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ABSTRACT

A simple, new method for determining the readability level of prose passages in reading material for children is described and discussed. The method, which assigns a value to each noun in selected passages on the basis of its frequency level on standard word-frequency charts, correlated highly in a number of studies with independent estimates of the difficulty of reading passages. Comparisons are made with other readability estimates, and strengths and weaknesses of the noun-frequency method are discussed. An appendix lists 2000 nouns graded by frequency of use. (AA)

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Assessing the Difficulty of Reading Materials:

The Noun Frequency Method

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INTRODUCTION

Simple objective methods of estimating the difficulty of reading materials for children have been sought for nearly half a century. In that period over 30 'systems' of measuring readability have been contrived. None, however, has proven to be entirely satisfactory; most are cumbersome to apply and conflicting estimates of difficulty levels are not uncommon.

Sensitive observers of children and books may in the course of time, acquire sufficient skill to require no further aids in judging the reading difficulty of a story for children. Nevertheless, the majority of teachers, and many librarians, parents, test constructors, and others interested in matching books with children's reading abilities have, at times, felt the need for an independent and objective rule of thumb for judging readability, without having to resort to a major research investigation.

It cannot be denied that reading difficulty is only one aspect of suitability, one which must be considered along with interest level, print size, layout, and particularly, with the purposes and degree of prior preparation of the child. The complexity of the reading task is however, an important ingredient to take account of when selecting materials for children to read. Many a young, potentially interested reader has been discouraged by a needless succession of unfamiliar words and complicated constructions. Measures of vocabulary requirements and stylistic complexity can then support the teacher in his efforts to entice children toward a love of books.

In the course of the development of a set of standardized tests of reading for general use in New Zealand schools, the writer investigated a range of existing readability techniques. The hope was that one such method could be identified which would make it possible to grade reading passages according to difficulty level. This would enable teachers to draw conclusions from the standardized test results about the level of difficulty of materials that each child could be expected to comprehend adequately.

The traditional formulae proved disappointing on the whole. Generally they were time-consuming and arduous to apply and the results were by no means consistent. Therefore new approaches were investigated. Three lines of thought led the writer to the readability method which is described in the following pages.

Rationale

Firstly, it had been found by psychologists of verbal learning, that a very high relationship exists between the frequency with which a word occurs in writing and its 'meaningfulness'. According to Underwood, 'the higher the meaningfulness of a verbal unit the more frequently that word has been experienced'. Apparently the words we see often are the words we rate high in meaningfulness. The psychologists' definition of meaningfulness is, of course, more akin to the layman's idea of 'association value' than to any philosophical concept of meaning, but it is plausible to assume that the correlation between meaningfulness and difficulty level, as encountered by children, is likely to be high. Thus, an index of frequency of exposure to certain verbal units should be helpful.

Secondly, the author noted that previous studies of readability carried out by educational research workers, had shown vocabulary load to be a consistently good index of reading difficulty. This, despite the fact that vocabulary measures were very unrefined, classified usually on a two-point scale, as 'familiar' or 'unfamiliar'. Thus Dale and Chall² showed a correlation of 0.68 between their criterion of reading difficulty and the proportion of words outside the Dale list of 3,000. This was the highest of five readability indices. Gray and Leary³ too found that the number of unfamiliar words correlated more highly with their criterion than any of 21 indices investigated, and similarly promising results have been shown by Spache,⁴ Lorge,⁵ Forbes,⁶ and Bornmuth⁷. Since respectable results were obtained in these studies with only a two-point scale of vocabulary load, it was concluded that still better results would be produced with a scale which took account of various degrees of familiarity of the words of a passage, rated according to their frequency of occurrence.

The third line of approach to a new readability method stemmed from a study of language. Students of linguistics point out that in a sentence, certain content-bearing words carry the main burden of meaning of a communication, while others are used primarily to indicate relationships amongst them. Nouns, verbs,

adjectives and adverbs carry the load of meaning in most communications. Relational words, such as prepositions, pronouns, articles and conjunctions, probably set fewer limits on comprehension, and are usually found in similar proportions in simple and complex prose alike. However, the rating of such words for readability analyses adds considerably to the laboriousness of the exercise, without any apparent improvement in validity. There seemed to be point then, in limiting the classes of words to be rated to the main content-bearing words.

Preliminary and subjective analyses of complex prose passages, taken from comparatively difficult writers such as Toynbee, Galbraith, Whitehead, Thackeray and Dickens showed that their complexity tended to reside more in the nouns than the verbs or adjectives. Added reasons for concentrating on nouns came from a 'post-hoc' analysis of a related experiment in reading comprehension. In this investigation, seventy secondary school pupils had completed a 'cloze' test of ten prose passages, each containing approximately 150 words. Each sixth word had been eliminated from the passages, and the pupils' task was to fill the blanks with the aid of the context. After marking, the results were classified by part of speech in order to determine the relative difficulty levels for each class of word (see Table 1). Clearly, nouns proved to be the most difficult class of words to replace correctly in the test. It is not unreasonable to conclude from this result, that nouns are surrounded by less redundancy than other parts of speech; their comprehension is more critical to an understanding of the passage.

TABLE 1

Cloze Test Completions Classified by Part of Speech

	Nouns	Verbs	Prons.	Adjs.	Adv.	Conjs.	Preps.
Possible No. Correct	903	557	408	611	216	170	394
Actual No. Correct	258	403	296	318	84	101	293
% Correct	28.6	72.4	72.6	52.1	38.9	59.4	74.4

Some corroboration for this view was found in a study of more than 10,000 errors in oral reading made by 100 beginning readers. Clay⁸ showed that many of these errors are corrected from context by the children themselves. Of these self-corrections, 72% occurred in equivalent grammatical categories, and amongst these, the nouns were shown to have the lowest rate (21%) of correct substitution. Figures for other word classes were verbs - 35%, adjectives - 33%, prepositions - 46%, and pronouns - 60%. Apparently inappropriate nouns are less often recognized as such by the reader, and hence would seem to be less redundant, and probably, more critical for the proper understanding of the sentence. Readers who cannot attach meaning to the nouns in a passage can apparently gain little help from the context.

