files were deemed accurate records of the responses, each file was alphabetized, and responses were collated by stem from all files, producing a list of all unique responses with their completion frequencies. Misspelled responses were then edited out of this list. Because of the enormity of the corpus (19,476 unique responses), criteria for what counted as words involved three steps designed to minimize effort. First, any response that appeared in the Kučera and Francis (1967) corpus was con-

sidered a word (interestingly, that corpus includes some misspellings; e.g., "adminstration" appears in it). All remaining responses were then hand-checked against an unabridged dictionary (Webster's new universal unabridged Dictionary, 1989). All main entries in this dictionary were considered words. Although this step added a large number of words to the list, many known words were excluded (e.g., ageism, cellulite, earlobe, and guacamole). Thus, a third step involved checking all responses identified as misspellings in the second step against The New Shorter Oxford English Dictionary (SOED; L. Brown, 1993). This added 572 new responses, many with stem-completion frequencies greater than 1 (indeed, hyper was written by 64 of the 160 subjects!). Any boldface entry in the SOED was considered a word. The SOED is organized differently from many dictionaries; main entries have many related words as subentries that most dictionaries include as separate main entries; these subentries are in boldface type in the SOED.

Exceptions were made. First, the Webster's dictionary included prefixes (e.g., aeron-) as main entries. These are not properly words, so they were not included in the stem-completion corpus. Second, responses that altered the stem with either punctuation (e.g., co-worker) or spaces (e.g., ad hoc) were excluded. Accent marks on letters in the stem, however, were allowed (e.g., éclair). Finally, some responses (e.g., alamode) are more typically written in a way that makes them unacceptable (i.e., a la mode, thus breaking up the stem), but were included in the corpus when the SOED included an acceptable form of the response (i.e., alamode). The result of applying these criteria was 12,271 unique, correctly spelled words.

For statistical comparison with the Kučera and Francis (1967) corpus, both the stem-completion corpus and the Kučera and Francis corpus were modified. First, all punctuation (e.g., hyphens, apostrophes, and accents or diacritical marks) was removed (e.g., air-ball became airball; aren't became arent). Second, all two-word responses were deleted from the stem-completion corpus. Thus, although air bag is considered a single entry (by SOED standards), it was not used in the statistical comparison with the Kučera and Francis corpus, because air bag would be counted as two separate words by the Kučera and Francis criteria for entries. However, if the Kučera and Francis corpus included a single-word version of what the SOED considered having an internal space, then the single-word version was included. That is, for example, hot rod is the SOED version, but hotrod is included in Kučera and Francis. Third, as with the stem-completion corpus, any entry in Kučera and Francis with internal punctuation (e.g., hyphens) that altered the stem was deleted. The result of exclusions and modifications was 12,184 response types for statistical analyses.

These modifications were done to make the criteria for inclusion as similar as possible in both the Kučera and Francis (1967) corpus and the stem-completion frequency corpus. Participants in the present study were inconsistent in the use of punctuation (e.g., both *aren't* and *arent* were written), which may reflect carelessness rather than

intentional variation. One consequence of these modifications, however, was that potentially intentional differences were ignored (e.g., wont and won't were combined for the data analysis, although they are separate in the normative version of the database). Deletion of two-word responses in the stem-completion database reflected the construction of the Kučera and Francis corpus—as in the air bag example above. Inclusion of such responses in the analysis would represent a clear bias against the utility of the Kučera and Francis frequency as a predictor of stem-completion frequency.

An alternative approach would have been to delete the portion of the response that followed the space (e.g., to use only air from air bag). However, most two-word responses consisted of only the stem followed by another word (e.g., air bag, eye socket), and treating the stem as a response to the stem seemed nonsensical. Further, there were only 18 two-word responses that added to the stem before the space (e.g., bona fide, flow chart, and roller coaster).

Analysis of Corpus

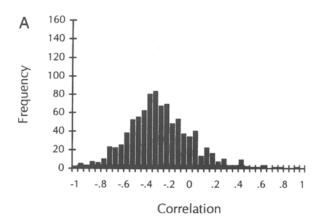
Three major hypotheses were considered in analyzing the stem-completion responses (see Graf & Williams, 1987). Each of these can be considered in terms of the essential question: What determines the distribution of responses in stem completion? One possibility is that the number of alternative stem completions made by participants was determined by the number of words in English that share the stem. Graf and Williams found a correlation across the 40 stems in their sample between number of different completions and number of alternatives in the Kučera and Francis (1967) corpus of r = .63.2The correlation in the present sample was r = .77. Thus, the number of alternative responses is well predicted by the number of alternatives available. However, although all stems were selected for having at least eight alternatives in Kučera and Francis, 189 stems (21% of the set of stems) produced fewer than eight observed alternative completions.

The second hypothesis is based on Zipf's (1935/1965) law, which predicts a negative correlation between the length of a response and its frequency. In other words, people should tend to write the shortest response available. Graf and Williams (1987) calculated this correlation ignoring stems; that is, one correlation for all the unique responses in their corpus.³ For the first output position in their study, they reported 730 unique responses and a correlation of r = -.27 between number of letters in a word and its frequency of occurrence in stem completion. Graf and Williams may have overlooked the possibility that because different stems differed dramatically in the number of available words (ranging from 8 to 682) in the present sample), the influence of Zipf's law may vary across stems. Because the purpose of collecting these norms was to provide information for selecting individual target words for given stems, it seemed more useful to calculate correlations separately for each stem. When this was done with Graf and Williams's data, their

mean correlation for the 40 stems was -.30. For the present data, two stems were excluded because there were only two responses each, which necessarily produces perfect correlations. Thus, Figure 1A shows the distribution of correlations between length and completion frequency for 912 of the stems in the present corpus.

Two features of the distribution are noteworthy. First, the mean of the individual correlations, -.29, was similar to that found by Graf and Williams (1987), suggesting that Zipf's (1935/1965) law applies similarly here and in their data. Note that this value is the average of many correlations. Because the number of responses per stem varied widely, the required value of r for significance also varied widely. Of the 912 correlations, only 2% were significant at p < .01 (or 12% at .05 and 20% at .10). Second, however, there is wide variation across stems in the correlation, suggesting that researchers who want to construct materials for stem-completion studies cannot assume any general, consistent relation between length and stem-completion frequency.

The third hypothesis was that normative frequency of occurrence in English would predict stem-completion frequency. Graf and Williams (1987) noted that word frequency is an index of word familiarity, and that Un-



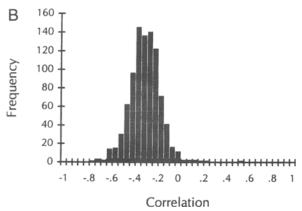
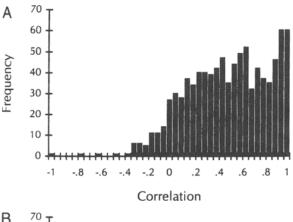


Figure 1. (A) Distribution of 912 correlations between the length of a response and its frequency in stem completion. (B) Distribution of 914 correlations between the length of a response and its frequency in stem completion for all stem-consistent words in Kučera and Francis (1967).

derwood and Schulz's (1960) spew hypothesis is directly relevant. Underwood and Schulz noted that the availability of a word is directly related to its experiential frequency. As in the preceding analysis, the correlation between normative word frequency (based on Kučera & Francis, 19674) and stem-completion frequency was calculated separately for each stem; the distribution of the 912 correlations is shown in Figure 2A. The comparable overall correlation reported by Graf and Williams was r = .30; the mean correlation here was higher (.47). (When the correlations were calculated for each stem in Graf and Williams, the mean was .40.) As with the distribution of correlations with length, the correlations in Figure 2A are quite variable. Although the overwhelming majority of correlations are positive, no other general description seems to apply. The relation was more consistent than with length, however, based on the proportion of significant correlations: 27% at .01, 43% at .05, or 51% at .10.

The present analyses give only moderate support to the conclusions reached by Graf and Williams (1987) that these factors are good predictors for completion frequency. Although the average correlations are respectable, their distributions do not suggest any consistent relations across



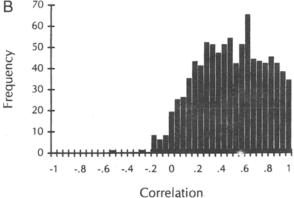
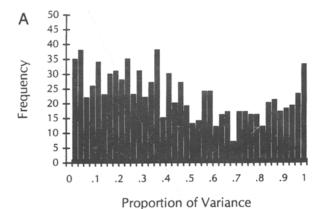


Figure 2. (A) Distribution of 912 correlations between the normative word frequency of a response and its frequency in stem completion. (B) Distribution of 914 correlations between the normative word frequency of a response and its frequency in stem completion for all stem-consistent words in Kučera and Francis (1967).

stems. These results were surprising, particularly with respect to the relation between word frequency and stemcompletion frequency. Word frequency has consistently been identified as a critical variable in cognitive psychology (see, e.g., Scarborough, Cortese, & Scarborough, 1977; Seidenberg & McClelland, 1989). One peculiarity of the data analyses may be partly responsible. Just as word frequency predicts which responses were made, so it ought to predict which responses were less likely to be made. That is, if word frequency is the predictor, then the word frequency of all relevant words should be used to predict stem-completion frequency. Consequently, entries in the Kučera and Francis (1967) corpus that were not given as responses in stem completion were added, and assigned a stem-completion frequency of 0, just as entries in the stem-completion corpus with Kučera and Francis frequency of 0 were included in the previous analyses. When all of the available words in the Kučera and Francis corpus were used in new analyses, the resulting distributions of correlations became less variable, as can be seen in Figures 1B and 2B.

Figure 1B shows the distribution of correlations between length and stem-completion frequency; the mean is relatively unchanged (at -.32; the mean is based on all 914 stems, because adding the remaining items from Kučera and Francis, 1967, increased the minimum sample size to 8). The tighter distribution around the mean suggests that length is a more consistent predictor of stemcompletion frequency than in the original analysis. Thus, when all the words from the Kučera and Francis corpus are included, it is clearer that people tend to avoid longer words. The proportion of significant correlations also improved, with 21% significant at .01, 43% at .05, or 59% at .10. Figure 2B shows the distribution of correlations between word frequency and stem-completion frequency when all stem-consistent entries in Kučera and Francis are included. The distribution is more regular, and it became a moderately consistent predictor of stemcompletion frequency. The mean correlation in this analysis was .48; 58% were significant at .01, 69% at .05, or 73% at .10.

It is possible that simultaneous consideration of both of these variables—length and word frequency—would lead to more consistent prediction. Consequently, separate multiple regression analyses were conducted for each of the 914 stems, using both length and word frequency as predictors of stem-completion frequency. The amount of variance in stem-completion frequency that these predictors accounted for, R^2 , is presented in Figure 3A, in terms of the distribution of R^2 . It is clear from the range of R^2 values in the figure that the regression model is not particularly consistent. That is, R^2 values cover virtually the entire range from 0 to 1; although for many stems the two predictors are quite good, for many others they are not impressive. Figure 3B shows the same distribution when all stem-consistent entries in Kučera and Francis (1967) were included for the regression analyses, and although it presents a more consistent picture, it shows a slightly less impressive relation among these variables.



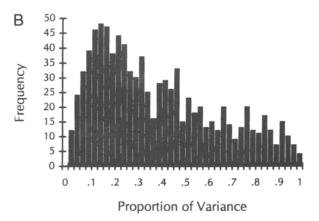


Figure 3. (A) Distribution of R^2 for 912 regression models predicting stem completion with word length and word frequency. (B) Distribution of R^2 for 914 regression models predicting stem completion with word length and word frequency for all stemconsistent words in Kučera and Francis (1967).

The mean R^2 in the data in Figure 3A is .45, and the mean R^2 in the data in Figure 3B is .38.

Comparison with Graf and Williams

The 40 stems used by Graf and Williams (1987) were all in the set of 914 described here. Two sets of analyses were conducted on this subset. First, the subset was compared to the larger set of 914, to see how representative these stems are of the population of stems. Second, the responses to the subset of 40 stems were compared across the two studies. These analyses were conducted on only

the responses made by subjects, that is, using the original data set.

Table 1 illustrates the comparisons. Two noticeable differences appear. First, the correlation between number of responses and number of available words in the Kučera and Francis (1967) corpus with the same stem is lower in the Graf and Williams (1987) data than in the present data—either the complete set or the subset. Second, the correlation between normative word frequency and stem-completion frequency is higher in the complete set than in either of the smaller sets. Otherwise, the data sets are remarkably similar, especially when certain other differences are considered. For example, the mean number of available responses (according to Kučera & Francis) per stem was 41.0 in the complete set, but 102.9 in the subset. The consistencies across that range of possible responses is impressive.

The second set of analyses compared responses in the subset across studies. The mean correlation across the 40 stems of stem-completion frequency between the two sets was .74 (range, .46-.98), with an average of 26.8 alternative responses per stem. In the present data, there were 906 unique responses across the 40 stems, in contrast with 738 in Graf and Williams (1987).⁵ This was likely due to the greater possibility for idiosyncratic responses with 160 individuals than with 100. Support for this explanation comes from considering response overlap between the two sets (i.e., the occurrence of the same responses in the two sets). The Graf and Williams responses overlapped only 78% with the present set in terms of response types, but 93% in terms of actual responses made. That is, Graf and Williams's participants used only 78% of the words used in the present study, but 93% of the responses were made with those overlapping words.

Other similarities between the two data sets were observed. For example, responses were similarly spread across response types. The mean frequency of completion for any particular response was 4.0% of subjects in Graf and Williams (1987), and 3.8% in the present subset of 40 stems. One difference between the two sets was that 7.1% of the present participants gave either no response or a misspelled one, compared with only 0.9% in Graf and Williams. When this difference is taken into account, the mean percentage completion frequency for correctly spelled words was identical in the two sets at 4.04% of participants per response. Finally, in both data sets, 94% of responses were in the Kučera and Francis (1967) corpus.

Table 1 Comparisons of the 914-Stem Set and the 40-Stem Subset From Graf and Williams (1987)

Source	No. Responses and Available Words	Word Length and Stem Completion	Word Frequency and Stem Completion
Complete set	.77	29	.47
40-stem set	.79	26	.33
Graf and Williams	.63	30	.41

Note—Entries in the table are correlations between the variables listed at the top of each column. Note that the first column contains single correlations, and the other columns contain the mean of many correlations (912 correlations in the first row, and 40 in each of the other rows).

In summary, the similarities in the responses to the 40 common stems suggests that the norms are fairly general, with differences primarily arising from the greater opportunity for idiosyncratic responses in the present, larger, sample of students. The greater number of misspellings and nonresponses in the present set likely reflects the daunting task of responding to all 914 stems. The consistency of findings for the two data sets under their differing experimental procedures and geographic locations is encouraging.

DISCUSSION

Normative responses to an exhaustive set of threeletter word stems revealed that word frequency and word length are only moderately consistent predictors of stemcompletion frequency. Further, although the number of alternative responses made was highly correlated with the number of alternatives available in English, a large number of the stems produced a very small number of unique completions. Researchers generally assume that reliable materials can be selected on the basis of these variables. On average, word frequency and length, individually and in combination, are good predictors. However, the distributions of correlation coefficients and R^2 values obtained across the large number of word stems suggest that a collection of words selected by a researcher on the basis of some consistent length and frequency will have rather variable baseline completion rates in an implicit memory study.

Two recent studies listed their target words in appendices, and thus allow for a consideration of the implications of the present data. Park and Shaw (1992) selected target words that they believed would produce low baselines, based on length and normative word frequency. Although the average baseline completion rate was low, the data produced in the present study revealed that 2 of Park and Shaw's 72 targets were the most frequent unprimed completions among all alternatives, whereas 29 other targets were never produced by the present sample. A similar description of the target words to that Roediger, Weldon, Stadler, and Riegler (1992) used in their Experiment 1 can be made. Of their 60 words, 5 were the most common completions for their stems in the present study, and 20 were never produced by the 160 individuals in the present study. This degree of variability is likely to add to experimental error variance and reduce the reliability of priming measures, as described in the Introduction.

Clearly, however, the factors of length and normative word frequency play a role in completion frequency, and researchers can use them as a starting point for developing materials. The present results indicate that materials development should include some additional pilot testing. Despite healthy average correlations, the variability across stems makes it clear that the correlations cannot be relied upon for all stems, as seen in the preceding analysis of Roediger et al. (1992) and Park and Shaw (1992). The present normative database might also be used as a starting point for developing materials.

It seems unlikely, however, that stem-completion frequency is inherently only moderately predictable. Further research is needed on the other determinants of stemcompletion frequency. One goal of implicit memory research is to differentiate it from explicit memory, and the type of processing at retrieval has been implicated as important in making this distinction (Jacoby, 1983; Roediger & Blaxton, 1987). Whatever factors influence base rates of stem completion also might influence priming effects in implicit memory tests. For example, given the transfer-appropriate-processing perspective in implicit memory research (see Roediger & Srinivas, 1993; Weldon, 1993), it makes sense that part of the processing at test is determined by whatever factors influence baseline completion rates. That is, Roediger and Srinivas noted that "tests of retention will benefit ... to the extent that the processing operations at test recapitulate or overlap those engaged during prior learning" (p. 21). Part of the operations at test in word-stem completion are those that occur in unprimed tests; this should interact with processing factors at study, and may differ from processing on other types of priming measures (although see Rajaram & Roediger, 1993, for evidence of similarity between word-stem and word-fragment completion). It is conceivable that some observed differences between implicit and explicit memory may be the consequence of factors that determine baseline stem-completion rates. If so, it is essential that those factors be discovered.

Lockhart (1989) noted that one of the products of the verbal learning perspective in memory was "countless scaling studies of word attributes" (p. 10). Clark (1973) decried a methodological flaw he called the "languageas-fixed-effects fallacy," noting that researchers incorrectly tend to assume that their results generalize beyond their materials to any linguistic materials, simply on the basis of significant results with their particular materials. One of the dangers of a "scaling study" like the present one is the potential for some standardization of materials across studies, which can lead easily to Clark's fallacy. The value of scaling studies, however, is that they allow researchers to exert rigorous experimental control in their efforts to understand subtle research issues. The current character of research materials in implicit memory may allow researchers to avoid Clark's fallacy collectively, but only at the expense of precise scientific methodology.

Researchers have focused on methodological issues as critical in understanding implicit memory (e.g., Jacoby, 1991; Schacter et al., 1989; Toth et al., 1994). Researchers have been concerned with sample size, test type differences, and the potential for contamination of explicit memory in implicit tests (e.g., Toth et al., 1994). Clearly, the specifics of the verbal materials used in implicit memory studies are also of concern, and the present study shows that such a concern may well be warranted.

Availability

A complete listing of the normative responses requires more room than is feasible for journal publication. The Appendix contains a summary of the responses; all correctly spelled responses given by more than one person are listed with each stem. A complete listing of all responses with associated word frequency, the misspellings, and further statistical data are available at the cost of reproduction and mailing, by sending a check to the author for \$10. A copy of the complete norms is also available on diskette in WordPerfect 5.1 or ASCII files for \$5.

