A COMPARISON OF THE TRADITIONAL AND INDIVIDUALIZED METHODS OF TEACHING SPELLING TO TWO FOURTH GRADE AND FOUR FIFTH GRADE CLASSES

by

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CHAPTER I

INTRODUCTION

Statement of the Problem

The schools have frequently been criticized for the way in which they teach spelling. Business men complain that their secretaries can't spell many of the words in an ordinary business letter. College professors say that many incoming freshmen are semiliterate and relegate them to remedial English classes.

Several recent comprehensive studies tend to support the often expressed opinion that today's students can't spell.

In 1945, Sifferd surveyed the spelling ability of 921 pupils in grades four to eight in Illinois. By using the <u>Buckingham Extension of the Ayres Spelling Scale</u> he was able to compare the spelling of children in 1945 with that of children of more than thirty years earlier. In every grade the spelling records of the children of thirty years earlier surpassed those of 1945.

¹Calvin S. Sifferd, "A Survey of Spelling Ability," Elementary School Journal, XLVII (February, 1947), p. 341.

Fitzgerald² reports a 1947 study of the spelling proficiency of 82,833 children in grades two to eight in Indiana. An analysis of the data revealed that twenty-seven percent of the children were spelling at grade level, twenty-five percent were accelerated, and forty-eight percent were retarded, the average retardation being one and one half grades.

Several years later Ayer³ conducted a survey of the spelling achievement of 40,000 high school students in forty-eight states. He discovered that there was a great variation in spelling proficiency from school to school and within the same grade. However, a comparison of the median achievement scores of the then ninth grade pupils with those of the pupils of 1915 and 1925 showed that the students of 1950 were considerably poorer spellers.

It is true that today the children of all intellectual levels and cultural backgrounds attend school.
This wasn't the situation fifty years ago and so it might
be argued that these surveys give a distorted view of
present conditions. Nevertheless, it would appear that
the traditional method of teaching spelling has failed to
develop the spelling abilities of a great many children.

²James A. Fitzgerald, The Teaching of Spelling, (Mil-waukee: The Bruce Publishing Company, 1951), p. 190.

³Fred Ayer, "An Evaluation of High School Spelling," School Review, LIX (April, 1951), p. 236.

Purpose of the Study

It was the purpose of this study to compare the relative effectiveness of the traditional and individualized methods of teaching spelling to two fourth grade and four fifth grade classes similar in respect to age, sex, intelligence, and socioeconomic background.

The control classes were taught in the traditional manner. The teachers of these classes followed the spelling program outlined in the adopted textbook, <u>Basic Goals in Spelling</u>, in which identical weekly word lists and exercises are assigned to the entire class.

An individualized spelling program was followed by the experimental classes. All the children were given a mimeographed word list⁵ which consisted of all the words presented in the second, third, fourth, fifth, sixth, and seventh grade editions of the spelling series used by the control classes. The words of each grade were arranged alphabetically and titled <u>List A</u>, <u>List B</u>, <u>List C</u>, <u>List D</u>, <u>List E</u>, and <u>List F</u> respectively, according to grade level. Each child made his own weekly list of spelling words by selecting words at his level as determined by the <u>Morrison-McCall Spelling Scale</u>. 6 He was encouraged to include as

William Kottmeyer and Kay Ware, Basic Goals in Spelling, (St. Louis: Webster Publishing Company, 1966).

May be found in Appendix B.

⁶J. Cayce Morrison and William A. McCall, Morrison-McCall Spelling Scale, (New York: Harcourt, Brace, and World, Inc., 1923), 16. May be found in Appendix A.

many words as he felt he could learn in a week in addition to any common words he may have misspelled in a social studies, science, or creative writing assignment the previous week.

The experiment lasted one school year. At its conclusion, the initial spelling scores were compared with the final scores of two equivalent forms of the Morrison-McCall Spelling Scale in order to determine if one teaching method was superior to the other.

CHAPTER II

REVIEW OF THE LITERATURE

That individuals vary in ability and achievement is a recognized fact. It is usual for a classroom to contain children with a considerable range in both potential and performance. The span of abilities in a typical classroom roughly corresponds to the grade level. Thus, in a fifth grade room there will be some children whose language skills are similar to the average in third grade and others with skills comparable to those of an average seventh grade student. 7

studies of the interrelationships among the language arts, that is reading, writing, speaking, and listening, have determined that language development is characterized by sequential development. "The child listens with comprehension before he speaks with meaning; he develops a substantial oral vocabulary before he reads; he makes considerable reading progress before he writes; and he usually begins to spell when he needs spelling in his own writing."

⁷Paul S. Johnson, "Comments and Advice from Your Counselors," The Instructor, LXXIV (January, 1965), p. 34.

⁸william S. Lodge, "Development Characteristics of Childhood," <u>Elementary English</u>, XXX (February, 1953), p. 111.

Spelling and reading abilities are closely related. Peake9 determined that the correlation between scores on vocabulary tests and spelling tests tends to average around .80. After making an extensive survey of spelling disability, Spache¹⁰ concluded that vocabulary knowledge is a more significant determinant of spelling success than intelligence, especially in the first five grades. Of particular interest is the way in which spelling and reading are related. The child who is good in reading is usually good in spelling, although there are some excellent readers who are poor spellers. But the poor readers are rarely good spellers.¹¹

Most teachers consider the fact of individual differences when organizing their reading program. It is the
usual practice to group children for reading instruction
according to their ability. On the other hand, the usual
practice in spelling is to give all children identical
spelling books and assign the same words regardless of
individual capacity and achievement. This malpractice

⁹Nellie L. Peake, "Relation Between Spelling Ability and Reading Ability," <u>Journal of Experimental Education</u>, IX (December, 1940), p. 193.

¹⁰George Spache, "Spelling Disability," <u>Journal of Educational Research</u>, XXXIV (April, 1941), p. 575.

Plight of the Poor Reader," Elementary English, XXXIX (May, 1962), p. 463.

¹²Hale C. Reid and A. N. Hieronymus, An Evaluation of Five Methods of Teaching Spelling in the Second and Third Grades, A Research Report by the U. S. Office of Education (Washington, D. C.: U. S. Department of Health, Education,

results in unsuccessful learning experiences for many children.

Using nine year old boys as subjects, Lantz¹³ determined that success tended to enhance learning efficiency and that the experience of failure had an even greater inhibiting effect. Also, the personality and behavior traits of the boys appeared changed by the success or failure. Successful subjects were rated self-confident, bold, willing, and cheerful by the examiner. The boys who failed became uncooperative, dull, anxious, and antagonistic.

Equally important is the influence that success and failure have on an individual's aspirations (next-expected achievements). Working with fourth to sixth grade children Sears 14 found that children who had regularly experienced success in the past—in their daily schoolwork, in tests, and in marks—continued to set aspiration levels just beyond their past achievements. However, those children who had been continually frustrated in their daily learning attempts and disappointed in their grades set unrealistic levels of aspiration—either too high or too low.

Because of the far reaching consequences of success or failure on an individual's interest, efficiency, and

and Welfare, 1965), op. 22-33.

¹³Beatrice Lantz, "Some Dynamic Aspects of Success and Failure," Psychological Monographs, LIX (1945), pp. 15-21.

¹⁴⁻Pauline Snedden Sears, "Levels of Aspiration in Academically Successful and Unsuccessful Children," <u>Journal of Abnormal and Social Psychology</u>, XXXV (October, 1940), pp. 522-35.

aspirations, it is essential that all subjects, spelling included, be organized so that all children can know real success.

Various spelling programs have been tried in an attempt to gear spelling instruction to individual capacities. In one individualized approach adopted by many school systems between 1930 and 1955 spelling books were abandoned altogether. Each child was responsible for making his own spelling list by writing in a notebook any word he found need of in his written work. These words were studied at intervals as they accumulated. 15

In 1953, Deacon¹⁶ made a comparative study of the effectiveness of a word list (textbook) method of teaching spelling with a program employing only the words needed by individuals in their writing. Over 400 second and third grade pupils were involved. The results of the spelling and reading tests and the analysis of the children's experience stories indicated that the children using the word list method had made significantly greater gains in reading and spelling. Deacon suggested that lack of effort and/or a poor choice of words had prevented the

¹⁵ Jean S. Hanna and Paul R. Hanna, "Spelling as a School Subject: a brief history," <u>National Elementary Principal</u>, XXXVIII (May, 1959), p. 14.

¹⁶Lawrence Deacon, "The Teaching of Spelling Can Become Too Individualized," Education, LXXVII (January, 1956), p. 301.

children in the individualized program from learning a basic vocabulary.

Another plan that has been tried is to have the children. Another plan that has been tried is to have the children.

If improvement in spelling is to occur, if the weak spellers and the able spellers are to attain growth commensurate with their ability, provision must be made for the differences among children. 18

Thus it is unwise to have poor spellers attempt to memorize the spelling of words which are not a part of their reading vocabularies. It is equally senseless to have the above average spellers "study" words they can already spell. The good spellers investigated by Schoephoerster were able to spell ninety-seven percent of the words in the weekly lesson prior to formal class

¹⁷Fitzgerald, loc. cit., p. 13.

¹⁸Arnie Richmond, "Children's Spelling Needs and the Implications of Research," <u>Journal of Experimental Education</u>, XXIX (September, 1960), p. 19.

¹⁹Hugh Schoephoerster, "Research into Variations of the Test-Study Plan of Teaching Spelling," Elementary English, XXXIX (May, 1962), p. 461.

presentation.

Gantz²¹ has stated that the success of the spelling program hinges on the children's acceptance of spelling as a personal obligation. This can best be accomplished when the children are encouraged to set appropriate goals for themselves in spelling and to assume responsibility for reaching them.²²

²¹Gertrude Gantz, "With Vast Delight, He Spells,"
National Elementary Principal, XXXVIII (May, 1959), p. 25.

²²Neville Bremer, "Helping Pupils Toward Self-Motivation in Learning to Spell and Write," Elementary English, XLII (February, 1965), p. 129.

CHAPTER III

DESIGN OF THE STUDY

Hypothesis Tested

The hypothesis tested was that the differences between the means of the samples in terms of the initial and final scores of two equivalent forms of the Morrison-McCall Spelling Scale would be no greater than the differences due to the vagaries of random sampling from a single, normally distributed, infinite population.

Population and Samples Used

This study was limited to two fourth grade classes and four fifth grade classes. The fourth grade students attended the same school in Hales Corners, Wisconsin, an upper middle class community of 5,549 residents. The fifth grade students attended the same school in Oak Creek, Wisconsin, a lower middle class community with a population of 9,372. Both cities are suburbs of Milwaukee, Wisconsin. In both schools children are randomly assigned to rooms so the two fourth grade classes were similar in respect to age, sex, intelligence, and socioeconomic background, as were the four fifth grade classes. One of the fourth grade classes and two of the fifth grade classes comprised the

the control group. The other three classes made up the experimental group.

Instruments Used

The test used to determine the spelling proficiency of the children of both groups was the Morrison-McCall Spelling Scale. Anton Thompson²² has noted that most of the test words are words commonly used in the writing of adults and upper grade children.

Both the verbal and nonverbal batteries of the Lorge-Thorndike Intelligence Test²³ were used to establish the mental ability of the students considered in the study. Because of its good design, simple administration, and highly satisfactory norms, this series is rated one of the best of the group intelligence tests by Frank Freeman.²⁴

Experimental Procedure

During the first week of school <u>Test One</u> of the <u>Morrison-McCall Spelling Scale</u> was administered to both groups and the spelling level in terms of grade norms was

²²⁰scar Kristen Buros (ed.), The Fourth Mental Measurements Yearbook (Highland Park, N. J.: The Gryphon Press, 1953), p. 330.

²³Irving Lorge and Robert L. Thorndike, The Lorge-Thorndike Intelligence Tests (Boston: Houghton Mifflin Company, 1954).

²⁴⁰scar Kristen Buros (ed.), The Fifth Mental Measurements Yearbook (Highland Park, N. J.: The Gryphon Press, 1959), p. 479.

determined for each child. Table 1 indicates the means and ranges of the spelling levels at the start of the study. It can be seen that the girls of the experimental group were initially better spellers than the boys of the experimental group. Because of this it was necessary to analyze the achievement of the sexes separately.

TABLE 1

MEANS AND RANGES OF SPELLING LEVELS IN TERMS OF GRADE NORMS AS DETERMINED BY TEST ONE OF THE MORRISON-MCGALL SPELLING SCALE

		Boys			Girl	2	<u>t</u>
	N	M	R	N	M	R	
Control	45	4.1	1.7-7.0	34	4.3	2.2-8.0	-1.22*
Experi- mental	1414	3.7	1.8-6.6	32	4.5	1.8-7.5	-3.11**

^{*}not significant

In October, both batteries of the Lorge-Thorndike

Intelligence Test were given and the intelligence quotients
ascertained. The means and standard deviations of the
intelligence quotients of both groups, divided by sex,
are shown in Table 2. The girls in the experimental group
scored significantly higher than the control girls on the
verbal battery. All the other differences are not significant.

^{**} significant at the .Ol level

TABLE 2

MEANS AND STANDARD DEVIATIONS OF INTELLIGENCE QUOTIENTS
AS DETERMINED BY LORGE-THORNDIKE INTELLIGENCE TESTS

	Control				<u>t</u>		
	N	M	SD	N	M	SD	
Boys	45	110.0 (verbal)	14.11	44	108.3 (verbal)	15.38	•54*
	(:	109.6 monverbal)	12.45		107.4 (nonverbal) 11.41	.80*
Girls	34	107.6 (verbal)	12.94	32	115.3 (verbal)	12.19	2.50**
	(109.9 nonverbal)	13.41	(111.4 nonverbal)	14.36	43*

^{*}not significant

The teachers of the control classes followed the program outlined in the adopted spelling book. All the children in each class used the book for their grade and studied twenty words a week. A typical weekly schedule is outlined below.

Monday:

The teacher introduced the week's spelling words by pronouncing them and clarifying meanings when necessary. The children pronounced the words and wrote them.

Tuesday:

The children used the spelling words to

^{**}significant at the .02 level

complete exercises in the textbook. Wednesday:

The teacher dictated the words for a trial test which the children checked themselves. While the teacher walked about rechecking the papers, the chilstudied any misspelled words. In studying these words the children were directed to follow the five steps suggested by the authors of the text:

- 1) Look at the word
- 2) Say the word
- 3) Think how to spell the word
- 4) Write the word and check its spelling
- 5) Practice writing the word

Thursday:

The children continued their study of misspelled words and completed the spelling exercises.