Thus, on the basis of these analyses of vocabulary and grammatical structure there seemed good reason to conduct empirical studies on the noun as a basis for a readability check.

Word Frequency Counts

To provide a convenient and accurate method of grading the nouns according to familiarity, several word frequency counts were examined. The two Dale lists, commonly used in other studies, were considered unsuitable because they provide only two categories - familiar and unfamiliar. The Thorndike-Lorge list⁹ does have a graded scale, but it is not sufficiently refined amongst the high frequency words to be useful with children's reading matter. The English word list of Edwards & Gibbon¹⁰ is also graded, but contains fewer than 1,400 words all told, not enough for the purpose intended. Michael West's General Service List of English words¹¹ is a potentially useful list, in that it classifies the words according to the frequency of occurrence of their various meanings and uses, but it too contains fewer than 2,000 words, and would be cumbersome to use.

In fact, as subsequent analysis was to show, the most promising lists were found to be those derived from children's own written usage, rather than from books written by adults. Amongst these are Radford's Australian word count,¹² and the list prepared for the Board of Education of the City of New York,¹³ based, in turn, on Rinsland's word count of children's writing.¹⁴ The New

Zealand adaptation of this list, that prepared by Arvidson for the NZCER Alphabetical Spelling List, Book 2,¹⁵ was felt to have the most potential since its 2,700 words are classified into seven levels of frequency, it is convenient to use, and it is suited to local conditions. To improve its discrimination at the upper end, an eighth level of 270 words, compiled by Holder,¹⁶ was added to the Arvidson list. *

Procedure

After several approaches had been tried and validated, the following procedure was adopted as the easiest and most accurate method of assessing the difficulty level of any story or article.

1. Select from the story or selection to be rated, three passages long enough to contain at least 25 different nouns in each. If the style varies in difficulty it is advisable to choose the more complex passages, since these usually set the upper limit on comprehension. Otherwise, select passages at random from throughout the story. The longer the passages, selected the better.
2. Identify each noun in the passages to be rated, and using the list of nouns in the Appendix, look up and record the frequency level of each noun. Any noun not appearing in this list of 2,000 is rated level 9.

e.g. ball 1, balloon 5, ballot 9.

Note:

- (a) If a noun occurs more than once in a passage, count it only once.
- (b) Do not count people's names. Other proper nouns (cities, countries,

* After consultation with local teachers, and analysis of other word lists, this list has since been updated by the author, chiefly by extending Level 8, and by introducing a number of new words which have been recently coined. For convenience, the updated list of nouns, selected from the Arvidson list, is contained in the Appendix. The changes made in this list will have only negligible effects on the age ratings presented in Table 2.

institutions, etc) follow the same rules as common nouns.

e.g. Monday 2, Maori 3, Malaysia 9.

(c) Give plural nouns the same rating as their singular form.

(d) Hyphenated words follow the normal rules.

e.g. space-ship 6, space-bar 9.

(e) Any doubtful words are best omitted from the analysis.

e.g. gerunds, abbreviations and recently coined, widely known words, not found in the list.

3. Calculate the mean frequency level i.e. add up the frequency level numbers and divide by the number of nouns.

4. Refer to the table below to determine the approximate age group for which the material is suitable for instructional purposes.*

TABLE 2
SUITABLE AGE LEVELS FOR READABILITY
RATINGS OBTAINED FROM NOUN COUNTS

<u>Mean Noun Frequency</u> <u>Rating</u>	<u>PAT Reading</u> ** <u>Compr. Level</u>	<u>Approximate Age Range</u>
Below 3.2	Level 1	Up to 8½ years
3.2 to 3.6	2	8 to 9 years
3.6 to 4.0	3	8½ to 9½ years
4.0 to 4.4	4	9 to 10 years
4.4 to 4.8	5	9½ to 10½ years
4.8 to 5.2	6	10 to 12 years
5.2 to 5.6	7	11 to 13 years
5.6 to 6.0	8	12 to 14 years
6.0 to 6.4	9	13 to 16 years
Over 6.4	10	15 years & over

** See Progressive Achievement Test Reading Manual. P. 11. NZCER 1969.

* This table has been prepared by individual testing of 100 children with the graded passages of the Progressive Achievement Tests of Reading Comprehension. Pupils who answered at least three out of five questions correctly on each passage moved on to the next passage until they reached their limit. These limits were plotted against the pupils' ages, and trend lines drawn to produce the table.

Example:

Selection from New Zealand School Journal

(Part 1, Number 1, 1967)

Japanese gardens are among the most beautiful in the world. They make very attractive use of rocks and water, and Japanese gardeners twist the branches of trees into different patterns as they grow.

Often Eiko's family goes to a nearby restaurant for the evening meal. It has a very beautiful garden. Above you can see some of the guests looking out of the restaurant window at the garden.

After they have eaten, Eiko and some of her friends go for a walk in the garden. The rocks are carefully placed so they can stand in the middle of the lake.

Ferns grow among the rocks outside the restaurant window. Eiko's father is ready at the window with his camera. The restaurant gives a good idea of how Japanese houses are built. The spaces at ground level allow cool air to move under the building.

gardens	3	family	2	ferns	9
world	2	restaurant	9	father	1
use	2	meal	4	camera	7
rocks	3	guests	7	idea	4
water	1	window	2	houses	1
gardeners	9	friends	1	spaces	6
branches	4	walk	2	level	6
trees	1	middle	3	air	2
patterns	9	lake	2	building	2
				Total	104

Average frequency level $\frac{104}{27} = 3.85$

27

This passage would be classified as suitable for average $8\frac{1}{2}$ to $9\frac{1}{2}$ year-old readers.

Evaluation of the Method

Numerous studies have been conducted to establish the validity of the method. In five-independent but similar investigations, a number of prose passages were culled at random from newspapers, books, magazines, school reading materials and reading tests. The passages ranged in difficulty level from simple material suitable for average seven or eight-year-olds, to complex prose likely to provide some challenge for bright adolescents. Each selection contained from 120 to 150 words. In the first two investigations eight passages were used; in the other three, the number of passages was increased to 12, 14 and 16 respectively.