REFERENCES

- Bartlett, F. C. (1932). Remembering: A study in experimental and social psychology. Cambridge: Cambridge University Press.
- BROWN, A. S., & MITCHELL, D. B. (1994). A reevaluation of semantic versus nonsemantic processing in implicit memory. *Memory & Cog*nition, 22, 533-541.
- Brown, L. (Ed.) (1993). The new shorter Oxford English dictionary. New York: Oxford University Press.
- CHALLIS, B. H., & BRODBECK, D. R. (1992). Level of processing affects priming in word-fragment completion. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, **18**, 595-607.
- CHIARELLO, C., & HOYER, W. J. (1988). Adult age differences in implicit and explicit memory: Time course and encoding effects. Psychology & Aging, 3, 358-366.
- CLARK, H. H. (1973). The language-as-fixed-effects fallacy: A critique of language statistics in psychological research. *Journal of Verbal Learning & Verbal Behavior*, 12, 335-359.
- CRAIK, F. I. M., MOSCOVITCH, M., & McDOWD, J. M. (1994). Contributions of surface and conceptual information to performance on implicit and explicit memory tasks. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 20, 864-875.
- GRAF, P., MANDLER, G., & HADEN, P. (1982). Simulating amnesic symptoms in normal subjects. Science, 218, 1243-1244.
- GRAF, P., & MASSON, M. E. J. (EDS.) (1993). Implicit memory: New directions in cognition, development, and neurophysiology. Hillsdale, NJ: Erlbaum.
- GRAF, P., & WILLIAMS, D. (1987). Completion norms for 40 three-letter word stems. Behavior Research Methods, Instruments, & Computers, 19, 422-445.
- JACOBY, L. L. (1983). Remembering the data: Analyzing interactive processes in reading. *Journal of Verbal Learning & Verbal Behavior*, 22, 485-508.
- JACOBY, L. L. (1991). A process dissociation framework: Separating automatic from intentional uses of memory. *Journal of Memory & Language*, 30, 513-541.
- JENKINS, J. J. (1979). Four points to remember: A tetrahedral model of memory experiments. In L. S. Cermak & F. I. M. Craik (Eds.), Levels of processing in human memory (pp. 429-446). Hillsdale, NJ: Erlbaum.
- KUČERA, H., & FRANCIS, W. M. (1967). Computational analysis of present-day American English. Providence, RI: Brown University Press.
- Lewandowsky, S., Dunn, J. C., & Kirsner, K. (Eds.) (1989). *Implicit memory: Theoretical issues*. Hillsdale, NJ: Erlbaum.
- LIGHT, L. L., & SINGH, A. (1987). Implicit and explicit memory in young and older adults. *Journal of Experimental Psychology: Learn*ing, Memory, & Cognition, 13, 531-541.
- LOCKHART, R. S. (1989). The role of theory in understanding implicit memory. In S. Lewandowsky, J. C. Dunn, & K. Kirsner (Eds.), *Implicit memory: Theoretical issues* (pp. 3-13). Hillsdale, NJ: Erlbaum.
- PARK, D. C., & SHAW, R. J. (1992). Effect of environmental support on implicit and explicit memory in younger and older adults. *Psychology & Aging*, 7, 632-642.
- RAJARAM, S., & ROEDIGER, H. L., III (1993). Direct comparison of four implicit memory tests. *Journal of Experimental Psychology: Learning. Memory, & Cognition*, 19, 765-776.
- ROEDIGER, H. L., III (1990). Implicit memory: Retention without remembering. American Psychologist, 45, 1043-1056.
- ROEDIGER, H. L., III, & BLAXTON, T. A. (1987). Retrieval modes produce dissociations in memory for surface information. In D. S. Gorfein & R. R. Hoffman (Eds.), *The Ebbinghaus Centennial Conference* (pp. 349-379). Hillsdale, NJ: Erlbaum.

- ROEDIGER, H. L., III, & SRINIVAS, K. (1993). Specificity of operations in perceptual priming. In P. Graf & M. E. J. Masson (Eds.), *Implicit memory: New directions in cognition, development, and neurophysiology* (pp. 17-48). Hillsdale, NJ: Erlbaum.
- ROEDIGER, H. L., III, WELDON, M. S., STADLER, M. L., & RIEGLER, G. L. (1992). Direct comparison of two implicit memory tests: Word fragment and word stem completion. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 18, 1251-1269.
- SCARBOROUGH, D. L., CORTESE, C., & SCARBOROUGH, H. S. (1977).
 Frequency and repetition effects in lexical memory. Journal of Experimental Psychology: Human Perception & Performance, 3, 1-17.
- SCHACTER, D. L. (1990). Perceptual representation systems and implicit memory: Toward a resolution of the multiple memory system debate. In A. Diamond (Ed.), *The development and neural bases of higher* cognitive functions (Annals of New York Academy of Sciences, Vol. 608, pp. 545-578). New York: New York Academy of Sciences.
- SCHACTER, D. L., BOWERS, J., & BOOKER, J. (1989). Intention, awareness, and implicit memory: The retrieval intentionality criterion. In S. Lewandowsky, J. C. Dunn, & K. Kirsner (Eds.), *Implicit memory: Theoretical issues* (pp. 47-65). Hillsdale, NJ: Erlbaum.
- SEIDENBERG, M. S., & McCLELLAND, J. L. (1989). A distributed, developmental model of word recognition and naming. *Psychological Review*, **96**, 523-568.
- THORNDIKE, E. L., & LORGE, I. (1944). The teacher's word book of 30,000 words. New York: Columbia University, Teachers College Press.
- TOTH, J. P., REINGOLD, E. M., & JACOBY, L. L. (1994). Toward a redefinition of implicit memory: Process dissociation following elaborative processing and self-generation. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 20, 290-303.
- TULVING, E., & SCHACTER, D. L. (1990). Priming and human memory systems. *Science*, **247**, 301-306.
- UNDERWOOD, B. J., & SCHULZ, R. W. (1960). Meaningfulness and verbal learning. Philadelphia: Lippincott.
- Webster's new universal unabridged dictionary (1989). New York: Barnes & Noble.
- WELDON, M. S. (1993). The time course of perceptual and conceptual contributions to word fragment completion priming. *Journal of Exper*imental Psychology: Learning, Memory, & Cognition, 19, 1010-1023.
- ZIFF, G. K. (1965). The psychobiology of language. Cambridge, MA: MIT Press. (Original work published 1935)

NOTES

- 1. Researchers frequently correct misspellings rather than delete them. However, many misspellings were uninterpretable or ambiguous, and for the sake of consistency and to avoid arbitrariness or misinterpretation, a conservative approach was taken.
- 2. All single correlations reported are statistically significant because of the large numbers involved. The obtained p levels for single correlations ranged from .000013 to 3.6×10^{-180} .
- 3. Graf and Williams (1987) had subjects write multiple completions for each stem, but in the present study, subjects gave only one response per stem. Comparisons between the two studies are based solely on Graf and Williams's first responses.
- 4. Graf and Williams (1987) found that the Thorndike and Lorge (1944) word count provided a better predictor than did the Kučera and Francis (1967) frequency. This analysis was not conducted here because although a computer file with Kučera and Francis frequencies was available, no such file was available for Thorndike and Lorge. The size of the database precluded entering the information by hand.
- 5. According to Table 2 in Graf and Williams (1987), there were 730 responses, but a count of the data in their appendix yielded 738. The latter number was used.
 - 6. I thank Mary Susan Weldon for pointing this out.

APPENDIX

Responses to the 914 word stems follow. The number after each word is the number of participants who produced it. The numbers in brackets at the end of the list for each stem are the number of misspellings and the number of people who gave no

- response. An asterisk before the latter number indicates that only 159 people were given the stem (1 page was missing for 1 subject). The notation "GW" indicates stems used by Graf and Williams (1987). Only the responses given by more than one person are listed.
- aback 3 abacus 6 abalone 2 abandon 46 abase 4 abash 8 abate 29 abated 2 [20/39]
- aboard 4 abode 7 abolish 53 abolition 6 abomination 2 abort 17 abortion 13 abound 4 about 27 above 10 [9/6] GW
- abrasion 14 abrasive 24 abreast 3 abridge 19 abridged 3 abroad 14 abrogate 2 abrupt 20 [50/10]
- absence 10 absent 46 absolute 13 absorb 5 abstain 9 abstinence 2 abstract 37 absurd 7 [25/0]
- abundance 20 abundant 26 abuse 68 abusive 5 [21/*18]
- accelerate 6 accent 10 accentuate 3 accept 6 access 5 accident 10 accolade 2 accord 5 according 4 accost 3 account 25 accountant 2 accumulate 6 accurate 12 accuse 20 accused 5 accustom 5 [16/4] GW
- ache 76 aches 6 achieve 21 achievement 3 achilles 3 aching 9 [36/6]
- acorn 27 acoustic 18 acoustics 3 [78/34]
- acquaint 7 acquaintance 2 acquire 111 acquired 3 acquisition 11 acquit 4 [13/6]
- acre 28 acreage 2 acrid 4 acrimonious 3 acrobat 9 acronym 19 across 39 acrylic 3 [36/12]
- acting 29 action 28 activate 4 active 11 activity 2 actor 57 actress 3 acts 3 actual 14 actually 3 [1/*0]
- adage 2 adamant 19 adapt 81 adaptation 2 adaptive 2 [28/23]
- added 17 addendum 2 adder 2 addict 5 addictive 2 adding 20 addition 63 additional 2 additive 32 address 2 adduction 2 [9/0]
- adhere 99 adherence 4 adherent 2 adhesion 2 adhesive 30 [17/5] adjacent 33 adject 2 adjective 71 adjoin 4 adjust 35 adjustment 3 [7/2]
- administer 40 administrate 7 administration 12 administration 2 admire 47 admission 7 admit 19 admonish 12 [9/0]
- adobe 6 adolescence 10 adolescent 18 adopt 24 adore 49 adorn 10 [27/13]
- adulate 11 adulation 2 adult 106 adults 2 adure 2 [15/19]
- advance 47 advanced 4 advantage 21 advent 4 adventure 6 adverb 14 adverse 6 advertise 3 advice 25 advise 7 advocate 19 [2/*0]
- aerate 7 aereal 3 aerial 32 aero 5 aerobic 14 aerobics 13 aerodynamic 7 aeronautical 2 aeroplane 4 aerospace 33 [18/19]
- affable 4 affair 7 affect 68 affected 2 affection 8 affectionate 5 affiliate 11 affiliated 3 affinity 2 affirm 6 affirmative 3 affix 2 afflict 3 affliction 2 affluent 10 afford 8 [7/4] GW
- aged 42 agee 2 ageing 6 ageism 5 ageless 23 agency 2 agenda 8 agent 27 ages 18 [10/15]
- aggravate 19 aggregate 17 aggression 15 aggressive 43 [57/5] agile 25 agility 8 aging 10 agitate 81 agitated 3 [11/21]
- agree 43 agreed 2 agriculture 30 agronomy 2 [74/9]
- air bag 2 air-ball 2 airborne 3 aircraft 5 airflow 3 airhead 4 airlift 2 airline 10 airmail 2 airman 2 airplane 45 airport 5 airs 5 airtight 7 air-time 2 airway 6 airy 20 [13/12]
- alabama 4 alabaster 7 alarm 68 alas 22 alaska 2 [24/30]
- algae 24 algebra 59 algeria 2 algorithm 25 [25/23]
- alibi 8 alien 16 alienate 5 alight 3 align 50 alignment 8 alike 4 alimony 17 aline 4 alinement 2 alive 3 [27/7]

- allegiance 2 alleviate 6 alley 6 alliance 4 alligator 6 allocate 5 allot 2 allow 37 allowed 3 alloy 3 all right 4 allude 3 allure 13 allusion 2 ally 8 [27/18]
- aloe 14 aloha 4 alone 36 along 25 aloof 12 aloud 11 alow 5 [41/*10]
- altar 5 alter 82 alteration 4 alternate 33 alternative 4 although 2 altimeter 2 altitude 11 alto 5 altogether 2 [6/0]
- amalgamate 2 amanda 2 amass 8 amateur 9 amaze 21 amazing 20 amazon 5 [47/43]
- amber 23 ambience 4 ambient 4 ambiguous 24 ambition 15 ambitious 15 ambivalent 3 amble 2 ambulance 32 ambush 5 [24/4]
- ameba 2 ameliorate 5 amen 20 amenable 2 amend 40 amendment 6 amends 4 amenity 5 american 3 amethyst 3 [24/*41]
- amiable 34 amicable 12 amid 24 amidst 2 amigo 4 amish 3 amiss 2 amit 2 amity 4 [27/44]
- among 15 amor 2 amorous 16 amortize 2 amount 39 amour 4 [46/31]
- amperage 2 ampere 9 amphibious 2 ample 33 amplifier 20 amplify 36 amplitude 26 amps 4 amputate 8 [12/*5]
- amuck 4 amulet 14 amuse 73 amusement 7 amusing 7 [36/18]
- anagram 10 anal 22 analog 8 analogous 2 analogue 3 analogy 16 analysis 5 analyze 15 anarchy 2 anatomy 14 [31/*26]
- ancestor 40 anchor 43 anchovies 3 ancient 27 ancillary 5 [20/20]
- anecdote 5 anemia 6 anemic 24 anemone 3 anesthesia 3 anew 9 [48/61]
- angel 2 anger 57 angle 44 angry 29 anguish 10 angular 9 [2/1] animal 114 animate 6 animosity 4 [16/18]
- anneal 2 annex 9 annihilate 7 anniversary 8 annotate 3 announce 34 annoy 15 annual 36 annuity 2 annul 5 [14/*19]
- anode 4 anoint 5 anomaly 4 anon 2 anonymous 9 anorexia 2 another 33 [72/28]
- antagonize 3 ante 3 anteater 5 ante-bellum 2 antecedent 3 antelope 5 antenna 11 anterior 9 anthem 2 ant hill 8 anthropology 2 anti 6 anticipate 9 antidote 2 antique 3 antiquity 2 antisocial 2 antithesis 2 antler 14 antlers 2 antonym 11 ants 21 [17/6]
- anybody 10 anymore 5 anyone 46 anything 56 anytime 9 anyway 14 anywhere 16 [2/1]
- apocalypse 2 apollo 5 apologetic 3 apologise 4 apologize 71 apology 25 apostle 11 apostrophe 3 [20/14]
- apparatus 2 apparent 8 apparition 2 appeal 13 appear 8 appease 4 appetite 7 applause 8 apple 17 apples 2 application 2 apply 8 appoint 6 appointment 5 appraise 6 appreciate 6 apprentice 2 approach 14 appropriate 16 approve 6 [9/0]
- arber 2 arbitrary 84 arbitrate 22 arbitration 6 arbor 8 arbritrary 2 [21/12]
- arcade 6 arcane 2 arch 67 archaic 5 archeology 2 archer 2 archery 4 architect 5 architecture 8 archival 2 archive 3 archives 2 arcs 5 arctangent 5 arctic 5 [22/10]
- area 61 areal 5 aren't 5 arena 25 [14/47]
- argon 3 argonaut 3 arguable 2 argue 81 argument 42 [16/9]
- arid 30 arise 59 arisen 2 aristocracy 3 aristocrat 3 arithmetic 6 [35/18]
- armada 2 armament 4 armband 5 armchair 12 armed 6 armful 4 armhole 2 armistice 6 armor 24 armory 2 armpit 10 armrest 2 arms 28 armstrong 4 army 32 [9/*2]
- aroma 23 aromatic 12 arose 21 around 20 arousal 5 arouse 38 [25/*15]

- arrange 71 array 8 arrest 9 arrival 2 arrive 15 arrogance 3 arrogant 27 arrow 7 [8/4]
- artery 2 art form 3 artful 13 article 6 articulate 8 artifact 13 artificial 2 artist 54 artistic 28 arts 9 artwork 8 [6/5]
- ascend 49 ascent 7 ascertain 13 ascorbic 2 ascribe 16 [23/46]
- asparagus 2 aspect 13 aspen 4 asperate 2 asphalt 3 aspirate 6 aspiration 7 aspirations 3 aspire 50 aspirin 33 [30/4]
- assassin 2 assassinate 4 assert 3 assertive 3 asses 4 assesment 2 assess 11 asset 20 assets 2 asshole 23 assign 9 assimilate 7 assist 17 assistance 2 assistant 2 associate 4 assume 10 assumption 2 assure 3 [25/1]
- aster 2 asterisk 8 asteroid 6 asteroids 2 asthma 2 astonish 9 astonished 2 astound 11 astride 2 astringent 2 astrology 3 astronaut 12 astronomy 14 astute 15 [37/28]
- atom 47 atomic 28 atomical 3 atone 20 atonement 2 atop 24 [19/14]
- attack 7 attain 7 attempt 5 attend 12 attention 25 attentive 3 attic 4 attire 6 attitude 51 attract 9 attractive 2 attribute 15 attune 2 [5/*1]
- audible 6 audience 89 audio 15 audit 11 audition 15 auditory 12 [9/1]
- author 5 authority 2 autism 3 autistic 3 auto 26 autograph 3 automatic 17 automobile 17 autonomous 3 autonomy 8 autumn 48 [19/2]
- avail 28 available 31 avalanche 20 avant 4 avarice 3 avast 2 [38/*30]
- avenge 25 avenue 70 average 40 averse 2 [10/10]
- avocado 35 avocate 24 avocation 3 avoid 42 avon 6 avow 3 [19/28]
- await 27 awake 51 awaken 11 award 9 aware 31 away 24 [2/4] babble 71 babbling 2 babe 9 baboon 4 baby 69 [3/0]
- bachelor 2 back 91 backward 2 bacon 16 bacteria 39 bacterial 2 [5/1]
- badder 4 bade 4 badge 18 badger 23 badlands 4 badly 58 badminton 4 badness 5 [22/15]
- balance 72 bald 4 ball 29 ballad 3 ballet 10 balloon 21 ballot 2 ballroom 2 balls 4 [6/1]
- banana 2 band 34 bandage 10 bang 3 bangle 2 banish 30 banister 3 banjo 3 bank 3 banned 4 banner 50 banquet 2 [9/1] GW
- barbaric 2 barbell 4 barber 8 bare 9 barf 4 bargain 9 barge 7 bark 14 barn 9 barometer 2 baron 2 barrel 9 barren 2 barricade 2 barrier 5 barroom 4 barrow 4 barry 2 bars 12 barstool 3 bartender 14 barter 5 [14/1]
- base 39 baseball 4 basement 8 bash 7 basic 8 basin 3 bask 5 basket 23 bass 19 bastard 25 baste 5 bastion 2 [4/2]
- batch 2 bate 2 bath 4 batman 2 baton 2 bats 5 batter 61 battered 4 battery 23 batting 3 battle 48 [1/0]
- beach 16 beacon 5 bead 15 beads 3 beam 6 bean 15 beans 3 bear 6 beast 11 beat 29 beating 2 beautiful 9 beauty 19 beaver 6 [10/1]
- became 2 because 38 beck 9 beckon 49 become 35 [21/6]
- bedclothes 2 bedding 33 bedpost 3 bedridden 2 bedrock 2 bedroom 53 beds 16 bedside 5 bedspread 6 bedtime 19 [8/4]
- beef 15 beehive 24 beeline 2 been 14 beep 23 beeper 3 beer 15 bees 19 beet 12 beetle 11 [12/7]
- befall 2 befill 2 befit 4 before 82 befriend 36 befuddle 5 [11/17]

