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Adequacy of The High School Science Vocabulary in Biology in Filling The Needs For Normal Reading of Popular Magazines

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ADEQUACY OF THE HIGH SCHOOL SCIENCE VOCABULARY IN BIOLOGY IN FILLING THE NEEDS FOR NORMAL READING OF POPULAR MAGAZINES

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by

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

America's participation in two World Wars has greatly stimulated the interest of the American People in the scientific fields of learning. Technical studies have been directed into every scientific field and into every conceivable niche in each field so that man may be better fitted to live in the "Atomic Age". The biological field has been no exception to the increased effort by men to seek answers to questions of biology. Men have been constantly pushing farther into the realm of the unknown in search of worthwhile data that will assist in solving the existing problems.

Simultaneously with the struggle for advancement in learning has come an ever increasing demand for better trained scientists to carry on research; educational facilities have been stretched to the maximum to supply the demands. Realizing the necessity for a scientific attack, educators have devised tests and other evaluative materials for all branches of science to select and direct the embryo scientist into the proper paths of preparation.

Nothing has been done, however, about the person who never becomes a scientist but instead remains on the fringes; yet he, too, needs to know what progress has been made by his scientific brothers. Often questions such as these keep recurring: What should the person on the fringes of science know? How much does he know? Can he make efficient use of the materials available to him?

Much has been said of the average man but little real data have been collected about him. The data available have been based upon some person who is average in his profession. The real average man has been left pretty much to his own devices, and before the frontiers ceased to exist he earned his livlihood from the soil or by some other equally strenuous toil. Such an existence has lost ground rapidly in the light of scientific developments and the average man has to use the knowledge of the scientist to preserve the resources for his future subsistence.

The knowledge available for his use has been published in popular and semi-popular articles in our current magazines, government bulletins, and publications of corporations. No data available show how effectively he makes use of this knowledge; he can only use effectively what he understands and this depends upon his vocabulary. Since the greater number of students never go beyond high school what he does understand has its foundations on the vocabulary established during high school.

Any study used to get data on reading comprehension and word knowledge must start with the words presented in the high school textbooks, since they were used in building the vocabularies of the persons who would be studied.

The problem as implied in the title of this report has been an attempt to evaluate in terms of the vocabulary of the high school biology textbooks adopted by the State of Kansas. This study used five current magazines which were available to the students at the

high school circulation desk, at the public library, on magazine counters, and in the home library.

The sources of materials used in this study were chosen because they were available to all students of biology for the period starting January 1, 1944 through December, 1948. The textbooks selected were Everyday Biology by Curtiss, Caldwell, and Sherman, published by Ginn and Company, 1943, and Dynamic Biology by Baker and Mills, published by Rand McNally Company, 1943. Everyday Biology was the only text available in schools of cities of the third class or other smaller public schools of the State of Kansas during the period of this investigation. Cities of the first class, cities of the second class, private schools and church schools made their own choice of textbooks, and several were using Dynamic Biology. For that reason it was used in this study.

The magazines used in the study were the ones most frequently checked for pleasure reading from the Syracuse High School library desk, Syracuse, Kansas, during the school year 1947-48. The magazines were chosen for the type of literature presented as well as for their popularity and because they met the following requirements: (1) availability to the students, (2) a wide variety of literature for study, and (3) a large variety of words.

The magazines chosen for study were: Colliers, Time, Newsweek, The Saturday Evening Post and the Reader's Digest. Colliers and The Saturday Evening Post have printed articles which are strictly popular and eye-attracting; Time and Newsweek have printed semi-

popular news reports in a science section, while the Reader's Digest ranges between the two extremes and has by far the greatest selection of words. The words were collected as two vocabularies one from the textbooks, and the other from the magazines.

The vocabularies were studied in such a manner as to answer the following questions:

1. What words appear in the high school students' biological vocabulary?
2. What number of words appear in the average student's vocabulary?
3. How many words are added to the high school student's vocabulary from outside reading?
4. How well does this study follow the Repetition-Retention theory?
5. How well can the high school student read and comprehend current literature?

It was found that a study of this sort has many inherent problems for which controls cannot be established. Because of that, there must be certain criteria established which are applicable in light of the problem under study. The first criterion was the defining of the "average student". The average student in this investigation was one whose score nearly equaled the average score made by all the students who took the tests. Such a definition is valid only when the students tested were carefully chosen by using some accepted standard which is reliable; in this case it was their I. Q. ratings on the Otis Self-administering Test of Mental Ability. Since no two students have the same vocabulary it was necessary that

some variation be permitted around the average score. Only when some variation of words has been taken into consideration is it possible to compare one student's vocabulary with that of another.

The second criterion was concerned with the collection of words chosen for the selected vocabulary. Three requirements were established to limit the human element to a minimum. They were: (1) Each word must have some definite biological significance expressed within the textbook or magazine. (2) The word had to be found in the vocabulary of the man on the street and (3) it had to be understood by twenty-five of the fifty students who were given objective tests covering the definition of each word.

The criteria established were based on certain facts which seemed sound, but this problem is an ever-changing one, and criteria may change. To make such a problem static would invalidate the findings almost immediately. New words are constantly being added to the vocabularies of the average man and any individual must be alert or he will become outdated.

EXPERIMENTAL PROCEDURE

It was first necessary to collect a word list from the textbooks and a similar list from the magazines. These were formulated into alphabetical vocabularies. To do this, certain methods of studying, recording, and evaluating the data were devised. The textbooks were divided into divisions called units, chapters, and sections. Each section was chosen as a body of information which was nearly the equivalent of the magazine article. Every word selected would appear in at least one section, one chapter, and one unit. A word was recorded only once for a section; more recordings than one indicated the word came from more than one section. The maximum number of appearances possible from Everyday Biology was from 8 units, 30 chapters, and 110 sections. The maximum number of appearances from Dynamic Biology was 12 units, 48 chapters, and 167 sections.

The magazine vocabulary was collected by using the article as the base unit and each article selected dealt with strictly biological material. It was known biological terms were found in advertising, excerpts from non-scientific articles and medical reports. It was therefore deemed undesirable to collect words from advertising, or non-scientific articles, and the medical reports were above the level of the high school biology students. The magazine words were recorded once from each article in which they appeared; more recordings indicated it appeared in more than one article.

A data sheet (see appendix 1) was used for each article and each section: The chapter number and unit number were placed at the top of each data sheet used for a section so that it was possible to record the chapters, or units from which the words came. The magazine articles and textbooks were scanned page by page and each technical word was recorded in the way described.

The next step was to gather the words into alphabetical lists (see appendix 2). The units and chapters were recorded separately to be sure words were properly entered, and that no repetition occurred. The textbooks words were scanned twice and checked against the table of contents, the index and the glossary to see that no word had been accidently left out of the list. Magazine articles were scanned twice to be sure that no word was omitted. The word lists were compiled into a magazine vocabulary and a textbook vocabulary. (See appendicies 4 and 5). Each vocabulary contained all the technical words found in its respective source.

The word lists contained too many words and it was decided that the number of words should be reduced by eliminating approximately one half of them in the light of the following criteria: (1) Any word remaining which was not strictly biological in the sense of some specific use in the textbooks or magazines (examples - advantageous, economical, rebuild, etc.). (2) Words that were scientific names of plants, animals and diseases as well as very technical words (examples - Homo sapien, estoplastic, Noctilucea). (3) Plants or animals which are not in the vocabularies of men outside the laboratory (examples - abalone, Barylamdas, rotifers, etc.) The

remaining words were compiled into tests which were given to fifty selected students and any word which was missed by twenty five or more of the students was considered unsuitable for the vocabulary and was deleted from the lists.

The fifty students were selected for this part of the study on the basis of their previous class records, and (2) from ratings on the Otis Self-administering Tests of Mental Ability. The study attempted to establish a cross-section of the average high school students and to arrive at an average individual by choosing those persons whose I. Q.'s ranged from high to low and whose scholastic records verified the rating. The desired score variation was achieved with a slight clustering near the average (Figure 1).

The tests eliminated 164 from the vocabularies (see appendix 3). The remaining words were studied to make evaluations of the average vocabulary and certain other data as was needed.

When the two vocabularies were assembled a study of them was made to find what they had in common and how they differed. At first, counts were made to find the number of words which appeared in one section, two sections, three sections, four sections, five sections . . . twelve sections; (Table I) then similar counts were made to find the number of words appearing in one article, two articles, three articles, four articles, five articles . . . twelve articles (Table II). Counts were made to determine how many words appeared in one list which did not appear in the other.

The remaining step was to combine the words of the magazine

list (appendix 4) and the textbook list (appendix 5) into a composite vocabulary (appendix 6). This vocabulary contained all the words that were found to be present in all the students' vocabularies (except those missed by twenty five or more of those tested) as was determined by the testing study.

A second phase of the testing program was based on the establishing of three levels: (1) students who had not studied biology, (2) students who were just completing the course in biology, and (3) juniors and seniors who had taken the course one or two years before. It was impossible to get three groups of students with exactly the right qualifications. The biology class had only fourteen students who were equally divided into good and poor students, but no students appeared in the middle or average area (as shown on Figure 2 in results). This fact had been evident throughout the year and was very marked on the Cooperative Achievement Tests published by the American Council of education. The test median was 50 percent, half the class scored above 70 percent, and the other half scored below 34 percent. This made it necessary to select students who would close the gap in the middle percentiles.

The data acquired from this procedure were used to find the number of words learned by the study of high school biology; it showed the number of words forgotten by those after leaving the class in one or two years; how many words were learned from outside reading; and what was the relation between the words missed and the Repetition-Retention Theory.

TABLE I. THE FREQUENCY WITH WHICH WORDS WERE FOUND IN THE TEXTBOOKS

Number of sections	Number of words (per section)	Percent of total vocabulary (2132 words)
1	264	12.4
2	512	24.0
3	394	18.5
4	316	14.8
5	239	11.2
6	66	4.3
7	60	3.1
8	43	2.0
9	19	0.9
10	9	0.4

TABLE II. THE FREQUENCY WITH WHICH THE WORDS WERE FOUND IN THE MAGAZINE ARTICLES

Number of articles	Number of words (per article)	Percent of total vocabulary (2132 words)
1	535	25.1
2	452	21.2
3	367	17.2
4	290	13.6
5	208	9.3
6	66	3.1
7	60	2.8
8	43	2.0
9	19	0.9
10	6	0.3

The final information needed was the number of technical words supplied by the textbook and the number of technical words needed to read the magazines. This was secured by making random counts in the textbooks and magazines. The texts both had a few more than 600 pages and these could be divided into ten, sixty page areas of material. One hundred words were counted on each sixtieth page (of continuous material) and the number of technical words included in the hundred was determined. A second count was made using the thirtieth page as the starting page and proceeding as before. The number of technical words found in each count were average and raised to its equivalent per thousand. Two thousand word counts were made for each magazine and the average again was changed in to words per thousand. Results were obtained by the comparison of these two figures.

PRESENTATION OF FINDINGS

The results of this study depend on conclusions which have been drawn from several areas covered by experimentation. The areas from which conclusions have been drawn were: (1) What are the technical words found in the high school students' vocabulary? (2) What is the average number of words found in the high school student's vocabulary? (3) How many words were added to the high school student's vocabulary from outside reading? (4) Do the words found in the vocabulary follow the Repetition-Retention Theory when they are studied for frequency with which words appear in the vocabulary? (5) How

well can the high school student read and comprehend current biological literature found in the popular magazines? Each area will be considered in this order.

The Number of Biological Words found in the High School Students' Vocabulary

When the two alphabetical vocabularies were compiled in the manner described in the experimental procedure, it was found that the textbook vocabulary contained 4,336 words, and the magazine vocabulary contained 3,454 words. The average high school student does not have a technical vocabulary of more than about one third that large; as a result, it was necessary to eliminate the words which were not found in the average student's knowledge.

The method of elimination was established in the experimental procedure, and it reduced the number of words from the magazines to 1487 and from the textbooks to 1745. The words remaining from these two lists were combined and the resulting vocabulary totaled 2132 words. It was found that an overlap of 1365 words existed.

In order to determine how frequently the words of the selected vocabulary appeared in the textbooks and the magazines, counts were made to discover the number of sections and articles in which each word was used. This material was then graphed with similar counts from the magazine articles to give a comparison between the two (Figure 1). It was found that 12.4 percent of the words were used in only one section of the textbooks. The percent that were found in two sections increased to 24 after which the number decreased

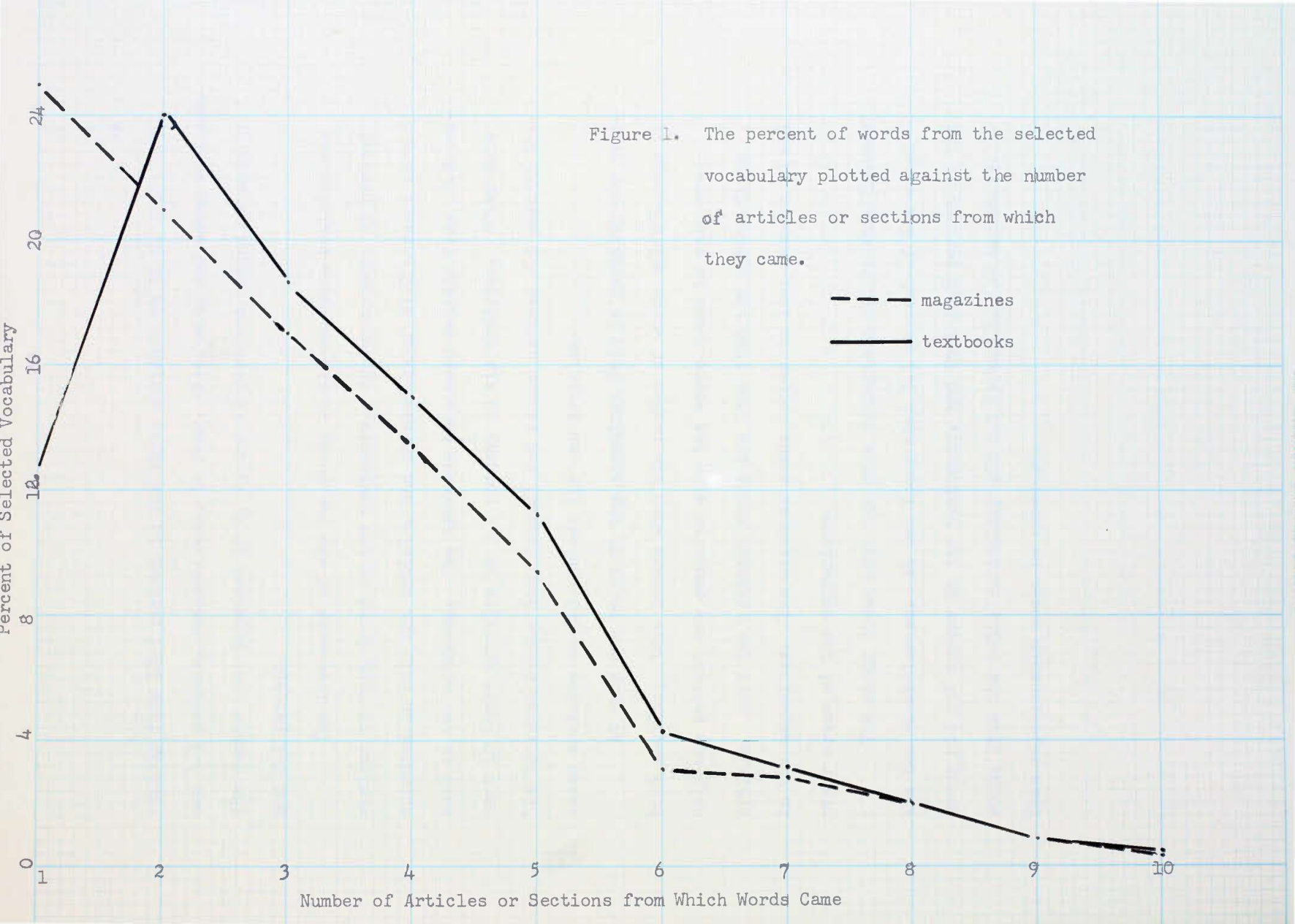

Figure 1. The percent of words from the selected vocabulary plotted against the number of articles or sections from which they came.

rapidly from 18.5 percent in the three sections to 14.8, 11.2, 4.3, and 3.1 percent, respectively, in four, five, six, and seven sections. The number that appeared in 8, 9, and 10 sections ranged between 2 and 0.4 percent.

The frequency of use for words in the magazine articles was similar to that found in the textbooks. Approximately, 25 percent appeared in only one article, and an average of 21.2 percent were used in two articles. The decrease continued rapidly from 17.2 percent in three articles to 3.1 percent in six articles. After this the decrease became more gradual and ranged between 2.8 percent for seven articles to 0.3 percent for ten articles.

At only one point do the magazines fail to parallel the textbook section; this occurs when the number of words which appear in only one section are compared with the words found in only one article. Here the textbook words are less than the number found in the magazines. The magazine words appear in less numbers in all other areas of the comparison.

The study shows that one more comparison can be made between the two vocabularies. It was found that 5.1 percent of the total words did not appear in the textbooks, and that 30.6 percent of the words from the total vocabulary did not appear in the magazines. This relationship could be expected.

Findings Relative to the Size of the Student's Vocabulary

The selected vocabulary contained 2132 words when completed and studied in the final analysis. Some of the students rated high in the number of words taken from the selected vocabulary while others rated very low (Figure 2). By comparing the students' group scores among themselves and with the total 2132 words, it was possible to find data which would give the size of the student's vocabulary. The fifty were studied in the three groups mentioned earlier in this study on the basis of whether they had never had a course in biology, were just completing the course, or were junior-senior students who had taken the course one or two years before. An average group score was obtained by averaging all of the individual ratings for students in each of the groups (Figures 2, 3 and 4). An average score for all pupils having completed the course in biology was obtained by averaging the scores of all the individuals found in the junior-senior group and those individuals just completing the course in biology. Finally, all the students' individual scores were averaged to get an average score or the rating of the average individual (see introduction - by definition). All ratings were made in percentage but may be converted into word equivalents if taken as a percent of the selected vocabulary (2132 words). From the results shown, it was found that the average student rated 60.6 percent (1292 words) (Figure 4), and this figure may be considered the average student's vocabulary for this study. The average student, who had taken biology (as determined in a foregoing statement) scored 68.7 percent (1465 words);

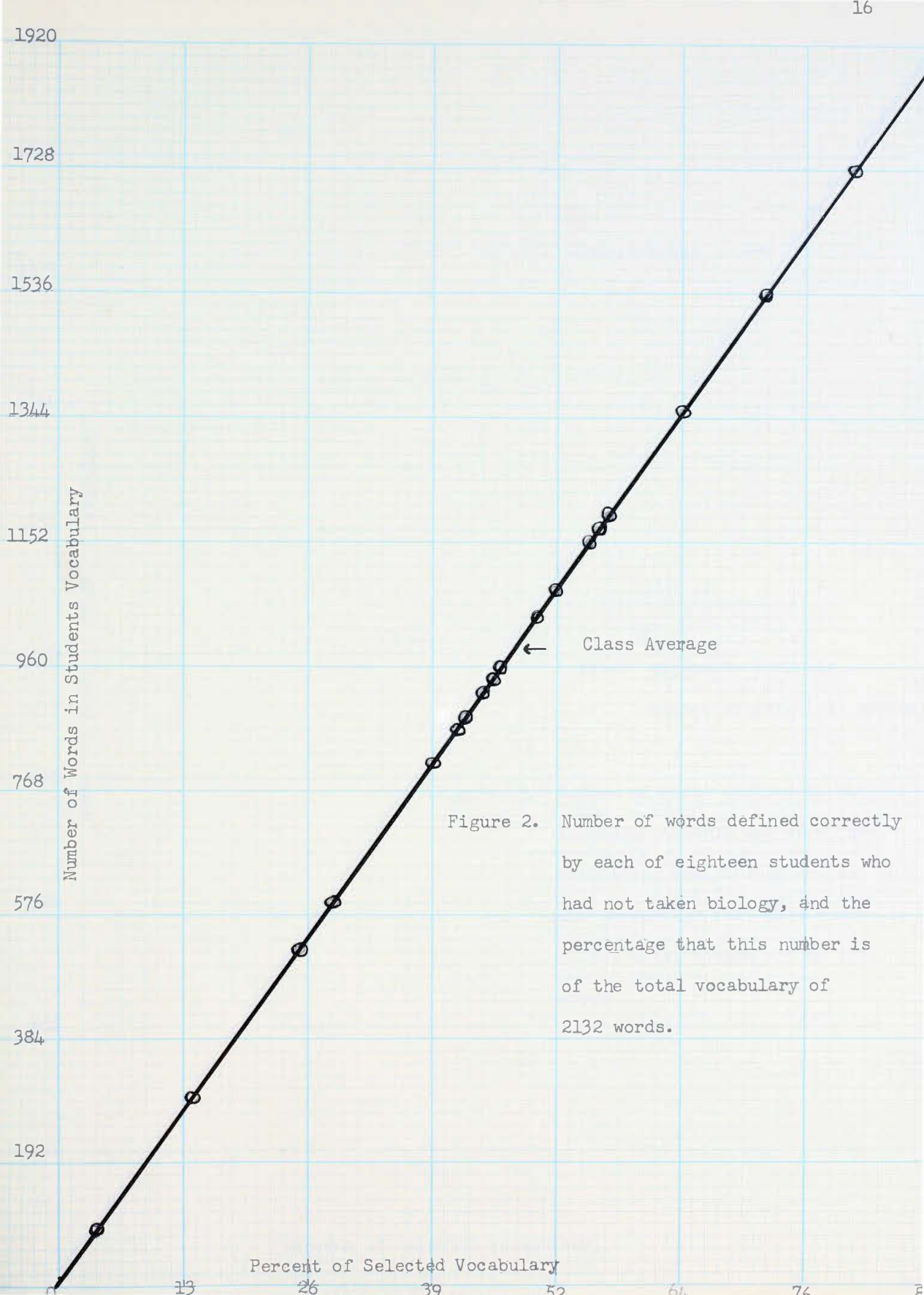

Figure 2. Number of words defined correctly by each of eighteen students who had not taken biology, and the percentage that this number is of the total vocabulary of 2132 words.