Friday:

The children checked the spelling exercises together. The teacher dictated the final test and corrected the papers. The children graphed the results on individual progress charts.

Every sixth week there was a review lesson. Each week seventy-five minutes, divided into five fifteen

minute periods, was devoted to spelling.

The children in the three experimental classes used no spelling book. Their main source of words was a mimeographed list of all the words taught in the second, third, fourth, fifth, sixth, and seventh grade editions of the text used by the control classes. The words of each grade were arranged alphabetically and titled <u>List A</u>, <u>List B</u>, <u>List C</u>, <u>List D</u>, <u>List E</u>, and <u>List F</u> respectively, according to difficulty.

The teachers of the experimental classes used the scores from Test One of the Morrison-McCall Spelling Scale to determine the spelling level of each child and to decide with which list of words (List A, B, C, D, E, or E) he was to begin. Each child was informed of his starting level but not of its grade equivalency. The children were told that they were going to make their own weekly spelling lists by choosing as many words as they wanted to learn how to spell. They were encouraged to take as many words as they felt capable of learning. It was emphasized that they were to list only those words they could read, knew the meaning of, but didn't know how to spell. The children were told that as soon as they could spell all the words at one level, they would be able to move on to the next list. Below is a typical weekly program.

Monday:

The teacher passed out a worksheet which

dealt with a particular word analysis skill.25 Under the teacher's guidance the children worked out the first part of the exercise together. When it was apparent to the teacher that the children understood the principle involved. she instructed them to compile their spelling lists including all the words from their level that exemplified that particular principle. The children also listed any words misspelled in the previous final test, any common words misspelled in any written assignment the week before, and other words that they wanted to learn how to spell from their level. Any extra time was used to complete the worksheet exercises.

Wednesday:

Each child had a spelling partner of approximately the same spelling ability to whom he gave a trial test and from whom he received his trial test. Each child corrected his own test and studied any misspelled words following the same five steps used by the control group.

^{2%} sample exercise sheet may be found in Appendix B.

The children then finished the worksheet exercises while the teacher rechecked the trial tests to make sure that no misspelled words had gone undetected.

Friday:

The children checked the exercises together. Each child dictated a final test to his partner and wrote his final test. These tests were checked by the teacher and returned. The children graphed the results on individual progress charts.

The experimental classes spent the same total amount of time (seventy-five minutes) on spelling as the control classes but it was divided into three periods of twenty-five minutes each.

CHAPTER IV

ANALYSIS OF THE DATA

This study of two ways of teaching spelling lasted one school year. Six classes, two fourth grades and four fifth grades, participated in it.

During the first week of school all the teachers involved administered Test One of the Morrison-McCall Spelling Scale to their classes. Approximately six weeks later the verbal and nonverbal batteries of the Lorge-Thorndike Intelligence Test, Level 3, Form A were given. At the end of the school year an equivalent form of the Morrison-McCall Spelling Scale was administered.

Scale revealed that the girls in the experimental group were significantly better spellers than the boys of the experimental group, so all subsequent comparisons differentiated between the sexes of both the control and experimental groups. Table 3 indicates the means and standard deviations of the initial spelling achievement of the four groups.

TABLE 3

MEANS AND STANDARD DEVIATIONS OF WORDS SPELLED CORRECTLY
ON TEST ONE OF THE MORRISON-MCCALL SPELLING SCALE

	Boys				<u>t</u>		
	N	M	SD	N	M	SD	
Control	45	20.9	8.55	34	23.3	8.76	1.22*
Experi- mental	44	19.1	8.83	32	24.2	8.23	3.11**

^{*}not significant
**significant at the .Ol level

At the conclusion of the study, each child's gain in spelling was determined by computing the difference between the scores of the two spelling tests. The average gains of the children grouped according to sex and method are found in Table 4. Although the scores of the boys in the experimental group revealed the most improvement, the gain was not statistically significant.

TABLE 4

MEANS AND STANDARD DEVIATIONS OF THE DIFFERENCES BETWEEN
THE SCORES OF SPELLING TESTS ONE AND TWO

		Control			periment	t		
	N	M	SD	N	M	SD		
Boys	45	7.53	3.88	1+1+	8.95	3.88	1.73*	4
Girls	34	7.50	3.89	32	7.81	4.27	•31*	

^{*}not significant

In order to determine if one of the methods was significantly more effective with either the bright average and above children or the average and below average children, the four groups were further divided according to the intelligence quotients determined by the verbal battery of the Lorge-Thorndike Intelligence Test. The means of the differences between the scores of the two spelling tests were then compared. Table 5 shows that for children of average and below intelligence, neither method was consistently more effective than the other. The boys improved most with the traditional method while the girls did better in the individualized program. However, the differences were not statistically significant.

TABLE 5

MEANS AND STANDARD DEVIATIONS OF THE DIFFERENCES BETWEEN THE SCORES OF SPELLING TESTS ONE AND TWO OF CHILDREN WITH INTELLIGENCE QUOTIENTS OF 110 AND BELOW

	Control			E	xperimen		
	N	M	SD	N	M	SD	
Boys	24	8.67	4.09	26	8.62	4.65	• 04*
Girls	19	6.95	4.67	12	7.33	4.16	25*

^{*}not significant

For the brighter than average boys, one teaching method was decidedly more effective. As Table 6 shows, the boys in the individualized program made significantly greater improvement than their counterparts in the control group. The opposite is true of the girls in the experimental group who made slightly less improvement than the control girls.

TABLE 6

MEANS AND STANDARD DEVIATIONS OF THE DIFFERENCES BETWEEN THE SCORES OF SPELLING TESTS ONE AND TWO OF CHILDREN WITH INTELLIGENCE QUOTIENTS ABOVE 110

	Control			E	t		
	M	M	SD	N	M	SD	
Boys	22	5.29	4.72	18	9.44	3.66	-3.26**
Girls	15	8,20	2.58	20	8.11	4.42	.84*

^{*}not significant

Table 7 indicates that the brighter boys in the experimental group were not better spellers than the brighter girls in the experimental group at the start of the experiment. In fact, the mean number of words spelled correctly by the girls on <u>Test One</u> was higher than that of the boys, although the difference was not great enough to be statistically significant.

^{**}significant at the .01 level

TABLE 7

MEANS AND STANDARD DEVIATIONS OF WORDS SPELLED CORRECTLY
ON TEST ONE BY CHILDREN WITH INTELLIGENCE QUOTIENTS
ABOVE 110 IN THE EXPERIMENTAL GROUP

-	Boys				t		
	N	M	SD	N	M	SD	
	18	24.05	8.26	20	26.55	7.17	99*

^{*}not significant

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

The purpose of this study was to compare the relative effectiveness of the traditional and individualized methods of teaching spelling to two fourth grade and four fifth grade classes similar in respect to age, sex, intelligence, and socioeconomic background.

The fourth grade students attended the same school in Hales Corners, Wisconsin. The fifth grade children attended the same school in Oak Creek, Wisconsin. Both small communities are suburbs of Milwaukee, Wisconsin.

The study was limited to one school year. At the onset, all teachers administered <u>Test One</u> of the <u>Morrison-McCall Spelling Scale</u> and the verbal and nonverbal batteries of the <u>Lorge-Thorndike Intelligence Test</u> to their students. At the conclusion of the experiment <u>Test Two</u> of the <u>Morrison-McCall Spelling Scale</u> was given to all children.

The children in the three control classes followed the traditional approach outlined in the adopted textbook, Basic Goals in Spelling. All the children used the book for their grade level. The children in the experimental classes selected their own spelling words from a mimeo-

graphed list which included all the words taught in the second through seventh grade editions of the spelling series used by the control group. The children chose words at their spelling level as determined by <u>Test One</u> of the <u>Morrison-McCall Spelling Scale</u>. Unlike the children in the control classes who were limited to twenty words a week, the children in the experimental classes were encouraged to study as many words as they felt capable of learning. Both groups were instructed in structural and phonetic word analysis. The control classes worked the exercises in the spelling book and the experimental classes were given weekly worksheets which dealt with similar skills.

Because the first spelling test indicated that the girls in the experimental group were initially better spellers than the boys in the experimental group, the subsequent comparisons of the control and experimental groups differentiated between the sexes.

Although the mean differences between the scores of the first and second spelling tests were greater for the boys and girls of the experimental group, the mean gains in achievement were not statistically significant.

When the control and experimental groups, already divided by sex were separated by intelligence level into those with intelligence quotients above 110 and those with intelligence quotients of 110 and below, and the mean differences of the scores of the two spelling tests were

compared, it became apparent that the boys in the experimental group with an intelligence quotient above 110 had made significantly greater improvement than the brighter than average boys in the control group.

Conclusions

Based on this limited study it would appear that for boys of better than average intelligence the individualized spelling method is superior to the traditional approach. For all other sub groups—girls of above average intelligence, girls of average and below average intelligence, and boys of average and below average intelligence—both spelling methods seemed to be similarly effective.

However, because of its limited nature, conclusions and implications regarding the generalization of the data are somewhat questionable. Substantially different results might have been obtained from a longitudinal study which included grades two to six and extended at least two years. Such a study would take into consideration the part that maturation plays in the development of spelling ability, a factor which wasn't included in this study.

Also, the method used to determine improved spelling ability was not entirely satisfactory. It is a common observation that many pupils spell with a high degree of accuracy during spelling period but much less accurately during other writing periods. A test that indicated the

children's sensitivity to spelling errors in a proofreading situation would have revealed the extent to which the
methods had contributed to a practical application of
spelling ability.

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APPENDIX A

Morrison-McCall Spelling Scale

and

Lorge-Thorndike Intelligence Tests

MORRISON-McCALL SPELLING SCALE

For Grades 2 to 8

By J. CAYCE MORRISON, PH.D.

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State Department of Education, Albany, New York

and WILLIAM A. McCALL, Ph.D.

Professor of Educational Psychology Teachers College, Columbia University, New York

GENERAL DIRECTIONS

Select for testing purposes any one of the eight lists of 50 words each given in this booklet.

The eight lists are of equal difficulty, so that all directions given herein apply equally to all of them.

Use the illustrative sentences in which these words are contained. Do not use any others.

Before beginning the test, remove all distracting elements from the environment and make pupils as comfortable as possible. Provide against any disturbances while the test is in progress. Preferably there should be no visitors.

Follow with literal exactness the instructions for giving the test. Avoid preliminary coaching, special helps during test, and unstandardized introductory remarks. Secure attention and coöperation of pupils by your own poise and pleasant manner.

Give directions distinctly, at moderate speed, with careful attention to emphasis, loudly enough for all pupils in the room to hear without difficulty, and confidently enough to secure instant obedience from every pupil. Insist courte-ously but firmly upon this prompt obedience from the start.

Pronounce all words to all pupils. Do this regardless of whether Grade 2 or Grade 8 or a mixture of several grades is being tested. Pupils will often surprise their teachers by spelling words normally too difficult or by failing to spell words normally too easy for their grade. While the same scale is used for measuring all grades, the norms for upper-grade pupils are much higher than for lower-grade pupils.

Practice pronouncing the words until sure of the exact pronunciation of each and until sure of your ability to enunciate clearly without distorting the correct pronunciation. Use Webster's New International Dictionary as the standard.

Prevent copying by carefully watching any one who attempts to do so. Do not distract others by oral reprimands while a word is being spelled.

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INSTRUCTIONS TO PUPILS

clear desks. Provide them with sharpened pencils and uniform few extra pencils available. Have each child write at the top of ie, age in years at last birthday, date of birth, school, teacher's le, and whether in the first half or second half of the grade. number the lines on their papers from 1 to 50.

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DIRECTIONS FOR SCORING

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ition to capitalization.

loubt as to the child's spelling, count as wrong.

DIRECTIONS FOR INTERPRETING SCORES

When the spelling papers are scored, the classroom teacher will want to ask four questions:

(1) How does the class or individual pupil compare in spelling achievement with the norms obtained from testing thousands of pupils of the same grade?

(2) What is the grade status of the individual pupil or of the class? That is, for what grade is the spelling ability of the pupil or class normal?

(3) How does the pupil compare in spelling achievement with other pupils of the same age?

(4) For what age is the spelling ability of the pupil normal?

Two methods are offered for answering the first question. By the first method the teacher simply compares the score of the pupil or class with the grade norms given in Table 1. For example, Table 6 shows the scores of some sixth-grade pupils. Pupil A's score was 16 words spelled correctly. Comparing this score with the grade norms in Table 1, we see that it is less than the midyear average for third-grade pupils. Pupil C of the same table spelled 37 words correctly, which is better than the standard for sixth-grade pupils of midyear. The class average was 31.4, which was nearer to the fifth-grade norm than to the sixth-grade norm. This method answers roughly the second question as to the grade status of the pupil or class.

The second method is the more exact one. It is known as the T-score method and is explained in the section on "T-score in spelling," below, and "Grade status in spelling," page 6. The T-score method enables the teacher to answer the second question also with greater precision.

The T-score method is also used to answer the third question. A measure of a child's spelling achievement in comparison with that of other children of his own age is known as his "Brightness in Spelling" and is represented by the symbol "Bs." The section on "Brightness in spelling," page 5, explains how to find the Bs of a pupil or class.

A convenient method for answering the fourth question is to find what is known as the spelling age of the pupil. Thus, a pupil whose spelling achievement is just equal to that of a 10-year-old child is said to have a spelling age of 10 years (or 120 months) no matter what his actual age may be. The section "Spelling age," page 4, explains how to find the spelling age of a pupil.

Instructions to Pupils

Have pupils clear desks. Provide them with sharpened pencils and uniform paper. Have a few extra pencils available. Have each child write at the top of his page his name, age in years at last birthday, date of birth, school, teacher's name, date, grade, and whether in the first half or second half of the grade.

Have pupils number the lines on their papers from 1 to 50.

Read to pupils: "We will now have a spelling lesson. There will be 50 words. I will pronounce each word, use it in a sentence, and pronounce it a second time. If you do not understand any word, leave the space blank and wait for the next word. Try to spell each word. Be sure to dot the i's and cross the t's." In rooms having two or more grades the examiner will add, "Every one will spell the same words."

Pronounce each word as in the following illustration: "Your — Your books are in the desk — Your." Each examiner will pronounce words at such rate as seems best suited to the class.