- beggar 40 begged 2 begging 16 begin 23 beginning 8 begs 3 [66/0]
- behalf 4 behave 66 behavior 19 behead 6 behemoth 4 behind 43 behold 6 [8/1]
- belch 5 belfry 2 believe 13 bell 37 bellow 52 bells 2 belly 17 belong 3 below 11 belt 12 [3/1]
- bench 16 bend 43 bender 2 beneath 7 benefit 29 benevolent 6 benign 5 bent 17 [20/6]
- berate 11 bereave 6 bereaved 2 berg 5 berm 5 bern 2 berry 49 berth 8 [22/*37]
- beset 5 beside 28 besides 7 best 102 bestow 11 [5/0]
- betray 2 bets 5 better 135 betting 5 bettor 2 between 7 [2/2]
- beware 41 bewilder 45 bewildered 9 bewitch 13 bewitched 4 [14/31]
- bible 109 biblical 10 bibliography 16 bibs 14 [3/5]
- bicentennial 2 bick 8 bicker 36 bicycle 79 [19/13]
- bile 4 bill 79 billboard 3 billiard 2 billing 6 billion 12 billions 2 billow 14 bills 22 [3/4]
- binary 18 binaural 2 bind 59 binder 11 binding 3 bing 2 binge 30 bingo 7 binoculars 3 bins 6 [4/12]
- biography 14 biological 7 biology 130 [3/0]
- birch 22 bird 70 birds 4 birth 55 birthday 2 [3/2]
- bitch 6 bite 34 biting 2 bits 3 bitten 16 bitter 93 [3/1]
- blab 3 black 34 bladder 7 blade 6 blah 2 blame 30 bland 12 blank 14 blanket 8 blare 2 blast 10 blatant 11 blatter 2 blaze 6 [6/0]
- bleach 15 bleak 10 bled 3 bleed 53 bleeding 3 bleep 6 blemish 19 blend 14 blender 2 bless 4 bleu 2 blew 16 [7/4]
- blight 14 blimp 7 blind 70 blink 10 blip 2 bliss 11 blister 14 blithe 11 blizzard 3 [14/1]
- bloat 3 blob 4 block 19 blood 13 bloom 4 blot 8 blotch 3 blouse 7 blow 78 blown 9 [3/0]
- blubber 3 blue 116 blues 2 blunder 14 blunt 8 blur 5 blush 5 [0/0]
- boar 4 board 10 boast 16 boat 122 [3/*1]
- bodacious 2 bodice 2 bodily 8 body 145 [1/1]
- bogged 15 bogging 4 boggle 74 boggled 3 boggy 5 bogle 3 bogs 2 bogus 19 [14/17]
- bold 38 bolder 3 bole 2 boll 3 bologna 9 bolster 14 bolt 60 bolus 2 [10/16]
- bomb 108 bombard 12 bomber 15 bombing 2 bombshell 2 [12/5]
- bona fide 4 bonbon 2 bond 25 bondage 13 bonding 2 bone 30 bonfire 36 bongo 2 bonified 4 bonnet 16 bonny 2 bonus 2 [6/6]
- boob 20 boobs 5 book 20 boolean 3 boom 34 boon 3 boost 3 boot 44 booth 10 boots 2 booze 5 [3/5]
- border 9 bore 9 bored 17 boredom 8 boring 37 born 6 borrow 61 [8/*0]
- botany 4 bother 5 bottle 73 bottom 73 [4/0]
- bough 2 bought 13 boulder 7 bounce 9 bound 11 boundary 3 bountiful 6 bounty 20 bouquet 17 bourbon 2 bout 23 boutique 13 [17/13]
- bowed 11 bowel 14 bowels 5 bower 5 bowing 14 bowl 36 bowling 10 bowls 2 bows 24 bowser 2 bow tie 5 [13/14]
- brace 9 bracelet 2 bracket 4 brag 5 braid 2 brain 24 brake 11 branch 2 brand 10 brandish 2 bras 16 brass 4 brassiere 4 brat 8 brave 15 brazen 9 brazier 6 [12/*3]

- breach 5 bread 22 break 11 breast 3 breath 34 breathe 15 breed 21 breeze 15 brevity 4 brew 11 brewery 4 [9/2]
- bribe 3 brick 16 bridal 2 bride 18 bridge 10 bridle 4 bright 57 brillant 3 brilliant 7 bring 8 brink 2 bristle 3 brittle 6 [14/1] GW
- broad 3 broccoli 2 broke 4 broken 17 broker 4 brood 2 brook 4 broom 6 broth 2 brother 90 brought 7 brown 4 browse 2 [4/0]
- bruise 22 brunch 4 brunette 7 brunt 2 brush 12 brut 8 brutal 46 brutality 3 brute 35 [17/4]
- buccaneer 20 buck 77 bucket 22 buckle 19 bucks 5 bucolic 2 [12/1]
- budding 31 buddy 81 budge 6 budget 7 buds 12 [13/9]
- buff 12 buffalo 18 buffer 91 buffet 22 buffoon 3 [9/3]
- buick 5 build 84 building 18 built 21 [15/17]
- bulb 7 bulge 16 bulk 6 bull 51 bulldog 2 bullet 14 bullpen 3 bulls 5 bully 39 [8/1]
- bumble 20 bumblebee 4 bummer 36 bumming 3 bump 41 bumper 15 bumpkin 2 bums 7 [19/*8]
- bunch 8 bundle 64 bungle 3 bunion 2 bunk 5 bunker 4 bunny 32 buns 15 bunt 14 [5/3]
- burden 35 burger 2 burial 3 buried 3 burlap 3 burly 2 burn 24 burned 2 burnt 3 burp 14 burrito 2 burrow 27 burry 3 burst 2 bury 18 [6/4]
- busboy 2 buses 7 bush 2 business 21 busline 2 buss 2 bus-stop 4 bust 47 busted 4 buster 7 bustle 13 busy 33 [8/2]
- butane 3 butt 15 butter 77 buttocks 7 button 42 buttress 3 butts 2 [9/0]
- cabaret 2 cabbage 18 cabby 8 cabdriver 4 cabin 39 cabinet 25 cable 27 cabs 11 [22/3]
- cadaver 5 caddie 2 caddle 3 caddy 46 cade 5 cadence 26 cadet 30 cadillac 5 cadmium 2 cadre 2 [19/12]
- calcium 6 calculate 19 calculator 6 calculus 8 calendar 6 calender 3 calf 7 caliber 5 calibrate 10 california 2 call 27 caller 4 calling 2 callous 6 callus 2 calm 6 caloric 3 calorie 12 calories 3 [15/0]
- camcorder 3 came 25 camel 13 cameo 3 camera 52 camp 26 campaign 2 camper 7 camping 5 campus 2 [15/1]
- cancer 2 candid 7 candle 27 candor 3 candy 21 cane 7 canine 2 canister 6 canned 2 cannery 6 cannibal 2 cannon 10 cannot 5 canny 3 canoe 3 can opener 3 canopy 6 cans 8 cant 2 canteen 3 canter 3 canvas 4 [13/2]
- capable 16 capacity 3 cape 31 capital 29 capitalize 4 capitol 5 capitulate 6 caps 7 capsule 5 captain 11 caption 5 captive 4 capture 21 [3/3]
- card 5 care 15 career 8 caring 6 carnival 2 carp 3 carpet 10 car pool 4 carriage 9 carried 2 carrot 5 carry 20 cars 13 cart 20 carton 3 cartoon 2 carve 4 car wash 3 [13/0]
- cascade 4 case 25 cash 4 casket 5 cassette 5 cast 41 castle 38 castrate 15 casual 12 [2/1]
- catalog 2 catalyst 3 catapult 3 catastrophe 7 catatonic 3 catch 16 category 3 cater 8 catfish 2 cathode 2 catnip 2 cats 27 cattle 42 catwalk 3 [20/4]
- caucus 4 caught 12 cauliflower 4 cause 64 caustic 3 caution 43 cautious 21 [7/0]
- cavalier 6 cave 101 cave man 3 cavern 17 caves 3 caviar 2 cavity 21 [4/2]

- celebrate 21 celebrity 4 celery 23 cell 40 cellar 15 cello 4 cells 4 cellular 11 cellulite 6 cellulose 3 [23/2]
- censor 14 cent 12 center 50 centimeter 4 centipede 3 central 12 century 50 [7/3]
- ceramic 18 ceramics 5 cereal 11 cerebellum 2 cerebral 2 cerebrum 3 ceremony 15 certain 49 certificate 6 certified 2 certify 8 cervical 2 cervix 7 [23/5]
- chagrin 2 chain 11 chair 3 chalk 8 challenge 4 chamber 3 champ 5 chance 9 change 16 channel 3 chant 5 chaos 8 chap 4 chapel 2 chapped 2 chapter 4 character 5 charity 4 charm 3 chase 29 chaste 2 chastise 2 chastity 3 chat 11 chatter 5 [0/0] GW
- cheap 18 cheat 32 check 16 checkers 3 cheek 8 cheer 2 cheese 17 chemical 4 chemistry 10 cherish 4 cherry 2 chess 11 chest 8 chew 10 [6/3]
- chick 13 chicken 13 chide 3 child 44 children 8 chile 2 chili 11 chill 12 chilly 5 chime 3 chimney 8 chimp 3 chin 2 china 2 chip 13 chipmunk 2 chisel 2 [6/1]
- choak 2 chocolate 26 choice 11 choir 10 choke 28 chomp 2 choose 12 chop 17 chord 2 chore 6 chorus 6 chosen 8 chow 12 [10/2]
- christ 11 christen 2 christian 3 christmas 8 chrome 50 chromosome 5 chromosomes 2 chronic 18 chronical 2 chronicle 15 chronograph 2 chronological 2 chronology 2 [19/12]
- chub 2 chubby 21 chuck 7 chuckle 9 chug 5 chum 7 chump 8 chunk 36 chunky 5 church 25 churn 11 chute 13 [6/4]
- cinch 19 cinder 41 cinders 5 cinema 19 cinnamon 15 cinque 3 [28/30]
- circle 101 circuit 2 circular 9 circulate 3 circumference 4 circumstance 2 circus 28 [8/*0]
- citation 22 cite 30 citizen 15 citrus 3 city 75 [8/2]
- civic 39 civics 3 civil 91 civilian 7 civilization 4 civilized 2 [9/3]
- claim 7 clam 17 clamor 5 clamp 8 clan 5 clap 43 clarify 3 clash 6 clasp 6 class 15 classic 3 clause 2 clavicle 2 claw 5 clay 23 [1/1] GW
- clean 29 clear 15 cleat 2 cleavage 8 cleave 3 cleaver 6 clef 3 cleft 6 cleptomaniac 2 clergy 4 clerical 4 clever 59 [8/6]
- cliche 3 click 7 client 58 cliff 3 climate 15 climax 2 climb 9 clime 2 cling 13 clinic 16 clinical 5 clip 8 clique 9 [7/1]
- cloak 2 clock 9 clone 4 close 21 closet 7 closure 2 cloth 17 clothe 2 clothes 21 clothing 3 cloths 2 cloud 12 clove 4 clover 11 clown 37 [0/0]
- club 11 cluck 2 clue 60 clueless 3 clues 4 clump 5 clumsy 5 cluster 44 clutch 14 clutter 7 [4/0]
- coach 18 coak 2 coal 40 coalition 2 coarse 2 coast 3 coat 75 coax 9 [7/0]
- cocaine 22 cock 42 cocker 2 cockroach 3 cocktail 3 cocky 7 coco 4 cocoa 10 coconut 19 cocoon 10 [21/10]
- coddle 11 code 112 codes 3 codfish 4 codify 3 [9/10]
- coed 60 coeducation 3 coeducational 3 coefficient 15 coerce 29 coexist 9 coexistence 2 [12/26]
- cohere 4 coherence 8 coherent 57 cohesion 6 cohesive 17 cohort 38 [26/4]
- coil 57 coin 73 coincide 3 coincidence 4 coins 7 coitus 5 [1/6] colander 3 cold 21 collar 8 collect 6 college 56 colon 3 colonel 3 colony 3 color 22 colt 3 column 15 [9/2]

- coma 2 comb 3 combat 3 come 24 comedy 9 comet 2 comic 2 coming 3 command 11 comment 6 commerce 2 commercial 5 commit 2 common 10 communicate 13 communication 2 communion 2 communist 2 commute 2 company 5 complain 3 complete 5 comply 3 computer 16 [4/0]
- concave 4 concern 2 concert 6 concrete 4 condition 3 conduct 5 cone 7 confide 2 conjugate 2 conjure 7 con man 2 connect 10 connection 2 conquer 3 conscience 3 conscious 3 consider 2 contest 8 continue 6 contour 2 contract 3 converse 3 convey 3 convict 8 convince 6 [13/2]
- cooing 3 cook 41 cookie 3 cool 48 coon 7 coop 23 cooperate 10 cooperative 2 [8/6]
- cope 37 coping 2 copper 59 cops 21 copter 2 copulate 8 copy 23 [2/1]
- coral 3 cord 20 cordial 2 core 6 cork 3 corn 11 corner 6 corollary 2 coroner 4 corps 2 corpse 7 correct 15 correlate 8 correlation 3 correspond 5 corridor 6 corrode 3 corrosive 2 corrupt 8 corsage 2 corset 2 [24/2]
- cosine 16 cosmetic 6 cosmetics 2 cosmic 6 cosmos 2 cost 76 costly 14 costume 30 cosy 3 [3/1]
- cots 7 cottage 40 cotten 12 cotton 80 [13/5]
- couch 21 cougar 3 cough 4 could 9 country 2 coup 3 coupe 3 couple 87 courage 7 court 3 cousin 10 [2/1]
- cove 11 covenant 3 cover 113 coverage 2 covert 12 covet 13 [3/0] coward 71 cowbell 4 cowboy 11 cower 13 cowhide 2 cowlick 2 cows 28 [13/9]
- crab 16 crack 14 cradle 32 craft 6 crafty 2 cram 6 crane 4 cranium 2 crap 8 crash 3 crate 7 crater 2 crave 12 craving 2 crawl 3 crayon 5 craze 2 crazy 18 [5/0]
- creak 2 cream 8 create 40 creation 5 creative 4 creature 8 credible 2 credit 10 creed 5 creek 3 creep 34 cremate 5 crematory 2 creme 2 crepe 2 crescent 2 crest 2 crevice 3 crew 9 [6/1]
- crib 12 cricket 2 cried 12 cries 5 crime 14 criminal 9 crimp 2 cringe 5 cripple 3 crisis 9 crisp 2 criteria 11 critic 8 critical 38 criticize 5 critique 4 [10/2]
- croak 10 crochet 4 crock 4 crocodile 5 cro-magnon 2 crome 2 crook 2 crop 18 croquet 2 cross 8 crotch 2 crouch 3 crow 56 crowbar 2 crowd 8 crown 10 [15/1]
- crucial 46 crucible 2 crucify 4 crud 3 crude 30 cruel 29 crumb 5 crumble 7 crunch 5 crush 8 crutch 2 crux 2 [8/0]
- cry-baby 32 crying 86 cryogenics 2 crypt 5 cryptic 6 crystal 10 [9/10]
- cuban 3 cubby 12 cube 57 cubic 8 cubical 5 cubicle 24 cubs 22 cub scout 4 [10/11]
- cul-de-sac 2 culinary 11 culminate 8 culprit 6 cult 22 cultivate 14 cultural 3 culture 77 [11/4]
- curb 4 curdle 3 cure 21 curiosity 5 curious 9 curl 11 curly 3 currency 3 current 31 currier 2 curry 8 curse 10 curtail 3 curtain 17 curve 8 [8/*1]
- cushion 3 cuss 4 custard 32 custer 5 custodian 3 custody 2 custom 76 customer 20 [9/*2]
- cute 37 cuticle 5 cutler 2 cutlery 11 cutout 2 cuts 9 cutter 39 cutters 2 cutthroat 3 cutting 35 cuttle 2 [4/5]
- damage 99 dame 6 dammed 2 damn 21 damned 2 damp 12 damper 2 damsel 2 [8/0]
- dance 20 dancer 10 dandelion 2 dandruff 4 dandy 4 dane 2 danger 84 dangerous 15 dangle 7 danish 3 [5/0]
- dare 23 daring 39 dark 17 darling 41 darn 10 dart 19 [3/*4]
- daybreak 11 day care 2 daydream 13 daylight 42 days 27 day-time 47 [8/7]

- deacon 11 dead 55 deadline 2 deadly 6 deaf 7 deal 28 dean 3 dear 17 death 22 [4/1]
- debate 46 debit 11 debrief 4 debris 10 debt 41 debts 3 debut 4 debutant 9 debutante 12 [9/6]
- decade 19 decadence 2 deceive 4 december 6 decent 7 decide 24 decimal 14 decimate 2 decision 10 deck 17 declare 2 decline 7 decor 4 decorate 21 decoration 2 decrease 3 [4/1] GW
- dedicate 68 dedicated 14 dedication 7 deduce 12 deduct 12 [10/37]
- deed 50 deeds 3 deem 9 deep 55 deepen 3 deer 26 [3/10]
- deface 2 defeat 8 defect 3 defend 15 defender 2 defense 14 defer 10 defiance 7 defiant 10 deficient 2 deficit 3 defile 2 define 23 definite 7 definition 16 deft 4 defy 3 [24/1] GW
- degenerate 15 degradation 2 degrade 41 degrading 3 degree 56 [26/15]
- delay 5 delegate 7 delete 24 deli 18 deliberate 13 delicacy 2 delicate 10 delicious 8 delight 9 delinquent 2 deliver 14 delta 4 deluge 2 delusion 4 delve 5 [17/5]
- demand 16 demeanor 2 demise 3 demo 4 democrat 7 demographic 14 demography 8 demolish 20 demon 18 demonstrate 27 demure 6 [16/8]
- dendrite 10 denial 10 denizen 2 denote 3 dens 3 dense 9 density 3 dent 21 dental 5 dentist 25 denture 11 dentures 5 deny 29 [4/11]
- depart 8 department 5 departure 3 depend 25 depends 3 depict 2 deplore 3 deport 2 deposit 3 depreciate 5 depress 9 depression 11 deprive 11 depth 38 deputy 6 [12/5] GW
- derail 5 derange 10 deranged 9 derby 14 derelict 3 derisive 2 derivative 9 derive 24 dermatologist 2 dermatology 2 derriere 2 [30/41]
- describe 5 desecrate 2 desert 16 design 2 designate 2 desire 13 desk 13 desolate 6 desperate 14 dessert 7 destination 8 destine 3 destined 3 destiny 26 destitute 7 destroy 11 destruct 2 [12/1]
- detach 2 detect 15 detective 11 detention 7 deter 24 detergent 5 deteriorate 5 determine 40 determined 4 detest 2 detour 10 detriment 3 detrimental 3 [17/6]
- develop 33 develope 10 deviant 8 deviate 29 deviation 3 device 2 devil 16 devilish 2 devious 10 devise 3 devote 10 devour 10 devout 3 [14/2]
- diagnose 2 diagram 11 dial 47 dialect 8 dialogue 4 diameter 24 diamond 15 diaper 9 diaphragm 3 diary 16 [12/*1]
- dice 10 dick 24 dictate 29 dictation 5 dictator 8 diction 7 dictionary 71 [4/0]
- died 38 diehard 9 dieing 6 diem 2 dies 12 diesel 3 diet 64 dietary 3 diety 2 [7/12]
- differ 21 difference 28 different 91 difficult 8 diffuse 4 [6/0] digest 10 digger 47 digging 46 digit 10 digital 4 dignify 3 dignity 6 digress 3 digs 12 [9/6]
- dilapidated 2 dildo 5 dilemma 3 diligent 36 dill 44 dilly 4 dilute 20 [36/7]
- dime 38 dimension 13 diminish 38 dimly 3 dimmed 4 dimmer 40 dimming 2 dimple 5 [6/5]
- dine 18 diner 12 ding 6 dingy 12 dining 2 dinky 2 dinner 100 [2/0]
- diploid 2 diploma 7 diplomat 7 dipole 13 dipped 11 dipper 35 dipping 15 dippy 3 dips 7 dipstick 17 [29/10]
- dire 8 direct 67 direction 12 director 9 directory 10 dirt 25 dirty 21 [4/2]