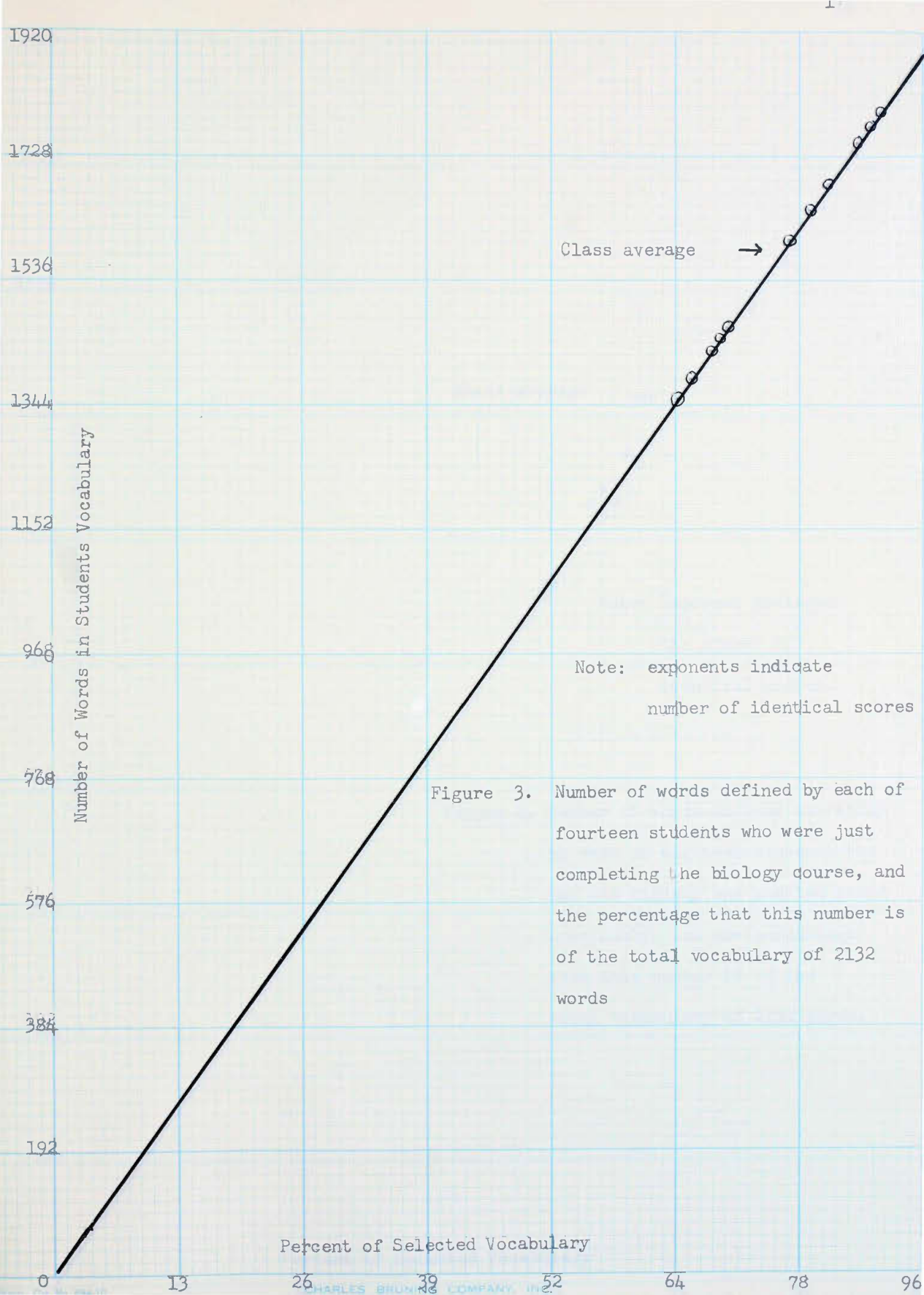

Figure 3. Number of words defined by each of fourteen students who were just completing the biology course, and the percentage that this number is of the total vocabulary of 2132 words

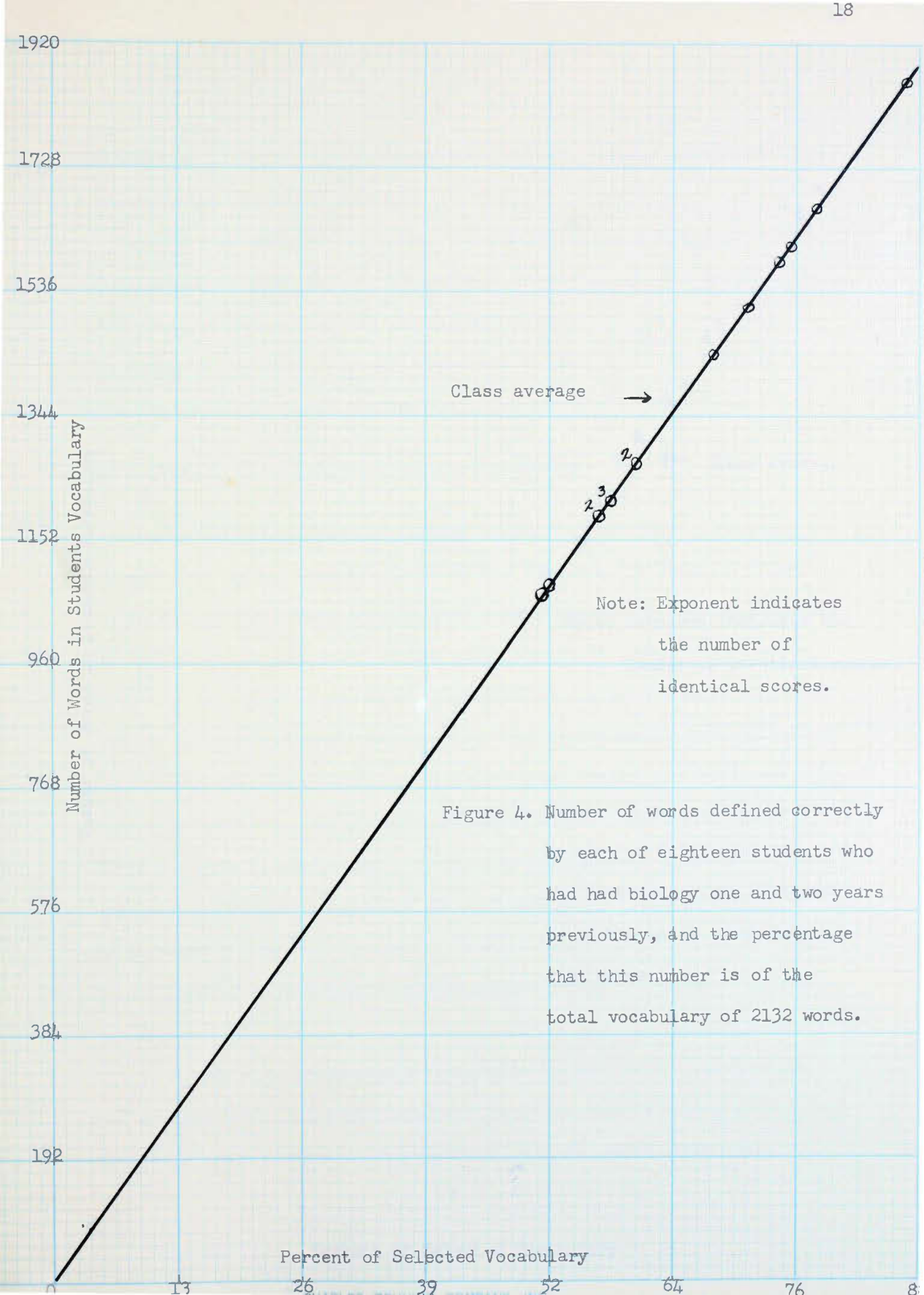

Figure 4. Number of words defined correctly by each of eighteen students who had had biology one and two years previously, and the percentage that this number is of the total vocabulary of 2132 words.

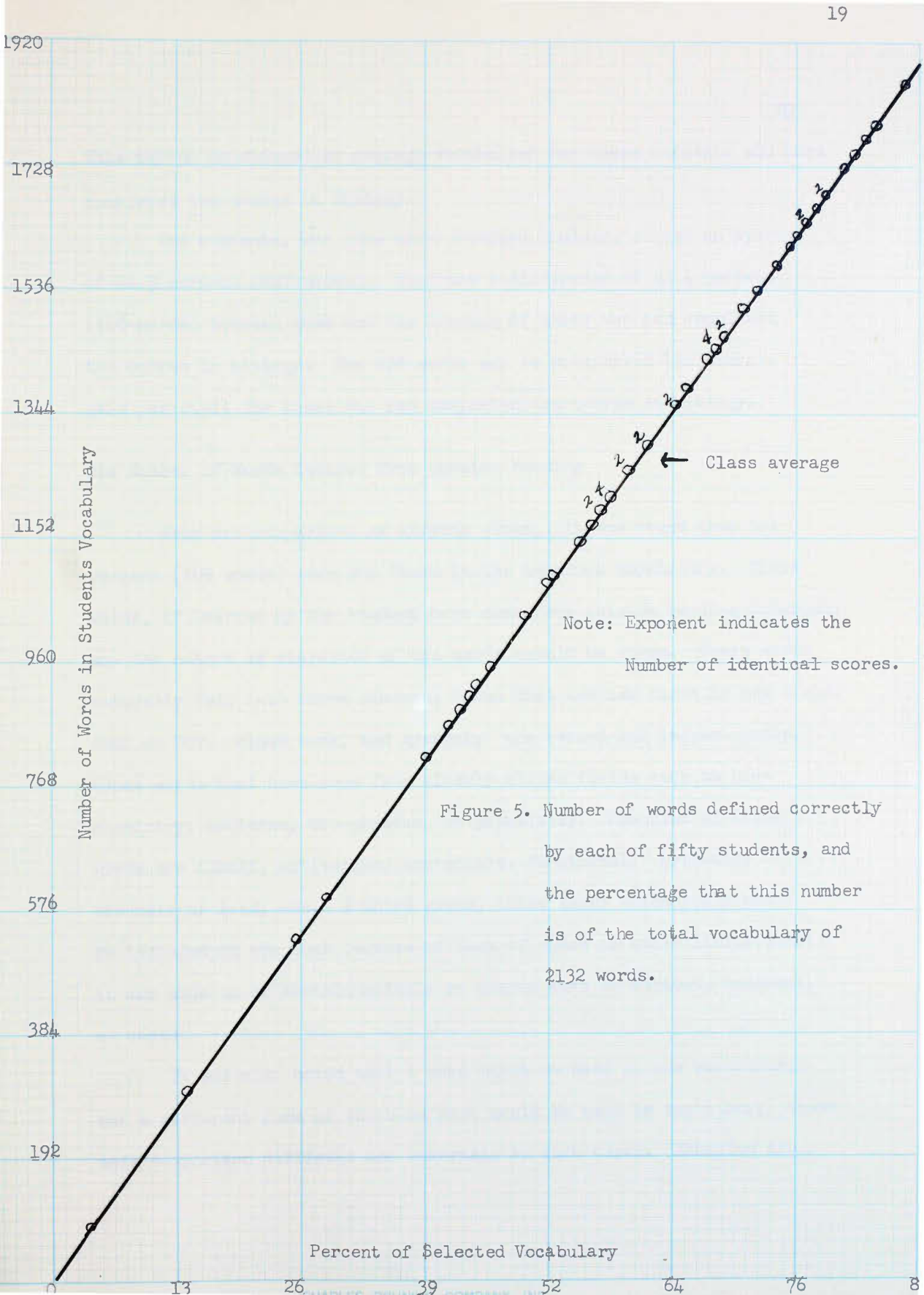

Figure 5. Number of words defined correctly by each of fifty students, and the percentage that this number is of the total vocabulary of 2132 words.

this may be considered an average vocabulary for those students who have completed the course in biology.

The students, who have never studied biology, scored an average of 46.3 percent (987 words). This was a difference of 22.4 percent (418 words) between them and the average of those who had completed the course in biology. The 478 words may be considered the average gain per pupil for those who had completed the course in biology.

The Number of Words Secured From Outside Reading

From our comparison as already given, it was found that 5.1 percent (109 words) were not found in the textbook vocabulary. These words, if learned by the student have come from outside reading material; and the nature or character of the words should be known. These words naturally fall into three classes; those that are new terms in the field, sucy as DDT, blood bank, and eyebank; the second and largest group, those words that have come from closely allied fields such as bio-chemistry, medicine, bio-physics, or psychiatry. Examples of these words are alkali, activation, bronchitis, fungicidal, hypnotic, arsenate of lead, etc. A third group, those terms which could not be included in the text because of lack of space or other limitations; it was made up of certain animals or plants such as caribou, cocoanut, or cacao.

It was also noted that a word might be used in one vocabulary, but a different form of the same root would be used in the other; these made comparison difficult and uncertain in such cases. Examples are

maltase - maltose, amylase - amylopsin, or adrenin - adrenal.

Aquisition of much of the vocabulary found outside the textbooks depends upon the initiative of the instructor. He should choose and discuss words which should become a part of the student's vocabulary, which will enable him to better understand what he reads.

Findings Relative to the Repetition-Retention Theory

In this study there has been some definite information which applied to the Repetition-Retention Theory. The theory in simple statement is the more often material is repeated the better it is learned and the less likely to be forgotten, the converse would be the material forgotten most quickly will be that which has not been repeated many times. This study used the converse rather than the theory itself. A word which was repeated frequently in the textbooks or magazines was less likely to be forgotten than one used only once or twice.

Counts were made to determine the number of errors made by the students in defining words which came from one, two, three . . . seven sections. The data was then graphed with data showing the number of errors made in defining words coming from one, two, three . . . seven articles (Figure 6). It was found that 23 percent of the words missed were used in only one section of the textbook; 18 percent occurred in two sections. The number missed was 15, 14, 11 and 10 percent, respectively, for words that were used in three, four, five, and six sections. Four percent of the words that were found in

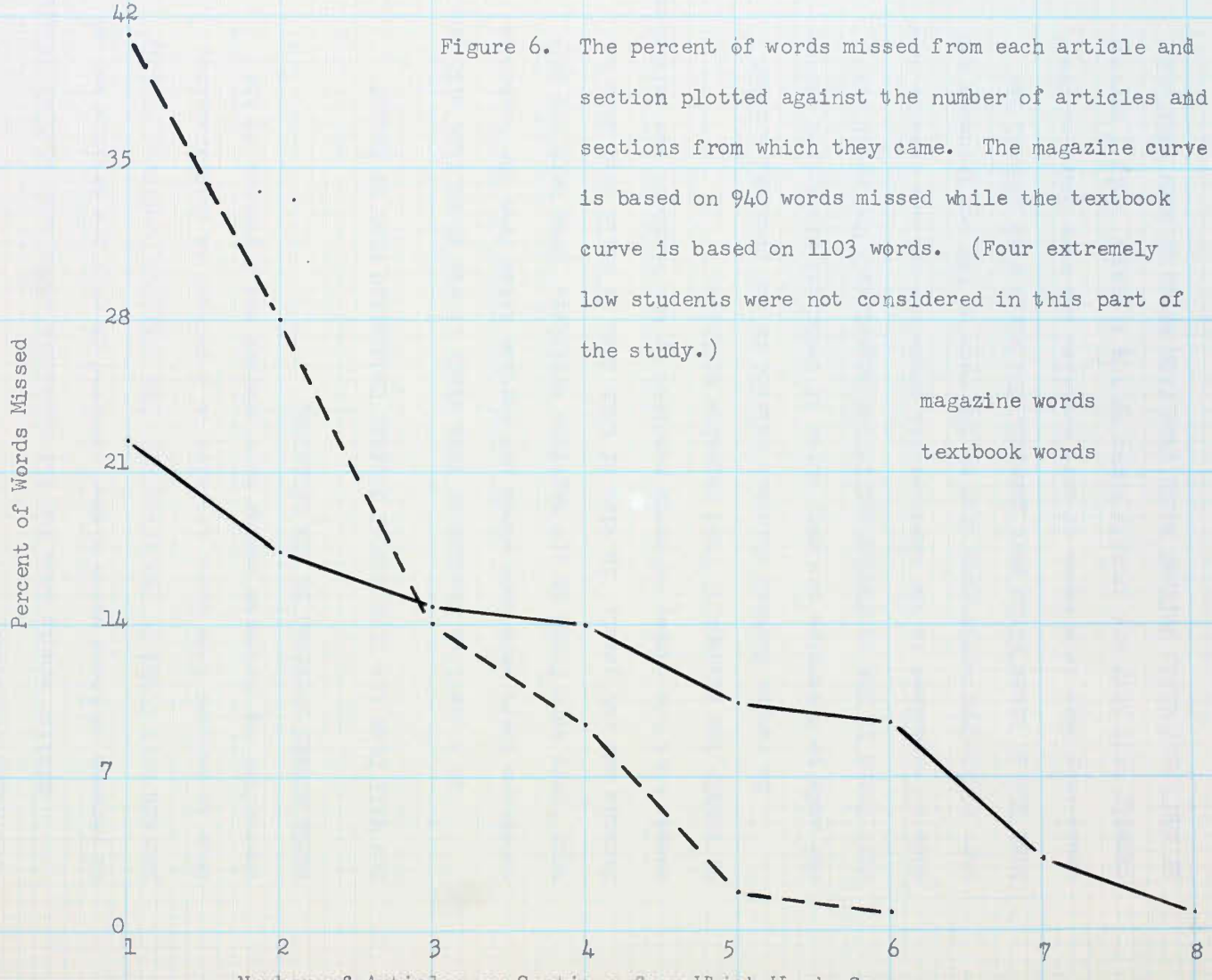

Figure 6. The percent of words missed from each article and section plotted against the number of articles and sections from which they came. The magazine curve is based on 940 words missed while the textbook curve is based on 1103 words. (Four extremely low students were not considered in this part of the study.)

seven sections were unfamiliar to the students and only 1 percent came from eight sections.

Similar counts made for the magazines words show similar results; 41 percent of those words missed occurred in only one article and 28 percent were found in two articles. The decrease continued rapidly from 14 percent from three articles to 2 percent in five articles, thereafter the decrease became more gradual and 1 percent of the words missed occurred in six articles.

How Well Does the High School Student Understand What he Reads?

In a previous section of this study it was shown that with one exception there were more words per section taken from the textbooks than there were found in the magazine articles. Even here the difference was not great. In view of this fact it would seem safe to assume that the number of words supplied by the textbook was sufficient to enable the student to read magazine articles.

