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The construction and evaluation of exercises for providing meaningful practice in second grade reading.

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DISSERTATION

THE CONSTRUCTION AND EVALUATION
OF EXERCISES FOR PROVIDING MEANINGFUL
PRACTICE IN SECOND GRADE READING

Submitted by

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In Partial Fulfillment of Requirements for
the Degree of Doctor of Education

1957

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Mary Agnes Bradley
1957

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TABLE OF CONTENTS

CHAPTER	PAGE
INTRODUCTION	1
I Review of Related Research	2
A. Research in Relation to Reading Achievement	
1. Meaning and Recognition	2
2. Analysis	18
B. Vocabulary of Primary Grade Reading Books	28
C. Methods of Effective Practice	39
D. Children's Attitudes toward Reading	48
II Teaching Materials	51
III Plan of the Study	61
IV Analysis of Data	69
V Summary and Conclusions	101
Bibliography	108
Appendix	118

LIST OF TABLES

<u>TABLE</u>		<u>Page</u>
I	February Reading Achievement	63
II	Mean Reading Achievement of Groups	64
III	Mean Chronological and Mental Ages	70
IV	February Reading Achievement	70
V	May Reading Achievement	71
VI	Table of Gains	72
VII	Comparison of Scores in Reading, Feb.- May	72
VIII	Comparison of Gains of Children with I.Q.'s of 110 and Above	73
IX	Comparison of Gains of Children with I. Q.'s of 90 to 110	74
X	Comparison of Gains of Children with I. Q.'s below 90	75
XI	Sex Differences in Reading Achievement, Group A	76
XII	Sex Differences in Reading Achievement, Group B	76
XIII	Sex Differences in Reading Achievement, Control Group	77
XIV	Individual Phonics Inventory, February	77
XV	Individual Phonics Inventory, May	78
XVI	Comparison of Gains in Individual Phonics	78
XVII	Comparison of Scores in Individual Phonics for Children with I. Q.'s of 110 and Above	79

<u>TABLE</u>	<u>PAGE</u>	
XVIII	Comparison of Scores in Individual Phonics for Children with I. Q.'s of 90 to 110	80
XIX	Comparison of Scores in Individual Phonics for Children with I. Q.'s below 90	80
XX	Comparison of Boys and Girls in Individual Phonics Inventory, Group A	81
XXI	Comparison of Boys and Girls in Individual Phonics Inventory, Group B	81
XXII	Comparison of Boys and Girls in Individual Phonics Inventory, Control Group	82
XXIII	February Test of Hearing Sounds in Words	83
XXIV	May Test of Hearing Sounds in Words	83
XXV	Comparison of Gains in Hearing Sounds in Words, February - May	84
XXVI	Comparison of Scores in Hearing Sounds in Words of Children with I. Q.'s of 110 and above	85
XXVII	Comparison of Scores in Hearing Sounds in Words of Children with I. Q.'s 90 to 110	85
XXVIII	Comparison of Scores in Hearing Sounds in Words of Children with I. Q.'s below 90	86
XXIX	Comparison of Boys and Girls in Hearing Sounds in Words, Group A	87

<u>TABLE</u>		<u>PAGE</u>
XXX	Comparison of Boys and Girls in Hearing Sounds in Words, Group B	87
XXXI	Comparison of Boys and Girls in Hearing Sounds in Words, Control Group	88
XXXII	Applied Phonics, February Scores	89
XXXIII	Applied Phonics, May Scores	89
XXXIV	Applied Phonics, February - May	90
XXXV	Comparison of Scores in Applied Phonics of Children with I. Q.'s of 110 and Above	91
XXXVI	Comparison of Scores in Applied Phonics of Children with I. Q.'s of 90 to 110	92
XXXVII	Comparison of Scores in Applied Phonics of Children with I. Q.'s below 90	92
XXXVIII	Comparison of Scores for Boys and Girls in Applied Phonics, Group A	93
XXXIX	Comparison of Scores for Boys and Girls in Applied Phonics, Group B	94
XL	Comparison of Scores for Boys and Girls in Applied Phonics, Control Group	94
XLI	Attitude Scale, February Scores	95
XLII	Attitude Scale, May Scores	96
XLIII	Comparison of Scores in Attitude Scale, February-May	96
XLIV	Comparison of Scores in Attitude Scale for Children with I. Q.'s 110 and Above	97
XLV	Comparison of Scores in Attitude Scale for Children with I. Q.'s of 90 to 110	98

<u>TABLE</u>		<u>PAGE</u>
XLVI	Comparison of Scores in Attitude Scale for Children with I. Q.'s below 90	98
XLVII	Comparison of Scores for Boys and Girls in the Attitude Scale, Group A	99
XLVIII	Comparison of Scores for Boys and Girls in the Attitude Scale, Group B	99
XLIX	Comparison of Scores for Boys and Girls in the Attitude Scale, Control Group	100

INTRODUCTION

The teaching of reading vocabulary has a necessary and important place in the reading program of grade two. The vocabularies of the basal reading books at this level consist of words which are in the speaking vocabulary of children of this age group. However, the recognition of these words in print becomes a problem of major concern. The child must be able to recognize the word and attach meaning to it in order to make sense in the reading situation.

There are many techniques for providing practice and the teacher must plan for their use as children need several repetitions of the words in meaningful situations to make the word meaning response automatic. Prepared materials for meaningful practice appear to be an effective means of meeting this problem. The teacher who is aware of the individual differences in her classroom is concerned with providing materials which the children can use independently.

This study is an attempt to construct and evaluate materials which could be used to supplement any basal reading series to give practice in reading vocabulary. The materials may be used in two ways: (1) by the class as a whole under the teacher's direction, and (2) by the children working in pairs using self-checking devices.

CHAPTER I
SUMMARY OF PREVIOUS RESEARCH

The purpose of this study was to evaluate the effectiveness of teaching materials for a planned program of word practice on reading achievement in Grade Two. The materials were used in two ways: (1) The class participating as a unit under the teacher's direction; (2) The class working in pairs, with self-checking devices.

The research will be concerned with;

1. Reading achievement including word meaning, recognition and analysis.
2. Vocabulary of primary grade reading books.
3. Methods of effective practice.
4. Children's attitudes toward reading.

RESEARCH IN RELATION TO READING ACHIEVEMENT

Meaning and Recognition

Word recognition is a vital part of the reading process and may be defined as the ability to recognize, pronounce and understand the meaning of a word. Reviewing the changes which have taken place in the reading program Gray^{1/} says,

^{1/} Gray, William S. "Word Perception," Basic Instruction in Reading in Elementary and High Schools, Supplementary Educational Monographs, University of Chicago Press, Chicago, Illinois, 1948.

"Between 1900 and 1910 the recognition of word forms assumed so much significance that the development of accuracy and independence in word recognition became an end in itself rather than an aid in efficient reading. Two radically different methods were used in developing needed competence. These were the so-called 'word method' and the 'phonics method.' About 1915 'story methods' were adopted which made use of selections of real interest to children. However effective these methods may have been they were not greatly developed or extended for many years." ^{1/}

Many techniques are of value to children in the early stages of reading and the ability to use these techniques cannot be taught incidentally, but their use must be systematically planned for in the classroom. In 1934, Cunningham ^{2/} reported that the child who reads well and widely learns with little help from the teacher, but the average child needs a planned program of instruction in order to acquire a rich vocabulary.

The following year Donnelly ^{3/} investigated the individual differences in the development of word recognition skills in grade one. Her findings show that with the 389 children in the study the differences increased after the fourth month and girls were superior to boys. She concludes that, "A child's comprehension and rate in reading in first grade are determined largely by his skill in accurate word recognition."

^{1/} Gray, op. cit., p. 117.

^{2/} Cunningham, Ruth A., "Vocabulary Growth in the Intermediate Grades," Elementary English Review, 11:130-32, May, 1934.

^{3/} Donnelly, Helen E., "The Growth of Word Recognition Skills in Grade One," Education, 56:40-43, September, 1935, p. 43.

Rickard's^{1/} study showed that among the factors determining ease of recognition is: "Frequency of oral use, the greater the oral familiarity the better the chances of visual recognition."

Hildreth^{2/} introduced the idea that meaning proved to be more potent than mere perception in word learning. "Ease or difficulty of learning cannot be explained solely on the basis of perceptual factors. Meanings, concepts, sound associations and emotional connotations appear to be more potent in word learning than is the configuration of a word or some characteristic feature alone. Previous experience or association with an object or an experience that the word represents influences ease or difficulty of learning." The conclusions were that no one factor appeared to be responsible for the ease or difficulty of learning any word. The factors affecting word-learning are complex and varied. According to McKee,^{3/} "Word recognition without well-developed concepts or meanings, like speed of reading, has no value by itself." He states that: "Printed symbols do not give meaning to the reader. They merely stimulate him to recall the concepts or meanings represented."

1/ Rickard, Garrett E., "The Recognition Vocabulary of Primary Pupils," Journal of Educational Research, 29:281-291, December, 1935, p. 290.

2/ Hildreth, Gertrude, "An Individual Study in Word Recognition" Elementary School Journal, 35:606-619, April, 1935, p. 617.

3/ McKee, Paul, "Certain Matters of Importance in the Teaching of Reading," Elementary English Review, 14:115-118, April, 1937, p. 117.

Then, the reader, by recalling, manipulating and combining these concepts makes meaning in his mind." Elivian^{1/} concludes that children generally fail to recognize words they do not comprehend. Crosscup,^{2/} using reading exercises with twenty children of varying ages, attempted to stimulate further experimentation with materials dealing with determination and discrimination of word meaning from context, and exercises dealing with interpretative understanding of reading. "The underlying assumption of exercises of this kind is that vocabulary has three inter-related aspects:

- (1) Increasing the number of words to which meaning is attached.
- (2) Increasing the number of divergent meanings known for a given word.
- (3) Increasing sensitivity to the way in which the meaning of words is conditioned by context.

It is assumed that we learn the meaning of a word, the meanings of a word, the shades of meaning of a word used in various ways in speech and in writing."

Durrell^{3/} says reading vocabulary is a major problem in grades four through six. Vocabulary troubles are the basis of all reading difficulties in the middle grades. Attention must

1/ Elivian, Jeanette, "Word Perception and Word Meaning in Silent Reading in the Elementary Grades," Unpublished Master's Thesis, Boston University, 1938.

2/ Crosscup, Richard B., "Experimental Exercises in Learning to Interpret Reading," Education, 59:20-30, September, 1938, p. 20.

3/ Durrell, Donald D., "Basic Abilities in Intermediate Grade Reading," Education, 59:45-50, September, 1938.

be given to this problem of vocabulary in order to ensure growth in reading ability.

In order to determine, if possible, what words caused the most difficulty at grade two level, a study was conducted by Selke,^{1/} in which 203 words were woven into story form to be used to discover the difficult words at this level so that instruction might be provided which would prevent difficulties developing. Unknown and mispronounced words were checked by the teacher. He concluded, "The results indicate that some words evidently are learned with some difficulty."

Skill in word recognition is an essential part of the equipment of an able reader. Without it pupils are handicapped. Meaningful practice is basic in fixing a sight vocabulary. Harris^{2/} says, "Unless care is taken to make sure that he will learn the meanings of these words, they remain for him little more than nonsense sounds." He further states, "Practice in using the new words in various ways is important if clear and accurate meanings are to be developed."^{3/}

Word study need not be dry and boring to pupils. According to a report by Bradley, Cahill and Tate^{4/} children are

- 1/ Selke, Erich, "Word Recognition Difficulties of Second Grade Pupils," Elementary English Review, 20:155-6, April, 1943, p. 156.
- 2/ Harris, Albert J., How to Increase Reading Ability, Longmans Green and Co., New York, 1940, p. 269.
- 3/ Ibid., p. 275.
- 4/ Bradley, Martha H., Loretta A. Cahill and Harry L. Tate, "Acquisition of a Reading Vocabulary," Elementary English Review, January, 1941, 18:19-32, p. 32.

interested in vocabulary study. An experimental study tried in grade five had listed in its concluding statements: "Teacher observations show that children are keenly interested in word study which need not be uninteresting." According to Addy,^{1/} who was concerned with the development of a meaning vocabulary for fifth grade, "Teachers are not using one or a few techniques in teaching the meaning of new words, but many techniques." The techniques which were rated as being the most effective by seventy-five per cent or more of the teacher groups were, "relating the word to former experiences, and studying the content in which the word appears and the environment surrounding it."

Baker^{2/} indicates that attention must be given to multiple meanings of words. "In teaching children to read, the teacher must recognize the need for developing versatility in the use of common words. In the field of semantics, the metaphor is an example of versatility. It is this multiple meaning of words that aids comprehension and enriches reading activities. Definite attention must be given to the multiple meaning of the common words."

1/ Addy, Martha L., "Development of a Meaning Vocabulary in the Intermediate Grades," Elementary English Review, January, 1941, 18:26.

2/ Baker, Norma, "Confusion in Word Recognition," Elementary School Journal, 45:575-577, June, 1945, p. 577.

A good reader instantly recognizes and associates meaning with words in a selection. The habits of word perception when well formed require few clues in discriminating one word from another.

Durrell^{1/} states that, "Reading is a process of interpreting symbols. The reader must create his own images and understandings from the words of the writer. Word problems are encountered at all stages of reading." Understanding the author's ideas is an obstacle to the reader when he has difficulty with the vocabulary.

Klindt^{2/} says, "Reading for meaning can be fun when the child's instinct for dramatic play is involved. Imagination, a blackboard and the child's vocabulary are the tools in preparing practices in recognition and meaning."

Without an understanding of word meaning there would be little success in reading. Dolch^{3/} states that, "The understanding of words is basic because without understanding word meanings there can be no reading. Reading matter is made up of words, and without word meaning there would be no sentence

1/ Durrell, Donald D., "Development of Comprehension and Interpretation," Forty-eighth Yearbook of the National Society for the Study of Education, Part II, University of Chicago Press, Chicago, Illinois, 1949, p. 193.

2/ Klindt, Doris, "Reading for Meaning," American Childhood, 36:5, December, 1950.

3/ Dolch, Edward W., "The Uses of Vocabulary Lists in Predicting Readability and in Developing Reading Materials," Elementary English, 26:142-149, March, 1949.

meanings and no paragraph meaning. If a child does not know the meanings of the words he sees, he cannot get the meaning of the whole."

Austin^{1/} attempted to determine whether children in the second grade make more and faster progress in acquiring a reading vocabulary if new words are presented in isolation or in phrases and concluded that words in phrases were more readily learned. However, Mattola^{2/} found that at the beginning of a formal reading program children progress faster in learning words taught in isolation.

Evans^{3/} says, "Children do not learn to read 'all at once'. Between the time of a child's first association with books and the time when he is able to follow a printed account for himself, there is a period of growing acquaintance with some written symbols and word groupings."

1/ Austin, Anna B., "A Comparison of the Effectiveness of Two Methods of Teaching Reading Vocabulary in Grade Two," Unpublished Master's Thesis, Boston University, 1950.

2/ Mattola, Margaret D., "The Effect of Teaching Reading Vocabulary by Words in Isolation and Phrases in the First Grade," Unpublished Master's Thesis, Boston University School of Education, 1951.

3/ Evans, Clara C., "New Approach to Reading," Elementary English, 27:309-311, May, 1950, p. 309.

Hildreth^{1/} states in reviewing research, "My own research in word recognition proves that the ease of learning to recognize words as total forms or configurations varies with the meaningfulness of the items for the pupils and with the concreteness of the associated meanings."

Phipps^{2/} attempted to discover the abilities needed in reading in which 25 per cent of the questions asked by teachers dealt with word recognition and vocabulary development, and concluded that these areas need considerable attention.

Sheldon and Hatch^{3/} investigated the reading abilities of good and poor readers in Grades I through XII in eight different school systems. The strengths and weaknesses of 40 good and 41 poor readers in second grade classrooms were included. Fifty-three per cent of the good readers were reading one grade level above their grade placement insofar as word recognition and word analysis was concerned. Twenty-eight per cent were performing at each grade level from I through VI on the word recognition skills. Thirty-five per cent performed at 4, 5, or 6th grade levels on word analysis. "The general picture shows that

1/ Hildreth, Gertrude, "Learning to Read with Understanding," Journal of the National Education Association, January, 1951, p. 56.

2/ Phipps, Marian E., "Your Reading Program," Instructor, January, 1951, 40:18.

3/ Sheldon, William D. and Shirley Hatch, "Strengths and Weaknesses of a Group of Second Grade Children," Educational Administration and Supervision, 37:405-414, November, 1951.

children in the high group have a performance level well above their actual grade placement in the areas of word recognition and analysis."^{1/} The performance of the poor readers contrasted quite sharply. The errors made by poor readers show that lack of word recognition and word analysis skills are characteristic of poor second grade readers. It is suggested that more time be spent on the mastery of a basic sight vocabulary and that this should be carefully implemented by aiding these children to develop a variety of word analysis skills.

In a study of existing vocabulary tests Dolch and Leeds^{2/} attempted to discover how well they measure children's knowledge of word meaning. It was found that the five tests used tested only the most common meaning of a word. They conclude,

"Since words are the symbols with which we communicate with one another, it is important to know just what meaning or meanings words have for different people. Since words in reading are the symbols by which we try to get the thought a writer tried to put into a book, it is important that we have the right meaning and adequate meaning.

^{1/} Sheldon, op. cit., p. 406.

^{2/} Dolch, Edward W. and Don Leeds, "Vocabulary Tests and Breadth of Meaning," Journal of Educational Research, 47:181-189, November, 1953, p. 189.

"Meaning is a growth and it should be important for the school to know where any certain child is in the process of growth. Tests should tell us how much he knows about meaning. Only then do we know what more he should know and how we can help him develop that meaning."

Kottmeyer^{1/} says, "In studying spelling, minute scrutiny of word parts is desirable, in reading we are after meaning--not word analysis."

The importance of using various techniques in the teaching of reading is stressed by Schubert^{2/} who states, "The number of failures could be reduced markedly were the teacher to use several avenues of approach so that the student could choose the particular method or combination of methods that seem to be best suited to his individual needs."

Delacato and Moyer^{3/} report that processes which made clear and various aspects of the meaning of a word will facilitate the child's ability to think logically and realistically, and will also help him to acquire reading skills more easily. They feel that it will tend to prevent reading problems which are related to the ability to comprehend written symbols because of a lack of understanding of meanings. Teaching all meanings will give

1/ Kottmeyer, William, "On the Relationship of Word Perception Skills in Reading and Spelling," Education, 72:600-603, May, 1952, p. 602.

2/ Schubert, Delwyn G., "Whose Brand of Reading Method is the Best Buy?" Clearing House, 27:266-67, January, 1953, p. 267.

3/ Delacato, Carl H., and S. Richard Moyer, "Can We Teach Word Meaning?" Elementary English, 30:102-106, February, 1953.

children tools with which to deal with their environment effectively. They continue,^{1/}

"The ascertainment of the meaning of words for the beginning reader is a direct function of his apperceptive background. Such apperceptions vary with children and in many instances need enrichment. This enrichment can be accomplished only through the creation of an understanding of the function of the meaning of language and through the creation of a new emphasis for its presentation to children during their early reading experiences."

Betts^{2/} says that, "Reading should be taught as a dynamic, meaningful process rather than by cut-and-dried drill exercises which require extrinsic motivation." Among the essentials of reading instruction he places "the development of specific abilities needed for thinking in reading situations,^{3/}" and states that, "As long as the individual continues to grow, he will be adding to his vocabulary and therefore will have word perception needs."^{4/}

Joyal^{5/} was concerned with the effectiveness of projected illustrations to promote word recognition in third grade. The new vocabulary was presented in two ways: (1) Kodachrome slides and (2) the method presented in the reading manual.

^{1/} Delacato and Moyer, op. cit., p. 103.

^{2/} Betts, E. A., "Three Essentials in Basic Reading Instruction," Education, 73:575-82, May, 1953.

^{3/} Ibid. p. 582

^{4/} Ibid. p. 578

^{5/} Joyal, Sister Adelard Marie, "A Study of the Effectiveness of Projected Illustrations for the Development of Word Recognition in Third-Grade Reading," Unpublished Doctor's Dissertation, Boston University, 1954.

Both methods were effective. Children with I.Q.'s of 110 and above made significant gains in meaning, but in recognition the gains were not significant. Children with I.Q.'s of 90-110 made the greatest gains in both recognition and meaning, and children with I.Q.'s below 90 did not make significant gains in recognition, but did in meaning. The most apparent gains were with the group of children of average mental ability with I.Q.'s of 90-110.

Lally^{1/} stresses the importance of the use of contextual clues as an aid to word recognition. She records that, "It seems practical to concentrate upon this aspect of word analysis since so much emphasis has been placed upon phonetics to the virtual exclusion of the development of skills in contextual analysis."

Artley^{2/} reports on word perception, "One of the basic goals in the teaching of reading is that of promoting growth in word perception. The reader must be able to identify printed symbols and attach meaning to them."

Bedell and Nelson's^{3/} study in Grades IV through VI presented a combination of techniques for recognizing and mastering the

1/ Lally, Dorothy M., "Construction of Exercises in Contextual Analysis as Aids to Word Recognition in Grade Two," Unpublished Master's Thesis, Boston University, 1953, p. 1.

2/ Artley, A.S., "Principles Applying to the Teaching of Word Perception," Education, 74:561-565, May, 1954, p. 561.

3/ Bedell, R. and E.S. Nelson, "Word Attack as a Factor in Reading Achievement in the Elementary School," Educational and Psychological Measurement No. 14, 1:168-175, 1954.

meaning of new words. The three methods were: (a) meaning attack, (b) visual attack, and (c) sound attack. Diagnostic tests were used with subtests in word recognition, comprehension, vocabulary, story reading and story comprehension. Gains were made in word recognition.

Piekarz^{1/} compares the abilities of two children of grade 6. One is a higher-level reader, one a lower-level reader in terms of their ability to derive accurate understanding from reading material. The higher-level reader combines his background knowledge in enriching the author's meaning. The lower-level reader is unable to view discussion objectively or to distinguish between his own opinions and those expressed by the author. The implication is that children should be taught to make accurate and rational interpretations in reading.

Mills^{2/} attempted to standardize an instrument for the purpose of determining the most effective method for teaching word recognition. He used four sets of graded picture-word cards, and a manual of directions which provided for four, fifteen-minute teaching lessons, each stressing a different method (visual, phonic, kinesthetic, or a combination). The results showed that different children learn to recognize more efficiently by different teaching methods and that no one method is best for all children.

1/ Piekarz, Josephine A., "Getting Meaning from Reading," Elementary School Journal, 56:303-309, March, 1956.

2/ Mills, Robert E., "An Evaluation of Techniques for Teaching Word Recognition," Elementary School Journal, 56:221-225, January, 1956.

Studies involving meaningful practice in first grade vocabulary were made by Ash,^{1/} Cox,^{2/} and Berger.^{3/} Six weeks practice was given to experimental groups in the three studies. In each case the gains in achievement were statistically significant in favor of the experimental groups. Studies by Bothwell^{4/} and Hilbert^{5/} were made at second grade level providing meaningful practice in vocabulary. Gains were made by both experimental and control groups but were not significant.

Reed^{6/} says, "Reading is a two way process of getting meaning from and bringing meaning to the printed page. Through the printed symbol the author does not convey ideas to the reader; he merely stimulates him to structure them out of his own experiences."

- 1/ Ash, Dorothea, et al., "Development and Evaluation of Silent Reading Exercises for Grade One," Unpublished Master's Thesis, Boston University, 1956.
- 2/ Cox, Barbara A., et al., "The Development and Evaluation of Exercises in Meaningful Word Practice in First Grade, Unpublished Master's Thesis, Boston University, 1956.
- 3/ Berger, Ruth et al., "The Development and Evaluation of Exercises in Meaningful Word Practice in First Grade," Unpublished Master's Thesis, Boston University, 1956.
- 4/ Bothwell, Joyce et al., "The Development and Evaluation of Exercises for Meaningful Response in Reading in Grade Two," Unpublished Master's Thesis, Boston University, 1956.
- 5/ Hilbert, Carmela et al., "Construction and Evaluation of Exercises for Quick Silent Reading Responses for Grade Two," Unpublished Master's Thesis, Boston University, 1956.
- 6/ Reed, Mary S., "Beyond the Printed Symbol," Claremont College Reading Conference, Twenty-first Yearbook, Claremont, California, 1956, p. 17.

Developing a vocabulary for reading means two things says Dolch,^{1/} "It is (1) a meaning vocabulary in the mind of the reader, and (2) sight recognition of enough of that vocabulary for the reader to interpret the printed symbols he sees on paper."

The major problem of poor readers in all age groups is word recognition. Roswell and Chall^{2/} report, "The first step, then, in helping poor readers is to teach them accurate word recognition. Without it meaning and speed are impossible."

1/ Dolch, Edward W., "The Development of a Vocabulary for Reading," Claremont College Reading Conference, Seventeenth Yearbook, Claremont, California, 1952, p. 137.

2/ Roswell, Florence G. and Jeanne S. Chall, "Helping Poor Readers with Word Recognition Skills," The Reading Teacher, 10"200-204, April, 1957, p. 200.

Analysis

Ability in word analysis is one phase of vocabulary growth in an effective reading program. Durrell^{1/} says,

"Word analysis abilities that improve learning rate in sight vocabulary and also enable the child to solve new words independently are built through carefully graded instruction. They include auditory and visual discrimination of words and elements, instruction in applied phonics, syllable analysis, and word building."

In 1930, Lindsay^{2/} asked:

"Does it seem possible that overemphasis of phonics in pedagogy is coming in again, or what is the reason for the recurrence of this dalliance with this quite, quite ancient subject? One might suppose this question had been threshed out these many years, and yet, we find apparently new spelling books clinging with loving solicitude to this relic of days long laid away in lavender and pensive recollection. When we find that certain individuals, whose work in the field of education is quoted and held in esteem, are giving their names to the use of phonetic grouping, it is time for the ordinary observer to stop and con the matter over for a few minutes... When we dig down into the material of language itself, we find many obvious reasons why phonetic grouping in spelling instruction is not feasible... It seems to us absolutely imperative that the child can be introduced to the words he needs when he needs them and that he be helped to perceive the individual words without such artificial and illogical grouping."

1/ Durrell, Donald D., Improving Reading Instruction, New York: World Book Company, 1956, p. 10.

2/ Lindsay, W. B., "What About the Pendulum Business?" Education, 51:10-15, September, 1930, p. 10.

Currier^{1/} summarized an experiment done in the public schools of Tilton, New Hampshire in 1916 and concluded that:

- (1) Phonetically trained classes read with less speed, less interest, greater fatigue and with confusion of ideas.
- (2) Classes not having phonetic drills read with greater interest, increased speed and more expression. They were careless in pronunciation and employed more or less word substitution. Fatigue was much reduced, and story reproduction was very successful.

Gates^{2/} reported that he saw no great help in phonics for the teaching of reading. Horn^{3/} supported the idea that the English language was difficult to manage phonetically, but was fair and restrained in his attitude toward the teaching of phonics as an aid to reading. He wrote,

"It must be admitted that the investigations of phonic vs. non-phonic training which have been made up to the present time have been poorly controlled. It is possible that were the factor of phonic training skillfully isolated, and the results of the experiment adequately analyzed a superiority would be shown."

- 1/ Currier, Lillian, "Phonics or No Phonics," Elementary School Journal, 23:448-452, February, 1933
- 2/ Gates, Arthur I., "Studies of Phonetic Training in Beginning Reading," Journal of Educational Psychology, 18:217-226, April, 1927.
- 3/ Horn, Ernest, "The Child's Early Experiences with the Letter 'A'," Journal of Educational Psychology, 20:161-168, March, 1929, p. 166.

Stevens^{1/} stressed that the time spent in the teaching of phonetics was out of proportion to the value received by the children. Many children do not need phonetic training, while another group at the foot of the class will be repeaters because they cannot learn the phonetic drill. Later, she wrote,

"We have in the beginning the natural tendencies of children, already illustrated, to aid their memories by crude analogies. We know that these will be inadequate as more and more words are learned. Then children will either develop other experimental methods of phonetic analysis, or we must furnish them with more adequate guides."^{2/}

About this time Acomb^{3/} investigated the psychological factors relating to reading and spelling and found:

- (1) The ability to distinguish through visual and auditory means, small differences between words, depends somewhat on mental age.
- (2) Visual and auditory discrimination, perception and associability, are highly significant factors in relation to reading ability.
- (3) Visual and auditory factors are significantly related to spelling ability.
- (4) Visual and auditory factors are definitely interrelated with one another, each recalling the other automatically during the reading process.

^{1/} Stevens, Marion, The Activities Curriculum, New York: D. C. Heath and Company, 1934.

^{2/} Stevens, Marion, "Phonetics What and How," American Childhood, 21:19-20, March, 1936, p. 19.

^{3/} Acomb, Allen, "A Study of the Psychological Factors in Reading and Spelling," Unpublished Master's Thesis, Boston University, 1936.