Teachers were asked to 'rank the passages in order of difficulty of comprehension, from easiest to hardest'. The average ranks of the teachers provided the criterion of difficulty in the first two investigations. In the last three, the teachers' rankings were supplemented with the averaged rankings of top-stream twelve to fifteen-year-old pupils. As the opinions of the teachers and the pupils correlated over 0.9 in these studies, their rankings were subsequently combined with those of the teachers. The number of judges used in the five investigations was 10, 12, 43, 50 and 43 respectively. In each study, the rankings for all judges were averaged to produce a single combined rank after the manner of a Thurstone-type attitude scale.

Teachers' and pupils' opinions were used as a criterion measure because they provide a more direct and sensitive measure than the usual method of graded texts or of results from reading comprehension tests. Furthermore the combined opinion criterion is less cumbersome than the 'cloze' test method proposed by Bormuth (1966).⁷ The latter method was used in a later study.

The correlations of the best predictors of readability, as found in the five investigations, are listed in Table 3. The fact that all these correlations are slightly higher than those reported in previous studies is attributable largely to the greater range of difficulty in the passages used. In the third series, this spread of difficulty was reduced, with a corresponding drop in validity coefficients. From Table 3, it can be seen that the correlations for the noun frequency count are consistently high and higher on the average than any of the other or combined measures examined. Moreover, the noun frequency method contributes substantially to the predictive value of the adjective and verb frequency

counts, with which it was combined for experimental purposes.

The Lorge and Dale-Chall formulas, which require the combining and weighting of such variables as sentence length, prepositional phrases, and unfamiliar words, are not only less effective in these studies, but are considerably more laborious in their calculation.

The Fry formula, which is based on the number of syllables per 100 words and sentence length, is not readily comparable with the other estimates since it provides a location on a two-axis graph, rather than a single numerical score. Its dependence on a structural dimension, sentence length, appears to make it somewhat less valid, as were all such measures examined.

Among the single dimension measures studied, the best were all indirect estimates of vocabulary load, but were less refined and less useful as predictors of difficulty level than was the average noun frequency level.

These vocabulary variables are all highly intercorrelated and were not found to increase their correlations with the criterion when combined in various ways. Nor was it found profitable to combine the noun-frequency count with any of the structural variables. In the third series, for instance, a combination of noun frequency level plus number of words per sentence produced a validity coefficient of 0.68, or 0.17 less than the noun count alone. Where discrepancies did occur between the vocabulary-load predictors and the criterion, they seemed to be attributable more to some unique feature of the author's style, or to a specialized use of vocabulary. For instance, the correlations for the noun counts in the third study were lowered mainly by three passages: a technical description of door-hanging; a biographical passage which was heavily packed with detail; and a narrative passage from Tolstoy whose style was considered unusual by the judges, although the vocabulary was simple. It is doubtful whether any objective index could predict these intangible qualities without becoming more cumbersome than the determination of the criterion itself.

TABLE 3

RANK CORRELATIONS BETWEEN JUDGES' CRITERION OF
DIFFICULTY AND READABILITY ESTIMATES FOR
FIVE INDEPENDENT STUDIES.

Readability Estimate	Series 1	Series 2	Series 3	Series 4	Series 5	Median
Noun frequency level	.95	.91	.85	.90	.88	.90
Noun plus adjective frequency level	.90	.89	.82	.86	.92	.89
Noun plus verb frequency level	.97	.88	.64	.82	.89	.88
Large formula	.87	.93	.80	.69	.92	.87
Syllables per 100 words	.96	.92	.76	.74	.85	.85
Dale-Chall formula	.78	.93	.68	.85	.92	.85
Proportion of abstract nouns	.70	.88	.82	.83	.79	.82
Proportion of unfamiliar words	.80	.81	.71	.83	.82	.81
Verb frequency level	.72	.83	.07	.49	.83	.72
Adjective frequency level	.64	.67	.48	.63	.89	.64
Sentence length	.76	.98	.54	.04	.45	.54
Ratio of prepositional phrases	.83	.43	.10	.14	.41	.41

Subsequently, another validity check was made using the 'cloze' test criterion as recommended by Bormuth (1966).⁷ The prose passages used in this study were selected and rated by Bormuth himself, in the following manner. They

were administered in 'rotating cloze test format' to carefully chosen, representative samples of American school children. In this procedure, each fifth word was omitted from the passage. The student's task was to fill the gap with the appropriate word, on the basis of his understanding of the context. Five parallel forms of each passage were used, thus allowing each word to be tested once. The 'cloze index' for each selection was taken as the average percentage of words that were correctly inserted by the five (matched) groups of pupils tested. This index is considered by many researchers to be the most satisfactory criterion of reading difficulty, despite the cumbersome nature of its production.

Every passage consisted of 100 words, which normally generated about 20 nouns in each. This is less than the most desirable number for the noun count procedure, but it did produce a useful guide. Passages having fewer than 18 nouns were omitted from consideration. Highly technical selections were also excluded.

The 63 passages were classified into four categories according to topic, and noun count ratings were made by the usual procedure. These ratings were then correlated, by the Spearman-Brown rank order method, with the 'cloze' ratings, as provided by Bormuth. The results are presented in Table 4 below.

TABLE 4
CORRELATIONS BETWEEN NOUN COUNT RATINGS AND
CLOZE TEST DIFFICULTY ON SELECTED PASSAGES

<u>Subject</u>	<u>No. of Passages</u>	<u>Rating</u>
Literature	16	0.89
Biology	17	0.90
Current News	18	0.82
Geography	12	0.92

The results for these passages again show consistently high validity. Furthermore the omission of one unusual passage from the Current News series would have increased the correlation coefficient from 0.82 to 0.88.