To secure further evidence related to the problem, a count was made to determine how many words of technical biological nature were found in the textbooks and in the magazines. The count was made as explained in the experimental procedure and the results show that biological words were used at the rate of 170 per thousand and that 146 of these words were general. The words were general because they came from seven or more articles and were found so frequently that they are usually known by the student. Only 7 percent of the incorrectly defined words came from seven or more sections.

(see Figure 5). The remaining 24 words were of a technical nature.

In the same manner, it was determined that magazines used biological words at the rate of 67 per thousand, and of these 54 words were general and the remaining 13 words were technical.

DISCUSSION OF RESULTS

The first objective of this study was to collect a vocabulary of all magazine and textbook words of biological nature which would be found in any high school student's vocabulary when he leaves the school and enters the fields of endeavor outside the classroom. Since about ninety percent of the students never go beyond the high school level of education the vocabulary they build while in school will become the foundation for any communication they may have with the scientific world. The vocabulary which they were given should include those words which will appear in the sources of material they will have available for use.

The 2132 words which were included in the selected vocabulary were chosen because they were shown to be the ones most frequently used in biological literature, therefore, they should be a part of the average man's vocabulary.

The textbook should supply most of the words which were found in the magazines so that the student will have had them in his high school training. This study shows that most of them were found in the textbook and in most cases they appeared often enough so that he should be able to remember them.

The textbook vocabulary should be one of the criteria used

during textbook selection. The vocabulary should provide a sufficient number and kind of words to supply the student's needs. In this study the textbooks used fulfilled this qualification well since the vocabulary of one differed little from the vocabulary of the other (appendix 6), and either contained more words than were found in the magazines.

A textbook should have moderate repetition of words since it was found that the words which were used often were the ones most likely to be remembered.

A second objective of this study was to discover if the student could read the magazine literature intelligently in the light of the knowledge which he acquired in his high school career. The State of Kansas does not require a student to take biology but other subjects may be used to replace it in the student's choice of curricular material. The average student who leaves high school must be studied from the point of view that he may not have had biology, yet he must also be prepared to read biological literature if it is necessary. This study shows that he should be able to do so since the average student (as established in this study) was based on students who did not have biology as well as those who had taken it.

In conclusion, it was found that the textbooks supplied as large a number of words as was needed to permit the student to read the magazine articles, and at the same time it was found that the technical words appeared more frequently in the text than they did

in the magazines. Since it is generally accepted that the student should be able to read the textbooks it seems reasonable also that he should be able to read any magazine that had a vocabulary no larger nor technical than the one used by the student in developing his own knowledge of words.

SUMMARY

It has been found that the selected vocabulary of 2132 words contained the most of the words in the students'biological vocabulary. The students who had not taken biology had 46.3 percent (987) of the words from the selected vocabulary in their knowledge while the pupils who had biology were found to have 68.7 percent of it in their vocabularies. This was a difference of 478 words which may be considered the number of words learned in the course. The student who was finishing the course knew 74.2 percent (1528) of the words while the junior-senior student knew only 64.4 per cent of the selected vocabulary which shows a loss of 9.8 percent (208 words) since leaving the class. Only 5.1 percent (109 words) of the selected vocabulary were not found in the textbooks and this should be considered the number of words which have been learned from outside sources.

It was found that the frequency with which a word appears in either the textbooks or the magazines directly controls how well the word was remembered. Words which appeared often were remembered better than those which were found infrequently within reading matter.

Since it is generally accepted that the student can read and understand the textbooks and that they supply enough words which are of a more technical nature than the magazines studied, it, seems possible to conclude that the student could read understandingly these magazines or others which do not print more technical material.

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APPENDICES

APPENDIX A

SAMPLE COLLECTION SHEET

Unit IB — Section 3

A adapt accident adult adrenal anaemia anaerobic axon	F flesh filament flower	L leaf leather legume	P peony reflex redwood range ragweed	S seed
B bat bacteria bread boar butterfly	G grey matter goat green house germ	M milk mineral male mind microscope muscle milk	O oval egg ovarian ovary ova cell ozone layer ovum oxygen	X X-ray X-chromosome
C cartilage cabbage cherry cereal cheek classify citrus clean	H bones egg heron house fly	N nail nerve nodule nectar nitrogen	R nail tentacle tassel theory tourniquet	Y Y-chromosome yield
D duck dragon fly donor donkey	I impulse ill ignorant	O organ ovule cyclone overdose	N ovine ovonality wave	Z zebra zoo zoology
E elbow cellole leaf egg yolk	J jaw joint	P plasma primitive grey preventive pulse protein plant pollen	V vendor vein venous vomiting	
	K dead bird dirty snake oil	C green quarantine		

APPENDIX 1

SAMPLE COLLECTION SHEET

Unit II — Section 3

A adapt accident adult adrenal amoeba anerobic axon	F flesh filament flower	L leaf leather legume	R rodent reflex redwood range ragweed	W wood
B bat bacterium bread bear butterfly	G gray matter goat green house gymnosperm	M mule mammal male mate mind miscroscope mimicry milk	S seal sap scientist scurvy sex cell sense organ sewer sepal	X x-ray x-chromosome
C cartilage cabbage cherry cereal cheek classify citrus class	H honey hip heron house fly	N nail nerve nodule nectar nitrogen	T tail tentacle tassel theory tourniquet	Y y-chromosome yield
D duck dragon fly donor donkey	I impulse ill ignorant	O organ ovule oxidize overdose	U urine unhealthy urea	Z zebra zoo zoology
E elbow edible eat egg yolk	J jaw joint	P ptyalin primitive prey preventive pulse protein plant pepsin	V venom vein venous venation	
	K king bird king snake kill	Q queen quarantine		

APPENDIX 2

SAMPLE TABULATION SHEET

eagle 11111

ear 11111 11111 111

eardrum 11

earthworm 11111 11111 11111 11111 1

eat 11111 11111 1111

echinoderms 1111

ecology 11

ectoderm 11111 1

eczema 11

edible 1111

eel 11111

effort 1

egg 11111 11111 11111 11111 11111 11111 11111 11111 11111 11111 1111

egg cell 11111 11111 11

egg shell 11

egg yolk 1

elastic 11111

elbow 111

electric eel 11111

element 11111 11111 11111

elephant 11111 11111

eliminate 11111 11111 11111 11111 1111

embryology 11111

emerge 111

emergency 11111 11

emotion 1111

emotional 111

enamel 11

endocrine 11111

endoderm 11111 111

endosperm 111

enemy 11111 11111 11111 11111 11111 11111 11111 11111 11

energy 11111 11111 11111 11111 11111 11111 11

enrich 111

entomology 11

environment 11111 11111 11111 11111 11111 11111 11111 111

environmental 11111 11111

enzyme 11111 11111 11111

epidemic 111

epiglottis 111

epidermis 11111 11111 1

equilibrium 11

eradication 11

ergosterol 1

APPENDIX 3

SAMPLE OF OBJECTIVE TESTS
(Underscore the Correct)

1. bronchus (1) the trachea (2) a branch of the trachea (3) the sacs in the lungs (4) branches leading to the nostrils.

2. bud (1) the growing tip of a plant (2) a stem (3) an insect (4) leaves.

3. botany (1) a study of body forms (2) a study of life (3) the study of body cleanliness (4) the study of plants.

4. calcium (1) an element (2) milk (3) bone (4) a compound.

5. camel (1) a rodent (2) a herbivore (3) a carnivore (4) a pachyderm

6. capillary (1) the blood vessels leading to the heart (2) extremely small interconnecting tubules in blood system (3) veins (4) arterioles.

7. carapace (1) a boney covering of the turtle (2) is found on the frog (3) a boney covering on the camel (4) a sheet of armor.

8. nasal (1) pretains to the ear (2) pretains to the mouth (3) pretains to the mastoids (4) pretains to the nose.

9. musk (1) a pleasing odor (2) scent of an animal (3) illness (4) unpleasant odors.

10. maple (1) has winged seeds (2) seeds are spread by birds (3) has burrs to attach to animals (4) has a pit for a seed.

11. mammary gland (1) salivary glands (2) milk glands (3) sweat glands (4) oil glands.

12. nurse (1) a waiter (2) to feed young from mammary glands (3) a hospital (4) to cook for the ill.

13. normal (1) unusual (2) broken (3) similar to all other like organisms (4) misshapen

14. paleontology (1) to study plants (2) to study rocks (3) to study fossils (4) to study health.

15. orchid (1) epiphyte (2) lives in the desert (3) are found in the artic (4) grow in water.

16. palor (1) pale (2) flush (3) rosy (4) unhealthy.

APPENDIX 4

SAMPLE MAGAZINE VOCABULARY SHEET

Words	Time	Colliers	Newsweek	SE.Post	R.Digest	Total
facial			1	1	1	3
Fahrenheit		1		1	1	3
falcon		1		1		2
family		1	1	2		4
fang				1		1
fat		3	1	2	1	7
fatal	4	1	8	4	10	27
fatigue	2	1	2	1	10	16
fatty acid	3					3
fauna	4	1	3	1	1	10
fear			1	1		2
feather		4		3	4	11
feces					1	1
feeble	1					1
feed	2	1	4	2	4	13
feline		1				1
female	34	18	16	13	22	103
femine	1	1	1	2		5
fertile	7	3	2	3	3	18
fertilization	2		2	1	1	6
fertility	6	2	1	2	2	13

APPENDIX 5

SAMPLE TEXTBOOK VOCABULARY SHEET

Words	Unit	Chapt.	Sect.	Unit	Chapt.	Sect.	Total
kangaroo	2	2	3	3	3	3	4
keen	1	1	1	2	2	2	3
Kentucky blue grass				1	1	1	1
kernel	1	1	1				1
key	1	1	2	1	1	1	3
kidney	1	2	5	4	8	19	24
kill	7	15	26	5	8	27	53
kilogram	1	1	1	1	1	1	2
kinetic	1	1	1	1	1	1	2
kinesthetic sense	1	1	1				1
kingdom	2	2	3	6	7	8	11
kingfisher	1	1	1	1	1	2	3
kiss	1	1	1				1
knee				1	1	2	2

APPENDIX VI

SELECTED VOCABULARY

The following legends have been used throughout this vocabulary: Ti -- Time, Co -- Colliers, NW -- Newsweek, SP -- The Saturday Evening Post, RD -- Readers Digest, Ev Da Bio -- Everyday Biology, Dy Bio -- Dynamic Biology, U -- Unit, C -- Chapter, S -- Section and No Art -- Number Articles from which word was taken.

Word	From No. Art Ti	Co	NW	SP	RD	Total Articles	Ev Da Bio U	C	S	Dy Bio U	C	S	Total Sections
abandon	2		1		2	5	2	3	7				7
abdomen	4		1	4	5	14	2	3	7	2	3	3	10
abdominal	1		3	1	6	11	2	3	3	1	1	1	4
ability	1	1	1	1	3	7	2	3	7	1	2	5	12
abnormal	1	1	5	1	4	12	1	1	3	1	1	1	4
abnormality			1	1	1	3				1	1	1	1
abortion	1	1	1		5	8				1	1	1	1
absorb	4		2	4	4	14	4	9	15	1	7	11	26
absorbant	1		1	1	3	6				2	2	3	3
absorption			1	1	2	3	2	4	5	3	4	5	10
abundance							2	3	5	1	1	2	7
accident	1	4	2	6	10	23	1	1	3	1	1	2	5
accidental		1	1	1	2	5				1	1	1	1
accuracy	1		1	1	2	5	1	1	1	1	1	1	2
accurate	3		3	2	3	11				2	2	5	5

Word	Ti	Co	NW	SP	RD	Total Articles	Ev U	Da C	Bio S	Dy U	Bio C	S	Total Sections
acid	1	4	11	6	5	27	4	5	7	3	5	6	13
acid soil							1	1	2	1	1	1	3
action							2	2	2	1	1	2	4
activation	1		1		3	5							
active							5	5	6	1	2	3	9
activity	1			1	2	4	5	10	24	2	2	3	27
acute	2		3	3	7	15	1	1	1				1
adapt	1				3	4	4	4	4	3	3	6	10
adaptable	1					1	1	1	2	1	1	1	1
adaptation	1	1	1		5	8	5	7	10				10
adenoids				1	1	2	2	2	3	1	2	2	5
adolescence	1	1	1	1	3	7	1	1	1	1	1	1	2
adolescent	4	2	1	1	3	11				1	1	1	1
adrenal		2	1			3	1	1	1	2	2	2	3
adrenalin		1	1			2	1	1	1	2	2	2	3
adult	5	4	8	3	8	28	5	14	17	3	4	4	21
adulteration			1			1	1	1	1				1
aerate	2		1	1		4				1	1	1	1
aerial	1	2	1	1	1	6							
aerobic							1	1	1	1	1	1	1
age							2	2	2				2
agricultural	17	4	3	10	11	45	2	2	4	2	3	3	7
agriculture	11	3	3	5	15	37	2	4	6	3	5	9	15
ailment	3	3	3	11	6	26				1	1	1	1

Word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
air	1	1	2	2	5	11	8	12	15	2	4	6	21
airbladder							1	1	1	1	1	1	2
albinism							1	1	1	1	1	1	2
albino		2	1	3		6	1	1	1				1
alcohol	2		5	1	1	9	1	3	8	3	7	7	15
alcoholic	1		1	1	1	4							
alfalfa		3		1	3	7	2	2	3	2	4	4	7
alga	2		5	1		8	3	4	7	3	5	7	14
alimentary canal			1		3	4	1	2	5				5
allergy		2	1	1	4	8	1	1	1	1	1	3	4
allergic		1	2	2	4	9							
alligator		1		1	1	3	2	2	3	2	3	3	6
alkaline	1		1		1	3				1	2	4	4
alkali		1	1			2							
alternation of generation							2	2	4	2	2	4	8
alveolus							2	2	4	1	1	1	5
amber							2	3	3	2	2	2	5
amino acid	2	1	2	1	4	10	2	3	5	1	1	1	6
amoeba	2			1	1	4	3	4	9	3	5	6	15
amoebic dysentery			2	1	2	5	1	1	2				2
amoeboid			1			1	2	3	3				3
amphibia							1	1	2				2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
amphibian	2	1				3	2	3	8	2	4	4	12
anal					1	1				1	2	3	3
anabolism							1	1	1				1
anaerobic			1		2	3	1	2	3				3
analyse	2			5	3	10							
analysis	1			1	1	3							
anatomical	1	1	1	1	1	5							
anatomy	1	4		3	3	11	2	1	3	2	2	3	6
anatomist	1			2	3	6	1	1	1	1	1	1	2
ancestor	6	4	2	5	2	19	2	2	6	2	2	3	9
ancestry				1	1	2	1	1	2				2
ancient	19	4	8	6	2	39	4	4	7	2	2	3	10
anemia		1	3	1	4	9	1	2	3	1	1	3	6
anemic		1		1		2							
anemone							1	1	1	1	1	1	2
anesthesia	1	1	1		1	4				1	1	1	1
anesthetic	1	1	1	1	2	6				1	1	1	1
anger										1	1	2	2
Angiosperms							1	1	1	1	1	1	2
animal	13	12	22	13	14	74	7	25	58	12	29	40	98
animal kingdom	1	1			1	3	2	2	2	2	2	2	4
ankle	1		1		1	3	1	2	3				3
Annelida							1	2	2				2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
annelid			1			1	1	3	5	1	1	1	6
annual ring					1	1	1	1	1				1
ant			1		1	2	3	3	5	3	4	6	11
antelope					1	1	1	1	1	2	2	3	4
antenna	2	2	1	1	1	7	1	2	4	2	2	3	7
antennule							1	1	1	1	1	1	1
anther	1					1	1	1	3	2	2	2	5
antheridium							1	1	1	2	2	2	3
anthrax			2			2	1	1	2	2	2	2	4
antibacterial					1	1				1	1	1	1
antibody	1		2			3	1	1	1	1	2	3	4
antidote				1		1							
antiseptic	1		1	1		3	1	1	4	2	3	4	8
antitoxin		1	1	1	1	4	1	2	5	2	2	4	9
anus							1	2	4	1	2	2	6
antler	1	1				2	1	1	1				1
anvil							1	1	1	1	1	1	2
aorta			1	1	3	5	1	2	2	1	1	1	3
aortic					1	1							
aortic arch				1		1							
ape	1					1	1	1	1	1	1	1	2
apoplexy		2	1	2		5	1	1	1	2	2	3	4
apparatus	6	3	1	1	3	14	3	4	5	4	10	15	20

word	TI	CO	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
appendage							1	2	5	3	4	8	13
appendicitis				1	3	4	1	1	1				1
appendix		1	2	2	1	6	1	2	3	1	1	2	5
appetite	1	2	3	8	4	18	1	1	2	1	1	2	4
apple			1			1	2	4	10	2	2	2	12
appleworm							1	1	1				1
apricot							1	1	1	1	1	1	2
aquarium	1	3	1	1		6	1	2	2	2	2	2	4
aquatic	4	6	2	1		13	3	3	7	2	2	4	11
arachnids							2	2	4	2	2	2	6
arid	1	1	1	1	1	5							
arm		1				1	1	2	7	2	2	3	10
armadillo				1		1	1	1	1	2	2	2	3
army worm							1	1	1	1	1	1	2
aroma				2	4	6	1	1	1				1
arterial		1	2	1	2	6							
artery		3	2	5	6	16	2	2	4	2	4	4	8
arthropods							1	3	8	2	4	6	14
artic	1	1		3	1	6	2	3	3	2	4	4	7
artificial	10	4	7	3	5	29	2	5	10	1	1	1	11
artificially	4	2	1	1	1	9							
arsenate of lead							1	1	1	1	1	1	2
arsenic			2	1	1	4				1	1	1	1
asexual	1					1	1	2	6	1	1	2	8

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	Bio S	Total
asexually							1	1	2	1	1	1	3
ash		1			1	2	1	1	1	2	2	2	3
asphyxiation				1		1				1	1	1	1
assimilate	1					1	1	1	1	1	1	1	2
assimilation	1		1			2	1	1	2	2	3	3	5
aster							1	1	1	1	1	1	2
asthma			2	2	1	5	1	2	2	2	2	2	4
athlete		1	1	1	1	4	1	1	2	1	1	1	3
athlete's foot		1	1	1	1	4	1	1	1				1
athletic		1		1	1	3	1	1	1	1	1	1	2
atom		1	2	1	1	5	4	4	4	1	1	1	5
atomic				1		1							
atrophy			1			1				1	1	1	1
attack	1	6	2	4	9	22	4	8	17	2	3	5	22
attract		1		1	2	4	1	2	4	1	1	1	5
audible	1	1				2							
auditory					1	1				1	1	1	1
auditory-nerve							1	1	1				1
auricle					2	2	1	1	2	1	1	1	3
autumn				1	1	2	1	1	2				2
autumnal		1			1	2							
axon					1	1	1	1	2	1	1	1	3

word	Ti	Co	NW	SP	RD	Total	EvDaBio U	EvDaBio C	EvDaBio S	Dy Bio U	Dy Bio C	Dy Bio S	Total
baboon	1		1			2							
baby	1	1				2	2	2	5	1	2	2	7
backbone		1		1		2	1	2	3				3
bacterial	1	1	2	1	5	10	2	2	4				4
bacteriological	1	1	1	1	1	5	1	1	1	1	1	1	2
bacteriologist	3	2	3	1	1	10	1	1	1	1	1	1	2
bacteriology		1	1	3	1	6	1	1	1	3	3	3	4
bacterium	10	1	13	2	5	31	5	15	24	5	12	20	44
badger					1	1							
balance	3	2		2	7	14	1	1	4	1	1	1	5
balanced diet	1	1	1	4	1	8	1	1	1	2	2	3	4
balance of life							1	1	1	1	2	2	3
bald eagle				1		1	1	1	1				1
ball and socket joint							1	1	1	1	1	1	2
balsam			1			1				1	1	1	1
bamboo			1	1		2	1	1	3	1	1	1	4
banana				1	1	2	1	1	2	2	3	3	5
bandage					3	3	1	1	2	1	1	1	3
barberry							1	1	1	1	1	2	3
barley							1	1	1	2	3	3	4
bark		1		1	1	3	2	2	5	2	2	3	8
barren		1	1	1	1	4	1	2	2				2
barrier							1	1	1	1	1	1	2
bass					1	1				3	4	4	4