Tate^{1/} studied the influence of phonics on silent reading at first grade level. Special periods were arranged for formal instruction and drill in phonics. In all reading the emphasis in attacking new words was on the phonetic method. The control group had no phonic work. The conclusions were:

- (1) Phonics instruction and drill, as judged by the results of the Gates Primary Reading Test, Type I, is far superior to the look and say method in developing ability to recognize words.
- (2) The look and say method is superior to phonics instruction and drill in developing the ability to comprehend sentences.
- (3) The look and say method is superior to phonics instruction and drill in the ability to comprehend paragraphs or directions.
- (4) Thirty minutes a day for phonics instruction and drill leads to an unbalanced development of the abilities to comprehend words, to understand sentences and to grasp meanings of paragraphs.

Tate made the following inferences:

- (1) Regular periods of phonics instruction and drill are not desirable.
- (2) Phonics should be used by the pupil as a tool and not as subject matter to be mastered for its own value.
- (3) Overemphasis on phonics hinders rapidity and thoroughness of comprehension.

^{1/} Tate, Harry L., "The Influence of Phonics on Silent Reading in Grade I," Elementary School Journal, 37:752-763, June, 1937.

Dolch and Bloomster^{1/} supported the fact that some method of independent attack was needed in word recognition. They stressed that as the number of words became greater, there was need for more than just sight learning. Children must have an independence in word recognition and some sort of phonic attack. They say,

"The relation between mental maturity and the use of phonics is remarkably high... Ear training which is the basis of phonics, may begin early. Children may be taught to notice similarities between sounds some time before they are expected actually to use sounding generalizations, and the like. Further studies are needed to discover such particular abilities, their development, and their function in the use of phonics."

Wilson^{2/}, in a cooperative study of reading readiness and progress in reading for children in Kindergarten, Grades I, II, and III attempted to determine the degree of effectiveness of learning the mechanics of reading without sacrificing the rich experience aspect or individualized learning. He concluded that varying abilities to see, hear and speak and varying mental abilities do not seem to be closely related to progress in reading. He says,

"Differences in reading progress can be explained mainly in terms of learning. In the

1/ Dolch, Edward and M. Bloomster, "Phonic Readiness," Elementary School Journal, 38:201-205, November, 1937. pp. 204-205.

2/ Wilson, Frank; C. Flemming; A. Burke; and C. Garrison, "Reading Progress in Kindergarten and Primary Grades," Elementary School Journal, 38:442-449, February, 1938, p. 443.

learning experiences of these children, one set of factors seemed to stand out as of preeminent effectiveness in contributing to reading progress, namely, mastery of letter symbols, both form and sound."

The study was continued the following year with other groups. These results were consistent with the first study.

Rogers^{1/} evaluated the effect of training in phonics upon reading at the college level, and found it to be an effective technique for the improvement of pronunciation, oral reading, and reading vocabulary. Tiffin^{2/} explained the controversial question by saying,

"The status of phonics in the program of instruction in elementary reading has long troubled both professional educators and classroom teachers. Many educators...have felt that instruction in phonics should be minimized if not completely eliminated. On the other hand many classroom teachers...feel that phonics should occupy some place and possibly a prominent place in the reading program."

Therefore, Tiffin attempted to determine whether, and to what extent, phonic ability as measured by a reliable instrument is related to reading ability. As a result, he stated the relation between phonic ability and reading ability was significant in the group studied (155 children in grades 5, 6, 7, and 8). No relation was shown between phonic ability and chronological age. It is implied that there is a relation between phonic ability and mental age.

1/ Rogers, Maurine, "Phonics Ability as Related to Certain Aspects of Reading at College Level," Journal of Experimental Education, 6:381-395, June, 1938.

2/ Tiffin, Joseph and Mary McKinnis, "Phonic Ability: Its Measurement and Relation to Reading Ability," School and Society, 51:190-192, February 10, 1940, p. 190.

Murphy^{1/} developed, and evaluated the effect of specific exercises for auditory and visual discrimination. Five hundred and forty children were placed in four groups. One received practice in auditory discrimination; one in visual discrimination; one in both auditory and visual discrimination; and the fourth was the control group receiving no particular training in either.

At the end of the experiment, she concluded:

- (1) All experimental groups were superior to the control group in reading achievement.
- (2) In the individual test of oral reading the experimental group ranked higher.

Crossley^{2/} made use of lantern slides in teaching auditory and visual discrimination, and she found that it is possible to teach letters as beginnings and endings at the same time without causing confusion. The experimental group was superior to the control group in auditory discrimination at the end of the study. By testing five weeks after the slides had been used, it was discovered that material taught by means of visual aids is retained as well as that taught by other methods.

^{1/} Murphy, Helen A., "An Evaluation of the Effect of Specific Training in Auditory and Visual Discrimination on Beginning Reading," Unpublished Doctor's Dissertation, Boston University, 1943.

^{2/} Crossley, B. Alice, "An Evaluation of the Effect of Lantern Slides on Auditory and Visual Discrimination of Word Elements," Unpublished Doctor's Dissertation, Boston University, 1948.

Harrington^{1/} studied the influence of mental age and the various perceptual factors on reading achievement and reported;

- (1) Auditory and visual discrimination of word elements have high importance in success in acquiring a primary grade reading vocabulary.
- (2) Phonics instruction is clearly important, having a higher relation to reading achievement than any of the factors studied.
- (3) Mental age, as measured by the test used, has little influence on success in learning to read.

"This study indicates strongly that specific instruction in phonics and in visual and auditory perception of word elements is essential to success in building reading vocabulary in primary grades."^{2/}

Cordts^{3/} says, "What children need is a simple and successful technique for identifying new words under their own power." Word recognition can become an exciting experience with lasting results through the use of functional phonetics.

The perception of words as the child tries to learn them is similar to many forms of perception studied in the psychological laboratories.

^{1/} Harrington, Sister Mary James, "The Relationship of Certain Word Analysis Abilities to the Reading Achievement of Second Grade Children," Unpublished Doctor's Dissertation, Boston University, 1953.

^{2/} Harrington, Sister Mary James and Donald D. Durrell, "Mental Maturity Versus Perception Abilities in Primary Reading," Journal of Educational Psychology, 46:375-380, October, 1955, p. 380.

^{3/} Cordts, Anna D., "As Easy as Pie," Grade Teacher, 71:6-7, June, 1954, p. 6.

Gates^{1/} reports,

"While a child profits by being left to his own ingenuity sufficiently to make him alert to search for clues on his own, the evidence is that he makes better progress when, having really become active, an expert points out some of the basis of word discrimination which have proved to be most helpful. The suggestion is that instruction in word recognition should provide such guidance... The more normal and helpful procedure is to take the words as wholes."

Many other writers have reported similar findings. Mulder and Curtin^{2/} emphasize that phonetic analysis is commonly regarded as a method of word attack, and in order to be able to use this method, children must be able to hear sounds correctly, and associate sound to symbol. Austin^{3/} stressed the importance of auditory readiness in the phonetic approach to word analysis. Wepman^{4/} writes of the importance of auditory discrimination in early speech as well as in oral reading.

- 1/ Gates, A. I., "Implications of the Psychology of Perception for Word Study," Education, 75:589-95, May, 1955, p. 591.
- 2/ Mulder, Robert L., and James T. Curtin, "Vocal Phonic Ability and Silent Reading Achievement; a First Report," Elementary School Journal, 56:121, November, 1955.
- 3/ Austin, Mary C., "Phonic Elements and Principles Basic to Reading," Conference on Reading, University of Chicago, 1955, Vol. XVII (Oral Aspects of Reading), p. 51.
- 4/ Wepman, Joseph M., "Nature of Effective Speech in Oral Reading," Conference on Reading, University of Chicago, 1955, Vol. XVII (Oral Aspects of Reading), p. 34.

Jones^{1/} declares that auditory as well as visual abilities are utilized in a well-rounded reading program. Dolch^{2/} says that in teaching phonics to children a well-rounded reading program must be preserved, and children's rate of progress as well as the materials available in the school system must be studied to fit their particular needs.

Durrell^{3/} writes that the mastery of reading a phonetic language depends upon a number of stages of development of visual and auditory perception of words.

- (1) Hearing sounds in words.
- (2) Seeing differences in printed symbols.
- (3) Learning letter sounds.
- (4) Analyzing words by applying phonics.

"As soon as the child can identify separate sounds in words and knows the forms and names of letters, the phonics can begin. In fact it can begin for a single letter or group of letters before all of the sounds and names of other letters has been learned. The possession of an adequate perceptual background, not a 'mental age of seven' makes phonics effective."^{4/}

^{1/} Jones, Morris Val., "The Effect of Speech Training on Silent Reading Achievements," The Journal of Speech and Hearing Disorders, Vol. 16:259, September, 1951.

^{2/} Dolch, E.W., "Phonics in the First Grade," Elementary English, 32:518, December, 1955.

^{3/} Durrell, Donald D., Improving Reading Instruction, New York: World Book Company, 1956.

^{4/} Ibid., p. 228.

Vocabulary of Primary Grade Reading Books

Children add to their vocabularies as their interests widen and increase in number. Each new experience becomes a part of their mental equipment either as new words are included or as new meanings are attached to known words. The process of learning a sight vocabulary is not a haphazard one, but rather a well planned program. Dolch^{1/} says,

"The children going through these books are all bound to encounter the same new words. The teacher will make an effort to see that all get the new meanings. Considerable time and effort will be expended. The question then arises: Which words should the children of any particular grade be thus formally taught?"

Several people have compiled vocabulary lists often used in primary textbooks. Prominent among them are: Thorndike, Horn, Gates, Dolch, Buckingham and Rinsland.

Thorndike's^{2/} Teachers Word Book of the 20,000 words were selected from 200 sources. A later publication, with the assistance of Lorge,^{3/} increased the list to 30,000 words.

1/ Dolch, E. W. Reading and Word Meanings, Boston: Ginn and Co., 1927, p. 61.

2/ Thorndike, E. L., The Teachers Word Book, New York: Teachers College, Columbia University, 1921.

3/ Thorndike, E. L. and I. Lorge, The Teachers Word Book of 30,000 Words, New York: Teachers College, Columbia University, 1944.

Horn's ^{1/} Basic Writing Vocabulary of 10,000 words was taken from adult correspondence. The 1500 words in Gates' ^{2/} Primary List are those commonly used in books published for the primary grades and is used as a norm in the evaluation of the vocabulary burden of primary grade reading books.

The International Kindergarten Union List ^{3/} is composed of 2500 words in the speaking vocabulary of children before entering grade one. Dolch ^{4/} selected 220 words from three lists; Thorndike, Gates, and International Kindergarten Union to be used in remedial situations when children have small basic sight vocabularies. A later list by Buckingham and Dolch ^{5/} attempted to grade the words according to difficulty and usage. The Rinsland ^{6/} list shows frequency of usage at each grade level from one to eight.

- 1/ Horn, Ernest, "A Basic Writing Vocabulary," Studies in Education, First Series, No. 4, University of Iowa, April, 1926.
- 2/ Gates, A. I., A Reading Vocabulary for the Primary Grades, New York: Teachers College, Columbia University, 1926.
- 3/ Child Study Committee of the International Kindergarten Union, A Study of the Vocabulary of Children before Entering the First Grade, Washington, D.C.: The International Kindergarten Union, 1928.
- 4/ Dolch, Edward W., "Basic Sight Vocabulary," Elementary School Journal, 36:456-60, February, 1936.
- 5/ Buckingham, B.R., and E.W. Dolch, A Combined Word List, Boston: Ginn and Company, 1936.
- 6/ Rinsland, H.D., A Basic Vocabulary of Elementary School Children, New York: Macmillan Co., 1945.

Dolch^{1/} reported that the number of new words used and the amount of repetition given to them were of importance, but equally important was the question of how difficult the meanings of words are for children. "Authors, editors and teachers have long used their subjective judgment in estimating word difficulty as to meaning."

In comparing published word lists, Dale^{2/} attempted to select words known to children, as well as those which would be of permanent value to them in their reading activities. He believes that one of the major problems confronting authors of first grade reading books is the satisfaction of these two criteria.

Commenting on the development of vocabulary for second grade, Lafeiste^{3/} is of the opinion that the environment in which the child lives, the interests, and units of work emphasized in his school activities have a great influence on the child's vocabulary.

McKee^{4/} believes that to be able to read effectively, a child must add to his store of words each day. Basal reading systems have been developed to make use of building a sight

1/ Dolch, op. cit., p. 61.

2/ Dale, Edgar, "Comparison of Two Word Lists," Educational Research Bulletin, 10:484-489, December, 1931.

3/ Lafeiste, Bertha V., "Developing the Vocabulary in a Second Grade," Elementary English Review, 11:133-134;138, May, 1934.

4/ McKee, Paul, "Vocabulary Development," Thirty-sixth Yearbook of the National Society for the Study of Education, Part I, University of Chicago Press, 1937, pp. 277-302.

vocabulary as well as developing skills in reading. He sums it up as follows:^{1/}

"If a child or an adult is to achieve the fundamental value of the various reading activities, great importance must be attached to the development of an adequate reading vocabulary."

With reference to developing vocabulary Seegers^{2/} reports that,

"Richness and variety of the vocabulary used depends largely upon the variety of stimuli employed. That real, concrete experiences not only extend vocabulary but make meaningful the words already at one's command, and that such media are used too infrequently."

He summarizes that the vocabulary of children is much greater than has often been supposed and that children use more words in oral than in written discourse. Words must be considered not only in isolated form but in phrases in use.

Knott^{3/} says,

"We know a little about the number of new words that children in general annually learn on some of the grade levels. We know very little about how many they could learn if they were taught with the direct purpose of increasing their vocabularies. We need more research into methods of instruction that will give children experience as well as words. The less intelligent children need experience to help increase their vocabularies. The more intelligent need it to prevent them from becoming mere verbalists."

^{1/} McKee, op. cit., p. 278.

^{2/} Seegers, J. Conrad, "Vocabulary Problems in the Elementary School," Elementary English Review, 17:28-43, January, 1940, p. 43.

^{3/} Knott, Thomas A., "Observations on Vocabulary Problems," Elementary English Review, 17:63-67, February, 1940, p. 64.

After a careful study, Seashore and Eckerson^{1/} believe that individual vocabularies are much larger than was previously thought to be true. They contend that most of our modern language words are derived from a relatively small number of root words, 166,000 basic words and 204,000 derivative words.

They report:

"In certain studies of children it is possible to record all of the words used in a variety of situations over a period of days until no new word appears except those learned during the period. This gives a measure of the number of words which the individual did use, but it does not take into account those which he could have used if necessary, nor those which he could only recognize."

Spache^{2/} found that fair prediction of mental ages could be made from the vocabulary sections of the Revised Stanford-Binet Test of Intelligence. Terman and Merrill^{3/} had previously stated that they had found the vocabulary test to be the most valuable test in the scale, and that there was a high degree of correlation between vocabulary and mental age.

1/ Seashore, Robert H. and Lois D. Eckerson, "The Measurement of Individual Differences in General English Vocabularies," Journal of Educational Psychology, 31:14-38, January, 1940, p. 19.

2/ Spache, George, "The Vocabulary Tests of the Revised Stanford-Binet as Independent Measures of Intelligence," Journal of Educational Research, 36:512-16, March, 1943.

3/ Terman, Lewis M. and Maud A. Merrill, Measuring Intelligence Boston: Houghton Mifflin Company, 1937, p. 302.

Stone^{1/}, in analyzing the vocabularies of preprimers published between 1931-40, discovered:

- (1) Not a single word appears in all twenty preprimers.
- (2) Ninety words appear in four or more of the twenty books.
- (3) Preprimers vary greatly in the amount of reading material. The larger the amount of material, the higher the average repetition of words. Books of over 1000 words include an average repetition from 16-30. Books with fewer than 1000 words range in repetition from 10-18.

Hildreth^{2/} emphasizes that failure in reading can be attributed to the use of too many words and insufficient repetition of words.

Kyte^{3/} asserts that the mastery of a core vocabulary forms the framework of all future word work. His study was concerned with the selection of a core vocabulary of one hundred words usable by primary grade teachers in all of the class work involving words. It was found after careful tabulation that each word appeared on one of the well-known vocabulary lists for children.

The existence of a relationship between vocabulary and general achievement in school has long been recognized. Children with greater knowledge of word meaning do the better school

1/ Stone, Clarence, "The Vocabularies of Twenty Preprimers," Elementary School Journal, 423-429, February, 1941.

2/ Hildreth, Gertrude, "All in Favor of a Low Vocabulary," Elementary School Journal, 43:462-470, April, 1943.

3/ Kyte, George C., "A Core Vocabulary for the Primary Grades," Elementary School Journal, 44:157-166, November, 1943.

work. Traxler^{1/} studied correlations between the word-meaning score and the total scores on the Stanford Achievement Test at each grade level from IV to VIII. He concluded that:

- (1) If one wishes to obtain a rapid, fairly valid, prediction of general achievement, a word-meaning test is preferable to an intelligence test.
- (2) The high relationship between word meaning and total achievement suggests that teachers could well place more emphasis on the teaching of vocabulary.

These findings have implications for both testing and teaching.

Harris^{2/} explains that in writing materials for beginners in reading great care is taken to use only words whose meanings are already familiar to the children or can be easily explained to them. Later, new words which are unfamiliar in meaning as well as in appearance are introduced. Gray^{3/} contends that the child acquires a sight vocabulary as words in his speaking vocabulary are presented to him as wholes in meaningful context.

Dolch^{4/} emphasizes the difficulty of including the problem of multiple meanings in determining word lists, and states that books for the first three or four grades are written using

1/ Traxler, Arthur, "The Relationship between Vocabulary and General Achievement in the Elementary School," Elementary School Journal, 45:331-333, February, 1945.

2/ Harris, Albert, op. cit., p. 398.

3/ Gray, William S., op. cit., p. 119.

4/ Dolch, E. W., "The Use of Vocabulary Tests in Predicting Readability and in Developing Reading Materials," Elementary English, 26:142-149, March, 1949.

a vocabulary familiar to the child. He concludes that at this level meaning vocabulary and sight vocabulary may agree.

Witty^{1/} relates that good reading programs are meaningful from their inception. The first grade vocabulary is based on children's activities, and as the child progresses his needs and interests further influence the nature of instruction and contribute toward making it meaningful.

Sullivan^{2/} inventoried children's experiences in relation to the situations found in the basal readers. Her findings were that there is no field of experience so well known to children that it need not be included in an enrichment program, and there is no experience in the readers which is not known to at least some of the children. A survey conducted by Phillips,^{3/} making use of one hundred words as measured by a picture test, showed that no words were known by all children, and no experience area was unknown by all.

Dolch^{4/} believes that most children come to first grade with a meaning vocabulary of several thousand words. The

- 1/ Witty, Paul, "On This We Agree," Journal of the National Education Association, March, 1951.
- 2/ Sullivan, Ethel, "A Survey of the Experience Background of First Grade Children," Unpublished Master's Thesis, Boston University, 1951.
- 3/ Phillips, Helen M., "A Survey of the Experience Background of First Grade Children," Unpublished Master's Thesis, Boston University, 1951.
- 4/ Dolch, Edward W., "The Vocabulary of Basal Reading Instruction," Report of Fifth Annual Conference on Reading, University of Pittsburgh, 1949, pp. 75-82.

beginning reading books will have only 300 to 500 words for the first year, and somewhat more for the second and third years. Consequently, the vocabulary of basal reading instruction is just a fraction of the child's total vocabulary. Use of supplementary reading materials add to the number of words which children can acquire as part of their sight vocabulary.

Dondero^{1/} reviewed the basal readers of 1951 and reported the philosophies utilized by their authors. Each stresses systematic development. As a result of her survey she states,

"Words are introduced and maintained in a very systematic manner. The vocabulary load varies in all of them, as does the plan of maintenance, but each has a carefully controlled vocabulary which is within the understanding of the children."

Millinger^{2/} found that there is a need to enrich experiences of second grade children in order to aid in their comprehension of basal readers. Cogan^{3/} compared the vocabularies of first and second grade books of three basal readers. She reports that the texts varied widely in the number of words used.

1/ Dondero, Grace, "What's New in Basal Readers?" Instructor, November, 1951, p. 85.

2/ Millinger, Caroline G., "A Survey of the Experience Background of Second Grade Children," Unpublished Master's Thesis, Boston University, 1952.

3/ Cogan, Anna M., "A Comparison of the Vocabularies of the Grade One and Two Books of the Alice and Jerry Series, The Curriculum Foundation Series, The To-Day Work Play Book Series, and the Gates Primary Reading Standardized Test," Unpublished Master's Thesis, Boston University, 1950.

Spainhour^{1/} attempted to discover what background experiences are necessary to insure success in the initial reading program. The results of the study show that first grade basal readers provide a fair degree of material related to children's experiences, but a program of word enrichment in the field of nature could be heightened with the increased use of supplementary books.

As the result of a preliminary study by Genua^{2/} in which she found a wide range of differences in the background experiences in first grades, an instrument to measure background experiences was constructed and administered to 1,020 children in various sections of the United States.^{3/} Through the use of this instrument, it was concluded that background experiences vary in accordance with geographical location.

Bryan^{4/} was concerned with the fact that textbook writers base their material on accepted word lists. He made an attempt to find out if children's vocabularies were underestimated. Three separate tests were administered: (1) free-association

1/ Spainhour, Bernice, "An Analysis of First Grade Basal Reading Series for Words that Require Real Life Experiences for Meaningful Beginning Reading," Unpublished Master's Thesis, Boston University, 1952.

2/ Genua, Florence, "Background Experiences of First Grade Children from Winston Basal Readers for Grade One," Unpublished Master's Thesis, Boston University, 1952.

3/ Genua, Florence, "Construction and Validation of an Instrument to Measure Background Experiences of First Grade Children," Unpublished Doctor's Dissertation, Boston University, 1954.

4/ Bryan, Fred E., "How Large Are Children's Vocabularies?" Elementary School Journal, 54:210-216, December, 1953.

test; (2) stimulus-response test; (3) multiple-choice English Recognition Vocabulary Test by Seashore and Eckerson. He concluded that:

- (1) The accuracy of word lists published cannot be questioned, but the vocabulary of children in days before radio and television cannot be compared with their vocabularies today.
- (2) Children will reveal a knowledge of more words if external stimuli to recall are provided. The total vocabulary of all children was found to be larger if children come from various locations, communities, and socioeconomic groups.
- (3) A combination of a free-association study and a stimulus-response study give a 50% increase over number of words from only free-association study.
- (4) Children know more words than have been revealed by the free-association study.
- (5) Children of Grades II through VI know at least 10,000 words.

The final implication is that educators should enrich the word power of children. They should encourage them to use all the words at their command, and reach for other words which could be part of their vocabularies.

Vollbrecht^{1/} studied the technical aspect of vocabulary, and noted a wide range in differences in vocabulary factors among the reading books intended for second grade. She reports, "If teachers are to meet children's individual differences, they must be sure of the vocabulary content of the materials."

^{1/} Vollbrecht, Dorothy M., "Vocabulary Analysis of Thirteen Second Grade Readers," Elementary English Review, 31:207, April, 1954.

Methods of Effective Practice

The problem of measuring and evaluating effective practice has long been considered by those in the field of education.

In 1913 Thorndike^{1/} said,

"It is a noteworthy commentary on the newness of scientific study of education that nobody has yet measured the actual progress of any single child in learning any single school subject for over a month, or in learning any of the informational subjects for even one week."

Starch,^{2/} reviewing previous research, tells of the pioneer study of Ebbinghaus (1885) which was concerned with the learning of nonsense syllables. It showed that distributing practice over a period of three days resulted in greater efficiency than attempting to learn the same amount of material in one day. Sixty-eight repetitions made in immediate succession were not as valuable as thirty-eight repetitions spread over a three-day period. Jost (1897) also working with syllables found that two repetitions a day for twelve days were better than four repetitions a day for three days. Lueba and Hyder (1905) in an experiment on learning to transcribe English words into German script found that of four plans of distributing

^{1/} Thorndike, E. L., The Psychology of Learning, Vol. 2, New York: Teachers College, Columbia University, 1913, p. 333.

^{2/} Starch, Daniel, Educational Psychology, New York: Macmillan Co., 1927.

time, twenty minutes a day yielded the slowest gain, while twenty minutes every third day yielded better results, twenty minutes every other day yielded the best results. Munn (1909) made an investigation of practice in a substitution test consisting of transcribing 4000 letters into other letters according to a key. Four time schedules were set up--allowing varying amounts of time in each, but totalling equally. It was found that practice ten minutes, twice a day was productive of the greatest progress. Dearborn (1910) found a slight advantage in favor of a group working ten minutes once a day.

Starch^{1/} concludes from all this evidence that,

"In general relatively short periods of work in simple associative learning are probably the most economical... All we can say at present is that each type of learning probably has its optimal length and distribution of practice periods."

Pyle^{2/} reviewed the early experiments of Ebbinghaus and Jost and reported that short periods of practice distributed over a long time were more advantageous than longer periods of practice distributed over shorter lengths of time. He comments,

"All the experiments that have since been performed in this field have in general confirmed

^{1/} Starch, op. cit. p. 170

^{2/} Pyle, W. H., The Psychology of Learning, Baltimore, Md., Warwick and York, Inc., 1928.

the earlier work and have made it clear for every kind of learning there is a proper length of practice period, and for the different stages of habituation, there is also the proper distribution of practice periods."

Continuing, he recommends that the length and number of practice periods should be the concern of the teacher. With young children no kind of practice period should be long for decreasing returns set in early.

- (1) Practice after a certain length of time is not profitable.
- (2) Practice periods should be short, and in most cases once or twice a day.
- (3) In establishing a complicated set of habits, frequently repeated practices at the start are more profitable than they are after habituation has proceeded further.
- (4) Unperfected motor movements require more brief practice periods and longer intervals between practices than learning in which the actual movements can easily be made. ^{1/}

Symonds and Chase ^{2/} were concerned with groups of children subjected to practice in English usage--without motivation. They stated that,

"As to the practical implications of the experiment we must conclude that the most effective device that can be applied to learning is to increase the amount of drill or practice. The prime function of motivation is to make this drill or practice more palatable."

^{1/} Pyle, op. cit., pp. 54-56.

^{2/} Symonds, P. M. and D. H. Chase, "Practice vs. Motivation," Journal of Educational Psychology, Volume 20, January, 1929.

Austin^{1/} measured retention in a group of mature adults who read over technical passages five times using distributed and undistributed repetitions. Retention was measured after intervals of two weeks and four weeks. She found that unspaced repetitions were nearly as effective as the spaced on immediate tests, but markedly inferior after the longer periods.

The purpose of the Burns^{2/} study was to find out who is most affected by motivation during practice, those who are initially high or the lowest, or those who fall in between the two extremes. He reported that today no one knows with certainty what the effect of practice is upon the variability of a group, or how training affects individual differences. A practice experiment was performed with two groups as nearly alike in all respects as possible. One group was motivated normally, and the other to a high degree. The material used was code writing material. The practices were held every day for six weeks. The conclusions were:

- (1) The effect of a special, added, or a high degree of motivation upon changes in variability is not constant, but varies with the function studied.

1/ Austin, S.D.McK., "A Study of Logical Memory," American Journal of Psychology, XXXII, 1921, pp. 370-403.

2/ Burns, Zed H., "The Effect of Motivation on Changes in Variability during Practice," Journal of Educational Psychology, 29:202-214, March 3, 1938.

- (2) With the function code writing, added motivation acts to lessen the reduction of variability during practice.
- (3) Added motivation stimulates most strongly those initially high in code writing.
- (4) With addition, the effect of added motivation is negligible, the added stimulation being felt uniformly by the whole group.

To determine the effect of practice on factor-loading, Woodrow^{1/} attempted to identify factors upon which gains depend. He sums it up as follows:

- (1) Marked changes in factor-loading occur with practice.
- (2) No general tendency for the loading with Factor I.
- (3) No sign of any general improvement factor, that is, a factor common to the gain scores of all the practice tests.
- (4) Loading of gain scores, depends on loading of initial and final scores.
- (5) No factor is common to all or even to a majority of scores.

In a further study Woodrow^{2/} attempted to measure the effect of practice upon sub-groups when sub-groups are obtained by sectioning the total group according to initial ability. He reports that performance improves with practice, i.e. that the curves rise. In conclusion the statement is made:

^{1/} Woodrow, Herbert, "The Relation between Abilities and Improvement with Practice," Journal of Educational Psychology, March, 1938, pp. 215-230.

^{2/} Woodrow, Herbert, "The Effect of Practice on Groups of Different Initial Ability," Journal of Educational Psychology, April, 1938, 29:268-78.

"With absolute scaling it was found that sub-groups resulting from sectioning of a larger group on the basis of initial score drew close together with practice in all four of the tests scaled. Even with absolute scaling, however, two of the tests showed an increase in individual differences with practice."^{1/}

Berman^{2/} studied the addition of a kinesthetic-tactual stimulus in the form of motor movements added to visual and auditory stimuli as an aid in the retention of nonsense syllables. He reported greater economy in the acquisition of nonsense syllables and geometrical figures was had for the partial reading disability cases when a manual-tracing technique was used, however, retention did not seem to be aided by this tracing factor. Sorenson^{3/} found that non-meaningful material, such as nonsense syllables, is forgotten much more readily than is meaningful material. Words arranged in poems and ideas suggested by others are remembered longer than isolated facts, words and ideas.

^{1/} Woodrow, Herbert, op. cit., p. 278.