disable 3 disappear 3 disclose 2 disgust 3 dish 7 dishes 3 disk 3 dislike 29 dislocate 2 dismal 5 dismay 7 dismiss 2 disorder 2 display 3 distance 10 distant 19 distaste 2 distract 2 distrust 3 disturb 3 [13/*0]

dive 28 diver 17 diverge 3 diverse 11 divide 58 dividend 2 divine 10 diving 2 division 15 divorce 6 [4/0]

docile 4 dock 9 doctor 122 doctrine 4 document 12 [8/0]

dogcatcher 3 dogged 11 doggedly 2 doggie 14 doggone 4 doggy 7 doghouse 11 dogma 15 dogmatic 20 dogs 42 dogwood 3 [13/7]

dole 2 doll 62 dollar 57 dolls 8 dolly 9 dolphin 10 [7/1]

domain 15 dome 30 domestic 12 dominance 4 dominant 29 dominate 52 dominion 4 [9/1]

donate 36 donation 2 done 32 doner 2 dong 2 donkey 43 donner 6 donor 16 dons 2 donut 2 [13/3]

doodad 2 doodle 69 dool 2 doom 22 doomed 2 door 37 [11/11] double 109 doubt 26 doubtful 2 douche 2 dough 7 doughnut 4 douse 3 [2/3]

dowager 3 dowel 9 dower 4 dowery 15 dowl 2 down 78 downer 2 downtown 2 downward 2 downy 3 dowry 14 dows 2 [7/*12]

drab 2 dracula 2 draft 16 drag 20 dragon 9 drain 7 drama 41 dramatic 13 drank 6 drap 3 drape 19 drastic 5 draw 10 [3/0] GW

dread 56 dreadful 2 dream 32 dreary 4 dred 10 dredge 7 dregs 3 drench 7 dress 25 drew 3 [1/6]

dribble 7 dried 28 drier 3 drift 5 drill 33 drink 21 drip 18 drive 34 driven 2 driver 4 [2/2]

drone 12 drool 8 drop 76 drought 15 drove 7 drow 2 drown 23 drowsy 4 [7/2]

drudge 9 drudgery 2 drug 29 drugs 16 druid 5 drum 57 drummer 4 drums 3 drunk 29 [2/2]

duce 4 duck 99 ducks 5 duct 40 ductile 7 [1/3]

dule 7 dull 128 dullard 4 duller 2 dullness 3 [6/7]

dumb 71 dumbbell 2 dumbell 5 dumber 3 dumby 2 dummy 35 dump 23 dumpling 3 dumpster 2 [5/*2]

dusk 6 dust 123 dusty 25 [0/4]

dynamic 60 dynamics 9 dynamite 40 dynasty 20 dyne 2 [22/5] earache 9 eardrop 2 eardrum 20 earful 7 earing 8 ear lobe 5 early 19 earmuff 2 earn 14 earnest 7 earphone 3 earplug 2 earring 22 ears 12 earshot 3 earth 9 earwax 2 [6/2]

ease 20 easel 6 easement 2 easier 3 easily 4 east 12 eastern 2 easy 107 [2/2]

éclair 12 eclectic 9 eclipse 66 [35/38]

ecological 9 ecology 53 economic 11 economical 2 economics 13 economy 58 ecosystem 3 [7/2]

edible 26 edict 2 edifice 3 edify 4 edit 65 edition 14 editor 28 editorial 4 [7/6]

educate 83 education 70 [4/2]

effect 51 effective 16 efficient 41 effigy 3 effort 34 [11/1]

elaborate 56 elapse 5 elastic 20 elate 17 elated 8 elation 4 [42/8]

elect 2 electric 3 elegant 14 element 65 elementary 5 elephant 29 elevate 15 elevator 10 [9/*4]

elicit 11 eligible 11 eliminate 43 elite 46 [35/13]

emaciate 10 emaciated 7 emanate 10 emancipate 44 emancipated 2 emancipation 5 emasculate 4 [41/36]

embark 5 embarrass 3 embed 4 embedded 5 embellish 6 embezzle 2 emblem 8 embody 23 embolism 2 emboss 4 embrace 29 embroider 2 embroidery 4 embryo 15 [37/4]

emend 2 emerald 3 emerge 19 emergency 61 emery 3 [36/*30] emigrant 2 emigrate 13 eminent 15 emission 7 emissions 2 emit 46 emitted 2 [38/27]

empathy 7 emperor 7 emphasis 6 emphasize 7 empire 36 empirical 6 employ 18 employee 12 emporium 2 empty 26 [17/*5] enable 91 enact 15 enamel 10 enamor 2 enamored 3 enate 2

encase 4 enchant 2 encircle 3 enclose 35 enclosed 2 enclosure 2 encode 15 encompass 3 encore 25 encounter 15 encourage 22 encroach 5 encyclopedia 2 [12/6]

endanger 2 endear 2 endeavor 5 ended 4 ending 53 endive 2 endless 26 endocrine 2 endometrium 2 endorse 5 endow 4 ends 3 endurance 2 endure 25 [16/2]

enema 2 enemy 66 energetic 2 energy 57 [11/20]

engage 58 engaged 2 engine 25 engineer 25 engineering 2 english 24 engrave 8 engross 2 engulf 5 [5/*3]

enjoin 5 enjoy 112 [22/20]

[15/21]

enlarge 107 enlight 2 enlighten 13 enlist 21 enliven 3 [6/4]

enrage 42 enraged 2 enrich 32 enroll 42 [25/12]

ensemble 5 ensign 6 enslave 7 ensue 11 ensure 109 [12/*7]

entail 7 entangle 3 enter 41 enterprise 3 entertain 9 entertainment 4 entice 7 entire 10 entitle 20 entitled 4 entity 10 entrance 19 entrap 3 entrust 2 [7/5]

envelope 26 envious 25 environment 30 envision 7 envolve 6 envy 38 [24/1]

epic 31 epicenter 4 epidemic 13 epiderm 2 epidermis 3 epilepsy 5 epilogue 3 episode 43 epistemology 2 epitaph 12 epitome 3 epitomy 2 [24/6]

equal 74 equality 2 equate 10 equation 11 equator 5 equestrian 3 equilibrium 4 equip 4 equipment 17 equitable 3 equity 8 equivalent 3 [9/4]

eradicate 7 eras 7 erase 92 eraser 6 erasure 5 [28/14]

errand 15 errant 3 erratic 3 erroneous 7 error 110 [13/7]

escalate 19 escalator 13 escapade 2 escape 94 escort 6 [18/7] especial 7 especially 118 espionage 4 espresso 2 esprit 2 [19/7]

essay 20 essence 33 essential 77 [20/7]

establish 28 established 4 estate 23 esteem 11 estimate 66 estrange 2 estrogen 5 estuary 3 [12/4]

ethal 2 ethel 3 ether 28 ethereal 4 ethic 21 ethical 40 ethics 22 ethnic 15 ethnical 2 ethnics 2 ethology 2 ethyl 2 [7/5]

evacuate 19 evade 32 evaluate 54 evaluation 5 evangelist 3 evaporate 15 evasive 11 [12/*4]

even 31 evening 98 evenings 2 event 9 ever 3 every 6 [6/2]

evian 2 evict 8 evidence 51 evident 19 evil 67 [10/2]

evocate 4 evoke 55 evolution 49 evolve 43 [5/2]

exacerbate 2 exact 46 exactly 6 exaggerate 17 exalt 9 exam 16 examination 2 examine 16 example 16 exasperate 5 [16/9]

excavate 3 exceed 6 excel 4 excellent 8 except 9 excess 2 excessive 2 exchange 2 excite 27 excited 3 exclaim 4 exclude 9 excrete 4 excuse 28 [29/8]

execute 68 execution 4 executive 19 exemplify 4 exempt 13 exercise 8 exert 6 [14/23]

exhale 35 exhaust 55 exhausted 4 exhibit 35 exhibition 4 exhibarate 3 exhort 2 exhume 5 [16/*0]

exile 23 exist 23 exit 97 exite 3 [8/3]

exodus 17 exon 2 exonerate 13 exorcise 2 exorcism 2 exorcist 5 exoskeleton 8 exothermic 2 exotic 39 [36/31]

expand 3 expect 15 expenditure 2 experience 22 experiment 10 expert 12 expire 16 explain 8 explode 5 exploit 2 explore 7 exponent 4 export 2 expose 21 exposure 7 express 5 expression 2 [6/1] GW

extend 20 extension 22 extensive 3 extent 36 exterior 6 exterminate 6 external 16 extinct 7 extra 12 extreme 7 [14/3]

eyeball 40 eyebrow 10 eyeful 3 eyeglass 2 eyeglasses 2 eyelash 5 eyelet 2 eyelid 20 eyes 34 eyesight 8 eyesore 3 eyewitness 10 [3/9]

fable 17 fabric 25 fabricate 14 fabulous 92 [9/2]

face 50 facial 7 facile 2 facilitate 10 facility 5 facsimile 3 fact 27 faction 9 factor 8 factory 17 factual 3 facture 2 faculty 8 [4/0]

fail 73 failure 19 fain 2 faint 6 fair 5 faith 38 [9/4]

falcon 5 fall 49 fallacy 12 fallen 15 falling 5 fallow 7 false 33 falter 8 [19/3]

fame 19 family 103 famine 7 famish 3 famished 4 famous 20 [2/0]

fanatic 15 fancy 33 fanfare 6 fang 7 fanny 10 fans 30 fantastic 32 fantasy 9 [9/4]

faraway 4 farce 11 fare 17 farfetched 9 farm 13 farmer 4 far-out 4 farrow 3 farsighted 3 fart 23 farther 44 farthest 8 [5/7]

fascinate 13 fashion 4 fast 92 faster 27 faster 12 [9/1]

fatal 2 fate 21 father 6 fathom 4 fatigue 12 fatness 2 fats 5 fatso 2 fatten 25 fattening 8 fatter 34 fatty 23 [8/3]

favor 125 favorable 4 favorite 29 [2/0]

feal 3 fear 22 feasible 17 feast 4 feat 7 feather 33 feature 62 [8/2]

federal 131 federation 2 feds 3 [12/*9]

feeble 15 feed 62 feel 29 feeling 2 feelings 4 fees 13 feet 27 [5/1]

feline 5 fell 15 fellow 94 fellowship 2 felon 5 felony 8 felt 19 [9/1]

fence 113 fencing 2 fend 6 fender 22 fennel 3 [7/2]

ferment 17 fern 26 ferocious 14 ferret 9 ferrous 5 ferry 7 fertile 15 fertilize 7 fertilizer 6 fervent 2 fervor 10 [20/18]

fiel 3 field 63 fiend 31 fierce 3 fiery 8 fiesta 6 [21/23]

fight 4 figment 7 figs 4 figure 134 [4/2]

filament 4 file 25 fill 56 filled 5 filler 12 filling 12 film 6 filter 24 filth 3 filthy 4 [5/1] GW

final 8 finally 3 finance 10 financial 2 find 12 fine 10 finger 21 finish 79 finished 3 fins 3 [2/2]

fire 64 firm 40 firs 4 first 39 [5/*3]

fiscal 19 fish 44 fishing 2 fission 2 fissure 10 fist 69 [6/3]

fitful 4 fitness 26 fits 19 fitted 22 fitter 6 fitting 51 [14/*17]

flag 39 flagrant 7 flags 4 flake 11 flame 17 flammable 2 flap 9 flash 3 flat 14 flatten 4 flatter 4 flavor 23 flaw 6 [6/1]

flea 41 fleas 3 fled 11 flee 45 fleece 2 fleed 2 fleet 18 flesh 5 flew 16 flex 7 flexible 2 [1/3]

flick 6 flied 3 flier 2 flies 9 flight 33 flighty 2 flinch 2 fling 35 flint 11 flip 24 flirt 23 [4/*1]

float 5 flood 7 floor 4 flop 2 florist 3 flour 5 flow 86 flower 28 flowers 2 flowing 6 [4/*0] GW

fluctuate 15 flue 12 fluent 41 fluid 23 fluke 9 flume 3 flunk 4 fluoride 3 flush 4 flute 15 flutter 3 flux 4 [12/4]

focal 14 foci 2 focile 2 focus 126 [9/7]

fold 12 folder 3 foliage 2 folk 3 follicle 5 follow 116 folly 7 [7/*0]

food 69 fool 35 foolish 10 foot 37 football 5 [1/1]

forage 2 forbid 3 forbidden 3 force 5 fore 6 foreign 12 forest 9 forever 8 forge 8 forget 17 forgive 9 forgot 3 form 3 formal 2 former 3 formula 2 forsake 2 fort 6 forth 3 fortunate 2 fortune 7 forward 11 [17/*0] GW

fought 10 foul 93 found 26 foundation 2 founder 9 fountain 3 four 12 [2/2]

fraction 6 fracture 6 fragile 28 fragment 17 fragrance 11 fragrant 6 frail 8 frame 16 frank 2 frankly 2 frantic 2 frat 4 frate 2 fraternity 32 fraud 3 fray 2 [7/*0] GW

free 64 freedom 26 freeze 13 frenzy 2 frequency 6 frequent 33 fresh 4 fret 3 [4/1]

friction 7 friday 13 fridge 8 fried 22 friend 20 fries 6 frigate 2 fright 20 frighten 9 frigid 8 frill 2 fringe 14 frisk 2 frivolous 9 [9/0]

frog 28 frolic 9 from 48 front 10 frost 10 froth 4 frown 13 frozen 27 [4/0]

fructose 2 frugal 16 fruit 74 frustrate 31 frustrated 9 frustrating 4 frustration 6 [12/4]

fulcrum 6 fulfil 5 fulfill 25 fulfilment 2 full 76 fuller 6 fullest 3 fullness 6 fully 10 fulness 4 [3/11]

function 6 fund 6 fundamental 4 funds 2 funeral 4 fungus 3 fun house 2 funky 2 funnel 23 funny 95 [8/1]

furious 11 furlong 3 furlough 4 furlow 4 furnace 9 furnish 17 furniture 11 furrow 9 furry 29 furs 10 further 20 furtive 2 fury 12 [15/2]

fuse 48 fusion 19 fuss 32 fussing 2 fussy 25 [24/4]

gage 56 gagged 8 gagging 12 gaggle 24 gaging 6 gags 14 [12/25]

gaiety 6 gaily 6 gain 41 gait 34 gaither 3 [51/18]

gala 2 galant 7 galaxy 2 gale 4 gall 4 gallant 16 gallery 6 gallon 78 gallop 8 gallow 8 gallows 2 gally 2 galvanize 4 [8/2]

gamble 90 gambler 9 game 36 games 2 gamete 6 gamma 8 [5/1] gander 37 gang 58 ganga 2 ganger 2 ganglion 2 gangrene 7

gander 37 gang 58 ganga 2 ganger 2 gangtion 2 gangrene 7 gangster 14 gant 3 [18/13]

garage 34 garbage 34 garden 15 gargle 2 gargoyle 2 garish 2 garland 5 garlic 4 garment 18 garnet 3 garnish 22 garter 2 [12/3] GW

gaseous 11 gases 10 gash 7 gasket 8 gaslight 2 gasoline 56 gasp 15 gasses 3 gast 3 gas tank 2 gastly 2 gastric 10 [18/6]

gate 77 gateway 3 gather 50 gator 7 gatter 2 [8/11]

gaudy 12 gauge 87 gaunt 10 gauntlet 7 gauze 18 [15/8]

gaze 124 gazebo 4 gazelle 4 gazette 3 gazing 14 [8/2]

gender 50 gene 3 general 29 generate 14 generation 8 generic 6 generous 11 genes 2 genetic 4 genial 2 genital 5 genitals 2 gentle 5 gentlemen 2 genuine 3 [5/0] GW geographic 2 geography 65 geology 67 geometric 4 geometry 5 [6/*1]

geranium 3 gerbil 7 geriatric 4 geriatrics 2 germ 33 german 25 germane 9 germinal 2 germinate 9 germs 9 gerontology 3 gerund 4 [32/14]

giraffe 9 gird 2 girder 2 girdle 32 girl 74 girls 6 girth 14 [16/2] give 65 given 60 giver 9 giving 25 [1/0]

glacier 17 glad 38 glade 4 gladiator 2 glamor 12 glamorous 5 glamour 7 glance 12 gland 4 glare 13 glass 19 glaze 18 [4/1] gleam 62 gleaming 2 glee 47 gleeful 5 [32/7]

glib 5 glide 71 glider 2 glimmer 3 glimpse 6 glisten 13 glit 2 glitch 6 glitter 30 glitz 2 [13/3]

gloat 3 global 6 globe 12 gloom 5 glorious 8 glory 14 glossy 2 glove 7 glow 93 glowing 3 [2/0]

glucose 15 glue 121 glutton 12 [6/*1]

gold 52 golden 10 goldfish 3 golem 2 golf 43 golfer 4 goliath 5 golly 11 [6/21]

goober 17 good 65 gooey 3 goof 14 goofy 5 goon 14 goop 9 goose 16 [7/5]

govern 52 government 62 governor 21 [25/0]

grab 13 grace 5 gracious 5 grade 17 graduate 8 grain 4 gram 2 grand 3 grape 16 graph 5 grapple 2 grasp 6 grass 9 grate 11 grateful 2 gratify 3 gratitude 5 grave 15 gravity 6 gravy 3 gray 3 [5/2] GW

grease 12 greasy 2 great 23 greed 15 greedy 5 greek 6 green 53 greet 18 gregarious 4 grew 2 grey 3 [12/*2]

grid 26 griddle 6 gridlock 2 grief 2 grill 35 grim 3 grimace 2 grime 5 grin 3 grind 30 grip 18 gripe 4 grit 6 grits 4 grizzly 2 [8/0]

groan 5 grocer 2 groceries 2 grocery 26 groom 8 groove 4 grope 7 gross 15 grotesque 5 ground 7 group 13 grove 4 grow 45 growing 2 grown 2 growth 3 [4/0] GW

grub 4 grudge 29 gruel 8 grueling 3 gruesome 20 gruff 2 grumble 5 grump 3 grumpy 9 grunge 4 grunt 30 [31/11]

guacamole 7 guam 3 guano 4 guar 2 guarantee 14 guard 40 guava 7 [46/*32]

guerilla 5 guerrilla 2 guess 38 guest 26 [37/52]

guidance 4 guide 53 guild 10 guile 8 guilt 31 guilty 23 guise 3 guitar 8 [12/6]

gulf 23 gull 14 gullable 6 gullet 2 gulley 11 gullible 26 gully 17 gulp 22 [25/10]

gunfire 5 gunge 2 gunman 8 gunnel 3 gunner 39 gunnery 5 gunpowder 11 guns 42 gunship 2 gunshot 4 [15/17]

gush 4 gust 102 gustation 5 gusting 2 gusto 13 gusty 13 [4/13] habit 111 habitat 20 habitate 2 habitual 9 habituate 3 [11/3]