Collect papers as soon as children have written the last word.

If, at the close of the test, younger pupils should seem bewildered and confused, the examiner should smilingly encourage them by explaining that he didn't expect them to spell all the words. He should endeavor to close the test period leaving the children uniformly happy.

DIRECTIONS FOR SCORING

Mark each word either right or wrong. The standard of correctness is absolute accuracy, in order to avoid subjective scoring.

Where two or more spellings are allowed for a word by any standard dictionary, count either spelling as correct.

Count as wrong if the letter "i" does not have a dot or if the letter "t" is not crossed, unless it be a special "final t" construction.

Do not give credit for spelling words not pronounced; e.g., "tops" for the word "top," or "men" for the word "man."

If a child attempts to rewrite a word, consider the obvious intention of the child as the spelling to be scored.

Pay no attention to capitalization.

If in actual doubt as to the child's spelling, count as wrong.

Count the number of words spelled correctly by each pupil.

DIRECTIONS FOR RECORDING

In order to record the scores made by pupils, it is suggested that the teacher or examiner draw up a class record similar to the sample shown on the last page. On this class record will be written the name of the school, grade, etc., the list number and date of the test, the name of each pupil taking the test, his age in years and months, the number of words correct, and, if desired, his Ts, Gs, and Cs, or spelling age. The meanings of these symbols are given below.

If a large sheet of paper is used, the last four columns may be repeated so as to provide for recording two or three scores of each pupil. This will save writing the names and ages again and bring the scores closer together for reference. It will be understood that the age of the child is his age on the date of the first test.

When the spelling papers are scored, the classroom teacher will want to ask four questions:

(1) How does the class or individual pupil compare in spelling achievement with the norms obtained from testing thousands of pupils of the same grade?

(2) What is the grade status of the individual pupil or of the class? That is, for what grade is the spelling ability of the pupil or class normal?

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TABLE 1. GRADE NORMS IN TERMS OF AVERAGE NUMBER OF WORDS SPELLED CORRECTLY

GradeAverage number of words spelled	2	3	4	5	6	7	8	9
correctly		18	24	30	35	39	42	44

These norms represent average achievement for 57,337 pupils in rural and village schools. There were approximately 8000 pupils tested in each grade except the ninth. The ninth-grade score represents the achievement of nearly 1000 pupils.

T score in spelling. The score of a pupil in any test may be expressed as a T score 1 in spelling (Ts) by means of Table 2.

¹ A term introduced by William A. McCall in "Uniform Method of Scale Construction," Teachers College Record, January, 1921.

A Ts of 50 denotes the median spelling ability of unselected pupils whose age last birthday was 12 years. The units of Ts above and below 50 indicate theoretically equal increments of spelling ability, according to the assumption that the spelling ability of 12-year pupils is distributed according to the law of normal distribution. Each 10 units of T-score represent 1 SD (standard deviation) of distribution of 12-year-olds. Any pupil or class, for example, whose Ts is 70 has an ability that is 20 T (or 2 SD) above the mean ability of 12-year-olds.

Find the pupil's total number of words correct in the first column of Table 2 and read the corresponding Ts. This is the pupil's T score in spelling. Thus, the first pupil in Table 6 spelled 16 words correctly, which, according to Table 2, corresponds to a Ts of 36. Table 2 and all others apply to any list.

TABLE 2

Words Correct	Ts	Spelling Age	Gs	WORDS CORRECT	Ts	SPELLING AGE	Gs	WORDS CORRECT	Ts	SPELLING AGE	Gs
0	17	84	1.0	18	37	116	3.5	36	52	156	6.8
1	20	85	1.3	19	38	118	3.7	37	53	159	7.0
2	22	87	1.5	20	39	120	3.9	38	54	162	7.3
3	24	89	1.7	21	40	122	4.1	39	55	165	7.5
4	25	90	1.8	22	40	124	4.2	40	56	168	7.7
5	26	92	1.9	23	41	126	4.3	41	57	171	8.0
6	27	94	2.0	24	42	128	4.5	42	58	174	8.4
	28	96	2.1	25	43	130	4.7	43	60	177	8.8
7 8	29	98	2.2	26	44	132	4.9	44	61	180	9.3
9	30	99	2.3	27	44	135	5.I	45	63	184	9.8
10	31	101	2.4	28	45	137	5.2	46	65	188	10.5
11	32	103	2.5	29	46	139	5.4	47	67	192	11.2
12	32	104	2.6	30	47	142	5.6	48	69	196	11.7
13	33	106	2.7	31	48	144	5.8	49	72	200	12.5
14	34	108	2.9	32	48	146	6.0	50	77	204	13.0
15	35	110	3.1	33	49	149	6.2				
16	36	112	3.3	34	50	152	6.4				1
17	36	114	3.4	35	51	154	6.6				1

Table 3 gives a further interpretation of T scores. It shows the percentage of 12-year-olds (pupils between 12 and 13) whose T scores are exceeded by a T score of 25, 30, 35, etc. Thus, a pupil making a T score of 65 exceeds 93 per cent of 12-year-olds in spelling ability.

TABLE 3

	-	1		120		1	100	1	1 6-	6-	
T score		25	30	35	40	45	50	55	00	05	70 75
Percentage of 12-year-olds exceeding		1	2	7	16	31	50	69	84	93	70 75 98 99

Spelling age.¹ A score of 26 words correct is the normal score for the age of just 11 years (132 months). Any pupil, therefore, making a score of 26 is said to have a spelling age of 132 months. In the third column of Table 2 is given the spelling age corresponding to each score.

¹ A spelling age corresponds to a mental age obtained by a test of mental ability. A pupil should have a spelling age equal to his mental age, provided his spelling ability is on a par with his mental ability.

Brightness in spelling. A T score of 50 is the norm for the age of just 12 years, 6 months (average age of pupils whose age last birthday was 12 years). A pupil 12 years, 6 months old who makes a Ts of more than 50 is brighter than normal in spelling. Similarly, a pupil 12 years, 6 months old who makes a Ts less than 50 is duller than normal in spelling. The Ts of a pupil just 12 years, 6 months old is, therefore, a measure of his brightness in spelling. Indeed, we may express the brightness of any pupil in spelling in terms of the Ts he would have made if he were just 12 years, 6 months old.

TABLE 4

Age Yrs. Mos.	Normal Ts	CORREC- TION (Add to Ts)	Age Yrs. Mos.	Normal Ts	CORREC- TION (Add to Ts)	Age Yrs. Mos	Normal Ts	CORRECTION (Add to Ts
7-6	24	26	0-11	44	6	14-6	58	-8
7-8	25	25	11-2	45	6 5	14-8	58	-8
7-10	27	23	11-4	46	4	14-10	59	-9
8-o	28	22	11-6	46	4	15-0	60	-10
8-2	29	21	11-8	47	4 3 3	15-2	61	-11
8-4	31	19	11-10	47	3	15-4	62	-12
8-6	32	18	12-0	48	2	15-6	63	-13
8-8	33	17	12-2	49	1	15-8	64	-14
8-10	34	16	12-4	49	1	15-10	65	-15
9-0	34	16	12-6	50	0	16-0	67	-17
9-2	35	15	12-8	51	-1	16-2	69	-19
9-4	36	14	12-10	51	-1	16-4	70	-20
9-6	37	13	13-0	52	-2	16-6	72	-22
9-8	38	12	13-2	52	-2	16-8	74	-24
9-10	39	11	13-4	53	-3	16-10	75	-25
10-0	39	11	13-6	54	-4	17-0	77	-27
10-2	40	10	13-8	54	-4	17-2	78	-28
10-4	41	9	13-10	55	-5	17-4	80	-30
10-6	42	8 7	14-0	56	-6	17-6	81	-31
10-8	43	7	14-2	57	-7	A STATE OF THE REAL PROPERTY.		
10-10	43	7	14-4	57	-7	V 1		

Thus, as shown in Table 4, the T score that is just normal for a pupil 12 years, o months old is 48. Now it is assumed that if the normal child's Ts increases from 48 to 50 between 12 years, o months and 12 years, 6 months, the Ts of any other pupil would increase two points from 12 years, o months to 12 years, 6 months. Therefore, if a pupil of 12 years, o months makes a Ts of 51, it is assumed that at 12 years, 6 months he will make a Ts of 51 + 2 = 53. The twelve-year pupil is said to have a Brightness in Spelling 1 (Bs) of 53. He is known to be as bright in spelling, therefore, as a 12 year, 6 months pupil making a Ts of 53.

To find the Bs of a pupil, find his age in Table 4 and note the correction (amount necessary to add to the Ts that is normal for that age to get 50). If the correction is plus, add it to the Ts of the pupil; if it is minus, subtract it.

¹ Both the symbol and the idea are borrowed from the writing of Otis.

Thus, the first pupil in Table 6 is 13 years, 2 months old and made a Ts of 36. The correction for the age of 13 years, 2 months as shown in Table 4 is -2. Therefore, this pupil's Bs is 36-2=34.

The normal Bs for all ages is 50. Any pupil making a Bs above 50 is brighter than normal in spelling. A pupil making a Bs of 40 is 10 T (or 1 SD) below the mean of his own age group in spelling ability. Table 3 shows also the significance of a Bs. Thus a Bs of 60 indicates that the pupil exceeds in spelling ability 84 per cent of pupils, not 12 years old but of his own age. A Bs of 75 means that a pupil is 25 T (or 2.5 SD) above the mean spelling ability of pupils of his own age. According to Table 3, such an individual is shown to be extremely bright in spelling, since he exceeds 99 per cent of pupils of his own age group in spelling ability. In like manner the Bs for a class shows the brightness in spelling of that class as a whole.

Both Ts and Bs are needed. Ts gives a measure of total spelling ability and incidentally shows how much each pupil or class Ts is above or below the mean Ts of 12-year-olds. A Ts scale is used primarily for the purpose of measuring growth in ability from month to month and year to year.

Of course a 9-year-old pupil or class might have a Ts much below 50 and still be doing exceptionally satisfactory work. There is needed some score which makes allowance for the fact that a pupil or class is younger or older than 12 years, 6 months. The Bs correction automatically makes just this allowance, and the Bs shows pupil or class ability in comparison with pupils or classes of the same age. A young pupil may have a small Ts and a large Bs, and an old pupil may have a large Ts and a small Bs. A pupil or class Ts grows larger from month to month and year to year, whereas the Bs changes little or not at all.

Grade status in spelling (Gs). The number of words any pupil spells correctly or the Ts of any pupil may be expressed in terms of Grade Status in Spelling (Gs). Thus, in Table 2 the Gs corresponding to a score of 18 is given as 3.5. This means that a score of 18 is normal for the third grade at the end of the fifth month of instruction. A Gs of 3.7 means spelling ability normal for the third grade after seven months of instruction, etc.

Classification in spelling (Cs). In order to compare the grade status of one pupil or class taking the test at one time of year, with that of another pupil or class taking the test at another time of year, it is necessary to refer their score to some definite time of year. The Gs that a pupil has or will have at the middle of the year (fifth month) is called his Classification in Spelling (Cs). Thus, if September is the first month of the school year, the fifth month will be January, and it is assumed that if a pupil (see first pupil in Table 6) has a Gs of 3.3 in November, he will have a Gs of 3.5 in January (middle of the year). He is said, therefore, to have a Cs of 3.5. Similarly, if a pupil has a Gs of 6.4 in November (see second pupil in Table 6) his Cs (Gs in January) is 6.6. Assuming the pupil's Gs increases o.1 each month, as would be expected, his Cs remains 6.6 throughout the year. The normal Cs for Grade 6 is 6.5. This pupil, therefore, is always just o.1 in Cs, or one month, ahead of the normal ability of the sixth grade. The normal Cs for all sixth-grade pupils is 6.5 as long as they remain in the sixth grade; the norm for all seventh-grade pupils is 7.5 throughout the year, etc.

Table 5 shows the correction to be applied to the Gs of a pupil to find his Cs.

Thus, if a pupil is tested in the first month, add .4 to his Gs to find his Cs; if tested in the second month, add .3; if tested in the sixth month, subtract o.1; etc.

FFT .	_		-
TA	В	LE	5

Month Cs Correction	+.4	+,3	+.2	+.I	5 0	6 1	-, ₂	8 3	4 4	10 5
---------------------	-----	-----	-----	-----	-----	--------	-----------------	--------	--------	---------

Class standing. To find the Ts, Bs, Gs, and Cs of the class or grade as a whole, find the mean (average) age and mean Ts of the class. From these values find the class Bs, Gs, and Cs in the same manner as would be done in the case of an individual having that age and Ts, as shown in Table 6. Since the pupils whose scores are given in Table 6 are sixth-grade pupils, their grade norm in Cs is 6.5. The first pupil's Cs is only 3.5. This means that his spelling ability is just normal for the third grade. He is, therefore, three full grades below the norm for the sixth grade. The class as a whole is 0.4 Cs or 4 months below normal for sixth grades in general. In this connection it must be remembered that classes differ in age. The mean age of this class is less than the mean age of the ordinary sixth grade, and the class Bs shows that it is practically a normal class for its mean age.

TABLE 6. Hypothetical Scores of Low-Sixth-Grade Pupils Tested in November, Showing the Corresponding Values of Ts, Bs, Gs, and Cs

	Name							Yrs. A	Mos.	Words Correct	Ts	Bs	Gs	Cs
A . B . C . D . Class					* * * * * *		 *****	 13 12 10 11 13 12	2 6 7 4 5	16 34 37 34 36	36 50 53 50 52 48.2	34 50 60 54 48 49.2	3.3 6.4 7.0 6.4 6.8 5.9	3.5 6.6 7.2 6.6 7.0 6.1

Accuracy of scale scores. All the words in each list of this spelling scale were selected from Ayres' Spelling Scale and Buckingham's Extension of Ayres' Spelling Scale, in such a way as to make all lists equally difficult, and the words were required in addition to appear among the 5000 most commonly used words as reported in Thorndike's Word Book.

To test this equivalence, List 1 was applied to 33,299 pupils, List 2 to 10,542 pupils, and List 3 to 13,490 pupils. These pupils were a random sampling from Grades 2 through 9 in the rural and village schools of New York State. Since the three T scales (not necessarily the individual words) proved to be almost exactly identical, we have assumed that all lists are similarly equivalent, since all were constituted in the same way. Also we have combined the data from the three lists so that the final T, B, and C scales are based upon 57,331 pupils.