It is of interest to note that, of over 70 readability indices which Bormuth investigated in his 1966 article the highest correlations with 'cloze' difficulty were produced by:

- (a) Number of letters per independent clause (0.81)
- (b) Number of syllables per independent clause (0.80)
- (c) Number of words per independent clause (0.77)

Measures of vocabulary difficulty also scored highly. Bormuth's investigations included more passages, however, many of which were judged 'a priori' to be too short or too technical for the noun count procedure:

Other Word Frequency Lists

In each of the first five validity studies the NZCER Alphabetical Spelling List was used as the base word count for checking the familiarity level of the nouns in the passages. In the fifth of these studies other available word counts were also investigated. Examined first were the lists prepared by Radford (1960),¹² Edwards and Gibbon (1964),¹⁰ and the Board of Education of the City of New York (1954).¹³ These lists were prepared on the basis of the written work of Australian, English, and American children, respectively. Wright's (1965)¹⁷ list which is based on the frequency of occurrence of words in common reading materials was also used. The correlations for noun frequency counts, graded according to these lists were all slightly lower than those produced with the NZCER list, but were sufficiently high to suggest that they could be used with profit in the countries for which they were intended. With some modification, they may prove even more sensitive than the NZCER list.

Radford's list, like that of the NZCER, contains nearly 3,000 words, but uses only six levels of frequency. Its predictive validity of 0.84 in this study compares favourably with that of the NZCER list (0.88) and could well surpass it on another parallel study. The Edwards and Gibbon list contains only 1,347 words, classified (at the seven-years-over level) into six degrees of frequency.

Nevertheless, when nouns were graded by this list, a correlation coefficient of 0.80 with the criterion was obtained. With a more extensive list the validity would doubtless improve. At present it appears more suitable with material designed for young readers.

The Spelling List of the Board of Education of the City of New York contains 5,000 words classified into ten frequency levels and is, therefore, very useful for a sensitive vocabulary count. Its validity coefficient of 0.87 would probably be even higher if used in an American context, since it was affected in this study by the occurrence of a number of words in the passages unfamiliar to New Zealanders but not to Americans.

Wright's Word Count, based as it was on predominantly adult reading matter rather than children's writing, produced a much lower correlation with the criterion, (0.71). This result was obtained using the first five levels only (i.e. the most commonly recurring 5,000 words). Nevertheless, the discrepancies which lowered the correlation would not, in the opinion of the writer, be reduced by any adaptation of this or parallel lists. Comprehension appears to depend more on familiarity of words used by pupils in their own writing rather than of words they encounter in their reading.

Conclusion

Assessing readability is a complex matter. The method described above, although simple to apply, is not a panacea. It should be seen as an aid, to be used sensitively and cautiously, and supplemented by a knowledge of children's reading interests, and any idiosyncracies in the style of the reading material which would not be reflected in an objective measure of vocabulary load. Unconventional sentence structure, high density of ideas, uncommon technical terms, frequent use of idioms, metaphoric language, and simple words used in unusual ways, all could distort the findings in a few cases. An unevenness in complexity of writing style on the part of the author would also complicate assessment, no matter how it was carried out. In addition, the method should not be used with poetry, with beginners' readers, with technical articles, or with any material having a specialized vocabulary. It is most appropriate for children's prose, designed for 8 to 16 year-old readers. For textbooks with specialised vocabulary, the 'cloze' procedure, although somewhat less convenient, has much more to recommend it.

Despite these cautions and limitations, there appears to be a proper and useful role for readability indices. The noun frequency method has already been used profitably in several test development projects. Many teachers have found it helpful in selecting books and articles for children, and a classified guide to School Journal stories has been prepared by the Department of Education with the aid of the noun frequency method.

In conclusion, it must be emphasised that books do vary tremendously in their ease of comprehension. Children likewise vary in their ability to comprehend. To match child with suitable book is an important task which requires undoubted professional skill. A wise adult will know when and how to use an objective index to assist him in this task. It is to help in such an enterprise that the noun-frequency method of assessing readability has been developed and published.

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APPENDIX

2000 NOUNS GRADED BY FREQUENCY OF USAGE

A		B	
absence 8	ant 6	baby 1	beast 2
accident 5	anybody 3	back 1	beat 3
account 6	anyone 3	bacon 7	beaver 8
aché 7	anything 2	bacteria 7	beauty 5
acre 7	apartment 8	bag 3	bed 1
act 4	appearance 7	baggage 8	bedroom 3
action 7	apple 2	bat 6	bedtime 8
activity 8	appreciation 7	baker 4	bee 4
addition 5	apricot 8	baking 3	beef 6
address 5	April 4	balance 4	beggar 8
advantage 7	apron 6	ball 1	beginning 3
adventure 6	area 6	balloon 5	behaviour 7
advertisement 8	argument 7	banana 3	being 2
advice 7	arithmetic 4	band 3	bell 3
aeroplane 2	arm 3	bandage 7	belt 5
affair 8	army 3	bang 2	bench 6
afternoon 2	arrow 5	bank 3	bend 5
age 3	art 4	banner 8	berry 5
agent 8	article 5	bar 5	bet 3
agreement 6	artist 6	barber 8	Bible 5
agriculture 7	ash(es) 6	bark 4	bicycle 2
aid 6	assembly 5	barn 4	bike 1
aim 5	assignment 8	barrel 6	bill 4
air 2	association 7	barrier 5	bin 4
aircraft 5	astronaut 6	base 4	bird 2
airport 5	atom 6	baseball 3	birth 5
aisle 6	attack 6	basement 6	birthday 2
alarm 5	attention 8	basin 6	biscuit 4
alley 7	attentive 5	basket 3	bit 3
alphabet 8	attic 6	basketball 4	bite 4
ambulance 8	audience 5	bat 1	blackboard 6
America 3	auditorium 6	bath 1	blade 7
American 4	August 4	bathroom 8	blanket 5
amount 4	aunt 2	bathe 7	blind 6
amusement 7	auntie 2	battle 4	block 4
anchor 5	Australia 4	bay 6	blood 4
ancient 6	author 6	beach 3	bloom 5
angel 7	automobile 5	bead 4	blossom 7
angle 8	autumn 2	beak 4	blow 4
animal 3	avenue 6	bean 7	board 3
ankle 7	average 6	bear 2	boat 1
answer 2	axe 6	beard 8	body 2