hack 85 hacker 10 hackett 2 hacking 6 hackle 8 hackney 4 hackneyed 2 hacksaw 5 [14/*22]

haiku 2 hail 96 hair 24 haitian 2 [12/22]

hale 2 half 8 halitosis 2 hall 33 hallow 17 hallowed 6 halloween 5 halls 2 hallucinate 5 hallucination 2 hallway 7 halo 19 halogen 4 halt 20 halter 2 [18/5]

hamburger 53 hammer 59 hammock 2 hamper 10 hams 3 hamster 20 hamstring 4 [8/0]

hand 34 handle 71 hands 3 handy 2 hang 17 hanger 21 hangover 2 [4/*1]

happen 47 happening 3 happiness 10 happy 96 [3/0]

harass 15 harbor 5 hard 24 harden 2 hare 7 harem 2 hark 2 harm 8 harmful 3 harmony 9 harness 6 harp 13 harpoon 2 harrow 3 harrowing 2 harsh 11 harvest 3 [32/4] GW

has-been 2 hash 4 hassle 33 hast 7 haste 30 hasten 44 hasty 7 [27/6]

hatch 5 hate 69 hatrack 6 hatred 14 hats 36 hatter 9 [3/9]

haught 4 haughty 16 haul 34 haunt 43 haunted 16 haut 5 haute 7 [21/11]

head 26 heal 20 health 20 healthy 3 heap 13 hear 9 heard 2 heart 2 hearth 2 heat 20 heater 3 heather 5 heave 6 heaven 7 heavy 15 [1/2]

held 2 helicopter 20 helium 10 hell 43 hellacious 3 hellion 3 hellish 2 hello 21 helmet 14 help 28 [8/*1]

hemisphere 22 hemline 23 hemlock 19 hemmed 3 hemming 8 hemoglobin 3 hemophilia 3 hemophilia 2 hemorrhage 2 hemp 25 hems 5 [30/14]

herald 4 herb 11 herbal 2 herd 11 here 21 hereby 2 heredity 7 heresy 2 heretic 2 heritage 5 hermit 9 hero 5 herpes 4 hers 15 herself 22 [18/8]

hesitant 7 hesitate 121 hess 2 hester 4 [10/15]

hidden 96 hide 49 hideous 8 hiding 2 [5/0]

higgle 2 high 53 higher 9 highlight 3 hight 5 [17/70]

hilarious 19 hill 103 hills 10 hillside 4 hilltop 6 hilly 6 hilt 8 [3/1] hind 22 hinder 93 hindrance 3 hindsight 3 hinge 22 hint 10 [3/1] hispanic 3 hiss 8 hisself 3 hissing 2 hist 2 history 124 [10/4] hitch 7 hither 13 hit list 2 hit man 8 hits 21 hitter 66 hitting 22 [10/8]

hold 11 hole 9 holiday 18 holistic 4 holler 6 hollow 81 holly 10 hologram 2 holster 2 holy 10 [3/1]

homage 12 home 96 homeless 4 homemade 2 homicide 13 homo 5 homogenous 2 homophobic 2 homophone 2 homosexual 6 [10/0]

hone 3 honest 27 honesty 3 honey 47 honk 7 honor 56 honorable 3 [9/0]

hood 33 hoodlum 4 hoof 6 hook 12 hoop 36 hoops 4 hoot 49 hooter 3 hooters 3 [1/1]

hope 82 hopeful 8 hopeless 2 hopes 2 hoping 9 hopper 18 hopping 19 hops 6 hopscotch 6 [3/2]

hord 4 hormone 9 horn 6 horny 3 horrible 38 horrid 11 horrify 7 horror 58 horse 7 [13/1]

hose 14 hospital 20 host 27 hostage 11 hostile 67 hostility 3 [13/*0]

hot cake 2 hotel 22 hotline 6 hotness 4 hot plate 3 hotrod 2 hots 9 hotter 80 hottest 7 hot tub 5 [4/8]

hound 12 hour 10 house 114 [8/12]

human 27 humane 3 humanities 2 humble 52 humdrum 2 humid 6 humiliate 5 hummer 3 humming 18 hummingbird 6 humor 13 humorous 2 hump 5 [8/2]

hundred 30 hunger 46 hungry 41 hunt 12 hunted 3 hunter 15 hunting 4 [6/0]

hurdle 12 hurl 8 hurricane 9 hurried 2 hurry 97 hurt 20 hurtle 4 [4/0]

husband 87 husky 6 hustle 46 hustler 10 [8/*1]

hyde 4 hydra 10 hydrant 19 hydrate 19 hydration 3 hydraulic 7 hydride 2 hydro 22 hydroelectric 3 hydrogen 26 hydrolysis 2 hydroplane 4 hydroxide 4 [21/7] hype 5 hyper 64 hyperactive 2 hyperbola 2 hypnosis 12 hypnotic 3 hypochondriac 2 hypocrite 3 hypotenuse 2 hypothesis 33 hypothetical 6 [14/0]

idea 37 ideal 83 identical 3 identify 3 identity 3 ideology 9 [11/*5] idiom 9 idiot 95 [36/17]

ignite 62 ignition 16 ignorance 3 ignorant 10 ignore 56 [11/1] illegal 14 illicit 5 illiterate 5 illness 85 ills 2 illuminate 2 illusion 17 illusory 2 illustrate 6 [9/5]

image 31 imaginary 2 imagination 5 imagine 78 [36/*5]

imbalance 14 imbecile 6 imbed 2 imbedded 4 imbellish 2 imbibe 17 imbody 8 imbue 8 [51/42]

imitate 108 imitation 9 [32/11]

immaculate 4 immature 19 immediate 19 immediately 4 immense 11 immigrant 5 immigrate 6 imminent 5 immortal 5 immovable 2 immune 51 immunity 5 [15/4]

impair 3 impatient 3 impede 2 imperfect 3 imperial 4 impetuous 4 impish 5 implement 4 implode 2 imploy 2 imply 22 import 4 important 22 impose 6 impossible 9 impotent 5 impress 2 impression 3 imprison 4 impromptu 2 improper 2 improve 14 improvise 3 impulse 2 impure 2 [10/1]

inability 17 inable 8 inaccurate 6 inact 7 inactive 9 inadequate 10 inane 6 inanimate 7 inappropriate 8 inapt 4 [53/24]

incest 4 inch 2 inches 2 incident 8 inclination 3 incline 23 inclined 2 inclosure 2 include 18 income 10 incomplete 2 incorporate 19 incorporated 9 incorrect 4 increase 11 incriminate 4 incubate 6 incur 4 [13/1]

indecisive 4 indeed 4 indent 3 independent 11 indian 10 indicate 17 indifferent 4 indigestion 2 indigo 11 indirect 14 individual 32 indoor 2 induce 6 indulge 5 indure 3 industrial 2 industrious 2 industry 2 [11/1]

inebriate 5 inedible 2 ineffective 3 inefficient 4 inept 42 inequal 2 inequality 3 inert 6 inertia 2 inevitable 12 inexcusable 3 inexpensive 2 inexperience 4 inexperienced 3 inexplicable 2 [16/43]

infallible 2 infamous 3 infant 18 infect 4 infection 4 infer 7 inference 6 inferior 20 inferno 2 infiltrate 2 infinite 15 infinitive 4 infinity 3 inflame 2 inflate 9 inflow 2 influence 9 influence 2 inform 4 information 7 infraction 2 infuriate 3 [9/4]

ingage 5 ingenious 21 ingenuity 6 ingest 8 ingle 3 ingrate 11 ingratiate 5 ingrave 3 ingross 2 [34/54]

inhabit 14 inhale 36 inhance 3 inherent 16 inherit 18 inhibit 42 inhibited 2 inhuman 9 inhumane 2 [8/4]

initial 49 initialize 2 initiate 64 initiative 9 [21/12]

inject 19 injection 3 injunction 4 injure 50 injured 3 injury 72 [5/*2]

innate 28 inner 43 inning 13 innkeeper 8 innocent 13 innovate 6 innovative 7 inns 5 [21/10]

inquest 6 inquire 86 inquiry 8 inquisition 4 inquisitive 8 [26/20] insane 4 insecure 7 insensitive 2 insert 8 inside 13 insight 15 insist 8 inspect 3 inspire 3 instance 2 instead 2 instinct 2 institute 3 instruct 3 instrument 2 insulate 8 insult 8 insurance 22 insure 24 [7/1]

intake 2 integrate 2 intelligence 2 intelligent 5 intend 5 intent 18 intention 5 intentional 2 inter 7 interest 14 interested 2 interesting 2 interior 6 intermediate 2 intern 3 internal 6 interrogate 2 interrupt 2 intimate 4 intimidate 3 intire 2 into 4 intrude 4 intrust 2 intuition 7 [15/6]

invade 6 invalid 2 invasion 4 invent 16 invention 5 inventory 5 inverse 7 invert 3 invest 4 invincible 2 invious 2 invisible 4 invitation 3 invite 64 invoice 7 invoke 2 involve 8 [7/1]

iron 74 ironic 28 irony 33 [9/*14]

irrational 9 irregular 39 irresponsible 4 irreversible 2 irrigate 6 irritable 8 irritate 55 irritated 2 irritation 2 [25/1]

isolate 115 isolated 7 isolation 13 isometric 6 isotope 7 [5/*1] jewel 66 jewelry 17 jewels 5 jewish 48 jews 4 [18/2]

join 64 joint 70 joist 7 [9/9]

joule 10 jour 2 journal 16 journey 15 joust 81 [18/17] judge 110 judgement 6 judges 2 judicial 23 judicious 5 judo 2

judge 110 judgement 6 judges 2 judicial 23 judicious 5 judo 2 [6/4]

jumble 65 jumbo 5 jump 83 jumper 6 [1/0]

junction 18 june 2 jungle 89 junior 5 junk 37 junky 2 [2/2]

jurisdiction 3 juror 9 jury 137 [8/2]

just 54 justice 68 justification 3 justify 32 [2/0]

keel 16 keen 60 keep 71 keeper 5 [3/4]

kidder 13 kiddie 4 kidding 56 kiddle 2 kiddy 3 kidnap 7 kidney 11 kids 43 [9/10]

kill 78 killed 3 killer 37 killing 11 kills 2 kilogram 9 kilometer 4 kilt 10 [1/1]

kind 58 kinder 7 kindergarten 4 kindle 28 kindred 11 kinetic 10 kinfolk 2 king 6 kinky 4 kinship 15 kinsman 2 [3/*4]

kitchen 9 kite 21 kitten 119 kitting 2 kittle 2 kitty 4 [1/0]

knead 7 knee 91 kneed 3 kneel 32 knees 3 knelt 2 knew 17 [2/1] knickers 2 knife 89 knight 9 knit 45 knive 6 knives 3 [2/1]

knob 14 knock 48 knoll 2 knot 23 know 54 knowledge 12 known 4 [1/0]

label 5 labor 26 laboratory 79 labrador 4 labs 4 [38/2]

lace 17 lacerate 3 lack 74 lacking 3 lacquer 9 lacrosse 2 lactate 10 lactic 2 lactose 14 lacy 2 [15/4]

lamb 74 lambast 2 lambda 2 lambs 5 lame 11 lament 8 laminate 8 lamp 37 [9/0]

lance 4 land 30 landing 3 landslide 2 lane 7 language 92 languish 3 lanky 2 lantern 5 [7/1]

lapel 20 lapis 2 lapped 12 lapping 11 laps 45 lapse 22 laptop 6 [10/27]

larceny 6 larch 2 lard 33 large 55 lark 25 larson 3 larva 6 larynx 5 [13/7]

laser 19 lash 3 laso 2 lasso 8 last 101 lasting 13 lastly 2 [6/2]

late 25 latent 7 later 35 lateral 13 latex 2 lather 2 latitude 3 later 54 lattice 2 [11/2]

laud 23 lauder 2 laudible 2 laugh 67 laughter 3 launch 21 laundry 20 [14/7]

lava 32 lavage 2 lavatory 19 lave 5 lavender 21 lavish 63 [15/3] lawful 23 lawless 10 lawmaker 2 lawn 10 laws 16 lawyer 74 [15/*4]

layaway 2 layed 10 layer 45 layers 2 laying 19 layman 26 laymen 8 layoff 2 layout 11 lays 7 [6/20]

leach 6 lead 21 leader 4 leaf 26 leak 7 lean 4 leap 21 learn 3 lease 11 leash 9 least 3 leather 13 leave 21 leaves 3 [2/0] GW

legacy 3 legal 7 legend 15 legging 15 leggings 16 leggins 3 legible 2 legion 3 legislate 3 legislation 2 legislature 3 legit 2 legitimate 18 legs 43 legume 3 leg warmer 2 [9/4]

lend 57 lender 9 length 16 lenient 14 lens 14 lenses 3 lent 17 lentil 3 [22/1]

lesbian 13 less 36 lessen 30 lesser 8 lesson 52 lest 5 [9/3] letter 129 letting 3 lettuce 17 [9/0]

level 81 lever 52 leverage 5 levis 2 levitate 5 levy 6 [5/*1]

libel 2 liberal 26 liberate 29 liberated 2 liberation 3 liberty 6 libido 9 library 67 [11/3]

lice 11 licence 6 license 22 lichen 2 lick 89 licks 2 licorice 20 [8/0]

life 94 lift 61 [0/1]

ligament 36 ligate 6 ligature 2 ligger 2 light 31 [44/31]

lilac 6 lilly 67 lilt 7 lily 49 [7/19]

limb 27 limber 23 limbo 6 lime 35 limit 27 limitation 3 limo 3 limousine 2 limp 18 [11/0]

line 33 linear 9 liner 9 liner 3 lingeri 39 lingerie 4 linguini 2 linguist 2 linguistic 6 linguistics 4 lining 2 link 17 lint 13 [8/0] liquid 96 liquidate 2 liquor 30 [29/3]

list 34 listen 115 listening 3 listless 2 [2/0]

lite 7 liter 2 literal 2 literary 3 literature 20 litter 28 little 85 [10/0]

live 74 lively 7 liven 3 liver 28 livid 7 living 40 [0/0]

load 46 loaf 38 loam 2 loan 31 loath 15 loathe 19 loathsome 2 [2/1]

lobby 79 lobe 8 lobes 2 lobotomy 5 lobster 59 [5/1]

local 24 locate 22 location 28 lock 55 locker 3 locomotion 3 locomotive 8 locus 7 locust 6 [1/0]

logarithm 8 loge 2 logged 4 logger 21 logging 13 logic 21 logical 21 logistic 2 logistics 2 logjam 3 logo 2 logrolling 2 logs 28 [20/*8]

lone 29 lonely 36 loner 7 lonesome 3 long 61 longer 5 longevity 2 longitude 3 [8/3]

look 25 loom 5 loon 4 loony 6 loop 65 loophole 2 loose 21 loot 25 [1/3]

lose 33 loser 15 losing 3 loss 19 lost 82 [6/1]

loud 91 louder 2 loudly 2 lounge 13 louse 15 lousy 17 lout 3 [6/8]

lovable 2 love 113 lovely 5 lover 24 loving 15 [0/0]

lowdown 3 lower 124 lowest 9 lowly 11 [3/6]

lucid 24 lucifer 3 luck 61 lucky 30 lucrative 15 [16/9]

lumbar 7 lumber 79 luminate 13 luminous 10 lump 38 lumps 2 lumpy 3 [3/*1]

lunacy 5 lunar 16 lunatic 15 lunch 52 lung 35 lunge 22 lungs 4

lurch 18 lure 69 lured 2 lurid 11 luring 7 lurk 37 lurking 6 [3/*6] luscious 4 lush 6 lust 108 luster 32 lustrous 2 [3/0]

macabre 2 macaroni 43 macaronic 2 macaroni 3 maccaroni 4 mace 20 mach 2 machine 24 macintosh 2 mack 8 macro 10 [25/9]

madam 2 madame 2 madden 27 maddening 7 madder 6 maddest 3 made 31 madhouse 2 madly 8 madman 9 madness 31 [20/7]

magazine 55 maggot 7 magic 9 magical 2 magistrate 9 magnesium 2 magnet 35 magnetic 4 magnify 8 magnitude 2 magnum 5 [15/1]

maid 29 maiden 3 mail 81 mailman 2 maim 3 main 9 maintain 3 maize 11 [9/8]

majestic 10 majesty 8 major 105 majorette 2 majority 24 [11/0] make 118 maker 14 making 23 [1/1]

maladjusted 4 malady 5 malcontent 2 male 23 malice 30 malicious 12 malignant 5 mall 13 mallet 4 mallow 3 malnutrition 5 malpractice 5 malt 10 [27/3]

mama 7 mame 8 mammal 84 mammary 6 mammogram 4 mammon 2 mammoth 7 mammy 4 [34/2]

manage 20 manager 3 mandate 5 mandatory 5 mandible 2 mandolin 2 manhandle 3 manhole 6 manhood 9 manifest 3 manipulate 3 mankind 5 manly 14 manner 20 manners 7 manor 2 manpower 3 mansion 2 mantle 7 manual 8 many 3 [11/2]

marble 10 march 19 margarine 2 margin 13 marginal 3 marine 3 mark 15 marker 2 market 12 marriage 25 married 7 marrow 4 marry 11 marsh 8 marsupial 2 marvelous 2 [13/0] GW

masculine 10 mask 24 mass 12 massacre 4 massage 4 massive 14 mast 13 master 57 masturbate 4 [10/1]

match 2 mate 12 material 15 math 4 mats 3 matter 68 matters 3 mattress 30 mature 13 [5/1]

maxi 2 maximize 20 maximum 126 [8/3]

mead 3 meadow 3 meager 2 meal 12 mean 6 meander 2 measle 3 measles 10 measure 92 meat 19 [4/1]

mecca 8 mechanic 56 mechanical 19 mechanics 2 mechanism 14 [28/*29]

medal 4 meddle 9 media 2 mediate 15 medic 3 medical 52 medication 4 medicine 27 meditate 14 medium 18 [8/1]

meed 4 meek 65 meet 65 meeting 4 [14/7]

melancholy 3 mellow 42 melodrama 3 melodramatic 4 melody 10 melon 28 melt 32 melting 2 [27/5]

member 66 membership 2 membrane 7 memorize 5 memory 73 [1/*0]

menace 12 mend 14 menopause 7 men's 6 menses 2 menstrual 6 menstruate 5 mental 13 mention 43 mentor 14 [23/8]

merchant 21 merciful 4 mercury 6 mercy 39 mere 5 merge 18 merger 4 merit 19 mermaid 8 merry 19 [8/3]

mescaline 2 mesh 5 mesmerize 6 mess 29 message 55 messenger 5 messy 37 [12/3]

metal 28 metallic 2 metamorphic 2 metaphor 12 metaphysics 3 meteor 7 meteorite 2 meter 32 method 4 meticulous 6 metric 3 metro 3 metronome 2 metropolitan 7 mets 3 mettle 7 [11/18]

mice 26 micro 16 microbe 3 microfilm 2 microphone 81 microscope 11 microwave 6 [4/6]

midday 7 middle 99 mid-life 2 midnight 8 midpoint 2 midrange 2 midterm 9 midway 15 midwife 2 [6/2]

might 4 mighty 3 migraine 6 migrant 10 migrate 86 migration 6 [28/16]

milage 3 mild 8 mildew 4 mile 17 mileage 2 miles 2 milestone 5 military 11 milk 9 mill 24 millage 3 miller 2 million 49 millions 4 mills 2 [7/2]

mince 3 mind 8 mine 8 mineral 9 mingle 3 miniature 3 minimal 5 minimize 4 minimum 6 miniscule 2 minister 7 minority 3 mint 2 minus 5 minute 74 minutes 5 [7/0]

miracle 6 mirage 34 mirror 101 [13/2]

misbehave 2 miser 3 miserable 2 misery 13 misfit 2 misfortune 2 mishap 3 mislead 12 misled 4 mismatch 2 miss 8 misses 2 missile 2 missing 5 mission 3 misspell 3 mist 8 mistake 27 mister 5 mistle 2 mistreat 4 mistress 2 misunderstand 4 misunderstood 2 misuse 3 [16/1]