^{2/} Berman, Arthur, "The Influence of the Kinaesthetic Factor in the Perception of Symbols in Partial Reading Disability" Journal of Educational Psychology, March, 1939, pp. 187-198.

^{3/} Sorenson, Herbert, Psychology in Education, New York: McGraw-Hill Book Company, Inc., 1940.

Murphy and Junkins^{1/} evaluated thirty ten-minute exercises in auditory discrimination of word elements, and an equal number of exercises in visual discrimination of word elements. At the end of this experiment the retention of words taught had doubled for the two experimental groups, while the control group increased its score only slightly.

Hildreth^{2/} states that,

"More general research in the psychology of learning proves that learning with understanding is easier and faster, the skill or material is better retained, and the results can be more easily transferred to new situations than is the case with meaningless mechanical learning. To be most effective our instructional methods should concentrate the child's attention on meanings so that he can learn with understanding. This conclusion applies equally well to both fast and slow learners."

Witty^{3/} discusses the principles which were followed in the development of the Army's program of instruction which was employed during World War II in teaching the soldiers to read,

"It became possible for functionally illiterate and non-English-speaking men to acquire the reading skills needed in the Army in the amazingly short period of eight weeks.... The need for training in reading habits and skills is great."

1/ Murphy, Helen A. and K. Junkins, "Increasing the Rate of Learning in First Grade Reading," Education, 62:37-39, September, 1941.

2/ Hildreth, Gertrude, "Learning to Read with Understanding," Journal of the National Education Association, January, 1951, pp. 56-7.

3/ Witty, Paul, "On This We Agree," Journal of the National Education Association, March, 1951, pp. 187-188.

Ashley^{1/} attempted to provide an intensive program of review and practice to fix new words and meanings for grade five. She writes,

"The amount of improvement in ability to select correct word meanings was almost doubled by the methods used in the experimental period, as compared to the methods of teaching used in the control period. This shows that the special exercises have been effective in developing word meaning."

Pulliam and Watson^{2/} say, "As in all other phases of reading instruction, practice is necessary if children are to develop the ability to read by thought units." If practice on any skill is to be functional, it must have practical application and be related to the thing it is intended to produce.

Smith^{3/} believes,

"In any learning situation the amount of study time is limited... No one solution is satisfactory for all types of learning tasks. There is evidence however, that for most learning activities a certain amount of practice spread over a period of time is much more effective than the same amount of practice crammed into a short period of time."

- ^{1/} Ashley, Doris, "An Evaluation of Exercises for the Development of Word Meanings in Grade Five," Unpublished Master's Thesis, Boston University, 1952, p. 44.
- ^{2/} Pulliam, R.A. and K. Watson, "A Basic Phrase List for Use in Reading Instruction," Elementary School Journal, 46:513-518, May, 1953, p. 513.
- ^{3/} Smith, Henry P., Psychology in Teaching, New York: Prentice-Hall, Inc., 1954, p. 222.

Distributed practice and encouragement of recall helps the child to use previous learning in attacking new problems. The teacher will find that distributed practice is particularly effective when a rather large unit of material is to be learned.

Thorpe and Schmuller^{1/} assert, "Learning becomes a matter of forming many associations, not only one, calculated to function in many situations."

Gates^{2/} emphasizes that experimental studies tend to show that in most cases individual children profit from different types of approaches in different degrees.

1/ Thorpe, L.P. and A.M. Schmuller, Contemporary Theories of Learning, New York: The Ronald Press Co., 1954, p. 101.

2/ Gates, A. I., "Implications of the Psychology of Perception for Word Study," Education, 75:589-95, May, 1955.

Children's Attitudes toward Reading

Renewed interest in children's attitudes toward success in school work recently has been considered. Sandin^{1/} dealt with the characteristics of behavior, social adjustments, and attitudes of children who had been nonpromoted one or more times during their school years as compared with their regularly promoted classmates. Sixteen classes, grades I through VIII, were selected. Of the 419 children, 139 had experienced nonpromotion. The findings showed that:

- (1) Repeaters generally preferred to associate with children of the upper grades.
- (2) Repeaters are not socially approved or accepted by those who are regularly promoted.

Hoover^{2/} asserted that the intensity of one's attitudes appear to be contingent upon his interest and knowledge of objects, values or persons; that attitudes are rooted in experience; are not static, but constantly changing. The measurement of attitudes is difficult because an apparent attitude may or may not be the real attitude. He states,

"Attitudes have long been recognized by educators as being of tremendous importance,

^{1/} Sandin, A. A., "Social And Emotional Adjustments of Regularly Promoted and Nonpromoted Pupils," Education Digest, 10:48-9, January, 1945.

^{2/} Hoover, Floyd W., "Those Elusive Behavior Determinants," Educational Administration and Supervision, 31:215-22, April, 1945.

so much so that the issue of skill vs. attitudes is still far from being settled even though the controversy has run a goodly number of years. The need for creating or developing desirable attitudes on the part of school children is constantly being reiterated by teachers in all fields of education." ^{1/}

Robertson ^{2/} is of the opinion that it is not easy to get at the roots of ways of thinking because it is difficult to understand children's feelings and attitudes except as they are reflected in behavior. He says when attitudes are once established, it is difficult to change them. Sutton ^{3/} believes the direction in which we go in life is far more important than any specific goal. The development of personal attitudes which will influence the direction is of importance.

Megrath and Washburne ^{4/} attempted to measure attitudes by the evaluation of student motivation. It was stated that ascertaining the attitudinal basis from which students learn directed attention of teachers toward the student and the influence of emotions on his learning environment.

^{1/} Hoover, op. cit., p. 215.

^{2/} Robertson, W., "Changing Ways of Thinking," Childhood Education, 22:121-4, November, 1945.

^{3/} Sutton, W. A., "Developing Right Attitudes," Instructor, 56:16, February, 1947.

^{4/} Megrath, E.J. and V. Z. Washburne, "Attitude Toward Attitudes," Educational Administration and Supervision, 33:435-8, November, 1947.

The conclusions were that attitudes could not be treated as static data and they had significance only in terms of the individual and his particular environment. One can no longer consider attitudes as elements apart from the rest of the learning situation, nor can some attitudes be regarded as facilitating learning and others hampering it. Megrath and Washburne^{1/} say,

"An attitude is a readiness toward action in a particular situation in response to particular demands, at a particular time. It is not something apart and separable from the rest of the elements in the student's experience, but is contingent upon and is an attribute of his total environment."

Attitudes are part of the learning problem, teachers and students deal with them but not through them.

^{1/} Megrath and Washburne, op. cit., p. 437.

CHAPTER II
TEACHING MATERIALS

In order to complete the study it was necessary to select a vocabulary, to devise oral practice exercises, to develop thirty worksheets, and to write two teachers' manuals.

Materials for use in providing meaningful practice for reading vocabulary in grade two were constructed. They were planned for use in two ways: (1) the class working as a unit with the teacher giving directions and checking responses; and (2) children working in pairs checking their own responses.

The vocabulary selected was one common to several basal systems to assure its suitability to many communities. Bennett^{1/} listed 280 words, each of which occurred in at least three of the following six Basal Reading Series for Grade Two:

Ginn and Company	We Are Neighbors Around The Corner
Houghton Mifflin Company	Come Along On We Go
Macmillan Company	We Grow Up
Row Peterson and Company	Friendly Village
Scott Foresman and Company	Friends and Neighbors New Friends and Neighbors
Silver Burdett Company	In New Places With New Friends

^{1/} Bennett, E. Virginia et al., "Construction and Evaluation of Group Tests in Reading for Grades One, Two and Three," Unpublished Master's Thesis, Boston University, 1953.

In fixing vocabulary at second grade level it is necessary to stress word recognition and meaning, and to consider that at this point in the reading program children are beginning to gain independence in word recognition through word analysis. The technique used must provide for the development of these abilities.

Attempts were made to use the 280 words as a core vocabulary, supplementing its use with any other word which appears on the Gates Primary Word List making use of synonyms, antonyms, word analysis, context clues, classification of phrases, and words.

Each type of exercise necessitated new directions, and such a variety resulted in a program which appeared to be too complex to be handled by children. The thirty days lessons finally developed include only word classification. The difficulty increases by the number of words included as well as the familiarity of categories: for instance, Lesson One had eighteen words to be classified under A Man, A Woman, or An Animal while the thirty-six words in Lesson Twenty-Nine were to be classified: Can run in a race, A baseball game, and Made of many pieces put together.

Roget's Thesaurus was used in the initial listing of possible categories, however, substitutions had to be made.

This was necessary to convert the words to child-like terms. For example: "Composition" became "made of"; "habitation" became "house"; or "place to live". Three categories a day were chosen for 28 lessons. In order to use all words in the list two lessons (26 and 30) include two categories requiring a "Yes" or "No" response. The outline of all lessons follows:

1. Man	Woman	Animal
2. Parts of: Family	House	Child
3. An animal can: Have this	Do this	Feel like this
4. Can be carried on a bus	Ways of moving	Places to live
5. Can be carried in a paper bag	Horseback ride	Building a house
6. To eat	To wear	To walk in
7. Water	Wood	How much or How many
8. More than one	Building something	About the sun
9. One word made from two	Things you can get into	Things a dog can do
10. In a box	Summer day	Unpleasant
11. In a bird's cage	In a man's pocket	Above the ground
12. Can move	Are round	Sounds
13. How much?	When?	Where?
14. Mother is cross	Riding on an elevator	Something to eat
15. A tree	Put in the oven	Feel like this on Christmas

- | | | |
|--|----------------------------------|----------------------------------|
| 16. A river | A house | A circus |
| 17. Dishes | Telephone call | People |
| 18. Not living | Can sleep | Weather |
| 19. Things you can do | Things you can carry in one hand | Things you can wear |
| 20. Things that are not always one color | Things that walk on two legs | Words that tell about time |
| 21. Work at school | In a lunch box | People |
| 22. Fun on the playground | Things in a lady's handbag | At home |
| 23. Taller than an elephant | Smaller than a boy | Tell how you feel |
| 24. Playing tag | Eating a sandwich | Doing an errand |
| 25. Have two eyes | A trip | Monkey in a tree |
| 26. Does it make you feel glad? | Is this a good picnic place? | |
| <u>Yes</u> <u>No</u> | <u>Yes</u> <u>No</u> | |
| 27. Things to buy | People | Ways to feel |
| 28. A boy would like | A train ride | A house |
| 29. Can run in a race | A baseball game | Made of many pieces put together |
| 30. Can it grow? | Does it tell when? | |
| <u>Yes</u> <u>No</u> | <u>Yes</u> <u>No</u> | |

Each word is used in several categories. For example:

"roll" is used in: An animal can Can be carried in a paper bag

You can eat A dog can Can be round

Something to eat Put in the oven

"spring" is used in these categories:

An animal can do this Can be carried in a paper bag

Words that make you think of water

Words that make you think of weather

"glass" is used in these categories:

Can be carried on a bus Can be in a lunch box

Can be carried in a paper bag Can be used with water

Can be used in a building Can be round

Can be in a house Can be dishes

Can be carried in one hand Is not always one color

The alphabetical vocabulary with the number of practices

for each word follows:

air (4)	beside (1)	brought (1)	circus (2)
almost (1)	best (1)	build (3)	clean (5)
angry (5)	better (2)	burn (3)	climb (7)
always (2)	Betty (5)	butter (8)	clothes (9)
Ann (5)	between (2)		clown (6)
answer (4)	big (1)	candy (13)	country (6)
arms (3)	bird (9)	can't (2)	covered (4)
	bite (4)	captain (7)	cut (4)
babies (7)	blow (4)	care (2)	
bank (6)	board (5)	careful (7)	dance (4)
bark (5)	bought (4)	carried (2)	dark (2)
because (2)	bread (7)	catch (4)	David (5)
been (2)	breakfast (3)	caught (2)	deep (3)
began (5)	bridge (6)	cent (8)	didn't (2)
believe (3)	bright (4)	change (4)	dig (6)
bell (7)	brothers (8)	chimney (11)	dirty (5)

dollar (10)	hand (6)	near (2)	shells (3)
don't (3)	happen (1)	neck (4)	shine (2)
dress (4)	hard (1)	needs (1)	shirt (5)
drink (8)	haven't (2)	nice (5)	short (3)
	hear (3)	noise (3)	should (1)
each (4)	hide (3)	nothing (3)	shout (4)
ear (3)	high (6)		show (3)
early (4)	himself (6)	o'clock (3)	side (2)
eight (3)	hole (3)	only (4)	sign (7)
elephant (5)	horse (8)	own (2)	silly (4)
else (3)	hot (5)		sit (1)
end (5)	hurt (5)	pair (2)	six (3)
enough (5)		park (4)	slowly (2)
even (3)	if (1)	pie (8)	small (2)
ever (2)	I'll (3)	piece (3)	smell (4)
eyes (6)	I'm (3)	plow (1)	smile (5)
	Indian (8)	police (7)	soft (2)
fall (5)	isn't (2)	pool (2)	spring (4)
family (5)	island (4)	poor (2)	stairs (11)
far (3)		potato (9)	stand (3)
fast (4)	Jim (5)	pull (4)	stars (5)
feel (4)	joke (4)		start (5)
fellow (8)		queer (5)	station (8)
fence (5)	keep (1)	quick (4)	step (6)
field (6)	kind (3)	quiet (3)	stick (7)
fill (4)	knew (5)		stones (8)
flash (3)		ranch (7)	storm (4)
flat (3)	land (5)	reach (5)	straight (4)
floor (10)	last (2)	real (2)	such (3)
flowers (8)	late (2)	really (1)	suddenly (3)
follow (4)	lazy (4)	remember (2)	suit (6)
food (7)	left (2)	rest (5)	summer (4)
foot (7)	legs (6)	right (6)	supper (3)
forgot (2)	letter (3)	river (6)	sure (3)
found (2)	light (6)	road (5)	swim (5)
friend (5)	listen (3)	roar (2)	
friendly (4)	live (2)	rode (2)	table (5)
frightened (4)	long (3)	roll (7)	talk (5)
		roof (9)	tap (4)
garden (5)	mean (6)	room (8)	telephone (5)
give (3)	men (8)	rope (4)	tell (3)
glad (4)	Middle (2)		tent (8)
glass (11)	miles (3)	sand (4)	than (1)
goes (2)	minutes (3)	Saturday (3)	that's (1)
gold (5)	money (9)	sea (4)	their (1)
gone (3)	most (3)	second (4)	threw (1)
great (3)	mouth (4)	seeds (4)	through (1)
grew (1)	move (8)	seemed (3)	throw (3)
	Mrs. (8)	sell (1)	tie (6)
hair (5)		shall (1)	tired (2)
hammer (5)		sheep (4)	together (3)

told (3)	use (4)	wet (4)	woman (7)
top (2)		wheels (7)	wonderful (3)
travel (6)	village (3)	while (3)	won't (3)
tried (2)		whistle (5)	woods (6)
trot (2)	wait (5)	wife (6)	would (2)
trouble (4)	wash (5)	wind (1)	
try (5)	watch (6)	wings (6)	year (1)
turn (5)	wave (3)	winter (4)	young (2)
twins (7)	well (3)	wolf (4)	

Organization

Once the words were organized into categories it was necessary to prepare materials to be used in two different ways by the experimental groups. The class working as a unit under the teacher's direction had:

1 set of 280-3" x 6" flash cards of white cardboard, printed in bold-faced type, arranged alphabetically in a box.

1 set of 3-3" x 6" cards numbered 1, 2, and 3 for each child.

Children working in pairs had:

A set of 30-4" x 6" envelopes for each two children; these white envelopes were numbered 1 to 30, with the categories printed on the outside. Words to be practiced were printed on 3/4" x 2" cards.

A key so that the children might check their work on completion was included.

A sample of the directions for each type lesson follows:

Class as a whole:

The following words are on flash cards:

bark, big, bread, climb, country, cut, field, food, friendly, glad, great, grew, hand, high, kind, land, lazy,

nice, park, pie, potato, right, road, roll, silly,
straight, sure, tap, woods, wonderful, young

Each child has three cards: 1 2 3

Say: "The words fit into three groups. They are about a tree, about something that can go into the oven, and ways you can feel on Christmas. Read the word silently. If it tells about a tree, hold up "1"; if it tells something that can go into the oven, hold up "2"; if it tells how you can feel on Christmas, hold up "3". Ready---"

Say: "What is it? What group does it belong in?"

Children working in pairs:

Group children in pairs. Give each pair envelope number 21. Say: "These words tell about work at school, things you might have in your lunch box, and people. Take turns reading the words to each other. Decide what group it belongs in. When you have finished all the words, take out the 'key' and see if you are right."

Seat Work Exercises:

Materials for the written practice were the same for both groups, and consisted of a worksheet for each day using the same vocabulary practiced orally. A sample worksheet follows. The complete set may be found in the appendix.

Name _____

These words go into three groups. 1. Things that are not always the same color; 2. Things that can walk on two legs; 3. Words that tell about time. Read the words. Write each word in one of the groups.

bird Saturday 1. This is not always the same color.

candy second _____

captain suit _____

clothes summer _____

drink table _____

early twins _____

ever while 2. This can walk on two legs.

eyes wife _____

fall wings _____

flowers winter _____

hair woman _____

horse year 3. This tells about time.

late _____

men _____

minutes _____

Mrs. _____

o'clock _____

police _____

roof _____

Two manuals were written, one for each experimental unit including complete directions for each day with the vocabulary list and key. A copy of all lessons and manuals may be found in the appendix.

CHAPTER III
PLAN OF THE STUDY

In order to complete the study it was necessary to:

- (1) Have the cooperation of a school department's administration and teachers
- (2) Formulate plans for preliminary and final testing
- (3) Evaluate the results

Selection of the Population

The Superintendent of Schools in an industrial city in Eastern Massachusetts agreed to permit the study to be carried on in the second grade classrooms. The writer met with the superintendent and later with the twenty-four second grade teachers to explain the purpose of the study, the testing program, the way in which the classes would be equated, and the procedure in using the experimental materials.

Establishment of Groups

During the week of February 4, 1957 the following tests were administered:

- (1) Otis Quick-Scoring Mental Ability Tests: New Edition; Alpha Short Form¹/to determine mental age.
- (2) Metropolitan Achievement Tests, Primary II Battery, Form R²/to measure reading achievement.

¹/ Otis Quick-Scoring Mental Ability Tests, Yonkers-on-Hudson, New York: World Book Company, 1948.

²/ Metropolitan Achievement Tests, Yonkers-on-Hudson, New York: World Book Company, 1950.

(3) Boston University Test of Hearing Sounds in Words^{1/}

(4) An individual inventory of phonics

All group tests were administered by the classroom teachers and scored by the writer. The individual phonics test was administered and scored by the writer.

On the basis of these test results, the twenty-four classes were divided into three groups; two experimental and one control. The equating of groups was based on the pupil achievement in reading.

Table I shows the mean scores and standard deviations for each classroom in reading achievement. These are standard scores as listed in the test manual.

^{1/} Boston University, 1957.

TABLE I

Class	Reading		Word Meaning		Total Reading Score
	Mean	S. D.	Mean	S. D.	Average
1	170.2	12.3	159.8	13.9	165.1
2	148.8	16.6	146.8	16.4	147.8
3	146.4	15.7	138.4	17.6	142.4
4	141.6	16.2	140.0	13.6	140.8
5	137.6	19.8	137.0	16.2	137.3
6	136.5	11.4	134.6	16.4	135.5
7	136.4	16.8	134.0	13.4	135.2
8	134.0	19.5	142.0	14.3	138
9	133.3	11.6	135.8	11.8	134.5
10	132.2	14.9	131.0	15.6	131.6
11	131.8	14.2	139.4	17.8	135.6
12	131.6	14.5	137.4	16.3	134.0
13	131.4	16.1	133.5	15.6	132.4
14	130.4	21.2	136.0	16.7	133.2
15	129.8	14.8	137.9	12.4	133.8
16	128.6	9.3	128.0	15.6	128.0
17	127.3	15.4	128.8	12.6	128.0
18	127.2	12.8	131.8	17.0	129.5
19	126.5	13.0	129.9	11.0	128.2
20	124.9	18.1	126.7	16.4	125.5
21	123.6	17.4	128.3	14.8	125.4
22	122.8	14.4	125.1	21.2	123.9
23	122.2	17.6	136.2	15.4	129.2
24	115.5	11.2	123.7	11.3	119.6

Table II shows the three groups, the number in each classroom and the mean score on reading achievement.

TABLE II
MEAN READING ACHIEVEMENT OF GROUPS

Group A		Group B		Group C	
Children working in pairs		Class working as a unit		Control	
Mean	Number	Mean	Number	Mean	Number
147.8	19	142.4	30	165.1	20
119.6	30	129.2	25	123.9	29
140.8	23	137.3	25	124.4	23
135.5	30	125.5	31	128.0	17
134.0	24	138.0	28	135.2	18
128.0	19	128.2	30	129.5	21
131.6	25	135.6	21	134.5	34
132.4	23	133.2	16	133.8	32
	<u>193</u>		<u>198</u>		<u>194</u>
Mean	S. D.	Mean	S. D.	Mean	S. D.
132.8	17.3	133.6	17.7	133.6	18.4

The groups were comparable in number and reading achievement, Group A - 193, Group B - 198 and Group C - 194. The mean scores of the control and experimental B were identical, and experimental A was only .8 of a point lower.

The week of March 4, 1957 the writer notified each classroom teacher of the placement of her class in the groups. Each teacher who was to be in an experimental group was visited and materials for the first two weeks of the teaching period were delivered.

The teaching period extended from March 18 to May 3 with one week out for vacation. During this time the writer visited each room four times to deliver materials, to assist in any way possible with the use of materials and to answer any questions which might arise concerning the study.

Final Testing

During the week of May 6, 1957 the following tests were administered by the classroom teachers:

- (1) Metropolitan Achievement Test, Primary II
Battery, Form S
- (2) Boston University Test of Hearing Sounds in Words

The individual phonic inventory was re-administered by the writer with the assistance of members of the Boston University Reading Clinic who had been trained in the test procedure.

Description of Tests

The Otis Quick-Scoring Mental Ability Test is entirely pictorial and geometric, and is given in two parts. One part is referred to as "non-verbal" as the pupil is able to do the entire test once the initial instructions have been given. The

other part is called "verbal" as the pupil must follow specific directions in marking each item. The entire test requires about twenty-two minutes working time.

The Metropolitan Achievement Tests, Primary II Battery, Forms R and S, which were used to measure reading achievement contain tests in various areas of the primary grade curriculum. However, the concern of this study is with reading. The reading test consists of two parts, reading and word meaning:

- (1) Reading has 50 points of raw score; 189 points standard score
- (2) Word meaning has 87 points of raw score; 194 points standard score

The total possible raw score is 137 points.

The Boston University Test of Hearing Sounds in Words is used to discover how well a child can identify sounds in spoken words. It includes a test of initial and final sounds in words, as well as phonetic elements in words. A possible score of 66 may be attained on this test.

An attitude scale, which is an attempt to measure the child's attitude toward reading, includes fifteen items. Each item provides opportunity for one of three responses. The reliability, split-half, is .55. A sample item follows:

Do you like to read in summer?

- a. not at all b. a little c. very much

A test of applied phonics attempts to measure the child's ability to apply the principle of substituting initial and final sounds in words. It includes sixty items and the reliability, split-half, is .90.

The individual oral phonic test consisted of the letters of the alphabet, and of some blends. The test was taken from the Durrell Analysis of Reading Difficulty.^{1/}

Below is a copy of the test which was administered individually.

INDIVIDUAL TEST OF PHONIC ABILITY

c l a s i b r t j u m h p

e f o g x n v q d w y k z

th st wh sh br ch dr tr cl fr gr

pl sm tw fl sk sw

Each letter or blend is scored as a separate item. The highest possible score is 43. Each child was taken individually to give the sound of the letter or blend. The examiner circled those sounds omitted or incorrectly reproduced. The final score was the number correct.

^{1/} Durrell, Donald D., Durrell Analysis of Reading Difficulty, Yonkers-on-Hudson, New York: World Book Company, 1955.

Copies of all the tests with directions for scoring may be found in the appendix. The data was analyzed and the results are presented in the following chapter.

CHAPTER IV

ANALYSIS OF DATA

The data were analyzed to compare the gains in:

- (1) Reading achievement of:
 - (a) The total population
 - (b) The different intelligence levels
 - (c) Boys and girls
- (2) Phonetic ability of:
 - (a) The total population
 - (b) The different intelligence levels
 - (c) Boys and girls

Some children included in the preliminary tests moved away; others were absent due to illness and did not take part in the study. The final groups included experimental A - children working in pairs - 192, experimental B - class working as a unit under the teacher's direction - 191, control - 187, a total of 570. It is on the basis of these numbers that the data were analyzed.

Table III shows the mean chronological and mental ages for the three groups.

TABLE III
MEAN CHRONOLOGICAL AND MENTAL AGES

Group	No.	C. A.		M. A.	
		Mean	S.D.	Mean	S.D.
A	192	92.52	5.64	96.20	14.45
B	191	90.61	5.46	97.50	12.60
C	187	93.13	5.99	100.25	15.50
Total Population	570	92.11	5.82	97.60	14.40

The mean chronological ages ranged from 90.61 months for experimental B to 93.13 months for the control group. The mean mental ages ranged from 96.20 months for experimental A to 100.25 for the control group.

Table IV shows the comparison of mean reading achievement scores in the Metropolitan Achievement Test, Primary II Battery, Form R for the three groups in February.

TABLE IV
FEBRUARY READING ACHIEVEMENT

Group	No.	Mean	S.D.	S.E. _m	Diff.	S.E.Diff.	C.R.
Exp. A	192	70.50	28.82	2.08			
Control	187	72.61	30.36	2.22	2.11	3.04	.69
Exp. B	191	73.24	29.40	2.13			
Control	187	72.61	30.36	2.22	.63	3.07	.20

The groups were very like in reading achievement in February. The mean for experimental A was 70.50, experimental B - 73.24, control - 72.61. Neither critical ratio was significant. In comparing the experimental groups with the control group the difference of 2.11 between experimental A and the control was in favor of the control. The slight difference of .63 between the experimental B and the control was in favor of the experimental group.

Table V shows the comparison of mean reading achievement scores for the three groups in May.

TABLE V
MAY READING ACHIEVEMENT

Group	No.	Mean	S.D.	S.E. _m	Diff.	S.E. Diff.	C.R.
Exp. A	192	82.11	27.60	1.99			
Control	187	78.17	29.71	2.17	3.94	2.94	1.33
Exp. B.	191	84.50	27.60	2.00			
Control	187	78.17	29.71	2.17	6.33	2.95	2.14

The mean score for experimental A was 82.11 compared with 78.17 for the control and for experimental B 84.50 compared with 78.17 for the control. The differences in the score of 3.94 and 6.33 were not statistically significant, but were both in favor of the experimental groups.

To eliminate the beginning advantage experimental B had over the control group a table of gains was figured.

TABLE IV
TABLE OF GAINS

	Initial Diff.	S.E. Diff.	Final Diff.	S.E. Diff.	Gain	S.E. Gain	C.R.
Exp. B & Cont.	.63	3.07	6.33	2.95	5.70	4.25	1.34
Exp. A & Cont.	2.11	3.04	3.94	2.94	6.05	4.22	1.43

The initial difference of .63 for experimental B and control compared with a final difference of 6.33 was not significant but was in favor of the experimental group. The differences between experimental A and control were in favor of the control group.

Table VII shows the comparison of gains for each group from February to May.

TABLE VII
COMPARISON OF SCORES IN READING
FEBRUARY - MAY

Group	No	Mean	S.D.	S.E. _m	Diff.	S.E. Diff.	C.R.
A	Feb.	192	70.50	28.82	2.08		
	May	192	82.11	27.60	1.99	11.61	2.88
B	Feb.	191	73.24	29.40	2.13		
	May	191	84.50	27.60	2.00	11.26	2.92
C	Feb.	187	72.61	30.36	2.22		
	May	187	78.17	29.71	2.17	5.56	3.10

The mean score for experimental A in February was 70.50 compared with 82.11 in May; for experimental B in February 73.24 compared with 84.50 in May, and for the control group in February 72.61 compared with 78.17 in May.

The critical ratio of 4.03 for experimental A and 3.86 for experimental B showed the gains were statistically significant in both groups. The gain for the control group was not

statistically significant.

The raw score gains of 11.61 and 11.26 for the experimental groups showed six months progress according to manual norms. The 5.56 gain of the control group was a normal three months gain, the actual time which elapsed between the preliminary tests and the final tests.

Gains in Reading for the Different Intelligence Levels

Table VIII shows the comparison of mean scores in reading achievement for the children in the three groups with I. Q.'s of 110 and above.

TABLE VIII

COMPARISON OF GAINS OF CHILDREN WITH I. Q.'s OF 110 AND ABOVE

Group		No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
A	Feb.	58	86.39	29.12	3.82	10.87	5.18	2.10
	May	58	97.26	26.68	3.50			
B	Feb.	80	86.20	29.78	3.35	10.30	4.26	2.42
	May	80	96.50	25.51	2.64			
C	Feb.	70	87.78	31.09	3.71	5.86	4.96	1.18
	May	70	93.64	27.67	3.30			

The mean score for the children with I.Q.'s of 110 and above in experimental A was 86.39 in February and 97.26 in May; for experimental B 86.20 in February and 96.50 in May, and for the control group 87.78 in February and 93.64 in May.