bomb 6 "	building 2	captain 3	chase #5
bone 4	bulb 7	capture 6	check 6
bonnet 8	bull 5	car 1	cheek 8
book 1	bulldog 7	caravan 6	cheer 5
booklet 7	bulldozer 5	carbon 8	cheese 4
boom 8	bullet 7	card 3	cherry 6
boot 5	bump 5	cardboard 7	chest 5
border 7	bunch 4	cardigan 6	chick 8
bore 8	bundle 7	care 2	chicken 3
boss 6	bunk 5	caretaker 8	chief 3
bother 6	bunny 2	carnival 6	child 1
bottle 4	bus 2	carol 7	children 1
bottom 3	bush 4	carpenter 6	chimney 4
bound 7	business 3	carpet 8	chin 8
boundary 7	butcher 7	carriage 6	china 6
bow 4	butter 3	carrot 7	chip 3
bowl 4	butterfly 6	cart 5	chocolate 6
box 2	button 6	case 4	choir 7
boy 1		cash 8	chores 7
bracelet 7		castle 4	chorus 7
brain 7		cat 1	Christmas 2
brake 7		catch 2	clim 8
branch 4		catcher 8	church 2
brand 8		cattle 3	cigarette 8
brass 7		cause 4	circle 5
brat 8		cave 3	circumstances 8
bread 2		ceiling 7	circus 4
break 3		celery 7	citizen 4
breakfast 3		cell 8	city 2
breast 6		cellar 5	claim 8
breath 6		cement 6	class 2
breeze 8		cent 2	classroom 3
brick 5		centre 3	claw 5
bridge 3		century 6	clay 3
bridle 7		cereal 8	clerk 6
Britain 4		certainty 8	cliff 6
broadcast 6		certificate 8	climate 4
brook 6		chain 5	climb 2
broom 5		chair 3	cloak 7
brother 1		chalk 6	clock 4
brownie 8		champion 6	closing 3
brush 4		chance 4	cloth 3
bubble 6		change 4	clothes 2
bucket 5		chapter 7	clothing 4
bud 7		character 6	cloud 5
buffalo 8		charge 5	clown 5
bug 6		charm 8	club 3
buggy 4		chart 6	coach 7
	C		
	cab 5		
	cabbage 5		
	cabin 4		
	cabinet 6		
	cafeteria 7		
	cage 3		
	cake 2		
	calendar 6		
	calf 4		
	call 2		
	camel 5		
	camera 7		
	camp 2		
	campaign 8		
	can 1		
	Canada 4		
	canal 8		
	canary 5		
	candle 5		
	candy 3		
	cane 5		
	cannon 7		
	canoe 5		
	canyon 6		
	cap 3		
	capital 4		

coal 2
coast 4
coat 2
cocoa 6
coconut 6
coffee 6
cold 1
collar 6
collection 7
college 7
colour 2
colt 7
comb 5
comfort 8
command 7
commercial 7
committee 6
community 6
companion 8
company 3
composition 7
computer 6
concert 7
concrete 6
condition 7
conductor 7
contest 5
continent 7
control 6
cook 3
copper 6
copy 4
corn 5
corner 3
cost 3
costume 6
cot 4
cotton 2
couch 8
cough 7
council 7
count 5
counter 7
country 2
couple 5
courage 7
course 3
court 4
cousin 2
cover 3
cow 2
cowboy 3
crab 7
crack 6
cracker 8
cradle 8
crash 3
crayon 7
cream 4
creek 4
crew 6
crime 7
criminal 6
crop 6
cross 3
crossing 5
crow 6
crowd 5
crown 5
crumb 7
crust 7
cry 1
cub 8
cup 2
cupboard 7
cure 7
curl 6
curtain 7
cushion 7
custom 8
cut 2

D

dad(dy) 1
dairy 5
dam 6
damage 7
dance 3
danger 5
dark 2
darkness 7
darling 8
dart 7
dash 8

date 3
daughter 4
dawn 7
day 1
deal 5
dear 1
death 7
debt 8
December 4
deck 6
decimal 6
decoration 6
deed 7
deer 3
defence 8
degree 7
demand 8
den 7
dentist 4
department 6
description 8
desert 3
design 7
desk 3
destination 7
development 7
diagram 8
diamond 7
diary 8
dictionary 5
difference 7
dinner 2
dip 5
direction 6
dirt 4
discovery 7
disease 4
dish 2
distance 5
district 6
ditch 3
dive 4
division 7
dock 7
doctor 3
dog 1
doll(y) 1
dollar 3
donkey 6
door 1
dot 7
doubt 8
dough 8
doughnut 8
dozen 5
dragon 8
drain 8
drawer 8
drawing 5
dream 4
dress 2
dresser 6
drill 6
drink 2
drive 3
driveway 8
driver 6
drop 4
drug 8
drum 4
duck 3
dust 4
duty 7
dwarf 7

E

eagle 7
ear 3
earth 3
east 3
Easter 3
edge 5
editor 4
education 4
effect 8
effort 8
egg 2
election 7
electricity 5
elephant 3
elevator 7
elf 8
end 2
enemy 6

energy 6
engine 4
England 4
English 4
entertainment 7
entrance 8
envelope 7
equipment 7
escape 5
Eskimo 5
eve 5
evening 2
event 7
everybody 3
everyone 3
everything 2
examination 5
example 7
exchange 7
excitement 6
excuse 3
exercise 6
expedition 8
experience 5
experiment 8
expression 8
eye 2

F

face 2
fact 6
factory 5
fair 3
fairy 4
fairyland 7
faith 8
fall 2
family 2
fan 6
farm 2
farmer 3
farming 6
fashion 8
fat 2
father 1
fault 8
favour 6
fear 6
feast 4
feather 7
February 4
feeling 3
fellow 5
fence 3
ferry 8
fever 6
fiddle 8
field 3
fight 2
figure 6
file 8
filling 7
film 4
fine 5
finger 4
finish 4
fir 7
fire 2
fire brigade 8
fire engine 8
fireman 7
fireplace 7
fireworks 7
fish 2
fisherman 7
fit 5
fix 3
flag 3
flake 8
flame 7
flash 7
flat 4
flesh 8
flight 7
flock 7
flood 4
floor 2
flour 5
flow 7
flower 2
fly 2
fog 8
fold 4
folk 7

food 2
fool 6
foot 2
football 3
footpath 5
force 7
forest 3
fork 3
form 4
fort 4
fortune 2
fountain 7
fox 3
fraction 8
frame 7
freedom 5
freezer 5
Friday 2
friend 1
friendship 7
fright 7
frog 3
front 2
frost 6
fruit 3
fuel 6
fun 1
funeral 8
fur 3
furnace 7
furniture 6
fuss 5