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
bat		1			1	2	1	2	2	2	2	2	4
bath							1	1	2	1	1	1	3
bathe	1				2	3	1	1	1				1
bath sponge							1	1	1	1	1	1	2
beak		1				1	2	2	2	1	1	1	3
bean	1					1	2	3	6	2	4	5	11
bear		1			1	2	2	3	6	2	4	5	11
beard				1	1	2	1	1	1				1
beast		3	1		3	7	1	1	1	1	1	1	2
beaver		1	1			2	3	3	5	3	3	3	8
bedbug		1				1	1	1	1	2	2	2	3
bee		1				1	3	3	4	3	5	8	12
beef				1	1	2	2	2	2	1	1	1	3
beet							2	2	2	1	1	1	3
beetle			3			3	4	4	6	4	4	5	11
behavior	6	2	7	6	1	22	3	5	8	1	1	5	13
belly		4	2			6							
beriberi		1	1			2	1	1	1	1	1	1	2
berry							1	2	2	2	2	2	4
biceps										1	1	1	1
bile							1	2	4	1	1	3	7
bile duct							1	1	2				2
bill	1			1		2	1	1	1	1	1	1	2
biological	10	2	4	1	1	21	2	3	9	3	3	3	12

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
biologist	10	2	3	5	5	25	2	3	5	2	2	4	9
biology	6	1	3	1	2	13	6	6	7	2	3	3	10
bird	1	7	1	3	1	13	6	20	27	3	9	13	40
birth	4	5	2		5	16	2	3	7	3	3	3	10
bison		1		1		2	2	2	2	1	1	1	3
bite							3	3	6	2	2	2	8
blackberry							1	1	1	2	2	2	3
black widow spider					1	1	1	1	1				1
bladder	2		1	1		4	1	1	3	2	2	3	6
blight	3	2	2	1	3	11	3	3	4	2	2	2	6
blind			1		3	4	1	1	3	1	1	1	4
blood	4	4	9	3	10	30	2	10	21	4	9	14	35
blood bank	1		1	1	1	4	1	1	1	1	1	1	2
blood plasma	1	1	1	1	2	6							
blood pressure	2	3	3	2	7	17	1	1	2	1	1	1	3
blood stream							1	1	2	3	3	4	6
blood vessel	1	2	2	2	2	9	1	3	6	4	8	10	16
bloom		1				1	1	1	2	1	1	3	5
blossom		1		3	2	6	1	1	1	1	1	1	2
blue racer										1	1	1	1
boa constrictor							1	1	2	2	2	3	5
bob white							1	1	1	1	1	1	2
body	1		4	1	1	7	8	17	44	5	10	13	57

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
body cavity							1	1	2	1	1	2	4
body temperature					1	1	1	1	1	1	1	2	3
boil		1	3	2	1	7	2	2	5	1	1	1	6
boll weevil										2	3	4	4
bone	6	6	8	3	8	31	4	12	22	2	4	6	28
bone marrow			1		1	2	1	1	1	1	1	1	2
bony	1				2	3	1	2	5				5
bony skeleton							1	1	1	1	1	1	2
botanical		1	1	1	2	5	1	1	2	1	1	1	3
botanical garden					1	1	1	1	1				1
botanically				1	1	2	1	1	1	1	1	1	2
botanist		3	3	1	1	8	1	1	1	2	2	2	3
botany		1	1	1	1	4	1	1	1	2	2	2	3
bowel		1		1	2	4							
brain	3	4	8	6	3	24	1	4	9	3	8	12	21
bread mold							1	1	1	1	1	1	2
breakfast	1		1	4	3	9	1	1	1				1
breast	3	4		3	5	15	1	1	1				1
breath	1	2	2	2	2	9	1	1	1	1	1	2	3
breathe	1	4	3		3	11	1	3	14	3	4	5	19
breathing					1	1	1	3	9				9
bred	1	3	4		4	12							
breed	5	12	1	2	8	28	1	1	3	2	2	3	6
breeder	2		3	5	2	12	1	1	1				1

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
breeding	2	2		3	5	12	1	1	3	1	1	2	5
breeding season							1	1	2				2
broad leaf		1				1	1	1	2	1	1	3	5
bronchial tube	1		1	1		3	1	1	1	1	1	1	2
bronchitis	1		1			2							
bronchus	1			1		2	1	1	1	1	1	1	2
brood							2	2	2	1	1	2	4
brooding		1				1							
bryophytes							1	1	1	1	3	5	6
bubonic plague	1	2	3	1	1	8	1	1	1	3	3	4	5
bud		2		1		3	2	2	7	1	2	4	11
budding		1				1	1	1	2	1	1	3	5
bud scales							1	1	1				1
buffalo				1		1	2	2	2				2
bug					1	1	1	1	1	1	1	2	3
bulb		1				1	2	2	2	2	2	2	4
burn	2	4	1		1	8	3	3	12	1	1	2	14
burrow	1	1	1	2		5	2	2	7	2	2	2	9
butterfly					1	1	4	4	5	1	1	2	7
cabbage			1	1		2	2	2	4				4
cactus			1			1	2	2	2	2	2	3	5
calcium	1			2	5	8	2	2	2	3	3	4	6

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
California red wood							1	1	1				1
calorie	1		1	2	3	7	1	1	2	1	1	1	3
calyx							2	2	3	2	2	3	6
cambium							2	2	4	1	2	2	6
cambial region							1	1	1				1
camel		1		1		2	1	1	1	3	3	3	4
Canada thistle							1	1	1	1	1	1	2
cancer	1	4	5	1	6	17	1	1	2	4	5	7	9
cancerous	1	1		1	1	4							
cane sugar			1			1	1	1	1	1	2	4	5
canned				1		1	2	2	3	1	2	4	7
canning							1	1	1				1
cannibalism	1	1			2	4	1	1	2				2
capillary		2			3	5	1	3	8	3	3	6	14
captivity			1		1	2	2	2	2	1	1	1	3
capture	2	2	2	4	5	15	5	8	14	2	2	3	17
carapace							1	1	1	1	1	1	2
carbohydrates	1	1	1		1	4	1	3	12	2	4	6	18
carbon dioxide	1	1	7		1	10	4	5	23	2	3	11	34
carbon monoxide							2	2	2				2
cardiac			1	1	1	3	1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
caribou		2		2		4							
carnivore	1	1	1	1	1	5				1	1	1	1
carnivorous	2	3	1	2	1	9	2	2	2	1	1	1	3
carotene	1			1	1	3				1	1	2	2
carriers of disease			1		1	2	1	1	1				1
carrot							2	2	2	1	2	3	5
cartilage	1		1	1	1	4	3	3	6	1	1	2	8
cartilaginous							1	1	2	2	2	2	4
casein										1	1	1	1
cat		1	1			2	2	2	7	3	5	6	13
caterpillar	3	2	1	1	4	11	2	2	5	3	4	4	9
catfish							1	1	1				1
cattle					1	1	4	4	6	3	5	8	14
cattle tick							2	2	2				2
caudal		1				1	1	1	3	1	1	1	4
cavity		3	1	1	1	6	5	6	10	2	5	8	18
cedar							1	1	2	2	2	3	5
celery				1		1							
cell	8	4	9		3	24	6	26	41	4	10	19	60
cell body							3	3	3				3
cell division	1		1		1	3	1	2	3	4	5	8	11
cell theory							1	1	1				1
cellular	1	1	1		1	4	3	4	6	2	2	4	10

word	Ti	Co	NW	SP	RD	Total	Ev U	Ev C	Da Bio S	Dy U	Dy C	Bio S	Total
cellulose	1	1	1		1	4	2	2	3	2	2	2	5
cell wall	1					1	1	2	5	1	1	2	7
centigrade			1			1	1	1	1	1	1	1	2
centimeter		1	1		1	3							
central cylinder							1	1	1	1	1	1	2
central nervous system	1					1	1	1	1	1	2	3	4
cereal	1		2	3	5	11	1	2	2	2	2	3	5
cerebellum							2	2	2	1	1	1	3
cerebral					1	1							
cerebrum					1	1	2	2	3	1	1	2	5
chamber	1		1	1	1	4	1	1	2	1	1	2	4
character				1	1	2	1	2	5	1	3	4	9
characteristics	8		4	1	1	14	4	6	12	4	4	15	27
cheek							1	1	1				1
cheese							1	1	4	2	2	3	7
cheliped							1	1	1	1	1	1	2
chemical	10	2	2	4	9	27	6	7	18	6	9	11	29
chemical change		1	1	1	1	4	3	3	3	1	1	2	5
chemist	4	1	2	4	5	16	3	3	3	1	1	1	4
chemistry				1	3	4	1	1	1	2	2	2	3
cherry							1	2	5	3	3	4	9
chest		1			1	2	1	1	2				2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
chew			1		1	2	1	1	4	1	1	1	5
chicken							3	3	6	3	4	5	11
chicken pox							1	1	1				1
chimney swift							1	1	1				1
chin							1	1	1				1
chipmunk							1	1	2				2
chitin							1	1	1	1	1	1	2
chitinous							1	1	1	1	2	2	3
chloride							3	3	3	1	1	2	5
chlorine	1					1	1	1	1	1	1	1	2
chlorophyll		1	3	1	1	6	2	5	12	3	4	6	18
chloroplast					1	1	1	1	1	2	2	4	5
chocolate							1	1	2				2
cholera			1		1	2	1	1	2	2	2	4	6
chordates			1			1	2	4	10	2	3	3	13
choroid coat							1	1	1	1	1	1	2
Christmas tree							1	1	1				1
chromatin			1			1	1	1	1	1	1	1	2
chromosome		2	3	1	1	7	1	1	1	1	1	5	6
chronic			5	3	11	19				2	2	2	2
chrysalis					1	1	2	2	2	2	2	2	4
chyme							1	1	2	1	1	1	3
cilia		1			1	2	3	4	7	3	5	7	14
circulate		1	1		1	3	2	2	5	3	4	5	10

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
circulation	1	1	1	2	4	9	2	3	11	3	7	8	19
circulatory system	1	1	1	2	1	6	1	1	5	2	2	4	9
citrus		1		1		2				1	1	2	2
civilization	10	2	2	6	1	21	1	1	1	2	2	2	3
class							1	2	2	1	1	4	6
classification							2	2	2	1	2	3	5
classify							2	2	4	1	1	4	8
claw	1		1	1	1	4	2	2	3	1	1	1	4
climate	8	4	3	3	4	22	4	4	5	2	3	5	10
climatic	5			1		6	1	1	1	1	1	1	2
clinic	3	3	6	4	9	25	1	1	2	2	2	2	4
clinical	1	3	2	1	2	9				1	1	1	1
clitellum							1	1	1				1
cloaca							1	1	1	2	2	2	3
clot				1	2	3	1	1	3	1	1	1	4
clothes moth	1				1	2	1	1	2				2
clothing							3	3	3	2	2	6	9
club moss							2	2	2	1	2	2	4
coagulate					1	1	1	1	1	1	1	1	2
coal	1			1	2	4	3	4	9	2	2	3	12
cochlea							1	1	1	1	1	1	2
cocklebur							1	1	1				1
cockroach		1		1		2	3	3	4	1	1	1	5
cocoa							1	1	2				2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
Cocoa butter										1	1	1	1
cocoanut					1	1							
cocoon			1		2	3	2	2	3	2	3	4	7
cod							1	1	3	2	2	2	5
codling moth							1	1	2	1	1	1	3
coelenterates							1	1	5	1	2	6	11
coffee		1				1	2	2	2	2	2	3	5
coffee bean										1	1	1	1
cold blooded		2				2	1	1	2	1	1	3	5
colic				1	2	3							
collar bone							1	1	1	1	1	1	2
colonial							2	2	2	1	1	1	3
colony		1				1	2	2	3	1	1	3	6
color blind							1	1	1	1	1	1	2
combat							2	2	3	2	2	2	5
combustion	1				1	2	2	2	3	1	1	1	4
commercial fishing	2			2		4	1	1	1				1
common cold		5				5	1	1	2	1	2	5	7
communicable			1		2	3	1	2	2	1	1	1	3
communication					1	1	2	2	3				3
communicate					1	1	1	2	2	1	1	1	3
community							1	1	5	2	2	2	7
competition	1					1	2	5	8	1	1	1	9

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
complete flower							1	1	1				1
complete metamorphosis							1	2	4	1	1	1	5
complexion	1	1		1		3							
composite							1	1	1				1
composition	3		1	1	1	6	3	3	3	1	1	1	4
compound	3			1	3	7	3	8	13	4	4	5	18
compound fracture					1	1	1	1	1	1	1	1	2
conception	2		1		1	4							
conclusion	1	1	3	1	1	7	8	8	15	2	2	2	17
condensation		1		1	1	3							
condiment							1	2	2				2
conduction							1	1	5	1	1	2	7
cone					1	1	1	1	1	2	2	2	3
conebearing							2	2	4	1	1	2	6
conifer					2	2	1	2	3	2	3	3	6
conjugate							1	2	3	1	1	1	4
conjugation	1		1			2	1	2	3	1	2	3	6
connective tissue					1	1				1	1	1	1
conscience	1			2	1	4							
conscious	1	1	2	1	4	9	1	1	2	1	1	1	3
consciousness	2	1	1	1	4	9	1	1	1	1	1	1	2
conservation	3	1	1	5	5	15	1	3	10				10

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
constipation				1	3	4	1	1	2	1	1	1	3
constrictor							2	2	2	1	1	1	3
contageous		1	3	1	6	11	1	1	3				3
contaminate	3	1	3	2	4	13	1	1	2				2
contamination	2		3	1	1	7	1	1	1	1	2	3	4
contour	1			1	2	4	1	1	1	2	2	2	3
contour farming							1	1	1	2	2	2	3
contractile vacuole							1	1	2	2	2	2	4
control							2	2	2	1	1	1	3
convulsion	1		1	1		3				1	1	1	1
cook		1				1	1	1	3				3
copperhead							1	1	1	1	1	1	2
Cooper's hawk				1		1							
copulate							1	1	1				1
coral	1	1		1		3	1	1	2	1	3	4	6
coral reef							1	1	1	1	1	1	2
coral snake		1				1	1	1	1	1	1	1	2
cork							1	1	2	1	1	1	3
corn		2	2	1		5				4	5	9	9
cornea			1	1	1	3	1	1	2	1	1	1	3
corn ear worm							1	1	1				1
corns							1	1	1				1

word	Ti	CO	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
corn smut							2	2	2				2
corn stalk							1	1	1	1	1	1	2
corolla			1			1	2	2	2	1	1	1	3
corpusle	2		2	2	2	8	1	1	3	1	2	7	10
cotton	1	1	2	1	1	6	1	1	1	3	5	8	9
cotton boll weevil							2	1	2				2
cotyledon							1	1	3	1	1	3	6
cough	1		2	1	4	8	1	1	2				2
cover crop	1					1	1	1	1				1
cow		1				1	2	2	5	2	2	3	8
cowpox							1	1	1	1	2	2	3
coyote		1	2			3	1	1	1	2	2	2	3
crab							2	2	4	3	5	6	10
cranial nerve			1			1	1	1	1	1	1	1	2
cranium							1	1	1	1	1	1	2
crayfish		1				1	5	6	12	3	4	5	17
creature	13	13	2	11	10	49	2	3	7	4	5	8	15
cretin			1			1	1	1	1	1	1	1	2
cretinism							1	1	1	1	1	1	2
cricket							1	1	2				2
crocodile				1		1	1	1	2	2	2	2	4
crocus							1	1	2				2
crop	1	1	1		2	5	5	8	17	3	4	7	24

word	Ti	Co	NW	SP	RD	Total	EvDa U	EvDa C	EvDa S	Dy Bio U	Dy Bio C	Dy Bio S	Total
cross	2	1	1	1	1	6	1	1	1				1
cross breed	2	2	1	1	1	7				1	1	1	1
cross breeding										1	1	1	1
cross fertilize	1					1	1	1	2	1	1	1	3
cross fertilization	1					1	1	1	2	1	1	1	3
cross pollination	1	1			1	3	1	1	1	2	4	5	6
crustacean							3	6	7	2	2	4	11
crystal	2			3		5	1	1	1				1
crystalline	1			1	1	3	1	1	1	1	1	1	2
crystalization	2					2	1	1	1				1
cuckoo							1	1	1				1
cucumber										1	1	1	1
cultivate	8	1	1	3	7	20	6	7	10	3	3	5	15
cultivation	3	2		3	1	9	4	6	6				6
culture	9	7	7	2	12	37	2	2	2	2	2	3	5
curable	1	3			4	8							
cure	1	9	11	3	11	35	2	3	9	2	2	4	13
cut							2	2	5				5
cuticle		1			1	2							
cutting							1	1	2	1	1	1	3
cutworm							1	1	1	2	2	2	3
cytology		1			1	2	1	1	1	1	1	1	2
cytoplasm		1			1	2	2	2	2	2	3	4	6
cyst					1	1	2	2	5				5

word	TI	CO	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
daddy long legs							1	1	1	1	1	1	2
dahlia							1	1	1	1	1	1	2
dairy				1	2	3				1	1	1	1
dairying							1	1	1	1	1	1	2
dam	1					1	1	1	2	2	2	3	5
damage		1	1			2	3	3	5	2	2	4	9
dandelion		1				1	2	3	4	2	2	2	6
daughter cell					1	1	3	3	3	3	3	3	6
DDT	6	9	6	8	16	45							
dead	1	1	1	2	1	6	5	7	13	7	8	11	24
deaf			1	1	1	3	2	2	3				3
decay	2	2	2		9	15	4	7	19	10	15	16	35
deciduous							2	2	5	1	1	3	8
decompose	3	1	3		1	8	2	3	4	1	1	1	5
deer							3	4	6	3	3	6	12
defect	1	1	2	1	2	7	2	2	3	2	2	2	5
defense							4	4	4	1	1	3	7
defenseless							1	1	1				1
deficiency			1	1	3	5	2	2	2	2	4	6	8
defoliate	1					1				1	1	1	1
degree							1	1	1	1	1	1	2
degenerate							1	1	1	1	1	1	2
dehydrate	4			1	4	9				1	1	1	1
Delphinum										1	1	1	1

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
demonstrate										3	3	4	4
demonstration		1		1	1	3	3	3	3	1	1	1	4
dendrite							1	1	1	1	1	1	2
dental	1	1	1		3	6	1	1	1	1	1	1	2
dentist	1			1	1	3	1	1	1	1	1	1	2
dependent organism							3	4	4	4	4	6	10
depopulate										1	1	1	1
deposit	2	2	1			5	3	3	7	9	10	13	20
depress										1	1	3	3
deprive										1	1	1	1
dermis					1	1	1	1	1	1	1	2	3
descendant	4	1			3	8	1	2	5	2	5	7	12
description							1	2	2	2	2	3	5
desert	5	2		3		10	2	3	6	3	4	8	14
deteriorate	1				1	2	1	1	1	1	1	1	2
deterioration			1	1		2							
determiner							1	1	1	1	1	1	2
development		1	1		1	3	5	10	18	5	16	16	34
devour				1		1	1	1	1	1	3	4	5
diabetes		2	1	4	1	8	1	2	4	1	1	3	7
diagnosis	1	1	6	5	10	23	1	1	2	3	5	6	8
dilate					1	1	1	1	1	1	1	1	2
diaphram					4	4	1	1	3	1	1	3	6
dicot							1	2	4				4