ACKNOWLEDGMENTS

For aid in the preparation of these scales we gratefully acknowledge our obligation to Leonard P. Ayres, B. R. Buckingham, and Edward L. Thorndike, whose material we have so freely drawn upon. For applying the tests and scoring the papers we take pleasure in expressing our appreciation to the coöperating teachers and superintendents of the New York State rural and village schools.

LIST 2

LIST 1

	PII N	The boy can runrun
	run	The top will spintop
2.	top red	My apple is redred
3.	book	I lost my book book
4.		The sea is roughsea
5.	MILE TO THE REAL PROPERTY AND ADDRESS OF THE PERTY ADDRESS OF TH	I will play with youplay
	play	Lay the book downlay
7.	lay	He led the horse to the barnled
	led	Add these figuresadd
	add alike	These books are alikealike
10.	mine	That bicycle is minemine
		Mary will go with you with
12.		Our lessons are not easy easy
	easy	Please shut the doorshut
	shut	Has he done the work?done
-	done	The chest is a part of the bodybody
	body	I shall go anyway anyway
17.	anyway	Please omit the next verseomit
	omit	
19.	fifth	This is my fifth trip
20.	reason	Give a reason for being latereason This is a perfect dayperfect
21.	perfect	Chairman friend friend
22.	friend	She is my friend
23.	getting	Nearly all of the candy is gonenearly
24.	nearly	I have no desire to godesire
	desire	Please arrange a meeting for mearrange
	arrange	I have written four letterswritten
	written	Search for your booksearch
28.	search	He is a popular boypopular
29.	popular	Show some interest in your workinterest
	interest	She is very pleasantpleasant
31.	pleasant	Therefore I cannot gotherefore
32.	therefore	My folks have gone away folks
33.	folks	There will be a celebration today celebration
34.	celebration	Wait a minuteminute
35.	minute	Divide this number by tendivide
	divide	It is necessary for you to studynecessary
37.	necessary	What is your height? height
200	height	He made reference to the lessonreference
39.		The future holds a bright career for you career
40.		He has a good character
41.		Separate these papers separate
42.	And the last of th	The committee is smallcommittee
43	1	This is the annual meeting annual
44		The theory is wrong in brinciple principle
45	The state of the s	The theory is wrong in <i>principle</i> principle The man is carrying an <i>immense</i> load immense
46	The state of the s	The teacher's judgment is goodjudgment
47		He is an acquaintance of mine
48	11 1 11	The army discipline was strict discipline
49	. discipline	He is a <i>lieutenant</i> in the armylieutenant
50	. lieutenant	The is a weavenant in the army

I.	can	I can go with youcan
2.	ten	I have ten centsten
3.	old	How old are you?old
	six	I am six years oldsix
	ice	He slipped on the <i>ice</i> ice
	child	The child is ill
	his	His arm was brokenhis
	that	That is my dogthat
	far	How far are you going?far
-	form	Form a circleform
	glad	I am glad to see youglad
12.	The second second	Her name is the same as minesame
	night	Owls come out at nightnight
	cent	I haven't a centcent
	within	Keep within the lawwithin
	point	Point toward the northpoint
	money	How much money have you? money
18.	picture	Whose picture is this?picture
19.	The state of the s	Do not change your positionchange
	number	Number your papersnumber
	struck	He was struck by lightningstruck
	personal	It is a personal matterpersonal
		Do you know her address?address
23.	several	I have several hatsseveral
	known	I have known her a weekknown
26.	their	Their homes were floodedtheir
16.27		
27.	perhaps	Perhaps you are rightperhaps
28.	popular	Golf is a popular gamepopular
29.	and the contract of the contra	He fell against the wallagainst The hidden treasure was foundtreasure
30.	treasure	
31.	investigate	I will investigate for youinvestigate
32.	certain	I am certain of the datecertain
33.	really	Are you really going?really
34.	conference	The teachers had a conference
12120	business	His business is important business
36.	a carrier of the contract of	Mr. Smith is a good citizen
37.		The decorations were <i>elaborate</i> elaborate
-	association	They formed a large associationassociation
39.	evidence	We have plenty of evidenceevidence
40.		My secretary is accuratesecretary
41.	character	He has a good <i>character</i>
42.	cordially	He welcomed us cordially
2017	especially	I am especially happy today especially
44.	disappoint	I will not disappoint you
	decision	The boy made an excellent decision decision
	parliament	We attended Parliamentparliament
47.		Can you recommend that book?recommend
	endeavor	Endeavor to do your bestendeavor
	privilege	It is your privilege to goprivilege
50.	villain	The burglar was a villainvillain

Pag	e 10	
		LIST 3
ī.	is	He is hereis
2.	now	Come nownow
3.	little	Little children playlittle
	did	Did you go?did
	hat	Put on your hathat
7	hot	The rolls are hothot
	was	She was here yesterdaywas
1000	ran	Bob ranran
	told	She told a story told
-	sold	He sold his topsold
	hope	I hope to go awayhope
	room	This is your roomroom
	light	The light hurts my eyeslight
0.00	stamp	Stamp the letterstamp
	push	Push the door openpush
	third	The third problem is easythird
	few	I have read few booksfew
	wire	The basket is made of wirewire
	tax	People tax themselvestax
	raise	There goes the postmanthere
	100000	Raise the windowraise
	request	Your request will be grantedrequest
	truly	The money is truly yourstruly
24.		Many people live in cities
25.		Boats sail on watersail
	whose	Whose apple is this?whose
27.	attempt	Attempt to spell correctlyattempt
28.	The street of th	Search carefully for your book search
29.		I will consider your requestconsider
30.	complete	John's work is completecomplete
	piece	Would you like a piece of cake?piece
32.	system	The city has a water system system
33.	national	Our national flag is beautifulnational
34.	refer	To whom do you refer?refer
	absence	Can you explain your absence?absence
36.	majority	We will do what the majority wishmajority
37.	unfortunate	It was an unfortunate accident unfortunate
38.		The next session will be importantsession
39.	discussion	We had an interesting discussion discussion
40.	experience	What experience have you had?experience
41.	proceed	Proceed with the explanationproceed
42.	practical	This is a practical examplepractical
43.	preliminary	This is a <i>preliminary</i> reportpreliminary
44.	receipt	Keep the receiptreceipt
45.	possess	What talent do you possess?possess
46.	restaurant	Who owns this restaurant? restaurant
47.	parallel	Parallel lines never meet parallel
48.	physician	He is a good physicianphysician
49.	kerosene	Kerosene is an oil that burns kerosene
50.	pneumonia	Heavy colds cause pneumoniapneumonia

ī.	she	Is she at home?she
2.	man	That man is goodman
	good	Be a good boygood
	this	This book is minethis
	over	The ball is over the fenceover
72	say	You must say your prayerssay
7.	belong	Does this pen belong to you?belong
	stand	Please stand upstand
Q.	sick	The doctor is sicksick
	foot	I hurt my footfoot
II.	5.00	My sister is heresister
12.	inside	Come inside the tentinside
13.	mail	Please mail my lettermail
14.	two	I have two applestwo
15.	began	I began work last weekbegan
	watch	Watch that manwatch
17.	happen	It does not happen oftenhappen
18.	sight	I lost sight of the birdsight
19.	bridge	The bridge is largebridge
20.	front	The front of the car is smashedfront
21.	elect	I hope they elect my choiceelect
22.	refuse	I refuse to gorefuse
23.	pleasure	It was a great pleasurepleasure
24.	vacation	I had two months' vacationvacation
25.	repair	I must repair my wheelrepair
26.	surprise	It will be a surprisesurprise
27.	select	Please select your giftsselect
28.	weigh	How much do you weigh?weigh
29.	publication	It was a good publicationpublication
30.	adopt	He will adopt the childadopt
31.	century	That happened a century agocentury
32.	assist	Will you assist me?assist
33.	summon	Please summon helpsummon
34.	invitation	I accept the invitationinvitation
35-	automobile	I have a new automobileautomobile
36.	colonies	The colonies will govern themselvescolonies
37-	foreign	She is of foreign birthforeign
38.	arrangement	I like the arrangementarrangement
39.	campaign	The campaign started todaycampaign
40.	imagine	Can you imagine such a thing?imagine
41.	extreme	His tastes are <i>extreme</i> extreme
42.	organization	It is a large organizationorganization
43.	immediate	I had an immediate replyimmediate
44.	employees	The employees had a raise in payemployees
45.	accommodate	I will gladly accommodate youaccommodate
46.	superintendent	He is the <i>superintendent</i> superintendent
47-	allege	I allege he is not guiltyallege
48.	stationery	He gave me a box of stationerystationery
	vaguely	His impression was vaguely remembered vaguely
50.	sovereign	The sovereign prince is illsovereign

I.	is	The apple is redis
2.	now	Now is the time for playnow
3.	you	You must be quietyou
4.	all	All the boys are hereall
5.	must	You must recite todaymust
6.	come	Come with mecome
7.	door	Close the doordoor
8.	yard	This stick is a yard longyard
9.	got	I got a new hat yesterdaygot
10.	blow	Blow out the lightblow
II.	cast	Cast aside your worriescast
12.	blue	Her eyes are blueblue
13.	eye	My eye hurtseye
	they	They will be waitingthey
	able	He is able to be outable
	dash	He made a dash for the doordash
17.	begun	Have you begun your work?begun
	stood .	He stood erect stood
	offer	I made them a good offeroffer
	rule	What rule did you use?rule
21.		He is now aboard the ship aboard
1000	district	It happened in your district district
	navy	I want to join the navynavy
	beautiful	What a beautiful tree!beautiful
	trouble	Keep out of trouble trouble
	period	Every period is filledperiod
	connection	There is no connection hereconnection
	wear	Wear your new uniformswear
	machine	The machine is broken machine
	secure	The fastenings are secure secure
	total	What is the total score?total
32.	22.00	There is little differencedifference
-	44	He is the best official we haveofficial
33.	State of the state	I will accept your offeraccept
34.	various	I have various kinds of candyvarious
	assure	I will assure him of his safetyassure
	expense	You have been an expense to meexpense
7	testimony	His testimony could not be shaken testimony
39.	coarse	This material is coarse
40.	independent	He is independentindependent
41.	athletic	She is athletic
42.	bicycle	I have a new bicyclebicycle
43.	convenient	It will be convenient for me
44.	exquisite	The trimmings are exquisiteexquisite
45.	orchestra	The orchestra played several timesorchestra
46.	thoroughly	I am thoroughly displeasedthoroughly
47.	cemetery	Let's go to the cemeterycemetery
48.		The tortoise lives on land tortoise
49.		Congress will appropriate large sumsappropriate
50.	proficiency	His proficiency was remarkable proficiency

1	. it	It is time to goit
2	. the	The snow is fallingthe
3	. will	Will you go with me? will
-	. your	Your paper is soiled
	make	Make up your mind nowmake
	hand	Give me your handhand
7.		Yes, I will goyes
8.		Bring me another book bring
Q.		I expect to go up northnorth
10.		We live on the same blockblock
11.		Did you leave your card?card
Aldi	post	The post has fallenpost
	glass	Do not brook that glass
	would	Do not break that glassglass
	gone	Would you like some cake?would
	fell	They have been <i>gone</i> an hourgone
	collect	He fell and hurt himselffell
		Please collect the paperscollect
	fix suffer	The men will fix the chair
		She did not suffer anysuffer
	carry	Carry this package for mecarry
	jail	He is in jailjail
	restrain	He could not restrain his angerrestrain
-	fourth	This is the fourth periodfourth
24.		The birds' flight was rapidflight
30	entrance	The entrance is closedentrance
	addition	The addition is correct addition
	firm	The firm is bankrupt
	entertain	I will entertain your motherentertain
29.	toward	We went toward the northtoward
-	honor	Have you no honor?honor
31.	mention	Do not mention my name mention
32.	examination	The examination was difficultexamination
33.	victim	He is a victim of circumstancesvictim
34.	impossible	It is impossible to hearimpossible
35.	decide	Decide for yourselfdecide
	relief	My relief was sincere relief
	responsible	Who is responsible for this? responsible
	principal	He is <i>principal</i> of the schoolprincipal
Sec. 15.	columns	How many columns have you?columns
	individual	Who is this individual? individual
41.	sincerely	He spoke sincerelysincerely
42.	calendar	Where is the calendar?calendar
43.	artificial	Those flowers are artificial artificial
44.	familiar	Those sounds are familiar familiar
45.	perceived	I perceived the answerperceived
46.	surgeon	He is a great surgeon surgeon
47.	enthusiasm	This enthusiasm is wonderfulenthusiasm
48.	extraordinary	He is an extraordinary person extraordinary
	immediately	I left immediately after you immediately
	lieutenant	He is first lieutenantlieutenant