G

gain 7
gallon 3
game 2
gang 6
gap 5
garage 5
garbage 8
garden 3
gas 3
gate 3
gathering 6
general 4
gentleman 7
geography 5
germ 4
ghost 3
giant 3
gift 5
giraffe 8
girl 1
glass 3
globe 8
glove 4
glue 8
goal 3
goat 4
God 2
gold 2
goldfish 6
golf 7
good 1
good-bye 3
goodness 7
goose 6
government 5
governor 6
gown 8
grade 2
grain 4
grammar 7
grandad 3
grandfather 3
grandma 4
grandmother 2
grandpa 5
granny 3
grape 5
grass 2
grasshopper 8
grave 7
gravy 8
grease 7
green 2
grey 3
grin 5
grocer 3
groceries 6
ground 2
group 3
grove 8

growl 5
growth 6
guard 6
guess 2
guest 7
guide 6
guitar 8
gum 6
gun 2
guy 6
gym(nasium) 6

H

habit 7
hail 7
hair 2
half 2
hall 3
ham 7
hamburger 5
hammer 5
hand 2
handful 7
handkerchief 4
handle 6
happiness 6
harbour 6
harm 5
harness 7
harvest 6
hat 1
hawk 7
hay 3
head 2
headache 8
health 5
heart 4
heat 4
heater 5
heaven 7
hedge 2
heel 7
height 6
helicopter 6
hello 3
help 1
helper 8

hem 8
hen 3
herd 6
hero 7
highway 7
hike 4
hill 2
history 5
hit 1
hobby 5
hockey 8
hoe 6
hog 6
hold 2

hole 2
holiday 2
holly 7
home 1
honey 4
honour 5
hood 8
hoof 4
hook 5
hoop 8
hop 4
hope 1
horn 4
horse 2
hose 6
hospital 3
hotel 4
hour 2
house 1
household 7
hug 5
human 6
hundred 3
hunt 3
hunter 6
hurry 3
husband 5
hut 5

I

ice 2
iceberg 7

ice cream 3
icicle 7
idea 4
igloo 7
illness 4
image 8
imagination 8
importance 7
improvement 7
inch 3
increase 7
independence 7
index 7
Indian 4

industry 6
influence 8
information 6
ink 4
inn 6
insect 3
inside 3
instance 7
instrument 7
interest 6
introduction 8
invention 7
invitation 6
iron 2
irrigation 7
island 3

J

jacket 7
jail 5
jam 3
janitor 8
January 4
jar 5
jaw 8
jelly 3
jerk 8
jersey 6
jet 4
jewel 7
job 3
joke 6

journal 6
journey 5
joy 4
judge 6
jug 3
juice 5
July 4
jump 2
June 4
jungle 5
jungle-gym 6
junior 5
justice 7

K

keeper 6
kennel 2
kettle 7
key 5
kick 5
kid 5
kill 2
kind 2
kindergarten 6
kindness 5
king 2
kingdom 7
kiss 6
kitchen 3
kite 3
kitten 3
knee 6
knife 3
knight 7
knitting 7
knob 7
knock 4
knot 7
knowledge 7

L

laboratory 8
labour 7
lace 5

lack 7
lad 6
ladder 5
lady 3
lake 2
lamb 4
lamp 5
land 2
lane 8
language 5
lantern 7
lap 6
laugh 3
law 6
lawn 3
lawyer 6
lead 4
leader 4
leaf 4
league 7
leak 8
leather 5
left 2
leg 3
lemon 7
lemonade 7
length 6
lesson 3
letter 1
lettuce 5
level 6
liberty 6
library 3
license 8
lid 8
lie 5
life 2
lift 4
light 2
lightning 6
liking 3
lily 8
limb 6
lime 7
limit 7
line 2
linen 7
liner 8

lion 4
lip 4
liquid 6
list 6
literature 8
liver 8
living 3
load 5
loaf 7
lock 6
log 3
lolly 2
look 1
loss 8
lot 1
love 1
luck 4
luggage 7
lumber 6
lunch 2
lung 7

M

machine 5
machinery 6
magazine 6
magic 2
maid 6
mail 3
mailbox 7
mailman 8
majority 7
make 1
male 8
mama 1
man 1
manager 6
manner 7
mansion 8
Maori 3
map 3
marble 5
March 4
march 6
mark 5
market 4

marriage 8
marshmallow 8
mask 8
mass 7
master 3
mat 6
match 5
mate 4
material 5
mathematics 8
matter 4
May 4
mayor 8
meadow 7
meal 4
meaning 7
meantime 8
measles 6
meat 2
medal 8
medicine 6
meeting 4
member 6
memory 7
merry-go-round 6
mess 4
message 6
messenger 8
metal 7
method 7
Mexico 6
middle 3
midnight 6
mile 2
milk 1
milkman 8
mill 4
million 5
mind 3
mine 2
miner 7
mineral 6
minister 7
minute 2
mirror 7
mischievous 6
miss 2
missile 6

mistake 7
mistress 7
mittens 7
mix 4
mixture 8
model 6
moisture 7
moment 5
Monday 2
money 2
monkey 3
month 3
mood 7
moon 4
moonlight 7
mop 8
morning 1
mosquito 8
moss 5
moth 7
mother 1
motion 7
motive 6
motor 6
motorboat 8
motto 8
mountain 3
mouse 4
mouth 3
move 3
movement 8
movie 6
mower 4
mud 3
mule 7
multiplication 8
mum(my) 1
mumps 7
murder 7
muscle 8
museum 3
music 2
mutton 7
mystery 7

N

nail 4
 name 1
 nap 6
 nation 5
 native 6
 nature 6
 navy 6
 neck 3
 necklace 7
 need 3
 needle 5
 negro 7
 neighbour 5
 neighbourhood 6
 nephew 6
 nest 3
 net 6
 news 4
 newspaper 4
 New Years (Day) 5
 New Zealand 3
 New Zealander 4
 niece 6
 nickname 8
 night 1
 nobody 5
 noise 3
 noon 4
 north 3
 nose 3
 note 3
 notebook 6
 nothing 2
 notice 6
 noun 6
 November 7
 nuisance 4
 number 3
 nurse 3
 nut 5
 nylon 7