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
dicotyledon							1	2	2	4	4	5	7
die	3	1	1	5	4	14	7	10	16	8	7	10	26
diet	8	12	11	11	15	57	2	3	8	4	6	16	24
diffusion	2	1				3	2	3	3	2	2	2	5
digest	2	3	1		3	9	2	3	15	2	4	9	24
digestion	1	1	1		3	6	2	3	13	2	5	10	23
digestive juice					1	1	1	1	3	1	1	3	6
digestive system							4	5	7	2	5	6	13
digestive tract					1	1	1	1	2	1	1	3	5
dinosaur	5	3	1	2	1	12	1	1	2	2	2	4	6
diptheria			1	1	1	3	1	2	3	2	4	5	8
discharge		1	1		1	3	1	1	2	2	2	4	6
disease	19	10	25	22	47	123	3	7	23	4	12	36	59
disease germ							1	1	1	1	1	1	2
disease resistant			1	1	1	3	1	1	1	1	1	1	2
disinfectant		1	1	1	3	6	1	1	1	1	1	1	2
dislocation		1				1				1	1	2	2
disorder			1		3	4	1	1	1	1	1	4	5
dissect	1		1	1	1	4	2	2	3	1	1	1	4
disseminate					1	1							
dissemination	1				1	2				1	1	1	1

word	Ti	Co	NW	Sp	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
dissolve	1		3	1	4	9	4	10	20	2	2	2	22
distribution							1	1	1	1	4	5	6
division of labor							3	4	5				5
dizziness				1	1	2	1	1	1	1	1	1	2
dizzy										1	1	1	1
doctor	1			4	1	6	2	3	12	1	3	6	18
dog			1	1	1	3	3	5	12	3	6	8	20
domestic	1	2	4	7	5	17	4	5	9	3	3	6	15
domesticate	1	3		3	1	8	2	2	2	1	2	3	5
domestication				1	1	2							
dominance							1	1	1	1	1	1	2
dominant	3			2		5	1	1	3	1	1	3	6
donkey							1	1	1	1	1	1	2
donor			1	1	3	5				1	1	1	1
dormant		1		1	2	4	3	3	8	2	2	3	11
dorsal							2	2	2	4	4	6	8
dragon fly							2	2	2	2	2	2	4
drainage										2	2	4	4
drink		1	1	1	1	4							
drone		1				1				1	1	1	1
drouth	1				8	9	2	2	2				2
drug			1	1	9	11	1	2	4	2	3	5	9
dry farming							1	1	2				2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
duck			1		2	3	3	3	5	4	5	5	10
duckbill platypus				1		1							
duct					1	1	2	2	5	1	1	4	9
ductless							1	1	1	1	1	2	3
dust	1				1	2	1	1	3	2	2	3	6
dust bowl		1			1	2	1	1	1	1	1	1	2
dust storm		1				1	1	1	1				1
Dutchman's Breeches							1	1	1	1	1	1	2
dysentery		1	5	2	7	15	2	2	2	1	2	5	7
eagle		1				1	2	2	3	2	2	2	5
ear	2	1	2		1	6	3	3	8	2	4	5	13
eardrum		1	2			3	1	1	1	1	1	1	2
earthworm			3			3	4	9	14	3	5	7	21
eat	2	1	3			6	2	4	5	6	8	9	14
echinoderms							1	1	1	3	3	3	4
ecology							1	1	1	1	1	1	2
ectoderm					1	1	2	2	2	2	3	4	6
eczema			2	1	1	4	1	1	1	1	1	1	2
edible	2	1		1	4	8	1	1	2	1	1	2	4
eel				2	1	3	2	2	3	1	1	1	4
effort							1	1	1	1	1	1	2
egg	7	9	12	7	10	45	3	5	20	9	25	34	54
egg cell							2	2	3	2	5	9	12

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
eggshell		1			1	2	1	1	2				2
eggyolk					1	1	1	1	1				1
elastic			1			1	2	2	3	2	2	2	5
elbow							1	1	1	1	1	2	3
electric eel							2	2	4	1	1	1	5
element	1	1	1	1	2	6	2	3	7	4	4	8	15
elephant			1	1		2	4	4	4	2	5	6	10
eliminate	8	1	4	2	11	26	3	3	11	1	3	13	24
elimination		1	2	1	2	6	3	3	6	1	3	8	14
elk		2				2	4	4	4	1	1	1	5
elm							1	1	3	2	2	2	5
embryo	3	1	4	1	2	11	2	2	5	3	8	10	15
embryology		1	2	1	1	5	1	1	1	2	2	5	6
emerge							1	1	1	2	2	2	3
emergency					1	1	1	1	1	1	4	6	7
emotion	1	4		2	6	13				2	3	4	4
emotional	5	6	3	5	16	35				2	2	3	3
enamel					1	1	1	1	1	1	1	1	2
endocrine			1	1	1	3	1	1	1	2	2	4	5
endoderm					1	1	2	2	4	2	2	4	8
endosperm		1				1	1	1	1	1	1	2	3
enemy	5	4	1	1	5	16	3	6	24	4	12	18	42
energy	4	1	15	7	8	35	4	6	25	3	3	7	32
enrich	1		1	2	2	6	1	1	1	2	2	2	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
entomology	2	1			1	4				1	1	2	2
environment	8		2	3	2	15	5	8	14	10	13	28	42
environmental			2	1	1	4	3	3	5	5	5	5	10
enzyme			2	3	1	6	3	3	8	4	5	7	15
epidemic		4	7	3	8	22	1	2	3				3
epiglottis							1	1	2	1	1	1	3
epidermis		2			1	3	2	3	6	3	3	5	11
equilibrium	3				1	4	1	1	1	1	1	1	2
eradication	1		2	1	1	5	2	2	2				2
ergosterol							1	1	1				1
erepsin							1	1	2	1	1	1	3
erosion	5		1	1	2	9	1	2	5	3	4	7	12
escape							4	7	10	2	4	5	15
esophagus		1	1		1	3	1	2	5	2	3	4	9
eugenics	1	1		1		3	1	1	1				1
Eustachean tube				1	1	2	1	1	1	1	1	1	2
European corn barer							2	2	2				2
evaporate							3	3	5	2	2	2	7
evaporation	2		1	1		4	3	3	6	2	2	3	9
everglades					1	1	1	1	1				1
evergreen			1	1	1	3	3	3	3	2	2	4	7
evolution	4	1	10	4	1	20							
evolutionary	3	1	4	1	1	10							

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
examination	4	1	3	10	10	28	5	5	5	3	7	10	15
excrement	1	1		1		3							
excreta	1			1	2	4	1	1	2	1	1	1	3
excrete	1	1			1	3	1	2	5	3	5	6	11
excretion		1			1	2	1	3	10	3	5	7	17
excretory system							2	2	2	1	1	1	3
exercise		1		1	2	4	1	1	3	2	2	3	6
exhalation							1	1	3	1	1	2	5
exhale			1	1		2	1	1	1				1
exhaust							1	1	4	1	1	2	6
exhaustion		1		1	3	5	1	2	3	1	1	1	4
exist	1	1		1	1	4	1	3	10	6	8	11	21
existence	2	4		6	3	15	2	2	3	6	8	16	19
exoskeleton							2	2	7	4	4	5	12
expedition	1		1		1	3	2	3	3	1	1	1	4
experience							5	5	5	6	9	14	19
experiment	29	9	25	11	16	90	7	10	30	6	9	16	46
experimental	12	9	3	4	4	32	1	1	1	2	4	6	7
expose							2	2	5	1	1	3	8
exposure							2	2	4	1	2	3	7
exterminate	4	2	1	3	2	12	2	3	7	3	3	3	10
extermination		3	2	1	1	7	2	2	2	2	2	2	4
external	1		2			3	3	3	4	1	2	4	8
extinct	8	3	2	4	3	20	3	3	3	3	3	5	8

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
extinction	3	2		1	3	9	1	1	1	2	2	2	3
extract	5	3	8	4	8	28	1	1	1	1	1	1	2
eye	1	3	4	1	5	14	2	3	10	8	14	23	33
eyeball			1			1				1	1	2	2
eyebank					1	1							
eyebrow			1			1							
eyelash										1	1	1	1
eyelid		1			1	2	1	1	3	1	1	2	5
eyesight		1	1	2	1	6	1	1	2				2
eyespot							1	2	2	2	2	3	5
fabric					1	1				1	1	2	2
face							1	1	1	1	1	3	4
facial			1	1	1	3				1	1	3	3
Fahrenheit		1		1	1	3	1	1	1	2	2	2	3
faint							1	1	1	1	1	1	2
falcon		1		1		2	1	1	1	1	1	1	2
family		1	1	2		4	2	2	4	4	5	10	13
fang				1		1	1	1	1	1	1	2	3
fat		3	1	2	1	7	3	5	16	4	10	16	32
fatal	4	1	8	4	10	27	2	2	5	4	4	4	9
fatigue	2	1	2	1	10	16	1	1	1	2	2	4	5
fatty acid	3					3	1	1	3	1	1	1	4
fauna	4	1	3	1	1	10	1	2	2	1	1	3	5
fear			1	1		2	1	1	1	1	2	3	4
feather		4		3	4	11	2	2	7	2	2	7	14

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
feathery		1				1				1	1	2	2
feces					1	1	1	1	3	1	1	1	4
feeble	1					1	1	1	1	1	1	1	2
feeblemindedness							1	1	1	2	2	3	4
feed	2	1	4	2	4	13	2	4	11	10	10	14	25
feline		1				1	1	1	1	1	1	2	3
female	34	18	16	13	22	103	6	7	13	5	5	22	35
feminine	1	1	1	2		5							
femur							1	1	1	2	2	2	3
fermentation		1				1	2	2	4	3	3	3	7
fern	1			1		2	2	3	8	5	5	8	16
fertile	7	3	2	3	3	18	2	3	6	3	4	7	13
fertilization	2		2	1	1	6	2	3	4	5	10	15	19
fertility	6	2	1	2	2	13	1	1	2	4	4	6	8
fertilize	6	1	4	2	6	19	2	4	10	4	4	12	22
fertilizer	1	2	1	4	6	14	2	2	2	4	4	6	8
fetal	7		1	1	1	10							
fetus					1	1				1	1	1	1
fever	1	1	4	1	1	8	1	1	1	2	2	3	4
fiber	1		2	2	1	6	2	3	5	3	3	9	14
fibrin			2		1	3	1	1	1	1	1	1	2
fibula	1	1				2	1	1	1	1	1	1	2
filament							2	2	4	2	3	5	9
filial				1		1	1	1	1	1	1	1	2

word	TI	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
filter		1	1		1	3	1	1	2	1	1	5	7
filterable		1				1	1	1	1				1
filterable virus							1	1	2	1	1	5	7
filteration			1			1	1	1	2	1	1	1	3
filth	1		1	1	2	5	1	1	2	1	1	1	3
filthy				1		1	1	1	1	1	1	2	3
fin			2			2	1	2	5	3	3	5	10
finger				1		1	1	1	2	1	1	3	5
fir	1	1	1			3				4	4	5	5
fire							1	1	3	2	2	2	5
first aid							1	1	2	1	3	4	6
first degree burn		1				1	1	1	1				1
fish		4	3	2	4	13	5	9	35	14	15	28	63
fishery										1	1	1	1
fission					1	1	2	2	2	2	2	2	4
flagellum					1	1	3	3	3	3	3	5	8
flat worm							3	4	5	1	1	2	7
flavor			1		1	2	1	3	8	1	1	3	11
flesh		1	1	1		3	2	2	7	8	14	15	22
flexible		1		1		2	1	1	1	3	3	4	5
flexibility										1	1	1	1
flipper		1		2		3							
flock				1		1							
flora	1	1	3			5				1	1	3	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	Bio S	Total
floral										1	1	1	1
flour			1		1	2							
flower	1	3		1	1	6	4	6	18	8	8	17	35
flowering							2	3	6	6	6	6	12
fluke										1	1	1	1
fluid										9	10	12	12
fly	2	1	1		3	7	6	7	15	5	5	11	26
fodder										1	1	1	1
foliage			1	2	1	4	1	1	1	2	3	8	9
food	4	2	1	1		8	6	11	49	12	30	43	92
food difficiency			1			1	1	1	1				1
food poison			1		1	2	1	1	1	1	1	1	2
foot		2			2	4	2	2	6	8	8	12	18
foot print							1	1	1	1	1	1	2
forage							1	1	1	1	1	1	2
forehead		1	2		1	4							
forest	2			1	3	6	2	3	16	3	10	13	29
forestry		1				1	1	1	1	1	1	4	5
form				1		1	4	5	8	15	16	20	28
fossil	10	4	6	3		23	2	2	9	3	3	6	15
fossilize		1		1	2	4	1	1	1				1
fowl	1	1	1		1	4	1	1	1	3	3	3	4
fox		2				2	2	2	4	4	5	6	10
fracture			2	1	1	4	1	1	1	1	1	4	5
fragrant	1	2		1		4				1	1	2	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
freak				1		1	1	1	1				1
freeze	6	3	2	2	1	14	3	3	5	2	2	2	7
fresh		1		1		2	4	5	11	4	9	11	22
friction							2	2	4	3	3	3	7
frog		1	1			2	4	7	11	6	9	12	23
fruit		1	2	2	2	7	2	3	16	6	12	25	41
fruit fly			1			1	3	3	3	2	2	3	6
fruit juice				1		1	1	1	1	1	1	1	2
fruit moth										1	1	1	1
fry					1	1	1	1	1	1	1	1	2
fuel		1			2	3	2	2	6	3	4	9	15
fumigate		1	1	1		3				1	1	1	1
fumigation										1	1	2	2
function		1	2	1	1	5	7	18	25	11	20	35	60
functional										1	1	1	1
fungicidal		1	1	1		3							
fungicide		2	1	1		4				1	1	1	1
fungus		1	12	3	1	17	3	4	10	5	5	8	18
fur		2			1	3	2	2	9	1	1	3	12
furbearer		1				1	1	1	1	1	1	5	6
furniture							1	1	1				1
furrow							1	1	1				1
gall bladder			1		1	2	1	1	3	1	1	2	5
gall stone					1	1	1	1	1				1

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
game	1	3		1	3	8	2	2	2	3	3	4	6
gander		2			1	3							
ganglion							1	1	2	2	2	4	6
gangrene										1	1	2	2
garbage		1	1	1	1	4	1	1	2	1	1	1	3
gastric		2			1	3	1	2	2	1	1	1	3
gastric gland							1	1	1	1	1	1	2
gastric juice	1					1	1	1	3	1	1	2	5
gastric lipase							1	1	2				2
gauze			3			3	2	2	3	1	1	3	6
gelatin	1		4		2	7	1	1	1	1	1	3	4
gelatinous					1	1	1	1	1	1	1	3	4
gene	8		5		2	15	1	1	3	1	4	5	8
generation	12	2	2	13	9	38	1	3	8	2	5	13	21
genetics	11	1	2	1	1	16	1	1	2	2	3	4	6
geneticist	2		2	1	2	7				1	1	2	2
genital		1	2		1	4							
genius	2			2	2	6	1	1	1				1
genus	1		3	1	1	6	2	2	3	1	2	5	8
geologic							1	1	1	1	1	1	2
geological				1		1	1	1	1	1	1	1	2
geologist	1			2		3							
geology					1	1				2	2	2	2
germ	6	3	20	2	10	41	1	3	9	4	6	14	23

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
germicidal		1	1	1		3	1	1	1	1	1	1	2
germicide		1	1	1	1	4	1	1	2	1	1	2	4
germinate	1	1	2	1		5	1	2	2	1	1	1	3
germination		2	1			3	1	1	2	2	2	3	5
giant	1		1			2	1	1	3	1	1	4	7
gill		2				2	2	3	9	4	7	11	20
gill cover							1	1	1				1
gill raker							1	1	2				2
gizzard							2	2	2				2
gland	2	4	8	2	9	25	1	4	20	4	5	15	35
glandular		1	1	1	1	4	1	1	1	3	5	6	7
glottis							1	1	3	1	1	1	4
glucose	1		2	1		4	1	1	1	2	2	2	3
glue	1		1			2	1	1	1	1	1	1	2
glycerin					1	1	1	1	1				1
glycerol					1	1	1	1	3	1	1	2	5
gnaw	1					1	1	1	2				2
goat							1	1	3	1	1	1	4
golden eagle				1	1	2							
gold fish							1	1	1	1	1	2	3
gonorrhea			1		1	2							
goose		1				1	1	2	5	3	3	4	9
gooseberry							1	1	1	1	1	1	2
gopher							1	1	4				4
graft			1	1	1	3	1	1	1	1	1	2	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
grafting				1		1	1	1	1	2	2	2	3
grain	2	1	3		1	7	2	4	13	6	6	11	24
gram			1		1	2	1	1	1				1
grandparent							1	1	1				1
grape				1	1	2	1	2	4	2	2	4	8
grapefruit							1	1	2	1	1	1	3
grape sugar							1	1	1	1	1	1	2
grape vine							1	1	1	1	1	3	4
grass	1	1	2	2	3	9	2	2	8	8	8	22	30
grasshopper	1		2		1	4	2	3	11	3	5	5	16
gravity		2		1	1	4	2	2	4	2	2	2	6
gray matter							1	1	1	1	1	1	2
graze	2			2	1	5	1	1	1	2	2	3	4
grease		1		1		2	1	1	1				1
grease wood		1				1							
great horned owl				1		1							
greenhouse	1	3	2	1	1	8	1	1	2	3	3	3	5
green manure				1		1	1	1	1				1
grind							2	2	2	1	1	1	3
ground squirrel			1	1		2	1	1	1	1	1	1	2
grow							6	6	8	5	8	14	22

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
growing season							1	1	1	1	1	1	2
growth							3	4	20	5	8	21	41
guard cells					1	1	1	1	2	1	1	2	4
guinea pig							1	1	1	2	2	2	3
gull							1	1	1	1	1	2	3
gullet				1		1	1	1	1	2	2	5	6
gully	1			1	1	3	1	2	3	2	2	3	6
gully erosion							1	1	1				1
gum			1		3	4	1	1	2	1	1	2	4
gut					2	2							
gymnosperm							1	1	1	2	2	2	3
habit	3	3	1	3	6	16	3	5	20	7	10	16	36
habitat	1	1	2	5	1	10	3	4	11	9	12	23	34
hair			1	1	1	3	2	4	9	7	7	15	24
hairy							1	1	2	1	1	1	3
halibut							1	1	1	1	1	1	2
hammer			1	1	1	3	1	1	1	1	1	1	2
hand							1	1	1	2	3	6	7
hardening of the arteries					1	1	1	1	1				1
hardy				1		1	1	1	1	1	1	1	2
hare				1		1				1	1	1	1
harvest	1				4	5	1	1	2	1	1	1	3
hashish							1	1	1	1	1	1	2
hatch	1	1	2	1		5	2	3	8	6	8	11	19

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	Bio S	Total
hatchery		1	1	2		4	1	1	3	2	2	3	6
hawk		3		1		4	1	1	5	3	3	3	8
hay	1		1	2	2	4	1	2	3	1	1	1	4
hay fever			1	1	1	3	1	1	1	1	1	1	2
head	1	1	2	1	1	6	2	4	12	8	9	13	25
headache	1	2	1	1	4	9	1	1	1	1	1	3	4
heal		1		1	1	3	1	1	4	1	1	3	7
health	1	6	2	7	7	23	3	5	16	9	15	18	34
healthy	1	1	2	4	10	18	2	2	6	8	10	12	18
hear			1		2	3	1	1	3	2	3	4	7
heart		3	4	1	2	10	2	3	11	8	12	18	29
heel										1	1	1	1
height				1		1	1	1	1	1	1	2	3
hemlock							1	1	2	3	3	3	5
hemoglobin		1				1	1	1	1	1	1	1	2
hemorrhage		3	4	3	18	18				3	3	5	5
hemp							1	1	1	1	1	1	2
hen				1		1	1	1	1	1	1	1	2
herb		1	1			2	1	2	2	2	2	4	6
herbaceous							1	1	1	1	1	3	4
herbivorous				1	1	2	1	1	1	1	1	2	3
hereditary	6	1	6	1	1	15	1	1	1	3	3	6	7
heredity	6	1	6	1	3	17	1	1	3	3	3	8	11
hermaphrodite	1					1	1	1	1	1	1	2	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
hermaphroditic	1					1	1	1	1				1
hermaphroditism	1					1							
hernia					1	1							
heron		1			1	2	1	1	1				1
hibernate		1		1	1	3	3	3	3	4	4	5	8
hibernation		4		2	1	7	3	3	3	4	4	5	8
hinge joint							1	1	1	1	1	3	4
hip							1	1	2	1	1	2	4
hives		1	7	1	3	12	2	1	3	1	1	2	5
hog							1	1	1	4	4	4	5
hold fast							1	1	2	1	1	1	3
home		1		1		2	1	1	1	3	3	7	8
homing instinct				1		1							
homogenize		1	1	1		3							
honey		1				1	1	1	1	1	1	1	2
honey bee		1	1			2	3	3	3	2	2	3	6
hoof				1		2	1	1	3	1	1	1	4
hookworm							1	1	1	3	3	3	4
hormone	7	5	12	3	9	36	1	2	3	3	4	5	8
horn							2	2	7	2	2	2	9
horned toad							1	1	1	1	1	1	2
horse		2	2	1	1	6	1	2	9	5	6	10	19
horsetail rush							1	1	1	2	2	3	4