The raw score gains of 10.87 and 10.30 for the experimental groups showed five months progress according to manual norms. The 5.86 gain of the control group was a normal three months gain; the actual time between the preliminary and final tests.

The gains are not statistically significant but are in favor of the experimental groups.

Table IX shows the comparison of gains in reading achievement for the children in the three groups with I. Q.'s of 90 to 110.

TABLE IX
COMPARISON OF GAINS OF CHILDREN
WITH I. Q.'s of 90-110

Group	No.	Mean	S. D.	S. E.m	Diff.	S.E. Diff.	C.R.
A	Feb.	68.25	25.76	2.52	11.53	3.51	3.28
	May	79.78	24.88	2.44			
B	Feb.	67.05	24.12	2.54	13.01	3.59	3.62
	May	80.06	24.08	2.54			
C	Feb.	66.76	25.17	2.61	9.78	3.88	2.52
	May	76.54	27.71	2.87			

The mean score for the children with I. Q.'s of 90-110 in experimental A was 68.25 in February and 79.78 in May, for experimental B 67.05 in February and 80.06 in May, and for the control group in February 66.76 compared with 76.54 in May. The gain in raw score for experimental A was 11.53, for experimental B 13.01 and for control 9.78.

The critical ratio of 3.62 for experimental B, 3.28 for experimental A and 2.52 for the control show that the differences are statistically significant in favor of the experimental groups. Experimental B shows the greatest gains.

Table X shows the gains made by children in the three groups with I. Q.'s below 90.

TABLE X
COMPARISON OF GAINS OF CHILDREN
WITH I. Q.'S BELOW 90

Group	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
A	Feb.	49.35	20.68	3.77	1.25	5.52	.23
	May	50.60	22.10	4.03			
B	Feb.	49.80	19.60	4.28	8.08	6.60	1.22
	May	57.88	23.06	5.03			
C	Feb.	52.35	19.00	3.88	5.48	5.95	.92
	May	57.83	22.11	4.51			

The mean score for the children with I. Q.'s below 90 in experimental A was 49.35 in February and 50.60 in May, in experimental B, 49.80 in February and 57.88 in May, and in the control 52.35 in February and 57.83 in May.

The differences in mean score were 1.25 for experimental A, 8.08 for experimental B and 5.48 for control. The critical ratio of .23, 1.22, and .92 are not statistically significant, however, all differences are in favor of experimental B.

Sex Differences in Reading Achievement

The groups were divided according to sex. Table XI shows the results of the reading tests in February and May for the pupils working in pairs, experimental A.

TABLE XI
SEX DIFFERENCES IN READING ACHIEVEMENT
GROUP A

Test	Sex	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Feb.	Boys	103	62.29	25.69	2.53			
Feb.	Girls	89	79.89	29.30	3.11	17.60	4.00	4.40
May	Boys	103	74.43	26.00	2.56			
May	Girls	89	91.12	26.57	2.82	16.69	3.80	4.31

The mean score in each of the tests showed the girls superior to the boys. The critical ratio of 4.40 and 4.31 are statistically significant in favor of the girls.

Table XII shows the results of reading tests in February and May for the pupils in experimental B, the class working as a unit.

TABLE XII
SEX DIFFERENCES IN READING ACHIEVEMENT
GROUP B

Test	Sex	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Feb.	Boys	94	66.03	28.70	2.96			
Feb.	Girls	97	79.93	27.95	2.84	13.90	4.10	3.39
May	Boys	94	77.20	29.24	3.02			
May	Girls	97	91.68	22.96	2.33	14.48	3.81	3.80

The mean score in each of the tests showed the girls superior to the boys. The critical ratio of 3.39 and 3.80 are statistically significant in favor of the girls.

Table XIII shows the results of reading tests in February and May for the pupils in the control group.

TABLE XIII
SEX DIFFERENCES IN READING ACHIEVEMENT
CONTROL GROUP

Test	Sex	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Feb.	Boys	101	64.20	29.15	2.91			
Feb.	Girls	86	83.22	27.98	3.02	19.02	4.19	4.53
May	Boys	101	71.92	28.93	2.88			
May	Girls	86	85.77	28.30	3.05	13.85	4.19	3.30

The mean scores in the tests showed the girls superior to the boys. The critical ratio of 4.53 and 3.30 are statistically significant in favor of the girls.

Table XIV shows the results of the individual phonics test in February for the three groups.

TABLE XIV
INDIVIDUAL PHONICS INVENTORY
FEBRUARY

	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	192	37.47	6.15	.44			
Control	187	37.46	7.71	.56	.01	.71	.01
Exp. B.	191	35.98	7.56	.55			
Control	187	37.46	7.71	.56	1.48	.79	1.87

The mean scores of experimental A and the control group were nearly alike. The mean of 37.47 for experimental A compared to 37.46 for the control. Experimental B had a mean score of 35.98 compared to 37.46 for the control. The differences were not statistically significant, however, the

critical ratio of 1.87 showed the differences were in favor of the control group.

Table XV shows the comparison of the results of the individual phonics inventory for all groups at the end of the experimental period in May.

TABLE XV
INDIVIDUAL PHONICS INVENTORY
MAY

	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	192	40.83	3.98	.29			
Control	187	39.84	5.28	.39	.99	.48	2.06
Exp. B.	191	39.77	5.70	.41			
Control	187	39.84	5.28	.39	.17	.56	.30

The mean score of experimental A was 40.83 compared with 39.84 for the control group, and experimental B was 39.77 compared with 39.84 for the control. The differences were not statistically significant. The critical ratio of 2.06 showed that the differences between experimental A and the control group were in favor of experimental A.

Table XVI shows a comparison of the mean scores in both tests for the three groups.

TABLE XVI
COMPARISON OF GAINS IN INDIVIDUAL PHONICS

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C.R.
Exp. A.	Feb.	192	37.47	6.15	.44			
	May	192	40.83	3.98	.29	3.36	.52	6.46
Exp. B.	Feb.	191	35.98	7.56	.55			
	May	191	39.77	5.70	.41	3.79	.67	5.65
Control	Feb.	187	37.46	7.71	.56			
	May	187	39.84	5.28	.39	2.38	.68	3.50

Statistically significant gains were made by all groups in individual phonics. The critical ratios were 3.50 for the control group, 5.65 for experimental B and 6.46 for experimental A. The largest gains were in favor of the experimental groups.

Gains in Individual Phonics Inventory for the Different Intelligence Levels

Table XVII shows the results of the February and May individual inventory in phonics for the children with I. Q.'s of 110 and above in each of the three groups.

TABLE XVII

COMPARISON OF SCORES IN INDIVIDUAL PHONICS FOR CHILDREN WITH I. Q.'s OF 110 AND ABOVE

Group	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
A	Feb.	58	40.14	2.62	.34			
	May	58	42.18	2.14	.28	2.04	.44	4.63
B	Feb.	80	37.56	6.22	.69			
	May	80	40.55	3.14	.35	3.00	.77	3.89
C	Feb.	70	38.94	4.86	.58			
	May	70	40.38	4.14	.49	1.44	.75	1.92

The critical ratio of 4.63 for experimental A, 3.89 for experimental B, and 1.92 for control, showed the gains made by the children with I. Q.'s of 110 and above were statistically significant in favor of the experimental groups.

Table XVIII shows the scores of children with I. Q.'s of 90 to 110 in the three groups on the individual phonics inventory given in February and May.

TABLE XVIII

COMPARISON OF SCORES IN INDIVIDUAL PHONICS
FOR CHILDREN WITH I. Q.'s of 90 - 110

Group	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
A	Feb.	104	37.42	6.30	.61	3.02	.70	4.31
	May	104	40.44	3.64	.35			
B	Feb.	90	36.26	7.00	.73	3.00	.80	3.75
	May	90	39.29	4.68	.49			
C	Feb.	93	36.08	7.62	.79	3.46	.91	3.80
	May	93	39.54	4.50	.46			

Statistically significant gains were made by all three groups. Each group made gains and in each case the standard deviation of the May test was smaller than that of the February test.

Table XIX shows the comparison of scores in the February and May phonics inventory for the children with I. Q.'s below 90 in each group.

TABLE XIX

COMPARISON OF SCORES IN INDIVIDUAL PHONICS
FOR CHILDREN WITH I. Q.'s BELOW 90

Group	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
A	Feb.	30	31.82	6.26	1.12	6.00	1.46	4.10
	May	30	37.82	5.18	.94			
B	Feb.	21	31.48	9.03	1.97	4.62	2.34	1.97
	May	21	36.10	5.82	1.27			
C	Feb.	24	30.73	9.06	1.85	9.35	1.99	4.69
	May	24	40.08	3.68	.75			

The difference in mean scores for the control group was 9.35 and for experimental A 6.00. Both of these differences were statistically significant. The experimental B group had

a difference of 4.62 between its mean scores for February and May. This was a gain, but not of statistical significance. The children with I. Q.'s below 90 in the control group made the greatest gains.

Sex Differences in the Individual Phonics Inventory

Table XX shows a comparison of the scores of boys and girls in experimental A on the individual phonics test.

TABLE XX

COMPARISON OF BOYS AND GIRLS IN INDIVIDUAL PHONICS INVENTORY Group A

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Boys	Feb.	103	37.49	5.76	.56			
Girls	Feb.	89	37.34	6.57	.69	.15	.88	.17
Boys	May	103	40.76	3.48	.34			
Girls	May	89	40.88	4.47	.47	.12	.58	.20

The mean scores of boys and girls in both tests were very like. The slight differences between the means were not significant.

Table XXI shows a comparison of the scores of boys and girls in experimental B on the individual phonics test.

TABLE XXI

COMPARISON OF BOYS AND GIRLS IN INDIVIDUAL PHONICS INVENTORY Group B

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Boys	Feb.	94	35.06	8.19	.84			
Girls	Feb.	97	36.74	7.29	.74	1.68	1.11	1.51
Boys	May	94	35.72	7.83	.80			
Girls	May	97	40.52	4.29	.43	4.80	.90	5.33

The mean scores show the girls were superior in each test. The critical ratio of 5.33 was statistically significant in favor of the girls.

Table XXII shows a comparison of the scores for boys and girls in the control group on the individual phonics test.

TABLE XXII
COMPARISON OF BOYS AND GIRLS IN
INDIVIDUAL PHONICS INVENTORY
Group C

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Boys	Feb.	101	35.72	7.59	.75			
Girls	Feb.	86	39.32	5.40	.53	3.60	.91	3.95
Boys	May	101	37.28	7.62	.82			
Girls	May	86	40.43	5.07	.54	3.15	.91	3.46

The mean score for the girls in February was 39.32 compared to 35.72 for the boys. In May the mean score for the girls was 40.43 and 37.28 for the boys. In both cases the girls had the higher score. The critical ratios of 3.95 in February and 3.46 in May were statistically significant in favor of the girls.

Gains in Hearing Sounds in Words.

Table XXIII shows the comparison of the mean scores of the February test for the two experimental groups with the control on hearing sounds in words.

TABLE XXIII

FEBRUARY TEST OF HEARING
SOUNDS IN WORDS

	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	192	53.98	15.33	1.11			
Control	187	51.34	9.36	.69	2.64	1.30	2.03
Exp. B.	191	51.13	8.61	.62			
Control	187	51.34	9.36	.69	.21	.92	.22

The mean score of experimental A was 53.98 in the February test compared to 51.34 for control. The experimental B and control were very like with means of 51.13 for experimental B, 51.34 for control. The differences in the three groups were not statistically significant, but were in favor of experimental A.

Table XXIV shows the mean scores of the May test for the three groups on hearing sounds in words.

TABLE XXIV

MAY TEST OF HEARING
SOUNDS IN WORDS

	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A	192	57.31	6.89	.50			
Control	187	56.35	7.50	.55	.96	.74	1.29
Exp. B.	191	55.09	7.38	.53			
Control	187	56.35	7.50	.55	1.26	.76	1.65

The mean score of experimental A was 57.31 compared to 56.35 for the control, 55.09 for experimental B compared to 56.35 for the control. The differences were not statistically significant.

Table XXV compares the mean scores for each group in February-May on hearing sounds in words.

TABLE XXV
COMPARISON OF GAINS IN HEARING
SOUNDS IN WORDS
FEBRUARY-MAY

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A	Feb.	192	53.98	15.33	1.11			
	May	192	57.31	6.89	.50	3.33	1.21	2.75
Exp. B	Feb.	191	51.13	8.61	.62			
	May	191	55.09	7.38	.53	3.96	.81	4.88
Control	Feb.	187	51.34	9.36	.69			
	May	187	56.35	7.50	.55	5.01	.88	5.69

The mean score for experimental A was 53.98 in February compared to 57.31 in May; experimental B 51.13 in February compared to 55.09 in May; and for the control 51.34 in February compared to 56.35 in May. A gain of 3.33 points was made by experimental A, 3.96 by experimental B and 5.01 by the control group. The gains of experimental B and the control group were statistically significant.

Gains in Hearing Sounds in Words for the Different Intelligence Levels

Table XXVI shows a comparison of the gains of the children with I. Q.'s of 110 and above in the three groups on the test for hearing sounds in words.

TABLE XXVI

COMPARISON OF SCORES IN HEARING SOUNDS
IN WORDS OF CHILDREN WITH I. Q.'s
OF 110 AND ABOVE

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E.	
							Diff.	C. R.
Exp. A	Feb.	58	56.04	4.86	.63	3.38	.84	4.02
	May	58	59.42	4.34	.57			
Exp. B	Feb.	80	53.84	7.08	.79	4.06	.97	4.19
	May	80	57.90	4.92	.57			
Control	Feb.	70	54.91	8.04	.96	4.21	1.21	3.47
	May	70	59.12	6.22	.74			

The critical ratios of 4.02 for experimental A, 4.19 for experimental B, and 3.47 for the control group showed statistically significant gains were made by children with I. Q.'s 110 and above in all three groups.

Table XXVII shows a comparison of the gains of children with I. Q.'s of 90 to 110 in the three groups on the test for hearing sounds in words.

TABLE XXVII

COMPARISON OF SCORES IN HEARING SOUNDS
IN WORDS OF CHILDREN WITH I. Q.'s
90 - 110

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E.	
							Diff.	C. R.
Exp. A	Feb.	104	54.13	6.45	.63	3.03	.90	3.36
	May	104	57.16	6.78	.65			
Exp. B	Feb.	90	50.48	7.65	.80	3.18	1.08	2.94
	May	90	53.66	7.08	.74			
Control	Feb.	93	50.92	8.76	.90	4.32	1.18	3.66
	May	93	55.24	7.47	.77			

Gains were made by the children with I. Q.'s of 90 to 110 in each of the three groups. However, the gains of the children in experimental A and the control group were statistically significant.

Table XXVIII shows the results of the test of hearing sounds in words for the children with I. Q.'s below 90.

TABLE XXVII

COMPARISON OF SCORES IN HEARING SOUNDS
IN WORDS OF CHILDREN WITH I. Q.'s
BELOW 90

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A	Feb.	30	49.78	8.55	1.56	3.38	2.18	1.55
	May	30	53.16	8.40	1.53			
Exp. B	Feb.	21	43.12	11.13	2.46	.12	3.46	.03
	May	21	43.00	11.04	2.44			
Control	Feb.	24	45.73	11.16	2.28	6.87	2.84	2.41
	May	24	52.60	8.46	1.70			

Experimental A made a gain of 3.38 points, and the control group made a gain of 6.87 points. Experimental B made the least gain .12 points. None of the differences was statistically significant, but were in favor of the control group.

Sex Differences in Hearing Sounds in Words

Table XXIX shows a comparison of scores of boys and girls in hearing sounds in words in the experimental A group.

TABLE XXIX

COMPARISON OF BOYS AND GIRLS
IN HEARING SOUNDS IN WORDS
Group A

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Boys	Feb.	103	53.41	6.57	.64			
Girls	Feb.	89	55.00	6.00	.63	1.59	.89	1.78
Boys	May	103	56.65	7.02	.69			
Girls	May	89	58.39	5.94	.62	1.74	.92	1.88

The mean score of the boys in February was 53.41 compared to 55.00 for the girls. In May the mean score of the boys was 56.65 compared to 58.39 for the girls. None of these differences was significant but was in favor of the girls.

Table XXX shows a comparison of the scores of boys and girls in experimental B on hearing sounds in words.

TABLE XXX

COMPARISON OF BOYS AND GIRLS
IN HEARING SOUNDS IN WORDS
Group B

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Boys	Feb.	94	49.57	9.12	.94			
Girls	Feb.	97	52.60	7.77	.78	3.03	1.22	2.48
Boys	May	94	53.77	8.70	.89			
Girls	May	97	55.48	6.72	.68	1.71	1.12	1.52

The mean score of the boys in February was 49.57 compared with 52.60 for the girls, and in May 53.77 for the boys compared to 55.48 for the girls. In each case the girls have higher scores, however, the differences are not statistically significant.

Table XXXI shows a comparison of the scores of boys and girls in the control group on hearing sounds in words.

TABLE XXXI
COMPARISON OF BOYS AND GIRLS
IN HEARING SOUNDS IN WORDS
Group C

Sex	Test	No.	Mean	S. D.	S. E. m	Diff.	S. E. Diff.	C. R.
Boys	Feb.	101	49.72	9.87	.98			
Girls	Feb.	86	53.56	8.16	.88	3.84	1.32	2.90
Boys	May	101	54.97	7.47	.74			
Girls	May	86	58.00	7.14	.77	3.03	1.06	2.85

The mean score for the girls in February was 53.56 compared to 49.72 for the boys and in May the mean score for the girls was 58.00 compared to 54.97 for the boys. In both tests the girls were superior to the boys.

The critical ratios of 2.90 in February and 2.85 in May were not statistically significant but were in favor of the girls.

Table XXXII shows the mean scores of both experimental groups and the control group for February on applied phonics.

TABLE XXXII
APPLIED PHONICS - FEBRUARY SCORES

	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	192	53.92	9.30	.67			
Control	187	50.87	11.58	.85	3.05	1.08	2.82
Exp. B.	191	51.40	10.20	.74			
Control	187	50.87	11.58	.85	.53	1.12	.47

The mean score for experimental A was 53.92 compared to 50.87 for control, and for experimental B 51.40 compared to 50.87 for control. Experimental B and control were very like with a difference of only .53. Experimental A was superior to the other two groups in the February test.

Table XXXIII shows the mean scores in applied phonics for the three groups in May.

TABLE XXXIII
APPLIED PHONICS - MAY SCORES

	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	192	55.43	6.63	.48			
Control	187	54.67	5.19	.38	.76	.61	1.24
Exp. B.	191	54.15	9.15	.66			
Control	187	54.67	5.19	.38	.52	.76	.68

The mean scores in May ranged from 55.43 for experimental A to 54.15 for experimental B. The control group was 54.67. The difference between experimental A and control was .76, between experimental B and control .52. The differences were in favor of experimental A, but were not statistically significant.

Table XXXIV shows the gains for the three groups on applied phonics in the February and May tests.

TABLE XXXIV
APPLIED PHONICS
February-May

	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C.R.
<u>Envelopes</u>							
Feb.	192	53.92	9.30	.67			
May	192	55.43	6.63	.48	1.51	.82	1.84
<u>Teacher Directed</u>							
Feb.	191	51.40	10.20	.74			
May	191	54.15	9.15	.66	2.75	.99	2.78
<u>Control</u>							
Feb.	187	50.87	11.58	.85			
May	187	54.67	5.19	.38	3.80	.93	4.09

The differences in mean scores were 1.51 for experimental A, 2.75 for experimental B, and 3.80 for the control. The critical ratio of 1.84 for experimental A, 2.78 for experimental B and 4.09 for the control showed the gains were statistically significant for the control group. In each case the standard deviations were smaller showing a narrower range in each group in May. The gain in the control group was a statistically significant gain. Experimental A made the smallest gain of the three groups.

Gains in Applied Phonics for the Different Intelligence Levels

Table XXXV shows the gains made in applied phonics by children with I. Q.'s of 110 and above in the two experimental groups and the control group.

TABLE XXXV

COMPARISON OF SCORES IN APPLIED PHONICS OF CHILDREN WITH I. Q.'s OF 110 AND ABOVE

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S.E. Diff.	C. R.
Exp. A	Feb.	58	55.12	3.96	.52			
	May	58	58.25	2.29	.30	3.13	.60	5.21
Exp. B	Feb.	80	53.54	3.22	.80			
	May	80	56.30	4.92	.55	2.76	.97	2.84
Control	Feb.	70	53.85	9.55	1.14			
	May	70	56.92	4.76	.56	3.07	1.27	2.41

The highest scores for the children with I. Q.'s of 110 and above for experimental A were 55.12 in February and 58.25 in May, a gain of 3.13 points. Experimental B had the lowest scores, 53.54 in February and 56.30 in May, a gain of 2.76 points. The scores of the control group were 53.85 in February and 56.30 in May. The critical ratio of 5.21 for experimental A showed the differences to be statistically significant.

Table XXXVI shows the results of the test in applied phonics for the children with I. Q.'s of 90 to 110 in each of the three groups.

TABLE XXXVI

COMPARISON OF SCORES IN APPLIED PHONICS
OF CHILDREN WITH I. Q.'s OF 90 - 110

Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E.		
						Diff.	C.R.	
Exp. A.	Feb.	104	53.85	7.40	.72	2.10	.92	2.28
	May	104	55.95	6.00	.58			
Exp. B.	Feb.	90	52.14	8.04	.84	1.22	1.12	1.08
	May	90	53.36	7.14	.75			
Control	Feb.	93	49.80	10.95	1.13	3.45	1.43	2.41
	May	93	53.25	8.50	.88			

The mean scores of children with I. Q.'s of 90 to 110 in the three groups were 53.85, 52.14, and 49.80 for experimental A, B, and the control in February, compared with 55.95, 53.36, and 53.25 in May. The experimental B group made the smallest gains, and the control group made the greatest gains. None of the differences was statistically significant.

Table XXXVII shows the results of the test of applied phonics for children with I. Q.'s below 90 in the three groups.

TABLE XXXVII

COMPARISON OF SCORES IN APPLIED PHONICS
OF CHILDREN WITH I. Q.'s below 90

Test	No.	Mean	S. D.	S. E. _m	Diff.	S.E.		
						Diff.	C.R.	
Exp. A	Feb.	30	45.80	14.05	2.56	6.50	3.15	2.06
	May	30	52.30	10.14	1.85			
Exp. B	Feb.	21	42.45	15.85	3.50	2.40	5.08	.47
	May	21	44.85	16.65	3.68			
Control	Feb.	24	44.25	15.25	3.11	5.23	3.88	1.34
	May	24	49.48	11.37	2.32			

The differences in mean scores for February and May were 6.50 for experimental A, 2.40 for experimental B, and 5.23 for the control. The smallest gains were made by experimental B. The gains were not statistically significant but were in favor of the experimental A group.

Sex Differences in Applied Phonics

Table XXXVIII shows the results of the test in applied phonics for boys and girls in the experimental A group.

TABLE XXXVIII
COMPARISON OF SCORES FOR BOYS AND GIRLS IN
APPLIED PHONICS
Group A

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C.R.
Boys	Feb.	103	52.85	10.15	1.00			
Girls	Feb.	89	54.40	9.80	1.03	1.55	1.43	1.08
Boys	May	103	55.80	8.15	.80			
Girls	May	89	57.20	5.80	.61	1.40	1.00	1.40

The mean score for the boys in February was 52.85 compared to 54.40 for the girls, and in May the score was 55.80 for the boys compared to 57.20 for the girls. The differences were not statistically significant, but were in favor of the girls.

Table XXXIX shows the results of the test in applied phonics for boys and girls in the experimental B group.

TABLE XXXIX
COMPARISON OF SCORES FOR BOYS AND GIRLS
APPLIED PHONICS
Group B

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S.E. Diff.	C.R.
Boys	Feb	94	49.80	10.85	1.11			
Girls	Feb	97	52.30	10.15	1.03	2.50	1.51	1.65
Boys	May	94	53.00	9.95	1.02			
Girls	May	97	55.35	8.15	.82	2.35	1.30	1.80

In February the difference between the mean scores for boys and girls was 2.50, and in May it was 2.35. These differences were not significant, but were in favor of the girls.

Table XL shows the results of the test in applied phonics for boys and girls in the control group.

TABLE XL
COMPARISON OF SCORES FOR BOYS AND GIRLS
APPLIED PHONICS
Group C

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C.R.
Boys	Feb.	101	47.80	15.05	1.49			
Girls	Feb.	86	54.50	8.10	.87	6.70	1.72	3.89
Boys	May	101	53.00	9.30	.92			
Girls	May	86	57.00	7.45	.80	4.00	1.22	3.27

The mean score for the boys in February was 47.80 compared to 54.50 for the girls, a difference of 6.70 points. In May the mean score for the boys was 53.00 compared to 57.00 for the girls, a difference of 4.00 points. The differences in both tests were statistically significant in favor of the girls.

Attitude Scale

Table XII shows the results of the scores for the three groups on the attitude scale in February.

TABLE XLI
ATTITUDE SCALE
FEB. SCORES

	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	192	37.42	4.36	.31			
Control	187	38.12	5.34	.39	.70	.49	1.43
Exp. B.	191	36.72	5.26	.38			
Control	187	38.12	5.34	.39	1.40	.54	2.59

The mean score for experimental A was 37.42 compared to 38.12 for control, and for experimental B 36.72 compared to 38.12 for control. The control group had the highest mean score, experimental B, the lowest. However, the differences were not statistically significant.

Table XLII shows the mean score on the attitude scale for the three groups in May.

TABLE XLII
ATTITUDE SCALE
MAY SCORES

	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	192	37.26	5.38	.38			
Control	187	36.82	5.44	.39	.44	.54	.81
Exp. B.	191	35.72	5.14	.37			
Control	187	36.82	5.44	.39	1.10	.53	2.07

The mean score for experimental A was 37.26 compared to 36.82 for the control; and for experimental B, 35.72 compared to 36.82 for control. Experimental A had the highest score, experimental B the lowest. The differences were not statistically significant.

Table XLIII shows a comparison of the results of the attitude scale give to the three groups in February and in May.

TABLE XLIII
COMPARISON OF SCORES IN ATTITUDE SCALE
Feb. - May

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S.E. Diff.	C. R.
Exp. A	Feb.	192	37.42	4.36	.31			
	May	192	37.26	5.38	.38	.16	.49	.32
Exp. B	Feb.	191	36.72	5.26	.38			
	May	191	35.72	5.14	.37	1.00	.53	1.88
Control	Feb.	187	38.12	5.34	.39			
	May	187	36.82	5.44	.39	1.30	.55	2.36

The differences in mean scores were .16, 1.00, and 1.30 for groups A, B, and C. These differences were not significant. However, in each group the February scores were slightly higher than the May scores. The least difference was in Group A.

Differences in Attitude According to Intelligence Levels

Table XLIV shows the results of the attitude scale for children with I. Q.'s of 110 and above in the three groups.

TABLE XLIV

COMPARISON OF SCORES IN ATTITUDE SCALE FOR CHILDREN WITH I. Q.'s 110 AND ABOVE

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	Feb.	58	37.04	4.28	.56			
	May	58	37.12	5.46	.71	.08	.90	.88
Exp. B.	Feb.	80	36.05	5.73	.64			
	May	80	35.48	5.46	.61	.57	.64	.88
Control	Feb.	70	38.60	5.52	.66			
	May	70	37.58	5.58	.66	1.02	.93	1.09

The mean score for experimental A was 37.04 compared to 37.12, for experimental B 36.05 compared to 35.48, and for the control group 38.60 compared to 37.58. The May scores of experimental B and the control group were slightly lower in May than in February. Experimental A showed no loss in score. None of the differences was significant.

Table XLV shows the results of the attitude scale for children with I. Q.'s of 90 to 110 in each of the three groups.

TABLE XLV

COMPARISON OF SCORES IN ATTITUDE SCALE
FOR CHILDREN WITH I. Q.'s OF 90-110

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	Feb.	104	37.88	4.80	.47			
	May	104	37.38	5.36	.52	.50	.70	.71
Exp. B.	Feb.	90	37.52	5.64	.59			
	May	90	36.59	4.86	.51	.93	.77	1.20
Control	Feb.	93	37.80	5.08	.52			
	May	93	36.44	5.34	.55	1.36	.75	1.81

The differences in mean score were .50, .93, and 1.36 for groups A, B, and C. These differences were not significant but were in favor of the February scores.

Table XLVI shows the results of the attitude scale for children with I. Q.'s below 90 in each group.

TABLE XLVI

COMPARISON OF SCORES IN ATTITUDE SCALE
FOR CHILDREN WITH I. Q.'s BELOW 90

	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Exp. A.	Feb.	30	36.02	4.66	.85			
	May	30	36.70	4.16	.75	.68	1.13	.60
Exp. B.	Feb.	21	35.83	9.78	2.13			
	May	21	35.34	5.40	1.17	.49	2.45	.20
Control	Feb.	24	37.24	6.16	1.25			
	May	24	35.74	5.52	1.12	1.50	1.67	.89

The mean score of experimental A was 36.02 compared to 36.70, experimental B 35.83 compared to 35.34, and control 37.24 compared to 35.74. The differences were not significant.