-	and	You and I will go and	I.	go	You may go homego
	last	I went the <i>last</i> timelast		up	Put up the windowup
	we	We are tiredwe		my	My head achesmy
	out	Come out of the darkout		time	What time is it?time
	make	Make him come inmake		street	What street is this?street
	ring	Ring the bellring		live	Where do you live?live
7.	low	The ceilings are lowlow		soft	The ice cream is softsoft
8.	tell	Tell the truthtell	8.	five	I have five centsfive
9.	white	Her teeth are very whitewhite	9.	spent	I spent all my money spent
10.	spring	The cat will spring at youspring	10.	river	This river is small river
II.	south	The birds have gone southsouth	II.	deep	The river is deepdeep
12.	town	What town is this?town	12.	stay	Stay in the housestay
13.	party	We had a fine partyparty	13.	upon	The Indians were <i>upon</i> themupon
-	any	Have you any money?any	14.	1.1	Could you mend the toy?could
15.	suit	Is that suit new?suit	15.	track	The track is six miles longtrack
	fight	Wild animals fightfight	16.	buy	Please buy me some candybuy
17.		File these lettersfile	17.	provide	I will provide for the futureprovide
18.	born	You were born in 1910born		goes	He goes away todaygoes
10.	built	He built a canoebuilt	10.		Point to the center of the circlecenter
20.	chain	Make a daisy chainchain	20.	death	His death was very saddeath
21.	1 1	The horse is in the <i>shed</i> shed	21.	retire	It is time to retire retire
	royal	The royal palace was destroyed royal	22.	1	Have you any objection?objection
	population	What is the population of Boston? population	200	proper	Is this the <i>proper</i> heading?proper
	travel	I shall travel a great dealtravel	24.		His work was rapidrapid
	importance	The work is of great importanceimportance	25.	30 TOWNS CO. 13	I carried the banner
26.	COCK IN CLASS	We employ two girlsemploy		property	The property is mineproperty
	region	What region are you in?region	27.	Control of the control	The convict has escapedconvict
28.	salary	What is your salary?salary		visitor	We have a visitorvisitor
	Marie Statement	Her success is wonderfulsuccess	20.	drown	Do not drown the kittensdrown
30.	promise	Promise to keep quietpromise	30.	A STATE OF THE STA	There was a sad wreck todaywreck
31.		When does the train arrive?arrive	31.		The supply is exhaustedsupply
	particular	I am not particular particular	32.		It was a gala affair
33.		Can you estimate the amount? estimate	33.		It was an accident accident
	concern	He is a member of our concern concern	34.		I will not associate with them associate
35.	entitle	It will entitle you to a prizeentitle		political	There is a political meeting tonightpolitical
	occupy	Do not occupy all the spaceoccupy		probably	Probably we shall be lateprobably
	beginning	This is the <i>beginning</i> of a new chapterbeginning	37.	The second secon	You must file your applicationapplication
	apparent	His delight was apparentapparent	01	ascending	I was ascending the stairsascending
39.	desirable	This location is desirable desirable		extremely	We are extremely thankful to youextremely
40.	innocent	Are you innocent of this deed?innocent	100.00	leisure	We spent our <i>leisure</i> time fishingleisure
41.		I appreciate your kindnessappreciate		emergency	I reached for the emergency brakeemergency
-	disease	This disease is incurabledisease	25.25	foreigners	They are all foreigners foreigners
42.	associates	They are business associates associates	100.00	development	The development was perfectdevelopment
43.	finances	The finances were well handledfinances		intelligent	She is an intelligent child intelligent
44.	recommended	You are well recommended recommended		seized	The man seized the falling childseized
45.	precipice	She fell over the <i>precipice</i> precipice	10.00	orchestra	The orchestra played wellorchestra
40.	1 1 1	He is my physicianphysician	0.5	syllables	Pronounce the syllables distinctlysyllables
47.	The state of the s	The mortgage is due tomorrow mortgage	100,000	mortgage	The mortgage is duemortgage
40.	mortgage	There is a new dispensary in our towndispensary		persistence	Her persistence was amazing persistence
	dispensary	I will guarantee his workguarantee	N	incessant	The talking was incessant incessant
50.	guarantee	I will guarantee his work	50.	meessant	The taiking was theessam

(Sample)

MORRISON-McCALL SPELLING SCALE

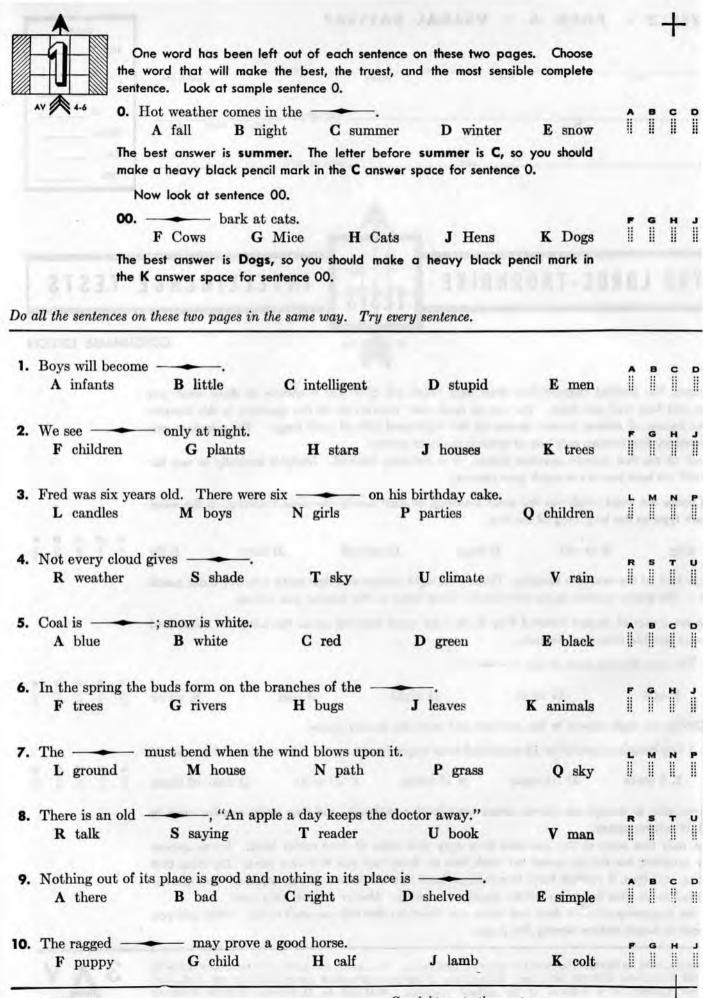
CLASS RECORD

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ow and how the column o owed by five ook at the for orself just how	well you think. You well you think. You of dotted answer spechoices, only one of first sample question we you are to mark you	ou are to mark paces at the rig of which is the rig n below. It is your answers.	your answers t ght-hand side o ight answer. correctly mark	to all the questof each page. ed. Study it	tions in this The question carefully to	booklet ons are see for					
	word which has the the beginning of th		, or most near	y the same m	eaning, as th	e word					
dog	A afraid	B song	C anima	d D	large	E fly	Î	-	Ĭ	Ĭ	ì
	the next two sample ted answer space t					k pencil					
WINDS TO THE RESERVE	of choices lettered e complete sentence		he word that w	vill make the	best, the true	est, and					
The sun a	lways rises in the	 .					4				
F east	G win	d I	H night	J rain	K	water	F		-	,	K
Choose the	right answer to this	problem and m	ark the answer	space.							
A boy bou	ight a pencil for 10	cents and some	e paper for 10	cents. How i	much did he	spend?					
L 5 cen	its M 10 cer	nts N 15	cents P	20 cents	Q none o	f these	-	M		-	
ight answer u may find y question, can, and the cted to be the beginn	o change an answer r space. I some of the ques but do not spend en, if you still have able to answer all ning of each short to gin before turning to	tions very easy too much time of time left, go be the questions co test there are d	and some of on those that years ack and do tho orrectly. Alway	them rather hou find very hose that you skips do your ver	ard. Try to ard. Do the ipped. You y best.	answer ose that are not					

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 $^{3}A^{V}$



1	Page 3	Sto	p! Wait until you	u are told to go ahead	to Test 2.	Se	ore			
*	Think long when A abstain	B live	— only once. C die	D decide	E eat	ı	8	C	D	
	Reason is founded R love	ed on the S confusions	of our senses.T abuse	U evidences	V brutality	R	s :::	T		1
	It is L desirable	to be generous wit M necessary	h other people's p N good	P important	Q easy	ı	M	2	P	
	The only stable F just	state is the one in G right	which all men are H equal	J guiltless	he law. K natural	F	G	H	J	
	No matter how A injures	harsh advice may b B helps	C pays	D delights	E respects	*	B 	C	D	
	Cause and effect R caution	t, means and ends, S thought	seed and T fruit	— cannot be severe U science	d. V philosophy	R	s 	T II		
	It must be ———————————————————————————————————	: I've done i M wrong	t from my youth. N factual	P rude	Q kind	ii	M 	N	P	
	The person who F reforms	G improves	er must make good H instructs	the damages. J injures	K delights	F	G	H	J 	
	The important t should be given A learn		C hope	hould be taught, as t D reject	E teach	Å	B	C	D	
	R white	S pretty	T small	U yellow	V red	#	s 	T II		
	Good company L feast How the	on a journey makes M way	N joy	eem shorter. P work	Q care		M 	N	P	
	F black	G white	H dirty	J spread	K good	i	-		111	
	When a dove beggrows black.	gins to associate wit	th crows, its feath	ers remain	- but its heart		G	н		
	How far the litt A candle	le throv	ws its beams! C sky	D puppy	E night	*	B	C	D	
	Caterpillars spir R webs	S around	emselves in the fall	l. U cocoons	V butterflies	R	s	1	U 	
•	I know of no wa	M future	N priority	P morn	Q decline		M 		P	9
				Account to						



Look at sample question 0.

0. rose daisy violet

A red B garden C sweet D grow E lily

ii ii

The words in dark type in question 0 are the names of flowers. On the next line only lily is the name of a flower. The letter before lily is E, so you should make a heavy black pencil mark in the E answer space for question 0.

Now look at question 00. Think in what way the words in dark type go together. Then find the word on the line below that belongs with them,

00. go run walk move

F think G dream H march J sing K seem

The right answer is march. You should make a heavy black pencil mark in the H answer space for question 00.

Do all the questions on these two pages in the same way. Try every question.

1.	horse cow A farm	lamb B forest	C canary	D pig	E beast	•	B 	C	D
2.	F Benjamin	Pete G Ted	H Harold	J Melvin	K Arthur		G	II	1
3.	dish cup L fork		N plate	P drink	Q meal		M	Z	P
4.	bean carrot R orange	spinach S pea	T seed	U vegetable	V lunch	R	s	T	U
5.	Sarah Clara A Ben	Joan B Freddy	C Louise	D Sam	E Ronald	î	B	0	D
	500								
7.	pencil chalk L paper	crayon M letter	N easel	P pen	Q paint	L	M 	Z	P
8.	hand chin R glove	eye toe S shoe	T hair	U touch	V forehead	R	S	T	U
9.	pot kettle A sink	broiler skillet B stove	C tumbler	D tray	E pan	Å	8	C	D
10.	corn rye	wheat barley G carrots	H cucumber	J bean	K tomato		G	H	()

Page 5	Stop! Wait until you	are told to an ahea	d to Test 3	S	core	i i		
Jupiter Juno Minerv A Diana B Thor		D Balder	E Satyr	^	B	C	D	
captain general majo R ensign S admiral	T colonel	U sergeant	V corporal	R	s	1		
cloak mantle greatco L jersey M dress	N shawl	P overcoat	9	L II	M 	Z	P	0
crest insignia escutch F favor G genealogy			K coat of arms		G	#	J	K
brush mop vacuum o A rag B washing ma	chine C towel	D broom	E cleaner	1	B 	C	D 	E
pepper clove cinnamo R onion S salt	nutmeg T beet	U relish	V soup	R	5	T	U 	
ignition motor genera L gasoline M sedan		P chauffeur	Q brake	L	M	Z	P	9
trousers breeches kni F shorts G skirts	ckers pants H kilts	J coats	K mackinaws	F	G	H	J	K
volunteer neophyte in A contract B amateur		inner	E profession	*	B ::::::	c	D	E
pumps sneakers Oxfo R skis S hose		U moccasins	V skates	R	s	T	U	¥
intelligent keen acute L prudent M poised		P sophisticated	Q bright	L	M 	Z	P	9
star moon planet F sky G solar	H planetarium	J telescope	K sun	•	G	H	1	K
chess checkers domin A pool B lacrosse		D croquet	of soul roll do	A	8	C	D	E
book magazine letter R newspaper S mo		and the same of the	V read	R	s	T	U	
L insect M bat	N animal	P ship	Q train	1	M !!	1	!!	
bird kite airplane	butterfly				м	N	P	0



Look at sample problem 0.

0. If candy costs a cent a piece, how much will nine pieces cost?

A 1¢

B 7¢

C 8¢

D 9¢

E none of these

The right answer is 9e. The letter before it is **D**, so you should make a heavy black pencil mark in the **D** answer space for problem 0.

Now look at problem 00.

00. Mrs. Jones bought a pound of potatoes for 10¢ and a pound of spinach for 15¢. How much did she spend?

F 5¢

G 10¢

H 15¢

J 20¢

K none of these

1

| |

The right answer is $25 \rlap/c$. The answers at **F**, **G**, **H**, and **J** are wrong. You should make a heavy black pencil mark in the **K** answer space because "none of these" is the best answer for problem 00.

Do all the problems on these two pages in the same way. Try every problem.

1. Jim bought a candy bar for 5 cents and a piece of gum for 2 cents. How much did he pay for both?

A 3¢

B 7¢

C 10¢

D 52¢

E none of these

2. Helen bought a pad for 5 cents, some candy for 12 cents, and a pen for 6 cents. How much did she spend altogether?

F 21¢

G 22¢

H 23¢

J 33¢

K none of these

3. A pad costs 5 cents. How much will 4 pads cost?

L 9¢

M 16¢

N 18¢

P 25¢

Q none of these

4. John bought some peanuts for 10 cents. He gave the man 25 cents. How much change should he get back?

R 35¢

S 25¢

T 20¢

U 15¢

V none of these

5. Dick wants to buy some 5¢ pencils. How many can he buy for 25 cents?

25 cents

A 5

B 20

C 25

D 30

E none of these

6. Jane had 36 cookies. She gave away 21 of them. How many did

she have left?

F 14

G 15

H 17

J 57

K none of these

7. A classroom has 5 rows of seats with 7 seats in each row. How many children can be seated in the room?

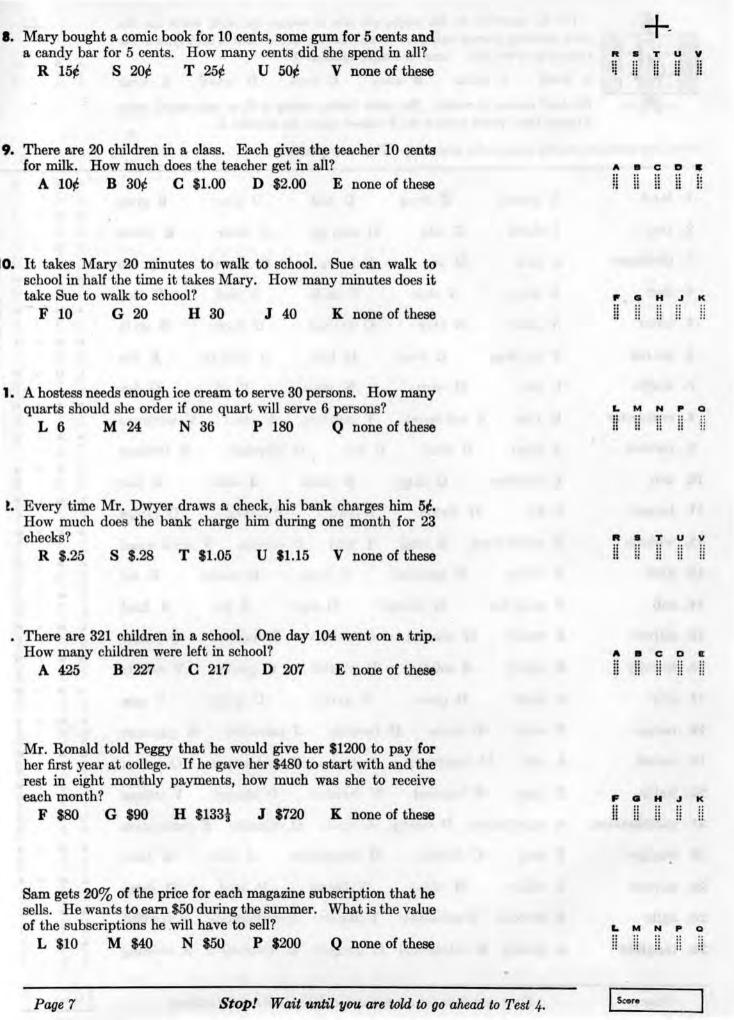
L 2

M 12

N 35

P 57

Q none of these





For the questions on this page, you are to choose the word which has the same meaning, or most nearly the same meaning, as the word in dark type at the beginning of the line. Look at sample question 0.