O

oak 5
 oar 8

oasis 6
 oatmeal 6
 oats 4
 object 6
 occasion 7
 occupation 7
 ocean 3
 o'clock 2
 October 4
 odour 7
 offer 6
 office 3
 officer 5
 oil 3
 olive 8
 one 1
 onion 7
 open 2
 opening 3
 opera 7
 operation 7
 opinion 8
 opportunity 8
 orange 8
 orchard 6
 orchestra 5
 order 3
 ore 8
 organ 7
 organization 8
 ornament 7
 orphan 8
 other 1
 outdoors 4
 outfit 8
 outline 7
 outside 2
 oven 6
 overalls 6
 overcoat 8
 overshoes 7
 owl 6
 owner 5
 ox 7
 oxygen 7
 oyster 7

P

pack 5
 package 5
 pad 5
 paddle 5
 paddock 5
 page 4
 pageant 8
 pail 6
 pain 6
 paint 3
 painter 8
 painting 3
 pair 2
 palace 6
 palm 7
 pan 4
 pantry 8
 pants 4
 paper 2
 parade 4
 parachute 8
 paradise 8
 paragraph 5
 parcel 3
 pardon 6
 parent 3
 park 2
 parrot 8
 part 2
 partner 7
 party 2
 pass 3
 passage 8
 passenger 7
 past 3
 paste 6
 pat 6
 patch 6
 path 5
 patient 8
 pavement 8
 paw 3
 pay 3
 payment 7
 peace 7

peach 6
 peak 6
 peanut 5
 pear 5
 pearl 8
 pea 6
 peck 8
 peg 6
 pen 3
 pencil 3
 penny 2
 people 1
 pepper 8
 perfume 5
 period 5
 permission 7
 person 4
 pet 2
 petal 8
 petrol 6
 phone 3
 photograph 7
 phrase 6
 piano 4
 pick 3
 picnic 3
 picture 2
 pie 4
 piece 2
 pier 7
 pig 3
 pigeon 7
 pile 5
 pill 8
 pillow 6
 pilot 6
 pin 4
 pine 5
 piht 3
 pioneer 7
 pipe 5
 pirate 6
 pistol 8
 pit 7
 pitch 7
 place 1
 plain 5

plan 3	potato 3	puss(y) 1	refrigerator 5
plane 4	pottery 8	puzzle 7	regard 7
planet 5	powder 5	pyjamas 7	region 4
plant 2	power 3	pyramid 8	reindeer 5
plantation 6	practice 4		relation 8
plastic 6	prayer 7		relative 7
plate 5	present 2	Q	religion 7
platform 7	president 3		relief 8
play 1	press 6	quack 4	rent 6
player 6	pressure 8	quality 7	reply 4
playground 4	price 6	quantity 7	report 5
playroom 6	prince 3	quarrel 7	republic 8
playmate 6	princess 3	quart 3	request 8
pleasure 5	principal 5	quarter 3	rescue 7
pledge 8	principle 7	queen 3	respect 7
plough 6	print 6	question 5	rest 2
plum 8	printing 7	quilt 8	result 7
pocket 4	prison 6		return 5
poem 4	prisoner 7	R	revolution 8
poet 7	prize 4		reward 5
poetry 7	problem 7	rabbit 2	rhyme 8
point 4	process 6	race 3	rib 8
poison 6	product 7	racket 8	ribbon 6
polar bear 8	production 7	radio 3	rice 4
pole 4	professor 8	raft 7	riddle 8
police 5	programme 4	rag 4	ride 2
policeman 4	progress 7	rail 7	rider 8
pond 4	project 6	railway 7	rifle 5
pony 3	promise 5	rain 1	right 1
pool 4	pronoun 7	rainbow 7	ring 3
pop 4	property 6	raincoat 8	rise 4
popcorn 5	protection 6	rainfall 8	river 2
poppy 8	public 6	raise 3	road 2
poplar 8	pudding 3	raisin 8	roar 4
population 5	puddle 8	rake 6	robber 4
porch 3	puff 8	ranch 6	robin 4
pork 8	pull 3	range 8	rock 3
porridge 3	pullover 6	rat 3	rocket 5
port 4	pulp 8	rattle 8	rod 4
porter 8	pump 5	reach 4	roll 4
position 5	pumpkin 4	reader 6	roller 6
possession 8	punishment 8	reading 2	roof 4
post 4	pupil 5	reason 4	room 1
postage 7	pup(py) 2	record 6	rooster 6
poster 7	purchase 8	recreation 7	root 5
postman 2	purpose 6	referee 5	rope 3
post office 5	purse 3	refreshments 7	rose 4
pot 6	push 4		

round 3
route 5
row 4
rubber 3
rubbish 8
rug 5
rule 6
ruler 6
run 1
runner 7
rush 6

schoolroom 7
science 4
scientist 6
scissors 6
scooter 8
score 6
scout 5
scrap 8
scratch 6
scream 7
screen 7
sea 1
seal 4

shell 5
shelter 6
shepherd 7
shine 4
ship 2
shirt 4
shock 8
shoe 2
shooting 3
shop 2
shopkeeper 8
shopping 5
shore 4

sleeve 8
sleigh 4
slice 8
slide 3
slip 4
slippers 4
smell 5
smile 6
smoke 3
snail 7
snake 5
snow 1
snowball 5