Sex Differences in the Attitude Scale

Table XLVII shows the results of the attitude scale for the boys and girls in experimental A.

TABLE XLVII

COMPARISON OF SCORES FOR BOYS AND GIRLS IN THE
ATTITUDE SCALE
Group A

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Boys	Feb.	103	36.84	5.02	.49			
Girls	Feb.	89	38.16	3.92	.41	1.32	.63	2.09
Boys	May	103	36.56	5.42	.53			
Girls	May	89	38.02	4.88	.51	1.46	.73	2.00

The differences in mean score for the boys and girls were not statistically significant, but were in favor of the girls.

Table XLVIII shows the results of the attitude scale for boys and girls in experimental B.

TABLE XLVIII

COMPARISON OF SCORES FOR BOYS AND GIRLS IN THE
ATTITUDE SCALE
Group B

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C. R.
Boys	Feb.	94	35.80	5.88	.60			
Girls	Feb.	97	37.62	5.38	.54	1.82	.80	2.27
Boys	May	94	34.18	4.98	.50			
Girls	May	97	37.24	4.84	.49	3.06	.70	4.37

The mean score of the boys in February was 35.80 compared to 37.62 for the girls; and in May for the boys 34.18 compared to 37.24 for the girls. The differences in May were statistically significant in favor of the girls.

Table XLIX shows the results of the attitude scale for boys and girls in the control group.

TABLE XLIX
COMPARISON OF SCORES FOR BOYS AND GIRLS IN THE
ATTITUDE SCALE
Group C

Sex	Test	No.	Mean	S. D.	S. E. _m	Diff.	S. E. Diff.	C.R.
Boys	Feb.	101	37.08	5.86	.58			
Girls	Feb.	86	39.12	4.44	.47	2.04	.74	2.75
Boys	May	101	34.76	5.34	.53			
Girls	May	86	38.52	4.56	.49	3.76	.72	5.08

The mean scores of the girls were 39.12 and 38.52 compared to 37.08 and 34.76 for the boys. The critical ratios of 2.75 and 5.08 are in favor of the girls. The differences in the May scale were statistically significant.

CHAPTER V
SUMMARY AND CONCLUSIONS

The purpose of this study was to construct and evaluate the effectiveness of materials which provide meaningful practice for the reading vocabulary in the second grade. To provide supplementary practice suitable for second grades in general rather than for a specific basal reading system, a word list common to several basal series was used. Sixty exercises, thirty oral and thirty written were developed for the six week study. The technique in all was word classification. The lessons were planned for use in two ways: (1) by the class working as a unit under the teacher's direction; and (2) by children working in pairs using self-checking materials. The word classification exercises were combined with the regular reading period, not an addition in time. The classroom teachers did the teaching and the writer visited each one every two weeks to answer questions and to demonstrate if the teachers desired it.

Five hundred seventy children took part in the study. On the basis of reading achievement they were equated and divided into three groups, two experimental and one control: experimental A, children working in pairs, 192; experimental B, children working in the class as a unit under the teacher's direction, 191; and the control, 187.

Achievement was measured at the beginning on Form R of the Metropolitan Achievement, Primary II, Battery and at the close of the period on Form S of the same test. Mental age was derived from the Otis Quick-Scoring Mental Ability Tests, Form S. The Boston University Test, Hearing Sounds in Words, Applied Phonics, Individual Phonic Inventory and Reading Attitudes were used.

The following conclusions may be drawn from the analysis of data:

1. The materials appeared to be effective in improving the reading score.
 - a. Both experimental groups made gains in mean score. Experimental A 11.61, experimental B 11.26, which were equivalent to approximately six months gain according to manual. The control group gain of 5.56 was equivalent to a three months gain, the actual working time of the study.
 - b. Both of the experimental groups made significant gains from February to May with critical ratios of 4.03, 3.86 respectively. The gain of the control group was not significant with a critical ratio of 1.79.

c. Intelligence appears to be a factor. The children in both experimental groups with I. Q.'s of 110 and above, and 90 to 110 made greater gains than the children in the same intelligence levels in the control group. The teacher-directed material was best for children with below 90 I. Q. The gain for this group was 8.08, for control group 5.48 and the children working in pairs 1.25.

d. The girls were superior to the boys in reading achievement at each measuring period in each of the three groups. The differences were all statistically significant.

2. All children improved in the individual phonics inventory.

a. The standard deviations were smaller for each group in the final test. The gains were in this order: experimental B, 3.79; experimental A, 3.36; and control 2.38, respectively.

b. A breakdown by intelligence levels showed gains were significant for the children with I. Q.'s of 110 and above in both experimental groups. The critical ratio for experimental A was 4.63. The critical ratio for experimental B was 3.89. The gains for children in the control group were not statistically significant.

The children with I. Q.'s of 90 to 110 in each group made significant gains. The critical ratios were for experimental A 4.31, experimental B 3.75, and control 3.80. The largest gain for children with I. Q.'s below 90 was 9.35 for the control group. Children using the teacher-directed materials made the smallest gain 4.62, and children working in pairs made gains of 6.00.

c. A comparison of boys and girls showed significant gains by the girls in experimental B, and the control group. There was little change in the experimental A group.

3. All groups made gains on hearing sounds in words.

The control group made the largest gain, 5.01.

a. Experimental B made significant gains with a critical ratio of 4.88. The gains of experimental A were not significant, the critical ratio being 2.75. The control group with the largest gain had a critical ratio of 5.69.

b. A comparison of the different intelligence levels showed statistically significant differences on all groups of children with I. Q.'s of 110 and above. Comparable differences were found in the group with I. Q.'s of 90 to 110. In the below 90 I. Q. group, the largest difference was in the control group, and

the smallest gain was made by experimental B.

c. All differences in hearing sounds in words were in favor of the girls. They were significantly superior in the February test.

4. All groups gained on applied phonics, the control group making the largest gain.

a. The control group had a critical ratio of 4.09. For the experimental groups the gains were not significant.

b. An analysis by intelligence levels showed the greatest gains by children with I. Q.'s of 110 and above in experimental A, with a critical ratio of 5.21. The children with I. Q.'s of 90 to 110 made gains, but none were statistically significant. The below 90 I. Q. group made gains of 6.50 in experimental A, 5.23 in control, and 2.40 in experimental B.

b/ On the comparison of boys and girls scores on applied phonics, the differences in each group are in favor of the girls, with the greatest differences in the control group.

5. The attitude scale scores were lower for all groups in May. The largest difference was in the control group.
 - a. In analyzing according to intelligence levels the largest changes were by children with I. Q.'s of 90 to 110. The smallest change was for children with below 90 I. Q.
 - b. In comparing the boys and girls in each group, the scores of the girls were higher at each measuring period.

SUGGESTIONS FOR FURTHER RESEARCH

It is suggested that a further study should be done using a wider vocabulary range.

- a. Selection of words from the Gates Primary Word List
- b. Words from lists of those appearing in the speaking vocabulary of children of second grade
- c. Words from the speaking vocabulary of children in grades one to three to provide for individual abilities at second grade level.

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APPENDIX

COMMON WORD LIST

Water Bond

RECORDED

COMMON WORD LIST FOR GRADE TWO

air	climb	friendly	listen	roar	swim	year
almost	clothes	frightened	live	rode		young
angry	clown		long	roll	table	
always	country	garden		roof	talk	
Ann	covered	give	mean	room	tap	
answer	cut	glad	men	rope	telephone	
arms		glass	middle		tell	
babies	dance	goes	miles	sand	tent	
bank	dark	gold	minutes	Saturday	than	
bark	David	gone	money	sea	that's	
because	deep	great	most	second	their	
been	didn't	grew	mouth	seeds	threw	
began	dig		move	seemed	through	
believe	dirty	hair	Mrs	sell	throw	
bell	dollar	hammer		shall	tie	
beside	don't	hand	near	sheep	tired	
best	dress	happen	neck	shells	together	
better	drink	hard	needs	shine	told	
Betty		haven't	nice	shirt	top	
between	each	hear	noise	short	travel	
big	ear	hide	nothing	should	tried	
bird	early	high		shout	trot	
bite	eight	himself	o'clock	show	trouble	
blow	elephant	hole	only	side	try	
board	else	horse	own	sign	turn	
bought	end	hot		silly	twins	
bread	enough	hurt	pair	sit		
breakfast	even		park	six	use	
bridge	ever	if	pie	slowly		
bright	eyes	I'll	piece	small	village	
brothers		I'm	plow	smell		
brought	fall	Indian	police	smile	wait	
build	family	isn't	pool	soft	wash	
burn	far	island	poor	spring	watch	
butter	fast		potato	stairs	wave	
	feel	Jim	pull	stand	well	
	fellow	joke		stars	wet	
candy	fence		queer	start	wheels	
can't	field	keep	quick	station	while	
captain	fill	kind	quiet	step	whistle	
care	flash	knew		stick	wife	
careful	flat		ranch	stones	wind	
carried	floor	land	reach	storm	wings	
catch	flowers	last	real	straight	winter	
caught	follow	late	really	such	wolf	
cent	food	lazy	remember	suddenly	woman	
change	foot	left	rest	suit	wonderful	
chimney	forgot	legs	right	summer	won't	
circus	found	letter	river	supper	woods	
clean	friend	light	road	sure	would	

TEACHER'S MANUAL

CLASS WORKING AS A UNIT

This manual includes the lessons for the thirty days of practice. The purpose of these exercises is to provide meaningful practice in vocabulary for grade two. The time spent on this practice will be part of the regular reading time, not in addition to it.

The teacher directed materials consist of a set of 280 flash cards to be used by the teacher, and three cards numbered 1 2 3 for each child.

The flash cards are in alphabetical order. Take them out of the box and have them ready each day before beginning the practice. May I suggest that they be returned to the box in correct alphabetical order after each practice period so that they will be easily accessible to you the next day.

Each child will have the three numbered cards on his desk. The card, with the number facing the teacher will be held up so she will see each child's response at a glance.

Please use the words of the manual in introducing the day's words. By doing this each child in each class will get the same directions.

The procedure is:

Show the word. Wait a second or two for the children to hold up the response card. Then ask, "What is it?" and "What group does it belong in?" The class as a whole may tell the answer, or occasionally, if you wish, you may have individual response. However, do try to keep the flash practice period moving along just as quickly as the children are able to go. The lists of words become somewhat longer after the first few weeks of the study, but by that time the children will be more familiar with the words and the pattern of the lessons.

The written seatwork will follow the oral practice. It consists of one page for each of the 30 days and on it the children will group the same words which have been done orally. The written seatwork will be done individually.

le lesson:

This lesson will be presented to the entire class. It will serve as a sample and set the pattern for the following lessons.

The following words are on the blackboard:

burn, hand, hot, minutes, tap, wings

Also on the blackboard are the categories, and the numbers for each:

<u>Fire</u>	<u>Clock</u>	<u>Woodpecker</u>
1	2	3

Say: "These words can be put into three groups. They are about a fire, a clock, a woodpecker. If it is about a fire, we'll put it in group 1; if it is about a clock, we'll put it into group 2; if it is about a woodpecker, we'll put it in group 3.

Read the first word silently. Is it about a fire, or a clock, or a woodpecker? What group? Yes, it is burn. It belongs with fire, so we put it in the first group.

Read the next word silently. Where does it go? Yes, it goes with clock. The clock belongs with clock. Continue with the other words listing the words in the proper category.

Say: "I helped you to do those words. Now you will do some all by yourself. I will not get any more help. You will have to read the word and decide what group it belongs in. I will tell you what the groups are and what to look for."

Lesson 1

The following words are on flash cards:

Ann, Betty, brothers, captain, clown, David, elephant, fellow, horse,
Jim, men, Mrs., police, sheep, wife, wolf, woman

Each child has three cards: 1 2 3

Say: "These words can be put into three groups. They are about: a man, a woman, and an animal. Read the card silently. If it is about a man, hold up "1"; if it is about a woman, hold up "2"; if it is about an animal, hold up "3". Ready----"

Show the vocabulary card. The children answer by holding up the number in response.

Say: "What is the word? What group does it belong in?" Follow this procedure until all the day's words have been done.

When oral practice is completed, pass out seatwork paper. Children will do it individually.

Lesson 2

The following words are on flash cards:

arms, babies, Betty, brothers, chimney, ear, eyes, family, fellow, floor,
foot, hair, hand, legs, light, men, mouth, Mrs., neck, roof, room, smile,
stairs, step, twins, wife, woman

Each child has three cards: 1 2 3

Say: "These words can be put into three groups. They are about parts of things: parts of a family, parts of a house, and parts of a child. Read the card silently. If it is about a family, hold up "1"; if it is about a house, hold up "2"; if it is about a child, hold up "3". Ready----"

The teacher holds up the flash card. The children respond by showing the number.

Say: "What is the word? What is it a part of?"

Lesson 3

The following words are on flash cards:

angry, bark, bite, climb, dig, drink, ear, eyes, foot, hear, hide, lazy, legs, listen, mean, mouth, move, neck, nice, pull, quiet, reach, roll, smell, spring, stand, start, step, swim, tired, trot, turn, wash

Each child has three cards: 1 2 3

Say: "All of today's words are about an animal. There are three groups: something an animal has, something it can do, and ways it can feel. Read the word silently. If an animal can have this, hold up "1"; if an animal can do this, hold up "2"; if an animal can feel like this, hold up "3". Ready---"

The teacher flashes the card. The children respond by showing the number.

Lesson 4

The following words are on flash cards:

butter, candy, country, dance, dollar, fast, flash, flower, food, glass, hair, hammer, island, left, money, pie, pull, quick, ranch, right, room, sign, slowly, step, suddenly, tent, turn, village, woods

Each child has three flash cards: 1 2 3

Say: "These words can be put into three groups. They are about something that can be carried on the bus, ways that you can move, and places people live. Read the word silently. If it can be carried on the bus, hold up "1"; if it is a way of moving, hold up "2"; if it is a place to live, hold up "3". Ready---"

The teacher flashes the card. The children respond by showing the number.

The following words are on flash cards:

board, butter, careful, chimney, clothes, dig, fast, fence, fill, flat,
floor, glass, high, hole, horse, keep, move, potato, quick, roll, side,
shirt, spring, stairs, stars, stick, suddenly, tie, trot, watch

Each child has three cards: 1 2 3

Say: "Put these words into three groups. They can be carried in a paper bag, about a horse-back ride, or about building a house. Read the card silently. If it can be carried in a paper bag, hold up "1"; if it is about a horse-back ride, hold up "2"; if it is about building a house, hold up "3". Ready---"

Show the flash card. The children read it silently, and show the number response. After each response ask: "What is the word? What group does it belong in?"

Lesson 6

The following words are on flash cards:

bread, breakfast, butter, candy, clothes, dress, field, floor, food,
garden, island, land, pie, potato, ranch, road, roll, room, seeds,
shirt, show, station, suit, supper, tent, tie, village, watch

Each child has three cards: 1 2 3

Say: "Put these words in three groups. They are things to eat, things to wear, and places you can walk in. Read the card silently. If it is "to eat", hold up "1"; if it is "to wear", hold up "2"; if it is about a place you can walk in, hold up "3". Ready---"

Say: "What is it? What group does it belong in?"

Lesson 7

The following words are on flash cards:

bank, bark, board, deep, dirty, drink, each, eight, enough, fence, floor, glass, hot, most, only, pair, piece, pool, river, roof, sea, second, six, spring, stairs, step, stick, storm, swim, table, together, twins, wash, wave, wet, well

Each child has three cards: 1 2 3

Say: "You will have to think about these words. They belong in three groups. They will make you think about "water", "wood" or "amount". Read the words silently. If it reminds you of water, hold up "1"; if it reminds you of wood, hold up "2"; if it is about how much or how many, hold up "3". Ready---"

Say: "What is it? What does it remind you of?"

Lesson 8

The following words are on flash cards:

babies, board, bright, build, burn, chimney, climb, covered, cut, dig, even, eyes, flat, floor, flowers, glass, gold, hammer, high, hot, light, noise, reach, roof, room, sheep, shells, shine, short, side, stars, start, stones, straight, tap, their, together, try, turn, twins, use, wheels, wings

Each child has three cards: 1 2 3

Say: "These words describe things. Some tell about "more than one thing"; some tell about "building something"; and some describe "the sun". Read the word silently. If it is about more than one thing, hold up "1"; if it is about building something, hold up "2"; if it is about the sun, hold up "3". Ready---"

Say: "What is it? What does it tell about?"

Lesson 9

The following words are on flash cards:

bark, bite, can't, catch, clean, climb, clothes, cut, didn't, don't,
 drink, fall, feel, fill, follow, give, haven't, hear, hide, hurt, I'll,
 I'm, isn't, listen, live, move, pull, reach, remember, rest, roll, room,
 sea, smell, stand, start, station, step, suit, swim, tent, that's,
 travel, try, turn, village, wash, won't

Each child has three cards: 1 2 3

Say: "These words go into three groups. They are: one word made from two, things you can get into, and things a dog can do. Read the word silently. If it is one word made from two, hold up "1"; if it is something you can get into, hold up "2"; if it is something a dog can do, hold up "3". Ready---"

Say: "What is it? What group does it belong to?"

Lesson 10

The following words are on flash cards:

air, angry, bell, bread, butter, candy, cent, change, clothes, country,
 dark, dirty, dollar, don't, food, frightened, garden, gold, hammer, hard,
 hot, hurt, letter, mean, money, park, pie, potato, river, rope, sea, seeds,
 shirt, sign, stars, stick, stones, suit, summer, swim, tent, tie, top,
 travel, trouble, watch, woods, won't

Each child has three cards: 1 2 3

Say: "Put these words into three groups: things you can carry in a box, about a summer day, and about something unpleasant. Read the word silently. If it is something you can carry in a box, hold up "1"; if it is something about a summer day, hold up "2"; if it is about something unpleasant, hold up "3". Ready---"

Say: "What is it? What group does it belong in?"

Lesson 11

The following words are on flash cards:

bank, bell, bird, bridge, candy, cent, change, chimney, dollar,
 drink, field, garden, hand, high, legs, light, money, nothing,
 park, ranch, road, roof, sand, seeds, sign, stairs, stick, wings

Each child has three cards: 1 2 3

Say: "These are things you can find in a bird's cage, in a man's pocket or above the ground. Read the word silently. If it is about a bird's cage, hold up "1"; if it is about a man's pocket, hold up "2"; if it is above the ground, hold up "3". Ready---"

Say: "What is it? Where does it belong?"

Lesson 12

The following words are on flash cards:

air, bark, bell, bird, brothers, candy, captain, cent, dollar,
 elephant, eyes, family, flowers, glass, hole, horse, Indian,
 joke, legs, light, men, money, move, noise, pie, police, potato,
 river, roar, roll, sea, sheep, shells, shout, stones, storm,
 talk, tap, telephone, travel, wheels, whistle, wings, wolf,
 woman

Each child has three cards: 1 2 3

Say: "You will have to think about these words. They are about things that can move, things that are round, and sounds. Read the card silently. If it is something that can move, hold up "1"; if it is something round, hold up "2"; if it is something that makes a sound, hold up "3". Ready---"

Say: "What is it? What can it do?"

Lesson 13

The following words are on flash cards:

almost, always, began, beside, between, bite, cent, deep, dollar,
each, early, eight, else, end, enough, even, fall, far, fill,
glass, great, hand, high, last, late, minutes, most, near, nothing,
o'clock, only, pair, piece, rest, Saturday, second, six, small,
station, straight, summer, through, while, woods

Each child has three cards: 1 2 3

Say: "These words go into three groups. They tell amount or how much; they tell when something can happen; they tell where something can happen. Read the word silently. If it tells about amount, hold up "1"; if it tells when, hold up "2"; if it tells where, hold up "3".

Ready----

Say: "What is it? Where does it belong?"

Lesson 14

The following words are on flash cards:

angry, Ann, babies, because, better, bread, breakfast, butter,
candy, can't, careful, clown, didn't, don't, drink, else, feel,
food, foot, forgot, haven't, hear, himself, Indian, I'll, I'm,
isn't, Jim, men, Mrs., pie, potato, quick, roll, seemed, shall,
should, supper, than, told, trouble, won't, would

Each child has three cards: 1 2 3

Say: "Here are some words you will have to think about. Put them into three groups. They are words Mother might say when she is cross; words that tell about things that can ride in an elevator; and things

that are good to eat. Read the word silently. If it is a word you might hear when Mother is cross, hold up "1"; if it is a thing that can ride in an elevator, hold up "2"; if it is good to eat, hold up "3". Ready---

Say: "What is the word? Where does it belong?"

Lesson 15

The following words are on flash cards:

bark, big, bread, climb, country, cut, field, food, friendly, glad, great, grew, hand, high, kind, land, lazy, nice, park, pie, potato, right, road, roll, silly, straight, sure, tap, woods, wonderful, young

Each child has three cards: 1 2 3

Say: "The words fit into three groups. They are about a tree, about something that can go into the oven, and ways you can feel on Christmas. Read the word silently. If it tells about a tree, hold up "1"; if it tells something that can go into the oven, hold up "2"; if it tells how you can feel on Christmas, hold up "3". Ready---

Say: "What is it? What group does it belong in?"

Lesson 16

The following words are on flash cards:

bank, bell, bridge, build, burn, chimney, circus, clean, clown, country, deep, elephant, feel, fence, floor, follow, glass, land, long, miles, noise, river, road, roar, roof, room, shout, silly, smile, stairs, step, stick, stones, travel, wet

Each child has three cards: 1 2 3

Say: "Put these words into three groups. They are about a river, a house, a circus. Read the card silently. If it reminds you of a river, hold up "1"; if it is about a house, hold up "2"; if it is about a circus, hold up "3". Ready---"

Say: "What is it? What group does it go in?"

Lesson 17

The following words are on flash cards:

answer, brothers, butter, candy, clean, covered, dirty, flat, flowers, food, foot, friend, friendly, glass, himself, hot, I'll, I'm, Indian, knew, Mrs., neck, own, police, seemed, silly, smile, talk, telephone, tell, together, told, use, wait, wash, wet

Each child has three cards: 1 2 3

Say: "Put these words into three groups. They tell about dishes, a telephone call, and people. Read the word silently. If it tells about dishes, hold up "1"; if it tells about a telephone call, hold up "2"; if it tells about people, hold up "3". Ready---"

Say: "What is it? What group does it belong in?"

Lesson 18

The following words are on flash cards:

air, babies, bank, bird, blow, board, bright, brothers, captain, chimney, clothes, dark, David, dollar, elephant, fall, family, fellow, floor, friend, gold, himself, horse, hot, Indian, Jim, light, mean, men, money, Mrs., nice, police, poor, queer, sand, Saturday, shine, spring, stairs, station, storm, summer, table, tent, twins, wet, wife, wolf, woman, wonderful

Each child has three cards: 1 2 3

Say: "These words will go into three groups. They are about things that are not living, things that can go to sleep, and about the weather. Read the word silently. If it is not living, hold up "1"; if it can sleep, hold up "2"; if it is about the weather, hold up "3". Ready---"

Lesson 19

The following words are on flash cards:

answer, begin, believe, bell, bird, bite, blow, bread, build, burn, butter, candy, care, carried, catch, cent, clean, climb, clothes, covered, cut, dance, dig, dollar, dress, fall, feel, fill, flowers, give, glass, gold, hide, hurt, joke, knew, letter, listen, live, money, move, potato, pull, reach, remember, rest, rope, sell, shirt, shout, show, sign, smell, smile, stand, start, step, suit, swim, talk, telephone, tell, throw, tie, travel, try, turn, use, wait, wash, watch, wave

Each child has three cards: 1 2 3

Say: "Here are some words that can be put in three groups. Some of them are things you can do; some are things you can carry in one hand; and some are things you can wear. Read the word silently. If you can do it, hold up "1"; if you can carry it in one hand, hold up "2"; if you can wear it, hold up "3". Ready---"

Say: "What is it? Where does it belong?"

Lesson 20

The following words are on flash cards:

Ann, babies, Betty, bird, brothers, candy, captain, clothes, clown,
David, drink, early, ever, eyes, fall, fellow, fence, flash, floor,
flowers, food, friend, glass, hair, himself, horse, Indian, Jim,
late, light, long, men, minutes, Mrs., o'clock, police, roof,
Saturday, second, short, sign, stairs, stones, suit, summer,
table, telephone, tie, twins, wheels, while, wife, wings, winter,
woman, year

Each child has three cards: 1 2 3

Say: "Think about these words. They will go into three groups.

They are things that are not always the same color; things that can
walk on two legs, and words that tell about time. Read the word silently.

If it is not always the same color, hold up "1"; if it can walk on two
legs, hold up "2"; if it reminds you of time, hold up "3". Ready---

Say: "What is it? What group does it belong in?"

Lesson 21

The following words are on flash cards:

Ann, answer, babies, began, believe, best, Betty, bread, butter,
candy, careful, clown, David, drink, each, end, enough, fellow,
food, glass, Indian, Jim, knew, Mrs., own, pie, police, right,
show, start, sure, talk, tell, told, try, use, wait, well, wife,
woman

Each child has three cards: 1 2 3

Say: "Put the words into three groups; doing your work in school, things in your lunch box, and people. Read the word silently. If it is about school work, hold up "1"; if it is something you could have in your lunch box, hold up "2"; if it is about people, hold up "3". Ready---"

Say: "What is it? Where does it belong?"

Lesson 22

The following words are on flash cards:

blow, board, candy, careful, catch, cent, change, chimney, climb, dance, dig, dollar, drink, fall, fence, floor, follow, garden, give, hair, hole, hurt, joke, money, move, reach, roof, room, sand, seeds, smile, stairs, stones, talk, throw, travel, wave

Each child has three cards: 1 2 3

Say: "Put these words into three groups. They are things you can do on the playground; things a lady might have in her handbag; and parts of a home. Read the word silently. If it makes you think of the playground, hold up "1"; if you think you could find it in a lady's handbag, hold up "2"; if it makes you think of something at home, hold up "3". Ready---"

Say: "What is it? Where does it belong?"

Lesson 23

The following words are on flash cards:

angry, bank, believe, bell, bird, bridge, careful, chimney, dirty, flowers, foot, friendly, frightened, glad, hammer, hand, kind, lazy, mean, money, nice, pie, potato, queer, quiet, roof, shells, silly, stairs, station, stick, stones, telephone, tent, well, wheels, whistle, young

Each child has three cards: 1 2 3

Say: "Think about these words. They are taller than an elephant, smaller than a boy, and ways you feel. Read the word silently. If it is taller than an elephant, hold up "1"; if it is smaller than a boy, hold up "2"; if it is a way you can feel, hold up "3". Ready-----"

Say: "What is it? Where does it belong?"

Lesson 24

The following words are on flash cards:

arms, bought, brought, carried, caught, cent, change, dollar, each, eight, else, end, enough, gone, middle, money, mouth, only, piece, quick, really, right, six, smell, soft, straight, such, suddenly, sure, tap, tried, try, turn, wait, while

Each child has three cards: 1 2 3

Say: "Here are some words to think about. They are words you might use in telling about playing tag, eating a sandwich, or doing an errand. Read the words silently. If it is about playing tag, hold up "1"; if it is about eating a sandwich, hold up "2"; if it is about doing an errand, hold up "3". Ready-----"

Say: "What is it? Where does it belong?"

Lesson 25

The following words are on flash cards:

air, babies, bird, bridge, brothers, captain, climb, clown, country, ear, elephant, eyes, far, fast, fellow, field, fellow, foot, friend, goes, gone, hand, high, horse, Indian, island, land, left, legs, long, men, miles, minute, mouth, move, neck, queer, ranch, reach, rest, right, river, road, rode, station, travel, wife, wolf, woods

Each child has three cards: 1 2 3

Say: "Today's words are about things that have two eyes, words that make you think of taking a trip, and words that make you think of a monkey in a tree. Read the word silently. If it makes you think of something with two eyes, hold up "1"; if it tells about taking a trip, hold up "2"; if it tells about a monkey in a tree, hold "3".

Say: "What is it? Where does it belong?"

Lesson 26

The following words are on flash cards:

1. angry, been, bright, circus, dance, flowers, frightened, glad, gold, joke, queer, smile, storm, such, trouble, whistle, wonderful
2. chimney, country, field, garden, island, knew, park, ranch, river, sea, station, such, telephone, trouble, winter, woods, would

Say: "Today I am going to ask you a question about the words I will show you. Your answer will be yes or no. If it is "yes" raise your hand; if the answer is "no", shake your head. Ready---Does this make you feel glad?" If the answer is "no", ask "Why?"

Show the words listed under "1". When all these words have been done, go to list "2".

Say: "Here are some more words. Read the word silently. If the answer is "yes", raise your hand; if the answer is "no", shake your head, ready---Is this a good picnic place?"

Lesson 27

The following words are on flash cards:

Ann, better, Betty, breakfast, bright, candy, captain, careful, clean, clothes, David, dirty, dress, early, family, fellow, fence, friend, friendly, frightened, glad, great, hammer, himself, hurt, kind, land, lazy, mean, men, Mrs., nice, plow, police, poor, queer, quiet, ranch, right, roll, rope, sand, shirt, short, sign, small, stars, suit, supper, table, tied, top, twins, watch, wheels, whistle

Each child has three cards: 1 2 3

Say: "Put these words in three groups; things you can buy, people, ways you feel. Read the word silently. If it is something you can buy, hold up "1"; if it is a person, hold up "2"; if it is a way you can feel, hold up "3". Ready---"

Say: "What is it? Where does it belong?"