0. loud A quick B noisy C hard D heavy E weak

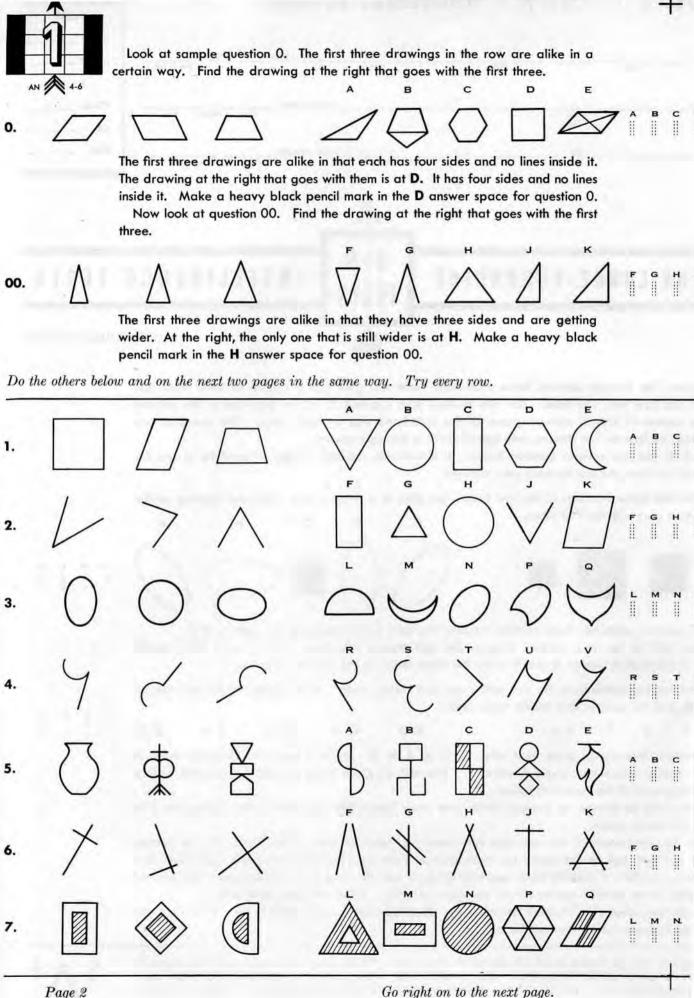
The best answer is **noisy**. The letter before **noisy** is **B**, so you should make a heavy black pencil mark in the **B** answer space for question 0.

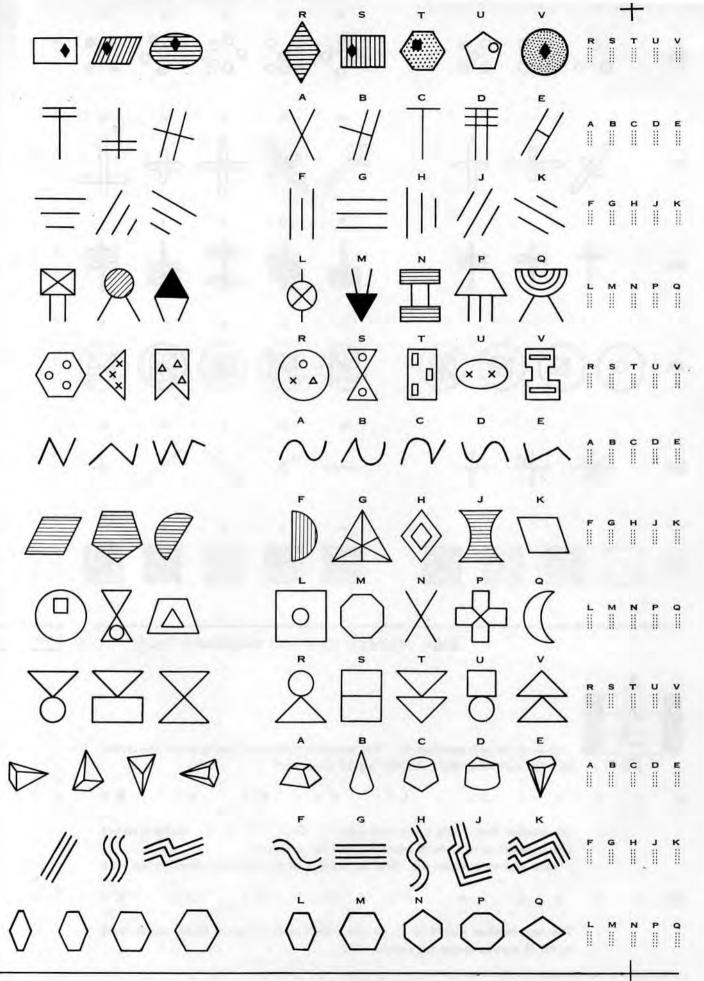
Do all the questions on this page in the same way. Try every question.

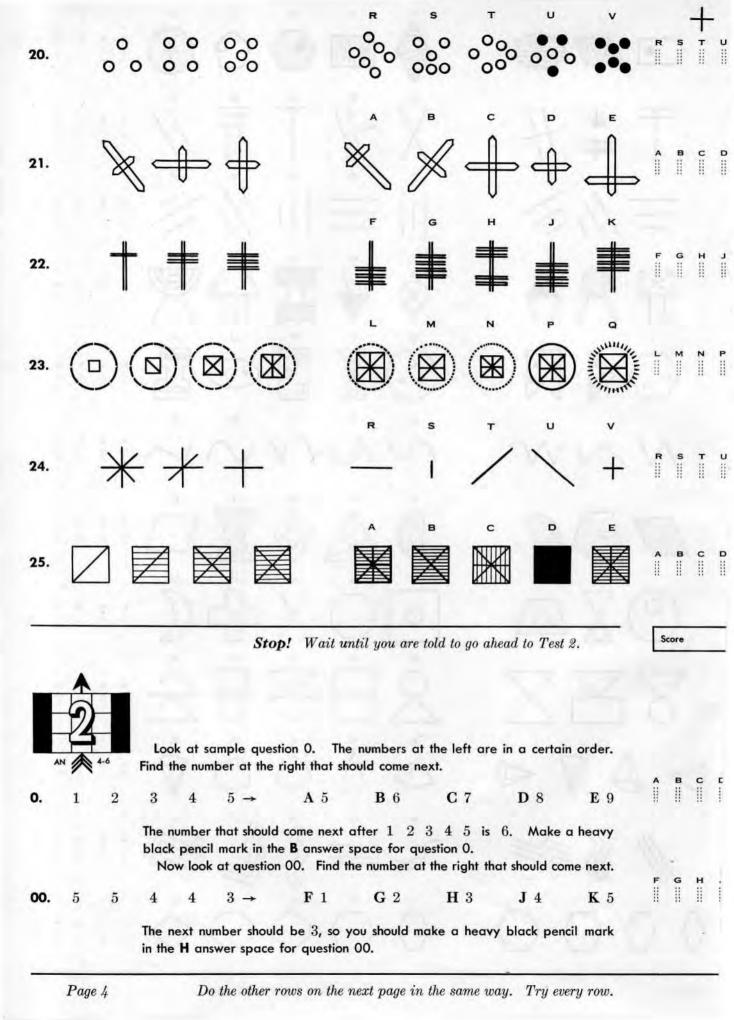
1.	land	A ground	B town	C roof	D river	E grass	1	B	C	D
2.	toss	F drink	G add	H sum up	J lower	K throw	F	G	#	1
3.	elephant	L bird	M zoo	N snake	P animal	Q fish		M	7	P
4.	last	R hope	S shoe	T back	U end	V king	R 	5	I	
5.	enter	A place	B play	C try out	D leave	E go in	î	B		D
6.	beside	F lay siege	G over	H how	J close to	K few		G	H	1
7.	single	L one	M many	N some	P all	Q few	1	M	2	P
8.	carpenter	R ruin S	red carpet	T building	U clam	V workman	R	5	1	
9.	torture	A toper	B total	C law D	labyrinth	E torment	î	B	C	D
10.	mix	F combine	G skip	H reach	J color	K lose	-	G	H	7
11.	fasten	L fix	M divide	N feed	P loosen	Q grease	i	M	N	-
12.	whistle	R small thing	g S song	T bird U	serpent V	shrill sound	R	5	-	U
13.	dew	A storm	B moisture	C drop	D honey	E fog	1	B	C	D
14.	sob	F prejudice	G solem	n H sigh	J joy	K kind	F	6	H	1
15.	adjust	L parole	M account	N disturb	P regulate	Q render	-	M	2	P
16.	heavily	R lightly	S solidly	T feverish	U goodly	V weakly	R	s	1	
17.	grip	A grate	B grow	C gyrate	D grasp	E grin	^	8	0	D
18.	recipe	F catch	G share H	I formula J	narrative	K payment	F	G	H	J
19.	detail	L sale M	insurance	N item P	bookkeeper	Q poison	L	M	2	P
20.	hairy	R light	S beguiled	T divested	U shaggy	V unique	R	3	-	U
21.	exclamation	A supplication	n B outcry	C uplift D	calamity I	Epersecution	A	B	C	
22.	hunger	F food	G famine	H frustration	J fake	K force	F	G	H	1
23.	patent	L officer	M client	N license	P head	Q sheen		M	N	
24.	agile	R nervous	S antiseptic	T nimble	U pugnacious	V terrified	R	s	T	
25.	tangible	A ghostly I	3 substantial	C pungent I	O obstructive	E twisting	•		. 0	-

	GRADE SEX Boy or Girl ATE OF TEST Year Month Day ATE OF BIRTH Year Month Day	SCORE TEST 1 2 3 TOTAL CA DIQ
THE LORGE-THORNDIKE TESTS	INTELLIGENCE	TESTS
AN 4-6	CONS	UMABLE EDITION
w and how well you think. You are to mark your answers to the column of dotted answer spaces at the right-hand side of lowed by four or five choices, only one of which is the right answook at the first sample question below. It is correctly marked reself just how you are to mark your answers. The first three drawings in the row below are alike in a certain that goes with the first three. A B C answer space has been marked because the only black squaw look at the next sample. Choose the right answer and the c in the dotted answer space that has the same letter as the answer space in the same letter as the	each page. The questions are er. d. Study it carefully to see for a way. Find the drawing at the C D E are at the right is at C. then make a heavy black pencil	A B C D E
The first four numbers in the row below are in a certain order. K, find the number that should come next.	In the group of choices lettered	
1 2 3 4 → F 5 G 6	H 7 J 8 K 9	F G H J K
number that should come next after 1 2 3 4 is 5. Make answer space for sample question 2. You will be given mining each of the tests that follow. You wish to change an answer, erase your mark completely, light answer space. U may find some of the questions very easy and some of the question, but do not spend too much time on those that you an, and then, if you still have time left, go back and do those cted to be able to answer all the questions correctly. Always the beginning of each short test there are directions that tell told to begin before turning the page.	and then make another mark in em rather hard. Try to answer find very hard. Do those that that you skipped. You are not do your very best.	

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	_										11173	core			
16	28 8	14 4	7	→	R	$\frac{1}{2}$	S 1	$T 1\frac{1}{2}$	U 2	$V_{-}3\frac{1}{2}$	R	s			
5 1	2 9 1	6 13	20	→	L	14	M 17	N 20	P 21	Q 24	L 	M	Z T	P	
1	4 9	16	25	→	F	36	G 41	H 48	J 49	K 64	F	G	H.		
1	10 10	00	1000	→	A	100	B 1000	C 1100	D 2000	E 10000	A 	B	C	D	
12 9	9 13 1	0 14	11	-	R	10	S 12	T 14	U 15	V 16	R	9 :::::	ii	U	
3 7	8 12	13	17	→	L	18.	M 19	N 20	P 21	Q 22	L !!	M 5	Z F	P	
30	25 21	18	16	→	F	10	G 11	H 13	J 14	K 15		G	11	J	
$2\frac{2}{3}$	$3\frac{3}{4}$	$4\frac{4}{5}$	$5\frac{5}{6}$	→	A	$6\frac{5}{6}$	B $5\frac{4}{5}$	C $5\frac{3}{5}$	$D 6\frac{6}{7}$	E 7 ⁷ / ₈	A	B	С	D	
650	550	450	350	→	R	250	S 300	T 350	U 400	V 450	R 	S	1		
22d	18d	14d	10d	→	L	2d	M 4d	N 6d	P 8d	Q 9d	!!	::	!!	11	
1112	1121	l	1211	→	F	1111	G 1112	H 1121	J 1211	K 2111	ii L	M	z	P	
91	82	73	64	→	A	54	B 55	C 56	D 57	E 58	A	B	С Н	J	
1111	1112	1122	1222	→	R	1222	S 2122	T 2212	U 2221	V 2222	R ::	S	::	!!	
9	8	7	6	→	L	5	M 6	N 7	P 9	Q 10	iii R	5		P	
1	7	2	7	→	F	3	G 4	H 5	J 6	K 7	ii L	G	Z	P	
2 2	2 3	3 4	4	+	A	2	B 3	C 4	D 5	E 8	A	B	С	J	
5 1	10 15	20	25	→	R	20	S 25	T 29	U 30	V 35		11	ii	11	
4	8	12	16	→	L	14	M 18	N 20	P 22	Q 26	R	s	III	U	
1a	2b	3c	4 d	→	F	5a	G 6e	Н 5е	J 7g	K 9h	11	 M	z	P	
101	202	303	404	-	A	303	B 404	C 414	D 505	E 515	A III F	B	С	L 0	
a	ab		abc	→	R	ab	S abc	T abed	U bed	V d	R ::	S			
11	22	33	44	→	L	51	M 52	N 53	P 54	Q 55	L	M 4	Z T	P	
a	aa		aaa	→	F	a	G aa I	I aaa	J aaaa	K aaaaa		G	H		
3	4	5	6	→	A	3	B 5	C 6	D 7	E 11			C		



Look at sample question 0. The first two drawings go together in a certain way. Find the drawing at the right that goes with the third drawing in the same way that the second goes with the first.