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
horticulture	1	3		3	1	8							
hospital	5	8	4	10	7	34	1	1	2	1	1	3	5
host	4	2		1	2	9	3	3	9	3	3	3	12
hothouse			1	1		2							
house fly							2	2	2	2	3	4	6
human	10	3	11	3	3	30	1	9	15	9	13	24	39
humane				1		1	1	1	1				1
humerus	2					2	1	1	1	1	1	1	2
humidify							1	1	1	1	1	1	2
humidity	2	1	2	1		6	1	1	1	1	1	1	2
humus				3	2	5	1	1	4	2	3	3	7
hunger		1	1	2	1	5	1	1	1	1	1	1	2
hungry		1	1	1		3	1	1	1	1	1	2	3
hyacinth							2	2	2	3	3	3	5
hybrid	5	3	1	4	4	17	1	1	3	3	3	3	6
hybridization	1	1	1	1	1	5				2	2	2	2
hydra			1			1	4	7	10	3	3	3	13
hydrochloric acid			1			1	1	2	3				3
hydrogen			2			2	2	2	4	2	3	4	8
hygiene	1	1	1	1	4	8	1	2	5	3	3	5	10
hygienic										1	1	1	1
hypnosis	1	1	2		2	6							
hypnotic	1	1	1	1		4							
hypodermic		1			1	2	1	1	1				1
hypothesis				2	1	3	1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
identical					1	1	1	1	1	1	1	2	3
identification							1	2	2	2	2	4	6
idiot			1	1	1	3	1	1	1	1	1	1	2
ignorance		1		1	3	5	1	1	1	1	1	1	2
ignorant							1	1	1	1	1	1	2
iguana							1	1	1	1	1	1	2
ill		1			1	2	1	2	3	2	2	5	8
illnourish					1	1	1	1	1	1	1	1	2
image	1					1	1	1	1	1	1	1	2
imagination	1				1	2	1	1	1				1
imitation							1	1	1	1	1	2	3
immature				2		2	1	1	1	2	2	2	3
immigrant	7	1	1	1	1	11	1	1	1	1	1	1	2
immovable							1	1	1				1
immune	3	3	3	1	4	14	1	1	4	2	2	5	9
immunity	2	2	1	1	2	8	2	2	2	2	2	5	7
immunization		2	1	1	3	7	1	1	2	1	1	1	3
immunize		1	5	1	4	11	1	1	1	1	1	1	2
improvement							2	2	2	2	3	6	8
impulse	2				3	5	1	1	2	1	1	3	5
impure							1	1	1	2	2	3	4
impurity							1	1	1	2	2	2	3
inactive		1	1			2	2	2	6	2	2	5	11
inaudible				1	1	2							
inbreed	1	1			2	4	1	1	1				-1

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
incinerator					1	1				1	1	1	1
incised wound							1	1	1	1	1	1	2
incision	2			1		3				1	1	1	1
incisor		1		1		2	2	2	3	1	1	1	4
incubate	3		4	1	3	11	1	1	1	1	1	1	2
incubation		3	2	1	2	8	1	1	1	1	1	1	2
incurable	3	1		1	1	6	1	1	1	1	1	1	2
indent							1	1	1	1	1	1	2
independent			1	1	1	3	2	5	12	3	3	5	17
independent organish							1	1	1				1
indigestion		1	1		4	6							
indigestible			1	1		2	1	1	1				1
individual	3	2	1	1	3	10	5	12	19	8	15	19	38
indistructible							1	1	1	1	1	1	2
inedible							1	1	1	1	1	1	2
infancy		2	1	2	3	8	2	2	2	1	1	1	3
infant	8	4	1	7	4	24	1	1	1	1	1	1	2
infantile paralyses							1	1	1	1	1	1	2
infect	5	5	5	3	6	24	1	1	1	6	8	8	9
infection	5	4	26	8	12	55	1	3	11	6	8	13	24
inferior	5			3	2	10	1	1	1	2	2	2	3
infertile		1	2			3	1	1	1	1	1	1	2
infest	5	1	1	1		8	2	2	5	3	4	6	11
infestation			1	1		2	1	1	2				2
inflame		1	1			2	1	1	3	1	1	1	4
inflammation			6		4	10	1	1	1	1	4	5	6

word	Ti	Co	NW	SP	RD	Total	Ev Da Bio U	C	S	Dy Bio U	C	S	Total
ingest		1			1	2	1	1	1	1	1	1	2
ingestion							1	2	2	1	1	1	3
ingredient	1			2	2	5	1	1	1	6	6	8	9
inhabit	2	2	1	2	3	10	6	10	20	5	9	9	29
inhabitant	3	3	2	2	1	11	6	10	22	6	6	6	28
inhalation	1		2		2	5	1	1	1	1	1	1	2
inhale	1		4	1	3	9	1	1	2	1	1	3	5
inherit	6	3	4	4	1	18	1	2	9	3	3	8	17
inheritance	2	1		1	3	7	1	2	3	3	3	6	9
injure	1	5	5		5	16	3	7	24	1	4	6	30
injury		6	10	2	6	24	3	7	10	2	6	12	22
inoculate	1	1	1	1	1	5	1	1	2	1	1	1	3
inoculation		1	1	2	2	6	1	2	4	1	1	3	7
inorganic				1	1	2	1	1	4	1	1	1	5
insane	1	1	2	2	6	12	1	1	1	1	1	1	2
insanity		2		1		3	1	1	1	1	1	2	3
insect	15	8	4	4	13	44	7	11	38	7	20	29	67
insecticidal		1	1	1	1	4							
insecticide	5	2	5	3	4	19	1	1	1	1	1	1	2
insemination	6	1	1			8							
insensitive			1			1							
insoluble	2		2			4	1	2	3	1	1	1	4
inspiration							1	1	1	1	1	1	2
instinct	2	10	1	8	8	29	1	1	7	1	1	2	9

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
instinctive	3	1		4	1	9	1	1	3	2	2	4	7
instrument	5	1		1	2	9	1	1	1	2	2	4	5
insulate		1				1	1	1	1				1
insulation	1				1	2							
insulin		1	1	1	2	5	1	1	1	1	1	2	3
intelligence	8	4	4	4	7	27	1	1	2	1	1	2	4
intelligent	5	5	1	11	5	27	1	1	3	3	4	6	9
intercellular										1	1	2	2
internal	2	2		3	3	10	2	2	6	6	6	8	14
interior		1				1	1	1	2	1	1	2	4
intestinal	2	3	4	2	2	13	1	2	5	5	7	8	13
intestine	1	1		1	3	6	2	3	12	3	7	13	25
invade	2		2	1	1	6	2	2	4	2	2	2	6
invader		1	1	1		3	1	2	3	2	2	3	6
invertebrate			1			1	2	3	9	2	2	3	12
investigation	1	2	2	2	1	8	3	3	8	4	5	7	15
invisible	2	2	3	2	5	14	1	1	1	1	1	1	2
involuntary							1	1	3	1	1	2	5
iodine					5	5	1	2	4	6	6	7	11
iodized salt							1	1	1	1	1	1	2
iris				1		1	1	1	2	3	3	6	8
iron			1	1		2	2	2	5	2	3	4	9
irradiation				1	1	2							
irrigate	3	2		2	1	8	1	1	2	1	1	1	3
irrigation	4			5	7	16	1	1	2	1	1	1	3
irritable	1		1	4	2	8	2	2	2	1	1	1	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
irritate		3	2		2	7	2	2	3	2	2	6	9
irritation		2	3	2	3	10	1	2	2	2	2	2	4
Isle of Langerhan				1		1	1	1	1				1
isolate				1	2	3	1	1	3	3	5	6	9
isolation							1	1	2	1	2	4	6
ivory	1	1				2	1	1	1	1	1	1	2
ivy							1	1	1	1	1	1	2
jack rabbit							1	1	1	1	1	2	3
jaw	2		1	1	1	5	2	2	7	2	3	9	16
jaw bone	2	1	3	1	1	8	1	1	1	1	1	1	2
jelly fish			2			2	3	3	3	3	4	7	10
joint	1	2	2	1	1	7	1	2	5	5	5	8	13
juglar vein							1	1	1	1	1	2	3
juice	1	1	3	1	1	7	1	2	7	8	9	12	19
jungle	2	1		4	3	10	2	2	2	2	2	2	4
juniper										1	1	1	1
kangaroo							2	2	3	3	3	4	7
keen		1				1	1	1	1	2	2	2	3
Kentucky blue grass										1	1	1	1
kernel				1	3	4	1	1	1				1

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	Bio S	Total
key				1		1	1	1	2	1	1	1	3
kidney		3	7	4	4	18	1	2	5	4	8	19	24
kill	3	4	4	2	4	17	7	15	26	5	8	27	53
kilogram							1	1	1	1	1	1	2
kinetic							1	1	1	1	1	1	2
kinesthetic sense	1					1	1	1	1				1
kingdom	1		2		1	4	2	2	3	6	7	8	11
kingfisher		1				1	1	1	1	1	1	2	3
kiss							1	1	1				1
kitten		3				3							
knee		1				1				1	1	2	2
labor	1	1	1	1		4	4	4	4	3	3	5	9
laboratory	2	4	13	21	20	60	4	4	4	4	4	12	16
laceration				1		1	1	1	1				1
lady bug							1	1	2	2	2	2	4
lady's slipper							1	1	2	1	1	1	3
lamb		1		1		2							
large intestine							1	1	1	1	1	2	3
laryngitis							1	1	1				1
larva	5	5	4	1	3	18	3	5	11	5	8	10	21
larval	1	1		1	1	4	1	2	4	1	2	2	6
larynx		1			1	2	1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
law							3	3	5	1	1	1	6
lawn										2	2	4	4
lazy							1	1	1	1	1	1	2
leaf	1	1	6	3	1	12	6	15	27	8	8	27	54
leaf scar							1	2	2				2
learn		1		1		2	1	2	2	1	1	3	5
learning							1	2	3	1	1	3	6
leather							1	1	1	1	1	2	3
leathery					1	1	1	1	1	2	2	4	5
leg		2	1		2	5	2	3	11	2	5	12	23
legume				1	2	3	1	2	2	7	8	10	12
leguminous					1	1				1	1	1	1
lens			2			2	1	1	2	2	2	2	2
lenticel	1					1	1	1	3	2	2	3	6
leopard					1	1				1	1	1	1
leprosy		1	1	1		3	1	1	1	1	1	2	3
lettuce							1	1	1	3	3	3	4
lichen	1				3	4	1	1	1	2	2	3	4
life cycle							3	4	7	2	2	3	10
ligament	1	1	1		1	4	1	1	1	1	1	2	3
lilac							1	1	2				2
lily							1	2	4	2	2	5	9
limb							2	2	4	8	10	16	20

word	Ti	Co	NW	Sp	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	Bio S	Total
lime				1	1	2	1	2	2	4	4	6	8
lion					1	1	2	2	2	4	5	6	8
lip							1	1	1	2	2	2	3
liquid	1	1	3	1	5	11	3	10	20	4	9	10	30
liver		2	4	1		7	2	3	10	6	6	11	21
liverwort							1	1	3	1	1	2	5
livestock							1	1	1	1	1	1	2
lizard		1			1	2	2	3	6	2	5	6	12
lobster							3	3	4	1	1	1	5
lock jaw							1	1	1	3	3	3	4
locomotion					1	1	3	3	6	3	7	10	16
locust			1			1	1	1	1				1
log							2	2	3	4	4	4	7
louse		1		1	1	3	1	2	2	2	2	2	4
lubricate		2			2	4	1	2	3	1	1	1	4
lumbar				1		1	1	1	1	1	1	1	2
lumber			2			2	1	2	3	2	2	4	7
lung			3	1	1	5	3	3	13	4	8	17	30
lungfish							1	1	1	2	2	2	3
lymph		1			4	5	1	1	2	2	2	4	6
lymph node							1	1	2	1	1	1	3
lymphatic					2	2	1	1	1	1	1	1	2

word	Ti	Co	NW	Sp	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
mackeral										1	1	1	1
maggot				1	1	2	2	2	2	2	2	2	4
magnify							1	1	1	1	1	1	2
magnification							1	1	1	1	1	1	2
malaria	7	2	10	1	5	25	1	1	3	3	3	6	9
malarial	1	1	1	1	1	5	1	1	3	1	1	2	5
male	35	16	16	8	8	83	5	7	12	6	12	16	28
malignant		1	1		1	3							
malnutrition	1	1	4	4	3	13	1	1	1	1	1	2	3
maltase							1	1	2	1	1	2	4
mammal	9	2	3	6	6	26	6	7	18	5	9	13	31
mammalian		1	1	1	1	4	1	1	1	1	1	1	2
mammary gland			1			1	1	1	3	1	1	1	4
mammoth							1	1	1	1	1	1	2
man	2	1	1	3		7	6	13	29	11	18	26	55
manufacture		1			3	4	4	12	19	6	14	17	36
manure	2			3	4	9	1	1	2	1	1	3	5
maple							3	5	5				5
marginal	2				1	3							
margin							2	3	3	6	6	7	10
marijuana							1	1	1	1	1	1	2
marine	5	1	1	1	1	9	3	3	3	4	4	5	8
marrow					1	1	2	2	2	2	2	2	4

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
marsh							1	1	2	3	3	3	5
marsupial	1		1		3	5	2	2	2	3	3	3	5
massage					1	1				1	1	1	1
masticate										1	2	3	3
mastoid			1			1	1	1	1				1
mate	8	6	1	5	11	31	2	2	2	2	2	3	5
material							6	8	8	3	4	7	15
maternity	1	3		1	1	6							
mating	3	4	1	4	2	14	1	1	2	2	2	3	5
matter		1	1	1		3	1	2	8	3	3	3	11
mature	5	2	1	6	6	20	3	8	18	6	8	10	28
maturity	5	4	1	3	5	18	1	1	2				2
maze	2					2	1	2	2				2
meadow lark							1	1	2	1	1	2	4
measles		1	1	1	1	4	1	1	1	2	2	3	4
meat		1	1		3	5	2	2	6	1	1	4	10
meat packing			1			1	1	1	1				1
mechanical							1	1	4	8	8	8	12
mechanism					2	2	1	1	2	1	1	1	3
medical		5	3	17	9	34	1	2	3	6	8	9	12
medicinal	3	1	1	3		8							
medicine	2	1	2	8	6	19	1	3	7	2	2	5	12
medulla							1	1	3	1	1	1	4

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
meiosis							1	1	1				1
membrane	1	2		1	2	6	3	3	8	8	9	13	21
memory		1		2		3	1	1	2	1	1	2	4
meninges		1			1	2							
mental	4		2	3	15	24	1	1	4	4	6	9	13
mentally							1	1	1	2	2	2	3
mesentry							1	1	1	1	1	1	2
mesoderm							1	1	1	2	2	2	3
metabolic	1			1		2							
metabolism	1			1	2	4	1	1	3	1	2	3	6
metamorphic							1	1	2	1	1	2	4
metamorphosis		1				1	2	3	6	2	2	3	9
microbe		4	1	1	6	12	1	1	1	3	6	12	13
micro-organism	2	1	2		2	7	1	1	1	1	1	1	2
microscope	2	3	5	3	6	19	3	4	15	4	4	15	30
microscopic	5	1	8	3	5	22	3	4	13	4	4	15	28
midget							1	1	1	1	1	1	2
migration	2	2	2	8	7	21	2	2	5	2	3	3	8
migratory	2	1		2	2	7	1	1	1	2	2	2	3
milk				1	5	6	4	4	13	5	9	18	31
milk teeth							1	1	1	1	1	1	2
milk weed							1	1	1	1	1	1	2
mimicry				1		1	1	2	2	1	1	2	4
mind					1	1	1	1	3	1	1	2	5
mineral		1		2	7	10	3	4	10	4	5	7	17

word	TI	Co	MW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
mitosis							1	1	1	2	3	4	5
mixture	3	4	4	3	4	18	1	1	3	2	4	9	12
modification							2	2	5	2	2	3	8
modify				1		1	2	4	11	4	4	6	17
moist		2	1			3	1	2	3	2	3	3	6
moisten							4	4	4	6	8	10	14
moisture	1	1	1	3	4	10	4	5	9	6	14	20	29
molar		1				1	2	2	2	1	1	2	4
mold							2	2	10	2	6	6	16
molecule							2	2	5	1	1	1	6
mollusk				1		1	2	2	6	5	6	6	12
molt							2	2	3	2	2	2	5
monkey							2	2	3	2	2	2	5
monocot							2	3	4				4
monotreme							1	1	1	1	1	1	2
moose							2	3	3	3	3	3	6
morning glory							1	1	2	1	1	1	3
mosquito		4	8	1	3	16	3	3	7	5	5	8	15
moss		3				3	3	3	5	5	6	9	14
moth		1				1	3	3	4	4	6	8	12
motion					1	1	1	1	1	2	2	2	3
motor					1	1	1	1	2	1	1	2	4
mountain lion							1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
mouse			1	2	1	4	2	3	7	3	6	6	13
mouth		1	1		3	5	4	4	19	4	8	18	37
movable							2	2	5	1	1	1	6
muck		1	1		2	4							
mucous			1	1	1	3	3	3	3	2	4	7	10
mucous membrane							3	3	3	2	2	4	7
mulberry							1	1	2	1	1	2	4
mule					1	1	1	1	1				1
mumps					1	1	1	1	1	1	1	2	3
muscle	3	4	4	4	6	21	3	3	23	5	6	16	39
muscular	1		2	1	3	7	3	3	8	5	7	9	17
mushroom			1			1	2	2	4	2	2	2	6
musk	1	1		1	1	4				1	1	1	1
mutant			1	1	1	3	1	1	1	1	1	2	3
mutation		2	3	2	1	8	1	1	2	1	2	2	4
mutton							1	1	1	1	1	1	2
nail										3	3	3	3
naked		3	1	3	2	9	1	1	1	2	2	5	6
narcotic							1	1	2	2	2	2	4
nares							1	1	1				1
nasal			1	1		2	1	2	1	1	1	2	4
natural	8	12	5	4	9	38	4	5	8	5	16	20	28
naturalist	2	2		6	12	22	1	1	1				1

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
nature	10	10	4	3	8	35	4	5	7	5	16	21	28
nausea			2	1	6	9	1	1	1	2	2	4	5
nearsightedness				1		1	1	1	1	1	1	1	2
neck							1	1	3	1	2	5	8
nectar	2	1			2	5	2	2	2	2	3	7	9
needle		2		1		3	1	1	1	2	2	4	5
negative	1	1			3	5	1	1	1	1	1	2	3
nerve	3	3	6	2	8	22	1	2	10	7	8	10	20
nerve cell							1	2	3	1	1	1	4
nervous	9	1	2	8	5	25	1	1	2	3	4	8	10
nervous breakdown			1			1				1	1	1	1
nervous system		1	2		1	4	1	1	2	6	6	6	8
nest	1	1	1	1	1	5	1	2	5	3	5	6	11
nettle							1	1	1				1
neuron			1	1		2	2	2	3	1	1	2	5
neutral			1			1	1	1	1	1	1	1	2
neutralize										3	3	5	5
niche							1	1	1	1	1	1	2
nicotine		1			1	2	1	1	1	1	1	1	2
nipple							1	1	1	1	1	1	2
nitrate			2	1		3	1	1	1	2	2	4	5
nitrite							1	1	1	1	1	1	2
nitrogen		2	4	1	2	9	3	3	7	3	9	10	17
nitrogenous							2	2	2	2	2	4	6

word	Ti	Co	NW	SP	RD	Total	Ev U	Day C	Day S	Bio	Dy U	Bio C	Bio S	Total
nocturnal	1			3		4	1	1	1		2	2	2	3
node					2	2	2	2	2		1	1	1	3
nodule							1	1	1		1	1	1	2
noise							1	1	1		1	1	1	2
non fertile	1					1	1	1	1		1	1	1	2
non infectuous					1	1								
non poisonous					1	1	1	1	1					1
non toxic		2	1		1	4	1	1	1		1	1	1	2
normal	11	2	12	4	7	36	5	8	12		9	15	17	29
nose		1	3			4	2	3	11		1	1	2	13
nostril	1	1		3	4	9	1	2	6		1	4	5	11
notochord							1	1	1		1	1	1	2
nourish		2	2	5	4	13	1	2	5		2	4	5	10
nourishment	1	3		2	3	9	1	3	7		2	6	10	17
noxious					1	1	1	1	1		1	1	1	1
nuclear			1			1	1	1	1		1	1	1	2
nucleus	4		3			7	3	4	6		3	6	8	14
nurse	1	1		2	4	8					1	1	1	1
nursery	1	1	2	2	1	7					1	1	3	3
nursing	1	2	1	1	1	6								
nut							2	2	3		3	3	3	6
nutrient	1	1	1	2	1	6	1	3	7		2	4	4	11
nutrition	1	2	6	4	4	17	1	2	4		2	4	7	11
nymph			1	1	1	3	1	1	1		1	1	1	2

word	Ti	Co	NW	SP	HD	Total	Ev U	Da C	Bio S	Dy U	Bio C	Bio S	Total
oak							2	2	5	2	2	4	9
oat	1					1	1	1	3	3	4	5	8
oatmeal				1		1	1	1	1	1	1	1	2
obnoxious										1	2	4	4
observation	4	4	2	4	5	19	3	4	6	7	7	9	15
octopus							3	3	3	4	4	4	7
odor	3	2	5	3	2	15	3	3	6	3	4	6	12
odorless	1	1	1	1	2	6	1	1	1				1
offspring	4	2	3	2	2	13	1	2	7	2	2	6	13
oil	1	2	3	1	8	15	1	2	4	1	3	5	9
oil gland		1			1	2	1	1	2	1	1	1	3
ointment		1	1		1	3	1	1	1	1	1	1	2
olfactory							1	1	1	1	1	1	2
olive		1				1	1	1	1	1	1	1	2
olive oil							1	1	1	1	1	1	2
omnivorous		1			1	2	1	1	1				1
one-celled	4		3			7	4	5	8	3	5	11	19
onion							2	3	5	1	1	3	8
ooze		1	1	2		4				1	1	1	1
operation		3	4	5	16	28	1	1	2	2	4	10	12
operculum							2	2	3	1	1	1	4
opossum					1	1	2	2	3	2	2	3	6
optic		1	1			2	1	1	1	1	1	1	2
optical		1				1	1	1	1	1	1	1	2

word	Ti	Co	IW	SP	ED	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
optic nerve			1		1	2	1	1	2	1	1	1	3
oral			1		1	2							
orange							1	1	3	1	1	1	4
orchard			1	2	2	5	1	2	4	2	2	2	6
orchid			1			1	1	2	2	2	2	2	4
order							2	2	4	2	2	3	7
organ	3	6	5	2	8	24	8	12	35	8	24	36	71
organic	4	1	3	1	6	15	2	4	13	2	5	8	21
organic matter	3	2				5	2	4	6	2	2	3	9
organism	11		10	1	7	29	7	12	39	11	20	31	70
organization							3	3	4	2	2	3	7
origin							1	2	3	1	1	2	5
osmotic							1	1	1	1	1	1	2
osmosis	1					1	5	5	21	3	3	7	28
ovary	1	2	1		2	6	3	3	4	2	5	7	11
overactivity										1	1	1	1
overdose							1	1	1	1	1	1	2
over stimulation										1	1	1	1
oviduct	1					1	1	1	2	1	1	2	4
ovule					1	1	2	2	2	2	2	2	4
ovum	5		3		1	9	2	2	2	1	1	1	3
owl							1	1	4	3	3	3	7