Lesson 28

The following words are on flash cards:

bank, began, bird, blow, bought, bread, candy, cent, chimney, dollar, end, far, fast, flash, floor, found, goes, gone, horse, miles, pool, ranch, rode, roof, room, rope, seemed, sit, slowly, stairs, stick, stone, swim, tent, tie, wait, watch, wings

Each child has three cards: 1 2 3

Say: "Today's words are about three things. They are: some things a boy would like to have; words about a train ride; and words about a house. Read the word silently. If it is what a boy might like to have, hold up "1"; if it is about a train ride, hold up "2"; if it is about a house, hold up "3". Ready---"

Say: "What is it? Where does it belong?"

Lesson 29

The following words are on flash cards:

arms, began, bridge, captain, careful, catch, caught, chimney,
clothes, covered, dress, enough, even, fellow, field, hand,
himself, house, Indian, men, most, move, nothing, only, right,
roof, shout, stairs, station, table, threw, throw, tried, twins,
wheels, woman

Each child has three cards: 1 2 3

Say: "You will have to think about the best place to put these words.

They will go into three groups: some can run in a race, some are about a baseball game and some are made of many pieces put together. Read the word silently. If it is something that can run in a race, hold up "1"; if it is about a baseball game, hold up "2"; if it is about something that is made of many pieces, hold up "3". Ready---

Lesson 30

The following words are on flash cards:

1. bell, bird, brought, bridge, brothers, family, foot, found, hair,
legs, potato, sheep, sign, soft, winter
2. always, answer, because, been, began, between, bought, care, early,
end, ever, knew, last, near, needs, o'clock, winter

Say: "Today our words will be answered by "yes" or "no". Read the word silently. If the answer is "yes", raise your hand; if the answer is "no", shake your head. Ready---. Can this grow?"

Show the words listed under "1". Then go on to list "2".

Say: "Here are some more words. Read each word silently. If the answer is "yes", raise your hand; if it is "no", shake your head. Ready--- Does it tell when?"

TEACHER'S MANUAL

CHILDREN WORKING IN PAIRS

This manual includes the directions for the thirty days of self-checking practices in word classification to be used by pupils working in pairs. The purpose of these exercises is to provide meaningful practice in vocabulary for grade two. The time for this practice will be part of the regular reading time, not in addition to it.

The children will work in pairs, a different grouping each day, so that each child in the room will work with every other child by the end of the thirty days.

The self-checking materials consist of a series of thirty envelopes on which the categories are printed. In the envelopes are the word cards and the self-checking key.

In presenting the day's lesson, please use the words of the manual in the introduction. By doing this, each class in the study will have the same directions.

The two children in each pair take turns in reading the cards to one another and decide between themselves the category to which each word belongs. When all the cards have been grouped, the children use the "key" to check their own work.

The written seatwork will follow the paired practice. It consists of one page for each of the thirty days. This is a written practice using the same words as were used in the paired practice. The written seatwork will be done by each child individually.

e lesson:

This lesson will be presented to the entire class. I will serve as a sample and set the pattern for the following lessons.

The following words are on the blackboard:

burn, hand, hot, minutes, tap, wings

Also on the blackboard are the categories, and the numbers for each:

<u>Fire</u>	<u>Clock</u>	<u>Woodpecker</u>
1	2	3

Say: "These words can be put into three groups. They are about a fire, a clock, woodpecker. If it is about a fire, we'll put it in group 1; if it is about a , we'll put it into group 2; if it is about a woodpecker, we'll put it in group 3.

the first word silently. Is it about a fire, or a clock, or a woodpecker? What ? Yes, it is burn. It belongs with fire, so we put it in the first group.

the next word silently. Where does it go? Yes, it goes with clock. The clock hand. Continue with the other words listing the words in the proper category.

Say: "I helped you to do those words. Now you will do some all by yourself.

ill not get any more help. You will have to read the word and decide what group longs in. I will tell you what the groups are and what to look for."

Lesson 1.

Group children in pairs. Give each pair envelope number 1. Say, "The words in this envelope can be put into three groups. Look at the envelope. It tells you how to group the words. Some are about a man; some are about a woman; and some are about an animal. Take the cards out of the envelope. Leave the piece of paper with the list of words on it in the envelope until you have finished, then take it out and see if you and your partner are right. This paper is the "key." It tells you where the words should be. Ready --. Take turns reading the words to each other. Decide between yourselves where the word should go, and make a row of the words in the right place. If it is a man, make a row of words under man; if it is a woman, make a row of words under woman; if it is an animal, make a row of words under animal. When you are finished, take out the key and check your words."

For seatwork: Pass out seatwork paper to be done individually.

Lesson 2.

Group children in pairs. Give each pair envelope number 2. Say, "These words are about parts of things: parts of a family, parts of a house, and parts of a child. Take turns reading the words to each other. Decide between yourselves where the word should go. Group your words under Parts of a family, Parts of a house, and parts of a child. When you are finished, take out the key and check your words. Ready --."

Lesson 3.

Group children in pairs. Give each pair envelope number 3. Say, "All of today's words are about an animal. They tell about something an animal has; something an animal can do, and ways an animal can feel. Take turns reading the words to each other. Put them in the three groups, and then take out the "key" and check your work."

Lesson 4.

Group children in pairs. Give each pair envelope number 4. Say, "These words tell about something that can be carried on a bus, ways you can move, and places people live. Take turns reading the words to each other. Decide which group it belongs in. When you are finished, take out the "key" and check your work."

Lesson 5.

Group children in pairs. Give each pair envelope number 5. Say, "Today's words are things that can be carried in a paper bag, words about a horseback ride, and words about building a house. Take turns reading the words to each other. Decide which group it belongs in. When you are finished, take out the "key" and check your work."

Lesson 6.

Group children in pairs. Give each pair envelope number 6. Say, "Put these words in three groups: things to eat, things to wear, and places you can walk. Take turns reading the words to your partner. Decide what group each word goes in. When all the words are grouped, take out the "key" and check your work."

Lesson 7.

Group children in pairs. Give each pair envelope number 7. Say, "You will have to think about these words. They should make you think of: water, wood, and how much or how many. Take turns reading the words to your partner, and put each one in one of the groups. When you are finished, take out the "key" and check your work."

Lesson 8.

Group children in pairs. Give each pair envelope number 8. Say, "These words describe things. Some tell about building something and some tell about the sun. Take turns reading the words to your partner. Put each word in each one of the cups. When you are finished, take out the "key" and check your work."

Lesson 9.

Group children in pairs. Give each pair envelope number 9. Say, "These words are: one word made from two; things you can get into; and things a dog can do. Take turns reading the words to each other, and put each one in one of the groups. When you are finished, take out the "key" and see if you are right."

Lesson 10.

Group children in pairs. Give each pair envelope number 10. Say, "Put these words in three rows: First, things you can carry in a box; Second, words about a summer day; and Third, words about something unpleasant. Take turns reading the words to each other and put them in the right place. When you are finished, take out the "key" and see if you are right."

Lesson 11.

Group children in pairs. Give each pair envelope number 11. Say, "These words are about things you can find in a bird's cage, in a man's pocket, and above the ground. Take turns reading the words to each other and decide which row it belongs in. When you are finished, check to see if you are right."

Lesson 12.

Group children in pairs. Give each pair envelope number 12. Say, "You will have to think about these words. They are things that move, things that are round, and sounds. Take turns reading the words to your partner and decide which group each word belongs in. When you are finished, take out the "key," and see if you are right."

Lesson 13.

Group children in pairs. Give each pair envelope number 13. Say, "Today's words tell how much; they tell when something can happen; and they tell where something can happen. Take turns reading the words to each other, and decide whether it tells how much, or when, or where, and put it in the right group. When you are finished, take out the "key" and check your work."

Lesson 14.

Group children in pairs. Give each pair envelope number 14. Say, "Group these words. They are words Mother might say if she is cross. They are things you might see riding on an elevator, or they are things to eat. Take turns reading the words, and decide what group each one goes in. When you are finished, take out the "key" and check your work."

Lesson 15.

Group children in pairs. Give each pair envelope number 15. Say, "Take turns reading these words to your partner. Put them in three groups: (1) words about a tree, (2) things you can put in the oven, and (3) ways you feel on Christmas. Use the "key" to see if you are right."

Lesson 16.

Group children in pairs. Give each pair envelope number 16. Say, "Take turns reading these words to your partner. Put them in three groups: (1) about a river, (2) about a house, and (3) about a circus. When you are finished, take out the "key," and check your words."

Lesson 17.

Group children in pairs. Give each pair envelope number 17. Say, "These words tell about dishes, a telephone call, and people. Take turns reading the words to each other. Put each word in one of these groups. When you are finished, take out the "key" and check to see if you are right."

Lesson 18.

Group children in pairs. Give each pair envelope number 18. Say, "Put these words into three groups: things that are not living, things that can sleep, and words about the weather. Take turns reading the words, and when you have all of them grouped, take the "key" and see if you are right."

Lesson 19.

Group children in pairs. Give each pair envelope number 19. Say, "Take turns reading these words to each other. Put them in three groups: (1) things you can do, (2) things you can carry in one hand, and (3) things you can wear. When you have finished, use the "key" to check your work."

Lesson 20.

Group children in pairs. Give each pair envelope number 20. Say, "Take turns reading these words to each other. Put them into three groups: (1) things that are not always the same color, (2) things that walk on two legs, and (3) words that tell about time. When you are finished, check your work to see if you are right."

Lesson 21.

Group children in pairs. Give each pair envelope number 21. Say, "These words tell about work at school, things you might have in your lunch box, and people. Take turns reading the words to each other. Decide what group it belongs in. When you have finished all the words, take out the "key" and see if you are right."

Lesson 22.

Group children in pairs. Give each pair envelope number 22. Say, "These words tell about three things: (1) fun on the playground, (2) things in a lady's handbag, and (3) a home. Take turns reading the words to your partner and decide where the word belongs. When you are finished, use the "key" and check to see if you are right."

Lesson 23.

Group children in pairs. Give each pair envelope number 23. Say, "Take turns reading these words and put them in three groups: (1) taller than an elephant, (2) smaller than a boy, and (3) words that tell how you feel. Group all the words and then take the "key" to check and see if you are right."

Lesson 24.

Group children in pairs. Give each pair envelope number 24. Say, "Take turns reading these words to each other. They are about playing tag, eating a sandwich, and doing an errand. Put them in the three groups. When you are finished, take out the "key" and check to see if you are right."

Lesson 25.

Group children in pairs. Give each pair envelope number 25. Say, "These words are about things that have two eyes, about taking a trip, and about a monkey in a tree. Take turns reading the words and decide which group is right for each word. When you are finished, take out the "key" to check your work."

Lesson 26.

Group children in pairs. Give each pair envelope number 26. Say, "Today you will find two envelopes inside your large envelope. Take them out. One has a 1 on it. The other has a 2 on it. Do the words in one envelope at a time so you will not get them mixed up.

Take envelope 1. Use these words to answer the question, 'Does it make you feel glad?' If the answer is yes, put the word under Yes. If the answer is no, put it under No. When you are finished with envelope 1, check the words with the "key," to see if you are right. Put these words away.

Do the same with envelope 2. The question is, 'Is it a good picnic place?' If the answer is yes, put the word under Yes. If it is no, put the word under No. Check the words with the "key" to see if you are right.

Lesson 27.

Group children in pairs. Give each pair envelope number 27. Say, "Put the words into three groups: (1) things to buy, (2) people and (3) ways to feel. Take turns reading the words. Put them into groups. When you are finished, take the "key" and see if you are right."

Lesson 28.

Group the children in pairs. Give each pair envelope number 28. Say, "These words are about things a boy would like to have, about a train ride, and about a house. Take turns reading the words. Put them in the groups. When they are finished, take the "key" and check to see if you are right."

Lesson 29.

Group children in pairs. Give each pair envelope number 29. Say, "Put the words in three groups. They can run in a race; are about a baseball game; and are things made of many pieces put together. Take turns reading the words. Decide which group each one goes into. When you are finished, check to see if you are right."

Lesson 30.

Group children in pairs. Give each pair envelope number 30. Say, "There are two envelopes in your large envelope today. Take them out. Do one at a time and then check your work. Put that away, and then do the other. Number 1 is 'Can it grow?' If the answer is yes, put it under Yes. If the answer is no, put the word under No. Check your work, then do the other envelope. The second question is 'Does it tell when?' Arrange the words under Yes or No. Be sure to check to see if you are right."

SELF-CHECKING KEY

on 1

	<u>Woman</u>	<u>Animal</u>
ners	Ann	elephant
tin	Betty	horse
l	woman	wolf
ow	Mrs.	sheep
	wife	

on 2

s of:

	<u>House</u>	<u>Child</u>
es	chimney	arms
r	floor	ear
ners	light	eyes
y	roof	foot
w	room	hair
	stairs	hand
	step	legs
		mouth
		neck
		smile

on 3

imal can:

<u>this</u>	<u>Do this</u>	<u>Feel like this</u>
	bark	angry
	climb	lazy
	drink	mean
	hear	nice
	move	quiet
	reach	tired
	roll	
	spring	
	start	
	swim	
	turn	
	bite	
	dig	
	hide	
	listen	
	pull	
	rest	
	smell	
	stand	
	step	
	trot	
	wash	

4

carried

is

Ways of movingPlaces to live

slowly
 dance
 fast
 flash
 left
 pull
 pull
 quick
 right
 step
 suddenly
 turn

country
 ranch
 room
 tent
 village
 island
 woods

5

carried

per bag

Horseback rideBuilding a house

careful
 horse
 move
 suddenly
 fast
 keep
 quick
 trot

board
 dig
 fill
 floor
 hole
 stairs
 chimney
 fence
 flat
 high
 side
 stick

6

To wearTo walk in

clothes
 shirt
 tie
 dress
 suit
 watch

field
 garden
 land
 road
 show
 tent
 floor
 island
 ranch
 room
 station
 village

st

m 7

	<u>Wood</u>	<u>How much or How many</u>
deep	bark	each
drink	fence	enough
hot	roof	only
river	step	piece
spring	table	six
swim	board	twins
wave	floor	eight
wet	stairs	most
	stick	pair
		second
		together

m 8

<u>than one</u>	<u>Building something</u>		<u>About the sun</u>
s	board	build	bright
rs	climb	covered	gold
s	chimney	cut	hot
s	dig	even	shine
her	flat	floor	burn
s	glass	hammer	high
	long	noise	light
	reach	roof	
	room	short	
	side	start	
	straight	tap	
	try	turn	
	use		

n 9

<u>word made from two</u>	<u>Things you can get into</u>		<u>Things a dog can do</u>	
didn't	clothes	room	bark	bite
haven't	sea	station	catch	clean
I'm	suit	tent	climb	cut
that's	village		dig	drink
			fall	feel
			fill	follow
			give	hear
			hide	hurt
			listen	live
			move	pull
			remember	rest
			roll	smell
			stand	start
			step	swim
			travel	try
			turn	wash

on 10

<u>box</u>	<u>Summer day</u>	<u>Unpleasant</u>
bread	country	angry
candy	hot	don't
clothes	river	frightened
food	summer	hurt
hammer	tent	trouble
money	woods	dark
potato	garden	dirty
seeds	park	hard
sign	sea	mean
stick	swim	won't
suit	travel	
top		
air		

on 11

<u>bird's cage</u>	<u>In a man's pocket</u>	<u>Above the ground</u>
	cent	bank
	candy	chimney
	hand	garden
	nothing	light
	change	sign
	dollar	ranch
	money	bridge
		field
		high
		park
		stairs
		road

n 12

<u>ove</u>	<u>Are round</u>		<u>Sounds</u>
bird	candy	cent	bark
captain	hole	eyes	joke
family	flowers	glass	roar
Indian	money	pie	shout
light	potato	roll	talk
move	shells	stones	telephone
river	wheels	dollar	wind
wings			bell
woman			noise
			storm
			tap
			whistle

n 13

uch?When?Where?

t bite
 deep
 r each
 else
 h even
 glass
 nothing
 pair
 rest
 six

always
 fall
 late
 end
 o'clock
 summer
 began
 last
 early
 minutes
 Saturday
 while

beside
 middle
 straight
 woods
 near
 between
 high
 through
 station
 far

n 14

r is crossRiding on an elevatorSomething to eat

because
 r can't
 ul didn't
 else
 forgot
 't hear
 I'm
 shall
 i than
 i trouble
 would

clown
 himself
 Jim
 Mrs.
 babies
 foot
 Indian
 men

bread
 breakfast
 drink
 pie
 roll
 butter
 candy
 food
 potato
 supper

n 15

Put in the ovenFeel like this on
Christmas

bread
 food
 pie
 roll
 hand
 potato

friendly
 great
 lazy
 right
 sure
 young
 glad
 kind
 nice
 silly
 wonderful

nt

a 16

er

bank
 deep
 fellow
 long
 river
 stick
 travel

A House

burn
 clean
 floor
 roof
 stairs
 build
 chimney
 fence
 glass
 room
 step

A circus

circus
 elephant
 roar
 silly
 clown
 noise
 shout
 smile

17

s

d

Telephone call

answer
 friendly
 talk
 tell
 together
 wait
 knew
 telephone
 told
 use

People

I'm
 Indian
 smile
 seemed
 own
 foot
 Mrs.
 I'll
 police
 silly
 himself
 neck
 brothers
 friend

18

ving

y

s

Saturday
 station
 tent

Can sleep

babies
 brothers
 David
 family
 friend
 horse
 Jim
 Mrs.
 twins
 wolf
 Ann

bird
 captain
 elephant
 fellow
 himself
 Indian
 men
 police
 wife
 woman

Weather

air
 bright
 fall
 light
 nice
 queer
 spring
 summer
 wonderful

blow
 dark
 hot
 mean
 poor
 shine
 storm
 wet

on 19

Things you can do

er bite
 eve build
 carried
 clean
 h covered
 b dance
 fill
 hide
 joke
 live
 pull
 en remember
 sell
 show
 t smell
 stand
 t talk
 w tell
 wait
 wave
 knew

Things you can carry
in one hand

bell
 bread
 candy
 dollar
 glass
 letter
 potato
 bird
 butter
 cent
 flowers
 gold
 money
 rope

Things you can wear

clothes
 shirt
 tie
 dress
 suit
 watch

on 20

Things that are not
of one color

clothes
 eyes
 floor
 hair
 roof
 stairs
 suit
 telephone
 wheels

Things that walk
on two legs

Ann babies
 Betty bird
 brothers captain
 clown David
 fellow friend
 himself Indian
 Jim men
 Mrs. police
 twins wife
 woman

Words that tell
about time

early
 minutes
 summer
 while
 year
 flash
 second
 ever
 light
 o'clock
 winter
 Saturday
 fall
 late
 short

n 21

at school

began
 best
 each
 enough
 own
 show
 sure
 tell
 try
 wait
 forgot
 letter

In a lunch box

bread
 candy
 food
 pie
 butter
 drink
 glass

People

Ann
 Betty
 clown
 Indian
 wife
 police
 babies
 David
 fellow
 Jim
 woman
 Mrs.

n 22

the playground

careful
 climb
 dig
 fall
 give
 joke
 reach
 talk
 travel
 sand
 whistle

Things in a lady's handbag

candy
 change
 hair
 money
 cent
 dollar
 hole

A Home

board
 garden
 room
 stairs
 chimney
 floor
 roof
 seeds

23

than an elephantSmaller than a boy

bank
 bird
 foot
 hand
 pie
 shells
 stones
 wheels
 arms
 bell
 flowers
 hammer
 money
 potato
 stick
 telephone
 whistle
 change

Tell how you feel

angry
 careful
 friendly
 glad
 lazy
 nice
 quiet
 well
 real
 believe
 dirty
 frightened
 kind
 mean
 queer
 silly
 young

on 24

ing tag

ht quick
ly straight
suddenly
tap
d turn
while

Eating a sandwich

soft
middle
piece
end
smell
mouth
gone

Doing an errand

brought
cent
dollar
eight
enough
only
six
wheel

bought
carried
each
else
money
flowers

on 25

two eyes

es fellow
friend
hers horse
ain Indian
n men
hant wife
wolf

A trip

air
country
fast
follow
gone
land
miles
move
reach
right
river
rode
travel

bridge
far
field
goes
island
long
minutes
ranch
rest
left
road
station
woods

Monkey in a tree

climb
high
eyes
foot
mouth
hand
queer
ear
legs
neck

on 26

it make you feel glad?No

ht angry
us been
e frightened
ers queer
storm
such
trouble
real

Is this a good picnic place?Yes

country
field
garden
island
park
ranch
river
sea
woods

No

winter
would
trouble
telephone
such
station
chimney
knew

le
rful

n 27

Things to buy

fast
 es
 candy
 dress
 hammer
 plow
 rope
 shirt
 stars
 supper
 top
 wheels

People

Ann
 Betty
 captain
 David
 family
 fellow
 friend
 himself
 men
 Mrs.
 police
 twins

Ways to feel

bright
 better
 careful
 clean
 dirty
 early
 friendly
 frightened
 glad
 great
 hurt
 kind
 lazy
 mean
 nice
 poor
 queer
 quiet
 right
 short
 small
 tired

le

n 28

would like

bird
 candy
 dollar
 pool
 rope
 wings
 tent
 stones
 stars

A train ride

began
 blow
 bought
 end
 far
 fast
 flash
 found
 goes
 gone
 miles
 reach
 rode
 seemed
 sit
 slowly
 wait
 quick

A house

chimney
 roof
 floor
 room
 stairs

n 29

Run in a race

w
 lf

n

A baseball game

catch
 caught
 careful
 field
 hand
 move
 shout
 throw
 threw
 covered
 began
 even
 most
 nothing
 only
 enough
 arms
 tried
 captain
 right

Made of many pieces
 put together

bridge
 chimney
 clothes
 dress
 roof
 stairs
 station
 table
 wheels

30

grow?Does it tell when?NoYesNo

rs
 bell
 bridge
 bought
 found
 sign
 soft
 winter

always
 began
 been
 last
 o'clock
 early
 end
 ever
 winter

answer
 because
 between
 bought
 knew
 near
 needs
 care

Water Board

CONTINUED

THIRTY DAYS' SEATWORK

Date _____

the words. Read the sentences. On the lines write the words that go with the
nces. Be sure to use each word.

1. Father is a man. Dick and Joe will be men when
they grow up. Write all the words that tell
about boys and men.

2. Sally is a girl. She will be a woman when she
grows up. Write the words that tell about
girls and women.

3. A dog is an animal. A cat is an animal. Write
all the words that tell about animals.

Date _____

the sentences. Write the words that go with the sentences. Be sure to use all words.

legs

1. Mother is part of a family. You are part of your family. Write the words that tell about parts of a family.

light

men

mouth

Mrs.

neck

roof

room

smile

stairs

step

twins

wife

woman

2. A door and a window are parts of a house. Write all the words that tell about parts of a house.

3. You have many parts. You see with something you have. You hear with something. Write all the words that tell about parts of you.

Date _____

he sentences. Write the words that go with the sentence. Be sure to use all the

mean

1. Some of these words are about parts of animals.

mouth

Write the words that tell about parts of animals.

move

neck

nice

pull

quiet

2. An animal can do many things. Write the words

reach

that tell things an animal can do.

roll

smell

spring

stand

start

step

swim

3. An animal has feelings. Write all the words that

tired

tell how an animal can feel.

trot

turn

wash

Date _____

he sentences. Write the words that go with the sentences. Be sure to use all the

sign

1. You can carry many things. Write the names of things that can be carried on a bus.

slowly

step

suddenly

turn

village

woods

2. You can move in many ways. Write the words that tell of ways you can move.

3. You can live in many places. Write the words that tell of places people can live.

Date _____

he sentences. Write the words that go with the sentences. Be sure to write all
rds.

side

Put these words into three groups.

shirt

1. You can carry these things in a paper bag.

spring

stairs

stars

stick

suddenly

2. Words about a horseback ride.

tie

trot

watch

3. Words about building a house.

the sentences. Write the words that go with the sentences. Be sure to write all words.

- room
- shirt
- fast seeds
- show
- s station
- suit
- supper
- tent
- tie
- village
- watch

1. We eat food. Write all the words that are about things to eat.

2. Mother bought Tom a coat. He has a new hat too. Write all the words that tell about things to wear.

3. You can walk in many places. Write all the words that tell about places you can walk.

words tell about three things. Some tell about "water", some about "wood", and all "how much". Write each word in the right group.

river

1. Words about water.

roof

sea

second

six

spring

2. Words about wood.

stairs

step

stick

storm

swim

3. Words that tell how much.

table

together

twins

wash

wave

wet

well

the words. Write them in three groups. Some tell about more than one thing; some about building something; some tell about the sun. Be careful where you write each

s
t

ed

rs

r

- noise
- reach
- room
- sheep
- shells
- shine
- short
- side
- stars
- stones
- straight
- tap
- their
- together
- twins
- use
- wheels
- wings

1. more than one

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. building something

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. the sun

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

the words. Then write them in three groups; 1. one word made from two
something you can get into 3. something a dog can do
all the words.

rest

1. One word made from two

roll

room

sea

station

suit

2. You can get into this.

tent

that's

village

won't

3. A dog can do this.

he sentences. Write the words that go with the sentences.

money

1. Tom has a box. He wants to carry things in it.

park

Write the words that tell what Tom can carry

pie

in the box.

potato

river

rope

sea

seeds

shirt

sign

2. Summer days are fun. You can play out doors all

stick

day. Write the words that make you think about

stones

a summer day.

suit

summer

swim

tent

tie

3. There are some things we do not like. We say

top

that they are unpleasant. Write all the words

travel

that make you think of something unpleasant.

trouble

watch

woods

won't

the words. Put them into three groups. They are things that belong in a bird's things you find in a man's pocket; and things that belong on the ground. Write ords.

- park
- ranch
- road
- sand
- seeds
- sign
- stairs
- stick
- wings

1. Write the words that tell about things that belong in a bird's cage.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Write the words that tell what you can find in a man's pocket.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. Write the words that tell about things that are on the ground or are part of the ground.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

words will go into three groups; 1. things that move, 2. things that are round, and
sounds you can hear. Write each word in the right group.

shout

1. Things that move.

storm

tap

telephone

whistle

wings

2. Things that are round.

wolf

woman

3. Sounds you hear.

the words. Write them in three groups. 1. words that tell how much; 2. words tell when; and 3. words that tell where. Each word goes into one of the groups.

t glass
s last
e late
en pair
second

1. Words that tell how much.

Saturday

2. Words that tell when.

six
small
station
straight

summer
through
woods

3. Words that tell where.

words belong in three groups. 1. words people say when they are cross; 2. some-
you can see going up stairs; 3. something to eat. Write the words in groups.

forgot

1. When you are cross -- you say it.

haven't

se hear

r I'll

I'm

fast isn't

r men

Mrs.

2. You can see it going upstairs.

pie

ul potato

t quick

shall

trouble

3. It is good to eat.

won't

the words. Then write them in three groups. They tell about a tree; about things
er can put in the oven; and about how you feel on Christmas. Be sure to write the
s in the right group.

nice

1. Words about a tree.

park

pie

potato

road

roll

2. It can go in the oven.

silly

straight

sure

tap

woods

3. Ways you feel on Christmas.

wonderful

young

Put these words in three groups. They are about a river, about a house, and about a circus. Be sure to write the word in the right group.

miles

1. Words about a river.

noise

river

road

roar

roof

2. Words about a house.

room

shout

silly

smile

stairs

3. Words about a circus.

step

stones

travel

wet

words are about dishes, about a telephone call, and about people. Read the words.

write them in the right group.

r	Mrs.	1. About dishes.			
ers	own		_____	_____	_____
r	police		_____	_____	_____
	seemed		_____	_____	_____
	silly		_____	_____	_____
rs	smile	2. About a telephone call.			
	talk		_____	_____	_____
	telephone		_____	_____	_____
d	tell		_____	_____	_____
dly	together		_____	_____	_____
	told	3. About people.			
lf	wait		_____	_____	_____
	wash		_____	_____	_____
n	wet		_____	_____	_____
			_____	_____	_____

Some words go into three groups; 1. things that are not living; 2. things that can go to sleep and 3. words about the weather. Write the words in the right groups. Be sure to write all the words.

1. Things that are not living.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Things that can sleep.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. Words about weather.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

l
ers
in
es
l
r
y
w
e
ful

words are about things you can do, things you can carry in one hand, and things you can wear. Write each word in one of the groups.

- potato
- reach
- remember
- rope
- shirt
- suit
- talk
- throw
- wash

1. Things you can do.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Things you can carry in one hand.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. Things to wear.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

words go into three groups. 1. things that are not always the same color;
things that can walk on two legs; 3. words that tell about time. Read the words.
each word in one of the groups.