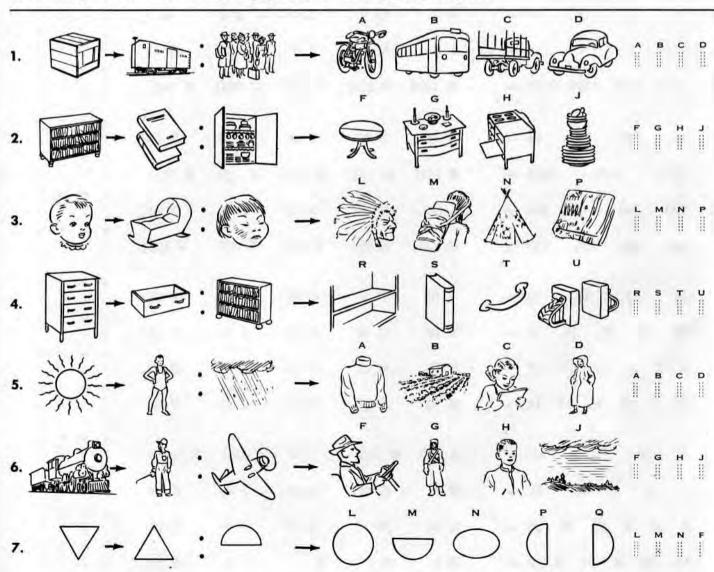
The right answer is the shoe at \mathbf{C} , because the shoe at \mathbf{C} goes with the foot just as the glove goes with the hand. Make a heavy black pencil mark in the \mathbf{C} answer space for question 0.

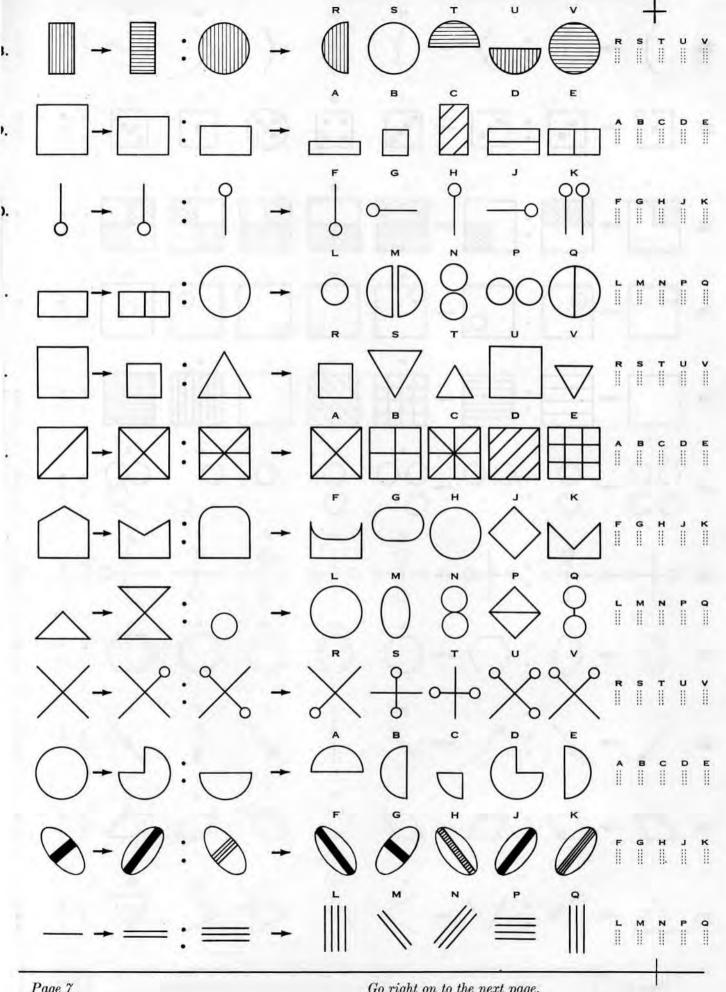
Now look at question 00. Find the drawing at the right that goes with the third drawing as the second goes with the first.

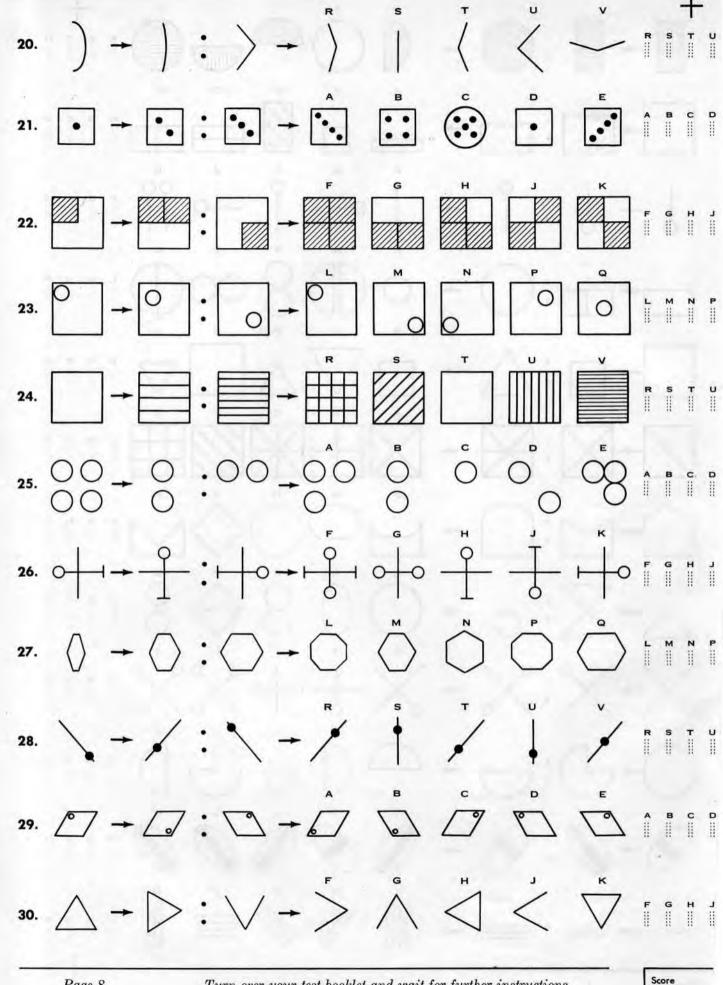


The right answer is K, because the little circle at K goes with the little square just as the big circle goes with the big square. Make a heavy black pencil mark in the K answer space for question 00.

Do the others below and on the next two pages in the same way. Try every row.







APPENDIX B

Materials Used in the Individualized Program

Three Ways of Adding -ing

Sort these words into the correct pattern.

8	read, reading		let, lettin	g	
	choose, choosing	ng	break, brea	king	
	drop, dropping		swim, swimn	ing	
	think, thinking	3	brag, bragg	ing	
	marry, marrying	3	drive, driv	ing	
	dream, dreaming	3	arrive, arr	iving	
	(1)	(2)		(3)
speak,	speaking	change,	changing	run,	running
happen	, happening	bite, bi	ting	hit,	hitting
		-		-	
				_	
		ou moleo e	hout those	natta	mne?
What a	totomonte ann m				LIISI
What s	tatements can yo	ou make a	ibout these	pa o o o	

LIST A

after	by	fish	her	mail
all	cake	for	here	make
am	can	found	h111	man
an	cat	from	him	many
and	chair	fun	his	me
any	come	gave	home	meat
are	COW	get	house	nen
as	cut	girl	how	milk
at	daddy	give	I	more
ate	day	go	if	mother
away	dear	goes	in	much
baby	did	going	is	must
ball	dinner	good	it	my
be	dog	got	just	name
bed	doll	grade	keep	no
been	done	grass	kept	not
big	down	green	kitten	поч
black	dress	gun	know	of
blue	eat	had	letter	on
boat	fall.	happy	like	one
book	father	has	little	other
boy	fed	hat	long	our
bring	feed	have	look	out
brother	fell	he	love	over
but	find	hen	made	pig

LIST A (page 2)

play	say	sun	top	when
pretty	school	take	toy	where
put	500	tell	train	white
rain	she	that	tree	who
ran	show	the	two	will
rat	sing	them	up	wish
read	sister	then	us	with
red	sit	there	very	work
ride	sled	they	want	would
rode	sleep	thing	was	yes
room	snow	this	water	you
run	50	those	we	your
said	some	time	went	
sat	soon	to	were	
Saw	story	today	what	
				Sent A

654	240	1606 3460	1000
~	-	COST	13

about	almost	apple	barn	boll
across	alone	ask	basket	best
afreid	along	aunt	bear	better
afternoon	also	back	because	bird
		bad	before	birthday
again	always	bank	begin	bite
ago	another	bark	behind	both
air	anything	DELK		

LIST B (page 2)

box	color	fair	garden	I'm
bread	could	far	glad	inside
break	cross	farm	grandfather	into
bright	dance	fast	grandmother	isn't
brought	dark	fat	gray	it's
brown	die	feel	great	I've
buy	dish	feet	ground	jump
call	do	felt	grow	kill
candy	does	faw	hair	kind
can't	doesn't	fight	hand	k1te
car	don't	fine	hard	knew
care	door	fire	hay	lake
carries	drank	first	head	large
carry	draw	five	hear	last
catch	drink	flag	held	late
chicken	drunk	flew	help	laugh
children	dry	floor	hidden	leave
cities	duck	flower	hide	left
city	each	food	high	leg
class	early	foot	hit	let
clay	egg	forgot	hold	light
clean	end	four	hope	line
close	ever	full	horse	live
coal	every	funny	hurt	lose
cost	eye	fur	ice	lost
cold	face	game	1'11	lot
				1000000

LIST B (page 3)

lunch	nut	pon ies	shoot	sure
meet	o'clock	pony	shot	swim
met	off	poor	sick	swing
mice	often	pull	side	table
might	oh	rabbit	six	teacher
mine	old	rest	skate	ten
Miss	once	right	smell	than
money	only	ring	soap	thank
moon	or	river	sold	that's
morning	orange	road	something	their
most	outside	robin	song	there's
mouse	own	roll	spell	these
mouth	paint	rope	spend	think
моле	pair	round	stand	third
Wr.	paper	same	star	three
Mrs.	park	sand	start	through
near	part	sang	stood	throw
need	parties	seat	stick	tie
nest	party	second	st111	t111
nev er	pass	seed	step	told
new	pen	sell	store	tonight
next	pencil	sena	street	tooth
nice	pick	sent	studies	town
night	pie	set	study	trick
nine	place	seven	summer	tries
nothing	please	shoe	supper	trip

LIST B (page 4)

try	wait	wear	winter	yard
turn	walk	week	won't	year
under	warm	well	word	yellow
upon	wash	while	write	yesterday
use	watch	why	written	yet
visit	way	window	wrote	300

LIST C

able	army	bottle	camp	clear
absent	August	bottom	careful	climb
act	autum	bought	careless	cloth
ahoud	beach	branch	carried	cloudy
airplane	best	brave	carrying	clown
alive	beautiful	breakfast	case	club
among	become	breath	cattle	coast
animal	beef	broken	center	coffee
answer	begun	broom	chain	comb
anybody	belt	brush	chance	company
anyone	between	build	change	corner
anymay	bigger	building	cheese	cotton
anywhere	blame	busy	choose	couldn't
April	blew	button	Christmes	country
apron	beard	calf	church	cousin
arithmetic	body	came	circus	covers
The second secon				

LIST C (page 2)

crawl	easy	fixed	golden	hotel
crop	cither	flood	gone	hour
cutting	eleven	follow	good-by	hundred
danger	engine	fond	grain	hungry
dare	enough	football	grown	hunt
daughter	enter	forest	guard	hurry
December	everybody	forgive	guess	inch
deep	everyone	forgot	half	Indians
didn't	everything	form	handkerchief	instead
dig	excuse	forty	handle	invite
dirt	fact	fought	happen	iron
dirty	fail	fourth	hardly	itself
doctor	family	free	hate	January
dozen	farmer	freeze	haven't	dot
Dr.	farther	Friday	healthy	jolly
dragged	fasten	friend	heard	juice
dream	fear	front	heart	July
drew	feather	frost	heat	June
driving	February	gas	heavy	kindness
dropping	fifteen	gather	hello	knee
drove	fifty	gentle	herself	knife
drum	fills	geography	higher	knock
earn	finish	getting	honest	lace
earth	finished	given	honey	laid
east	fit	giving	horn	lamb

LIST C (page 3)

larger	match	obey	plus	railroad
later	matter	ocean	pocket	rainy
laughed	May	October	poem	raise
law	maybe	office	point	rang
lay	mend	opened	porch	rather
lazy	merry	order	potato	reach
lead	middle	ought	potatoes	ready
learn	mind	oven	pound	reason
leather	Monday	paid	pray	report
less	monkey	pain	present	ribbon
lesson	month	parents	price	riding
list	mountain	passed	print	rise
listen	nail	past	prize	rubber
living	nearly	people	program	rule
load	neat	person	proud	running
lord	needed	piano	prove	safe
loud	news	picnic	pump	sail
lovely	nobody	picture	pure	sale
luck	noise	piece	quart	salt
lucky	none	pillow	queen	Saturday
maid	north	pipe	question	save
making	note	plain	quick	says
March	November	plan	quit	scare
market	number	plant	race	sea
master	nurse	plenty	radio	seems

LIST C (page 4)