- mite 11 miter 6 mitigate 11 mitochondria 2 mitten 100 mittens 12 [11/7]
- mobbed 4 mobile 33 mobilize 2 moble 5 mobs 8 mobster 85 [19/3]
- modal 2 mode 31 model 30 moderate 15 modern 12 modest 15 modification 2 modify 33 modular 4 modulate 3 [8/1]
- mold 24 mole 55 molecule 9 molest 37 mollify 3 molt 8 molten 5 [8/2]
- moment 40 momentary 5 momentum 7 momma 2 mommy 81 moms 2 [10/12]
- monastery 2 monday 19 monetary 2 money 48 monitor 9 monk 3 monkey 6 mono 3 monologue 2 monopoly 4 monotone 3 monsoon 2 monster 20 month 9 monument 3 monumental 3 [9/3]
- mooch 5 mood 51 moody 6 moon 46 moor 5 moose 25 moot 9 [1/8]
- moral 19 morals 2 morbid 31 more 21 morgue 8 morning 9 moron 10 morose 3 morphine 8 mortal 15 mortar 4 mortician 3 mortify 7 mortuary 4 [10/2] GW
- mosaic 8 mosque 4 mosquito 27 moss 16 mossy 2 most 65 mostly 10 [16/6]
- mote 9 motel 11 moth 7 mother 33 motion 5 motivate 15 motive 19 motley 2 motor 28 mottle 4 mottled 4 mottlo 5 [7/7]
- mould 2 mound 4 mount 7 mountain 10 mourn 11 mouse 79 mousse 5 mouth 38 [1/1]
- movable 2 move 85 movement 7 mover 4 movie 25 moving 29 [3/0]
- mulberry 12 mulch 9 mule 45 mull 16 mullen 2 mullet 7 multiple 7 multiply 21 multitude 4 [20/13]
- munch 23 mundane 73 municipal 5 munster 8 [22/25]
- mural 3 murder 85 murky 6 murmur 52 [9/3]
- muscle 47 mushroom 7 music 22 musical 2 musk 2 musket 3 must 11 mustache 3 mustang 4 mustard 35 muster 9 musty 2 [7/0]
- mutant 5 mutate 3 mutation 6 mute 35 mutilate 4 muts 2 mutt 9 mutter 60 mutton 6 mutual 9 [13/5]
- mysterious 8 mystery 119 mystic 19 mystical 3 mystify 6 [3/1] narcotic 6 narcotics 7 nare 2 narrate 21 narrative 14 narrator 10 narrow 80 [12/3]
- natatorium 3 nate 3 nation 10 national 2 native 26 nativity 2 nats 2 natural 34 nature 63 [3/11]
- naval 36 nave 2 navel 14 navigate 25 navigation 2 navigator 6 navy 57 [12/5]
- neanderthal 7 near 34 neat 95 [10/10]
- necessary 37 necessity 4 neck 40 necklace 6 nectar 16 [55/0]
- need 93 needle 35 needless 2 needs 3 needy 8 neel 4 [6/8]
- negate 10 negative 103 neglect 22 negotiate 8 [9/1]
- neighbor 28 neil 3 neither 116 [6/6]
- nether 2 nets 38 netted 9 netter 11 netting 13 nettle 20 network 38 [9/20]
- neural 2 neurology 3 neuron 17 neurosis 4 neurotic 6 neuter 10 neutral 85 neutron 4 [14/12]
- newborn 11 newcomer 3 newer 19 newest 15 newfound 2 newly 33 newlywed 12 newness 3 news 30 newspaper 8 newt 7 newton 2 [5/*6]
- nice 43 niche 5 nick 14 nickel 20 nickname 3 nicotine 38 [33/3] niger 12 nigeria 4 nigger 53 night 47 [9/30]

- nobble 2 nobby 9 nobel 10 nobility 3 noble 100 nobody 10 nobs 6 [5/12]
- none 42 nonfat 2 nonliving 2 nonnegotiable 2 nonsense 39 nonsmoking 4 nonstop 2 nonverbal 8 [21/16]
- nordic 6 norm 11 normal 90 norse 2 north 23 northern 3 norway 3 [8/10]
- nose 79 nosey 4 nostalgia 4 nostalgic 3 nostril 39 nostrum 2 nosy 5 [19/4]
- notable 8 notch 5 note 55 notes 2 noteworthy 2 nothing 41 notice 19 notify 3 notion 3 notorious 4 [7/6]
- nova 9 novel 98 novelty 2 november 18 novice 20 [8/3]
- nude 93 nudge 42 nudist 2 nudity 10 [6/5]
- numb 13 number 138 numerous 6 [1/0]
- nut-cake 2 nutcase 6 nutcracker 6 nutmeg 17 nutrition 5 nuts 45 nutshell 6 nutter 3 nuttier 3 nutty 51 [7/7]
- obedience 12 obedient 12 obese 42 obesity 12 obey 55 [21/6] object 143 objective 14 [0/1]
- obligate 21 obligated 4 obligation 12 obligatory 2 oblige 35 obliged 4 oblique 24 obliterate 5 oblivious 12 oblong 24 [10/7]
- obscene 28 obscure 12 observe 9 obsess 2 obsessed 6 obsession 12 obsessive 3 obsolete 12 obstacle 8 obstetrics 2 obstinate 3 obstruct 20 [38/1]
- occasion 22 occasional 2 occasionally 3 occidental 3 occipital 2 occult 17 occupation 25 occupy 15 occur 29 occurrence 3 [32/2]
- offen 3 offend 30 offense 14 offensive 9 offer 38 offering 3 offhand 2 office 30 officer 5 official 4 offset 8 offshore 2 offside 2 offspring 2 [4/1]
- omicron 3 ominous 36 omission 4 omit 54 [33/28]
- open 123 opening 3 opera 9 operate 11 operation 3 operator 3 [5/3]
- opponent 18 opportunity 15 oppose 23 opposite 67 opposition 11 oppress 4 oppression 2 [17/1]
- optic 3 optical 23 optician 2 optimal 15 optimist 6 optimistic 6 optimize 7 optimum 27 option 44 optional 9 [11/1]
- oracle 29 oral 58 orange 27 orate 9 oration 2 orator 6 oratory 10 [14/3]
- ordain 2 ordeal 8 order 48 orderly 3 ordinal 8 ordinance 25 ordinary 42 ordinate 6 [12/4]
- organ 38 organic 12 organism 14 organization 6 organize 26 orgasm 17 orgy 15 [26/2]
- orient 18 oriental 2 orientation 4 orifice 2 origin 33 original 63 originate 15 oriole 4 [16/1]
- ortega 6 orthodontist 14 orthodox 2 orthogonal 3 orthopedic 10 orthoscopic 2 [36/*78]
- outage 2 outback 3 outburst 2 outcast 6 outcome 8 outcry 3 outdated 2 outer 14 outgoing 4 outhouse 7 outing 12 outlandish 2 outlet 7 outline 5 output 12 outrage 3 outs 3 outside 45 outward 2 [7/0]
- oven 84 over 39 overall 2 overt 8 [8/*14]
- pace 26 pacific 10 pacifier 5 pacify 5 pack 63 package 11 packed 2 packet 5 packing 2 pact 18 [4/*2]
- padded 10 padding 16 paddle 118 padlock 5 pads 6 [3/1]
- pagan 15 page 93 pageant 8 pager 3 pages 3 paginate 3 [26/7] paid 37 pail 48 pain 28 paint 20 pair 3 paisley 7 [10/4]
- palace 28 palate 6 pale 51 palimony 3 pall 5 pallet 7 pallid 3 palm 7 palpable 2 palpitate 5 pals 12 [18/6]

- pancake 26 pancreas 7 panda 5 pander 2 pane 15 panel 7 panhandle 14 panic 22 panoramic 2 pans 13 pant 4 panther 7 panties 2 pantry 2 pants 9 [10/5]
- papa 10 papal 4 papaya 2 paper 99 papillon 2 pappy 9 paprika 4 papsmear 6 [16/6]
- parable 3 parachute 7 parade 4 paragraph 12 parameter 3 paraphrase 2 parch 3 pardon 8 pare 2 parent 13 parish 7 park 7 parking 2 parody 2 parrot 7 parson 3 part 23 partial 3 participate 3 partner 2 parts 2 party 12 [15/1] GW
- pass 26 passage 12 passing 4 passion 9 passive 14 past 47 pasta 3 paste 7 pastel 7 pastor 8 pastry 2 pasture 13 [5/0]
- patent 7 paternal 2 path 5 patient 4 patio 2 patronize 3 pats 2 patted 2 patter 11 pattern 88 pattle 4 patton 2 patty 3 [9/7]
- pave 83 paved 7 pavement 49 pavilion 3 paving 2 pavlov 2 [10/3]
- peabody 3 peace 12 peach 7 peacock 13 peak 10 peal 13 peanut 12 peanuts 2 peapod 5 pear 10 peas 41 peasant 11 peat 5 [4/7]
- pecan 6 peck 63 pecker 3 pecks 5 pectin 2 pectoral 21 pectoralis 5 peculiar 26 [17/9]
- pedal 33 peddle 56 peddler 7 pedestal 2 pedestrian 16 pediatric 3 pediatrics 4 pediatrist 2 pedicure 4 pedigree 4 pediment 2 [20/1]
- peed 4 peeing 2 peek 30 peel 35 peep 30 peer 15 peers 5 pees 5 peeve 5 peeved 4 peewee 12 [4/7]
- penalty 8 penchant 2 pencil 74 pending 4 pendulum 2 penetrate 2 penis 5 penmanship 2 pennant 2 penny 10 penpal 2 pens 7 pension 5 pensive 3 penthouse 2 [13/6]
- peperoni 2 pepper 116 pepperoni 4 peppy 14 pepsi 3 peptalk 3 peptide 6 [7/4]
- perceive 13 perch 4 perfect 12 perform 3 peripheral 3 perish 6 perjury 2 perk 3 permit 3 perpetrate 2 persist 6 person 65 persuade 2 pert 3 pertain 2 [7/0]
- pesky 2 pessimist 4 pessimistic 5 pest 88 pester 23 pesticide 10 pestilence 3 pestle 2 [18/3]
- petal 8 peter 2 petite 5 petition 11 petrified 4 petrify 5 petrol 3 pets 40 pet-shop 2 petter 2 petting 23 pettle 4 petty 17 petulant 2 [16/9]
- phage 2 phallic 8 phantom 34 pharmacy 14 phase 75 [13/7]
- philanthropy 2 philosopher 5 philosophical 4 philosophy 92 [26/23]
- phobia 10 phobic 3 phone 75 phoney 2 phonograph 4 phony 7 photo 37 photograph 9 photon 2 [5/0]
- phylum 3 physic 2 physical 72 physician 5 physics 38 physiology 8 physique 2 [19/*8]
- pick 6 pickle 7 picnic 80 picture 64 [3/0]
- piebald 2 piece 42 piecrust 6 pied 4 pie-face 2 pier 11 pies 48 piety 14 [3/23]
- pigeon 16 piggy 14 piglet 45 pigment 36 pigmy 2 pigs 26 [12/4] pile 22 pilfer 3 pilgrim 9 pill 33 pillage 3 pillar 7 pillow 70 pills 8 [3/0]
- pinball 5 pinch 12 pincushion 2 pine 19 ping 2 pinhead 8 pinhole 4 pink 10 pinnacle 12 pinned 4 pinning 2 pinpoint 11 pins 22 pinstripe 2 pint 15 pinto 5 pinwheel 3 [11/5]
- pitbull 7 pitch 10 pitcher 4 pitfall 15 pith 2 pitiful 20 pits 21 pittance 4 pitted 10 pitter 2 pittsburgh 2 pity 27 [23/8]
- placate 4 place 36 placenta 3 placid 5 plague 13 plain 3 plane 5 plant 2 plaque 13 plasma 2 plaster 5 plastic 3 plate 17 play 27 player 2 [8/1]

- plea 7 plead 27 pleasant 6 please 62 pleasing 2 pleasure 12 pleat 3 pledge 9 plenty 12 plenum 2 plethora 2 [11/1]
- plod 3 plop 5 plot 56 plow 84 ploy 4 [3/0]
- pluck 8 plug 18 plum 19 plumb 9 plumber 9 plumbing 2 plume 5 plump 3 plunder 8 plunge 28 plunk 2 plural 26 plus 9 plush 2 pluto 2 plutonium 2 [5/2]
- poem 28 poet 90 poetic 16 poetry 15 [4/6]
- point 14 poise 29 poised 3 poison 97 [10/4]
- polar 2 pole 15 poles 2 police 18 policy 5 polish 23 politic 5 political 15 politics 19 poll 18 pollen 10 polls 2 pollution 2 polo 3 poly 2 [6/*2]
- poncho 2 pond 31 ponder 86 pondering 2 pong 6 pony 27 [3/1] pooch 4 poodle 31 poof 3 pool 66 poop 18 poor 27 [1/*5]
- popcorn 35 pope 8 popped 5 popper 11 popping 5 poppy 7 pops 5 popsicle 9 popular 53 populate 2 population 11 [9/0]
- porch 30 pore 15 pork 9 porno 2 pornography 2 porous 7 porpoise 2 porridge 6 port 28 portable 6 portal 6 portion 6 portrait 2 portray 6 [17/6]
- pose 6 position 25 positive 46 possess 3 possession 2 possible 17 possum 2 post 15 poster 3 postulate 3 posture 23 [11/0]
- potato 16 potent 6 potential 2 potholder 7 pots 25 potted 7 potter 15 pottery 49 potting 6 potty 4 [8/6]
- pouch 14 poultry 27 pounce 7 pound 28 pour 37 pouring 2 pout 19 [10/13]
- powder 27 power 128 powerful 2 powwow 2 [0/1]
- practical 5 practice 29 pragmatic 9 prairie 2 praise 30 prance 4 prank 7 prate 2 pray 43 prayer 7 [13/6]
- preach 5 preacher 3 precede 3 precious 3 precise 2 predator 3 predict 5 predispose 2 pregnant 5 prehistoric 3 prejudice 3 premature 3 prenatal 2 prep 4 prepare 9 prerequisite 2 preschool 4 present 8 preserve 3 press 2 presume 3 pretend 10 pretense 4 pretest 2 pretty 6 prevent 3 preview 4 previous 5 prey 2 [8/3]
- price 5 prick 3 pride 15 priest 2 primary 22 primate 5 prime 13 primitive 6 prince 5 princess 2 print 5 prior 3 priority 3 prism 2 prison 11 privacy 3 private 27 privilege 2 prize 12 [8/0]
- probation 3 probe 5 problem 4 proclaim 3 procrastinate 2 produce 13 professional 6 professor 3 program 21 progress 2 prohibit 2 project 2 prolong 13 promise 2 promote 7 promotion 2 pronoun 9 pronounce 12 proper 3 propose 3 prostitute 2 protect 8 protest 3 prove 6 provide 3 [2/1]
- psych 2 psyche 2 psychic 7 psycho 7 psychological 2 psychology 120 [17/1]
- puberty 9 pubic 10 public 90 publication 2 publish 44 pubs 2 [0/0]
- pull 81 pulley 14 pulling 5 pullover 3 pulmonary 3 pulp 8 pulpit 6 pulse 17 pulverize 2 [14/1]
- punch 25 punctual 2 puncture 12 pungent 5 punish 64 punishment 2 punitive 2 punk 7 punny 2 puns 6 punt 14 punter 3 puny 5 [7/1]
- pupil 28 puppet 11 puppies 2 puppy 115 [2/0]
- purchase 21 pure 20 purge 4 purify 13 purity 4 purple 19 purpose 16 purr 9 purring 4 purse 25 pursue 6 [9/3]
- quack 13 quad 6 quadrant 2 quadratic 5 quail 12 quaint 4 quake 6 qualification 2 qualify 10 quality 24 quantity 16 quantum 6 quarrel 5 quarry 4 quart 3 quarter 9 quasar 3 [17/3]
- queen 13 queer 10 quell 3 quench 16 query 5 quest 30 question 44 queue 8 [13/14]

quibble 2 quick 30 quiet 19 quill 2 quilt 17 quit 47 quite 8 quiver 15 quiz 3 [8/1]

quota 29 quotation 5 quote 105 quotient 13 [3/3]

raccoon 29 race 57 racial 7 racing 2 racism 3 racist 4 rack 24 racket 15 racoon 6 racquet 6 [2/*0]

radar 4 raddle 4 radial 4 radiant 8 radiate 8 radiator 3 radical 84 radicle 5 radicule 2 radio 10 radish 6 radius 4 radon 2 [13/2]

ragdoll 4 rage 67 ragged 27 raggedy 4 ragging 3 raging 9 rags 24 ragtime 7 ragtop 3 [5/4]

raid 38 raider 2 rail 32 railroad 3 railway 2 rain 28 raise 34 raisin 7 [8/4]

ramble 64 rambler 2 rambling 3 rambunctious 4 ramification 3 ramify 2 rammed 2 ramming 2 ramp 18 rampage 31 rampant 3 rampart 2 rams 5 [10/6]

ranch 15 rancid 7 rancor 2 rand 2 random 40 rang 3 range 21 ranger 2 rank 16 ransack 10 ransacked 3 ransom 10 rant 8 [9/12]

rape 51 rapid 6 rapist 5 rapper 16 rapping 2 rapport 19 raps 3 rapture 43 [7/3]

rascal 29 rase 6 rash 33 rasp 12 raspberry 16 raspy 7 rassle 3 rasta 8 rastle 3 [32/10]

rate 19 rates 2 rather 7 ratify 6 ratio 3 rational 2 rats 32 rat-tail 2 rattle 72 rattler 2 [6/0]

reach 7 react 7 reaction 7 read 22 ready 2 real 33 reality 2 realize 6 reap 5 reason 58 reassure 2 [3/0]

rebate 3 rebel 76 rebellion 8 rebellious 3 rebirth 5 reborn 2 rebound 13 rebuild 11 rebuilt 2 rebuke 6 rebut 2 [21/3]

receive 6 recess 2 recite 5 reck 5 reckless 3 reckon 2 recognize 4 recollect 2 reconcile 3 record 46 recount 2 recover 2 recreation 26 recruit 2 rectal 3 rectangle 3 rectangular 3 rectify 8 rectum 7 recycle 6 [6/2]

redden 29 redder 7 reddish 8 redeem 3 redefine 4 redesign 3 redhead 2 redirect 4 redistribute 2 redline 2 redneck 2 redness 12 redo 9 redone 3 redress 5 reduce 11 [16/21]

reed 36 reef 12 reek 11 reel 42 reem 2 reenter 4 reevaluate 3 reexamine 2 [35/3]

refer 26 referee 48 reference 42 referendum 2 refill 3 refine 3 reflect 6 reflection 2 refresh 2 refrigerator 2 refuse 4 [10/*2]