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
oxidation			1	1	2	4	2	3	10	3	5	6	16
oxidize			1	1	2	4	3	3	3	3	5	6	9
oxygen	5	5	9	2	3	24	6	6	27	7	16	23	50
oyster		1			1	2	1	1	2				2
pain		1	2	2	3	8	2	2	3	4	5	8	11
painful		1	1	1	1	4	1	1	1	2	2	2	3
palate			1		1	2	1	1	1				1
paleontologist	2	2		1		5	1	1	1				1
paleontology	3	1	1	1	1	7	1	1	1	2	2	2	3
palor										1	1	1	1
palm			1		1	2	1	1	2				2
pancreas				1	1	2	2	2	6	4	4	4	10
pancreatic juice				1		1	2	2	3	1	1	1	4
paralyze	3	2	1	2	2	10	1	1	1	2	3	6	7
paralysis	2	2		2	3	9	1	1	1	1	1	2	3
paramecium	1		1			2	4	5	6	5	5	7	13
parasite	6	3	2	1	3	15	6	8	21	4	4	8	29
parasitic	4	1	1	1	1	8	4	5	8	4	4	4	12
parent	1	1	1	1	1	5	3	6	17	4	10	14	31
parental	1			2	2	5	2	3	3	1	1	1	4
parsnip							1	1	4				4
pasteurize		2	1		1	4	1	1	2	1	1	1	3
pasteurization		1	3		1	5	1	1	1	1	1	2	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
pasture				2	1	3	1	1	1	2	2	2	3
pathology	1	1			2	4	1	1	1	1	2	2	3
patient	4	8	9	13	30	64	1	2	4	5	8	11	15
pea							2	2	5	2	3	4	9
peach				1		1	2	2	5	2	3	4	9
peanut							2	2	3	2	2	2	5
pear							1	1	3	1	1	1	4
pearl							1	1	2	1	1	1	3
peat		1		2	1	4	1	1	1	2	2	4	5
peat moss		1				1	1	1	1	1	1	1	2
pectoral			1			1	1	2	3	1	1	2	5
pectoral girdle							1	1	1	1	1	1	2
pedigree	1			1	1	3	1	1	1	1	1	2	3
pelt	1			1	2	4	2	2	2	1	1	1	3
pelvic	1		1	1	1	4	1	1	2	1	1	1	3
pelvic girdle							2	2	2	2	2	2	4
pelvis	1			1	2	4	2	2	2	1	2	2	4
pepsin							1	1	3	1	1	1	4
perch		1				1				1	1	1	1
perennial	2			1	1	4	1	1	1	1	2	3	4
perishable				2		2							
peristalic							1	1	3				

word	Ti	Co	NW	Sp	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
peristalsis							1	1	3	1	1	1	4
perspiration	1	1		1	1	4	1	2	3	1	1	1	4
pest	2	2	6	2	2	14	2	3	11	6	8	13	24
petal							2	2	4	1	1	3	7
petrified							1	1	1	1	1	1	2
petrify							1	1	1	1	1	1	2
pharynx							1	1	3	1	2	2	5
phloem							2	3	4				4
photography	1					1	1	1	1	1	1	1	2
photosynthesis		2	1	1		4	2	3	13	2	4	5	18
phylum							3	3	14	4	4	12	26
physical	3		5	4	16	28	2	4	10	4	8	12	22
physiological	4	1	2	2	3	12	1	1	1				1
physiologist	4	1	1	1	3	10	1	1	1	1	1	1	2
physiology	1	1	4	4	4	14	1	1	1	1	2	3	4
pickling							1	1	1	1	1	1	2
pig							2	2	4	2	2	2	6
pigeon							1	1	1	1	1	1	2
pigment	1	4	5		1	11	1	2	2	2	2	4	6
pine							1	2	5	3	4	8	13
pistil	1					1	2	2	4	3	3	3	7
pistillate							1	1	2	1	1	2	4
pith							1	1	3	1	1	2	5
pituitary	1		7		2	10	1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
placenta	1				1	2	1	1	1	1	1	1	2
placental	1					1	1	1	1	1	1	1	2
plague	6	1	8		6	21	1	1	2	1	1	2	4
plant	4	5	19	5	5	38	6	19	70	12	45	58	128
planting	1				2	3	1	1	3	2	2	3	6
plant kingdom							1	1	1	1	1	1	2
plasma		1	2	3	2	8	1	1	2	1	2	3	5
platypus							1	1	2	1	1	3	5
plexus							1	1	1	1	1	1	2
plum				1		1	2	2	4	1	1	3	7
plumage		2		5	2	9	1	1	1	1	1	1	2
plume							1	1	2	1	1	1	3
plumule							1	1	1	1	1	1	2
pneumoria	1	2	2	3	2	10	1	1	3	2	5	7	10
pod							1	2	2	1	1	3	5
poison	11	10	13	4	7	45	2	3	13	3	7	15	28
poisoning	1		3	1	1	6	1	1	1	2	4	5	6
poisonous							2	2	4	3	7	13	17
pollen	3	2	1	1	4	11	2	3	4	3	5	7	11
pollinate	1	1				2	1	1	1	1	1	2	3
pollination		1			1	2	1	1	1	1	1	2	3
pollute			1		1	2	1	1	3				3
pollution			1			1	1	1	2	1	2	4	6
populate	15					15	1	1	1	1	1	2	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
population		7	2	4	9	22	1	1	2	2	2	3	5
porcupine										1	1	1	1
pore					1	1	2	2	6	2	2	6	12
pork							1	1	1	1	1	1	2
porous					1	1	1	1	2	1	1	1	3
positive		1	2	1	1	5	1	1	1	1	1	3	4
posterior							2	2	4	1	1	3	7
post natal		1				1				1	1	1	1
posture	1	1	1	1	2	6	1	1	1	1	1	2	3
potato							3	4	9	5	7	11	20
potato beetle							2	2	4	2	2	2	6
pouch			1		2	3	1	2	2	1	2	3	5
pouched mammals							1	1	1	3	3	3	4
poultry				3	3	6	1	1	2	2	2	2	4
precipitation							1	1	1	2	2	3	4
precocial				1		1	1	1	1	1	1	1	2
predaceous							1	1	2	2	2	2	4
predator		1		3	1	5	1	2	3	1	1	1	4
predatory	2	1		2	1	6	1	2	3	1	1	1	4
pregnancy	4	3	1	4	6	18							
pregnant	5	4	1	2	2	14							
prehistoric							1	1	1	1	1	1	2
prenatal	3	3		1	2	9				1	2	3	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
preparation		1	2	1	2	6	1	2	2	2	6	7	9
preservation							1	1	1	2	2	2	3
pressure							3	3	10	2	4	8	18
preventive	16	1	3	4	3	27	1	1	2	1	1	2	4
prey	4	6		3	7	20	5	8	14	2	9	13	27
preying				1		1	1	2	5	1	1	1	6
primate	3					3	1	1	1	2	2	3	4
primitive	16	3	1	10	4	34	4	5	11	3	4	5	16
problem							1	1	1	6	6	6	7
product							6	8	13	5	15	17	30
production							5	5	5	2	3	6	11
prolific				1	1	2	2	2	4	1	3	5	9
prone pressure method							1	1	1	1	1	1	2
protective coloration							1	4	5	4	4	9	14
protein	4	2	4	4	12	26	3	3	13	5	10	14	27
protoplasm				1		1	5	5	26	4	6	12	38
protoplasmic							1	1	1	2	2	3	4
protozoa					1	1	4	5	15	7	7	8	23
protozoan	1		1			2	3	3	5	7	7	8	13
prune				1		1				1	1	2	2
pruning				1		1	1	1	1	1	1	1	2
pseudoped							1	2	2	1	1	1	3
psychiatric				1	2	3							
psychiatrist	1		1	1	6	9				1	1	1	1

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
psychiatry					2	2							
psychological		2		3	2	7				1	1	2	2
psychologist										1	1	2	2
psychology	1		1	1		3				1	1	1	1
ptyalin							1	2	2	1	1	1	3
pulmonary			1	3		4	1	1	3	1	1	4	7
pulse	1				1	2	1	2	2	1	2	2	4
puncture wound										1	1	4	4
pupa	1	1				2	3	3	5	3	4	5	10
pupa case							1	1	3	1	1	1	4
pupil							1	1	2	1	1	2	4
pure							1	1	1	2	2	4	5
pure breed	1				1	2	1	1	1	1	1	1	2
purify			1			1	1	1	1	2	2	3	4
purity							1	1	1	1	1	1	2
pus							1	1	1	2	2	3	4
putrefaction							1	1	1	1	2	3	4
pyloric							1	2	2	1	1	1	3
pylorus							1	1	2	1	1	1	3
python				1		1	2	2	2	2	2	2	4
quadruped	1					1	1	1	1	1	1	1	2
quadruplet			1	1	1	3	1	1	1	1	1	1	2
quail		1			1	2	2	2	2	1	1	1	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
quarantine	2	1	3	1	3	10	1	1	3	4	4	4	7
queen		1				1	1	2	2	2	2	3	5
quick freeze	3			1	1	5	1	1	1	1	1	1	2
quill				1	1	2	1	1	2	1	1	1	3
quinine	3		2			5	1	1	1	1	1	1	2
quintuplet										2	2	2	2
rabbit			3		1	4	2	2	6	6	9	10	16
rabies							1	1	1	1	2	2	3
raccoon							2	2	3	3	3	4	7
radial							1	2	2	1	1	1	3
radiation	6	1	1	1	1	10	1	1	1	1	1	1	2
ragweed							1	1	1	2	2	2	3
rain							2	2	2	3	3	3	5
rain forest										1	1	1	1
range				1		1	1	2	2	3	3	3	5
rat		2	2	1	1	6	3	3	7	6	6	9	16
rattlesnake							1	2	3	3	3	5	8
raw material				1		1	1	1	1	2	2	2	3
react			1			1	2	2	2	1	1	2	4
reaction	2		1		2	5	1	2	4	1	1	1	5
reason	1					1	1	1	1	1	1	2	3
reasoning							1	1	1	2	2	3	4
recessive	3			1		4	1	1	1	1	1	3	4

words	Ti	co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
rectum							1	2	2	1	1	1	3
red corpuscle							1	1	4	1	2	2	6
red marrow							1	1	1	1	1	1	2
reduction division							1	1	1	1	1	1	2
redwood				1	1	2	1	1	1	3	3	4	5
reflex	1	1	2			4	1	2	3	1	1	3	6
reforestation							1	1	2	2	2	3	5
refrigerate		1	1	1	2	5							
refrigeration		1	2	5	3	11	1	1	1	1	1	1	2
regenerate			2		1	3	2	2	2	1	1	1	3
regeneration	1				1	2	1	1	1	2	4	6	7
region							1	1	1	4	4	5	6
regulation							1	1	1	2	2	2	3
reindeer							1	1	3	2	2	3	6
relative	1	2			1	4	1	1	2	2	2	3	5
relax							1	1	3	2	2	4	7
relaxation	1	2			1	4	1	1	2	2	2	2	4
remedy	1	1	2	3	6	13	1	2	3	1	2	5	8
remember				1		1	1	1	2	1	1	1	3
rennin							1	1	2	1	1	1	3
reproduce	3	2	2	2	5	14	2	2	4	3	4	5	9
reproduction	5	1	1	2	2	11	3	5	18	6	10	16	34
reproductive	4	1		1		6	3	4	7	6	9	12	19
reptile	7	7	1	1	1	17	5	6	14	5	7	8	22

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
reptilian	2	2		2		6	2	2	2	3	3	4	6
research							1	2	2	5	5	7	9
resemblance				1		1	2	2	3	3	3	4	7
resemble							2	2	8	6	9	12	20
resin	5	1	2	1	2	11	1	1	1	2	2	2	3
resinous	1		1	1		3	1	1	1	1	1	1	2
resistance	6	2	5	2	4	19	1	2	2	2	4	8	10
resistant	3	3	1	1	4	12	1	1	1	1	1	1	2
respiration	1		1	1	1	4	3	3	9	4	4	7	16
respiratory			7	2	3	12	2	2	3	4	4	7	10
rest							2	2	3	1	1	3	6
retard							1	1	1	2	2	2	3
retina		2	1		2	5	1	1	1	1	1	2	3
rhizome							1	1	3				3
rib				1		1	1	1	3	1	1	4	7
rice				1		1	1	1	1	2	2	2	3
rich							2	3	6	3	3	9	15
rickets		2	1	1	1	5	2	2	2	1	2	2	4
ring worm			1		1	2	1	1	1				1
ripe							1	1	1	3	5	5	6
ripen							1	1	1	1	1	2	3
robin							2	2	3	2	2	3	6
rodent	7	4	1	5	4	21	5	5	5	3	3	5	10
root		3	2	2	3	10	4	4	15	2	7	12	27
root cap							1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
root hair							1	2	2	1	1	1	3
rooster							1	1	1				1
rose	1	1				2	3	3	5	3	3	4	9
rot		1				1	2	2	3	2	2	4	7
rotation							1	1	2	3	3	4	6
round worm							2	2	4	2	2	2	6
rubber				2		2	1	1	1	1	1	4	5
rubbish		1				1	1	1	1	1	1	1	2
rudimentary							1	1	1	1	1	1	2
runner							1	1	1	1	1	3	4
rust							5	5	6	3	3	5	11
sacrum							1	1	1	1	1	1	2
salad							1	2	2	1	1	1	3
saliva			1		1	2	2	2	2	1	2	5	7
salivary		1				1	2	2	2	1	1	1	3
salivary gland		1			1	2	2	2	2	1	1	1	3
salmon				1		1	2	2	5	4	4	5	10
salt		1	1	1	3	6	3	3	10	4	9	15	25
sanctuary		2	1	5	2	10	1	1	2	1	1	1	3
sanitary	2		3	4	2	11	2	3	3	1	1	1	4
sanitation	1		2	3	1	7	3	3	5	2	4	5	10
sap	1					1	2	3	7	1	1	4	11
saprophyte							2	2	4	3	3	3	7

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	Bio S	Total
saturation				1		1	1	1	1	1	1	1	2
scald				1		1							
scales				2	1	3	3	4	11	2	4	6	16
scar	1	1	3		1	6	1	1	1	1	2	3	4
scare							1	1	1	1	1	1	2
scarlet fever			1			1	1	1	2	2	2	3	5
scent	4	2			2	8	1	1	1	1	1	1	2
science	26	2	7	12	10	57	4	4	4	7	15	19	23
scientific	22	9	15	25	30	101	6	8	12	10	17	21	33
scientifically	2		4	5	2	13	2	3	5	2	3	5	10
scientific attitude							6	6	8	1	2	2	10
scientific method							8	30	30	12	48	55	85
scientist	42	11	27	17	21	118	2	2	2	3	3	3	5
scum	1	1				2				1	1	2	2
scurvy		1			1	2	1	1	1	1	1	2	3
sea gull							1	2	2				2
seal		1		1		2	2	2	2	3	5	7	9
sea lion										1	1	1	1
season	1	3	1	4	2	11	3	3	6	5	7	14	20
seasonal	1				3	4	1	1	2	1	1	3	5
secrete		2	1	1	2	6	2	3	11	3	9	14	25
secretion		1	6	1	3	11	2	3	7	2	6	7	14
secretory		1		1	1	3	1	1	1	1	1	1	2
see							1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
seed	2	4	3	2	4	15	4	6	14	3	10	19	33
seedling	1		2		1	4	1	1	2	1	1	1	3
segment	1			2		3	1	2	6	3	4	7	13
segregation							1	1	1	1	1	2	3
selection							1	1	1	1	1	5	6
self pollination				1		1	1	1	1	1	1	1	2
semicircular canal	1					1	1	1	1	1	1	2	3
semi-tropical							1	1	1	1	3	3	4
sensation	6	2		1	2	11	1	1	2	2	2	6	8
sense	11	4	1	8	7	31	1	2	6	4	7	9	15
sense organ							1	1	1	3	4	5	6
sensible	1	1	2	1		5							
sensitive	12	1	2	3	11	29	2	2	6	4	7	9	15
sensitivity	2	1	1	1		5	1	1	1	1	1	1	2
sensitization							1	1	1	1	1	1	2
sensory					2	2	1	1	1	2	2	3	4
sepal							2	2	2	1	1	3	5
serpent		1		2		3	1	1	1	1	1	2	3
serum			4	2	5	11	1	1	2	6	9	11	13
sewage			1	1	3	5	1	2	5	2	5	5	10
sewer			1		1	2	1	1	1	1	1	1	2
sex	18	5	10	7	16	56	1	2	5	3	5	8	13
sex cell							1	2	2	1	1	1	3
sex organ							1	1	2	1	1	1	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	Bio S	Total
sexual	7	1	2	1	9	20	1	2	6	2	2	4	10
shark		4				4	1	2	4	2	2	2	6
sheep		1				1	1	1	3	1	3	6	9
sheet erosion							1	1	1				1
shell		2		1		3	2	3	11	3	4	8	19
shelter					1	1	2	3	6	2	2	2	8
shelter belt					1	1	1	1	1				1
shin										1	1	2	2
shock			5	1	5	11	1	1	3	1	3	5	8
shoulder				1		1	1	1	4	1	1	3	7
shoulder blade							1	1	2	1	1	1	3
shrub		1	1			2	2	2	5	2	7	9	14
sick		1				1	1	2	4	1	1	2	6
sickness					1	1	1	1	1	1	1	1	2
sight		1			2	3	1	2	2	1	3	4	6
siliceous				1		1	1	1	1	2	2	3	4
silk			1	1		2	1	1	1	1	2	2	3
silkworm							1	1	1	1	1	1	2
simple fracture							1	1	1	1	1	1	2
sinus							1	1	1	1	1	1	2
skeletal		1	1	1		3	1	2	3	1	1	1	4
skeleton	3	4	5	5	2	19	3	4	5	4	3	14	19
skin	2	5	6	3	2	19	3	3	22	6	10	23	45
skull	7	5	3	3		18	2	2	4	2	2	3	7