September	south	tear	turkey	without
SOW	spent	tenth	twelve	woman
shade	spoke	test	twenty	women
shall	spot	thankful	uncle	won
shape	spread	Thanksgiving	understand	wonder
sheet	stairs	thirty	United State	95
ship	state	thought	unless	wonderful
shirt	stay	thousand	vacation	wool
silver	steal	thread	valentine	world
since	steam	threw	voice	worn
sink	stone	Thursday	vote	worth
sir	storm	ticket	wagon	wouldn't
sitting	stream	tired	war	writing
sixth	strike	together	weak	wrong
size	strong	tomorrow	weather	young
sleepy	such	tore	Wednesday	yourself
slip	suit	track	west	
smart	sum	trade	wheat	
smell	Sunday	tried	which	
smile	sweep	truck	whole	1
soil	swept	true	whose	
somebody	taken	truly	wing	
sometimes	taking	trunk	wire	4-
somewhere	talked	truth	wise	
sorry	teem	Tuesday	wishes	

LIST D

account	ashes	bodies	certain	creep
ache	attend	borrow	changing	crowd
scre	automobile	bound	charge	cruel
address	awful	brain	cheap	daily
against	awfully	branches	check	dangerous
agree	awhile	breathe	cheer	darling
aim	bacon	bridge	chest	deal
alarm	banana	built	chief	dearest
allow	barrel	bundle	chimney	death
all right	basement	burst	chose	delay
already	battle	bushel	chosen	deliver
although	bay	business	claim	dentist
America	beast	butcher	clerk	digging
American	beggar	buying	clothes	dining
amount	begged	cabbage	clothing	distance
amuse	believe	cabin	coach	ditch
angry	beneath	calm	collar	divide
answered	berry	camel	common	division
apart	besides	cana1	correct	dodge
appear	Bible	canoe	cottage	double
area	bid	capture	cough	dries
aren't	biggest	carpet	county	drill
armies	birth	cash	couple	driven
arrest	blanket	cast	course	drown
ashamed	bloom	cellar	crazy	drowned

LIST D (page 2)

· ·		Secretary Wiles and		
drug	file	greatest	hurried	lettuce
during	film	grief	husband	level
eager	flash	grocery	important	library
eighty	flight	group	1mprove	limb
elect	following	guide	indeed	linen
electric	force	guilty	inform	lonesome
elephant	forehead	habit	insect	loose
else	fort	hadn't	inspect	lower
enclose	forth	Halloween	intend	lumber
English	forward	harm	interested	machine
enjoy	fourteen	harvest	interesting	manage
errand	frame	hasn't	invited	manner
escape	fright	haul	island	marble
example	frighten	health	jail	marine
except	frozen	heaven	join	married
exchange	furnace	helpful	jolly	marry
exercise	furniture	hero	kindly	mate
expect	frozen	highest	knit	meant
explain	gain	hire	knot	medicine
explore	gallon	history	lack	member
extend	garage	hollow	ladies	mighty
factory	golf	homesick	language	minute
fever	good night	hose	lately	moment
fierce	gown	hospital	learned	motor
figure	grave	however	lemon	muddy

LIST D (page 3)

myself	outfit	pour	ranch	safety
nation	owe	power	range	sailor
nature	own	praise	receive	saving
navy	owner	preach	received	scold
neighbor	package	president	recess	score
neither	palace	press	recite	scout
nephew	parade	pride	record	scratch
net	parlor	prison	recover	scream
newspaper	partly	prisoner	refuse	screen
nicely	passenger	problem	remain	serub
niece	pasture	product	remark	secret
nineteen	paying	promise	remember	selfish
ninety	perfect	proof	remembered	sentence
ninth	perhaps	protect	remove	serve
nor	pitch	public	rent	settle
notice	pitcher	pumpkin	repeat	seventh
odd	pity	punish	respect	several
offer	plane	pup11	result	share
officer	planned	purple	return	shopping
onion	pleasure	purse	rifle	shoulder
opening	post	quarrel.	roar	shout
orchard	police	quarter	roast	shower
ordered	policeman	queer	rough	shown
organ	polite	quiet	rush	sign
ourselves	postal	railway	saddle	silent

LIST D (page 4)

	3.000	tile	value	Worse
simple	struck		valuable	wrap
single	studying	tomato	vegetable	wreck
sixteen	subject	ton		writer
sixty	sudden	tongue	village	
skirt	suffer	touch	visited	you'll
	supply	tough	visitor	zero
sleeve	V = 7.0-	toward	voyage	
slept	suppose		waist	
soldier	surely	towels	waste	
solid	surprise	trace		
sort	sweater	trail	watching	
sound	swell	travel	wealth	
		treat	wedding	
soup	tablet	20.000	weigh	
space	taste	trouble	weight	
speak	taught	trust		
speed	tease	ugly	welcome	
sport	telephone	umbrella	western	
19.10.11	tender	unable	whatever	
square		understood	whenever	
squirrel	term		whether	
stable	themselves	union	whisper	
stage	thief	upper	2. A 2. C	
steady	thirteen	useful	whistle	
steel	though	useless	whom	
	throat	using	wife	
stocks		usual	witch	
straight	thus		worm	
strange	tiger	valley	3.545	

LIST E

aboard	article	blood	certainly	complete
absence	artist	blossom	chalk	concert
accept	athletic	bond	chapter	condition
accident	athletics	bonfire	charming	conduct
action	attack	bonnet	chest	conquer
active	attempt	border	chocolate	consider
addressed	attention	born	choice	contain
adopt	auditorium	boundary	Christian	contest
advance	author	bow1	cit ize n	continue
adventure	avenue	breast	climate	contract
advice	average	breeze	closely	control
afford	baggage	brief	cloud	copies
afterward	balance	brook	coarse	countries
agent	balloon	bruise	cocoa	courage
agreed	bargain	bury	collect	court
airport	bath	calendar	collection	creek
allowed	bathe	camera	college	cropt
anxious	became	capital	colony	crew
anyhow	began	carefully	column	cried
apply	berries	carpenter	comfortable	cripple
appoint	beyond	carriage	command	crown
arise	bicycle	cave	commence	oru mb
around	biscuit	celebrate	companion	cure
arrow	bleeding	central	сопрате	curious
art	bless	century	complain	current
				Mary Constant I was

LIST E (page 2)

custom	discase	enemies	fertile	generally
dairy	display	eneny	field	gentlemen
damage	distant	entertain	finally	giant
debt	district	entire	finger	gloomy
decided	disturb	entrance	files	governor
decorate	dollars	envelope	folks	grant
defeat	doubt	eraser	foolish	Eray
defend	drawer	evening	forenoon	grease
delight	drawn	event	forever	greatly
delightful	dried	exactly	forgotten	grew
delivery	drift	examination	former	grieve
depend	due	excellent	fortune	growl
deposit	dution	excite	foundation	growth
describe	dying	exciting	freedom	guest
desert	carlier	exit	freight	hamor
deserve	earliest	expense	friendly	harbor
design	casier	follure	fuel	headache
desire	easily	faint	fully	height
destroy	eastern	faithful	fund	herd
diamond	education	false	funeral	hesitate
dictionary	effort	famous	fundsh	hoping
ilfference	eighth	fancy	future	horrible
lifficult	olection	fashion	garment	huge
irection	empty	favor	gasoline	human
isappointed	encourage	ferry	general	hugor

LIST E (page 3)

hymn	liberty	mistake	omitted	possible
idea	lightning	model	opposite	possibly
illness	likely	modern	outline	postage
imagine	loaf	motion	overalls	post office
import	loan	mule	oyster	011100
important	locate	musical	palm	prayer
impossible	lonely	napkin	paragraph	prefer
increase	loss	narrow	parcel	prepare
industry	lovingly	national	path	prevent
information	lying	natural.	patience	principal
intention	magazine	naughty	pavement	private
item	manager	necessary	peace	produce
justice	manufacture	necktie	pear1	progress
keen	map	neglect	pepper	promote
kettle	material	Negro	perfume	prompt
kitchen	mayor	neighborhood	period	proper
knowledge	mention	northern	permission	property
known	merchant	noticed	pigeon	provide
lantern	message	notion	platform	purpose
letter	metal	oatmeal	pledged	putting
lawn	method	object	poetry	puzzle
leader	midnight	oblige	poison	quite
league	mileage	obtain	pool	radish
led	million	occupy	population	rapidly
letting	minister	offered	position	rate

LIST E (page 4)

receipt	scarce	slipped	suggest	umpire
receiving	scene	slippery	supplies	unusual
recent	scenery	smooth	support	vacant
reduce	screw	social	surface	vain
regret	search	soda	system	victory
regular	secretary	someone	tax	violin
relation	section	sorrow	telegram	volume
relative	sense	source	telegraph	wasn't
relief	separate	southern	temperature	weary
remainder	service	special	tennis	weave
remind	settlement	speech	terrible	wheel
repair	seventeen	spite	theater	would
replied	severely	splendid	therefore	wound
request	shadow	spoil	thirsty	wrapped
require	shelf	squeeze	thorough	zone
reserve	shelter	standard	thrown	
reward	shipment	steer	thunder	
risk	shipped	stomach	title	
rock	shock	strength	total	
route	shore	strict	trailer	
salary	sidewalk	student	treasure	
sandwich	signed	studied	trial	
satisfied	sincerely	style	trimmed	
satisfy	sliding	succeed	troop	-
savage	slight	success	type	

LIST F

ability	ankle	blizzard	chemistry
abolish	apply	border	chipmunk
abundant	approach	bore	choir
academy	argument	borrow	civilization
adept	article	bough	civilize
accompany	assure	bridle	claws
accomplish	astonish	buckle	coconut
accurate	aviation	buffalo	collect
ache	aviator	bullet	collision
action	awful	bundle	colonel
active	backward	burglar	column
activity	bacon	burro	combination
actual	baggage	cadet	combine
admit	balance	calm	comical
advance	ballot	camera	command
advise	banjo	canal	comment
affect	banquet	cance1	commit
afterward	bass	canoe	companion
aisle	battery	canyon	compare
alfalfa	belief	carbon	compel
alto	beneath	career	compose
amphibian	benefit	cargo	composition
anchor	betray	carpenter	concern
ancient	beyond	catalogue	concert
angle	biography	chapter	conclude

LIST F (page 2)

	conclusion	courage	desert	distinction
	concrete *	crazy	deserve	district
	condense	criminal	design	domestic
	condition	cripple	desire	domino
	confer	cultivate	dessert	doubt
	congratulate	curious	destroy	dreadful
	connection	custom	destruction	dreary
	conquer	customer	determine	due
	consent	dainty	diagram	dying
	consider	debate	digest	echo
7/27	consist	decent	digestion	effect
	constant	declaration	dinosaur	electrical
	construction	declare	disappear	embargo
	consume	defeat	disaster	empire
4	content	defense	discount	employ
100	continue	delicate	discover	enclose
No.	contract	deliver	discuss	endurance
Ď.	convention	dema nd	discussion	enforce
4 1/	conversation	democracy	disgust	engage
W.	convince	dentist	dismal	engineer
	cooperation	deposit	dism iss	enjoyable
319	copyright	depression	disposition	entire
\$ \$ m	costume	descent	dispute	entrance
Table :	cottage	describe	distant	en vy
	council	description	distinct	erase

LIST F (page 3)

errand	foggy	hobo	innocent
establish	foreign	horizon	inquire
estate	fortunate	horrible	inquiry
estimate	foundation	human	instance
evil	freedom	humorous	instruction
example	freight	husband	insurance
excellent	furnace	iceberg	intention
except	furnish	ideal	interfere
exchange	future	identify	internal
exclaim	gentlemen	idol	interrupt
expedition	geyser	ignorant	interview
expel	giraffe	illness	invade
experience	gloomy	imagination	invalid
explain	glorious	immediate	invention
express	governor	immigration	inventor
expression	graceful	impatient	investigate
extend	graduate	importance	issue
extreme	grateful	impossible	jealous
faithful	greedy	impression	judge
familar	guest	incident	justice
farewell	guide	incorrect	justify
fashion	gutter	increase	kindergarten
favorable	handsome	influence	kingdom
ferry	hearty	information	knight
fever	herewith	inhabit	knit

LIST F (page 4)

knob	mercy	operate	permanent
knowledge	microscope	operation	personality
lantern	midnight	opinion	photograph
lawyer	minister	opportunity	physical
legal	mirror	ordinary	pier
levy	modify	organization	pilot
limit	mosquito	organize	planet
liquid	motto	original	plateau
local	mountainous	orphan	platform
location	movement	otherwise	platinum
lodge	murder	paddle	poison
macaroni	mystery	padlock	policy
major	native	pageant	popular
majority	natural	pajamas	porcupine
malaria	nervous	palm	portion
manager	noble	pantry	position
mansion	notify	paragraph	positive
mantle	numerous	particular	practical
margin	oblige	partner	prefer
mayor	obtain	patrol	presence
meanwhile	occupation	payment	primary
medium	occupy	peaceful	private
mental	occur	peculiar	problem
mention	official	pension	proceed
merchant	omit	period	produce

LIST F (page 5)

professor	reins	scheme	soul
progress	relative	scramble	source
property	release	scratch	sow
publish	religion	secret	species
puddle	remark	seldom	spinach
pueblo	remedy	senate	spirit
punish	remit	senator	stalk
puppet	repeat	sergeant	steady
purchase	repel	series	stenographer
purpose	represent	serious	stingy
pyramid	require	servant	stranger
quality	resent	service	streetcar
quantity	reserve	severe	struggle
quote	resign	shipment	student
realize	respectful	sigh	stumble
rebel	respond	silence	submit
receipt	result	similar	subscription
recent	retire	single	substance
recipe	reveal	situation	substitute
recognition	romantic	skeleton	subway
recognize	salary	smuggle	successful
recover	salesman	society	suffer
refer	salmon	solo	suggest
refuse	saucer	solution	suitable
regret	scatter	soprano	support

LIST F (page 6)

surface	traitor	volcano
sword	transfer	volunteer
system	transmit	waist
tackle	treasure	warehouse
tariff	treaty	weapon
tavern	triangle	weary
taxicab	tropic	witness
telegram	tunnel	wreath
telescope	umpire	wreck
tennis	unfortunate	wrestle
terrific	unimportant	yield
testify	unite	yolk
theory	unnecessary	youth
thermometer	unusual	
thorough	unwrap	
throughout	upset	
tickle	valuable	
timid	vanish	
toboggan	variety	
tomato	varnish	
tongue	vein	
total	velvet	
tough	veto	
tourist	victory	

traffic visible