regain 2 regard 2 regenerate 2 reggae 3 regime 2 regimen 5 regiment 8 region 7 register 17 regress 3 regression 2 regret 3 regular 58 regulate 26 regulation 4 [6/2]

rehab 5 rehabilitate 16 rehabilitation 5 rehash 12 rehear 2 rehearsal 5 rehearse 26 reheat 8 rehire 15 [38/25]

reid 5 reign 37 reil 2 rein 28 reindeer 5 reinforce 7 reins 5 reinstate 4 reinvent 6 reiterate 5 [25/21]

reject 123 rejected 3 rejection 4 rejoice 21 rejoin 3 rejuvenate 3 [2/1]

relate 6 relative 13 release 5 relent 2 relevant 6 reliable 2 relic 3 relief 5 relieve 5 religion 16 religious 6 relinquish 2 relish 41 relive 5 relocate 3 rely 13 [17/2] GW

remedy 12 remember 120 remnant 3 remove 4 [10/*1]

rename 5 render 64 rendition 4 renegade 5 renew 8 renounce 3 renovate 7 rent 42 rental 5 rented 2 renter 2 [5/2]

reopen 47 reoperate 2 reorder 26 reorganize 24 [17/41]

repeat 23 repent 2 repetition 5 replicate 2 reply 3 report 5 represent 31 representative 10 reproduce 2 reptile 31 republican 2 reputation 8 [20/2]

rescue 5 reserve 6 reside 2 residence 7 resident 14 residue 3 resign 2 resist 3 resolution 3 resolve 4 rest 65 restaurant 7 rested 2 restless 4 restore 3 restroom 2 resume 4 [9/1] GW

retail 2 retain 11 retake 2 retard 3 retarded 3 retention 6 retina 28 retire 33 retired 2 retold 2 retreat 4 retrospect 2 return 24 [21/8] GW

reveal 14 revel 2 revelation 12 revenge 7 revenue 17 revere 7 revered 2 reverence 3 reverend 20 reverse 24 review 6 revise 2 revive 4 revolt 2 revolution 8 revolve 2 revue 2 [17/3]

reward 83 rewash 3 rewed 2 rewind 30 reword 3 rework 4 rewrite 4 rews 2 [6/20]

rhyme 83 rhythm 48 [28/0]

rice 50 rich 54 rick 2 rickets 11 rickle 3 [19/15]

riddance 4 ridden 12 riddle 37 ride 37 rider 6 ridge 13 ridicule 14 ridiculous 16 [15/2]

rigged 12 rigger 2 rigging 3 right 4 rigid 37 rigor 21 rigorous 41 rigs 4 [24/10]

rind 15 rine 8 ring 60 ringer 4 rink 3 rinse 33 [19/14]

ripe 29 riped 3 ripen 6 rip-off 5 ripped 20 ripper 12 ripping 4 ripple 69 ripply 2 riptide 2 [7/1]

rise 62 risen 19 rising 2 risk 59 risky 11 [2/3]

rival 39 rivalry 5 river 90 rivet 12 [12/0]

roach 12 road 60 roam 27 roar 33 roast 19 [4/1]

robbed 2 robber 94 robbery 33 robbin 2 robe 6 robin 6 robot 8 [4/*0]

rock 117 rocker 4 rocket 29 rocks 4 rocky 2 [2/*1]

role 38 roll 60 rolled 2 roller 27 rolling 18 rolls 2 [3/6]

roman 8 romance 41 romantic 6 rome 18 romp 40 romper 11 [18/16]

roof 12 rook 5 room 27 roost 10 rooster 24 root 71 roots 7 [0/3] rosary 4 rose 80 rosebud 2 roses 7 roster 49 rosy 4 [4/7]

rotate 14 rotation 2 rotor 4 rots 2 rotted 3 rotten 112 rotter 2 rotting 4 [11/4]

rouge 12 rough 32 roulette 4 round 17 rouse 12 roust 7 rout 11 route 31 routine 30 [2/1]

rubbed 2 rubber 113 rubbing 17 rubbish 2 rubble 8 ruby 9 [2/2] rudder 19 ruddy 9 rude 101 rudiment 6 rudimentary 7 rudy 2 [9/4] rumble 64 ruminate 2 rummage 39 rummy 6 rumor 19 rumors 2 rump 5 rumple 2 [16/1]

runaway 6 rung 3 runner 76 runners 2 running 41 runny 10 runs 7 runt 8 [0/*3]

rush 14 rust 72 rusted 4 rustic 14 rusting 2 rustle 27 rusty 21 [2/2]

sachet 3 sack 75 sacks 3 sacral 2 sacred 5 sacrifice 31 sacs 3 [28/7]

sadden 45 saddened 3 saddening 2 sadder 4 saddle 22 sadist 6 sadistic 4 sadly 5 sadness 44 [20/3]

safari 16 safe 100 safely 2 safer 6 safety 15 saffron 6 [11/3]

said 37 sail 74 sailboat 2 sailing 9 sailor 18 sails 2 saint 3 [6/*7]

salad 24 salamander 2 salary 13 sale 12 salient 8 saline 4 saliva 3 salivate 19 salmon 8 saloon 2 salt 27 salty 5 salute 8 salvage 5 salvation 5 [6/0] GW

sanctify 2 sanction 10 sanctuary 4 sand 49 sandal 3 sandwich 6 sandy 3 sane 11 sang 3 sanguine 4 sanitary 15 sanitation 4 sanitize 3 sanity 9 sank 3 [22/5]

satellite 3 satiate 7 satin 3 satire 28 satisfy 9 saturate 23 saturated 4 saturday 36 saturn 12 [12/17]

- sauce 80 saucer 13 saught 3 sauna 2 sausage 35 sauté 9 [14/2] savage 46 save 54 saver 4 saving 5 savings 8 savior 6 savor 28 savory 5 [0/0]
- scab 10 scald 2 scale 13 scalp 8 scam 6 scamp 3 scan 5 scandal 7 scant 2 scape 6 scapegoat 3 scar 5 scarce 6 scare 14 scared 12 scary 2 scat 2 scathe 4 scatter 17 scavenger 3 [14/5] GW
- scenario 3 scene 80 scenery 6 scenic 4 scent 17 [31/15]
- schedule 14 schema 3 scheme 33 schism 2 school 94 [4/*8] science 144 scientific 4 scientist 2 scissors 5 [4/1]
- scoff 4 scold 14 scoop 12 scoot 5 scope 47 score 34 scorn 6 scotch 4 scout 8 [14/8] GW
- scram 3 scramble 2 scrap 12 scrape 14 scratch 9 scream 22 screen 11 screw 23 scribble 4 scribe 3 scroll 4 scrooge 3 scrotum 3 scrouge 2 scrounge 2 scrub 15 scrunch 3 scrutinize 5 [11/4]
- scuba 28 scud 12 scuffle 8 scullery 2 sculpt 4 sculpture 6 scum 54 scurry 3 scurvy 2 scuttle 7 [20/8]
- sea gull 3 seahorse 2 seal 34 seam 14 seaman 2 seamen 2 seaport 2 search 5 seas 12 sea shell 4 seashore 7 seaside 4 season 28 seat 6 seawater 2 seaweed 5 [9/3]
- seclude 3 second 58 seconds 2 secret 7 secretary 13 sect 4 section 25 sector 6 secular 16 secure 11 security 4 [9/1]
- sedan 2 sedate 19 sedation 2 sedative 9 sedentary 9 sediment 43 sedimentary 10 sedition 3 seduce 13 seduction 3 seductive 4 [21/20]
- seed 16 seeing 15 seek 30 seem 22 seen 40 seep 9 seer 3 sees 4 seesaw 8 seethe 3 [3/3]
- segment 101 segregate 39 segregated 2 segregation 3 [13/2] seise 2 seismic 8 seisure 4 seize 81 seizer 2 seizure 11 [27/25] seldom 45 select 14 self 15 selfish 6 sell 58 seller 7 selling 5 sells 2 [3/4]
- semantic 11 semantics 5 semblance 4 semen 21 semester 68 semi 4 seminal 2 seminar 9 seminary 2 seminole 4 [15/9]
- senate 5 senator 16 send 9 sender 2 senile 11 sensation 6 sensational 3 sense 16 sensible 5 sensitive 14 sensor 4 sensory 5 sensual 9 sent 9 sentence 12 sentiment 6 sentimental 4 sentry 4 [16/4]
- separate 55 september 8 septic 24 septum 2 [65/3]
- serene 4 serf 4 serge 4 serial 4 serine 2 serious 17 sermon 12 serpent 7 serum 6 servant 17 serve 21 service 43 [11/*3]
- setback 3 sets 8 setter 6 setting 47 settle 86 settler 5 [2/2]
- seven 11 sever 29 several 44 severance 2 severe 61 severity 2 [7/2]
- sexes 9 sexiest 3 sexism 2 sexist 7 sextet 3 sexual 64 sexy 65 [1/0]
- shack 7 shade 18 shadow 21 shaft 11 shake 11 shall 3 shallow 14 sham 2 shaman 2 shame 23 shampoo 2 shape 13 share 6 shatter 2 shave 10 shaw 3 shawl 4 [2/1] GW
- shear 2 sheath 7 shed 20 sheen 2 sheep 33 sheer 2 sheet 15 sheik 2 shelf 4 shell 26 shelter 13 shepard 2 shepherd 2 [21/5]
- shield 10 shift 12 shilling 3 shin 7 shine 35 shingle 4 shiny 2 ship 35 shirt 2 shit 30 shiver 6 [3/*5]
- shock 3 shoe 22 shogun 2 shoot 10 shop 6 shore 2 should 7 shoulder 3 shout 8 shovel 7 show 63 shower 14 shown 3 [3/0] GW
- shred 23 shrew 11 shrewd 10 shrill 4 shrimp 6 shrine 19 shrink 26 shroud 11 shrub 2 shrug 16 shrunk 2 [22/3]

- shuck 6 shudder 17 shuffle 3 shun 22 shunt 7 shut 52 shute 4 shutter 11 shuttle 27 [3/4]
- sick 126 sickening 4 sickle 14 sickly 6 [2/6]
- side 116 sideline 3 sidewalk 4 sideways 4 siding 2 sidney 2 [6/18] sigh 2 sight 5 sigma 6 sigmund 2 sign 29 signal 38 signature 35 signet 2 significant 7 signify 10 [20/2]
- silence 7 silent 9 silicon 14 silicone 5 silk 30 silky 2 sill 5 silly 60 silt 9 silver 9 [6/*1]
- similar 27 simmer 36 simple 67 simular 3 simulate 14 [8/0] sincere 5 sine 11 sinful 33 sing 11 singer 3 single 16 sinister 15 sink 7 sinner 37 sins 7 sinus 3 [4/3]
- sitcom 7 sit-down 2 site 23 sits 8 sitten 2 sitter 27 sitting 48 situate 7 situation 27 [2/4]
- sked 2 skeet 17 skeleton 57 skeptic 5 skeptical 20 sketch 21 skew 13 [13/*8]
- skid 6 skier 15 skies 4 skiing 48 skill 10 skin 9 skinny 2 skip 19 skipper 2 skirt 3 skis 9 skit 3 [12/*7]
- skydive 17 skydiver 3 skydiving 2 skying 3 skylark 6 skylight 23 skyline 38 skyscraper 12 sky-walk 2 skyward 11 skyway 3 [19/17]
- slab 4 slack 5 slam 23 slander 6 slang 8 slant 3 slap 35 slash 3 slate 16 slaughter 3 slave 37 slavery 4 slaw 2 slay 5 [2/1]
- sleazy 3 sled 26 sledge 4 sleek 2 sleep 77 sleepy 2 sleeve 9 sleeze 2 sleigh 7 slender 8 sleve 2 slew 2 [6/*1]
- slice 13 slick 15 slide 25 slight 29 slim 6 slime 10 slimy 3 sling 5 slip 29 slipper 2 slippery 4 slit 4 slither 3 sliver 2 [6/2]
- slob 2 slogan 12 slop 3 slope 19 sloppy 4 slot 4 sloth 3 slow 101 slowly 4 [2/1]
- sludge 7 slug 35 sluggish 7 sluice 2 slum 10 slumber 6 slump 12 slur 2 slurp 11 slush 6 slut 45 [13/1]
- smack 19 small 55 smart 29 smash 50 [4/1]
- smear 7 smell 134 smelly 10 smelt 2 [5/1]
- smile 147 smirk 2 smite 2 smith 2 smitten 3 [2/1]
- smoke 107 smolder 4 smoldering 2 smooth 2 smooth 18 smoother 2 smother 19 [2/1]
- snack 17 snag 12 snail 16 snake 52 snap 40 snapper 2 snare 2 snarl 3 snatch 9 [2/1]
- sneak 78 sneaker 6 sneaky 6 sneer 12 sneeze 26 snell 4 [22/5] snicker 23 snide 24 sniff 17 snip 24 snipe 19 sniper 24 snitch 4 [11/9]
- snob 10 snoop 9 snooze 4 snot 3 snow 118 snowball 4 [3/1] soak 22 soap 112 soar 15 [6/2]
- sobber 17 sobbing 23 sober 95 sobriety 4 sobs 4 [5/9]
- soccer 40 sociable 3 social 61 society 17 sociology 8 sock 17 socks 5 [6/*1]
- sofa 67 soft 62 soften 14 softer 4 softly 2 [5/2]
- solace 3 solar 3 sold 18 soldier 12 sole 31 solemn 8 solicit 2 solid 9 solitary 6 solitude 8 solo 8 solstice 3 solute 2 solution 8 solvent 10 [18/3]
- somatic 2 somber 62 some 64 somebody 3 somehow 2 someone 6 something 3 sommer 2 [3/6]
- sonar 10 song 27 sonic 4 sonnet 20 sonny 15 sonogram 3 sons 24 [19/*29]
- soon 53 soop 4 soot 32 sooth 24 soothe 30 soothing 3 [1/12]
- sope 7 sophisticate 3 sophisticated 14 sophomore 25 sopping 26 soppy 9 soprano 9 [24/36]

- sorcerer 2 sorcery 2 sordid 9 sore 19 sorority 16 sorrow 56 sorry 29 sort 15 [7/*3]
- sought 7 soul 59 sound 11 soup 46 sour 16 source 2 south 8 [6/*3]
- space 51 spacial 5 spacious 11 spade 10 spaghetti 4 span 6 spanish 3 spank 9 spare 3 sparks 2 spas 5 spasm 9 spastic 3 spat 13 spatial 6 spatula 3 [6/3]
- speak 4 special 63 species 6 specific 5 specimen 2 spectacular 2 speculate 6 speech 11 speed 19 spell 17 spelling 2 spend 7 sperm 3 spew 2 [5/0]
- spice 15 spicy 3 spider 45 spied 4 spies 8 spike 8 spill 11 spin 7 spinal 5 spindle 2 spine 10 spiral 3 spirit 3 spit 27 spite 3 [2/1] GW
- splash 57 spleen 17 splendid 9 splendor 2 splice 11 spline 2 splint 3 splinter 5 split 38 splurge 3 [9/2]
- spoil 14 spoke 9 spoken 12 spong 2 sponge 9 sponsor 2 spontaneous 8 spook 4 spool 3 spoon 28 sport 4 spot 29 spots 2 spouse 18 [5/1]
- sprawl 3 spray 5 spread 24 spree 5 spring 91 sprinkle 2 sprint 7 sprite 5 sprocket 2 sprout 3 spruce 6 [3/3]
- spud 27 spuds 2 spun 30 spunk 12 spunky 2 spur 16 spurge 2 spurious 5 spurn 6 spurt 11 sputter 13 sputum 2 [19/10]
- squad 5 square 12 squash 37 squat 6 squeal 6 squeeze 14 squid 20 squint 6 squire 2 squirm 2 squirrel 21 squirt 8 squish 5 [11/0]
- stab 2 stable 19 stack 3 stadium 5 staff 8 stage 9 stagger 2 stagnate 3 stake 3 stalk 2 stamina 3 stamp 3 stand 7 staple 12 start 3 state 12 static 2 station 24 stationary 3 status 2 stay 17 [4/0]
- steady 3 steak 3 steal 13 stealth 2 steam 15 steel 9 steep 8 steeple 3 steer 3 stem 50 step 17 stereo 5 stern 5 stew 14 [3/1]
- stick 15 sticky 3 stiff 7 stifle 6 stigma 4 still 32 stilts 2 stim 2 stimulant 3 stimulate 14 stimuli 2 stimulus 4 sting 33 stingy 2 stink 3 stipend 3 stipulate 4 stir 3 [7/0]
- stock 7 stoke 2 stole 5 stolen 16 stoll 2 stomach 5 stone 2 stood 3 stop 18 storage 4 store 28 stork 3 storm 7 story 6 stout 4 stove 32 stow 5 [0/*1]
- straight 5 strait 2 strange 9 straw 3 stream 3 street 4 strength 5 stress 11 stretch 4 strict 2 strife 3 strike 3 string 52 strip 3 stripe 4 strive 4 strong 23 struggle 3 strut 4 [4/1]
- stuck 6 stud 10 student 69 study 14 stuff 2 stumble 2 stump 4 stun 3 stunt 16 stupid 17 stupor 2 [6/1]
- stye 2 style 116 stylish 12 styme 4 stymie 6 stymy 2 styx 2 [9/6]
- subdue 4 subject 17 sublet 5 sublime 4 subliminal 4 submarine 41 submerge 2 submit 6 subordinate 4 subset 2 substitute 7 subtle 14 suburb 6 suburban 2 suburbs 2 subway 24 [4/0]
- succeed 26 success 78 successful 4 succinct 3 succulent 4 suck 25 suction 2 [15/0]
- suffer 120 suffering 5 suffice 8 sufficient 2 suffix 2 suffocate 3 [14/5]
- sugar 8 suggest 127 suggestion 6 [11/6]
- suicide 55 suit 78 suitable 6 suite 13 suits 3 [0/3]
- sulfur 16 sulk 39 sulky 2 sullen 43 sulphur 4 sultan 5 sultry 26 [17/6]
- summarize 3 summary 27 summation 9 summed 3 summer 92 summery 4 summit 4 summon 3 sums 3 [6/*1]
- sundae 2 sun dance 2 sunday 15 sundial 4 sundown 4 sundry 3 sunlight 5 sunning 3 sunny 78 sunray 3 sunrise 6 suns 3 sunset 4 sunshine 14 suntan 2 [0/1]