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
skunk	1	1				2	1	1	3	2	2	2	5
slaughter	1					1	1	1	1				1
slaughter house							1	1	1				1
sleep	1		1	4	2	8	2	2	4	2	4	6	10
slime							1	1	1	1	1	1	2
small intestine							2	3	3	1	1	2	5
smallpox			1			1	1	2	4	2	3	6	10
smell	4	1	3	3	3	14	2	2	5	2	4	6	11
smoke	1	1			1	3	1	1	4	1	1	1	5
smut	2		1			3	3	3	3	3	3	3	6
snail			1		1	2	4	4	6	4	5	9	15
snake		3				3	3	5	9	4	5	6	15
sneeze			1		2	3	1	1	2	2	3	3	5
soap							1	1	2	2	2	4	6
soar							1	1	1	1	1	2	3
social insects							1	1	2	1	1	1	3
socket							1	1	1	1	1	1	2
soil	7		1	1	2	11	4	7	26	7	25	35	61
soil conservation			1			1	1	1	1	1	1	1	2
soluble	2		3	1	2	8	2	2	4	2	3	5	9
solution	6	3	9	4	7	29	2	7	14	6	9	11	25
sore			1			1	1	2	4				4
sorghum			1	1		2	1	1	1	1	1	1	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
sound							1	1	1	1	1	3	4
sour							2	2	2	1	2	3	5
soy bean		2		1	1	4	1	1	1	1	1	2	3
sparrow							1	1	2	1	1	1	3
spawn	2	3	2	4	4	15	1	2	2	1	1	5	7
specialist							1	1	1	1	1	1	2
specialization							2	2	4	1	1	2	6
specimen	3	6	12	8	7	36	2	2	3	7	9	12	15
species	24	16	12	18	8	78	6	20	39	9	30	37	76
sperm	5	1	2	1	3	12	2	2	5	7	9	18	23
spermatophytes							1	1	1	2	2	4	5
spice							1	1	2	1	1	1	3
spider							2	3	3	4	4	4	7
spinal cord			1			1	1	2	4	3	3	6	10
spine				1	1	2	2	2	3	2	2	7	10
spiny							1	1	3	1	1	1	4
spiny skinned							1	1	1	1	1	1	2
spiracle							1	1	2	1	1	2	4
spleen			1		2	3	2	2	2				2
slint							1	1	1	1	1	2	3
sponge		1	2	1		4	4	5	8	3	4	9	17
spontaneous	2			1	2	5	1	1	1				1
spontaneous generation							1	1	1	1	1	1	2
spore		2		2		4	4	7	11	4	5	10	21
sprain							1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
spray	1	1	1	1	4	8	1	1	3	1	1	3	6
sprout	1			2	3	6	1	1	2	1	1	1	3
squirrel		1				1	2	3	9	1	1	2	11
stage							3	4	4	1	1	1	5
stagnant		1		2	1	4	1	1	1	3	3	3	4
stagnate					1	1	1	1	1				1
stagnation					1	1				1	1	1	1
stale										1	1	1	1
stalk				1	1	2	1	2	4	2	2	3	7
stamen							2	2	4	2	3	4	8
staminate							1	1	1	2	2	2	3
starch		1	2		1	4	3	3	9	2	4	6	15
starfish							3	4	10	3	6	8	18
starvation	4	1	2	4	8	19	1	1	1	2	2	2	3
stem	1					1	2	5	20	4	7	19	39
sterile	5	1	4	1	3	14	1	2	2	2	2	5	7
sterility		2	3	1	1	7				1	1	1	1
sterilization		1	1		1	3				1	1	2	2
sterilize	5	1	2	1		8	1	2	3	1	1	3	6
stigma							1	1	1	2	2	3	4
stimulant	1		1		2	4	1	1	2	1	2	4	6
stimulate	3				4	7	1	2	3	1	2	4	7
stimulation	2		2		2	6	1	2	5	2	5	9	14
stimulus		1	1	1	1	4	1	2	6	4	4	10	16
stirrup					1	1	1	1	1	1	1	1	2
stolon	1					1	1	1	1	1	1	2	3
stomach		7		3	4	14	2	4	15	2	4	15	30

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	D U	Bio C	Bio S	Total
stomata							2	2	8	3	3	3	11
storage							2	2	5	1	4	6	11
strain		2		2	1	5	1	1	1	1	1	3	4
streamline							1	1	1	1	1	1	2
stripcropping							1	1	1	1	1	2	3
strip farming							1	1	1	1	1	1	2
structure		1	3	1	1	6	3	5	5	2	4	6	11
struggle for survival							1	1	2	1	1	1	3
stupid	1	3		3	3	10	1	1	1				1
substance							6	9	16	7	16	27	43
subtropical										2	2	2	2
suck	2	1				3	2	2	7	3	3	5	12
suckling			1			1	1	1	1	1	1	2	3
suffocation	1					1				1	1	1	1
sugar	3	1	8	1	5	18	3	3	14	3	4	9	23
sugar cane			1			1	2	2	4	2	2	5	9
sugar maple							1	1	1	1	1	1	2
sulfur							3	3	3	3	4	7	10
summer fallow					1	1	1	1	1	1	1	1	2
sunburn		1			1	2	1	1	1	1	1	1	2
sunflower				1	1	2	1	2	2	2	2	2	4
superior							1	1	1	1	1	1	2
superstition							1	1	1	1	2	3	6
surgeon		1	1	7	7	16	1	1	3	2	2	2	5

word	Ti	Co	AW	SP	HD	Total	Ev U	Da C	Mo S	By U	Ole C	S	Total
surgical	2	3	3	2	8	18	1	1	2	2	3	5	7
survival	1	1	2	4		8	3	5	15	3	3	3	18
swallow	1			1		2	3	5	10	3	3	6	16
swamp	1	2		3	2	8	2	2	2	3	3	3	9
swampy							2	2	3	3	3	3	6
sweat	1	1	1		2	5	1	1	2	1	1	2	4
sweat gland							1	1	1	1	1	1	2
sweet							2	4	6	4	4	6	12
sweet potato							2	2	2	1	2	2	4
swell		1				1	2	3	4	3	7	11	15
swim	1					1	3	5	10	2	5	13	23
symbiosis							2	2	2	1	1	1	3
symbiotic	1					1	1	1	1				1
symmetry							1	2	3				3
symptom	3	3	12	6	18	42	1	1	2	2	9	10	12
synapse							1	1	2	1	2	2	4
synthesis			1	2	1	4	1	1	1	1	1	1	3
synthesize	2	1	4	1	2	10	1	1	1	1	1	1	2
syphilis		1	2	2	4	9	1	1	1	1	2	3	4
syrup				1		1	1	1	1	1	1	1	2
system	3	2		1	4	10	3	3	3	3	6	13	18
table salt				1		1	1	1	2	1	1	1	3
tadpole			1		1	2	2	2	2	2	2	3	5
tail		1	1			2	2	3	8	3	6	13	21

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	By U	Bio C	S	Total
talon				5		5	1	1	1	1	1	1	2
tan		1				1	1	1	1				1
tanning										1	1	1	1
tape worm							1	1	2	3	3	3	5
taproot							1	1	1	1	1	1	2
tar pit			1			1	1	1	1				1
tarsal	1					1	1	2	2	1	1	1	3
tassel					1	1	1	1	1	1	1	2	3
taste	2	5	3	6	9	25	1	2	7	3	3	9	16
taste bud							1	1	1	1	1	2	3
tasty	1	1			3	5							
taxonomy							1	1	1	1	2	2	3
tea							1	1	2	1	3	4	6
tear		1				1	1	1	1				1
tears							1	1	1	1	1	1	2
temper					1	1				1	1	1	1
temperate	2	1	1	2	1	7	1	1	1	1	1	1	2
temperature	5	8	6	3	5	27	3	5	18	5	12	25	43
temperment										1	1	1	1
tenacle		1				1	1	2	3	1	1	2	5
tendency							1	1	1	2	2	5	6
tendon		1		1		2	1	1	2	1	1	1	3
tentacle							1	1	4	3	3	5	9
terminal bud							1	1	1				1
termite	3	1			2	5	1	1	1	2	2	2	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
terrace					1	1	1	1	1	1	1	2	3
testes			2		1	3	1	1	1	1	2	3	4
tetanua							1	1	3	1	1	2	5
thallophytes							1	1	1	1	2	5	6
theory							4	4	4	3	3	3	7
therapy			3	2	8	13	1	1	1	1	1	1	2
thermometer		2			3	5	1	1	1	1	1	1	2
thicket				2		2				1	1	1	1
thigh	1		2	1	1	5	1	1	1	1	1	2	3
think							1	1	2	1	1	1	3
thirst					1	1	1	1	1	1	1	1	2
thirsty							1	1	1				1
thistle							1	1	1	1	1	1	2
thoracic cavity							2	2	2	2	2	3	5
thorax							2	2	4	2	2	4	6
thorn							1	1	1	1	1	3	4
thought							1	1	2	1	1	1	3
thrive				1		1	2	3	7	3	5	9	16
throat		1	3		1	5	2	3	7	1	2	9	16
thymus			1			1	1	1	1	1	1	1	2
thymus land							1	1	1				1
thyroid	1	1	7	2	2	12	1	1	1	1	2	3	4
thyroxine	1					1	1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	D U	Bio C	S	Total
tibia		1				1	1	1	1	1	1	2	3
tillable				1		1	1	1	1	1	1	1	2
timber		1				1	2	2	2	1	1	1	3
tissue	4	9	11	3	14	41	5	8	37	6	18	26	63
toad							3	4	5	1	1	1	6
toast										1	1	1	1
tobacco		1	3			4	2	2	4	4	4	4	8
toe			1			1	1	1	3	2	2	3	6
toenail							1	1	2				2
tomato	1	1	1	1		4	1	1	1	1	1	1	2
tongue			1	3	2	6	1	3	6	5	5	7	13
tonsil				1	1	2	2	2	2	2	2	2	4
tonsilitis										1	2	2	2
tooth	8	3	5	2	7	25	3	3	18	3	5	13	31
topsoil	1			2	2	5	1	1	1	1	1	1	2
touch	1			2		3	1	1	4	4	5	10	14
tourniquet					2	2	1	1	2	1	2	3	5
toxic	6		11	3	6	26	1	1	1	1	2	5	6
toxin			2	1		3	1	1	5	1	2	7	12
toxin antitoxin				1		1	1	1	1				1
toxoid			1			1	1	1	1				1
trachea							1	1	4	3	3	3	7
tract		1	1	1	3	6	1	2	2	1	1	2	4
trait				1		1	1	1	1	1	1	2	3

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
transfusion	1	2	3		2	8	1	1	1	1	1	1	2
transmit	1					1	1	1	2	1	2	8	10
transparent							1	1	2	1	1	2	4
transplant	2	1		4	4	11	1	1	1	1	1	2	3
transpiration							2	2	3	1	1	2	5
transportation	1				1	2	2	2	4	1	1	3	7
treat	1		2	8		11	1	2	2	1	2	2	4
treatment	2	7	22	11	18	60	1	3	8	5	8	21	29
tree		2	1	1	5	9	4	5	22	6	9	23	45
trichina							1	1	1	1	1	1	2
triplet					1	1	1	1	1	1	1	1	2
tropical	8	2	7	7	5	29	2	2	3	3	5	14	17
tropics	3	1	2	3		9	2	2	4	3	3	6	10
tropism							2	2	4	1	1	2	6
trout		1				1				1	1	1	1
trunk							3	3	7	2	3	6	13
trypsin							1	1	2	1	1	1	3
tsetse	1				1	2							
tsetse fly							1	1	1	1	1	1	2
tube foot							1	1	1				1
tuber		1				1	1	1	1	1	1	1	2
tubercle				1	1	2	1	1	1	1	1	2	3
Tubercle bacillus	1		1	1	1	4	1	1	1				1

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
tuberculosis			10	7	5	22	2	2	8	2	2	9	17
tubule							1	1	2	1	2	2	4
tulip							1	1	2	2	3	3	5
tumor		2	1	2	4	9				2	2	2	2
turkey	1			1		2	2	2	4	1	1	1	5
turtle				1		1	2	4	5	2	2	4	9
tusk							1	1	1	1	1	1	2
twin			1		1	2	1	1	1	1	1	1	2
tympanum							1	1	2	1	1	1	3
typhoid	1	1	3		2	7	1	2	4	3	4	5	9
udder			1			1							
ulcer		1	1		2	4							
ulna							1	1	1	1	1	1	2
ultra violet rays							1	1	1	1	1	1	2
umbilical cord		3				3							
unborn					1	1				1	1	1	1
uncivilized							1	1	2	1	1	1	3
unconscious	2		1	3	3	9	1	1	1	1	1	4	5
unconsciousness			1	1		2	1	1	1	1	1	1	2
uncultivated							1	1	1	1	1	1	2
undercooked										1	1	1	1
under nourish				2	1	3				1	1	1	1
undeveloped							1	2	3	1	1	1	4

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
undigested				1	1	2	1	1	1				1
undulant fever		1	1	1	1	4							
unfavorable							2	2	4	4	5	6	10
unfertilized	4		1		1	6	1	1	1	1	1	1	2
unhealthy							1	1	1	1	1	1	2
uninhabitable		1				1	1	1	1	1	1	1	2
unintelligent			1	1	2	4				1	1	2	2
union							1	1	2	2	2	6	8
unite	1			1	1	3	1	1	1	1	2	5	6
unisexual										1	1	1	1
unlearned							1	1	2	1	1	1	3
unpasteurized			1	1		2							
unpleasant							2	2	5	1	1	1	6
unsanitary				2		2	1	1	1	1	1	1	2
unscientific	1					1	2	2	3	1	1	1	4
untillable	1					1	1	1	1	1	1	1	2
urea	1			2		3	2	2	2	1	2	4	6
ureter							1	1	1	1	1	1	2
urethra							1	1	1	1	1	1	2
urinary		1			1	2	1	1	1	1	1	2	3
urine	1	1	1	2	2	7	1	1	1	1	1	4	5
use				1		1	2	2	2	1	2	2	4
useful							2	2	3	2	4	5	8
uterine		1			1	2	1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
uterus	3	3	3		1	10	1	1	1	1	1	1	2
utilization			1			1	1	2	3	1	3	4	7
utilize			1			1	1	2	3	1	3	4	7
vaccinate				1	1	2	1	1	2	1	1	1	3
vaccination	1			1	2	4	1	1	3	1	1	2	5
vaccine			2	3	6	11	1	1	2	1	1	2	4
vacuole							2	2	3	2	2	4	7
valve				1	2	3	1	2	4	1	3	5	9
vapor	3	2	1	1	1	8	3	3	5				5
vaporization					1	1				1	2	4	4
variation	1				2	3	1	1	2	3	4	10	12
variety	2	1	1	2	1	7	3	3	12	6	8	11	23
vascular							2	3	6	2	2	2	8
vegetable	11	4	3	10	10	38	2	3	12	3	6	18	30
vegetarian	1	1			2	4							
vegetation	3	4	6	6	4	23	4	5	9	2	3	10	19
vegetative							1	1	2	2	2	3	7
vein		2	2	5	10	19	3	4	10	6	7	11	21
venation					1	1	1	2	2	1	1	1	3
venereal		2	1		4	7				1	1	1	1
venom				1		1	1	1	2	1	1	1	3
venomous				1		1	1	1	2	1	1	1	3
venous					4	4	1	2	2	2	2	2	4
ventilate							1	1	1	1	1	1	2

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	By U	Bio C	S	Total
ventilation				1	1	2	1	1	2	1	1	1	3
ventral							1	1	1	4	4	6	7
ventricle					2	2	1	1	3	1	1	2	5
vertebra		1	1		1	3	1	1	2	3	3	4	6
vertebrate	2					2	3	3	7	5	6	9	15
vessel		2		1	2	5	2	3	5	6	9	11	16
vibration	1	1		1	1	4	1	1	1	2	2	4	5
victim	2		3		6	11	3	3	11	4	9	16	27
vigor			1	3	5	9	1	2	3	1	1	1	4
vigorous				1		1	2	2	4	1	1	1	5
villus							1	1	3	1	2	3	6
vine		1		1		2	2	2	3	2	2	4	7
virgin										1	1	2	2
virulent	2	1	2	2	2	9	1	1	1	1	1	2	3
virus	3	1	15	5	8	30	1	2	5	3	3	6	11
visible		3		2	1	6	1	1	1	1	1	1	2
vision			6	2	5	13	1	1	2	3	4	6	8
visual	5			1	1	7	1	1	2	1	1	1	3
vital		1			3	4	1	1	2	2	2	5	7
vitally			1		1	2	1	1	1	1	1	1	2
vitamin	6	5	16	9	15	51	1	2	5	1	2	5	10
vocal chord		1			1	2	1	1	1	1	1	1	2
voice box							1	1	1	1	1	1	2
voluntary							1	1	1	1	1	2	3
vomit			1	1	1	3	1	1	1	2	2	3	4

word	Ti	Co	NW	SP	RD	Total	Ev U	Ev C	Ev S	Dy U	Dy C	Dy S	Total
vulture		2			1	3	1	1	2	1	1	1	3
wade							1	1	1	1	1	1	2
wading							1	1	1	1	1	1	2
waist				1		1	1	1	1	1	1	1	2
walk			1	1	1	3	1	3	5	4	4	4	9
wall							5	7	15	6	6	8	23
wallaby										1	1	1	1
walnut							2	2	2	1	1	1	3
warm-blooded	3	1				4	1	2	2	1	1	2	4
waste	4	5	6	4	11	31	1	4	25	7	15	26	51
water	4	3	6	2	2	17	4	6	42	10	40	50	92
water fowl				1	2	3	1	1	1	1	1	1	2
water lily							1	1	1	4	4	4	5
water moccasin							1	1	1	1	1	1	2
wax		2				2	1	2	3	1	1	1	4
weak	2	1			1	4	1	1	1	4	5	7	8
weather	1			3	2	6	1	1	1	2	2	2	3
weed	3	1		2	1	7	2	2	7	2	3	8	15
weed killer				1		1							
wet										1	1	1	1
shale					1	1	1	1	1	1	1	4	5
wheat				2	1	3	2	3	11	7	8	9	20
white corpuscle							1	1	3	1	1	1	4

word	Ti	Co	NW	SP	RD	Total	Ev U	Da C	Bio S	Dy U	Bio C	S	Total
white plague				1	1	2	1	1	1				1
whole wheat							1	1	1	1	1	2	3
whooping cough			1		1	2	1	1	2	1	2	2	4
wild		1			1	2	3	3	7	4	4	4	11
wild life	10	1	4	3	3	21	4	5	6	2	2	2	8
willow							1	2	3	2	3	5	8
wilt	1		2	1	3	7	2	2	2	2	2	3	5
wind					1	1	1	1	1	3	3	5	6
wind pipe					1	1	1	1	5	1	1	3	8
wind pollinated					1	1	1	1	1				1
wing		1	1	2		4	1	2	4	4	5	11	15
wisdom tooth				1		1	1	1	1				1
wolf							2	2	5	2	2	6	11
woman							4	5	6	3	3	3	9
wood		1	1	2	1	5	4	4	6	2	2	6	12
wool							2	2	2	1	1	2	4
worker		1				1	1	1	1	1	1	1	2
worm			1			1	2	3	8	3	3	8	16
wound		1	1	1	5	8	1	1	7	3	3	8	15
wren							1	1	2				2
wrist				1		1				1	1	3	3
wriggler							1	1	1	1	1	1	2

word	Ti	Co	W	SP	RD	Total	EV U	DA C	BIO S	DY U	BIO C	S	Total
xray		4	8	1	2	15	3	3	4	4	4	4	8
xylem							3	3	4	1	1	1	5
yeast			3	1	2	6	3	3	3	5	5	7	10
yellow fever		2	4	1		7	2	3	4	1	1	2	6
yield							1	1	2	1	1	1	3
yolk							1	1	3	2	2	2	5
zebra				1		1	1	1	1	2	2	2	3
zoo	4	2	1	1	2	10				4	4	4	4
zoologic				1		1							
zoological	8	1	4	2	1	16	1	1	1				1
zoologist	4	1	3	5	1	14	1	1	1	1	1	1	2
zoology	5	1	1	1	1	9	1	1	1	1	1	1	2
zygote							1	1	1	2	2	2	6