Saturday

1. This is not always the same color.

second

suit

summer

table

twins

2. This can walk on two legs.

while

wife

wings

winter

woman

3. This tells about time.

year

the words. They tell about three things: 1. working at school; 2. things you can
in your lunch box and 3. about people. Write the words in the right group.

r	right	1. Working at school	_____	_____	_____
s	start		_____	_____	_____
	sure		_____	_____	_____
ve	tell		_____	_____	_____
	try		_____	_____	_____
	use				
r	wife	2. Things in a lunch box	_____	_____	_____
	woman		_____	_____	_____
ul			_____	_____	_____
			_____	_____	_____
		3. About people	_____	_____	_____
			_____	_____	_____
e			_____	_____	_____
			_____	_____	_____

the sentences. Write the words that go with each sentence. Be careful. Write word in the right group.

garden

1. Boys and girls play games on the playground. Write all the the words that tell about things you can do on the playground.

hurt

money

roof

throw

wave

2. Mother can carry many things in her handbag. Write all the things that a lady may carry in her handbag.

3. Many words make you think of home. Write the words that tell about home.

Some words belong in three groups. Some are taller than an elephant; some are smaller than a boy; and some tell how you feel. Write each word in one of the groups.

y	hammer	1. Taller than an elephant.			
	hand		_____	_____	_____
eve	kind		_____	_____	_____
	lazy		_____	_____	_____
	mean		_____	_____	_____
ge	money	2. Smaller than a boy.			
ful	pie		_____	_____	_____
ney	potato		_____	_____	_____
y	roof		_____	_____	_____
ers	station		_____	_____	_____
	telephone	3. How you feel.			
ndly	whistle		_____	_____	_____
htened	young		_____	_____	_____
			_____	_____	_____
			_____	_____	_____

the sentences. Write the words with the right sentence. Write each word.

- piece
- smell
- soft
- suddenly
- tap
- tried
- turn
- wait

1. On the playground we play tag. Write the words that tell about playing tag.

2. For lunch I eat a big sandwich. Write all the words that tell about eating a sandwich.

3. Mother sent me to the store to do an errand. Write the words that tell about doing an errand.

l the words. Write them in three groups. Some have two eyes; some make think about taking a trip; some tell about a monkey in a tree.

es herse

1. Things that have two eyes

ls Indian

ge island

hers legs

b men

n miles

2. About taking a trip

try minutes

mouth

hant neck

ranch

d river

3. A monkey in a tree

read

station

woods

Which words make you feel glad? Write the words that are happy words.

joke

1. Happy words.

queer

smile

storm

trouble

whistle

whistle

wonderful

Which is a good picnic place? Write the words that tell of a good place for a picnic.

ranch

2. Have a picnic here.

telephone

trouble

winter

woods

would

... words go into three groups: 1. things you can buy; 2. people; 3. ways you feel.
... each word in one group.

kind

1. Things you can buy.

lazy

men

Mrs.

plow

quiet

2. People

ranch

roll

rope

shirt

twins

3. Ways you feel.

the sentences. Write the words in the right group. Each word goes into one group.

roof

1. Tom likes to do many things. Write all the words that tell about things a boy would like.

room

rope

sit

slowly

stairs

stones

2. Jack went to town on the train. Write all the words that make you think of a train ride.

swim

tent

tie

wait

watch

3. These words are about a house. Write all the words that tell about a house.

l the words. Some of them can run in a race, some are about a baseball game, and some things that are made from many pieces. Write the words in the right group.

twins

1. Can run in a race.

wheels

woman

2. About a baseball game.

3. Made of many pieces put together.

the words. Write the ones that tell about things that can grow.

found

1. These things grow.

hair

legs

potato

sheep

sign

soft

winter

the word. Write the ones that tell when a thing can happen.

ever

2. This word tells when.

knew

last

near

needs

o'clock

winter

SAMPLE OF TEACHER FLASH CARDS

brought

chimney

didn't

SAMPLE OF MATERIAL USED
BY CHILDREN WORKING IN PAIRS

Parts of things —

FamilyHouseChild

brothers

floor

hand

Lesson 2

Parts of:

Family

babies
 Betty
 brothers
 family
 fellow
 men
 Mrs.
 twins
 wife
 woman

House

chimney
 floor
 light
 roof
 room
 stairs
 step

Child

arms
 ear
 eyes
 foot
 hair
 hand
 legs
 mouth
 neck
 smile

Water Bond
THE GINNEY

B

COPIES OF TESTS

INDIVIDUAL PHONICS TEST

Name _____ School _____ Date _____

c l a s i b r t j u m h p

e f o g x n v q d w y k z

th st wh sh br ch dr tr

cl fr gr pl sm fl sk sw tw

BOSTON UNIVERSITY

SCORE

1. _____

2. _____

3. _____

Name _____ Boy ___ Girl ___

Address _____ School _____ City _____

Part I. Hearing Sounds in Words

B

p b t n a	1. garrulous	pertain	warrant
e p c d t	2. milligram	sweltering	shrapnel
d f g v h	3. chemist	stereogram	hydrocarbon
g k v l i	4. ponderous	spectacular	military
k r b d s	5. finesse	intended	rebuff
o s n b t	6. linoleum	periwinkle	cacaphony
y l d f g	7. brethren	noblemen	burlesque
f t j r b	8. premium	gypsyism	glaucoma
c d k m i	9. hexameter	generation	hydrogen
f v p h o	10. proficient	presumptive	dominant
l v n t u	11. cavalry	martinet	castinet
s q r z p	12. filiform	felonious	deciduous
c m a b o	13. meander	monotony	rancour
i m s e w	14. sheathing	shameful	collateral
n v e r a	15. bronchitis	platonic	breechblock
i e h a o	16. theorem	reckon	thermion
v q j n e	17. drammock	druidism	pyrogenic
l s t y	18. eroded	chiseled	charbon

Do you like to read by yourself when you stay indoors?

a

b

c

Do you like to read in the summer?

a

b

c

Do you like to read to someone at home?

a

b

c

Do you like to learn new words each day?

a

b

c

Do you like to try to read the funnies by yourself?

a

b

c

Do you like to play reading games?

a

b

c

Do you like to read signs?

a

b

c

Do you like to do a reading paper?

a

b

c

Do you like to go to the library corner when your work is finished?

a

b

c

4. TEST III. Applied Phonics

1.	glad	pad	mad	Dad	sad	fad
2.	jump	pump	clump	stump	lump	du
3.	must	rust	crust	dust	gust	tru
4.	look	hook	nook	brook	shook	co
5.	hill	fill	kill	thrill	drill	sp
6.	nest	vest	west	zest	test	cr
7.	found	ground	bound	mound	sound	po
8.	pig	dig	wig	jig	rig	fi
9.	name	fame	lame	flame	game	ta
10.	eat	treat	meat	heat	beat	n
11.	huff	husk	hunch	hush	hung	h
12.	let	lend	length	lemon	less	l
13.	cat	cabin	canvas	cast	camp	c
14.	box	bottle	bobbin	bond	bottom	b
15.	wish	wigwam	width	wicket	wigwag	w

Score _____

Directions for

TEST OF HEARING SOUNDS IN WORDS - GRADES 1-3
Boston University - 1955

The purpose of this test is to discover how well a child can identify sounds in words. If a child is unable to identify sounds in spoken words, instruction in phonics or word recognition will make little progress. The test is suitable only for those children who know the names or forms of letters. If a child does not know letters, the Murphy-Durrell Diagnostic Reading Readiness Test (World Book Co.) is recommended.

Give each child a marker of colored paper to use under each line. This will not help to keep the child's attention on the correct line, but will also help the teacher to observe that each child has the correct place.

Directions: PART A

Print on the board the letters p b t n a, just as they appear on line one of each child's paper.

Say: "Today we are going to use our eyes and ears to see if we can find the right letters in words. You will need to listen and look carefully. Put your marker on the first line under the big letter A." (Check to see that each child has the right place). "I'll say a word and you are to listen to see if you can find the letter the word begins with. Listen - top. What is the first letter in top? Yes, t so you draw a circle around t on your paper." (Teacher draws a circle around t on the board). Check to see that each child has circled the correct letter.

"Now move your marker to the next line below. Now I will not help any more. Be sure you look and listen carefully. Ready. Draw a circle around the first letter in cup." Repeat the word, if necessary. Wait until the children have finished making a circle around the letter. This usually takes not more than five seconds. Count five slowly on all later words in this test.

Directions for the rest of the words: "Move your marker to number 3. Find the first letter in dog."

- | | | |
|-----------|--------------|------------|
| 4. garden | 9. machine | 14. handle |
| 5. recess | 10. fountain | 15. every |
| 6. noise | 11. vacation | 16. olive |
| 7. lemon | 12. polish | 17. waste |
| 8. bacon | 13. absent | 18. supper |

Directions: PART B

Say: "Now move your markers up to number 1 under the big letter B." Write on the board the words garrulous pertain warrant.

"Now this time you are to listen for the last sound in the word. Listen to this word - spoon. Which word on the board has the same last sound as spoon? Yes, the middle one has the same last sound as spoon. So we draw a circle around it like this. Now draw a circle around it on your paper."

-2-

B - continued:

"Now move your marker down to number 2. Listen for the last sound in this word - until. Find the word that has the same sound at the end as until. Draw a circle around it.

Directions for the next four words: "Move your marker to number 3. Which word has the same last sound as visit? Draw a circle around it."

3. visit 4. wonder 5. railroad 6. company

On number 7 and following, the child listens for the first and last sounds.

Say: "Now on number 7, you are to listen for both the beginning and ending sounds." Write on the board the words brethren nobleman burlesque.

"Which of these words has the same beginning and ending sounds as between? (Wait for answers). "Yes, the first one begins and ends like between. So ~~we~~ draw a circle around it. You draw a circle around it on your paper."

Directions for the remainder of the words in PART B: "Move your marker to number 8. Find the word that begins and ends like geranium."

9. happen	14. shovel
10. present	15. break
11. cabinet	16. thicken
12. famous	17. drink
13. motor	18. child

Directions: PART C

Write these letters on the board: ind r bl x t ing.

Say: "Now move your marker down to number 1 under C. Listen to this word blinding. Draw circles around all of the sounds you hear in blinding." (Teacher circles ind bl ing on the board). "How many of you circled these sounds?"

Write on the board a m sp f d or. Say: "Now find all of the sounds you can in this word- sporadic. Which did you circle? Yes, sp, a and d. The other sounds are not on your paper."

For the rest of the words, say "On number 3, circle the letters you hear in this word - starlight."

3. starlight	8. indenture
4. continuous	9. envelopment
5. fortunate	10. elocutionist
6. twinflower	11. benevolent
7. exemplify	12. unqualified

ng: PART A - Count the number correct. Maximum score--17.

PART B - Count the number correct. Maximum score--16.

PART C - Count the number of parts of words circled correctly.

Maximum score--33.

2.

8. Do you like to read in **summer**?

a - not at all b - a little c - very much

9. Do you like to read to someone at home?

a - not at all b - a little c - very much

10. Do you like to learn new words each day?

a - not at all b - a little c - very much

11. Do you like to read the funnies by yourself?

a - not at all b - a little c - very much

12. Do you like to play reading games?

a - not at all b - a little c - very much

13. Do you like to read signs?

a - not at all b - a little c - very much

14. Do you like to do a reading paper?

a - not at all b - a little c - very much

15. Do you like to go to the library corner when your work is finished?

a - not at all b - a little c - very much

Test III, Applied Phonics

Write these words on the board in a horizontal row:

all ball tall fall wall call

Say, "We are going to play a game using our eyes and ears. Look at these words on the board. The first word is all. I'm going to write 1 under all. Listen and see if you can find the next word I say, call."

Have a child find the word call and write 2 under it.

"Now listen for Number 3 tall. Who can find tall and write 3 under it?" Have one child respond.

"Listen for Number 4 fall." Have a child find fall and write 4 under it.

"Listen for Number 5 ball." Have a child write 5 under ball.

"We are going to do some more on our papers. We'll listen, look, and find the word, and write the number under it. Probably you cannot find all of them. Do the best you can. Ready:"

Row 1. 1. glad 2. pad 3. sad 4. mad 5. fad

Row 2. 1. jump 2. lump 3. clump 4. stump 5. pump

Row 3.	1. must	2. trust	3. gust	4. rust	5. dust
Row 4.	1. look	2. brook	3. hook	4. cook	5. shook
Row 5.	1. hill	2. spill	3. kill	4. thrill	5. drill
Row 6.	1. nest	2. test	3. west	4. zest	5. vest
Row 7.	1. found	2. bound	3. pound	4. sound	5. mound
Row 8.	1. pig	2. fig	3. rig	4. jig	5. wig
Row 9.	1. name	2. flame	3. fame	4. tame	5. game
Row 10.	1. eat	2. beat	3. heat	4. meat	5. neat
Row 11.	1. huff	2. hunt	3. hung	4. husk	5. hunch
Row 12.	1. let	2. lend	3. less	4. length	5. level
Row 13.	1. eat	2. camp	3. cabin	4. cash	5. cast
Row 14.	1. box	2. bobbin	3. body	4. bottom	5. bottle
Row 15.	1. wish	2. winch	3. width	4. wicket	5. wigwam

Otis Quick-Scoring Mental Ability Tests: *New Edition*

Nonverbal Score	
Verbal Score	
Total Score	
MA	
IQ	

BY **Arthur S. Otis, Ph.D.**, Formerly Development Specialist with
Advisory Board, General Staff, United States War Department

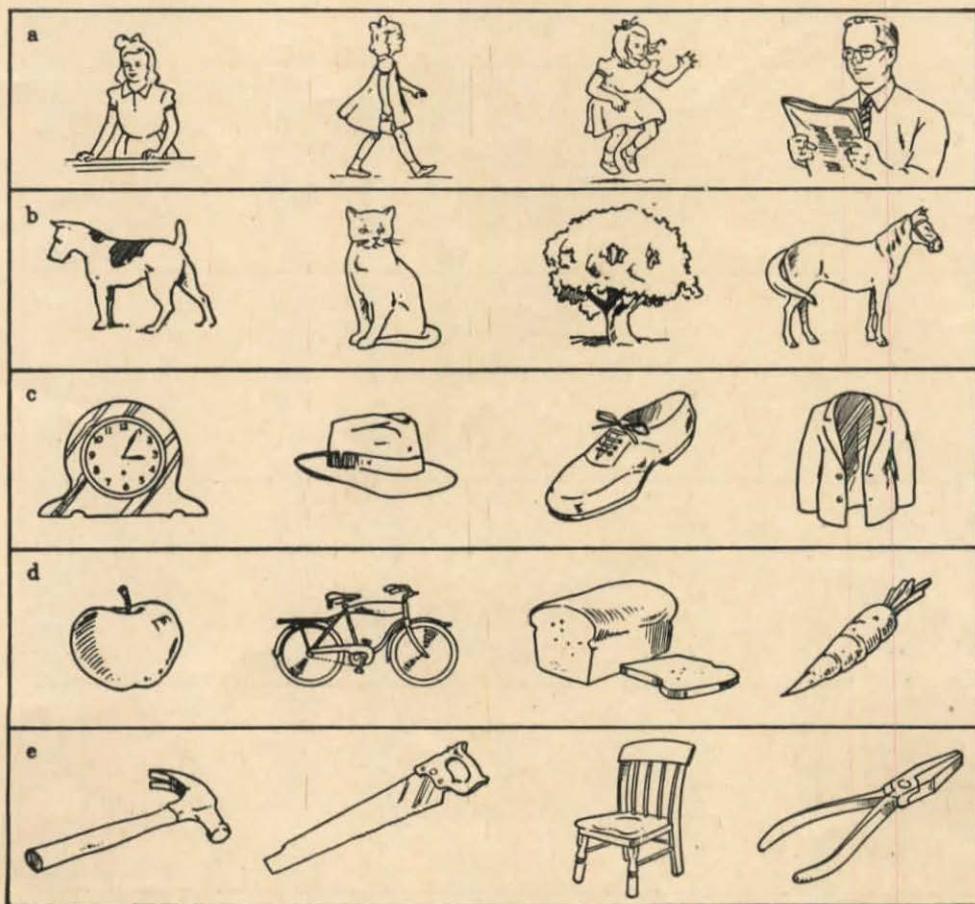
ALPHA TEST: SHORT FORM

FORM
As

NAME _____ AGE _____ GRADE _____

TEACHER _____ DATE _____ 19 _____

SCHOOL _____ CITY _____



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ALPHA : AS-12

a

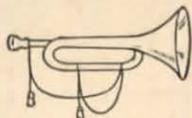
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E

Otis Quick-Scoring: Alpha: As

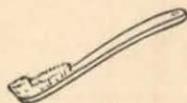
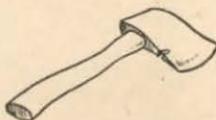
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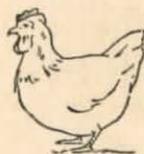
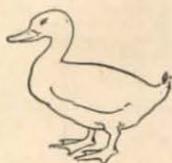
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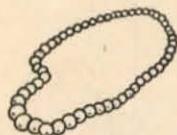
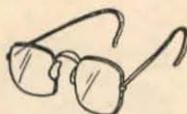
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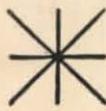
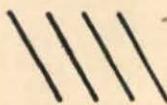
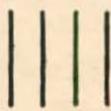
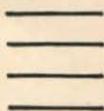
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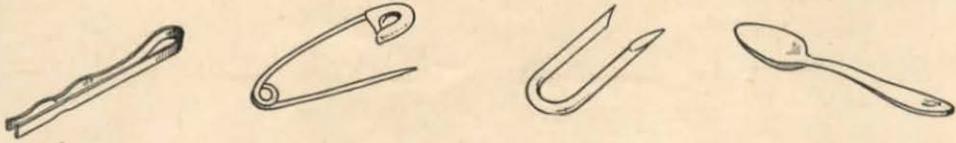
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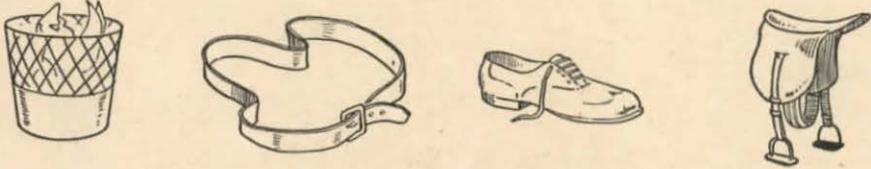
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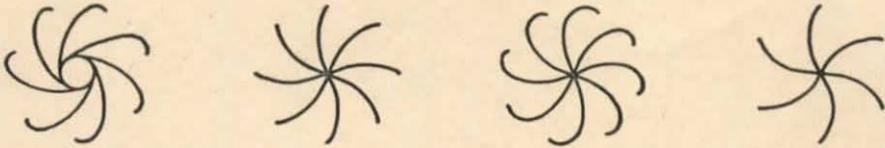
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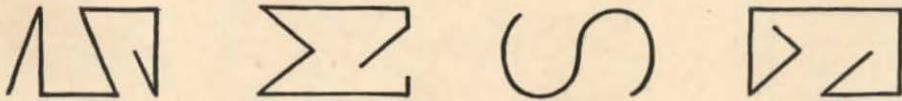
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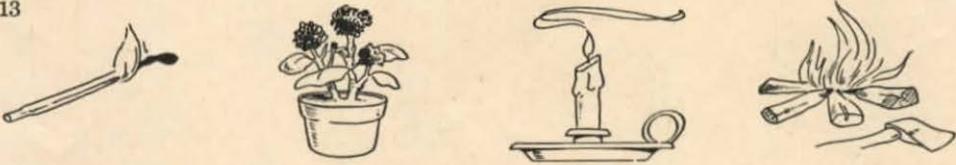
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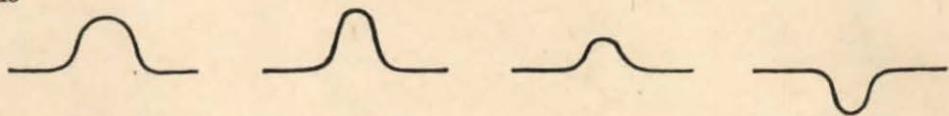
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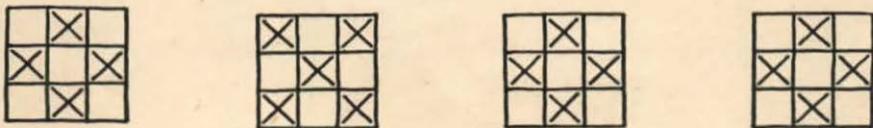
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F M 4 T

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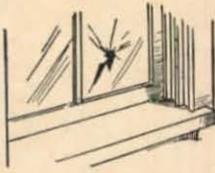
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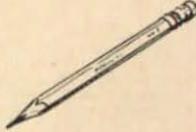
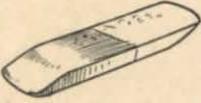
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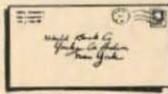
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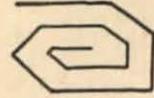
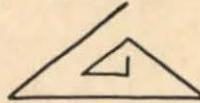
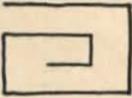
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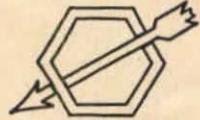
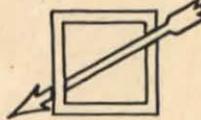
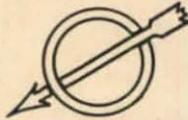
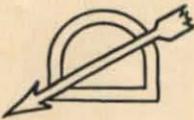
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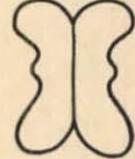
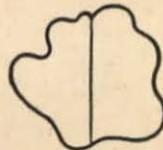
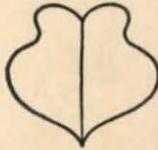
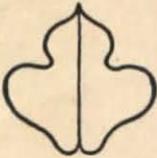
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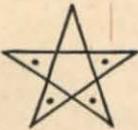
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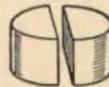
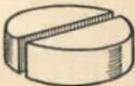
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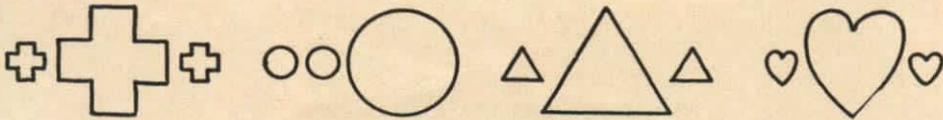
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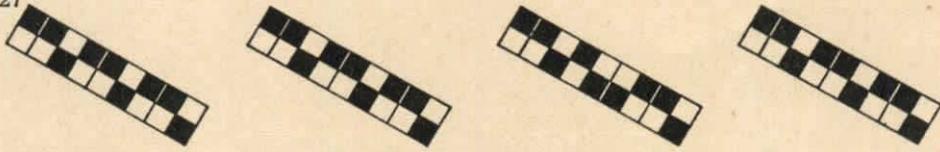
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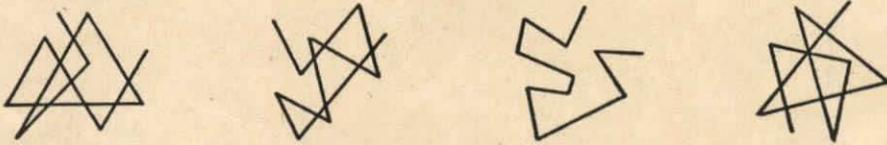
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28

6-7-8-9 | 6-9-2-4 | 1-2-3-4 | 4-5-6-7

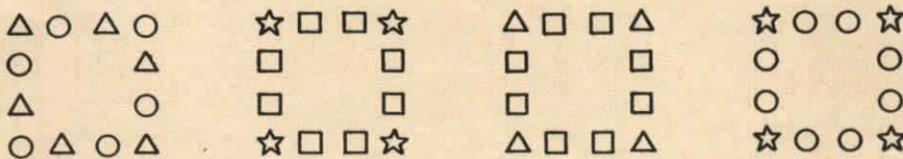
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30

$\frac{5}{6}$	$\frac{2}{3}$	$\frac{3}{4}$	$\frac{4}{5}$
$\frac{6}{8}$	$\frac{3}{5}$	$\frac{4}{7}$	$\frac{5}{9}$

31



32



C

Otis Quick-Scoring: Alpha: As

33

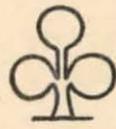
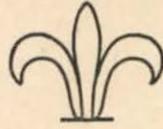
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RARARARA

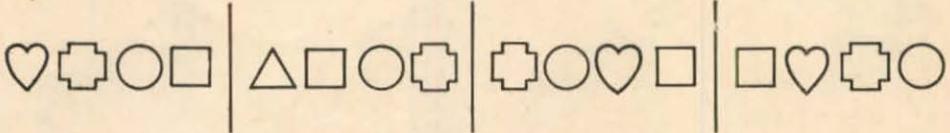
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DLDLDLDL

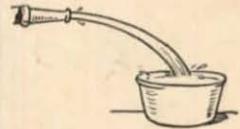
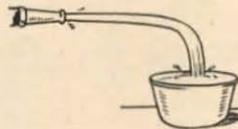
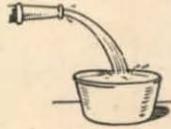
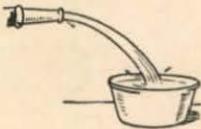
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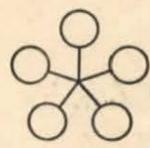
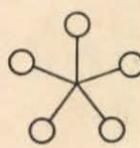
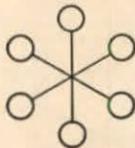
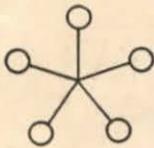
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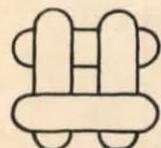
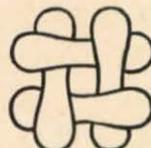
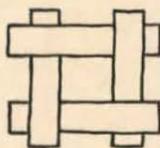
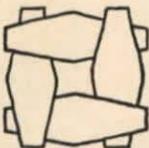
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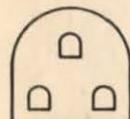
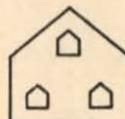
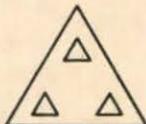
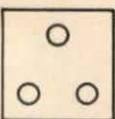
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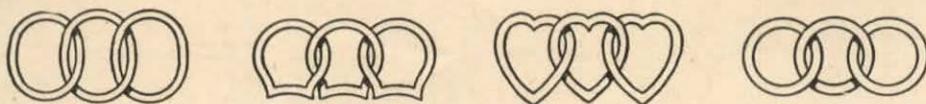
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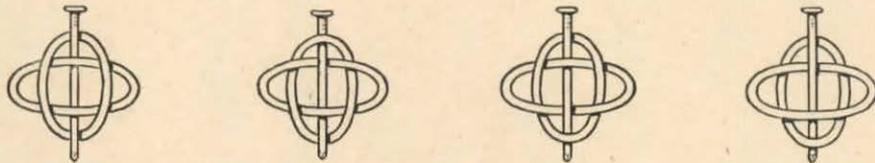
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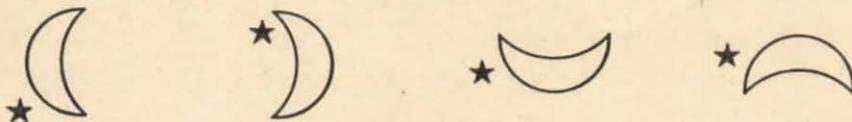
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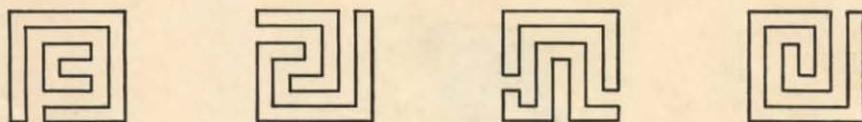
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44



45



METROPOLITAN ACHIEVEMENT TESTS

PRIMARY II BATTERY: FORM R

BY GERTRUDE H. HILDRETH, PH.D.

Prim. II

With the cooperation of

FREDERICK B. GRAHAM, RICHARD D. ALLEN,
HAROLD H. BIXLER, and WILLIAM L. CONNOR

R

Name..... Boy..... Girl.....

Teacher..... Grade..... School.....

City..... County..... State.....

TEST	STANDARD SCORE	GRADE EQUIVALENT	
1. READ.			
2. WORD MEAN.			
AVER. READING		*	*
3. ARITH. FUND.			
4. ARITH. PROB.			
AVER. ARITH.		*	*
5. SPELL.			
AVERAGE ACH'T			

.....
Year Month Day
Date of Testing

.....
Year Month Day
Date of Birth

Age yrs. mos.

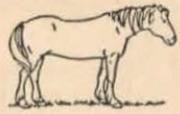
*Do not include when figuring average achievement.

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TEST I. READING

^aMew mew, says the



^bJohn writes with a

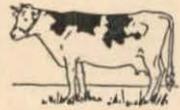
book

pencil

dish

ball

¹Bow wow, says the



²John will ring the



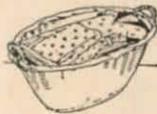
³Jack can read from his



⁴The birds are asleep in their



⁵Mother baked some

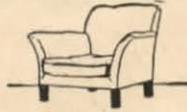


⁶Alice wears a pretty

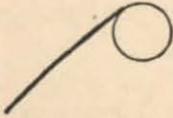


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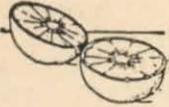
7 The girl wheels her doll in a



8 When it rains she carries her



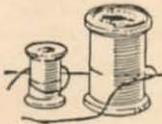
9 For Thanksgiving Father carves the



10 A man built his house of



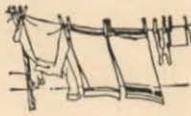
11 Mother buys bread at the



12 The child eats soup with a



13 The farmer drives the



14 The children went for a sail in the



Go right on to the next page.