- super 13 supper 60 supple 4 supplement 4 supply 13 support 19 suppose 22 suppress 5 [16/0]
- sure 12 surf 9 surface 12 surfer 2 surge 10 surgeon 3 surgery 5 surly 3 surmount 3 surname 3 surplus 3 surprise 17 surreal 2 surrender 17 surrogate 3 surround 27 survey 5 survive 10 [9/*1]
- suspect 76 suspend 19 suspense 10 sustain 39 [10/3]
- swab 4 swag 2 swallow 34 swam 5 swamp 21 swan 25 swap 17 swarm 5 swat 10 swatch 6 sway 25 [2/0]
- swear 6 sweat 43 sweater 3 swedish 2 sweep 32 sweet 39 sweeten 2 swell 19 sweltering 2 swerve 2 [2/4]
- swift 12 swim 28 swimming 5 swindle 7 swine 9 swing 46 swipe 8 swirl 7 swish 3 swiss 9 switch 11 swivel 7 [2/1]
- swollen 57 swoon 8 swoop 16 sword 25 swore 7 sworn 15 [23/7]
- symbol 51 symbolic 5 symbolize 2 symmetric 4 symmetrical 4 symmetry 9 sympathy 9 symphony 10 symposium 5 symptom 15 symptoms 4 [34/4]
- synagogue 3 synapse 6 synchronize 3 syndicate 8 syndrome 6 synonym 56 synonymous 2 synopsis 9 syntax 11 synthesis 4 synthetic 9 [32/6]
- system 153 systematic 4 [3/0]
- tabby 2 table 47 tablet 22 tabloid 15 taboo 15 tabs 5 tabu 2 tabular 5 tabulate 39 [3/3]
- tacit 2 taciturn 6 tack 49 tackle 29 tacks 3 tacky 2 tact 21 tactful 14 tactic 8 tactics 2 tactile 15 [4/1]
- tail 109 tailgate 3 tailor 14 tails 5 taint 9 [3/13]
- take 124 taken 10 taker 2 taking 21 [2/1]
- talc 7 talcum 2 tale 17 talent 33 tales 2 talisman 2 talk 19 tall 39 taller 4 tally 26 talon 3 [6/0]
- tandem 2 tangent 28 tangerine 9 tangible 13 tangle 18 tango 2 tank 12 tanned 5 tanner 14 tannery 2 tanning 21 tantalize 3 tantrum 7 [16/5]
- tap-dance 7 tape 56 taper 5 tapes 2 tapestry 20 tapioca 2 tapped 6 tapper 11 tapping 16 taps 17 tap water 3 [5/7]
- tarantula 3 tardy 6 tare 5 target 28 tariff 3 tarmac 2 tarnish 19 tarp 23 tarry 3 tart 31 tartar 14 [18/2]
- task 65 taste 60 tasteful 2 tasty 4 [25/2]
- taxable 7 taxation 25 taxed 3 taxes 47 taxi 33 taxidermy 2 taxing 14 taxonomy 8 taxpayer 8 [8/2]
- tea bag 8 teach 11 teacher 10 teacup 4 teak 4 teal 12 team 8 tea party 2 teapot 14 tear 13 teas 4 tease 37 teaspoon 13 teatime 3 [2/*7]
- tech 7 technical 40 technician 7 technique 13 technology 31 tectonic 4 [34/23]
- teed 2 teel 7 teem 4 teen 23 tee off 3 teepee 22 teer 2 tees 7 tee shirt 2 teet 4 teeter 9 teeth 39 [13/19]
- telephone 118 teleport 2 television 7 tell 14 teller 3 [12/0]
- temp 2 temper 49 temperate 4 temperature 44 tempest 2 template 3 temple 24 temporal 2 temporary 9 tempt 4 temptation 2 [9/3]
- tenacious 6 tenant 7 tendency 3 tender 20 tendon 3 tennis 14 tense 2 tension 17 tent 18 tentative 5 tenth 4 tenure 29 [23/1] GW
- term 15 terminal 3 terminate 10 termite 2 tern 2 terrace 20 terrain 6 terrible 28 terrific 6 terrify 3 territory 6 terror 9 terrorist 2 terrorize 3 terse 2 tertiary 3 [26/6]
- test 112 testament 2 testes 3 testicle 11 testicles 2 testify 4 testimony 11 testing 4 tests 2 testy 2 [4/0]

- texan 2 texas 6 text 36 textbook 4 textile 58 textiles 2 texture 33 [4/13]
- thalamus 3 than 10 thank 16 thanks 9 that 87 thatch 6 thatcher 2 thaw 18 [5/3]
- theater 19 theatre 10 theft 7 their 3 them 19 theme 26 then 19 theology 4 theory 13 there 7 these 7 thesis 10 they 2 [7/1]
- thick 25 thief 2 thigh 28 thighs 2 thimble 2 thin 16 thing 27 think 14 third 2 thirst 2 thirsty 3 this 23 thistle 4 [3/1] GW
- thong 8 thorn 11 thorough 8 those 7 thou 3 though 29 thought 57 thoughtful 2 thousand 19 [9/*3]
- thrash 3 thread 5 threat 7 three 7 threshhold 2 thrill 4 thriller 2 thrive 6 throat 11 throb 5 throne 2 through 42 throw 44 thru 3 thrush 2 thrust 9 [3/0] GW
- thud 9 thug 10 thumb 22 thump 6 thunder 74 thursday 11 thus 13 [9/4]
- tick 92 ticket 18 tickle 37 ticks 3 tictac 2 [0/3]
- tidal 5 tidbit 13 tide 88 tidings 4 tidy 38 [5/4]
- tiger 111 tigger 13 tight 10 [7/19]
- tile 24 till 28 tiller 9 tills 2 tilt 83 [4/4]
- timber 52 time 64 timely 2 timer 10 timid 20 [7/0]
- tinder 6 tinge 4 tingle 21 tinker 7 tinkle 9 tinman 4 tins 9 tinsel 11 tint 25 tinted 3 tiny 34 [18/6]
- tirade 5 tire 90 tired 31 tires 3 tiresome 4 tiring 2 [12/13]
- titan 6 titanic 2 tite 4 titer 3 tithe 7 tither 2 titillate 2 title 51 tits 19 titter 2 tittles 2 tittle 3 titty 9 [26/17]
- told 32 tole 6 tolerable 2 tolerance 8 tolerant 8 tolerate 38 toll 36 tolls 3 [19/5]
- tomahawk 3 tomato 44 tomb 45 tomboy 20 tomcat 3 tome 3 tomorrow 14 [15/8]
- tone 58 tongs 2 tongue 17 tonic 9 tonight 4 toning 2 tonnage 6 tons 16 tonsil 4 tonsils 2 [26/10]
- took 20 tool 59 tools 3 toon 3 toot 32 tooth 29 toothache 2 toothpaste 2 [2/3]
- topcoat 3 topic 4 topless 46 topographic 2 topography 9 topped 2 topper 6 topping 8 topple 43 tops 15 [6/5]
- torch 4 tore 11 torment 33 torn 12 tornado 9 torpedo 2 torque 5 torrent 8 torrid 14 tort 3 torture 33 [18/3]
- total 50 tote 54 totem 2 tots 8 totter 9 tottle 11 [12/9]
- touch 57 tough 20 toupee 2 tour 9 tourist 3 tousle 9 tout 11 [27/18]
- toward 11 towed 8 towel 15 tower 70 towers 2 towing 21 towline 2 town 11 tows 4 tow truck 5 [6/2]
- trace 17 trachea 2 track 13 tractor 2 trade 16 tradition 10 tragedy 3 tragic 7 trail 9 train 7 trait 4 trajectory 3 trama 2 tramp 6 transport 2 trap 17 trash 9 trauma 3 travel 5 tray 7 [4/*0] GW
- tread 4 treason 3 treasure 6 treat 13 treble 2 tree 69 trees 8 tremble 15 tremendous 7 tremor 3 trench 6 trend 9 trespass 2 [2/*1]
- triad 3 trial 8 triangle 15 tribe 8 trick 3 tricycle 7 trident 4 tried 3 trifle 6 trigger 10 trigonometry 2 trimester 6 trip 15 triple 23 tripod 7 trite 3 triumph 13 trivial 3 [10/1] GW
- trojan 8 troll 11 trolley 4 tromp 2 troop 7 troops 2 trophy 30 tropic 3 tropical 3 trot 10 trouble 42 trough 10 trouser 4 trout 6 [9/4]
- truant 4 truce 4 truck 8 trudge 2 true 32 truly 7 trump 7 trumpet 10 trundle 2 trunk 10 trust 18 truth 40 [7/5]
- tuba 13 tubby 9 tube 66 tuberculosis 6 tubs 14 tubular 32 [8/10] tumble 92 tummy 36 tumor 13 tumult 2 tumultuous 4 [7/*2]

- tuna 11 tundra 15 tune 42 tuner 4 tunes 3 tunic 4 tunnel 74 [1/5] turbulence 2 turbulent 10 turd 2 turf 7 turkey 6 turmoil 14 turn 49 turnip 2 turpike 2 turpentine 2 turtle 41 [15/1]
- tweak 3 tweed 40 tweedle 4 tweek 4 tweet 20 tweeter 2 tweezer 5 tweezers 3 twelve 36 twenty 26 twerp 3 [10/2]
- twice 20 twig 20 twilight 19 twill 3 twin 8 twine 5 twinkie 2 twinkle 9 twins 8 twirl 4 twist 43 twister 2 twit 4 twitch 5 [3/1]
- type 86 typewriter 2 typhoon 5 typical 39 typing 10 typist 5 typo 2 [4/0]
- ulterior 5 ultimate 109 ultimatum 5 ultra 12 ultrasound 2 ultraviolet 2 [20/4]
- unable 56 unanimous 23 unarmed 3 unashamed 2 unattached 2 unattended 2 unattractive 5 unavailable 10 unaware 8 [18/13]
- unbalance 15 unbalanced 17 unbearable 4 unbelievable 20 unbiased 8 unbind 4 unblemished 2 unborn 5 unbottle 2 unbound 9 unbridle 3 unbridled 5 unbroken 3 unbuckle 2 unbutton 7 [26/*8]
- uncalled 4 uncanny 10 uncaring 3 uncertain 15 uncle 20 unclean 8 unclear 13 uncoil 3 uncommon 2 unconditional 2 unconscious 5 uncool 8 uncork 2 uncouth 3 uncover 9 uncut 2 [25/4]
- undaunted 2 undecide 2 undecided 9 under 45 understand 11 underwear 8 undeserving 2 undesirable 3 undivided 6 undo 20 undone 6 undress 19 undue 3 undulate 8 [11/0]
- uneasy 16 unending 2 unequal 37 unequivocal 2 unethical 5 uneven 27 uneventful 6 unexpected 6 unexplainable 4 [15/26]
- unfair 33 unfamiliar 6 unfavorable 3 unfinished 17 unfit 7 unfold 9 unforgiving 2 unformal 2 unfortunate 5 unfound 2 unfriendly 20 unfulfilled 3 unfurl 5 unfurnished 6 [16/5]
- ungiving 3 unglue 37 unglued 6 ungodly 4 ungracious 5 ungrateful 19 ungroomed 2 ungrown 2 unguarded 2 unguided 2 ungulate 5 [24/39]
- unhand 4 unhappy 49 unharmed 3 unhealthy 6 unheard 23 unhinge 6 unholy 4 unhuman 7 unhumane 2 unhumorous 2 unhurried 3 unhurt 3 [17/17]
- unicorn 5 unicycle 4 unified 7 uniform 11 unify 13 unilateral 5 unimportant 2 union 2 unique 22 unit 14 unite 11 unity 10 universal 3 universe 31 university 6 [5/3]
- unlawful 6 unleash 29 unleashed 3 unless 38 unlike 10 unlikely 5 unlimited 7 unlived 2 unload 8 unlock 16 unloved 2 unlucky 3 [12/2]
- unmade 9 unmake 5 unmanageable 3 unmaned 2 unmanly 7 unmanned 11 unmarked 6 unmarried 23 unmask 13 unmatched 5 unmature 3 unmeaningful 2 unmeasurable 3 unmentionable 5 unmoved 4 [23/*20]
- unnamed 6 unnatural 28 unnecessary 30 unnegotiable 2 unnerve 11 unnerved 3 unnerving 7 unnoticed 8 [23/*37]
- unobjective 2 unobtrusive 2 unobvious 3 unoccupied 4 unofficial 5 unopen 28 unopened 15 unoperable 3 unorganized 6 unorthodox 2 unowing 2 [26/50]
- unpack 12 unpacked 2 unpaid 6 unpaved 2 unpeel 2 unpile 3 unpleasant 13 unpleased 2 unpleasing 2 unplug 14 unplugged 3 unpolished 2 unpopular 30 unprepared 11 unpretentious 2 unproductive 2 unprotected 5 unproud 2 unpunished 3 unpure 4 [18/10]
- unravel 7 unread 3 unreal 54 unrealistic 8 unrelated 2 unreliable 4 unresolved 2 unrest 19 unrested 5 unroll 4 unrule 5 unruly 19 [9/5]

unsafe 12 unsatisfactory 2 unsatisfied 2 unsavory 2 unsecure 2 unseen 6 unsolved 3 unspoken 4 unstable 7 unsuccessful 2 unsung 4 unsure 76 unsuspecting 2 [10/*5]

untame 3 untamed 6 untangle 6 untidy 8 untie 43 untied 7 until 22 untimely 2 untitled 9 untold 7 untouchable 6 untouched 11 untrue 8 [6/5]

unwanted 57 unwarranted 2 unwary 2 unwed 14 unwelcome 2 unwieldy 3 unwilling 21 unwillingly 2 unwind 25 unwittingly 2 unworn 2 unworthy 2 unwrap 4 [6/6]

upheaval 6 upheave 7 upheld 7 uphill 30 uphold 55 upholstery 4 [29/21]

upright 66 uprise 30 uprising 22 uproar 24 uproot 4 [5/*4]

upset 74 upsetting 2 upside 37 upside-down 5 upstairs 20 upstart 2 upstream 3 [4/6]

urge 52 urgency 5 urgent 95 urging 3 [3/2]

used 25 useful 62 usefulness 2 useless 21 user 23 uses 5 [16/4] utile 2 utilities 8 utility 78 utilize 41 [18/12]

vacancy 5 vacant 10 vacate 5 vacation 22 vaccinate 2 vaccine 9 vacuum 34 [71/0]

vagabond 10 vagina 39 vaginal 15 vagrance 4 vagrant 18 vague 42 [17/11]

valance 8 vale 3 valence 3 valentine 4 valet 4 valiant 15 valid 14 validate 11 valium 4 valley 8 valor 5 valuable 2 value 45 values 2 valve 6 [22/*2]

vandal 8 vandalize 9 vane 10 vanguard 6 vanish 54 vanity 18 vanquish 6 vans 13 vantage 7 [19/8]

variable 32 variance 7 variation 5 varicose 2 varied 2 varies 3 variety 7 varify 2 various 67 varnish 4 varsity 2 vary 21 [6/0] veil 80 vein 49 [11/*17]

velcro 12 velocity 13 velour 4 velvet 93 [15/*18]

vend 5 vender 21 vending 7 vendor 11 venerate 3 vengeance 3 venom 6 vent 27 ventilate 3 ventricle 3 venture 41 [14/2]

verb 9 verbal 3 verbatim 2 verbs 3 verdict 19 verge 7 verify 31 veritable 3 verse 7 version 8 vertical 6 very 26 [16/6]

vesicle 2 vessel 34 vest 56 vested 2 vestibule 25 vestige 6 [29/2] vicarious 4 vice 8 vicinity 2 vicious 23 victim 11 victor 8 victorious 13 victory 77 [11/0]

vied 8 vies 5 vietnam 3 vietnamese 2 view 33 [54/51]

vigil 14 vigilance 2 vigilant 5 vigilante 5 vigor 46 vigorous 51 [28/8]

vile 31 villa 5 village 51 villain 11 villan 11 [45/3]

vinal 2 vindicate 5 vindictive 2 vine 56 vinegar 17 vineyard 5 vintage 42 vinyl 4 [23/2]

viola 2 violate 18 violation 3 violence 21 violent 54 violet 24 violin 28 [8/1]

viral 5 virgin 35 virile 2 virous 2 virtual 13 virtually 5 virtue 29 virtuoso 3 virtuous 7 virus 33 [17/2]

visage 4 visceral 3 viscous 2 vise 2 visible 12 vision 44 visit 17 visitor 13 visor 6 visual 49 [5/1]

vital 68 vitality 13 vitamin 34 vitamins 3 vittle 6 vittles 7 [18/10]

vivacious 37 vive 5 vivid 75 [28/13]

vocabulary 26 vocal 62 vocalize 5 vocation 40 vocational 12 [9/4]

volcano 9 volley 4 volt 5 voltage 3 volume 84 voluntary 3 volunteer 32 [16/1]

wage 58 wager 27 wages 7 wagging 9 waggle 13 waggon 2 wagner 3 wagon 32 wags 3 [0/4]

waif 5 wail 35 waist 5 wait 57 waiter 15 waitress 3 waive 9 waiver 20 [5/4]

wake 116 waken 19 wakening 3 waking 18 [1/1]

wale 2 walk 8 wall 67 wallet 34 wallop 2 wallow 8 walls 3 walnut 15 walrus 12 [3/1]

wand 15 wander 86 wane 12 wang 5 want 26 wanted 5 wanton 5 [1/3]

ward 8 warden 2 ware 3 warfare 10 warlike 2 warlock 6 warlord 6 warm 5 warn 5 warning 9 warrant 25 warrior 23 wars 10 wart 12 wart hog 3 wartime 7 wary 6 [7/0]

wash 30 washer 2 wasn't 3 wasp 20 wast 4 waste 85 wasted 7 wasteful 3 [0/4]

watch 14 water 116 watt 11 wattage 6 watts 4 [6/2]

wave 118 waver 25 wavering 2 waves 4 waving 3 wavy 5 [0/1] weak 22 wealth 4 wealthy 2 wean 7 weapon 28 wear 6 weary 8 weasel 14 weather 26 weave 20 weaver 5 [13/1] GW

weed 40 weeds 2 week 40 weekend 5 ween 7 weenie 4 weep 49 weever 2 [5/4]

weigh 16 weight 56 weil 2 weiner 16 weird 19 [28/20]

welcome 69 weld 9 welder 4 welding 3 welfare 7 well 47 wellness 3 welt 10 [2/2]

wheat 25 wheel 23 wheeze 2 when 51 whence 2 where 11 whether 31 whey 3 $\left[6/2\right]$

while 18 whim 4 whimp 2 whimsical 2 whine 7 whip 29 whirl 5 whisper 12 whistle 31 white 39 whittle 2 [1/2]

whoever 7 whole 16 whom 61 whoop 3 whore 12 whose 39 [9/4] widdle 2 wide 70 widen 27 wider 9 widget 2 widow 37 width 6 [5/0]

wild 6 will 59 willful 10 willing 38 willingly 2 willow 28 will power 3 wilt 7 [2/*0]

wince 2 wind 12 window 39 wine 18 wing 2 wink 2 winner 57 winning 4 winter 17 [2/0]

wisdom 72 wise 43 wiser 2 wish 16 wisp 2 wist 2 [18/2]

witch 4 with 18 wither 9 witness 65 wits 4 witty 36 [19/1]

wonder 131 wonderful 10 wont 3 won ton 10 [2/3]

wood 68 wooden 8 woods 8 woof 3 wooing 2 wool 46 [7/12]

word 21 work 21 world 3 worn 2 worried 5 worry 61 worse 8 worsen 2 worship 14 worst 9 worth 6 [1/1]

wraith 4 wrangle 4 wrangler 7 wrap 79 wrapper 4 wrath 52 [5/1] wreak 5 wreath 22 wreck 54 wren 8 wrench 46 wrestle 12 wretch 5 [4/2]

wright 9 wring 12 wrinkle 11 wrist 11 write 78 writer 7 writhe 7 writhing 2 writing 6 written 7 [6/0]

wrong 136 wrote 6 wrought 13 [1/1]

yeah 35 year 78 yearling 2 yearn 9 years 2 yeast 14 [4/13]

yell 25 yelling 5 yellow 125 yelp 4 [1/0]

young 14 your 69 yours 17 yourself 11 youth 38 [3/4]

(Manuscript received July 10, 1995; revision accepted for publication February 21, 1996.)