S

sack 4
saddle 6
safe 4
safety 5
sail 4
sailor 6
salad 7
salary 8
sale 5
salesman 8
salmon 6
salt 3
same 2
sample 8
sand 3
sandwich 6
Saturday 2
sauce 8
sauceman 7
saucer 5
sausage 7
savings 5
saw 1
saying 3
scale 7
scar 6
scare 3
scarf 6
scène 5
scenery 5
school 1
schoolhouse 8
schoolmate 8

seam 5
search 6
seashore 8
season 4
seaweed 8
seat 3
second 2
secret 5
secretary 5
section 6
seed 4
seesaw 6
senior 5
sense 7
sentence 4
September 4
series 8
servant 8
service 6
set 2
setting 3
settlement 6
settler 6
shack 8
shade 5
shadow 6
shake 5
shape 6
shark 8
sharpener 8
share 7
shed 2
sheep 2
sheet 5
shelf 7

short 3
shot 2
shoulder 6
shout 5
shovel 6
show 2
shower 6
showman 8
sickness 6
side 2
sight 4
sign 4
signal 6
silence 7
silk 7
silver 4
sink 6
sir 3
sister 1
situation 8
size 4
skate 6
skating 6
skeleton 8
ski 6
skill 8
skin 3
skip 3
skirt 7
skunk 8
sky 3
slave 6
slavery 8
sled 3
sleep 2

snowflake 8
snowman 6
snowstorm 8
soap 3
soccer 6
society 8
socks 5
soda 6
soil 4
soldier 3
solid 6
somebody 3
someone 3
something 1
son 3
song 3
sort 5
sound 4
soup 6
source 8
south 3
space 6
space-ship 6
spade 7
spanking 8
spark 8
sparrow 8
speaker 8
spear 7
speech 5
speed 5
spell 2
spelling 2
spice 7
spider 8

spin 7
spinach 7
spirit 6
spite 8
splash 7
split 7
spoon 3
sport 5
spot 4
sprain 7
spray 8
spring 2
square 4
squeeze 8
squirrel 4
stable 6
stack 7
stage 5
stairs 3
stalk 8
stamp 4
stand 3
standard 5
star 3
starch 7
start 2
state 7
statement 7
station 3
stationery 6
statue 7
steam 5
steel 4
stem 7
step 4
stick 3
sting 7
stir 7
stitch 8
stock 5
stocking 3
stomach 5
stone 3
stool 7
stop 2
store 2
storekeeper 8
storm 4

story 2
stove 3
stranger 7
strap 8
straw 5
strawberry 8
stream 4
street 2
strength 7
strike 7
string 3
strip 8
stripe 6
stroke 8
student 7
study 4
stuff 6
stump 8
stunt 8
style 8
substance 8
success 6
sugar 3
suit 5
suitcase 8
sulphur 8
sum 3
summer 1
sun 2
Sunday 2
sunlight 8
sunrise 5
sunset 5
sunshine 5
supper 6
supply 6
support 7
surface 5
surprise 3
swamp 8
sweater 6
sweep 6
sweet 3
swim 2
swimming 2
swing 4
switch 8
sword 6

system 7

T

table 1
tablecloth 8
tablet 6
tack 8
tadpole 2
tag 5
tail 3
tale 4
talk 3
tan 6
tank 6
tap 4
tar 6
target 7
task 8
taste 6
tax 6
taxi 8
tea 3
teacher 1
teacup 8
team 3
tear 6
teaspoon 7
teeth 3
telegram 8
telegraph 7
telephone 3
telescope 8
television 3
telly 3
temperature 6
temple 8
ten 2
tennis 6
tent 4
term 6
territory 6
test 4
textbook 5
thank 2
theatre 4
theft 4

thermometer 8
thief 7
thing 1
third 2
thorn 7
thought 1
thousand 3
thread 5
throat 6
throne 4
throw 3
thumb 8
thunder 7
Thursday 2
ticket 3
tide 7
tie 4
tiger 5
timber 6
time 1
tin 2
tip 3
tire 5
title 7
toad 8
toast 6
tobacco 5
toe 6
toilet 7
tomato 6
ton 8
tongue 7
tonsils 7
tools 5
tooth 3
toothache 8
toothbrush 8
top 2
torch 6
total 8
touch 5
tourist 8
tournament 8
towel 6
tower 7
town 1
toy 1
track 4

tractor 4
trade 6
traffic 7
trail 5
trailer 8
train 2
tramp 6
transistor 8
transport. 6
transportation 8
trap 4
trash 8
tray 8
traveller 7
treasure 5
treat 6
treatment 8
treaty 6
tree 1
trial 8
triangle 8
tricycle 7
tribe 4
trick 5
trip 2
trouble 3
trousers 7
trout 7
truck 3
trumpet 8
trunk 5
trust 7
truth 7
T.V. 3
tub 5
tube 7
Tuesday 2
tulip 7
tune 7
tunnel 5
turkey 3
turn 2
turning 3
turnip 7
turtle 6
twig 8
twins 5
type 5
typewriter 5

U
umbrella 6
umpire 7
uncle 2
uniform 7
union 5
unit 7
United States 3
university 8
use 2

V
vacation 3
valley 4
value 7
van 3
variety 7
varnish 7
vase 6
vegetables 3
verb 5
verse 7
vessel 8
vice-president 7
victory 8
view 4
village 4
vine 6
vinegar 7
violet 7
violin 5
visit 2
visitor 2
vitamin 7
voice 4
volleyball 8
vote 5
voyage 7

W
wag 3
wages 8
wagon 2
waist 7
wait 2
wake 5
walk 2
wall 3
wallpaper 8

walnut 8
walrus 6
war 2
wash 2
waste 6
watch 2
water 1
waterfall 8
watermelon 8
wave 6
wax 7
way 1
wealth 7
weapon 6
weather 2
web 8
wedding 6
Wednesday 2
weed 6
week 1
weekend 8
weight 5
welcome 5
welfare 8
well 1
west 3
whale 6
wharf 7
whatever 7
wheat 3
wheel 4
wheelbarrow 7
while 1
whip 6
whisker 8
whisper 7
whistle 7
widow 5
width 7
wife 3
wigwam 8
wilderness 8
will 1
willow 8
win 4
wind 2
windmill 6
window 2
wine 6

wing 5
winner 8
winter 2
wire 5
wish 1
witch 6
wolf 6
woman 2
wonder 4
wood 2
woodpecker 8
wool 3
word 3
work 1
worker 6
workshop 8
world 2
worm 5
worry 6
worth 5
wound 7
wreath 7
wreck 7
wrist 6
writer 8
writing 2

X

Xmas 3

Y

yacht 5
yard 2
yarn 8
year 1
yell 4
youth 8

Z

zebra 7
zero 7
zone 7
zoo 3