15. The boy's name is
Jane Jack Mary Dot
-
16. I can sing a pretty
stone song bell tree
-
17. Ted loves to play in the beautiful white
snow cake fields cloth
-
18. If he doesn't hurry, he will miss the
train clock mother slow
-
19. I can fly. I can sing. I have a nest. I am a
bee girl bird dog
-
20. Most places are hottest in
winter summer March spring
-
21. When Janie found her doll, she felt
sad glad careful sorry
-
22. The bears hide in their
barn cave nest boat
-
23. If she does not have to stay home with her mother,
she will come buy live bring
-

Ned has a black pony. His name
is Prince. The pony runs fast when
Ned is on his back.

24. The boy's name is
Prince Ben King Ned
25. The boy rides on his
pony car wheel sled

Mother baked apples one day. She washed and cut the apples. She put plenty of sugar on them and put them in a pan. Then she baked the apples.

26. Mother cooked

peaches grapes apples corn

27. The sugar made the apples taste

sweet sour bitter burned

Henry and his brother Peter go to the country every summer. They go wading and fishing in the brook. One day Henry caught three fish and Peter caught five.

28. This story tells about two

boys fish farms brooks

29. Who caught the more fish?

Father Henry Peter Helen

The farmer has a big barn. It is a good place in which to play. One day we went to the barn. I climbed into the hay wagon and hid in the hay. My sister Ruth ran after me, but she could not find me. Then I called, "Here I am. Come and find me." But she could not find me until I jumped out of the hay.

30. I played in the barn with my

cousin brother sister father

31. I found a good hiding place in the

house woods cellar wagon

32. I called from my hiding place, "look out"

"come away" "find me" "stay here"

33. The hay wagon was in the

hayfield yard road barn

Jack and Jill went to the country. They went coasting on their sled. Jack fell off the sled into the deep snow. Jill helped Jack get up. They got home late in the evening.

34. The children coasted in the
city country park yard
35. One of the children fell into the
country snow sled water
36. The children reached home
at breakfast time in the afternoon at noon after dark
-

In the early days, the people who were known as cave men found dry, warm caves in which to live. They found it much safer to live in caves than on the open plains. Their chief enemies were wild beasts. They found that the wild animals were afraid of fire. So at night the cave men kept a fire before the door. With the fire burning they knew they were safe from dangerous animals.

37. Long ago people avoided danger by living in
towers huts tents caves
38. They had to defend themselves chiefly from
wild men wild beasts fires giants
39. The fire protected the cave men because it
kept animals away heated their houses
cooked their food lighted their houses
-

One day the butcher brought us some meat. Laddie took the meat from the table and carried it to the garden. Soon we found that the meat was gone. We caught Laddie and spanked him so he would not take the meat another time.

40. Laddie is a butcher man mouse dog
41. He stole our meat eggs fish fruit
42. The meat was brought to the house by
Laddie the butcher us a dog
43. Laddie was praised killed punished scolded
- [6]
- Go right on to the next page.

In China many families live on rivers. It is cheaper to live on water than on land because there is no landlord to collect rent. Whole families live on houseboats. The children play on the decks. Every child carries a tiny barrel on his back as a life preserver. When a child falls overboard the barrel enables him to keep afloat until someone pulls him out.

44. In China many families live in
trailers tents igloos houseboats
45. As a life preserver, a Chinese child wears on his back a
tube barrel bottle balloon
46. Many Chinese people would rather live on water than on land because
it is
cheaper wetter safer healthier
-

My sister and I decided one early spring day to start a window garden. In planting our window garden we first put stones in the bottom of the box. Next we put in some moss and on top of that a layer of dirt. On the dirt we sprinkled some pansy seeds. We covered them with dirt and then watered them. Over the top we put a newspaper to keep the water from drying out too rapidly.

47. We planted our garden in a window box
in the front yard at school on the farm
48. The first thing we put in the box was
paper moss stones peat
49. A newspaper was used to keep the seeds
cool clean dark damp
50. The seeds were covered with
blossoms moss stones dirt

STOP!

TEST 2. WORD MEANING

a. house boy stone coat man duck

b. ball meat pin doll skates rose

1. blow green paint brush blue brown

2. gray cat wing pig chicken grain

3. for two five soon seven high

4. June winter Christmas Easter picnic Thanksgiving

5. Tom George Mary Grace Alice John

6. watch apple paper cocoa bake eggs

7. pie milk water lamb ice lemonade

8. where mine who that when those

9. song trees floor boys boots flowers

10. poem orange peach once plum piece

11. chair window stool lamp door bench

12. pencil park shoe pen cage chalk

13. bunny kite lion butterfly skin robin

14. gloves bow hat hands cap skirt

15. head arm bead toes air trousers
-
16. car even pan oven stove stamp
-
17. hog rug circus clock barn curtain
-
18. rock coal wood cotton wool pillow
-
19. doctor dollar mend nurse medicine noise
-
20. machine magazine carpet envelope book chimney
-
21. run stay chase still dash quiet
-
22. marriage accident death growth blindness party
-
23. bark hound howl collie kitten police
-
24. turnip banana radish cherries letters lettuce
-
25. handle tool candle lantern torch fountain
-
26. short loud wide tell worse tall
-
27. watchman infant pupil minister student teacher
-
28. polite generous false courteous timid hood
-
29. some fall marble skip swim foam
-

STOP!

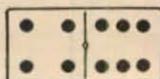
No. right

No. wrong

Difference..... Stand. score..... Gr. equiv..... Age equiv.....

TEST 3. ARITHMETIC FUNDAMENTALS

6 dots and 4 dots are _____ dots.



Add

3 and 2 are _____

5 and 1 are _____

$$\begin{array}{r} 2 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ + 0 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ + 33 \\ \hline \end{array} \quad \begin{array}{r} 35 \\ + 23 \\ \hline \end{array} \quad \begin{array}{r} 57 \\ + 42 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ + 87 \\ \hline \end{array} \quad \begin{array}{r} 38 \\ + 11 \\ \hline \end{array} \quad \begin{array}{r} 53 \\ + 25 \\ \hline \end{array} \quad \begin{array}{r} 76 \\ + 11 \\ \hline \end{array} \quad \begin{array}{r} 36 \\ + 52 \\ \hline \end{array}$$

Subtract

3 from 7 leaves _____

2 and _____ are 3

$$\begin{array}{r} 2 \\ - 1 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ - 5 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ - 5 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ - 4 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ - 3 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ - 2 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ - 4 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ - 7 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ - 9 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ - 6 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ - 7 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ - 9 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ - 8 \\ \hline \end{array} \quad \begin{array}{r} 16 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 86 \\ - 43 \\ \hline \end{array} \quad \begin{array}{r} 58 \\ - 35 \\ \hline \end{array} \quad \begin{array}{r} 79 \\ - 42 \\ \hline \end{array} \quad \begin{array}{r} 52 \\ - 10 \\ \hline \end{array} \quad \begin{array}{r} 97 \\ - 43 \\ \hline \end{array} \quad \begin{array}{r} 86 \\ - 12 \\ \hline \end{array} \quad \begin{array}{r} 87 \\ - 11 \\ \hline \end{array} \quad \begin{array}{r} 59 \\ - 37 \\ \hline \end{array}$$

Multiply

$$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

Add

$$\begin{array}{r} 7 \\ + 44 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ + 65 \\ \hline \end{array}$$

$$\begin{array}{r} 86 \\ + 57 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ 7 \\ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ 7 \\ 3 \\ 0 \\ 8 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ 42 \\ 23 \\ \hline \end{array}$$

Subtract

$$\begin{array}{r} 25 \\ - 16 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ - 18 \\ \hline \end{array}$$

$$\begin{array}{r} 83 \\ - 76 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ - 28 \\ \hline \end{array}$$

$$\begin{array}{r} 152 \\ - 83 \\ \hline \end{array}$$

Divide

$$2 \overline{)4}$$

$$1 \overline{)5}$$

$$3 \overline{)12}$$

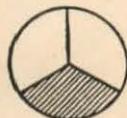
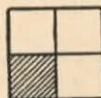
$$5 \overline{)10}$$

$$2 \overline{)16}$$

Mark the clock which says half past six.



Mark the figure which is one-fourth shaded.



STOP!

No. right..... Stand. score..... Gr. equiv..... Age equiv.....

TEST 4. ARITHMETIC PROBLEMS

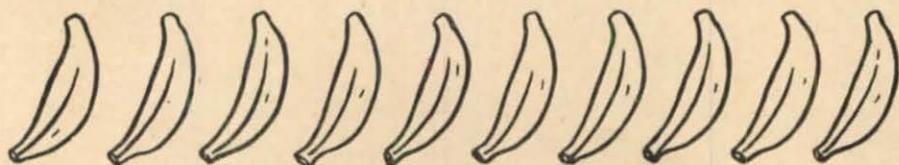
1.



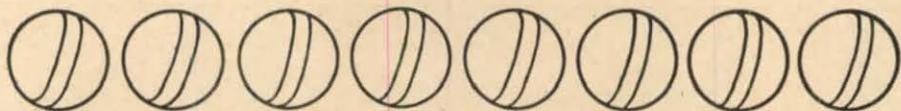
2.



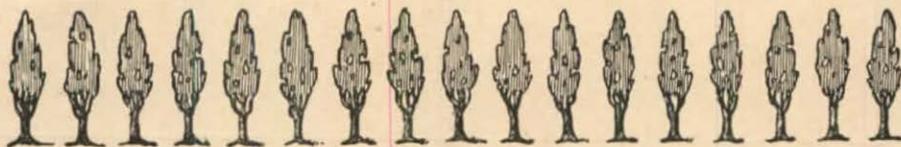
3.



4.



5.



6.

15

8

2

10

6

7.

11

6

12

5

8

8. How many pencils are 2 pencils and 8 pencils?

pencils

9. Mother gave me 2 cakes.
My sister gave me 3 more cakes.
Then I had how many cakes?

cakes

10. My lunch cost 8 cents and my brother's cost 13 cents. Both lunches cost how much?

cents

11. I bought some popcorn for 10 cents, an apple for 4 cents, and some candy for 3 cents. All the things together cost how much?

cents

12. We had 10 little chickens and sold 4 of them. We had how many chickens left?

chickens

13. Ten children will be at my party. I need a chair for each child. I have only 6 chairs. How many more do I need?

chairs

14. My brother has 8 baby rabbits. He is going to give me half of them. How many shall I have?

rabbits

15. 3 children are coming to my house. I am going to give each one of them 3 cookies. I must have how many cookies for all of them?

cookies

16. My mother gave me 35 cents. I spent 10 cents for a sandwich and 10 cents for a ride on the car. How many cents did I have left?

cents

17. A train went 45 miles the first hour and 63 miles the second hour. How far did it go in 2 hours?

miles

STOP!

TEST 5. SPELLING

SAMPLE. My brother _____ well.

1. The _____ has four kittens.
2. Did you like the _____ ?
3. _____ apple was left.
4. The _____ loves her child.
5. The boy can spin his _____.
6. Buy a new _____.
7. The boy will _____ a race.
8. Children, drink your _____.
9. The man spent all the money he _____.
10. It is _____ ten o'clock.
11. Where are you _____ ?
12. The bird is building a _____.
13. I live on a _____.
14. There are many children in _____.
15. _____ can you come to see us ?
16. We clean our teeth _____ meals.
17. He is flying a _____.
18. Our flag is red, white, and _____.

19. The picture is _____ by a wire.
20. He was in the third _____.
21. They _____ to the country yesterday.
22. The _____ is set for lunch.
23. _____ is the second spring month.
24. They went to the country _____.

Name Date 19..
 Teacher Grade School
 City County State

INDIVIDUAL PROFILE CHART
METROPOLITAN ACHIEVEMENT TESTS: PRIMARY II BATTERY

★	Test 1 READ- ING	Test 2 WORD MEAN.	Test 3 ARITH. FUND.	Test 4 ARITH. PROB.	Test 5 SPELL- ING	AVE. ACH'T	★	†
10-7							6.5	
10-6								
10-5								
10-4								
10-3								
10-2							6.0	
10-1								
10-0								
9-11								
9-10							5.5	
9-9								
9-8								
9-7								
9-6								
9-5								
9-4							5.0	
9-3								
9-2								
9-1								
9-0								
8-11							4.5	
8-10								
8-9								
8-8								
8-7								
8-6							4.0	
8-5								
8-4								
8-3								
8-2								
8-1							3.5	
8-0								
7-11								
7-10								
7-9								
7-8							3.0	
7-7								
7-6								
7-5								
7-4								
7-3							2.5	
7-2								
7-1								
7-0								
6-11							2.0	
6-10								
6-9								
6-8								
6-7								
6-6							1.5	
6-5								
6-4								
6-3								
6-2								
6-1								
6-0							1.0	

* These two scales are independent. Only one should be used at one time. In plotting this chart, put an X in the box above the scale which is to be used.

† An additional scale is provided here in order to make it possible to plot the chart in terms of norms other than those of age or grade.

The Profile Chart is designed to furnish a graphic picture of the achievement of an individual pupil as revealed by his test scores. In plotting the equivalents (grade, age, or other type), open the test booklet and lay it flat so that both the title page and the Profile Chart are in view. Plot the equivalent of each test score on the proper stave and join these points to make the profile.

METROPOLITAN ACHIEVEMENT TESTS

PRIMARY II BATTERY: FORM S

By GERTRUDE H. HILDRETH, Ph.D.

With the cooperation of
 FREDERICK B. GRAHAM, RICHARD D. ALLEN,
 HAROLD H. BIXLER, and WILLIAM L. CONNOR

Prim. II

S

Name..... Boy..... Girl.....

Teacher..... Grade..... School.....

City..... County..... State.....

TEST	STAND- ARD SCORE	GRADE EQUIVA- LENT	
1. READ.			
2. WORD MEAN.			
AVER. READING		*	*
3. ARITH. FUND.			
4. ARITH. PROB.			
AVER. ARITH.		*	*
5. SPELL.			
AVERAGE ACH'T	X		

.....
 Year Month Day
Date of Testing

.....
 Year Month Day
Date of Birth

Age yrs. mos.

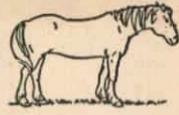
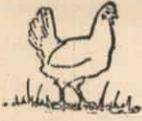
*Do not include when figuring
 average achievement.

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 Copyright 1947 by World Book Company. Copyright in Great Britain. *All rights reserved*

TEST I. READING

^aMew mew, says the



^bJohn writes with a

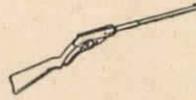
book

pencil

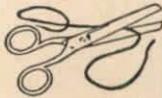
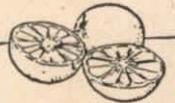
dish

ball

¹Billy likes to ride on his



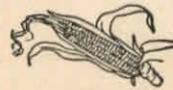
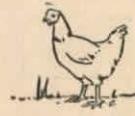
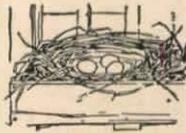
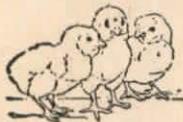
²May eats



³The baby plays with a



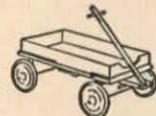
⁴The hen lays



⁵When it rains, carry your

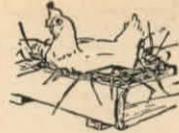


⁶Mary is a little



Go right on to the next page.

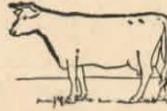
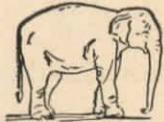
⁷The mother hen feeds her



⁸Father drives a big



⁹The farmer feeds his



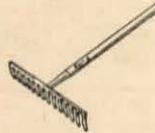
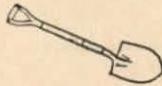
¹⁰The cat caught a



¹¹The tree has green



¹²We dig in our garden with a



¹³I wear a hat on my



¹⁴At Christmas we lighted the



Go right on to the next page.

15. A girl's name is

Bill Jane Paul Henry

16. The cow gives

eggs grass mush milk

17. A man built a big

house nose hose mouse

18. At night we light the

bed food books lamp

19. I am red. I am round. I am good to eat.

I am an apple a ball a cake a flag

20. If he doesn't come, I'll have to go

alone around here under

21. I am large. I eat hay. A boy rides on me.

I am a bicycle wagon horse car

22. He got caught in the rain, and he was soon all

right wet alone together

23. The days are longest in

winter summer December October

“Come, little yellow bird. Come to me. Here is some bread for you. Eat the bread, little yellow bird, then fly away home.”

24. The bird is big red brown small

25. The bird ate some

bread seeds meat fruit

At school Bob made an airplane. He used a barrel for the front and some boards for the seat and sides. He used a stick to steer the plane. He took Dick and Betty and Ned for a ride.

26. **The plane was built by**
 Dick Bob Ted Betty
27. **The front of the plane was made of**
 a barrel canvas a chair boards
28. **How many children went for a ride with Bob?**
 two five three four
29. **Bob made his toy airplane**
 at home out of paper at school with glue
-

Ned has a store. Jane went to the store. She bought potatoes. Tom went to the store. He bought some meat.

30. **Who owns the store?**
 Jane Ned Tom John
31. **At the store Jane got**
 carrots onions meat potatoes
32. **The meat was bought by**
 Ned Jane Tom John
-

Martin has a new toy. It has four wheels and a handle. He can give his sister a ride in it.

33. **The toy is a**
 wagon bicycle scooter roller skate
34. **Martin is a**
 baby father boy policeman

A long time ago, many Indians lived in this country. Some lived in tents while others lived in houses made of bark. In the bark houses, there was a door in front, but there were no windows. In the roof, a hole was left for the smoke from the hearth fire.

35. This story tells about the houses of the
Gypsies Puritans Indians Chinese
36. The houses were made of bark skin stones logs
37. Smoke escaped at the window side top chimney
-

Susie needs a new dress. Nellie will make her one from a pretty piece of blue ribbon. First she will cut out the dress. Then she will sew the seams together and the dress will be ready to try on the doll.

38. Susie is a girl baby child doll
39. The dress will be cut out and sewed by
Mother Nellie Susie Sister
40. The girl will use the ribbon to make a
bow seam doll dress
-

Generally speaking, the best watchdogs are the dogs with upright ears. They seem to be always alert and they hear the slightest sound. The term "watchdog" seems to be a poor name, for a good watchdog is really a "listen-dog." Almost always, it hears before it sees.

41. It is said that the best watchdogs have
long noses sharp eyes short legs upright ears
42. According to this paragraph, these dogs should be called
hound dogs listen-dogs spaniels seeing-eye dogs
43. A watchdog usually hears before it
eats bites sees runs

Many persons try to attract birds to their farms and orchards because they are useful in keeping insects in check. Other persons, who give little thought to the value of their feathered friends, provide homes for them and feed them because they enjoy watching them and listening to their songs.

44. Insects are kept in check by
birds homes songs other persons
45. Often persons feed birds because of their
flying insects singing feathers
46. This is a story about
life on the farm growing apples
dangerous insects why people like birds
-

Gliding is becoming a very popular sport. A group of a dozen to twenty young men may form a gliding club and buy or make a glider. A glider is an airplane without a motor. It is launched into the air by being pulled rapidly over the ground until it gains flying speed. It is guided or steered like an airplane. By following rising air currents one sometimes may keep a glider in the air several hours. Because of having no motor, gliders are less expensive than airplanes.

47. The story is about sports cables gliding air currents
48. Airplanes are expensive but gliders cost
less more twenty dollars just the same
49. A glider is guided like
a bicycle an airplane an automobile a boat
50. A glider is kept in the air a considerable time by means of
a rope or cable a motor air currents clubs

STOP!

TEST 2. WORD MEANING

- a. house boy stone coat man duck
-
- b. ball meat pin doll skates rose
-
1. very four fine late six nine
-
2. bear ear half goat wolf gate
-
3. Jack Anne Bill Carl Alice Betty
-
4. worm woman mother lower cane Jane
-
5. little far large big city every
-
6. beans books carrots wagon corn cart
-
7. bed deck band table desk school
-
8. come glad sad happy sorry cheerful
-
9. bell soup nuts jelly drum puppy
-
10. Thursday America February France Chicago China
-
11. with which how yours why while
-
12. butler president chef captain waiter general
-
13. fox coat aunt deer mittens dress
-
14. shoes trip apron jacket soap store
-

15. daisy Dan tulip twig leaf pansy
16. dishes drive pasture cupboard shelves orchard
17. walnut sled branch oak willow sap
18. ball chain catch tag mat trail
19. fort plate knee fork knife cake
20. key weed cellar child wall lily
21. hoe sheep toe spade pool plow
22. stones potatoes lemons onions pumpkins radishes
23. fool theater coward pattern thief eastern
24. business baker color building butcher carpenter
25. sorrow health failure disease happiness success
26. check cheek neck feather dance finger
27. bucket bubble barrel break trunk trick
28. here move there time beyond round
29. grove poverty misery industry dwelling lying

STOP!

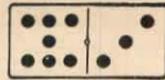
No. right.....

No. wrong.....

Difference..... Stand. score..... Gr. equiv..... Age equiv.....

TEST 3. ARITHMETIC FUNDAMENTALS

7 dots and 3 dots are _____ dots.



Add

5 and 2 are _____

7 and 1 are _____

$$\begin{array}{r} 6 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ + 16 \\ \hline \end{array} \quad \begin{array}{r} 64 \\ + 15 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ + 74 \\ \hline \end{array} \quad \begin{array}{r} 23 \\ + 32 \\ \hline \end{array} \quad \begin{array}{r} 43 \\ + 22 \\ \hline \end{array} \quad \begin{array}{r} 75 \\ + 12 \\ \hline \end{array} \quad \begin{array}{r} 24 \\ + 35 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ + 51 \\ \hline \end{array}$$

Subtract

4 from 11 leaves _____

2 and _____ are 4

$$\begin{array}{r} 5 \\ - 2 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ - 3 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ - 1 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ - 2 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ - 7 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ - 3 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ - 3 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ - 8 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ - 7 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ - 9 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ - 5 \\ \hline \end{array} \quad \begin{array}{r} 16 \\ - 8 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 99 \\ - 81 \\ \hline \end{array} \quad \begin{array}{r} 39 \\ - 23 \\ \hline \end{array} \quad \begin{array}{r} 49 \\ - 38 \\ \hline \end{array} \quad \begin{array}{r} 67 \\ - 53 \\ \hline \end{array} \quad \begin{array}{r} 98 \\ - 25 \\ \hline \end{array} \quad \begin{array}{r} 87 \\ - 12 \\ \hline \end{array} \quad \begin{array}{r} 58 \\ - 34 \\ \hline \end{array} \quad \begin{array}{r} 69 \\ - 13 \\ \hline \end{array}$$

Multiply

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

Add

$$\begin{array}{r} 6 \\ + 58 \\ \hline \end{array}$$

$$\begin{array}{r} 69 \\ + 25 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ + 34 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ 8 \\ 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ 8 \\ 0 \\ 7 \\ 3 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ 43 \\ 26 \\ \hline \end{array}$$

Subtract

$$\begin{array}{r} 36 \\ - 19 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ - 57 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ - 47 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ - 18 \\ \hline \end{array}$$

$$\begin{array}{r} 162 \\ - 85 \\ \hline \end{array}$$

Divide

$$2 \overline{)12}$$

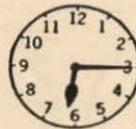
$$1 \overline{)4}$$

$$2 \overline{)6}$$

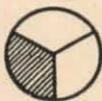
$$5 \overline{)5}$$

$$2 \overline{)8}$$

Mark the clock which says quarter past six.

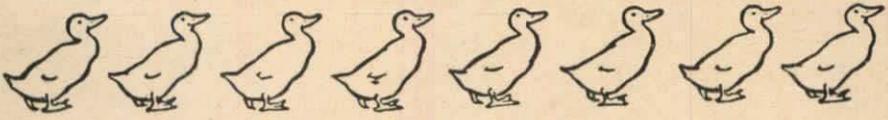


Mark the figure which is one-fourth shaded.

**STOP!**

TEST 4. ARITHMETIC PROBLEMS

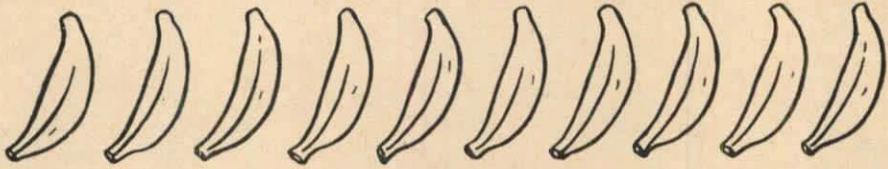
1.



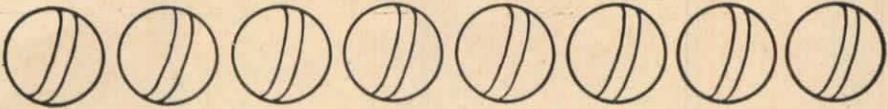
2.



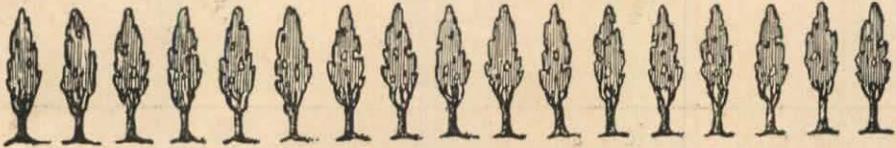
3.



4.



5.



6.

3

9

10

5

14

7.

15

8

2

10

6

8. How many apples are 8 apples and 3 apples?
apples
9. Mother gave me 3 cakes.
My sister gave me 4 more cakes.
Then I had how many cakes?
cakes
10. My lunch cost 7 cents and my brother's cost 13 cents. Both lunches cost how much?
cents
11. I bought an apple for 5 cents, a bottle of milk for 9 cents, and a cracker for 2 cents. All the food cost how many cents?
cents
12. Ten children will be at my party. I need a paper cap for each child. I have only 6 paper caps. How many more do I need?
caps
13. My aunt has 10 chickens. She is going to give me half of them. How many chickens shall I have?
chickens
14. I had 14 books and sold 4 of them. I had how many books left?
books
15. 3 children are coming to my house. I am going to give each one of them 3 cookies. I must have how many cookies for all of them?
cookies
16. Mother gave me 30 cents. I spent 5 cents for a sandwich and 10 cents for a ride on the bus. How many cents did I have left?
cents
17. An airplane went 90 miles the first hour and 105 miles the second hour. How far did it fly in 2 hours?
miles

STOP!

TEST 5. SPELLING

SAMPLE. My brother _____ well.

1. The _____ gives milk.
2. Fruit is _____ to eat.
3. _____ lost her hat.
4. Birds _____ fly.
5. The stop light is _____.
6. She tore _____ dress.
7. Throw me the tennis _____.
8. There are seven days in a _____.
9. The child is very _____.
10. It was early when they _____.
11. He _____ a race.
12. The pony gave Tom a fast _____.
13. The cook baked a delicious _____.
14. We sold _____ house.
15. The stars come out at _____.
16. Please _____ a message.
17. My gloves have fur on the _____.
18. The sun gives _____.

19. I write with a _____.
20. See the flowers in our _____.
21. The grapes filled the _____.
22. _____ days come with long nights.
23. We buy sliced _____.
24. When you go away, please _____.

Name Date 19..
 Teacher Grade School
 City County State

INDIVIDUAL PROFILE CHART
METROPOLITAN ACHIEVEMENT TESTS: PRIMARY II BATTERY

★	Test 1 READ- ING	Test 2 WORD MEAN.	Test 3 ARITH. FUND.	Test 4 ARITH. PROB.	Test 5 SPELL- ING	AVE. ACH'T	★	†
10-7							6.5	
10-6								
10-5								
10-4								
10-3								
10-2							6.0	
10-1								
10-0								
9-11								
9-10								
9-9							5.5	
9-8								
9-7								
9-6								
9-5								
9-4							5.0	
9-3								
9-2								
9-1								
9-0								
8-11							4.5	
8-10								
8-9								
8-8								
8-7								
8-6							4.0	
8-5								
8-4								
8-3								
8-2								
8-1							3.5	
8-0								
7-11								
7-10								
7-9								
7-8							3.0	
7-7								
7-6								
7-5								
7-4								
7-3							2.5	
7-2								
7-1								
7-0								
6-11								
6-10							2.0	
6-9								
6-8								
6-7								
6-6								
6-5							1.5	
6-4								
6-3								
6-2								
6-1								
6-0							1.0	

* These two scales are independent. Only one should be used at one time. In plotting this chart, put an X in the box above the scale which is to be used.

† An additional scale is provided here in order to make it possible to plot the chart in terms of norms other than those of age or grade.

The Profile Chart is designed to furnish a graphic picture of the achievement of an individual pupil as revealed by his test scores. In plotting the equivalents (grade, age, or other type), open the test booklet and lay it flat so that both the title page and the Profile Chart are in view. Plot the equivalent of each test score on the proper stave and join these points to make the profile.